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## **Classroom Interventions for Reducing Public Speaking Anxiety**

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An increasing number of studies have focused on classroom remediation of apprehension and state anxiety associated with public speaking situations. Several explanations have been offered for the shift to in-class treatment as opposed to specialized out-of-class laboratory treatment of communication apprehension (CA). As Hoffmann and Sprague (1982) report, fewer than ten percent of U.S. colleges and universities currently offer specialized laboratory treatment programs. Furthermore, most instructors, as Booth-Butterfield (1988a) suggests, have neither the time nor the resources necessary to administer specialized treatment programs. Phillips (1982) also has provided a rationale for in-class treatment. He suggested that instructors of public speaking classes have a variety of methods for treating anxiety and that attention should be directed toward developing a compendia of strategies which work under real classroom conditions.

The case for in-class treatment is further bolstered in findings for the effects of CA on classroom performance. McCroskey, Ralph, and Barrick (1970), in a study assessing the effectiveness of desensitization in reducing CA level, observed anecdotally that several of the high CA's who enrolled in a public speaking course actually withdrew from the class prior to their first required speech. Barnes (1976) also reports that high CA's often complete their public speaking course feeling more apprehensive about public speaking

than when they entered the course. These studies support the importance of in-class attempts to reduce anxiety level of high CA's as early as possible in the term especially the anxiety level of high CA's who may be required to complete a course in public speaking as part of their general education requirements.

Several anxiety-reduction methods have been attempted in the public speaking classroom. These range from the typical model speech and videotaping of speeches to the use of interpersonal exercises designed to create a more comfortable learning environment for the anxious speaker. Beatty (1988) found that audiotaping of "successful" model speeches actually increased high CA's anxiety level when they viewed the models prior to their assigned speech. Several studies have examined the effects of delivery skills training on anxiety reduction; however, most of these studies have done so through out-of-class laboratory programs. A study by Neer and Kircher (1989) examined the effects of an in-class delivery skills instructional unit on anxiety reduction. The principal was that the administration of the delivery instructional unit resulted in lower CA scores at the end of the course when the delivery training was provided to students prior to their first speech. Higher CA scores were observed when the training was completed after the first required public speaking assignment.

The Beatty and the Neer and Kircher studies are important because they suggest that instructors may incorporate model speeches within their instructional units to assist students in preparing their own speeches. This practice may prove useful for most students. High CA students, however, may interpret model speeches as examples they cannot perform, especially if they have little or no previous speaking experience. Instructors also may de-emphasize delivery mechanics until after the initial speech on the assumption that delivery instruction, if provided prior to the initial speech, may further increase anxiety by focusing attention on

delivery rather than the speech content. Yet, neither of these assumptions has proven true. Thus, additional research seems appropriate on whether other often-used instructional interventions actually function as intended.

Another line of research has shifted the focus from public speaking interventions to classroom interventions designed to create a more comfortable classroom context for learning fundamental public speaking principles. Connell and Borden (1987) observed a positive effect for self-disclosure on reduction of trait CA. Their study manipulated disclosure (i.e., small group team meetings once a week for six weeks) within a larger instructional unit that also included cognitive restructuring and desensitization. Thus, the effects of self-disclosure are embedded within a larger instructional context. The use of small groups represents one attempt to manipulate acquaintance-level or familiarity among students. Acquaintance-level is one of several situational factors originally identified by Buss (1980) and McCroskey (1984) as influencing state anxiety level of high CA's.

Booth-Butterfield (1988a) manipulated acquaintance-level and found that high CA's reported lower state anxiety reactions when working with friends than when working with strangers. Booth-Butterfield recommends that instructors permit students to work together in order to increase their familiarity with one another. Booth-Butterfield (1986) manipulated additional situational factors and observed that high CA's demonstrated fewer behavioral disruptions when performing getting-acquainted exercises involving low evaluation potential. High evaluation potential was manipulated by informing students that the videotaped exercise would be reviewed by departmental faculty as potential examples of dyadic communication in other courses. The study also found that high CA's exhibited fewer disruptions with the highly-structured videotaping (i.e., clearly set instructions on how to conduct the getting-acquainted encounter) than with the low-

structured videotaping in which students were permitted more freedom in conducting the encounter.

