The Impact of Communication Apprehension on College Student Retention and Success

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Communication apprehension is conceptualized as a causal agent in student success. It is implicated in both academic and interpersonal success, two factors identified by prior research as primary predictors of persistence. A four year longitudinal study of the impact of communication apprehension on grade point average and persistence at the university level was conducted. Results indicated high CA students were significantly more likely to drop out and attain 'ower grade point averages compared to low CA students. The impact of CA was strongest during the first two years. A replication of the study confirmed the impact of CA on student persistence. It is concluded the impact of CA on the probablity of high CA students' survival in college is substantial and this impact adds to the case favoring the provision of training programs to assist such students overcome their apprehension about communication.

KEY CONCEPTS Communication apprehension, student retention, academic achievement, shyness, drop outs

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Research on student retention and success at the university level has isolated two factors which apppear to play a dominant role (Astin, 1964, 1975; Nelson, Scott, & Bryan, 1984; Pantages & Creedon, 1978; Pascarella, Duby, & Iverson, 1983; Pascarella & Terenzini, 1980; Spady, 1970; Terenzini, Larang & Pascarella, 1981; Tinto, 1975). The first factor we will label here as "academic success." It involves the intellectual ability, experience, and training the student brings to the university as well as effective "studenting" behavior (i.e. attendance, proper scheduling of courses, meeting deadlines) while at the university. The second factor we will label here as "interpersonal success." It involves the communicative and social skills the student brings to the university as well as the continued successful development of those skills at the university. The literature amply demonstrates students who achieve academically and interpersonally will persist and graduate at a much higher rate than students who fail on one or both of these factors.

Communication apprehension (CA; McCroskey, 1970; 1977; 1982; 1984) has clear implications for both academic and interpersonal success in university students. CA has been found to be related to overall grade point average, standardized achievement scores, and grades earned in small classes in junior high and college (Bashore, 1971; Hurt, Preiss, & Davis, 1976; and Scott, Yeats, & Wheeless, 1975). The interpersonal effects of CA generally indicate (see Daly & Stafford, 1984 and Richmond, 1984 for reviews) high CA people experience emotional distress during or anticipating communication, prefer to avoid communication, and are perceived by others and themselves as less competent, skilled, and successful.

How CA Affects Retention and Grades

It is reasonable to speculate that CA is a causal agent in the student persistence process. Academically, we would expect lower grade point averages and higher dropout rates among high CA students compared to those with low CA. We could explain this outcome by noting CA typically elicits anxiety which leads to avoidance behaviors, cognitive deficits, and performance failures. That is, students who experience CA in academic settings which require any form of oral communication will attempt to avoid the circumstances which entail communication (such as meeting with peers or teachers to talk about the subject matter; McCroskey & Sheahan, 1978), will attend to, comprehend, and remember class content less effectively (Booth-Butterfield, 1988), and they will perform oral communication tasks required by the class less effectively because of the anxiety (Freimuth, 1976).

Due to the impact of CA on interpersonal relationships, we would also expect lower grade point averages and higher dropout rates for the high CA student, although our argument for this outcome is less direct than our academic explanation. CA tends to produce social isolation, disintegration, and helplessness (McCroskey & Sheahan, 1978; Daly & Stafford, 1984). The high CA student is simply less likely to become involved with campus activities, less likely to communicate with peers, advisors, counselors, or professors who could offer social comfort and academic assistance. Even under circumstances of superior academic achievement, a student who feels disconnected from and unrelated to the people and traditions of the university is likely to abandon the university for a safer place.

One study investigating the relationship between CA and retention has been reported. Mehrley (1984) analyzed the relationship between CA and attrition among *first semester* freshman at Indiana State University. He found dropout rates for low CAs (8.4%) were significantly lower than for high CAs (15.5%). We conducted a *z*-test for proportions on this comparison and found a *z* of 3.26, significant at the .001 level. Although the difference definitely was not due to chance, it represents only a small effect (h = .22; see Cohen, 1977, Chapter 6) for CA. Moderate CAs (11.6%) were not different from either the low or the high CA groups according to Mehrley's analysis. Mehrley did not report grade point averages.

