

Public Speaking Anxiety: Perceived Competence and Audience Congeniality

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*This study examines the relations among public speaking anxiety, perceived competence, and perception of the audience before and after a speech. Students (N = 192) of introductory, university-level public communication courses voluntarily participated. Results demonstrate that the group with highest anxiety showed the largest improvement in perceived competence and perception of audience pleasantness. The speaker's perception of the audience is discussed as a key factor in public speaking anxiety. **Keywords:** public speaking anxiety, state anxiety, perceived competence, audience effects, communication apprehension*

Even though there has been considerable research in the area of public speaking anxiety as a whole, there has been less research focusing on it as a situational or state variable. Clearly, speakers will react to the same public speaking situation differently because they bring unique personality dispositions and experiences to such situations (see Beatty, Balafantz, & Kubara, 1989). It should be emphasized, however, that the speaker will also alter the speaking environment, the audience in particular. This dynamic interplay between speaker and audience occurs during the speech itself. Therefore, the focus of this investigation is on changes in anxiety from the beginning to the end of a public speech and concomitant changes in two key situational variables: speakers' self-ratings of communicative competence and speakers' ratings of the pleasantness of the audience.

Public speaking anxiety is a form of social anxiety (Clevenger, 1984) and, following McCroskey (1977), can be defined as a fear and uneasiness caused by the potentially threatening situation (real or anticipated) of speaking before a group of people (MacIntyre & Thivierge, 1995a). It is a social anxiety that is closely related to other constructs such as stage fright, audience anxiety (Beatty, 1988), and communication apprehension (Jackson & Latané, 1981). Social anxieties can be identified by feelings of tension and discomfort, negative self-evaluations, and a tendency to withdraw in the presence of others (Schwarzer, 1986). Anxious speakers can show cognitive, affective, and behavioral reactions. These might include increased distraction, decreased information processing abilities, feelings of fear and uneasiness, increases in sympathetic nervous system arousal, and attempts to escape the situation (Schwarzer, 1986).

Changes in public speaking anxiety may be substantially affected by the percep-

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tion of competence as a speaker. Ellis (1995) found evidence for such changes during a semester-long public speaking course. Students who showed high levels of communication apprehension perceived more improvement in public speaking competency than those who were low in communication apprehension, although both groups experienced a decrease in their level of public speaking anxiety from the beginning to the end of the semester. Rubin, Rubin, and Jordan (1997) found that the most anxious students in a basic communication course showed the greatest decreases in communication apprehension and the largest increases in perceived competence from the beginning to the end of an academic semester. Ayres (1986), taking a social comparison view, argues that a fear of public speaking may arise from a personal assessment that one's speaking abilities do not meet audience expectations. There is a discrepancy between what is perceived to be expected by others and the individual's perception of their ability to meet those expectations. Ayres (1986) suggested that "the more one's perceived communication ability falls below one's perception of others' expectations in a given public speaking situation, the higher one's level of stage fright" (p. 277). Stage fright is viewed as a dynamic event that revolves around fluctuations in individuals' perceptions of their own competency in public speaking settings. Ayres (1986) has suggested that a speaker's fear may arise out of feeling he or she cannot meet the expectations of the audience. However, speakers can experience a change in perceived competence while speaking. This implies an active, dynamic process whereby social comparisons of competence are made and revised "on-line" during the speech itself. This leads to the following hypothesis:

H₁: Perceived competence ratings will change from pre-speech to post-speech, and the greatest change will occur among students with the highest levels of state anxiety before the speech.

Rather than proposing this as a directional hypothesis, it is suggested that changes in perceived competence might be for better or worse, depending in part on the reaction of the audience. The speaker's perception of the audience appears to be a second important variable contributing to public speaking anxiety. In a well-known discussion of situational factors affecting public speaking anxiety, Buss (1980) proposed several audience-related variables that might be implicated in anxiety reactions, including status, similarity, and attention (for an empirical study of these and other factors see Beatty, 1988). In addition, the pleasantness of the audience has been shown to affect public speaking anxiety (MacIntyre & Thivierge, 1995a). It has been proposed that anxious speakers tend to monitor the audience with vigilance, looking for feedback on their performance (MacIntyre, Thivierge, & MacDonald, 1997). If the audience is seen as congenial, then the level of anxiety seems likely to decline from the beginning to the end of the speech. However, other research has suggested that highly anxious speakers tend to show increased self-focus, which is distracting and leads to poorer performance (Daly, Vangelisti, & Lawrence, 1989). Because of this self-focused attention, highly anxious speakers may not be able to interpret important audience cues and therefore have difficulty adjusting themselves or their speech accordingly (Daly et al., 1989). This type of process would likely result in a very stable level of anxiety from the beginning of the speech to the end. This leads to the following research questions:

RQ: Will speakers with different levels of state anxiety show changes in their perception of the pleasantness of the audience from pre-speech to post-speech?