## PURPOSE OF STUDY

Findings from these studies demonstrate that instructors are able to offer instructional interventions that mediate state anxiety. The present study therefore examined several additional interventions designed to moderate situational factors contributing to state anxiety. The interventions were tested by creating cover stories similar to the Booth-Butterfield (1988a) study that described various instructional formats through which the first required speech in the introductory public speaking course would be processed. Respondents did not participate in actual in-class manipulations but were instructed to rate their perceived state anxiety if their first speech was structured in the manner described within each cover story.

The primary purpose of the study was to generate a list of interventions that instructors may incorporate in the classroom with confidence. Support for perceptual responses will eventually require that manipulations actually be performed within the classroom. However, an extremely large number of interventions could be tested for in-class treatment. Thus, the process of selecting interventions may best be served by first narrowing the list to those that have been found to affect anxiety levels.

The instructional interventions were derived through prior testing of self-reports of classroom interventions they preferred instructors employ to reduce their anxiety with public speaking. A series of studies by Neer and his colleagues (Neer, Hudson, & Warren, 1982a; Neer & Kircher, 1984) reveal that CA's report increased comfort with each intervention tested. However, their studies failed to assess anxiety

reactions and did not examine the interaction of the interventions on anxiety level.<sup>1</sup>

## HYPOTHESES

Prior research examining the influence of situational factors supports these investigations. The hypotheses assert that manipulation of classroom situational factors will impact student anxiety level prior to the first required speech.

- H1. All respondents, regardless of prior CA level, will report lower levels of state anxiety when public speaking is structured to reduce evaluation potential, audience size, task difficulty, stimulus duration, and ambiguity reduction and to increase acquaintance level in the classroom.
- H2. High CA's will report higher levels of anxiety than low CA's when public speaking is structured to increase evaluation potential, audience size, task difficulty, and ambiguity reduction and to decrease acquaintance level in the classroom.

## METHOD

### *Respondents*

Respondents were 306 (Female = 60%, Age range = 17-33, Median = 19.2) undergraduates enrolled in the introductory public speaking course at a midsize, midwestern university during the 1988-1989 academic year. Respondents completed the CA measure and responded to the public speaking cover

stories in randomized order. Order effects were not observed between that half of the sample completing the CA measure first and the other half of the sample who completed the CA measure after responding to the cover stories.

## ***CA Measure***

CA was measured with the Personal Report of Public Speaking Apprehension (PRPSA) (McCroskey, 1970). This form was selected because it measures exclusively public speaking CA. The Cronbach alpha estimate was .90. Descriptive statistics revealed a grand mean of 109.46 and standard deviation of 20.11.

## ***Manipulations***

Five public speaking situations were used to test situational factors. Each situation manipulated two situational factors. Thus, no situation simultaneously manipulated every factor. Instead, respondents read only one level each of two factors (low or high) within each situation. Immediately after reading the cover story, respondents rated their anxiety to that situation before proceeding to the next cover story. Each situation described a procedure for structuring either the preparation phases of a public speech or the actual presentation of the speech.<sup>2</sup>

## ***Operationalization***

Evaluation potential, as utilized in this study, assumes that being graded by classmates — although potentially anxiety arousing — should be less arousing than being graded by the instructor. Familiarity also is manipulated consistent with theoretical conceptualizations. That is, speaking on the last assigned speaking date may provide students with additional information for preparing their own speeches after observing the speeches of other students. Furthermore, speaking on the first assigned date also may increase conspicuousness or the perception of being the center of attention. That is, those speaking on the first day may feel more conspicuous because of increased audience attention and curiosity associated with the first round of speeches.

The evidence speech was defined as high task difficulty because it required statistical support for main points. The personal experience speech, on the other hand, represents low task difficulty in that the only form of proof required a personal experience or story to illustrate main points. The evidence; should be perceived as being more difficult to execute, especially with the requirement that statistical proof must meet the various tests of evidence or not be used in the speech. Changing stimulus duration should increase anticipated anxiety since speaking for ten minutes should increase both the perception of task difficulty (i.e., having sufficient information for a ten minute speech). McCroskey (1984) suggests that high CA's will talk for only as long as minimally required. Beatty (1986) demonstrated empirically that high CA's do, indeed, speak for shorter periods of time than low CA's, especially when their motivation level is at a minimum.

