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EFFECTS OF TYPES OF COGNITIONS ON
PERFORMANCE IN ORAL BRIEFINGS

by

Thomas B. Williams

June 1991

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An empirical study was conducted to determine whether individuals' interpretations of oral briefing situations create functional "mind sets" or dysfunctional anxiety that impact performance, and to determine what implications such interpretations have for the training of Logistics Officers. Functional "mind sets" were measured using a variation of the "Stress Resiliency Profile." Communications Apprehension (anxiety) was measured using variations of the "Personal Report of Communication Apprehension." Significant correlations were found between "interpretive styles" and communications apprehension, and between communications apprehension and performance. These relationships have positive implications for the identification and training of logistics officers who have potential for experiencing difficulties in conducting oral briefings.

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Effects of Types of Cognitions on Performance
in Oral Briefings

by

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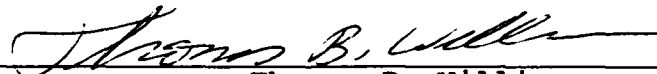M.P.A., Golden Gate University, 1986

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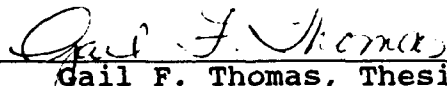
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ABSTRACT

An empirical study was conducted to determine whether individuals' interpretations of oral briefing situations create functional "mind sets" or dysfunctional anxiety that impact performance, and to determine what implications such interpretations have for the training of Logistics Officers. Functional "mind sets" were measured using a variation of the "Stress Resiliency Profile." Communications Apprehension (anxiety) was measured using variations of the "Personal Report of Communication Apprehension." Significant correlations were found between "interpretive styles" and communications apprehension, and between communications apprehension and performance. These relationships have positive implications for the identification and training of logistics officers who have potential for experiencing difficulties in conducting oral briefings.

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I. INTRODUCTION

A. STATEMENT OF THE RESEARCH QUESTIONS

The primary research question of this thesis is to
determine empirically whether individuals' interpretations
of oral briefing situations create functional "mind sets" or
dysfunctional anxiety that impact performance. The secon-
dary research question is to determine what implications do
the results of the primary research question have for the
training of Logistics Officers.

B. RELEVANCE TO LOGISTICIANS

Oral presentations is a topic for which there is clearly
room for research in Navy academia, with the goal being
improving performance in this critical area. Unfortunately
the Navy has not placed the emphasis on oral communications
that it has placed on other forms of communication. For
example, the Navy has a correspondence manual [SECNAVINST
5216.5C, 1983] which provides detailed guidance on
successfully preparing written communications, dealing at
length with not just mandated formats, but effective writing
styles. No equivalent manual exists dealing with the topic
of oral communications or how to successfully conduct
briefings in the Navy.

Formal oral communications are of great importance to
U.S. Navy Officers in general and to Navy logisticians in

particular. <u>Naval Leadership</u>, a basic text used by prospective officers at the Naval Academy and Officer Candidate School, states:

> Speech is the primary means of communication between people. Every Naval officer speaks many thousands of words for every one word he writes, and, in the matter of giving instructions, orders, and commands to enlisted men, he generally relies upon speech almost entirely. Therefore, it is incumbent upon the officer to see to it that his speech is effective....The average person dislikes the idea of standing before a group of people and making an address. But it is a job every naval officer must do, and the only way to overcome the hesitancy of speaking publicly is to actually do it. [Wolfe, and others, 1966, pp. 160-163]

During late 1988 and early 1989 the Navy Occupational Development and Analysis Center (NODAC) at the Naval Military Personnel Command (NMPC) conducted a service-wide survey of officers as part of the Navy Occupational Task Analysis Program [NMPC/NODAC, 1988, pp. 2-3]. Data from the survey can be broken out for officers filling billets involved with Material Logistics Support Management (i.e., billets with job titles in the areas of "General Supply and Fiscal Management, Inventory Control Management, and Material Distribution"). The survey results indicate that logisticians spend a significant part of their typical work week involved in activities related to oral communications or public speaking, and consider those activities considerably important. In a 57-hour average work week "in-port/at-home," logisticians of all designators typically spend seven hours or 12% of their time in meetings.

In general, logisticians evaluate oral communications as being a significant or major focus of their job 25% of the time, and consider this communication moderately to extremely complex 12% of the time. Logisticians engage in purposeful discussions with others and consider such discussions a routine to major part of their job 44% of the time and consider these interactions to be of moderate or greater complexity 19% of the time. Finally, logisticians consider giving information to others to be moderately to extremely important to their job 84% of the time when conveyed to superiors, 64% of the time when conveyed to peers, and 83% of the time when conveyed to subordinates. All of the above situations fall into the category of oral communications, which is clearly an integral part of the Navy Logistician's job.

Graduates of the Naval Postgraduate School (NPS) logistics curriculum are frequently detailed to billets (perhaps for the first time in their careers) where they will be called upon to develop programs or monitor processes, and brief the status of the programs or processes to senior (Flag or SES level) personnel. An example of this situation is the briefings given at the Naval Supply Systems Command (NAVSUP) Supply Operations Review Board (SORB) Meetings. On a quarterly basis, Weapons System or Platform Action Officers brief the NAVSUP Executive Board (EB) on the status of their weapons systems or platforms. The EB is

chaired by the Commander Naval Supply Systems Command/Chief of Supply Corps (the head Navy Logistician) and includes his Deputy Commanders, the NAVSUP Inspector General, and the NAVSUP General Counsel. Besides its importance in transmitting information, such briefings can also be of critical importance to the career of a junior Supply Corps officer. Seldom if ever will he be exposed, at one time, to such large numbers of senior officers in his specialty. It is a virtual certainty that one or more of the officers present will sit on a promotion board which will consider the briefing officer for advancement. The briefing may be the only opportunity presented to create a favorable personal impression on many of the senior logisticians present.

In the broader context of formal oral communications, a difficulty experienced by many people is dealing with the stress that often accompanies those communications, particularly if they occur in a formal setting such as an interview, briefing, or presentation. Research indicates that approximately 60% of public speakers experience some anxiety on the same day before a speaking engagement [Smeltzer and Waltman, 1984, p. 352]. A nationwide survey of American adults found that the most frequently reported fear experienced was that of speaking in public [McCroskey, 1977, p. 79]. Similarly, when 3000 Americans were asked "What are you most afraid of?" 42% said "speaking before a

group." This outweighed fear of heights (32%), insects (22%), sickness (19%), and death (19%). It would seem that when someone says they'd rather die than make a presentation, they really mean it [Mayer, 1989, p. 13].

It has been empirically shown that high public speaking anxiety is related to excessive attention to self, which results in poorer performances in public speaking situations. Speakers experiencing communications apprehension, because they are more self-focused, miss external cues and thus loose some of the opportunities they might have had to adapt to audience reactions. The ability, in a public speaking situation, to determine whether the speaker's point is being understood, whether the audience is drifting, etc., is critical. For these and similar reasons, understanding and coping with communications apprehension is important to public speakers. [Daly, Vangelisti, and Lawrence, 1989, pp. 903-904]

Self-estimates of communications apprehension have been shown to have significant correlations with peer ratings of overall leadership ability [Wenzlaff, 1972, pp. 32-33]. Apparently, if the speaker believes he can't speak well, others will not think he has much leadership potential, clearly a critical relationship for a Naval Officer.

A study conducted by the Navy Personnel Research and Development Center recommended:

>...that research be undertaken by the Navy to determine
>the relationship between stress and performance in jobs

identified as stressful. Eliminating unnecessary stress among its personnel will enable the Navy to perform its mission more effectively. [NPRDC, 1987, iv]

Identification of why stress and apprehension occur in public speaking situations would allow personnel (including logisticians) to understand and manage their stress levels and thus improve the quality of their presentations, and would provide the Navy with information on the relationship between stress and performance in public speaking, clearly an important part of the Naval Officer's job.

C. SCOPE AND LIMITATIONS OF THE RESEARCH

The primary thrust of this study is to explore the relationships between "Interpretive Styles" as developed in the Thomas/Velthouse Model of Intrinsic Task Motivation, and oral communications apprehension, as well as performance, in a formal oral presentation situation.

The research was limited to a classroom oral presentation scenario. Construct measurement was accomplished utilizing standardized questionnaires.

Certain limitations delineate the bounds of extrapolation applicable to this study. While, as discussed below, oral communications apprehension is recognized as a subconstruct of communications apprehension, and in turn reticence, this study narrowly focuses on the oral facet of communications apprehension. As noted in the "Measures" section of the thesis, many of the instruments utilized have only been validated as measures of oral communications

apprehension. Results of this study cannot be generalized without additional study, to other types of communications apprehension.

D. OVERVIEW

The text of the study has been organized to provide a logical flow through the areas of communications apprehension and cognitions and stress, and how this study provides useful insights into these areas. Chapter I provides the statement of the research questions, and how the research topic is relevant to logisticians. Chapter II is a literature review, encompassing the areas of communications apprehension, and cognitions and stress, as well as miscellaneous related literature. Chapter III discusses the methodology of the empirical study conducted for the thesis. Chapter IV provides the results of the study, while Chapter V is summarizes and makes recommendations based upon the study results.

II. LITERATURE REVIEW

A. INTRODUCTION

This chapter is organized into sections dealing with Communications Apprehension, Cognitions and Stress, and Miscellaneous Related Literature. In the Communications Apprehension section, subsections are presented dealing with general background, oral communications apprehension, the etiology of communications apprehension, types of communications apprehension, communications apprehension construct generalization, responses to communications apprehension, dealing with communications apprehension, and the Personal Report of Communications Apprehension (PRCA). In the Cognitions and Stress section, subsections are presented dealing with interpretive styles, other studies of cognitions in stress, and cognitive change strategies. The Miscellaneous Related Literature section briefly discusses measures of types of communication apprehension other than oral communications apprehension.

B. COMMUNICATIONS APPREHENSION

1. General Background

In the early 1960's, behavioral research indicated that individuals existed for whom anxiety related to engaging in oral communications was so great that it outweighed their expected gains from doing so. People in

this category will tend to avoid communications situations or become anxious if forced into such a situation, because they foresee mostly negative consequences from such communications. This type of general anxiety about oral communications was termed "reticence." Reticence is thought to be the result of a number of causal agents including anxiety, apprehension, alienation, low self-esteem, introversion, etc. [Phillips, 1968, pp. 39-47]

2. Oral Communications Apprehension

A subconstruct of reticence has been termed "oral communications apprehension," and is defined as having a causal agent of fear or anxiety [McCroskey, 1981, p. 4]. By 1977, oral communication apprehension had been formally defined as "an individual's level of fear or anxiety associated with either real or anticipated communication with another person or persons." The use of the term communication apprehension appears to be an outgrowth of the study of this phenomenon by speech communication specialists. The same phenomenon has been studied by social psychologists as "shyness," and by developmental psychologists as "audience sensitivity." [McCroskey, 1977, p. 78]

3. Etiology of Communications Apprehension

The etiology of ingrained or "trait communications apprehension" (discussed in detail later in the thesis) appears to fall into two categories: that which is due to heredity, and that which develops primarily in the formative

years. Although heredity seems to contribute to communication apprehension, experiences in the formative years environment appear to be the dominant factor. [McCroskey, 1981, p. 15]

Research into the hereditary contribution to communication apprehension is still sketchy. Social biologists have demonstrated that social traits such as "sociability" can be measured in infants shortly after birth. Research in this area has been conducted with twins of the same sex raised in the same household (i.e., non-hereditary influences are held constant to the greatest extent practical). Identical twins are biologically identical, while fraternal twins are not. Research has indicated that identical twins are much more similar in sociability than are fraternal twins. This would seem to indicate that heredity is operating somehow in determining social traits. [McCroskey, 1981, p. 14]

High levels of communications apprehension are observed in many children as they enter kindergarten. It is well known that children will repeat behaviors that are reinforced. Many adults involved with supervising children view a quiet child as preferable to a noisy one. A pattern of rewarding quietness at home may lead the child to seek similar rewards in other settings. The influence of reinforcement on communications apprehension can be viewed in two ways. The first is the narrow behaviorist view, that

if the child is reinforced for communicating, the child will communicate more, and if reinforced for not communicating, the child will communicate less. The second view relies on modeling theory. If the child observes the communications behavior of others the child will attempt to emulate it. If their actions are reinforced they will repeat them and behave in a similar manner to the role model. If the child's actions are not reinforced, they will alter their behavior. [McCroskey, 1981, p. 15] The idea that communications apprehension is a conditioned reaction is supported by successes in the treatment of communications apprehension that have relied on counter conditioning. [Phillips, 1968, pp. 45-57; McCroskey, 1977, p. 80]

A study conducted using the Personal Report of Communications Apprehension (PRCA, see Section II.B.8 of this thesis) has provided strong evidence that oral communications apprehension may in large part be a function of family size in the formative years. Family size accounted for over 25% of the difference between the highest and lowest scores of communication apprehension observed in the study. The following propositions were put forward to explain these phenomena:

- Reinforcement for communication in childhood results in increased confidence in the child about her or his communication; lack of reinforcement and/or aversive responses to a child's communication attempts result in reduced confidence, ergo increased communication apprehension.

- A child who develops and exhibits skill in communication early will receive more reinforcement than other children.

- With biological maturation held constant the acquisition of communication skills is a function of the child's interaction with communication models in the child's environment and the amount and quality of reinforcement the child receives from that interaction.

- On average, the best available communication models for a child are the child's parents, but the more children present in the family, the lower the percentage of total interaction of the child with the parents.

