

COMMUNICATION APPREHENSION AND SELF-PERCEIVED COMMUNICATION COMPETENCE OF ACADEMICALLY GIFTED STUDENTS

Lawrence B. Rosenfeld, Charles H. Grant III,
and James C. McCroskey

The purpose of this study was to test Chesebro et al.'s (1992) conjecture—based on research with at-risk students—that students highly apprehensive in speaking in dyads and groups, and who perceive themselves as lacking competence in speaking to strangers and acquaintances, do not fare well academically. A group of academically successful students was used. It was expected that the areas identified by Chesebro et al. as associated with low academic achievement for at-risk students would be associated with high academic achievement for students identified as academically talented. Findings are mostly supportive. Specifically, whereas at-risk students were most apprehensive about speaking in groups, the academically talented students were least apprehensive; also, whereas at-risk students perceived themselves least competent in speaking to strangers, the academically talented students perceived themselves most competent. Taken together, results of the present investigation and of the Chesebro et al. study point to what might be the key communication variables affecting academic success: apprehension about speaking in groups, and self-perceived competency in speaking to strangers.

Chesebro et al. (1992) found that at-risk students, compared to norms based on a large national sample of students, were "substantially more apprehensive about communication in dyads or small groups than would be expected . . . [and] reported substantially lower perceptions of communication competence overall and particularly in circumstances that involve communication with acquaintances and strangers" (p. 353). From these and other findings, they posited explanations for why at-risk students do poorly in school settings. First, academic systems place heavy emphasis on small group and dyadic interactions, involving both teachers and other students, these being the very contexts in which at-risk students are most apprehensive while communicating. Therefore, at-risk students are at a disadvantage in typical academic instructional modes. Second, teachers typically begin each new course as strangers and seldom achieve more than acquaintance relationships with their students, and at-risk students perceive themselves least competent to communicate with strangers and acquaintances. This suggests that a large number of at-risk students feel they are not competent to communicate with their teachers. This includes asking questions and participating in class discussions.

The primary purpose of the present investigation was to test Chesebro et al.'s

Lawrence B. Rosenfeld (Ph.D., The Pennsylvania State University) is a Professor at the University of North Carolina at Chapel Hill, *Charles H. Grant III* is a doctoral student at the University of South Florida, and *James C. McCroskey* (Ph.D., The Pennsylvania State University) is Professor and Chair of Communication Studies, West Virginia University.

(1992) conjectures about the relationship of academic success to dimensions of communication apprehension and self-perceived communication competence. If Chesebro et al. are correct, those communication variables most predictive of the at-risk students' poor academic performance (i.e., high communication apprehension in small group and dyadic settings, and self-perceived lack of skill communicating with strangers and acquaintances) also should be predictive of academically talented students' superior performance (i.e., low communication apprehension in small group and dyadic settings, and self-perceived skillfulness at communicating with strangers and acquaintances). With a clearer understanding of the dimensions of self-perceived communication competence and self-assessed communication apprehension that are most predictive of academic success as well as failure, teachers can develop effective strategies for communication development. Strategies for enhancing communication competencies and for reducing communication apprehension that are helpful for both at-risk and academically talented students should provide the broadest and most comprehensive approach for meeting the needs of the majority of students.

Although a meta-analysis of the relationship between communication apprehension (CA) and cognitive performance determined that "a small but stable relationship exists between CA and cognitive performance . . . ($r = -.12$)" (Borhis & Allen, 1992, p. 73), and that communication apprehension is negatively related to college grade point average (Rubin, Graham, & Mignerey, 1990), little is known about the relationship between academic performance and communication competence, and between academic performance and communication apprehension, for those students particularly unsuccessful and those particularly successful in academic settings.

Based on Chesebro et al.'s findings with at-risk students, the following four-part hypothesis was tested for academically successful students.

- H₁: Compared to national norms, students who are academically successful are (a) significantly lower on communication apprehension in dyadic contexts, (b) significantly lower on communication apprehension in group contexts, (c) significantly higher on self-perceived communication competence with acquaintances, and (d) significantly higher on self-perceived communication competence with strangers.