Although the results of this study support our speculation, there are limitations to the generalizability of this single study. It involves only one sample of freshmen from one university over one semester. Further, information on achievement was not reported. It does, however, suggest further investigation is warranted.

Hypotheses

Given the rationale and conceptualization developed here and the empirical support reported by Mehrley, we decided to conduct a more comprehensive and longitudinal study of the impact of CA on indicators of student persistence. In this study, we investigated two hypotheses. Specifically:

- H1: Students with high CA will attain lower grade point averages than students with low CA, and
- H₂: Students with high CA will show higher dropout rates compared to students with low CA.

Methods

A cohort of incoming freshmen at West Virginia University were surveyed over a four-year period. The cohort of students entered the University in the Fall of 1982. Entering students at WVU are required to attend freshman orientation for two days. Most students attend, although some students are excused because of extreme travel distances, work demands, and the like. During freshman orientation, we administered a measure of communication apprehension to all students. For each semester (excluding summers) over four years, we obtained official grade point averages and retention status for each student from the University Office of Admissions and Records.

Subjects

The students were 1884 incoming freshmen who attended freshman orientation. This sample was highly representative of the entire freshman class (56% male, 44% female). The breakdown by sex was precisely that reported for the entire freshman cohort by the WVU office of Admissions and Records. Additionally, the obtained first two-year dropout rate (29.5%) for our sample was nearly identical to the rate (29.4%) reported by the Office of Institutional Research for the population of all freshmen. Thus, it would appear the sample studied was very representative of the population of students at the institution. It should be noted this University typically enrolls very few students from racial minorities and the age level of the students is typical of residential universities; that is, most of the freshman students are approximately 18 years of age. No data relating to race or age were collected in this study.

Measurement

The 24-item version of the Personal Report of Communication Apprehension (PRCA-24; McCroskey, 1982) was employed to assess student CA. The obtained reliability (odd-even) was .94 with a mean of 65.6 and a standard deviation of 15.7.

Cumulative grade point average (GPA) was obtained for each student after each semester. The GPA was based on the familiar four-point scale.

Any student who did not show a grade point average for any semester was considered a "dropout" in this study. Thus, only those students who were continuously enrolled over 8 consecutive semesters were considered as "persisters." It should be recongnized that employing this operationization may permit substantial error to enter our data analyses. Students who transferred to other institutions, died, left school because of family problems, etc. all were classified as "dropouts." Since there was no reason to expect any of these factors to be associated with CA, this error would be expected to be type 2 error and lead to non-significant differences and reduced variance accounted for. It should be recognized, however, that high CA students might be more or less likely to leave a large university than a smaller institution. Similarly, highs or lows might be differentially attracted to large or small institutions. Although no data are available which suggest such differences, one should generalize the results of this study to students in small institutions with some 'care.

Data Design and Analysis

The primary independent variable was the student's level of CA. The levels (high, moderate, and low) were determined by standard deviation splits on the PRCA. Using norms developed at WVU with over 20,000 students, subjects scoring above 80 were classified as "high CA" (N = 335), while those students scoring below 51 were classified as "low CA" (N = 352). Remaining subjects were classified as "moderates" (N = 1197). Students who reported incorrect ID numbers or left items blank on the PRCA were deleted from the sample (N = 134).

Retention status was analyzed with CA as the independent variable with *z* tests of proportions. Grade point average was analyzed with CA as the independent variable in an analysis of variance.

Results

Table 1 presents the retention frequencies and percentages by level of CA and year. The proportions of total high CA dropouts (43.4%) was compared to the proportion of total low CA dropouts (34.9). The *z* test was highly significant (z = 4.38; p < .001). Expressed as the *h* effect size, the difference between these two proportions is .185, which is a small effect. Thus, at the end of four years, more high CA students had dropped out of the university compared to low CA students.