- In the typical family, the communication models that will provide the most discriminating reinforcement for the child will be the parents; other children are more likely to provide indiscriminate reinforcement according to their own needs or to ignore communication attempts of other, particularly younger, children. [Randolph and McCroskey, 1977, pp. 2-5]

The causes of situational communications apprehension or "state communications apprehension" (discussed in detail later in the thesis) may be somewhat different. It has been suggested that the major elements that can result in increased situational communications apprehension are novelty, formality, subordinate status, conspicuousness, unfamiliarity, dissimilarity, degree of attention from others, degree of evaluation, and prior history:

- The novel situation presents the individual with increased uncertainty about how he or she should behave....For most people giving a speech is a novel experience...such a situation would be likely to sharply increase CA (Communications Apprehension).

- Formal situations tend to be associated with highly prescribed appropriate behaviors, with comparatively little latitude for deviation. CA is increased in formal situations because of the narrower confines for acceptable behavior.

- ...A similar impact results from interacting from a subordinate position. In such situations, appropriate behavior is defined by the person holding higher status.

- Probably nothing can increase CA more than being conspicuous in one's environment. Giving a public speech is a prime example of being conspicuous.... Generally, the more conspicuous one feels, the more CA they are likely to experience.

- Although not all people react to unfamiliarity in the same way, may (sic) people feel much more comfortable when communicating with people they know than when communicating with people they do not know. In general, as the degree of familiarity increases, the degree of CA decreases.

- For most people talking to others who are similar to themselves is easier than talking to people who are greatly different.

- A moderate degree of attention from others is the most comfortable situation for most people. When people stare at us or totally ignore us when we are communicating, our CA level can be expected to rise sharply and quickly.

- When we are evaluated we tend to be more anxious than otherwise. For example, a student giving a talk in a public speaking class for a grade may be more apprehensive than the same student would be if he or she were giving the same talk to the same people meeting in the dorm.

- Prior history may be the most important of all....If one has failed before it is increasingly likely that one will fear that he or she will fail again, hence be more apprehensive. [McCroskey, 1981, pp. 16-17]

More recent studies have put forth an etiology for both trait and state communications apprehension that relies upon the theories of "learned helplessness" and "learned responsiveness." This etiology maintains that people learn their communications behavior by trying many behaviors out and receiving rewards or punishments (or absence of rewards

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or punishments) for their actions. Eventually people develop expectations about the outcomes of their behaviors in various situations. Three things occur from this process: positive expectations, negative expectations, and helplessness. When people engage in communications behaviors that work, they develop positive expectations for those behaviors, and the behaviors become part of the person's communications habits. In this instance the person experiences no anxiety or fear and communications apprehension does not occur.

When people discover that some communication behavior results in punishment, or lack or reward, a fearful response is the natural outcome. If a person can avoid such an experience, again this would be a reasonable choice. If participation is unavoidable, or required, the person will fear the experience. The person has developed a negative expectation.

The development of helplessness occurs when regularity of expectations, either positive or negative, does not occur. Spontaneous helplessness will occur in novel situations where the person has not experienced the situation before, and does not know what to do. Spontaneous helplessness generates strong anxiety feelings and leads in a communications context to communications apprehension. Learned helplessness occurs due to receipt of inconsistent reward and punishment. This inconsistency may be due to

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inconsistency in the environment, or an inability of the person to discriminate among the situational constraints in the environment that result in different outcomes. Learned helplessness also generates strong feelings of communications apprehension in a communications situation. [McCroskey, 1981, pp. 17-19]

Greene and Sparks (1983) offer a related cognitive explanation of communication apprehension. The argument advanced is that people develop communication apprehension when they are unable to identify behaviors which are expected to lead to accomplishment of "interaction" goals with others. Interaction goals refer to perceived ends which the person wishes to accomplish as a result if the communication. Thus "outcome expectations" are the key to communication apprehension. [Greene and Sparks, 1983, p. 212]

4. Types of Communication Apprehension

As mentioned before, communications apprehension is typically divided into two types: "state and trait." The differences between the two types are significant and merit explanation.

State communication apprehension is specific to the immediate oral communication scenario that the person is experiencing. It is anxiety experienced in the "here-and now" [Booth-Butterfield and Gould, 1986, p. 194]. Typically this might be presenting a briefing before superiors, or

undergoing an interview for an important position. State communications apprehension is the fear a person feels in a situation where others are observing and evaluating the communication the person is presenting [McCroskey, 1977, p. 79]. State communications apprehension in the public speaking context is often referred to as "stage fright" [McCroskey, 1981, p. 3]. It is important to note that state communication apprehension is a normal response to an intimidating situation by normal people, and is not pathological. People experiencing stage fright generally have no other speech problems, which has led some to refer to state communications apprehension as "the pathology of the normal speaker" [Phillips, 1968, pp. 39, 44].

Trait communications apprehension has been defined as "a relatively enduring, personality-type, orientation toward a given mode of communication across a wide variety of encounters" [McCroskey, 1981, p. 10]. Communications apprehension scores for an individual would be expected to be consistent over time and context, barring an intervention program. Extremely strong trait communications apprehension is not typical of normal adults and to some extent is pathological. It is typified by fear in almost any type of oral communication situation, both those which could be considered reasonably threatening, and those which could not. This reaction would be non-adaptive, non-responsive, and non-functional for the context at hand [McCroskey, 1981,

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p. 12]. Numerous studies of college students reveal that about 20% of the students of major universities exhibit trait communications apprehension to one degree or another [McCroskey, 1977, p. 79]. Studies have shown that measured degrees of communication apprehension follow a normal distribution. People with communications apprehension scores more than one standard deviation above or below the mean score are thought to have high or low communications apprehension. In studies of groups of students falling outside one standard deviation above the mean on communica- tions apprehension, the subjects simply did not talk. Those falling between one-half and one standard deviation did not have a consistent pattern. Some didn't speak, while others did [McCroskey, 1981, p. 13].

It has been argued that in communication apprehen- sion, trait or state characteristics may reflect a continuum rather than isolated dichotomies [McCroskey, 1981, p. 9]. Only by considering both state and trait characteristics will the entire "picture" emerge [McCroskey, 1985, p. 6]. It has also been suggested that trait communication apprehension may be formed by an accumulation of communication state anxiety experiences [McCroskey and Beatty, 1984, p. 83].

5. Communications Apprehension Construct Generalization

Because the communications apprehension construct was developed within the culture of the United States, that

is where most of the research on the topic has been conducted. Despite this, there is considerable evidence that the construct can be generalized beyond the U.S. culture. Cross-cultural comparisons of communications apprehension, between the continental U.S. and Australia, Hawaii, Japan, Korea, Guam, and China, found no meaningful differences attributable to culture. [McCroskey, 1981, p. 8]

6. Responses to Communications Apprehension

Three patterns of response to high communications apprehension have been identified in the literature as being generally applicable, and one pattern has been identified as being sometimes present. The three common patterns are communication avoidance, communication withdrawal, and communication disruption. A less common response is excessive communication. When persons are faced with a situation they feel will make them uncomfortable, they can either confront it, or avoid it and avert the discomfort. Avoidance is the expected behavior in most instances. Avoidance may not be possible if the situation producing the communications anxiety occurs without warning. In this instance withdrawal is the typical pattern expected. When high communication apprehension is present the person may experience disfluencies in verbal communications or unusual nonverbal behaviors. Less commonly the person experiencing

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communications apprehension may engage in excessive or over-communication. This is an attempt to succeed despite the discomfort being experienced. [McCroskey, 1981, pp. 22-23]

7. Dealing with Communications Apprehension

Until recently only one system of dealing with communications apprehension was widely practiced, that is requiring the person to speak in public. Typically this takes the form of public speaking classes. Studies have shown that these types of classes can be of great benefit to the majority of persons who have moderate to low levels of communications apprehension. For those with high levels of communications apprehension such classes are worthless or actually damaging, because all the therapy is doing is reinforcing the punishing nature of the communication act [McCroskey, 1977, p. 90].

More recent methods of dealing with communications apprehension have included therapist or self-administered desensitization [Marshall, Presse, and Andrews, 1976; also McCroskey, 1972, p. 255], cognitive restructuring [McCroskey, 1981, p. 21], as well as hypnosis, biofeedback, group counseling, reality therapy, and false heart-rate feedback [McCroskey, 1977, p. 91].

A somewhat interesting, if unsuccessful, attempt has been made to overcome communications apprehension through the use of "misattribution." Misattribution theory purports that:

Arousal experienced from a true cause (communications apprehension in this instance) is falsely portrayed as the likely side effect of exposure to a different, salient stimulus in the experimental setting. The subject is led to believe that this normative reaction elicited by the stimulus is nonemotional (physiologically wired), thus without personal causality or responsibility....The dispositional label typically correlated with that arousal is thus not invoked, and undesirable behaviors previously associated with this self-labeling are modified.

Studies with students have not been able to reduce communications apprehension with misattribution. [Slivken and Buss, 1984, pp. 400-401]

Systematic Desensitization has by far been the most common therapy for oral communication apprehension in recent years. Desensitization typically consists of creating a anxiety hierarchy for the subject, and then providing the subject with relaxation training to deal with the areas of anxiety [Marshall, Presse and Andrews, 1976, p. 35]. Research has shown that this treatment can be generalized beyond laboratory settings to academic settings even when administered on a large scale [McCroskey, 1972, p. 257]. It has also been demonstrated that desensitization works with subjects in a self-administered program using a take-home manual, provided some contact is maintained with a therapist, primarily to preclude dropping out of the therapy [Marshall, Presse and Andrews, 1976, p. 38].

Desensitization has been shown to be more effective with male subjects than with females [McCroskey, 1972, p. 258]. This may be because female subjects have been found to experience greater oral communication apprehension, in

similar circumstances, than males, and therefore have more to overcome [Porter, 1974, pp. 275-276].

Interestingly, it has been found that the treatment alone, although producing measurable positive results, was less successful than a treatment conducted in conjunction with a class on public speaking skills [Marshall, Presse and Andrews, 1976, p. 38]. It would appear then that treatments for communications apprehension or public speaking skills training, taken in isolation, are less effective than when conducted in conjunction with one another.

More recent theories in the treatment of communications apprehension, involving "cognitive behavior modification" have been predicated upon a new distinction in types of communication apprehension, between "rational" and "non-rational" communications apprehension:

> Rational levels of CA are produced by combinations of positive and negative expectations and helplessness or responsiveness that are consistent with views of an outside, objective observer's perception of reality....
> Non-rational CA, on the other hand, is seen as the unjustified expectations and helplessness or responsiveness of the individual, as viewed from the perspective of an outside, objective observer.
> [McCroskey, 1981, pp. 19-20]

With the rational/non-rational distinction in mind, treatment for communications apprehension can be viewed as focusing on improving communication skills or on dealing with the apprehension being experienced. Persons engaging in communication are thought to fall into one of four conditions. The first condition is "low CA/satisfactory

skills." People in this situation have both rational cognitions and are good communicators. Treatment is not called for, and in fact the goal of treatments for other persons would be to get them into this condition. The second condition is "high CA/unsatisfactory skills." People in this situation also have rational cognitions. Their high CA is justified because they realize they have low communication skills. These people require training to improve their communication skills and also require treatment for their communications apprehension. The third condition is "low CA/unsatisfactory skills." People in this situation have irrational cognitions. Their low communications apprehension is not justified by the communication skills level. These people require training to improve their communications skills to bring them into line with their low communications apprehension. The final condition is "high CA/satisfactory skills." People in this situation also have irrational cognitions. These people should not be experiencing high communications apprehension, but they are. The treatment for these people must be directed toward reducing their communications apprehension level. [McCroskey, 1981, pp. 20-21]

8. The Personal Report of Communications Apprehension (PRCA)

In 1969 the Speech Association of America convened an Ad Hoc Committee on Evaluation in speech communication to

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determine the needs in the field of oral communications with regard to evaluation and measurement.

> Since many problems in speech communication pedagogy may result from students' inhibitions rather than their inability, we recommend the development of instruments to measure at various ages the extent of communication-bound anxiety. [McCroskey, 1970, p. 169]

In response to this requirement, Professor James C. McCroskey initiated development of a measure of communications apprehension.

Typically researchers had used three types of instruments in measuring behavior similar to communications apprehension: observer ratings, devices for measuring physiological changes, and self-report scales. In developing his instrument McCroskey rejected the use of observer ratings and physiological measurement devices. McCroskey noted that observer ratings must be based upon observable behaviors, and he believed that many behaviors related to communications apprehension would be extremely difficult or impossible to observe. Since the Speech Association of America desired an instrument that could be used easily on large numbers of people at low cost, the use of physiological indexes was ruled out. McCroskey therefore concentrated on developing a self-report instrument. The decision was made to utilize a Likert-type scale because Likert-scale self-report instruments are easy and inexpensive to administer, were expected to be able to tap anxiety responses in a variety of communication contexts

simultaneously, and normally are highly reliable.
[McCroskey, 1970, pp. 270-271]

It should be noted that self-report instruments may not be appropriate in all communications research applications. Self-report scales are suitable when they deal with matters of perception in situations where the subject is aware of what the answer to the question is. This is the case in a communications apprehension study where the subject is aware of how he or she feels about engaging in oral communications. On the other hand, in some communications applications, say a study of communication competence, self-report studies will reveal how communicatively competent the subject thinks he or she is, rather than how competent the subject actually is. [McCroskey and others, 1988, p. 110]

McCroskey eventually developed a total of four variations of an instrument, called the Personal Report of Communications Apprehension (PRCA). The variations are the PRCA College also known as the PRCA Twenty (for college students), the PRCA Ten (for tenth graders), the PRCA Seven (for seventh graders) and the PRPSA designed specifically for measuring public speaking apprehension. Since most academic studies are conducted using college students, the PRCA college has become the most widely used and well documented of the four scales. (This thesis used a variant of the PRCA College). [McCroskey, 1970, p. 271]

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Since 1970 about 80% of the research on oral communication apprehension has utilized one version or another of the PRCA [Porter, 1981, p. 58]. Other instruments used in recent years to measure communications apprehension are the Lustig Verbal Reticence Scale, the Phillips-Erickson Reticence Scale, and the Unwillingness to Communicate Scale [McCroskey, 1977, p. 83].