Audience size was tested on the assumption that as the number of audience observers increases so, too, does conspicuousness. On the other hand, as audience size decreases, the classroom may be perceived as being more informal by



students. Providing speakers with an exact speaking order was defined as high ambiguity reduction because the random order may increase anticipation of being called to speak "on the spot" before the student is ready. An exact speaking order eliminates the anticipation and the guesswork associated with not knowing when one will actually have to speak. High CA students, already highly anxious about speaking, may be spared from experiencing additional anxiety if they know they will not be surprised when it is their time to speak.

Collectively, these interventions were selected because each represents a realistic method of structuring the initial public speaking assignment for students taking their first course in public speaking. For instance, it is not unusual to hear students say before the start of class on the day of their speech that they hope more students than usual will miss class that day. And, when explaining the guidelines for the initial speech assignment, it is typical to hear students ask if they must speak for the entire time limit. These interventions were selected because each may be unobtrusively employed in the classroom without focusing special attention on high CA's and thereby run the risk of further increasing their level of conspicuousness.

### ***Dependent Measures***

State anxiety reactions to each of the five situations were measured with the five-item short version (O'Neil, Spielberger, & Hansen, 1969) of the STAI (A-State) anxiety scale (Spielberger, Gorsuch, & Lushene, 1970). The items are: I feel tense, I feel calm, I feel relaxed, I feel at ease, and I feel jittery. The scale was administered after respondents read each of the five situations. Ratings are recorded on four-point scales and summed to create a composite score ranging from

five (low anxiety) to twenty (high anxiety). Alpha estimates ranged from .86 to .89 across the five situations.

### ***Pilot Testing***

The five situations were pilot tested on a sample of 46 students enrolled in other sections of the introductory course. Pilot testing was conducted to confirm that the interventions reflected the situational factors they were designed to manipulate. Respondents rated both levels of all manipulations on 7-point bipolar scales. All manipulations were confirmed through overall mean ratings. For instance, evaluation potential (i.e., I feel the instructor will evaluate me more difficulty than students) was rated higher when the cover story stated that the instructor would be present to grade the first speech (6.00) than when only the class would be present to grade the speech (4.22). Also stimulus duration, was rated as being more anxiety arousing (i.e., I would feel more anxious speaking for ten minutes than I would speaking for five minutes) with the ten minute speech (6.12) than the five minute speech (4.48). Remaining manipulations yielded significant mean differences between .91 and 1.46.

The manipulations were also validated through tests of mean difference between low and high CA's. For instance, ambiguity reduction yielded the following statistics: ( $F = 9.65$ , Low CA = 4.50, High CA = 6.64,  $p < .006$ ). That is, high CA's felt they had less control and predictability over the situation when the instructor used a random speaking order over an exact order. Remaining manipulations also yielded significant mean differences ranging from 1.30 to 1.96. The only manipulations failing to yield significance were acquaintance level ( $p < .07$ ) and familiarity ( $p < .09$ ).<sup>3</sup>

## **Analysis**

The five situations were analyzed separately through 2 x 2 x 2 analysis of variance designs: two levels of prior CA (low and high) were combined with the two levels of each intervention manipulated within each situation.<sup>4</sup> Separate ANOVA models were selected over a repeated measures design since each situation was manipulated differently than the other; thus, the independent variables changed from one situation to the next.

## **RESULTS**

Apprehension revealed a significant main effect across all five situations. F-ratios ranged from 60.70 to 97.70 with mean differences between low and high CA's ranging from 4.24 to 7.05 across the five situations. These findings revealed that high CA's reported higher anxiety reactions to all five situations independent of the manipulated interventions.

Main effects also revealed that several of the interventions yielded ANOVA significance (see Table 1). These findings demonstrate that speaking before half the class aroused less anxiety than speaking before the entire class. The personal experience speech resulted in lower anxiety than the evidence speech. Speaking on the last day assigned to speeches aroused less anxiety than speaking on the first assigned date while a random speaking order and a speaking limit of five minutes resulted in lower self-reported anxiety than the exact order and the ten minute limit. Collectively, these findings indicate that select interventions reduce public speaking anxiety of students enrolled in a basic course regardless of their prior CA level.