Interestingly, this effect occurred most strongly in the first two years. After the first year, the proportion of high CA studeants who dropped out (12.5%) was greater than the proportion of low CA students (9.6%), z = 1.71, p < .05; h = .09. After the second year, new dropouts (not cumulative) were still more likely to be high CA students. For the high CAs, 20.2% dropped out versus 14.3% of the low CAs. This test

TABLE 1 Frequency and (Percentage) of Dropouts by CA and Year

	Low CA	Mod CA	High CA
Year 1			
Drop	32 (.096)	128 (.107)	44 (.125)
Year 2			
Drop	48 (.143)	232 (.194)	71 (.202)
Cumulative	80 (.239)	360 (.301)	115 (.327)
Year 3			
Drop	27 (.081)	98 (.082)	29 (.082)
Cumulative	107 (.319)	458 (.383)	144 (.409)
Year 4			
Drop	10 (.030)	62 (.052)	19 (.054)
Cumulative	117 (.349)	520 (.434)	163 (.463)
TOTAL	335	1197	352

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Mod CA	High CA	
2.64	2.58	
2.79	2.74	
2.88	2.85	
2.90	2.89	
	2.88 2.90	2.88 2.85 2.90 2.89

TABLE 2 Grade Point Average by CA and Year

was significant (z = 2.95; p < .002; h = .16). During the third and fourth years, the frequency of new dropouts was not related to level of CA. It appears CA has it strongest impact on retention during the first two years of college.

Table 2 presents grade point averages by level of CA and year. As might be expected from the above results, there are statistically significant differences between high CA and low CA students during the first two years. During the first year high CAs GPA (2.58) was lower than that for the low CA students (2.76). Expressed as an effect size, this difference is a *d* of .23, which is small. During the second year, high CA students obtained a significantly lower GPA (2.74) than the low CA students (2.84; d = .13). During the third and fourth years, the GPA did not vary significantly with CA.

We refined the analysis of grade point average by creating a new model. The joint effect of level of CA and retention status (dropout or persister) on GPA was analyzed. We looked at only the semester GPA during the first two years since the previous analyses had established an early effect for CA.

Not surprisingly, dropouts had a lower first semester GPA (2.24) than those who persisted (2.83; F = 157.2; p < .001). High CA dropouts also had a lower GPA (2.17) than low CA dropouts (2.36; p < .04). The difference for high CA persisters (2.76) versus low CA persisters (2.86) was not significant.

The same pattern occurred with the second semester GPA. High CA dropouts had a significantly (p < .056) lower GPA (2.23) than low CA dropouts (2.39). There was no difference for high CA persisters (2.80) versus low CA persisters (2.90). The same pattern was present in the second year data. High CA dropouts had a lower GPA (2.32) than low CA dropouts (2.57; p < .02). The difference for high CA dropouts and low CA dropouts represents a *d* effect size of approximately .20, which is small.¹

Discussion

We began this study by noting a conceptual relationship between CA and indicators of student success in college. As the research on student success indicates, two factors are prominent in persistence, academic success and interpersonal success. CA is implicated with both factors.

The results reported here offer empirical support for the conceptual model developed above. Students with higher CA will earn lower grade point averages and are less likely to persist at the university. Even within those students who drop out, high CA leads to even lower GPA compared to low CA dropouts. The results are quite consistent in this regard. Higher CA is always implicated with poorer outcomes of academic achievement.

We also can report here partial results from a replication study. We followed the same procedures with the 1983 cohort of WVU freshmen and tracked their academic progress for eight semesters. Unfortunately, this sample had a significant bias

accidentally introduced which renders its outcomes questionable. During the orientation sessions, the PRCA-24 was to be administered the first day each group of students attended. This was done for approximately the first half of the sessions. For some reason unknown to us, the blank PRCA instruments were misplaced by the orientation staff and not administered to the remainder of the students. The mean PRCA score for the students who completed the instrument was significantly lower (63.9) than for the 1982 cohort. When these students were classified into CA categories based on the earlier norms, there were significantly fewer high CA students (14.1%) and more low CA students (18.9%) than would be expected by chance (z = 1.89; p < .05). It appears that many high CA students waited to participate in an orientation session until the latter weeks of the program and simply were not present to be pretested at the early sessions.

The dropout rates for this second cohort are reported in Table 3. Even with the problem of representativeness, over the four years the high CA students still had a significantly higher dropout rate compared to the low CA students (z = 2.15; p < .02; h = .18). High CA students dropped out at a 42.9% rate compared to the low CA students' rate of 35.9%. The difference in dropout rate at the end of two years (high CA, 30.9%; low CA, 24.6%) also was significant (z = 2.11; p < .02; h = .14).