Reliability of the PRCA was quickly documented. In 1970 the instrument was administered to 1434 college students at Michigan State University. Internal consistency reliability estimates (odd-even) ranged from .92 to .94. Test-retest reliability over a ten-day period was .83. A subsequent administration of the instrument to 2479 college students at Illinois State University yielded an internal consistency (odd-even) reliability estimate of .93. [McCroskey, 1970, pp. 273-274]

Between 1970 and 1978 considerable support accumulated for the validity of the PRCA. One of the best indicators of the predictive validity of an instrument is the extent to which it can produce results that are consistent with what would be expected based on the theory relating to the construct that the instrument is to measure. McCroskey notes that five theoretical propositions have been developed concerning oral communication apprehension and that the PRCA has been shown to reliably test and reflect these propositions:

-   <u>That people vary in the degree to which they are apprehensive about oral communication with other people</u>.

Subjects' scores on the PRCA have consistently formed an approximately normal distribution. Normal distributions have been found in studies involving college students, senior citizens, school teachers, and Federal civil servants. [McCroskey, 1978, pp. 193-198]

-   <u>That People with high oral communication apprehension seek to avoid oral communication.</u>

Research utilizing the PRCA has found that high communication apprehensives chose housing accommodations that had been identified in other research as requiring less interaction (and hence oral communication) than other housing areas.

In classrooms, research with the PRCA indicates that communication apprehensives select seats identified as requiring less interaction than the typical seat. PRCA research has shown that communication apprehensives prefer large lecture classes over small classes that require more participation on the part of the student. Communication apprehensive students typically were found to avoid sitting in the front and center of the typical classroom. Similarly communication apprehensive students have been shown to be less likely to seek the assistance of tutors than other students. Studies with the PRCA have shown that high communication apprehensive students are less likely to go on blind dates than the norm.

College graduates with communication apprehension have been found (using the PRCA) to be more likely to marry immediately upon graduation than graduates with low communication apprehension [McCroskey and Kretzschmar, 1977, p. 4]. One study has found that oral communications apprehension is a probable mediator of interpersonal distance preference in males [McCroskey, Richmond, and Young, 1977, p. 4].

The results of these studies make it clear that the PRCA is capable of predicting communications avoidance behaviors that would be expected based upon extant communication apprehension theory, and thus provide support for the predictive validity of the instrument. [McCroskey, 1978, pp. 193-198]

- People with high oral communication apprehension engage in less oral communication than do less orally apprehensive people.

McCroskey conducted six studies, with the PRCA, between 1970 and 1978 on this phenomenon. In all six studies high communication apprehensive individuals engage in less oral communication behavior than low communication apprehensives. [McCroskey, 1978, pp. 193-198]

- When people with high oral communication apprehension do communicate, their oral communication behaviors differ from those of people who are less apprehensive.

Studies with the PRCA have shown that the comments of high communication apprehensives are far less relevant to the topic at hand than the comments of other individuals.

Persons high in oral communication apprehension show more tension in small group discussions than persons with lower communications apprehension scores. Persons with high oral communication apprehension use more interogatives such as "you know?, you see?, and okay?" Communication apprehensives in brainstorming sessions have been found to express few original ideas. [McCroskey, 1978, pp. 193-198]

- <u>As a result of their oral communication behavior, high oral communication apprehensives are perceived less positively by others than are less apprehensive people</u>.

Research applying the PRCA has shown that high communication apprehensives were seen as less credible and less interpersonally attractive than their peers, both by low communication apprehensives and by other high communication apprehensives. The perceived leadership ability of high communication apprehensives was found, by PRCA studies, to be lower than that of individuals with lower communication apprehension indexes. High communication apprehensives were found to be less likely to be selected as opinion leaders, or even as friends than the norm. High communication apprehension has been found to create negative perceptions about the subject's probable success in academics or in business. [McCroskey, 1978, pp. 193-198]

Construct Validity for the PRCA can be demonstrated to the extent that it can be correlated to other personality variables traditionally associated with communication apprehension:

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- __Introversion__.

An extrovert looks for social contact with other persons, while an introvert tries to avoid it. Since social contact typically involves oral communication, one would expect to see some correlation between introversion and oral communication apprehension. In a study which administered the PRCA and the Eysenck measure of extroversion to 96 college students, a significant negative correlation of -.36 was observed between extroversion and communications apprehension. [McCroskey, 1978, pp. 198-200]

- __Self-esteem and self-acceptance__.

Behavioral theory would lead one to expect a correlation between communication apprehension and lack of self-esteem and lack of self-acceptance. In a study of 39 college students a -.48 correlation was found between communications apprehension as measured by the PRCA and self-esteem, and a -.52 correlation between communications apprehension and self acceptance. In a sample of 202 elementary school teachers the multiple correlation between PRCA measured communications apprehension and self-esteem and self-acceptance was -.54. In a similar study of 384 secondary school teachers the multiple correlation was -.58. For two samples of college students, 192 and 272 students respectively, the multiple correlations were -.59 and -.63. Finally, for a group of 211 Federal civil servants the multiple correlation was -.72. These studies indicate a

fairly high connection between the PRCA as a measure of oral communication apprehension and lack of self-esteem or self-acceptance. [McCroskey and others, 1977, pp. 269-274]

- Verbal reticence.

Verbal reticence has been defined as applying to "a person whose average verbal output is characteristically low and who regards this behavior as problematic." This is very similar to oral communication apprehension. A study using a verbal reticence scale and the PRCA found that the two were correlated to .74. This indicates concurrent validity for the verbal reticence scale used and the PRCA. [McCroskey, 1978, pp. 198-200]

- General personality.

A study of 99 college students by McCroskey and colleagues compared oral communication as measured by the PRCA and general personality characteristics as measured by the "Cattell 16PF personality measure." They found a multiple correlation between the 16 dimensions of the personality measure and the PRCA of .72. This indicates there is a substantial relationship between general personality and the PRCA. [McCroskey, 1978, pp. 198-200]

Construct validity for the PRCA would be indicated if the measure showed little fluctuation from one period of time to another unless there was some outside major intervening variable. Test-retest studies have shown that the PRCA provides consistent scores from one administration

to another, and is a stable construct of oral communications apprehension. The following studies also indicate that the PRCA can accurately measure change in the level of oral communication apprehension over time if an intervention is imposed between measurements.

- Clinical treatment.

In four laboratory studies using systematic desensitization as treatment for communication apprehension, the PRCA was used as a pretest and posttest. In all four instances, all persons who had received the treatment reflected significant changes in apprehension levels as measured by the PRCA. Persons in the control group who did not receive the treatment reflected no appreciable change in apprehension. [McCroskey, 1978, pp. 200-201]

- Classroom methods.

In one study the number of speeches students in a communications class were required to give were varied between one and seven. Significant differences in oral communication apprehension as measured by the PRCA were found between the conditions. In another study students in a public speaking class received either direct personal criticism from the instructor, or the criticism was directed at the class as a whole. Again, significant differences were found in the level of oral communication apprehension over the course of the quarter. [McCroskey, 1978, pp. 200-201]

Over the period from 1970 to 1978, McCroskey eventually standardized the PRCA to one 25-question format referred to as the "long form." Most of the research leading to this standardized form appears to have evolved from use of the earlier PRCA Twenty [Porter, 1981, p. 60]. Five additional questions had been added primarily to improve the validity of the PRCA in non-public speaking oral communications contexts. Recognizing that researchers would prefer a shorter form, largely due to time constraints, McCroskey developed a 10-question "short form." McCroskey indicated that this form was developed by taking the questions from the long form that reflected the best item-total score correlations, using a sample of 1183 college students. Correlations between long form and short form ranged between .88 and .92. McCroskey notes, however, that because reliability and precision are reduced by using the short form, the long form should be preferred. [McCroskey, 1978, pp. 202-203]

In 1981 Dr. D. Thomas Porter subjected the PRCA to an analysis using the Purdue Instrument Analysis System (PAIS). Porter was able to make an strong argument that the PRCA's application should be limited to public speaking contexts in that it did not accurately measure apprehension across a broader spectrum of communication situations. (Porter's concerns do not materially affect this thesis since the study at hand is in a public speaking context.)

Using the PAIS, Porter was able to rank order the questions in the PRCA Twenty and PRCA Long Form based on their contributions to the reliability of the instruments. This was particularly useful in that it allowed researchers to make a rational decision regarding how long an instrument to utilize, trading off convenience for additional reliability as additional questions were added. It is interesting to note that the ten questions Porter supports as contributing the greatest reliability to the PRCA are not the ten questions McCroskey utilized in his PRCA Short Form. [Porter, 1981, pp. 59-62]

As a result of criticisms by Porter and others, McCroskey went to great lengths to document the cross-situational consistency of the PRCA, making a reasonable argument that it could be used in many situations other than public speaking. [McCroskey, 1983, p. 7] Eventually, however, McCroskey developed a final PRCA Twentyfour, which was specifically designed to apply to four general communications contexts, i.e., public speaking, speaking in small groups, speaking in meetings, and speaking in dyads. [McCroskey, 1985, pp. 166-167]

C. COGNITIONS AND STRESS

1. General Background

As mentioned previously, communications apprehension is usually viewed as a subconstruct of reticence, which in turn is a subconstruct of general stress. The role of

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cognition in stress is central to this study. Professor Kenneth W. Thomas (thesis co-advisor) and colleagues have studied the relationship of "interpretive styles" to stress. Research on these interpretive styles grew out of an "interpretive model of empowerment." This model suggests that interpretive styles affect a person's cognitions that pertain to the task at hand, and that positive cognitions will lead to motivation and satisfaction. Conversely, interpretive styles that lead to negative cognitions are expected to produce stress, and have a dysfunctional impact on performance.

2. Interpretive Styles

Classical management models have emphasized rewards and punishments as a vehicle for obtaining desired performance from employees. The task the worker engaged in was not thought to have any inherent motivational value for the employee. More recent theories have placed greater emphasis on the nature of the task itself and the worker's commitment to it. The key to motivating employees has involved making work more meaningful and having workers identify with the task itself by finding expressive value in it.

Professors Thomas and Betty A. Velthouse have developed a model for the motivation of employees that is an outgrowth of these more recent theories. They have developed an interpretive model of intrinsic task motivation based on cognitive elements of empowerment. In the

Thomas/Velthouse model "empowerment" deals with the issue of encouraging dedication and innovation in workers [Tymon, 1988, p. xi]. It is defined in terms of "intrinsic task motivation" that is based upon the positive experiences that workers get directly from a task itself, or "those generic cognitions by an individual, pertaining directly to the task, that produce motivation and satisfaction" [Thomas and Velthouse, 1990, p. 668]. The key to the model involves these cognitions, which Thomas and Velthouse refer to as "task assessments." These task assessments are thought to be the root cause of intrinsic task motivation and worker satisfaction. They include: impact, competence, meaning-fulness, and choice. Task assessments are experienced by the worker as a result of the task itself, as opposed to the context the task occurs in, or as a result of rewards or punishments levied by superiors. In the Thomas/Velthouse model cognitive styles and environmental events combine to influence the worker's intrinsic task motivation (or empowerment) [Tymon, 1988, p. xi].

The Thomas/Velthouse model strives to determine the interpretive processes that different individuals use in arriving at different task assessments:

> To do this, it adds a fundamentally new set of independent variables to organizational behavior, "interpretive styles." These interpretive styles, along with "objective" variables in the individual's environment, are presumed to have an additive effect upon the individual's task assessments and, hence, on their empowerment. [Thomas and Velthouse, 1990, pp. 668-669]

The Thomas/Velthouse model (as originally developed) provides three interpretive styles with which workers add meaning to their factual perceptions about tasks. These styles involve characteristic ways of performing the three interpretive processes of "evaluation, attribution, and envisioning" that influence the worker's cognitions about how well things are going, what may have caused past events, and what could happen in the future, respectively. Different interpretive styles lead different workers to view events in different ways, even though based on the same set of facts, sometimes leading to noticeably different task assessments. [Thomas and Velthouse, 1990, p. 669]

An analysis of the model itself (see Figure 1) will clarify these concepts. At the center of the model is a repetitive cycle of environmental events (element 1), task assessments (element 2) and behavior (element 3). Environmental events inform the worker about current conditions and events, and the effects of current task behavior, which will influence the worker's future actions. The data obtained from environmental events will influence the worker's task assessments regarding impact, competence, meaningfulness, and choice. The task assessments in turn influence the worker's behavior with regard to the task at hand. The worker's behavior then impacts the environment and its events. This type of interreaction continues in a cyclical manner. [Tymon, 1988, pp. 32-33]