**Table 1**  
**Effects of the Interventions on Anxiety-Reduction**

<u>Intervention</u>	<u>SS/MS</u>	<u>Means</u>	<u>eta<sup>2</sup></u>	<u>F</u>	<u>P</u>
Audience Size:	96.69		.20	11.47	.001
Half		14.37			
Entire		15.90			
Speaking Order:	86.23		.17	8.88	.003
Random		13.97			
Exact		15.41			
Type of Speech	99.32		.29	10.34	.002
Personal		11.21			
Evidence		13.43			
Speaking Order:	111.61		.28	9.72	.002
First Day		14.46			
Last Day		12.06			
Speaking Limit:	64.61		.17	6.60	.010
5 Minutes		14.01			
10 Minutes		15.61			

While main effect significance for the interventions holds potentially useful information to the general structuring of the first required speech, it does not provide specific information regarding the effects of prior CA on state anxiety. Thus, of primary interest in this study is the interaction between CA level and the interventions.

Interaction effects were observed between CA level and two of the public speaking situations. Situation 1 (audience size x evaluation potential) yielded a significant two-way interaction effect between CA x audience size and between CA x evaluation potential. As results in Table 2 reveal, high CA's

report lower anxiety if their first speech is delivered to only half the class and when the instructor is not present to grade the speech (see Table 2).

**Table 2**  
**ANOVA for CA x Interventions**

	<u>SS/MS</u>	<u>Submeans</u> <sup>1</sup>	<u>eta</u> <sup>2</sup>	<u>F</u>
CA x Audience Size (A)	33.79		.03	4.09**
low x entire class		13.26 <sup>a</sup>		
high x entire class		18.70 <sup>abc</sup>		
low x half class		12.63 <sup>bcd</sup>		
high x half class		16.07 <sup>abcd</sup>		
CA x Evaluation Potential (E)	41.84		.03	4.95*
low x instructor present		12.77 <sup>a</sup>		
high x instructor present		18.00 <sup>abc</sup>		
low x instructor not present		13.18 <sup>bcd</sup>		
high x instructor not present		16.53 <sup>abcd</sup>		
CA x A x E	10.56		.00	1.24
* p < .03		<sup>1</sup> Superscripts represent statistically		
** p < .05		significant paired comparisons (Scheffe-		
		method)		

Interaction effects also approached significance with situation 4 (ambiguity reduction x stimulus duration). That is,

low CA's reported lower anxiety with a random speaking order (Random = 10.87, Exact = 13.51) while high CA's reported similar levels of anxiety (Random = 17.00, Exact = 17.41) regardless whether a random or an exact speaking order was selected by the instructor ( $F = 3.16$ ,  $\eta^2 = .05$ ,  $p < .065$ ).

The findings demonstrate that F-values were larger for CA than the interventions. These findings prompted an examination of  $\eta^2$  coefficients for the raw score CA composite and the interventions. The raw score CA composite was first correlated with the five anxiety composites. Multiple correlation and  $r^2$  values for the five situations were: (1)  $MR = .62$ ,  $r^2 = .38$ , (2)  $MR = .58$ ,  $r^2 = .34$ , (3)  $MR = .55$ ,  $r^2 = .30$ , (4)  $MR = .60$ ,  $r^2 = .36$ , and (5)  $MR = .64$ ,  $r^2 = .41$ . These findings compare favorably to other studies which report that CA accounts for between .44 and 47 percent of the variance in anxiety scores (Booth-Butterfield, 1988a; McCroskey, 1984).<sup>5</sup>

Adjusted  $\eta^2$  coefficients for the interventions (adjusted for CA level) were next examined. Several of the interventions accounted for a substantial portion of variance in anxiety scores. Ambiguity reduction (speaking order) accounted for nearly as much variance (.21) as CA (.30) in situation 3. Situations 1 and 2 reveal that CA accounted for slightly one-third more variance than the interventions while CA also accounted for nearly three times as much variance as the interventions in situation 5 (41 vs. 15 percent). However, situation 4 reveals that the combined variance of the two interventions nearly equals that of CA (36 vs. 33 percent).

## DISCUSSION

Research findings in this study offer partial support for both hypotheses. First, main effect significance was observed

for half of the interventions, independent on CA level, while only two situational factors failed to yield significance (i.e., familiarity and acquaintance level). On the other hand, only two of the interventions interacted with CA to influence state anxiety. These findings provide stronger support for H1 than for H2. It should be pointed out that the interventions do not eliminate anxiety arousal of either low or high CA's. Instead, the interventions only moderate anxiety arousal. Since the STAI ceiling score is 20 and the floor score is 5, the interventions aroused moderate for low CA's and generally high anxiety for high CA's. Interaction of CA with the interventions demonstrated little support for H2 with the following qualification: the audience size x evaluation potential manipulation functioned as predicted in reducing state anxiety level from extremely high to moderately high for high CA's and from moderately high to moderate anxiety for low CA's.