METHOD

RESPONDENTS

Respondents were 212 students enrolled in the Talent Identification Program (TIP) at Duke University, Durham, North Carolina. Residents were enrolled in TIP during the summers of 1992 and 1993. To be accepted into this program, students need to be in grades 7, 8, 9, or 10, and to have taken either the Scholastic Aptitude Test (SAT) or the ACT Assessment (ACT) while in the seventh grade (typically, students do not take the SAT until the end of the eleventh grade, just prior to applying to college). The program's SAT minimum requirements are: 550 on the math portion, 500 on the verbal portion, or 950 combined score. The program's ACT minimum requirements are: 20 on the math portion, 27 on the English portion, or a math score of 19 and an English score of 25.

The group of 212 students was 58% male ($n = 123$) and 42% female ($n = 89$), ranging in age from 12 to 18, with a mean of 14.73 years ($SD = 1.14$; 81% were 14 to 16 years old). Racial identification was possible for 150 of the 212 students: White ($n = 116$, 77.3%), Asian ($n = 23$, 15.3%), Black ($n = 7$, 4.7%), and Hispanic ($n = 4$, 2.7%).

MEASUREMENT INSTRUMENTS

Communication apprehension. Communication apprehension was measured by use of the Personal Report of Communication Apprehension (PRCA-24B). The PRCA-24B (McCroskey, 1986), one of several instruments derived from the original PRCA (McCroskey, 1970), is a 24-item, Likert-type questionnaire that measures communication apprehension in four contexts—dyadic, meeting, group, and public—and with respect to three targets—stranger, acquaintance, and friend. In addition to the seven subscores, the PRCA-24B also provides a total score.

The content (McCroskey, Beatty, Kearney, & Plax, 1985), construct (McCroskey, 1970, 1977, 1978; McCroskey et al., 1985; Rubin et al., 1990), and predictive validity (McCroskey, 1977, 1984; Rubin et al., 1990) of the various forms of the PRCA are well established. Indeed, the PRCA may be the most frequently used of all self-report communication instruments (DeWine & Pearson, 1985).

Alpha reliability for the instrument in the present investigation was: speaking in interpersonal conversations, .73; speaking in groups, .69; speaking in meetings, .78; speaking in public, .78; speaking to strangers, .90; speaking to acquaintances, .83; and speaking to friends, .78. Alpha reliability for the total score was .91.

Communication competence. The Self-Perceived Communication Competence scale (SPCC) assesses self-perceived competence in four contexts—dyadic, meeting, group, and public—and with respect to three targets—stranger, acquaintance, and friend (McCroskey & McCroskey, 1988). Although newer than the PRCA, it has been found to be reliable with college student populations (alpha reliability of the total score is .92; alpha reliability of the seven subscores ranges from .44 for speaking in dyads, to .87 for speaking to strangers, with an average of .71). The instrument has strong content validity (McCroskey & McCroskey, 1988; Richmond, McCroskey, & McCroskey, 1989), and there is evidence for construct validity as well (Chesebro et al., 1992).

Structural validity of the SPCC was assessed for students in the present investigation. Since the seven subscores and the total score overlap with respect to the items used to compute each score, factor analysis was ruled out as an appropriate method to explore the instrument's structure. Rather, inspection was made of the correlations among, first, the four context-bound subscores, and, second, among the three target-bound subscores.

The six correlations for the four context-bound subscores ranged from a low of .44 (speaking in public and speaking in interpersonal conversations) to a high of .75 (speaking in groups and speaking in interpersonal conversations), with an average of .61 (shared variance accounted for = 37%). The three correlations for the target-bound subscores were .24 (speaking to strangers and speaking to friends), .57 (speaking to acquaintances and speaking to friends), and .62

(speaking to strangers and speaking to acquaintances), with an average of .48 (shared variance accounted for = 23%). Although all nine correlations are statistically significant ($p < .001$), the generally small variance accounted for argues for retaining the seven subscores for analytical purposes.

Alpha reliability for the instrument in the present investigation was: speaking in interpersonal conversations, .69; speaking in groups, .68; speaking in meetings, .72; speaking in public, .82; speaking to strangers, .90; speaking to acquaintances, .88; and speaking to friends, .84. Alpha reliability for the total score was .92.

RESULTS

Based on Chesebro et al.'s (1992) findings regarding differences among White, Black, and Hispanic at-risk students, preliminary analyses were conducted to test for differences among the several different racial groups represented by the TIP students. Results indicated there were no statistically significant differences. Also, controlling for age in a series of 16 ANCOVAs, the differences among groups were all nonsignificant ($p > .05$).