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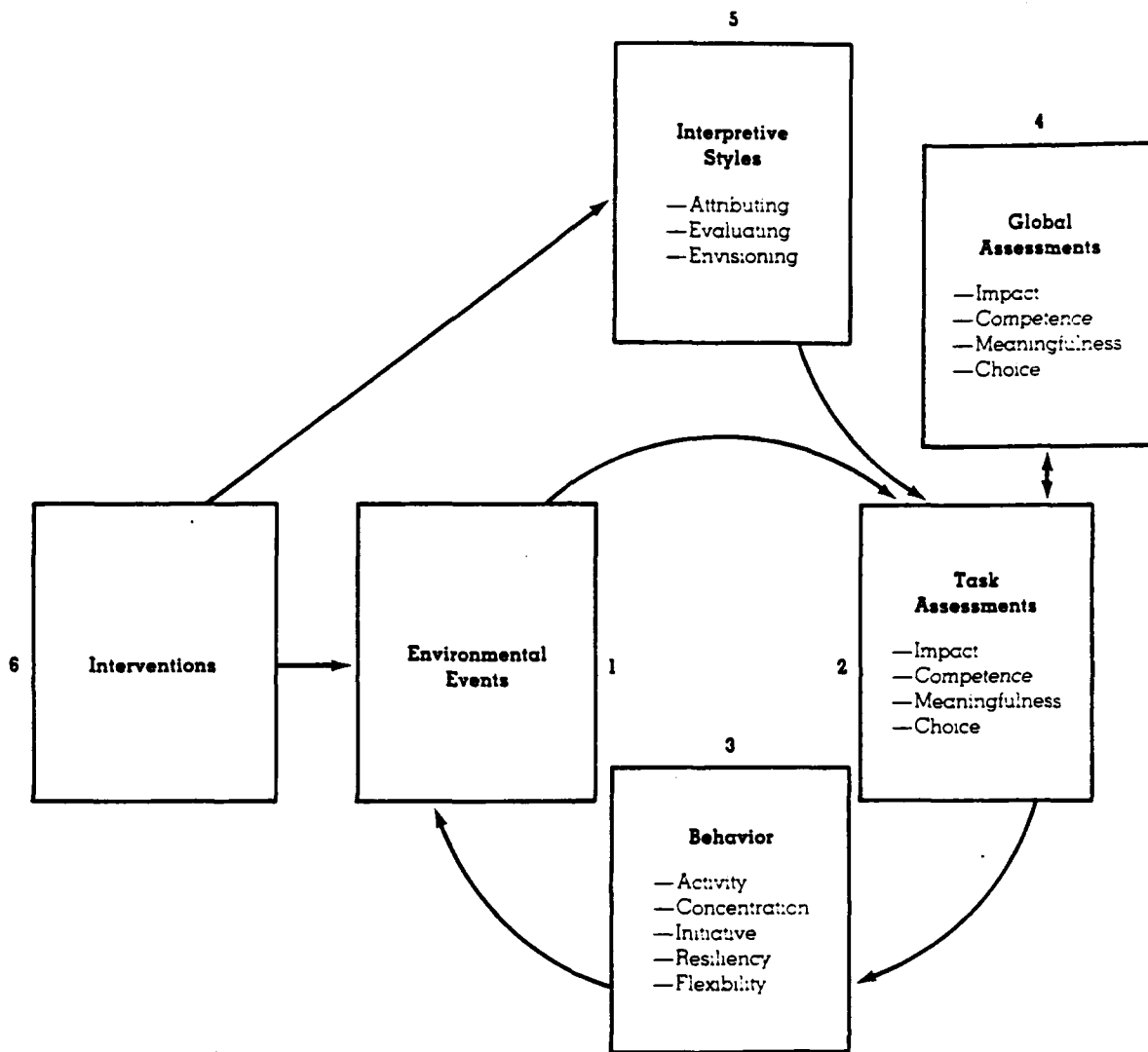
Figure 1.   The Thomas/Velthouse Model

Variations in the construction of task assessments, from one worker to another, are explained not only as the effects of external events, but also through the addition of two intrapersonal elements. These elements are global assessments (element 4) and interpretive styles (element 5). [Thomas and Velthouse, 1990, p. 669]

Global assessments are the worker's generalized beliefs about impact, competence, meaningfulness, and choice (the same elements that make up task assessments). Global assessments are more abstract than the distinctive task assessments that influence a worker's behavior in a specific task situation. Global assessments are generalizations from past specific task assessments and are an accumulation of the workers learning about the factors making up both task assessments and global assessments. Global assessments influence task assessments in a particular task situation, when the situation results in uncertainty in interpreting events, and the worker seeks to make task assessments which are compatible with past experience in similar situations. [Thomas and Velthouse, 1990, pp. 669-670]

Interpretive styles deal with the worker's interpretive processing of events. The way the worker processes the data regarding the events, as influenced by his interpretive styles of attributing, evaluating, and envisioning, have immediate effects on the worker's task assessments.

Attributing is directly related to the concept of "learned helplessness" theory [Abramson, Seligman, and Teasdale, 1978, pp. 19-74]. This theory deals with attributions the worker makes to explain "failures" in not reaching performance goals. These attributions typically fall into three categories: internal versus external, stable versus unstable, and global versus specific. [Thomas and Velthouse, 1990, p. 675; also McCroskey, 1981, pp. 17-19]

> ...depressed individuals are more likely to make internal, stable, global attributions for such outcomes (e.g., "I am incompetent") than nondepressed individuals, who are more likely to cite task difficulty (external, stable, specific), lack of effort (internal, unstable, specific), and so on. Furthermore, depressed individuals appear less likely to see successes as evidence of competence. These attributional styles, in turn, have predictable negative effects upon expectancies of success at subsequent tasks and upon actual performance. [Thomas and Velthouse, 1990, p. 675]

In the Thomas-Velthouse model, any interpretive style that results in stable, global explanations for "failures" is seen as pessimistically overgeneralizing the existence of obstacles, either internal (a perceived permanent lack of competence) or external (a perceived inability to impact the environment). Similarly, any interpretive style that does not result in stable, global explanations for successes is seen as pessimistically underestimating assessments of competence or ability to impact the environment. [Thomas and Velthouse, 1990, p. 675]

The "evaluating" construct assumes that every worker has specific evaluative standards. These standards, when applied to an event can cause it to be seen as a failure or setback, producing negative emotional and behavioral consequences. Workers are generally not aware of the influence of evaluative standards, and instead attribute their reactions directly to external events. In the Thomas/Velthouse model, strict evaluative standards are inclined to reduce assessments of "impact" because anything less than complete unqualified success will probably be considered a failure. Strict evaluative standards when applied to purposes tend to reduce "meaningfulness," because they overreact to compromises and perceived imperfections in the original purpose. [Thomas and Velthouse, 1990, p. 675]

Envisioning involves the worker visualizing or anticipating what will or can happen. Successful individuals are thought to work at trying to foresee the positive accomplishment of their tasks and worry less about negative considerations. As the worker concentrates on positive aspects, his or her perceptions and expectation of success are thought to increase. Secondly, envisioning successes allows the worker to concentrate on the purpose of the task and its "meaningfulness." [Thomas and Velthouse, 1990, pp. 675-676]

The final element of the model "interventions" deals with attempts to produce empowerment through intrinsic task

motivation, either by changing environmental events that affect workers, or by changing the way the workers interpret the events. The conventional approach focuses upon the former, while Thomas and Velthouse concentrate on the latter. Thomas and Velthouse point out that the worker is usually unaware of the role of interpretive styles in influencing the worker's interpretation of events, so that the interpretive styles themselves are unlikely to be modified in response to unfavorable outcomes. A form of cognitive behavior modification or cognitive restructuring is advocated to change the worker's interpretive styles in a positive manner:

> ...such styles can be changed by making the individual aware of assumptions that are inherent in a style and by teaching individuals to consciously monitor those ongoing interpretations and their consequences....Thus, according to the model, "self-empowerment" programs are feasible solutions to help individuals identify and practice styles of attributing, evaluating, and envisioning, which would enhance their task assessments. [Thomas and Velthouse, 1990, p. 667]

Although the development of the Thomas/Velthouse model is relatively recent, even before formal publication of the model (in late 1990), studies had been conducted which provide empirical support for the model. One study, conducted by Walter G. Tymon is most relevant here. This study:

> ...involved a questionnaire survey of 164 managers in three organizations, using multiple-item measures of the task assessments and interpretive styles. Factor analysis of the task assessment items demonstrated four separate factors, corresponding to the task assessments in the present model (Thomas/Velthouse Model). Task assessments

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were strongly related to job satisfaction and stress, and they were modestly related to performance (as rated by superiors). Factor analysis of interpretive style items yielded three factors that were clearly related to the styles in the model.... [Thomas and Velthouse, 1990, p. 677]

The three interpretive styles identified by factor analysis were deficiency focusing (originally called "non-deficiency orientation" in Tymon), envisioning success, and skill recognition (originally called "attributing success to competence" in Tymon).

The negative factor of deficiency focusing was broader than anticipated, extending beyond evaluation to include negative aspects of envisioning (envisioning what can go wrong) and attributing (attributing setbacks to deficiencies in oneself). This interpretive style, then, involves focusing on what is wrong, can go wrong, or is wrong with oneself.

The other two factors involved positive aspects of envisioning and attributing. Envisioning success involves mental imagery of succeeding at a task. Skill recognition involves attributing one's successes to one's own skills and abilities.

All three factors showed moderately high reliabilities (internal consistencies) as assessed with Cronbach's alpha: deficiency focusing = .91, envisioning success = .77, and skill recognition = .74 [Tymon, 1988. p. 67].

Thomas and Tymon have continued to work on the relationship between interpretive styles and stress:

> Stress occurs when people perceive that events are placing
> excessive demands upon them. The degree of stress
> experienced depends on one's perception of one's
> abilities, of how well one is actually performing, of what
> may go wrong, and how necessary it is that one meet a
> demand. These perceptions, in fact, determine whether a
> given situation is experienced as an "excessive demand" at
> all--as opposed to a challenging task or even an
> opportunity....These perceptions, in turn, depend upon the
> way one goes about interpreting the facts of the
> situation. Our research has identified three specific
> thought patterns or "interpretive habits," which influence
> stress. All three of these habits involve a tendency to
> pay greater attention to some aspects of a situation than
> to others. Together these three interpretive habits tend
> to exaggerate an individual's perception of the severity
> of a situation and thus its stressfulness. These habits,
> then, can predispose an individual to greater stress.
> [Thomas and Tymon, 1991, p. 1]

More recently, Thomas and Tymon have identified a

fourth interpretive style, "necessitating," which is also

argued to contribute to stress. Necessitating involved

thinking in terms of what one "has to do" rather than what

one wants to do or chooses to do.

Thomas and Tymon have developed a self-report

measure of the four interpretive styles of deficiency

focusing, necessitating, skill recognition, and envisioning

success. A study, not yet published, of this instrument,

using 142 part-time MBA students, has shown strong

reliabilities for the four scales. Internal consistencies

for the four interpretive styles, using Cronbach's Alpha,

were as follows: deficiency focusing .87, envisioning

success .86, skill recognition .82, and necessitating .72.

This study showed that all four interpretive styles were

correlated to stress symptoms. However, regressions showed

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that only three of the styles made a unique contribution to stress after accounting for intercorrelations between the styles. In order of strength of effects, deficiency focusing had the strongest effect upon stress, followed by necessitating, and then skill recognition. Together these three styles accounted for 26% of the variance in stress symptoms. [Tymon, 1991]

3. Other Studies of Cognitions in Stress

The work of Professor Richard S. Lazarus at the University of California, Berkeley, has been prominent in researching the relationships of stress, cognitions, and coping. Lazarus defines stress as:

> ...a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well being. [Lazarus and Folkman, 1984, p. 19]

"Cognitive appraisal" and "coping" are thought by Lazarus to intervene in a stressful situation. Cognitive appraisal consists of primary and secondary appraisal. In primary appraisal a person judges whether an encounter is irrelevant, benign/positive, or stressful. In secondary appraisal a person evaluates coping resources and options available to him or her. Primary and secondary appraisal are interdependent. If coping resources are adequate the degree of threat perceived is reduced. Conversely an initially non-threatening situation can become threatening if coping resources are later perceived to be inadequate to deal with the situation. Coping is thought to reflect both

cognitive and behavioral efforts to manage the situation.
Coping can be manifested in two types of activities: the
regulation of distressed emotions (emotion-focused coping)
and doing something to deal with the problem that caused the
distress (problem-focused coping). If the person perceives
that he or she can alter the situation he or she will tend
to elect to try problem-focused coping. If the situation is
evaluated as unchangeable the person will opt for emotion-
focused coping. Types of emotion-focused coping include
minimizing the threat, seeking emotional support, wishful
thinking, and self-blame. [Folkman and Lazarus, 1985, p.
152]

Lazarus has developed four principles in understand-
ing how persons experience stress:

> First, the stressful encounter is a dynamic unfolding
> process, not a static unitary event....To examine a
> stressful encounter without recognizing that its momentary
> properties may change can be misleading, and may also mean
> that one of the most important features of human adapta-
> tion, namely, the way people change troubled person-
> environmental relationships through coping, will be
> ignored....Second, at any given phase of an encounter
> people are likely to experience seemingly contradictory
> states of mind and emotions....Third, people cope in
> complex ways...to assess coping as a unidimensional trait,
> as is commonly done in stress and coping research, is to
> seriously underrepresent and distort the nature of actual
> coping processes....Fourth, at any given phase of a
> stressful encounter there are substantial individual
> differences in emotion, and these in large part reflect
> individual differences in cognitive appraisal and coping.
> [Folkman and Lazarus, 1985, pp. 167-168]

A doctoral dissertation, based in large part on the
theories of Lazarus, found that while one might expect
workers in an organizational setting to at least attempt the

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use of problem-focused coping, they did not do so.   Instead

the immediate response to stressors was to use emotion-

focused coping.   Use of emotion-focused coping in turn led

to a decrease in morale.   [Scheck, 1988, pp. iii-iv]   This

might lead one to the conclusion that in the long run

workers need to perceive that there is a chance of

alleviating causal factors of stress, despite the efficacy

of emotion-focused coping in dealing with the immediate

stress problem.

Considerable study had been done in the area of

positive and negative thinking and its impact on behavior.