Research findings demonstrate that the interventions provide potentially useful information on ways to structure the initial public speaking assignment to reduce the anxiety level of beginning speakers, including both low and high CA students. Situation 1 in particular reveals that anxiety is reduced when the instructor does not grade the first speech and high CA's deliver the speech to only half the class. This finding could easily be incorporated into the classroom with minimal disruption to traditional methods of structuring speaking assignments. For instance, the instructor could divide the class in half to deliver a trial run of the first speech. Potential grade inflation via student grading may be minimized by assigning the trial run fewer points than other speech assignments. The instructor may exercise the option of not assigning a point value to the trial run speech. However, as Booth-Butterfield (1988a) has demonstrated, performance motivation and anxiety-reduction are positively influenced by reward value (i.e., number of points awarded) associated with an assignment. Thus, awarding the trial run a small percent-

age of points may reduce anxiety by increasing performance motivation.

Findings for the remaining interventions failed to consistently yield significant interaction effects between CA and the interventions. It should be noted that acquaintance level did not reduce anxiety as other studies report. It is possible that high CA's do not become better acquainted with classmates. It is possible high CA's experienced increased evaluation potential because they perceived the interaction as centered on public speaking exercises. Thus, getting-acquainted activities appear to reduce anxiety when interaction is informal and non-task centered (Booth-Butterfield, 1986). Booth-Butterfield (1988a) reports anxiety reduction is a function of informal class interaction. It therefore appears that the small group and dyadic "speech consultant teams" were not perceived as being informal and interpersonal- or acquaintance-centered but as task-centered activities focusing on behavioral rehearsal or feedback on speech performance.

One further qualification to findings in this study should be noted. Beatty and his colleagues (Beatty, Balfantz, & Kuwabara, 1989; Beatty & Friedland, 1990) recently demonstrated that situational factors function in a dispositional manner. Their findings indicated that all situational factors, with the exception of novelty, significantly correlated with two performance evaluations separated by a five-week time frame. The authors argue that if these factors were situational in nature they should not have correlated with the second performance evaluation. However, it could also be argued that if the conditions that trigger situational anxiety are not removed from the classroom, then repeated performances will provoke similar anxiety reactions until effective interventions are implemented to moderate these conditions. For example, it should not be assumed that students will increase their acquaintance level simply by sitting in the same class of students for a term. Indeed, this study suggests that acquaintance level is increased by interpersonal-based interaction



rather than task-centered interaction. Using task-centered interaction throughout a semester without attempting interpersonal-centered interaction may not increase acquaintance level.

The next step to assessing the instructional value of these and other interventions is determining whether they impact speech performance grades. Few studies have established that anxiety-reduction improves initial speech performance as well as subsequent performance. The issue is particularly important in light of Phillips' claim that some degree of anxiety is useful because it functions as a powerful source of motivation for performance (1977). Booth-Butterfield's (1988a) recent manipulation of situational factors provides support for Phillips' claim. Booth-Butterfield demonstrated that assigning a higher grade percentage to an assignment reduced anxiety associated with dyadic interaction. Neer and Hudson (1981) reported a similar effect in a study on classroom apprehension. They reported that high CA's felt more comfortable leading a small group discussion than leading a discussion before the entire class. However, when asked to rate satisfaction level with their performance, high CA's rated their performance more positively than high CA's who were only required to lead the small group discussion. The source of motivation in this study was audience size that presumably aroused more anxiety.

Communication educators should continue to investigate which of their methods work as well as why some methods work better than others to reduce anxiety. Answering this question may be better addressed by developing criteria other than speech performance for determining the effectiveness of instructional interventions. Booth-Butterfield (1989b) has demonstrated that high CA's recall less information from lectures when placed in anxiety-arousing classroom situations (i.e., when the class is informed that dyadic interaction with a stranger will take place after the lecture). Thus, additional criteria, such as cognitive functioning, may need to be estab-

lished to assist instructors in identifying interventions that affect learning outcomes other than speech performance.