RQ₂: How will state anxiety change from the beginning to the end of the speech?

RQ₃: How will the ratings of perceived competence, audience congeniality, and state anxiety, taken before and after the speech, correlate with each other?

Method

Participants

Participants in the research consisted of 196 students (85 males, 109 females, and 2 who did not indicate their sex), ranging in age from 18 to 64 years (mean = 23.1 years, $SD = 6.80$), enrolled in one of seven sections of an introductory public communication course.

Materials

State Perceived Index of Competence. Fifteen items assessed the state perceived competence of the respondents both immediately before and immediately after giving a speech. Verb tenses were changed for the items given after the speech (e.g., "I am capable. . ." was changed to "I was capable. . ."). Seven positive items, indicating high competence, and eight negative items, indicating low competence, comprise the scale. The items were answered using a 7-point Likert scale ranging from "strong agreement" to "strong disagreement." Examples of positive and negative items given before the speech are "I am capable of giving a good speech today" and "I feel that I will mess-up this speech." Scores for negative items were reversed so that high scores indicate high competence. Scale reliability was assessed by calculating Chronbach's coefficient alpha on the pre-speech ($\alpha = .95$) and post-speech ($\alpha = .95$) versions of the scale.¹

State Perceived Audience Congeniality. Twelve items assessed the respondent's perception of the audience's reactions both immediately before and immediately after giving a speech. Verb tenses were changed for the post-speech version of the scale. Six positive and six negative items were answered using a 7-point Likert scale ranging from "strong agreement" to "strong disagreement." Examples of positive and negative items given before the speech are "The audience will be supportive" and "This audience will be unfriendly." Scores on the negative items were reversed so that high scale scores indicate high perceived audience congeniality. Coefficient alpha was calculated for scores obtained before the speech ($\alpha = .87$) and after the speech ($\alpha = .89$).

State Anxiety. A 5-item version of the STAI (A-State) state anxiety scale (Spielberger, Gorsuch, & Lushene, 1970) assessed the anxiety perceived by the respondents both before and after giving a speech. Verb tenses were changed for the post-speech version of the scale. The two positive and three negative items were answered using a 7-point Likert scale ranging from "strong agreement" to "strong disagreement." Scores on the negative items were reversed so that high scores indicate high state anxiety. Example items given before the speech are "I feel tense" and "I feel at ease." Coefficient alpha was calculated on the pre-speech ($\alpha = .90$) and post-speech ($\alpha = .94$) scores.

Results

The main analysis focused on the differences in the state variables before and after the speech in each of three state anxiety groups. Following Rubin et al. (1997), three

anxiety groups were formed. The first group had state anxiety scores on the pretest that were greater than one standard deviation above the mean (high anxiety, $n = 32$). The second group showed state anxiety scores more than one standard deviation below the mean (low anxiety, $n = 39$). A third, moderate anxiety group ($n = 125$), had scored within one standard deviation of the mean (above or below). To analyze these data, three 2×3 split plot ANOVAs were conducted, each using the repeated measures factor of time (pretest versus posttest) and the between groups factor of anxiety group (low, moderate, and high). Effect size estimates (partial eta-squared, η^2) are presented for each significant effect. Posthoc contrasts, comparing pretest with posttest means, were performed using Tukey's HSD procedure and are presented in Table 1. The dependent variables were state perceived competence (see H1), state audience congeniality (see RQ1), and state anxiety (see RQ2).

The ratings of state perceived competence showed a significant effect of time, $F(1,189) = 5.80, p < .05, \eta^2 = .030$, anxiety group, $F(2, 189) = 26.26, p < .05, \eta^2 = .217$, and a significant interaction, $F(2, 189) = 5.13, p < .05, \eta^2 = .051$. Posthoc tests revealed that only the high anxiety group showed a significant change in perceived competence, where the ratings increased substantially from the pretest to the posttest.

The ratings of audience congeniality showed a significant effect of time $F(1,189) = 34.95, p < .05, \eta^2 = .156$, anxiety group $F(2, 189) = 14.37, p < .05, \eta^2 = .132$, and a significant interaction $F(2, 189) = 3.49, p < .05, \eta^2 = .036$. In each case, perceived congeniality scores increased during the speech, with both the moderate and high anxiety groups showing a significant increase.

The ratings of state anxiety yielded a significant effect of time, $F(1,190) = 9.68, p < .05, \eta^2 = .048$, anxiety group, $F(2, 189) = 135.26, p < .05, \eta^2 = .587$, and a significant interaction, $F(2, 189) = 7.23, p < .05, \eta^2 = .071$. Posthoc tests revealed that both the moderate and high anxiety groups decreased significantly in state anxiety. The low anxiety group showed a nonsignificant increase in state anxiety.