Along these lines, research has been done in the area of

"the internal dialogue" that appears to have some

resemblance to "interpretive styles" in the Thomas/Velthouse

model.   Cognitive-behavioral research indicates that persons

functioning normally have about a 1.7 to 1 ratio of positive

to negative thoughts, while mildly dysfunctional persons

have a ratio of about 1 to 1.   Both positive and negative

thoughts have been shown to influence dysfunctions, but

negative thoughts more so.   This suggests that treatment

interventions might best be addressed to dealing with

negative thoughts or interpretive styles, such as deficiency

focusing.   [Schwartz, 1986, p. 602]

Research dealing with positive and negative thoughts

in situations of communications apprehension tend to support

the idea that such thoughts impact this type of anxiety as

well. A study conducted at Washington State University on students in undergraduate public speaking classes found that there was a correlation between communication apprehension and the positive and negative thoughts students reported before, during, and after a presentation. As communication apprehension increased the students reported more negative thoughts and fewer positive thoughts. The study went on to determine that the therapy of "visualization" (which requires the speaker to think positively about things which occur during the day prior to the presentation) produced small but significant changes in the proportion of positive to negative thoughts students reported before, during, and after a speech. [Ayers, 1988, pp. 291-295]

At least one study has been conducted dealing with positive and negative thinking in a military situation. In a study conducted by the Swedish National Defense Research Institute, subjects attempted to shoot down enemy aircraft in a simulator. Three conditions were imposed: calm conditions, noisy conditions, and noisy conditions with sleep deprivation. It was found that those soldiers who appraised the situation as a challenge (positive thinking) tended to perform well. Those soldiers who appraised the situation as a threat (negative thinking) tended to perform poorly. [Larsson, 1989, p. 179]

A dissenting study has found that persons with negative self-referent thoughts about competence in an

achievement or social interaction situation have actually performed better than those with positive thoughts. The results of this study have suggested that persons with negative thoughts about competence may perform better, because negative thoughts may have an impact on motivation to perform, rather than having an impact on a global sense of well-being to the extent of its affecting performance. [Goodhart, 1986, p. 117]

The fact that an internal dialogue, self-referent thoughts, or positive thinking, has been accepted as a practical means for dealing with anxiety is supported by the fact that the construct has successfully "made it out of" the research setting and is being used by practicing psychologists in the field. A recent article in Psychology Today refers to the process as "Self-Talk," encourages its use in dealing with public speaking anxiety and provides step by step, simple instructions on how to use it. Self-Talk is clearly based on improving self-referent thoughts. [Braiker, 1989, p. 23]

4. Cognitive Change Strategies

As noted above, the Thomas/Velthouse model calls for interpretive intervention strategies centered on Cognitive Behavior Modification (CBM). Cognitive behavior modification treatment has been used with persons experiencing interpersonal anxiety, test anxiety, anger control problems, pain, depression, addictions, sexual

dysfunctions, and alcohol abuse [Meichenbaum and Genest, 1980, p. 406]. Traditionally, cognitive restructuring therapy (also known as semantic therapy) refers to therapeutic approaches whose thrust has been to modify the subject's thinking, premises, assumptions, and attitudes underlying his or her cognitions. The subject's distorted cognitions negatively affect the subject's world view and lead to behavioral problems. There are three traditional "schools" of cognitive restructuring: cognitions as instances of irrational belief systems, cognitions as instances of faulty thinking styles, and cognitions as instances of problem-solving ability and coping skills. [Meichenbaum, 1978, pp. 183-194] Sometimes the former two schools are considered together as "systematic rational restructuring," while the latter school is referred to as "problem solving" [Goldfried and Goldfried, 1980, p. 99].

Cognitions as instances of irrational belief systems, centers around the idea that emotional suffering is due to the irrational ways people look at the world and due to the assumptions they make. These assumptions result in a self-defeating internal dialogue that results in negative behavior. One approach to such irrational viewpoints is "Rational-Emotive Therapy" (RET) [Ellis and Grieger, 1978]. RET first attempts to identify the external events that have caused the person's immediate problem. Then the thought patterns and underlying beliefs that constitute the internal

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response to the events are identified. Finally RET attempts to help the person alter these negative beliefs and thought patterns. This is done by encouraging, goading, challenging and educating a person to come to the conclusion that his or her maladaptive behavior and emotional problems are a result of irrational beliefs. [Meichenbaum, 1978, pp. 187-188]

The notion of cognitions as instances of faulty thinking styles is closely related to the rational-emotive approach. In this approach subjects are encouraged to become aware of distortions in their thought patterns. These distortions include:

> (1) arbitrary inference--the drawing of conclusion when evidence is lacking or actually supports the contrary conclusion; (2) magnification--exaggeration of the meaning of an event; (3) cognitive deficiency--disregard for an important aspect of a life situation; (4) dichotomous reasoning--overly simplified and rigid perceptions of events as good or bad, right or wrong; (5) overgeneralization--taking a single incident such as failure as a sign of total personal incompetence and in this way generating a fallacious rule. [Meichenbaum, 1978, p. 192]

Therapy consists of helping the subject identify such distortions so that the subject can comprehend that his or her negative experiences are the result of distorted thinking processes, which the subject can change and control for his or her betterment.

The notion of cognitions as instances of problem-solving ability and coping skills takes somewhat the opposite approach. Whereas the other approaches look for the presence of negative self-statements, assumptions, or beliefs, a problem solving and coping skills orientation

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leads to looking for the <u>absence</u> of adaptive cognitive skills and responses. This viewpoint suggests that the subject's cognitions reflect a lack of systematic, problem-solving skills. The treatment is therefore designed to help the subject identify problems, come up with alternative solutions, select a solution, and test and confirm that the solution is working. [Meichenbaum, 1978, p. 194]

5. <u>Examples of Studies</u>

In a study conducted at the University of Nebraska-Lincoln dealing with organizational stress at work, subjects were taught to deal with stress by recognizing and altering their cognitive interpretations of stressful events at work. This treatment was supplemented with instruction in progressive relaxation techniques. Anxiety was measured by sampling subject's epinephrine and norepinephrine excretions at work, as well as by pretest, posttest, and four month follow-up questionnaires, designed to detect anxiety, depression, irritation and somatic complaints. The subjects receiving the treatment showed significantly lower epinephrine and depression levels than did the control group at the posttest and four month follow-up points, supporting cognitive and progressive relaxation treatments. Of great interest in this study is the fact that despite these positive results, the experimenters did not recommend the treatment for ethical reasons. They took the position that because these types of cognitive restructuring programs

attempt to alter the reactions of workers to stressful
organizational characteristics, rather than remove the
objectionable stressors from the workers organizational
environment, they are unethical. The experimenters
indicated that the ethical solution to organizational stress
is to attempt to make the organization inherently less
stressful. [Ganster and others, 1982, pp. 553, 541]

A doctoral dissertation by J. Thomas Muehleman
explored the potential for cognitive behavioral modification
(or as Muehleman calls it "cognitive rehearsal") to deal
with oral communications apprehension ("anxiety about
speaking in front of a group"). In the Muehleman study
female students from an introductory psychology class were
divided into several groups and received the "negative
expectancy" that they were to make a speech in front of a
group. Students were given the opportunity to practice for
the speech (cognitive rehearsal). Some students were forced
to rehearse and others were offered an option to rehearse.
All students were then offered a choice as to whether to
actually perform the speech. Muehleman concluded that
forcing the students to rehearse did not lead to "increased
anxiety adaption." Only students who choose to rehearse,
and who were afforded considerable time between being told
they would be making a speech and choosing to actually do
so, showed reduction in anxiety, as reflected in a decision
to actually perform the speech. As Muehleman himself noted,

there is some question whether his study reflected the students increasing their ability to cope with anxiety, or actually reflected a reduction in anxiety. [Muehleman, 1971, pp. 29-31]

It has been suggested that persons experiencing focused anxieties, including speech anxiety, may subjectively experience anxiety in one or both of two ways, worry (cognitive) and emotionality (somatic). A study was conducted to determine whether treatment should be targeted to the type of anxiety experienced. Subjects identified as having high oral communications apprehension by the Personal Report of Confidence as a Speaker were selected for the study. Subjects were divided into groups predominately cognitive or predominately somatic in their anxiety, by the Cognitive Somatic Anxiety Questionnaire (CSAQ). Treatments conducted were based on either cognitive restructuring or relaxation treatments. Results showed only limited support for the idea that treatment targeted to the type of worry the subject experiences will yield maximum benefit. On the other hand both types of treatment yielded strong evidence of having reduced anxiety in general. This suggests that perhaps the means with which anxiety is dealt with is less important than that some means of coping with anxiety has been learned. [Altmaier and others, 1982, pp. 331-333]

A study conducted by Trexler and Karst determined that rational-emotive therapy was capable of reducing public

speaking apprehension. This study was predicated on the idea that psychopathic behavior is the result of irrational ideas. In the study undergraduate students' irrational ideas were measured using an Irrational Beliefs Test (IBT) that asked questions such as: "I hate to fail at anything," and "There is a right way to do everything." Students received one of three treatments, either rational-emotive therapy designed to reduce public speaking anxiety, an attention-placebo treatment, or no treatment. Public speaking anxiety was measured using three observational measures (finger-sweat print, behavioral checklist, and overall estimate), four self-report measures (Anxiety Scale, Personal Report of Confidence as a Speaker, General Speech Anxiety, and Generalization Effect), a post-treatment questionnaire, and a six-month follow-up on anxiety level. Students receiving RET showed significantly more reduction of anxiety than either the students receiving the placebo or no treatment. Changes in the IBT total scores significantly supported rational-emotive therapy groups over placebo and not treatment groups. This study strongly supports the idea that irrational beliefs leading to anxiety in a public speaking context can be modified by cognitive behavioral modification, leading to reduced anxiety. [Trexler and Karst, 1973, pp. 150-153]

Research has shown that for most people, verbal and linguistic information is processed in the left cerebral

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hemisphere of the brain, while the right hemisphere deals

with information in the non-verbal mode such as spatial

cognition and perception. The two hemispheres of the brain

also differ in the way each structures cognition. The left

hemisphere tends to process analytically, breaking concepts

down into parts, while the right hemisphere deals with

wholes in a Gestalt manner. Since some cognitive behavior

therapies focus on verbal cognition (self-instructional

training, stress inoculation, and systematic rational

restructuring), while others rely on maintaining and

manipulating imagery (systematic desensitization, and

anxiety management training), it is possible that persons

with public speaking anxiety should obtain therapy targeted

to their particular difficulty (i.e., verbal cognition or

cognitive imagery). A study by Tucker, Shearer, and Murray

exposed speech anxious subjects to two treatment methods,

one based on imagery, the other on verbalizations. The

subjects fell into two groups, one group showing greater

right hemisphere brain usage (as measured by lateral eye

movements in response to reflective questions) and the other

showing greater left hemisphere brain usage. The results

suggested that treatment was most effective if it used

cognitive therapy based upon the subjects nonpreferred

hemisphere. This supports the idea that if the subject is

verbal oriented, he or she should receive imagery oriented

cognitive therapy and visa versa. [Tucker, Shearer, and Murray, 1977, pp. 263-265]

A study conducted by Glogower, Fremouw, and McCroskey attempted to determine which component of cognitive restructuring was the most beneficial in reducing communications apprehension. Components considered were extinction, insight into negative self-statements, knowledge and rehearsal of coping statements, and a combination of insight into negative self-statements followed by learning and rehearsal of coping statements. The study utilized both self report and behavioral measures (including the PRCA). On both types of measures the coping statement treatment was found to be more effective than either extinction or insight into negative self statements. However, treatment using both insight into negative self-statements followed by learning and rehearsal of coping statements consistently produced better results than rehearsal of coping statements alone. This study suggests that while a coping statement component of cognitive restructuring therapy is the most important, that identification of negative self-statements should remain in the treatment program. Extinction treatments can probably by dropped from the program without undue impact on results. [Glogower, Fremouw, and McCroskey, 1978, pp. 209, 221]

Fremouw later provided specific guidance as to how to apply cognitive restructuring to the communications

apprehension situation. He breaks the process down into four steps: introducing cognitive restructuring, identifying negative self-statements, learning coping statements, and practice. In introducing cognitive restructuring, the subjects experiencing communication apprehension are provided with a rationale and purpose for the process they are about to undergo. They learn that communication apprehension is a learned reaction and a set of behaviors that can be modified. In identifying negative self-statements subjects are taught that such statements are generally one of four types:

> (a) over generalizations about current or past situations, e.g., "Everyone is watching me, I never speak well"; (b) arbitrary inferences without evidence to support the conclusion, e.g., "They think I am dumb"; (c) magnification of the evaluation aspects of the situation, e.g., "People are judging me;" or (d) self-fulfilling prophecies, e.g., "I won't enjoy this class." [Fremouw and Scott, 1979, p. 132]

In learning coping statements, communication situations are divided into before, during, and after, phases. Each phase requires a different coping strategy. The three strategies are context coping statements, task coping statements, and self-evaluation coping statements respectively.

> Context coping statements minimize the evaluative and stressful aspects of the event, e.g., "It's only a small group of students like me." Task coping statements focus the subject on specific behaviors that facilitate communication, e.g., "Speak slowly." Finally, self-evaluation coping statements direct the subject to acknowledge successful performance and to identify areas for further improvement, e.g., "So far, so good; continue speaking slowly and ask questions." [Fremouw and Scott, 1979, p. 132]

Finally in the practice stage, coping statements are defined as learned behaviors, which require practice before the subject can substitute them for negative self-statements. Therefore training time is set aside for rehearsal of the coping statements that have been developed [Fremouw and Scott, 1979, p. 133].