In addition to the preliminary analyses testing for racial differences, a series of 16 *t*-tests was conducted to reveal gender differences. Paralleling the results of the ANCOVAs, no statistically significant differences were found ($p > .05$).

COMMUNICATION APPREHENSION

Table 1 presents the means of the PRCA-24B scores for the norm and TIP groups. The mean for the total score on the instrument for TIP students was 55.58, with a standard deviation of 14.35. The mean is substantially lower (11.9%) than the normative mean of 63.10: $t(211) = 7.61$, $p < .001$, $r_{pb}^2 = .215$ (Cohen, 1977; Rosenthal, 1991); the mean for the at-risk sample (Chesebro et al., 1992) was slightly higher than the mean for the norm group (4.4%).

Examination of the subscores on the instrument indicate that all differences are statistically significant ($p < .001$) except for speaking with friends ($p < .01$). Considering the amount of variance accounted for by each *t* result, it was found that speaking in groups accounted for the largest proportion of variance of the difference between the TIP and norm groups, 22.6%: $t(211) = 7.84$. Speaking with strangers accounted for the next highest proportion, 21.4%: $t(211) = 7.57$; and speaking in meetings accounted for the third highest proportion, 21.2%: $t(211) = 7.54$. Results of tests between the TIP and norm groups on the remaining three subscores each accounted for an average of 11.47% of the variance of the difference between the two groups.

Based on expectations derived from national norms, more than twice the expected number (proportionally) of TIP students were classified as low in communication apprehension; only half the expected number of at-risk students were classified low in communication apprehension. Similarly, less than half the expected number (proportionally) of TIP students were classified as high in communication apprehension (see Table 2).

SELF-PERCEIVED COMMUNICATION COMPETENCE

Table 1 presents the means of the SPCC scores for the norm and TIP groups. The mean for the total score on the instrument for TIP students was 78.84, with

TABLE 1
MEANS OF INSTRUMENTS FOR THE NORM GROUP, THE TIP SAMPLE, AND THE SAMPLE OF
AT-RISK STUDENTS FROM CHESEBRO ET AL. (1992)

Instrument	Group		
	Norm	TIP Sample	At-Risk Sample
PRCA-24B	63.10	55.58	68.50*
Public	2.92	2.61	3.15*
Meeting	2.94	2.54	2.82*
Group	2.46	2.12	2.73*
Dyad	2.20	1.99	2.72*
Stranger	3.47	2.98	NA
Acquaintance	2.54	2.22	NA
Friend	1.88	1.75	NA
SPCC	73.70	78.84	61.30
Public	68.80	75.39	59.80
Meeting	68.80	75.37	55.20
Group	76.10	81.22	64.20
Dyad	81.10	83.38	66.00
Stranger	55.50	66.44	30.60
Acquaintance	77.40	81.21	66.10
Friend	88.20	88.86	87.20

*Based on the PRCA-24A.

a standard deviation of 15.65. The mean is moderately higher (7.0%) than the normative mean of 73.70: $t(211) = 4.77, p < .001, r^2_{pb} = .097$ (Cohen, 1977; Rosenthal, 1991); the mean for the at-risk sample (Chesebro et al., 1992) was substantially lower than the mean for the norm group (17.39%).

Examination of the subscores on the instrument indicate that all differences are statistically significant ($p < .001$) except for speaking to friends ($p > .05$). Considering the amount of variance accounted for by each t result, it was found that speaking to strangers accounted for the largest proportion of variance of the difference between the TIP and norm groups, 16.5%: $t(211) = 6.46$. Speaking in meetings accounted for the second highest proportion, 11.7%: $t(211) = 5.30$. Results of tests between the TIP and norm groups on the remaining five subscores each accounted for an average of 5.4% of the variance of the difference between the two groups.

TABLE 2
PROPORTION OF EACH GROUP IN HIGH, MODERATE, AND LOW CATEGORIES ON PRCA-24B AND SPCC

	Category		
	High	Moderate	Low
PRCA Norm	16.7*	66.6*	16.7*
TIP Sample	7.1	57.1	35.8
At-Risk Sample	18.1*	72.4*	9.5*
SPCC Norm	16.7	66.6	16.7
TIP Sample	34.0	55.6	10.4
At-Risk Sample	7.8	48.1	44.0

*Based on the PRCA-24A. In general, proportions vary little from one measure of communication apprehension to another, with somewhere between 15% and 20% of the general population being highly apprehensive about communicating (McCroskey, 1986; Richmond & McCroskey, 1992; Zimbardo, 1977).