In addition to the ANOVA results, correlations among the variables are presented in Table 2 (see RQ3). All of the obtained correlations are significant ($p < .01$). The correlations between state anxiety and both state perceived competence and state perceptions of audience congeniality are negative. The remaining correlations are

TABLE 1

CHANGE IN PERCEIVED COMPETENCE, AUDIENCE CONGENIALITY AND ANXIETY BY ANXIETY GROUP

	Pretest Mean (s.d.)	Posttest Mean (s.d.)	Tukey's HSD (<i>Q</i> statistic)
<i>State perceived competence</i>			
Low Anxiety	88.87 (12.92)	89.77 (14.31)	0.44
Moderate Anxiety	75.14 (16.27)	74.99 (19.03)	0.19
High Anxiety	58.08 (18.12)	67.42 (17.78)	5.04*
<i>Audience congeniality</i>			
Low Anxiety	69.63 (9.39)	71.53 (9.95)	1.87
Moderate Anxiety	60.69 (10.14)	64.31 (10.34)	6.93*
High Anxiety	55.05 (11.41)	61.89 (11.73)	7.31*
<i>State anxiety</i>			
Low Anxiety	11.91 (3.34)	13.07 (7.96)	1.47
Moderate Anxiety	24.48 (4.38)	22.44 (8.03)	4.12*
High Anxiety	34.69 (0.66)	29.08 (8.16)	6.39*

* $p < .05$.

TABLE 2
CORRELATIONS AMONG THE STATE VARIABLES BEFORE AND AFTER THE SPEECH

	SPIC _{pre}	SPAC _{pre}	ANX _{pre}	SPIC _{post}	SPAC _{post}	ANX _{post}
SPIC _{pre}	1.00					
SPAC _{pre}	.70	1.00				
ANX _{pre}	-.57	-.44	1.00			
SPIC _{post}	.62	.53	-.41	1.00		
SPAC _{post}	.50	.72	-.28	.66	1.00	
ANX _{post}	-.45	-.33	.56	-.55	-.30	1.00

Note. All correlations significant at $p < .001$, two-tailed test. SPIC = State perceived index of competence. SPAC = State perceived audience congeniality. ANX = State anxiety.

positive. Of particular interest is the correlation between perceived audience congeniality and perceived competence before the speech ($r = .70$) and after the speech ($r = .66$). These results support the position that the state affective reactions to the speech are highly interrelated whether they refer to the speaker (competence) or the audience (see also Beatty et al., 1989).

Discussion

Overall, these analyses demonstrate that considerable change in state affect occurs during a speech. These changes occur rather quickly, from the pretest to the posttest, which took approximately 5 minutes. Consistent with Beatty's (1988) results, the type of changes observed here likely lead to changes in corresponding trait-like variables (e.g., perceived competence, public speaking anxiety). The results of other studies have shown such effects occur during the duration of a communication course (Ellis, 1995; Rubin et al., 1997).

The three groups involved in this study show an interesting pattern. The group expressing the highest anxiety before the speech also showed the largest improvement in perception of audience congeniality and the largest gain in state perceived competence. Not surprisingly, this group also experienced a significant reduction in state anxiety. Based on Ayres (1986) discussion, one explanation for this pattern of results is that a highly anxious speaker approaches the speech with overly negative assessments of her or his speaking competence. Further, if that speaker expects failure and embarrassment in front of the audience, she or he likely expects to generate negative reactions among audience members. This mind set can lead to relatively high anxiety before the speech (see MacIntyre & Thivierge, 1995b). However, as the speech is delivered, the audience reacts more positively than might have been expected; the speaker's self-assessed competence increases, and a substantial reduction in anxiety takes place. If this process accurately describes the pattern of cognition for an anxious speaker, then the interplay between perceived competence and audience reaction makes an important contribution to the anxiety response. The surprisingly strong correlation obtained between state perceived competence and audience congeniality, and their correlation with state anxiety, supports this assertion.

Among those lowest in anxiety, very little change is shown. The differences between pretest and posttest scores on perceived competence, audience congeniality, and state anxiety were not significant. This indicates a certain stability in the relations among the state variables. Perhaps the same process explains these results

as well. Confident speakers expect to speak well and generate a pleasant reaction from the audience. As the speech is delivered, the audience reacts as expected, and no change in self-perception of competence or anxiety is necessary.

The moderate anxiety group showed a slightly less regular pattern. A significant decrease in anxiety was observed, along with a significant increase in ratings of audience congeniality. Ratings of perceived competence showed a non-significant change. This provides further evidence of a link between anxiety and the changing perceptions of the audience.