D. MISCELLANEOUS RELATED LITERATURE

It is interesting to note that measures of the various types of communication apprehension that have been developed, while having demonstrated strong validity in their areas, do not correlate well with one another. The Writing Apprehension Test (WAT) developed by Daly and Miller has only moderate correlation with the PRCA as does the Test of Singing Apprehension (TOSA). This lack of correlation between measures has led to the conclusion that different types of communication apprehension may differ significantly in their internal construction. For this reason an attempt to create a unidimensional measure of communications apprehension would necessitate the inclusion of items so general as to reduce the instrument to a general anxiety measure. [McCroskey, 1981, p. 2]

III. METHODOLOGY

A. INTRODUCTION

The following methodology was used to determine empirically whether individuals' interpretations of oral briefing situations create functional "mind sets" or dysfunctional anxiety that impact performance.

B. SETTING

All logisticians attending the Naval Postgraduate School are required to take the Managerial Communication Skills Course (MN-3333) during their first quarter of instruction. The intent of this course is to:

> ...Provide students with the writing, speaking, listening, and communication problem-solving skills required of them to be effective managers. Instruction concentrates on writing clear, concise documents, giving effective briefings and presentations, developing strong listening skills, conducting meetings that get results, managing the communication skills of subordinates, and integrating new communication technologies with existing ones. [NPS, 1989, p. 109]

Successful completion of the course requires the completion of a formal oral presentation by each student to the professor and students in the class. Many students have commented that they view this as an extremely stressful experience.

Many studies involving measures of stress in public speaking have been conducted using experimental analogues of an actual presentation. Generally these analogues involve

informing the subject that there is an audience behind a mirror, or using some other deception. In most instances these analogues have been used because an actual public speaking situation was not available to study, or due to administrative difficulties in obtaining measurements of subjects anxiety levels [Karst and Most, 1973, p. 347; also Droppleman and McNair, 1971, p. 94]. Unfortunately there is no way of knowing how well the results of such analogue studies would carry over into real world situations. Fortuitously the formal oral presentation required by MN-3333 provided an opportunity to conduct an empirical study "in vivo."

C. SUBJECTS

The study was conducted on a total of 173 students, who were enrolled in six sections. During the quarter in which the study was conducted (Summer, 1990) three professors taught Management Communications Skills, each teaching two sections. Of the students studied, 157 were U.S. military officers, ten were allied military officers, and six were civilians (Civil Servants) employed by the Department of Defense. For reasons of subject homogeneity the allied military officers and civilians were subsequently dropped from consideration in evaluating study results. Of the students actually evaluated (all U.S. military officers), the mean age was 32.35 with a standard deviation of 4.28. Slightly over 9% were female. The mean length of enrollment

at NPS was 1.49 quarters with a standard deviation of 1.38. In this study, sample size was largely a function of student enrollment in the course. While it has been suggested that a sample size of 200 will usually produce generalizable findings in a study utilizing statistical correlations (as this one does), there is no firm sample size that can guarantee accuracy, and a somewhat smaller sample is generally accepted for preliminary work, such as this is [McCroskey and Young, 1979, p. 377].

D. MEASURES

1. General Background

Data for the study were collected utilizing a series of questionnaires administered to the students taking MN-3333 and one questionnaire administered to the professors teaching the course.

Students participating in the study were assigned arbitrary "student numbers" to preserve anonymity, encourage candid answers to the various questionnaires included in the study, and to ensure students felt confident that their answers would not influence the course grades assigned by the professors. A master cross reference list of student name to student number was maintained by the author of this thesis so that survey data could be related to performance in the oral presentation. A description of measures follows.

2. Trait Communication Apprehension

Trait communications apprehension was measured utilizing questions developed from the PRCA (see Appendix A, Work Attitude Survey, part two). The 11 questions selected were those that contributed the greatest reliability to the PRCA, while using the least number of questions according to the analysis of the PRCA Twenty conducted by Dr. Porter utilizing the PAIS (see Section II.B.8 of this thesis). The 11th question in Porter's sequencing of the PRCA yielded a reliability of .9007. It would require adding an additional six questions to achieve a negligible reliability increase to .9105, with all 20 questions in the original PRCA Twenty yielding a reliability of only .9126. [Porter, 1981, p. 62] A variable for trait communications apprehension, for utilization in developing correlations, was constructed by summing the 11 questions. The PRCA Twenty rather than a later version of the PRCA was used because it is the most heavily validated version, and because later versions differed from the PRCA Twenty in an attempt to gain validity in contexts other than public speaking. Since this study deals with public speaking, the later versions of the PRCA offered no incentive for their use here. Each question was answered on a five-point Likert scale.

3. State Communication Apprehension

State communications apprehension was measured on two occasions using an adaptation of the PRCA. In the first

instance (one week prior to the briefing) ten questions were selected using Porter's PRCA reliability scale, similar to the process used to select questions to measure trait communications apprehension (see Appendix B, Giving an Oral Briefing, part two). These items were rewritten to focus specifically upon the upcoming class briefing. For example, item one of the PRCA, "I always avoid speaking in public if possible" (a trait apprehension question) was rewritten as "I would avoid giving this briefing if it were possible" (a state apprehension question). One question used before was omitted. This question ("I would enjoy presenting a speech on a local television show") referred to an irrelevant oral communication context, and therefore did not seem appropriate to measuring the current state communication apprehension the students were experiencing. A variable for state communications apprehension (at one week), for utilization in developing correlations, was constructed by summing the ten questions.

In the second instance (on the day of the presentation) a shorter version was used, consisting of five of the state items (see Appendix C). A variable for state communications apprehension (on the day of the presentation), for utilization in developing correlations, was constructed by summing the five questions. Use of a five-question version yielded a reliability of .8470.

When the PRCA was initially developed, distinctions had not been drawn in the literature between trait and state communications apprehension. In subsequent years, in most instances the PRCA has been used to measure trait communications apprehension, while the Spielberger State Anxiety Measure has been used to measure state communications apprehension. Unfortunately for the purposes of this study the Spielberger Measure (unlike most communications apprehension instruments) is under copyright and is for sale at a price that frequently makes its use impractical [McCroskey, 1981, p. 25; also Booth-Butterfield and Gould, 1986, p. 196]. It has been argued that "it is critical that operational measures of trait...CA clearly and systematically predict the state CA response [Booth-Butterfield and Gould, 1986, p. 204]. Fortunately in a study devoted to determining the validity of using the PRCA to measure state communications apprehension, the PRCA was found to have a Pearson product moment correlation with the Spielberger State Anxiety Measure of .54 for public speaking situations. This is considered to be a significant level of correlation, and provides justification for the use of the PRCA as a measure of both trait and state communications apprehension. [McCroskey and Beatty, 1984, pp. 79-83]

4. Interpretive Styles (Trait)

The interpretive styles or habits of skill recognition, deficiency focusing, necessitating, and envisioning

success, as discussed in the Thomas/Velthouse model, as a predictor of trait communications apprehension, were measured using questions developed from the "Stress Resiliency Profile," modified to include questions concerning envisioning success (not measured by the original questionnaire). The Stress Resiliency Profile (SRP) self-report scale questionnaire was authored by Professors Kenneth W. Thomas (thesis co-advisor) and Walter G. Tymon Jr [Thomas and Tymon, 1989]. The questionnaire was provided as part one of the Work Attitude Survey (Appendix A). However, as this survey is a copyrighted instrument, it is not reproduced in Appendix A. The following examples of items from this part of the questionaire are: (1) "When something I do is successful, I see it as evidence of my capabilities" (skill recognition); (2) "I tend to picture myself achieving objectives" (envisioning success); (3) "I tend to worry about whether things will go wrong" (deficiency focusing); and (4) "I tend to see rules as things I must follow, as opposed to an important consideration" (necessitating). There were 31 questions in the version of the SRP utilized in this study. Each question was answered on a seven point Likert scale. A variable for each of the interpretive styles, for utilization in developing correlations, was constructed by summing the six questions applicable to the appropriate interpretive style.

5. Interpretations of Oral Briefing (State)

An experimental, open-ended measure of state cognition about the oral briefing was developed for this study (see Appendix B, Giving an Oral Briefing, part one). Students were requested to write open-ended answers to four questions about the upcoming briefing and about memories of past oral briefings that were aroused by the upcoming briefing. These open-ended answers could be coded in a number of ways. For this study, students were asked to code their own answers after they had completed them, to yield numerical scores that might be state manifestations of the three interpretive styles measured by the stress resiliency profile. Students were asked to indicate how many answers to questions one and two were largely about negative events --a possible state manifestation of deficiency focusing. On question three, students were asked how many of the reasons they came up with for their past oral briefing successes involved their own skill--a possible state manifestation of skill recognition. On question four, which involved what students saw as being at stake in the oral briefing, students were asked how many of these things they "needed" to achieve or avoid--a possible state manifestation of necessitating. All these scores were converted to proportions of total responses.

6. Preparation

Preparation was viewed as an intervening variable, potentially affecting performance. Preparation was measured by asking the student how much time he or she spent out of class preparing for the presentation, and how many times they practiced the presentation out loud (see Appendix C).

7. Performance

Upon completion of the oral presentations, the professors teaching the course were provided with an "Oral Briefing Evaluation" sheet, that consisted of two questions to be answered by the professor for each student. One question dealt with content, the other delivery (see Appendix D). An overall variable for performance, for utilization in developing correlations was constructed by summing the responses to the two questions. The intent of this sheet was to obtain an observer rating of performance while standardizing the criteria for grading to the greatest extent possible among the three professors, and thus maximize inter-rater reliability. Professors were asked to grade students on a "A through B-" scale (later converted to a five-point Likert scale), in two areas, content and delivery.

8. Sequence of Measures

The measures discussed in the preceding paragraphs were provided to the students in the following sequence.

Nine days prior to the beginning of the oral
presentations, each student was requested to fill out a
"Work Attitude Survey (see Appendix A). This survey
included the Stress Resiliency Profile (see paragraph four
above), the 11 item version of the PRCA designed to measure
trait communications apprehension (see paragraph two above),
and a background information questionnaire which provided
demographic details.

At the same time that the Work Attitude Survey was
completed by the student, each student was requested to have
the student's spouse or close acquaintance fill out a
"Questionnaire About Spouse's Work Style" (see Appendix F).
The actual questionnaire is not included in the appendix as
it is a copyrighted instrument (see paragraph four above).
The Questionnaire About Spouse's Work Style was identical to
the first part of the Work Attitude Survey filled out by the
student (the Stress Resiliency Profile) and was intended to
serve as a check on the validity of the responses provided
by the students. Students were requested not to discuss or
compare the results of the surveys with their spouse. With
each Questionnaire About Spouse's Work Style, the student
received an envelope for the spouse to seal the survey in,
prior to the student returning the survey. The envelope was
intended to encourage spouses to provide candid answers,
knowing that their student/spouses would not see their

responses. A total of 106 spouses or close acquaintances returned this questionnaire.

One week prior to the beginning of the oral presentations the students were given a survey entitled "Giving an Oral Presentation" (see Appendix B). This survey also consisted of two parts. The first part included the "open-ended" questions intended to measure state manifestations of the interpretive habits or styles. The second part of the survey consisted of the ten question version of the PRCA intended to measure state communications apprehension.

On the day of the oral presentation students were asked to fill out a final questionnaire (see Appendix C). The first part of the survey provided two questions which dealt with preparation for the oral presentation (see paragraph six above). The second part of the survey provided the short PRCA questionnaire intended to measure state communication apprehension (see paragraph three above).

The professors who participated in the study were provided with Oral Briefing Evaluation Forms (see Appendix D) shortly after the completion of the presentations.

9. Feedback to Subjects

After the oral briefing students were provided with a one page "Communication Apprehension Feedback" form (see Appendix E). The form provided students with their scores in the areas of interpretive habits or styles as well as

their measured level of communications apprehension based on the three questionnaires they filled out that dealt with this phenomenon. A brief explanation was provided that dealt with what these scores were thought to mean in light of previous studies conducted by the co-advisors. Students were offered the opportunity to meet with Professor Fann-Thomas (co-advisor) if they were interested in additional explanations of the results.

IV. <u>RESULTS</u>

A. INTRODUCTION

This chapter provides descriptive statistics and correlations between the variables. Relations between variables were evaluated using the Pearson Product Moment Correlation Coefficient. Descriptive statistics and correlations were obtained using the Statistical Package for the Social Sciences (SPSS) software.

B. DESCRIPTIVE STATISTICS

Table 1 provides a synopsis of the descriptive statistics obtained by this study based on the measures completed by the subjects (as discussed in the Methodology chapter of this thesis). Table 2 provides a synopsis of the descriptive statistics obtained from the measures completed by the subjects' spouses or close acquaintances.

Internal consistencies of multi-item variables used in this thesis were measured utilizing Cronbach's Alpha. Those variables cited in the table with "N/A" instead of an internal consistency value, were not multi-item variables.

C. RELATIONS BETWEEN VARIABLES

1. <u>Relationship of State Communications Apprehension to Trait Communications Apprehension</u>

Correlations between trait communications apprehension and state communications apprehension measured, both

TABLE 1

DESCRIPTIVE STATISTICS FOR SUBJECT RESPONSES TO MEASURES

Variables	Mean	Standard Deviation	Internal Consistency	Range
Trait CA	33.92	9.53	.93	12-54
State CA1	28.68	8.48	.91	12-49
State CA2	14.34	4.20	.83	5-25
DefFocSRP	22.28	6.77	.80	9-36
NecessSRP	28.66	4.12	.56	14-38
SkilRecSRP	32.52	4.48	.81	16-42
EnvSucSRP	32.94	5.80	.90	12-42
DefFocOE	.35	.26	N/A	N/A
SkilRecOE.	.73	.32	N/A	N/A
NecessOE	.53	.41	N/A	N/A
HoursSpt	6.71	4.13	N/A	2-20
Reps	6.13	4.83	N/A	0-30
Perf	7.21	1.76	.82	2-10

Note: Descriptions of abbreviations used in "Variables"
column of table can be found in Appendix G.