Based on expectations derived from national norms, more than twice the expected number (proportionally) of TIP students were classified as high in self-perceived communication competence; less than half the expected number of at-risk students were classified high in self-perceived communication competence. Similarly, less than two-thirds the expected number (proportionally) of TIP students were classified as low in self-perceived communication competence (see Table 2).

The observed relationship between CA and SPCC total scores for the norm group was $r = -.63$ (shared variance = 40%), statistically significantly higher than for the at-risk sample, $r = -.36$ (shared variance = 13%) (Chesebro et al., 1992). For TIP students, the relationship between the two scores was $r = -.59$ (shared variance = 35%), approximately equal to that for the norm group. Whereas the at-risk students differentiated between their self-perceived apprehension and competence, leading Chesebro et al. (1992) to recommend strategies for affecting both aspects of communication (since working with one is unlikely to cause changes in the other), the TIP students saw their apprehension and competence as relatively highly related.

CONCLUSIONS

The purpose of this study was to test Chesebro et al.'s (1992) conjecture that (a) areas of communication apprehension most associated with academic success are speaking in dyads and speaking in groups (students highly apprehensive in these two contexts are likely not to fare well academically); and (b) areas of self-perceived communication competence most associated with academic success are speaking to strangers and speaking to acquaintances (students who perceive themselves as lacking competence with these targets are apt to communicate inadequately with their teachers). To test this conjecture based on findings from at-risk students, a group of academically talented students was surveyed in the present investigation. The areas of CA and SPCC identified by Chesebro et al. (1992) as associated with low academic success for at-risk students were hypothesized to be associated with high academic success for TIP students.

Findings are mostly supportive of the Chesebro et al. (1992) perspective. Specifically, whereas at-risk students, compared to the norm group, were most apprehensive about speaking in groups, the TIP students were least apprehensive. Thus, the most important aspect of CA emerged for both groups. (Speaking in dyads, important for identifying the at-risk students, was not of major importance for identifying the TIP students. Speaking in meetings, important for identifying the TIP students, was not of great importance for identifying the at-risk students.) Similarly, whereas at-risk students, compared to a norm group, perceived themselves least competent in speaking to strangers, the TIP students perceived themselves most competent. Thus, as with CA, the most important aspect of SPCC emerged for both groups. (Speaking to acquaintances, important for identifying the at-risk students, was not of major importance for identifying the TIP students.)

Taken together, results of the present investigation and of the Chesebro et al. (1992) study point to what may be the key communication variables affecting academic success: apprehension about speaking in groups, and self-perceived

competency in speaking to strangers. Although other aspects of CA and SPCC may be relevant depending on the characteristics of the group studied, it may be that these two aspects of communication are most relevant for all students.

CA, SPCC, AND ACADEMIC SUCCESS

It is important to stress the limitations of this study and those of Chesebro et al. (1992). Both studies are correlational and normative in nature. While such investigations are useful, other forms of research are needed when the stage of confirming causation is reached.

In the present case, we are at the stage where specific experimental intervention is needed. Although the students who are most likely to benefit from such intervention are the at-risk students, findings from this investigation indicate that some intervention strategies—particularly those directed at reducing communication apprehension in groups and increasing self-perceived communication competency while speaking to strangers—are likely to help the majority of students, not just the at-risk ones.

The approaches that may be taken have been outlined previously in this journal. As Phillips and McCroskey (1982) noted, no single treatment or instructional system can be expected to overcome two distinct problems. First, in the present instance, we appear to have a problem associated with communication apprehension, most notably in the area of communicating in small groups. Systematic desensitization, an excellent method of overcoming this problem, is well known (Friedrich & Goss, 1984; McCroskey, 1972; McCroskey, Ralph, & Barrick, 1970). Students may be provided systematic desensitization specifically directed to their apprehension about speaking in groups. At-risk students also may be provided systematic desensitization specifically directed to their apprehension about speaking in dyads, since this, too, was an area where their deviation from the norm group was most distinct.