Other research has obtained parallel results over the length of a semester long communication course. In their recent study, Rubin et al. (1997) explain the changes in anxiety and perceived competence as a function of skills training. Although skills acquisition occurs in such a course, a substantial amount of social cognition likely accompanies changes in public speaking anxiety. The present results suggest that the audience might be key in a reassessment of perceived competence among highly anxious speakers. This might be considered a form of cognitive restructuring, based on positive social-comparison, because the unexpectedly positive reactions of the audience demand an explanation. These events can lead to uncertainty about competence and a strong potential for elaborated self-related cognitive processing (see Schwarzer, 1986). Anxiety reduction (e.g., systematic desensitization) and skills training are well established as approaches to ameliorating public speaking anxiety. However, it must be remembered that public speaking is primarily a *social* process and that an audience provides a host of potential influences that should be considered in any discussion of public speaking anxiety.

Some limitations of the present study and avenues for further research should be noted. First, the design of this investigation does not permit causal statements, because none of the variables involved were manipulated. Future research would be required to confirm the explanations offered, and studies of less pleasant audiences would be especially interesting. Second, the study deals with perceived audience reactions but does not examine the behavior of the audience. Questions about how the speaker interprets and describes audience behavior, and the biases that anxious speakers might show, would be an interesting avenue for future research. A third avenue for further study might be to track changes in anxiety, perceived competence, and audience reactions that occur during the speech.

The value of taking a "state" approach was demonstrated in the present study. Changes in anxiety and perceived competence reported over the duration of communication courses (e.g., Rubin et al., 1997) were observed within the duration of a single speech. These changes appear to coincide with changes in the speakers' perception of the audience, reinforcing the social nature of public speaking anxiety.

Note

¹Factor analysis and reliability analysis of the State Perceived Index of Competence and the State Perceived Audience Congeniality scales revealed that both scales were unidimensional and all items showed significant item-total correlations with their own scale. The development of the scales is described in a technical report available from the authors.

References

- Ayres, J. (1986). Perceptions of speaking ability: An explanation for stage fright. *Communication Education*, 35, 275–287.
- Beatty, M. J. (1988). Situational and predispositional correlates of public speaking anxiety. *Communication Education*, 37, 28–39.

- Beatty, M., Balafantz, G. L., & Kubara, A. Y. (1989). Trait-like qualities of selected variables assumed to be transient causes of performance state anxiety. *Communication Education, 38*, 277-289.
- Buss, A. H. (1980). *Self-consciousness and social anxiety*. San Francisco: W. H. Freeman.
- Clevenger, T. (1984). An analysis of research on the social anxieties. In J. A. Daly & J. C. McCroskey (Eds.), *Avoiding communication: Shyness, reticence, and communication apprehension* (pp. 219-236). Beverly Hills, CA: Sage.
- Daly, J. A., Vangelisti, A. L., & Lawrence, S. G. (1989). Self-focused attention and public speaking anxiety. *Personality and Individual Differences, 10*, 903-913.
- Ellis, K. (1995). Apprehension, self-perceived competency, and teacher immediacy in the laboratory-supported public speaking course: Trends and relationships. *Communication Education, 44*, 64-78.
- Jackson, J., & Latané, B. (1981). All alone in front of all those people: Stage fright as a function of number and type of co-performers and audience. *Journal of Personality and Social Psychology, 40*(1), 73-85.
- MacIntyre, P. D., & Thivierge, K. A. (1995a). The effects of audience pleasantness, audience familiarity, and speaking contexts on public speaking anxiety and willingness to speak. *Communication Quarterly, 43*, 456-466.
- MacIntyre, P. D., & Thivierge, K. A. (1995b). The effects of speaker personality on anticipated reactions to public speaking. *Communication Research Reports, 12*, 1-9.
- MacIntyre, P. D., Thivierge, K. A., & MacDonald, J. R. (1997). The effects of audience interest, responsiveness, and evaluation on public speaking anxiety and related variables. *Communication Research Reports, 14*, 157-168.
- McCroskey, J. C. (1977). Oral communication apprehension: A summary of recent theory and research. *Human Communication Research, 4*, 78-96.
- Rubin, R. B., Rubin, A. M., & Jordan, F. F. (1997). Effects of instruction on communication apprehension and communication competence. *Communication Education, 46*, 104-114.
- Schwarzer, R. (1986). Self related cognition in anxiety and motivation: An introduction. In R. Schwarzer (Ed.), *Self related cognition in anxiety and motivation* (pp. 1-17). Hillsdale, NJ: Erlbaum.
- Spielberger, C. D., Gorsuch, R. L., & Lushene, R. E. (1970). *Manual for the State-Trait Anxiety Inventory*. Palo Alto, CA: Consulting Psychologists Press.