TABLE 2

DESCRIPTIVE STATISTICS FOR SPOUSE RESPONSES TO MEASURES

Variables	Mean	Standard Deviation	Internal Consistency	Min/Max
DefFocSRP	19.17	9.71	.92	6/42
NecessSRP	28.81	6.00	.95	14/40
SkilRecSRP	33.88	5.18	.96	23/42
EnvSucSRP	34.27	5.16	.83	21/42

Notes: Descriptions of abbreviations used in "Variables"
column of table can be found in Appendix G.

one week prior to presentation and on the day of presentation, showed that there was a very strong intercorrelation between these constructs. As reflected in Table 3, the correlation coefficient between trait communications apprehension and state communications measured one week prior to the presentation was .77. The correlation coefficient between trait communications apprehension and state communications apprehension measured on the day of presentation was .69. Both statistics had one-tailed significance at the .001 level.

As one might expect, there was a strong intercorrelation between state communication, measured one week prior to the presentation, and on the day of the presentation. The correlation coefficient was .74, and had one-tailed significance at the .001 level.

2. Relationship of Communications Apprehension to Preparation and Performance

There does not appear to be a strong relationship between communications apprehension and preparation. Trait communications apprehension, and state communications apprehension (measured on two occasions), had correlation coefficients with hours spent in preparation of .19, .24, and .12, respectively. None of these correlations were statistically significant. The three measures of communications apprehension and number of practice repetitions prior to the presentation had correlation

TABLE 3

RELATIONSHIPS BETWEEN VARIABLES (INTERCORRELATIONS MATRIX)
FOR SUBJECTS RESPONSES TO MEASURES

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. Trait CA		.77**	.69**	.32*	.14	-.28*	-.39**	.38**	-.28*	.11	.19	.21	-.39**
2. State CA1			.74**	.38**	.13	-.29*	-.34**	.56**	-.25	.18	.24	.24	-.33**
3. State CA2				.45**	.20	-.25	-.42**	.42**	-.23	.06	.12	.10	-.27*
4. DefFocSRP					.38**	-.26*	-.32*	.21	-.18	.05	.17	.06	-.09
5. NecessSRP						.25	.23	-.01	-.11	-.03	.18	-.02	-.01
6. SkilRecSRP							.61**	-.21	.19	-.10	-.11	-.16	.05
7. EmoSucSRP								-.20	-.01	.06	.03	-.07	.19
8. DefFocOE									-.17	.02	.13	.13	-.14
9. SkilRecOE										-.17	-.10	-.05	.04
10. NecessOE											.27*	.26*	.11
11. HoursSpt												.35**	.00
12. Reps													.13
13. Perf													

Notes: 1. Descriptions of abbreviations used for variables in this table can be found in Appendix G.

2. * = one-tailed significance at .01 level.

3. ** = one-tailed significance at .001 level.

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coefficients of .21, .24, and .10, respectively. Again, none of these correlations were statistically significant.

Significantly, there is strong evidence of a negative intercorrelation between communications apprehension and performance. Trait communications apprehension had a correlation coefficient of -.39 with performance. State communications apprehension, measured one week prior to the presentation had a correlation coefficient of -.33 with performance. Both of these coefficients were statistically significant (one-tailed test) at the .001 level. State communications apprehension, measured on the day of presentation had a correlation with performance of -.27, and was statistically significant (one-tailed test) at the .01 level.

3. Relationship of Interpretive Styles (Measured by SRP) to Communications Apprehension

Correlations between the interpretive style of deficiency focusing, as measured by the augmented Stress Resiliency Profile, and all three measures of communications apprehension produced solid positive relationships. As reflected in Table 3, trait communications apprehension had a correlation coefficient with deficiency focusing of .32 and was statistically significant (one-tailed) at the .01 level. State communications apprehension measured one week prior to the presentation and on the day of presentation had correlations with deficiency focusing of .38 and .34 respectively, with both correlations being statistically

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significant (one-tailed test) at the .001 level. These
correlations provide strong evidence that as deficiency
focusing increases communications apprehension also
increases.

Correlations between the interpretive style of
necessitating, as measured by the Stress Resiliency Profile,
and all three measures of communications apprehension
produced only modest results. None of the correlations (see
Table 3) are statistically significant, however the
correlations do show a relationship in the expected
direction. As necessitating increases so does
communications apprehension, although not to the extent
anticipated.

Correlations between the interpretive style of
skill recognition, as measured by the Stress Resiliency
Profile, and two of the three measures of communications
apprehension produced substantial negative relationships
while the third correlation only produced modest negative
relationships (see Table 3). The correlations between skill
recognition and communications apprehension as a trait and
also communications apprehension as a state at the one week
point were -.28, and -.29, respectively, and were
statistically significant (one-tailed test) at the .01
level. The correlation between skill recognition and
communications apprehension as a state on the day of the
presentation, although a negative correlation as expected

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(-.25), was not statistically significant. The first two correlations provide strong evidence, and the last correlation some evidence that as skill recognition increases communication apprehension decreases.

Correlations between the interpretive style of envisioning success as measured by the Stress Resiliency Profile and all three measures of communications apprehension (trait, state measured at presentation minus one week, and on the day of the presentation) produced solid negative relationships, -.39, -.34, and -.42, respectively (see Table 3). All three correlations are statistically significant (one-tailed test) at the .001 level. These correlations provide strong evidence that as envisioning success increases, communications apprehension decreases.

4. Relationship of Interpretive Styles (Measured by Open-ended Questions) to Communications Apprehension

Correlations between the interpretive style of deficiency focusing (as measured by the open-ended questions) and all three measures of communications apprehension produced strong relationships (see Table 3). The correlations between this measure of deficiency focusing and trait communications apprehension, and state communications apprehension measured on two occasions were .38, .56, and .42 respectively. All three correlations are statistically significant (one-tailed test) at the .001 level. These correlations provide additional strong

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evidence that as deficiency focusing increases, communications apprehension decreases.

Correlations between the interpretive style of _skill recognition_, as measured by the open-ended questions, and all three measures of communications apprehension reflected negative relationships. However, only the correlation between skill recognition and trait communications apprehension was statistically significant (one-tailed test at the .01 level) with a value of -.28. This correlation provides support that as skill recognition increases trait communications apprehension decreases.

Correlations between the interpretive style of _necessitating_ (as measured by open-ended questions) and all three measures of communications apprehension produced only modest relationships (see Table 3). None of the correlations are statistically significant, although they are in the expected direction.

5. **Spousal (or Close Acquaintance) Responses**

Attempts to obtain data from spouse or close acquaintances regarding the interpretive styles of the students do not appear to have been particularly successful. As reflected in Table 4, no statistically significant correlations were obtained between what spouses (or close acquaintances) perceived the subjects interpretive styles or habits to be, and the degree of communications apprehension reported by the subjects themselves. Furthermore, there

TABLE 4

RELATIONSHIPS BETWEEN VARIABLES (INTERCORRELATIONS MATRIX) FOR SPOUSES RESPONSES TO SRP AND SUBJECTS RESPONSES TO MEASURES

		DefFocSRP	NecessSRP	SkilRecSRP	EnvSucSRP
1.	Trait CA	-.03	.06	-.01	-.13
2.	State CA1	.03	.07	-.07	-.15
3.	State CA2	.12	.19	.02	-.06
4.	DefFocSRP	.18	.03	-.22	-.17
5.	NecessSRP	.01	.02	-.01	.11
6.	SkilRecSRP	-.03	-.14	.19	.19
7.	EnvSucSRP	-.08	-.10	.13	.23
8.	DefFocOE	.05	-.05	-.08	-.14
9.	SkilRecOE	.05	.02	-.06	-.01
10.	NecessOE	.13	.19	.19	.07
11.	HoursSpt	.11	.17	-.09	-.09
12.	Reps	-.10	.08	-.05	.01

Notes: 1. Spousal responses to SRP are on the horizontal axis, subjects responses to the measures are on the vertical axis.

2. Descriptions of abbreviations used for variables in this table can be found in Appendix G.

3. No correlations were statistically significant.

were no statistically significant correlations between the answers provided by spouses regarding the subjects' interpretive styles, and the answers provided by the subjects themselves, to the same questions.

V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

A. SUMMARY OF RESEARCH RESULTS

In this thesis, the two types of communications apprehension (trait and state) were shown to be strongly intercorrelated.

The interpretive style of envisioning success as measured by the Stress Resiliency Profile was shown to have a statistically significant negative correlation to both trait and state communications apprehension. The habit of deficiency focusing as measured by both the Stress Resiliency Profile, and open-ended questions was shown to have a statistically significant correlation to both trait and state communications apprehension. The interpretive style of skill recognition as measured by the Stress Resiliency Profile was shown to have a statistically significant negative correlation to communications apprehension as a trait, as well as to state communications apprehension at the presentation minus one week point.

Skill recognition as measured by open-ended questions was shown to have a statistically significant negative correlation to trait communications apprehension. While the interpretive style of necessitating was not found to have any statistically significant correlations to communication apprehension, the correlations that were found were at least

in the "directions" anticipated, indicating that perhaps some relationship exits between this variable and communication apprehension, perhaps a somewhat weaker one. All other correlations between various interpretive styles and communication apprehension, which were not statistically significant were also found to be in the expected "direction."

Statistically significant negative correlations were found between both trait and state communications apprehension and performance. No significant correlation was found between either number of hours spent preparing or number of practice repetitions and performance.

B. CONCLUSIONS

The above results provide strong empirical support for the idea that individuals' interpretations of oral briefing situations <u>do</u> create functional "mind sets" or dysfunctional anxiety, and that this anxiety <u>does</u> impact performance via communications apprehension. The results of the thesis are depicted in the following model.

Interpretive   Communications
   Styles   >>>>   Apprehension   >>>>   Performance
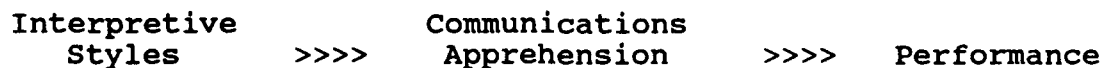
Figure 2. Thesis Model

There is some further indication that these constructs have a greater relationship to performance than time spent

preparing for a presentation or practice repetitions prior
to the presentation.

As noted in the introduction to this thesis, the Navy
Personnel and Development Center has called for additional
research into the relationship between stress and
performance in jobs identified as stressful, including:

> 1. Organizational research should be conducted within the
> Navy to: (a) identify the elements of particular jobs
> that lead to stress, (b) determine the relationship
> between stress and performance in these jobs, (c) identify
> how individuals and organizations adapt to the environment
> to reduce the stress, and (d) investigate methods of
> reducing or eliminating dysfunctional job stress.
> 2. Self-report stress measures should be developed to
> measure job stress...with greater reliability and to
> predict psychological...outcomes with greater validity....
> [1987, p. viii]

In interpreting the results of the research conducted for
this thesis, utilizing the Thomas/Velthouse model, it is
thought that some insight will have been gained in resolving
some of these research questions.

In their study, Thomas and Velthouse noted that the
Tymon study, based on the Thomas/Velthouse model, had found
strong relationships between interpretive styles and the
"affective phenomena of stress and job satisfaction" [Thomas
and Velthouse, 1990, p. 679]. In the field of stress
involving oral communications apprehension, this thesis
provides support for a relationship between interpretive
styles and oral communication apprehension, and in turn
between oral communication apprehension and performance.
The implications of the primary research question for the

training of logistics officers in the area of oral

communications, and formal presentations in particular,

seems clear. The traditional means of training in these

areas involving lengthy preparation and repetitive practice

appear to be less related to performance than communications

apprehension. It would seem that identifying persons with

tendencies towards oral communications apprehension and

dealing with these tendencies would produce greater

improvements in performance than traditional methods.

Interpretive styles, particularly envisioning success,

deficiency focusing, and skill recognition, have been shown

to have direct correlations with oral communications appre-

hension. Utilizing questionnaires such as the Stress

Resiliency Profile seem to be an effective way to identify

levels of these interpretive styles in individuals, with a

view towards targeting individuals who have predispositions

to communications apprehension.

Once individuals with dysfunctional interpretive styles

have been identified they can be targeted for intervention.

The Thomas/Velthouse model provides a guide for the nature

of such interventions:

> ...individuals typically are unaware of the role of such
> styles in shaping their interpretations of events, so that
> the styles themselves are not likely to be altered when
> unfavorable outcomes are produced...styles can be changed
> by making the individual aware of assumptions that are
> inherent in a style and by teaching individuals to
> consciously monitor those ongoing interpretations and
> their consequences....Thus, according to the model, "self-
> empowerment" programs are feasible solutions to help
> individuals identify and practice styles of attributing,

evaluating, and envisioning, which would enhance their task assessments. [Thomas and Velthouse, 1990, p. 677]

This thesis concentrated on the interrelationships between interpretive styles and a specific task, conducting an oral presentation. The interpretive styles developed in the Thomas/Velthouse model are intended to be broad constructs, which could aid in predicting performance across a broad range of tasks. The results of this thesis should not be taken as an isolated instance of a set of interrelationships, but rather as providing additional support for the "global" nature of interpretive styles.

Although building on the extant material outlined in the literature review chapter, in both the areas of communications apprehension and cognitions and stress, this thesis is unique in the area of communications apprehension in that it investigates how the new constructs of interpretive styles interrelate with these concepts.

C. RECOMMENDATIONS

This thesis has disclosed several areas where there is room for additional research. These areas are enumerated as follows.

It is not clear at this point why the interpretive style "necessitating," as measured by both the Stress Resiliency Profile, and the open-ended questions did not produce the expected strong correlations with communications apprehension that the other interpretive styles did. Research needs

to determine whether this was a one time occurrence in this thesis, or whether necessitating is not a valid predictor of communications apprehension.