Second, we also have a distinct problem associated with self-perceived communication competence—or, in Phillips' (1977) terminology, reticence—particularly in the area of communicating with strangers. Specific skills training that focuses on talking with strangers may be provided students; skills training that focuses on talking with acquaintances also may be provided at-risk students, because of their low perceptions of their competence in this area.

If the speculation advanced by the present study and that of Chesebro et al. (1992) is theoretically justified, the students who are provided the systematic desensitization and skills training will (a) reduce their apprehension and raise their self-perceived competence, and (b) perform better, on average, in their school work. While it would be a sufficient humanistic outcome of the intervention to justify its use if only the first outcome were realized, confirmation of the hypothesized academic improvement would support our premise that communication skills and attitudes are central to student academic achievement.

REFERENCES

- Borhis, J., & Allen, M. (1992). Meta-analysis of the relationship between communication apprehension and cognitive performance. *Communication Education*, 41, 68–76.
- Chesebro, J. W., McCroskey, J. C., Atwater, D. F., Behrenfuss, R. M., Cawelti, G., Gaudino, J. L., & Hodges, H. (1992). Communication apprehension and self-perceived communication competence of at-risk students. *Communication Education*, 41, 345–360.

- Cohen, J. (1977). *Statistical power analyses for the behavioral sciences* (rev ed.). New York: Academic Press.
- DeWine, S., & Pearson, J. C. (1985, May). *The most frequently used self-report instruments in communication*. Paper presented at the meeting of the International Communication Association, Honolulu.
- Friedrich, G., & Goss, B. (1984). Systematic desensitization. In J. A. Daly & J. C. McCroskey (Eds.), *Avoiding communication: Shyness, reticence, and communication apprehension* (pp. 173-187). Beverly Hills, CA: Sage.
- McCroskey, J. C. (1970). Measures of communication-bound anxiety. *Speech Monographs*, 37, 269-277.
- McCroskey, J. C. (1972). The implementation of a large-scale program of systematic desensitization for communication apprehension. *Speech Teacher*, 21, 255-264.
- McCroskey, J. C. (1977). Oral communication apprehension: A summary of recent theory and research. *Human Communication Research*, 4, 78-96.
- McCroskey, J. C. (1978). Validity of the PRCA as an index of oral communication apprehension. *Communication Monographs*, 45, 192-203.
- McCroskey, J. C. (1984). The communication apprehension perspective. In J. A. Daly & J. C. McCroskey (Eds.), *Avoiding communication* (pp. 13-38). Beverly Hills: Sage.
- McCroskey, J. C. (1986). *An introduction to rhetorical communication* (5th ed.). Englewood Cliffs, NJ: Prentice-Hall.
- McCroskey, J. C., Beatty, M. J., Kearney, P., & Plax, T. G. (1985). The content validity of the PRCA-24 as a measure of communication apprehension across communication contexts. *Communication Quarterly*, 33, 165-173.
- McCroskey, J. C., & McCroskey, L. L. (1988). Self-report as an approach to measuring communication competence. *Communication Research Reports*, 5, 108-113.
- McCroskey, J. C., Ralph, D. C., & Barrick, J. E. (1970). The effect of systematic desensitization on speech anxiety. *Speech Teacher*, 19, 32-36.
- Phillips, G. M. (1977). Rhetoritherapy versus the medical model: Dealing with reticence. *Communication Education*, 26, 34-43.
- Phillips, G. M., & McCroskey, J. C. (1982). Postscript. *Communication Education*, 31, 322.
- Richmond, V. P., & McCroskey, J. C. (1992). *Communication: Apprehension, avoidance, and effectiveness* (3rd ed.). Scottsdale, AZ: Gorsuch Scarisbrick.
- Richmond, V. P., McCroskey, J. C., & McCroskey, L. L. (1989). An investigation of self-perceived communication competence and personality orientations. *Communication Research Reports*, 6, 28-36.
- Rosenthal, R. (1991). *Meta-analytic procedures for social research*. Newbury Park, CA: Sage.
- Rubin, R. B., Graham, E. E., & Mignerey, J. T. (1990). A longitudinal study of college students' communication competence. *Communication Education*, 39, 1-14.
- Zimbardo, P. (1977). *Shyness: What it is; What to do about it*. Reading, MA: Addison-Wesley.