Even with the bias in participation rates, it is evident that CA has an impact on retention. Higher CA leads to more dropouts. Thus, the second cohort appears to mirror the first cohort in an important way. If we combine the results from the two cohorts reported here and the cohort reported by Mehrley (1984), the pattern is clear, consistent, and apparently general. At the university level, CA has a negative impact on academic achievement and persistence.

It is important to note that the statistical effect attributable to CA can be considered small (Cohen, 1977) whether we look at GPA or persistence. The consistency of the small effect size is reassuring. CA should not be expected to be a major source of variance for the achievement and success of an overall student body. This small statistical effect, however, is not without significant practical impact. Compared to low CA students, high CA students in the first cohort were 32.7% more likely to drop out. Assuming high CA students received effective treatment for their CA, it might be possible to reduce the dropout rate for these students to a level approaching the rate for low CA students. In this data set, that would mean approximately 40 more students would complete their college education. Given that

	Low CA	Mod CA	High CA
Year 1			Charles and Charles
Drop	23 (.090)	89 (.098)	22 (.115)
Year 2			
Drop	40 (.156)	162 (.178)	37 (.194)
Cumulative	63 (.246)	251 (.276)	59 (.309)
Year 3			
Drop	18 (.070)	84 (.092)	16 (.084)
Cumulative	81 (.316)	335 (.368)	75 (.393)
Year 4			
Drop	11 (.043)	29 (.032)	7 (.037)
Cumulative	92 (.359)	364 (.400)	82 (.429)
TOTAL	256	910	191

TABLE 3 Frequency and (Percentage) of Dropouts by CA and Year Second Cohort

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treatment programs for high CA individuals are relatively inexpensive and can be expected to yield substantial positive outcomes beyond simply keeping students in college, the additional benefit with regard to retention adds to the already strong case for implementation of such programs in institutions of higher education

It is important to recognize that implementation of a treatment program is not the only method by which highly apprehensive students may be helped. While providing such help is desirable, even in the absence of such a program some assistance can be provided. Academic counselors can help by steering highly apprehensive students away from courses and/or majors which have high communication demands. While some highly apprehensive students are likely to recognize the desirability of such moves on their own (Daly & McCroskey, 1975), many others may not. In addition, counselors may need to be encouraged to be persistent in attempts to get highly apprehensive students to come in for help. Highly apprehensive students are likely to see communication with adult authority figures, such as a counselors, to be particularly threatening and try to avoid such interactions.

At a minimum, communication professionals have some responsibility to help colleagues in other fields become part of the solution rather than part of the problem. Few professors do things designed purposefully to harm their students. However, many do things which can be harmful to highly apprehensive students in the firm belief that what they are doing is helpful or that there is no other way to teach. Workshops on communication and teaching can emphasize such things as avoiding grading on participation, methods of providing alternatives to required oral assignments, and removing the stereotype that quietness signifies ignorance or disinterest.

Finally, the results indicate CA has its strongest impact during the first two years of college. During the third and fourth years, GPA and dropout rates are indistinguishable by level of CA. This can be taken as tentative evidence that surviving high CA students began college with or rapidly acquired some coping skill. Perhaps, the survivors adroitly avoided coursework which placed a premium on communicative skills. In any event, the current results indicate any efforts to overcome the impact of CA on student persistence should be implemented as early as possible in a student's career.

NOTES

¹We conducted a supplemental analysis of GPA with only those students who persisted across all four years. Thus, all dropouts were excluded from this analysis. Low CA persisters' GPA was remarkably consistent over the four years (2.90, 2.89, 2.91, 2.92) as was the GPA for high CA persisters (2.80, 2.81, 2.86, 2.89). There were no differences for CA in this analysis, nor for year. This outcome suggests the noticeable improvement in GPA apparent in Table 2 is largely an artifact of the dropouts. The persister GPA is stable over time, but the cohort GPA appears to rise over the years. This occurs, we think, because dropouts, who consistently have a lower GPA, are gradually excluded from the cohort analysis. If our data are representative, such outcomes may simply indicate that better students are more likely to stay in school, not that students achieve more in the later years of their education.

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