Further research is warranted into the relationship between skill recognition, as measured by the Stress Resiliency Profile and communications apprehension as a state. Why statistically significant correlations were achieved between these variables one week before the presentation, but not on the day of the presentation is not clear.

In view of the positive results of this thesis in empirically linking individuals' interpretations of oral briefing situations and functional "mind sets" and subsequent dysfunctional anxiety with its negative impact on performance, the next logical step would be to attempt a study to determine the ability to conduct an intervention to correct such dysfunctions, based on strategies suggested by the Thomas/Velthouse model.

APPENDIX A

<u>WORK ATTITUDE SURVEY</u>

This survey was presented to the students nine days prior to the beginning of the oral presentations. The survey included the Stress Resiliency Profile, an 11-item version of the PRCA designed to measure trait communications apprehension, and a background information questionnaire which provided demographic details. The Stress Resiliency Profile itself does not appear in this appendix as it is a copyrighted instrument.

This questionnaire asks you about some of the thoughts you have in work situations. There are no right or wrong answers. Don't try to answer the questions in the way that you think you should. Just answer according to what you honestly feel.

Please read each question carefully, but do not spend a great deal of time on any one item. Your initial reaction is usually the best. While some of the questions may appear to be similar, your response to each of them is important. Please do not skip any items. It should take about seven minutes to complete this portion of the questionnaire.

Your response to this questionnaire will be kept strictly confidential.

Please read each of the following statements carefully and <u>circle</u> the response which most accurately reflects <u>your feelings in speaking situations</u>.

		Strongly Disagree			Strongly Agree	
1.	I always avoid speaking in public if possible.	1	2	3	4	5
2.	Although I talk fluently with friends, I am at a loss for words on the platform.	1	2	3	4	5
3.	I look forward to an opportunity to speak in public.	1	2	3	4	5
4.	I am fearful and tense all the while I am speaking before a group of people.	1	2	3	4	5
5.	My thoughts become confused and jumbled when I speak before an audience.	1	2	3	4	5
6.	I feel relaxed and comfortable while speaking.	1	2	3	4	5
7.	I face the prospect of making a speech with complete confidence.	1	2	3	4	5
8.	I have no fear of facing an audience.	1	2	3	4	5
9.	I would enjoy presenting a speech on a local television show.	1	2	3	4	5
10.	I feel that I am more fluent when talking to people than most other people are.	1	2	3	4	5
11.	Although I am nervous just before getting up, I soon forget my fears and enjoy the experience.	1	2	3	4	5

BACKGROUND INFORMATION

1. Please indicate your sex:

    _____ Male _____ Female

2. Please indicate your age: _____

3. Please indicate your status:

    _____ U.S. Military _____ Allied Military _____ Civilian

4. If U.S. Military, please indicate your Primary Military Occupational Specialty/Designator (as appropriate), and what the MOS/Designator is named:

    MOS/Designator: _____ Name: _____

5. Please indicate your curriculum by code and name, (if more than one, please so specify.):

    <u>Code</u>   <u>Name</u>
    _____   _____
    _____   _____
    _____   _____

6. Please indicate how many quarters you have been attending NPS, including the current quarter: _____

    Thank you very much for your cooperation!

APPENDIX B

GIVING AN ORAL BRIEFING

This survey was presented to the students one week prior
to the beginning of the oral presentations. This survey
consisted of two parts. The first part included "open-
ended" questions intended to measure state manifestations of
the interpretive habits or styles. The second part of the
survey consisted of a ten question version of the PRCA
intended to measure state communications apprehension.

This exercise is designed to get at the "inner experience" of preparing for an oral briefing--the kinds of thoughts that people typically have when preparing for an oral presentation.

Obviously, there are no right or wrong responses. Don't worry about producing a polished document. Please complete the questions in the order they are presented.

Your responses will be confidential.

1. Think about the upcoming oral briefing you will be
    making for this class, and how it may go. As you do
    this, write the first few thoughts that come to mind.

2. Think about your past experiences with oral briefings in general. What comes to mind?

3. a. List two or more <u>successful</u> experiences you have had
        when giving oral briefings.

        1.

        2.

        3.

    b. What do you think are the reasons for each of these
        successful experiences? (i.e., what caused the
        success)

        1.

        2.

        3.

4. Think about what is at stake for you in this briefing. What comes to mind?

Please read each of the following statements carefully and circle the response which most accurately reflects your feelings about the upcoming briefing for this class.

		Strongly Disagree				Strongly Agree
1.	I would avoid giving this briefing if it were possible.	1	.2	3	4	5
2.	Although I talk fluently with friends, I believe I will be at a loss for words on the platform.	1	2	3	4	5
3.	I look forward to this opportunity to speak.	1	2	3	4	5
4.	I am concerned that I will be fearful and tense all the while I am speaking before my classmates.	1	2	3	4	5
5.	I am concerned that my thoughts will become confused and jumbled when I speak before the class.	1	2	3	4	5
6.	I feel I will be relaxed and comfortable while speaking.	1	2	3	4	5
7.	I face the prospect of making this presentation with complete confidence.	1	2	3	4	5
8.	I have no fear of facing this audience.	1	2	3	4	5
9.	I feel that I will be more fluent when talking to the class than most other people will be.	1	2	3	4	5
10.	Although I may be nervous just before getting up, I feel I will soon forget my fears and enjoy the experience.	1	2	3	4	5

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APPENDIX C

DAY OF BRIEFING QUESTIONNAIRE

This survey was presented to the students on the day of the oral presentation. The first part of the survey provided two questions which dealt with preparation for the oral presentation. The second part of the survey provided a short PRCA questionnaire intended to measure state communication apprehension.

Please print your name on·the tag attached to this question-
naire (not on the questionnaire itself). The section leader
will remove the tag and assign "your number" from his roster
to this questionnaire and remove the tag (thus preserving
your anonymity).

Please answer the following questions.

1. How much time <u>out of class</u> did you spend preparing for
   this presentation?

   _____ hours

2. How many times did you practice your presentation out
   loud?

   _____ times

Please read each of the following statements carefully and <u>circle</u>
the response which most accurately reflects <u>your feelings about the</u>
<u>briefing you will be making today.</u>

		Strongly Disagree				Strongly Agree
1.	I would avoid giving this briefing if it were possible.	1	2	3	4	5
2.	Although I talk fluently with friends, I believe I will be at a loss for words on the platform.	1	2	3	4	5
3.	I look forward to this opportunity to speak.	1	2	3	4	5
4.	I am concerned that I will be fearful and tense all the while I am speaking before my classmates.	1	2	3	4	5
5.	I am concerned that my thoughts will become confused and jumbled when I speak before the class.	1	2	3	4	5

APPENDIX D

ORAL BRIEFING EVALUATION

The professors who participated in the study were
provided with the Oral Briefing Evaluation Forms in this
appendix shortly after the completion of the presentations.

ORAL BRIEFING EVALUATION

Professor _____

Section   _____

Instructions: Please assess the quality of the oral briefing given by each student. Circle a letter grade for delivery and for content.

<u>Student Name</u>   <u>Evaluation</u>

1. _____
```
Content
 |-----------------------------|
 A      A-      B+      B      B-
                               or lower
Delivery
 |-----------------------------|
 A      A-      B+      B      B-
                               or lower
```

2. _____
```
Content
 |-----------------------------|
 A      A-      B+      B      B-
                               or lower
Delivery
 |-----------------------------|
 A      A-      B+      B      B-
                               or lower
```

3. _____
```
Content
 |-----------------------------|
 A      A-      B+      B      B-
                               or lower
Delivery
 |-----------------------------|
 A      A-      B+      B      B-
                               or lower
```

4. _____
```
Content
 |-----------------------------|
 A      A-      B+      B      B-
                               or lower
Delivery
 |-----------------------------|
 A      A-      B+      B      B-
                               or lower
```

APPENDIX E

COMMUNICATION APPREHENSION FEEDBACK

After the oral briefing students were provided with the one page "Communication Apprehension Feedback" form presented in this appendix. The form provided students with their scores in the areas of interpretive habits or styles as well as their measured level of communications apprehension based on the three questionnaires they filled out that dealt with this phenomenon.
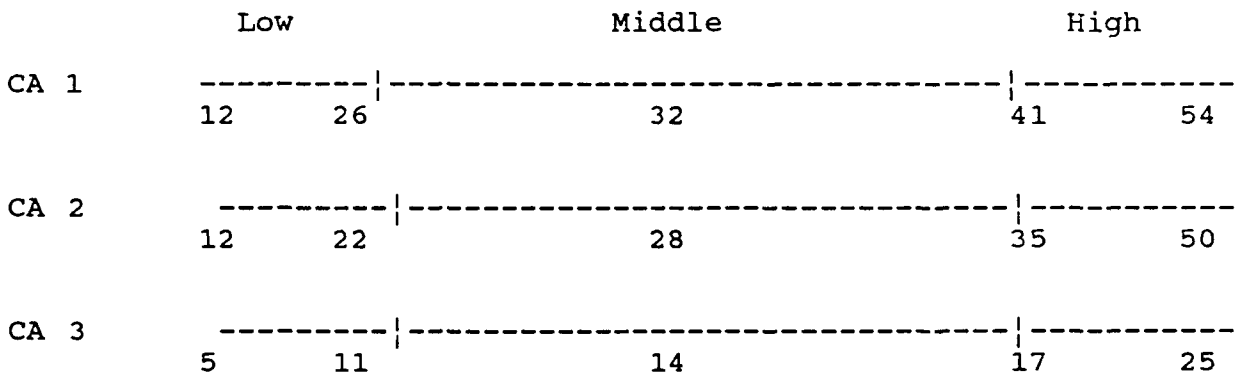
COMMUNICATION APPREHENSION FEEDBACK

The study you participated in earlier this quarter was about communication apprehension (CA). You may remember that we measured CA at three different times; 1) a general measure of CA, 2) a measure of CA one week prior to the briefing assignment; and 3) a measure the day of the briefing.

Here are your scores and some norms so you can see how your score compares to others.

Student #	DEF	NEC	SKRC	ENV	CA 1	CA 2	CA 3

COMMUNICATION APPREHENSION SCORES

To see how you compare with others on CA, locate your corresponding score on the graph below.

	Low		Middle		High	
CA 1	---------	----------------------------------	---------
	12	26	32	41	54
CA 2	---------	----------------------------------	---------
	12	22	28	35	50
CA 3	---------	----------------------------------	---------
	5	11	14	17	25

INTERPRETIVE STYLES SCORES

The first four measures (DEF or deficiency focusing, NEC or necessitating, SKRC or skill recognition, and ENV or envisioning success) are interpretive habits that are characteristic of the way you interpret situations. In previous studies, the first three measures have been found to predict stress symptoms. To see how you compared with others who have participated in this study, look at the attached pages.

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WHAT DID WE FIND?

* All three measures of apprehension were negatively related to briefing performance. In other words, people who scored high on CA generally did not perform as well as those who scored low, even though they spent more time preparing for the brief.

* Interpretive habits were related to communication apprehension. Specifically, people high in deficiency focusing and necessitating scored high in CA. People who scored high in envisioning success generally scored low in CA. In other words, communication apprehension seems to be influenced by some general habits that people have when interpreting any task situation.

If you would like to get more information about scores, interpretations or findings, please contact Professor Fann at 646-2756.

APPENDIX F

<u>QUESTIONNAIRE ABOUT SPOUSE'S WORK STYLE</u>

At the same time that the Work Attitude Survey was completed by the student, each student was requested to have the student's spouse or close acquaintance fill out the "Questionnaire About Spouse's Work Style" the cover page of which appears in this appendix. The actual questionnaire is not included in the appendix as it is a copyrighted instrument. The Questionnaire About Spouse's Work Style was identical to the first part of the Work Attitude Survey filled out by the student (the Stress Resiliency Profile) and was intended to serve as a check on the validity of the responses provided by the students.

TO: Spouse of Student #_____

FROM: G. Fann, Professor
           T. Williams, Thesis Student
           Adm. Sciences

DATE: July 16, 1990

SUBJ: Questionnaire About Spouse's Work Style

As part of one of your spouse's classes, MN3333, we are collecting information about your spouse's approach to work situations. He/she has already answered the attached questionnaire. As a person who knows your spouse well, you are being asked to provide a second opinion. Please answer the attached questions in the way that best describes your spouse. That is, <u>please answer each question as though you were your spouse accurately describing himself/herself</u>. Prior to filling out the questionnaire please do not discuss your answers with your spouse.

After you have completed the questionnaire, please put it in the attached envelope, seal the envelope, and give it to your spouse to return to us.

Your answers will be <u>completely confidential</u>. Only the researchers will see your answers, and we will not know the identity of your spouse. (We only know your spouse by the number written above). Your spouse and his/her classmates will receive only very general feedback about the average answers of all spouses.

Thank you for your help.

APPENDIX G

DESCRIPTIONS OF ABBREVIATIONS USED IN "VARIABLES" COLUMN OF TABLES 1, 2, 3 AND 4

Trait CA   =   trait communications apprehension

State CA1   =   state communications apprehension measured at one week prior to presentation

State CA2   =   state communications apprehension measured on day of presentation

DefFocSRP   =   deficiency focusing as measured by the stress resiliency profile

NecessSRP   =   necessitating as measured by the stress resiliency profile

SkilRecSRP   =   skill recognition as measured by the stress resiliency profile

EnvSucSRP   =   envisioning success as measured by the stress resiliency profile

DefFocOE   =   deficiency focusing as measured by open-ended measures

SkilRecOE   =   skill recognition as measured by open-ended measures

NecessOE   =   necessitating as measured by open-ended measures

HoursSpt   =   hours spent preparing for the presentation

Reps   =   number of times the presentation was practiced out loud

Perf   =   performance as measured by the professor teaching the section

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