This study demonstrated that select instructional interventions decrease the perceived state anxiety of both low and high CA students enrolled in the basic public speaking course. One of the most important observations to emerge from this study is that often-used interventions do not consistently moderate situational causes of anxiety. Select findings also appear to confirm the dispositional nature of situational factors. Understanding how these factors are related not only to anxiety reduction but to communication outcomes other than speech performance may provide additional information useful to moderating CA. And, on a pedagogical level, instructors may begin to identify those interventions that help guard against the tendency for some CA's to drop their public speaking course prior to their first speech and prevent other high CA's from leaving the course even more apprehensive about public speaking.

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## AUTHOR NOTES

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## NOTES

<sup>1</sup>Several interventions, excluding those tested in this study, that positively influenced high CA's perceived comfort level include: (1) not having to follow an excellent speech, (2) not being graded on delivery mechanics for the first speech, (3) having the instructor approve the student's speech outline before speaking, (4) having the first speech consist of a small group report to the class, and (5) not videotaping the first speech. On the other hand, high CA's reported increased discomfort with the following interventions, some of which may be routinely used as anxiety-reductions techniques: (1) individual conferences with the instructor prior to the first speech, (2) viewing sample speeches before speaking, and (3) lectures and exercises on speech organization. Over fifty instructional interventions have been tested across these three studies.

<sup>2</sup>**Situation 1** (audience size x evaluation potential): The cover story informed respondents that their first speech would be delivered to only half the class (low or small size) or to the entire class of 25 students (high or large audience). In addition to manipulating audience size, evaluation potential

was manipulated by describing the first speech as being delivered with the instructor either present (high) or absent (low) during the speech. That is, either the instructor or the class would grade the speech.

**Situation 2** (acquaintance level x task difficulty): Acquaintance level was manipulated by informing respondents that they would be placed within the same (high) or different (low) small group of their peers once a week over a three-week period to take part in public speaking exercises and to practice their speech prior to presenting their speech in class. Task difficulty was manipulated by requiring students to deliver either a personal experience speech (low) or an evidence speech (high) in which they would be required to statistically document the main points of the speech.

**Situation 3** (acquaintance level x familiarity): Two levels of acquaintance level were manipulated by informing respondents to assume that they would be placed within dyads (high) or small groups (low) to practice their speech one week prior to presenting their first speaking assignment in class. Familiarity was manipulated by informing students they would be required to deliver their first speech on either the first (low) or the last (high) assigned speaking date.

**Situation 4** (ambiguity reduction x stimulus duration): Ambiguity reduction was manipulated by informing respondents to imagine that on the date they had been assigned to speak the instructor would either call on students at random to speak (low) or would provide the class with an exact speaking order before starting speeches that day (high). Stimulus duration was manipulated by requiring either a ten minute (high) or a five minute speech.

**Situation 5** (stimulus duration x audience size): Stimulus duration was manipulated similarly to situation 4 and audience size was manipulated consistent with situation 1.

<sup>3</sup>All manipulations also yielded significant correlations with CA when the PRPSA raw score was correlated with

ratings for each of the interventions. Further information on the manipulations is available from the authors.

<sup>4</sup>A 25/25 split for low and high CA was selected for analysis in order to ensure adequate cell sizes of 75 and 74, respectively. This split differs from the conventional assignment of CA levels based on mean deviation. Thus, discriminant analysis was conducted in order to ensure the reliability of these range levels. Univariate F-ratios ranged from 19.61 to 439.61 for all 34 PRPSA items with half yielding F-ratios larger than 100 and only 20 percent under 30.0. The analysis resulted in a single significant function (Eigenvalue = 11/94, %Variance = 100,  $R_c = .960$ , Wilks' = .077,  $p < .001$ ) that correctly classified 100 percent of low and high CA's within their respective prior membership groups. Group centroids of -3.54 and 3.32 further reveal the reliability of the 25 percent breakpoint used in assigning PRPSA raw scores to the low high CA groups. Moderate CA's were eliminated from analysis on a research recommendation by McCroskey (1984) whose data demonstrates that the inclusion of moderate CA scores often masks significant differences between low and high CA's. McCroskey therefore suggests that CA be conceptualized as a categorical variable rather than a continuous variable.

<sup>5</sup>When all 306 respondents were included in the regression model, multiple correlations were reduced across all five situations (i.e., .49, .45, .51, .52, and .51). These results confirm McCroskey's (1984) suggestion that the inclusion of moderate CA's deflates the statistical significance between low and high CA's.