

Does Frequency Decrease Anxiety? : Accounting Majors and Presentations

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Abstract

Communication skills development among accounting students has benefited from accounting practitioners' input as well as research from communication and allied fields such as psychology. McCroskey's Personal Report of Communication Apprehension (PRCA) has been used to show that accounting students have been perceived as more anxious about communicating than other undergraduates. A review of studies shows that these differences are not statistically significant. A business major alumni study (Marcel 2015) identified a distinct variable correlated to greater confidence in presenting, namely frequency of making presentations, which has not been studied in undergraduates. The current survey of 472 undergraduate accounting and other business majors revealed significantly lower communication apprehension than McCroskey's mean scores for college students, as well as nearly every study using the PRCA conducted on accounting majors since 1990. These results correlate to frequent presenting in class, extracurricular settings and work/internships. Women derived more benefit from frequently presenting than men.

Introduction

Communication skills development among accounting students has benefited from both the study of what accounting practitioners see as important (Blanthorne, Bhamornsiri, & Guinn, 2005; Gray & Murray, 2011; Gray, 2010; Maubane & van Oudtshoorn, 2011; Stowers & White, 1999), and research from communication and allied fields such as psychology. The latter formed an important pillar in the work of James C. McCroskey (1984), whose Personal Report of Communication Apprehension (PRCA) has become one of the most frequently-used tools to diagnose difficulties experienced by students as they attempt to improve their skill and ease in group communication, meetings, interpersonal or dyadic communication, and public speaking. It has been of particular interest to accounting scholars and teachers, because for some time accounting students have been perceived as being less willing to communicate and more anxious about communicating than other undergraduates (Arquero, Hassall, Joyce, & Donoso, 2007; Byrne, Flood, & Shanahan, 2009; Gardner, Milne, Stringer & Whiting, 2005; Meixner, Blin, Lowe, & Nouri 2009; Simons & Riley, 2014). Daly and McCroskey (1975) reported that accounting was a field perceived by students as having a lower level of communication demands than many other professions, and thus was more attractive to students with higher levels of communication anxiety. Scott, McCroskey and Sheahan (1978) found that people with high levels of communication apprehension were less likely to seek or expect advancement in their careers. Falcione, McCroskey and Daly (1977) found that highly apprehensive people also experience less satisfaction in their work. All of these findings could have serious implications for the accounting discipline, if large numbers of highly apprehensive communicators who remained highly apprehensive throughout their careers were to populate the field.

The weight of evidence suggests that communication anxiety may have a significant impact, both on accounting students' likelihood to graduate with strong communication skills, and their prospects as working accountants. And yet one variable has not been studied in relation to undergraduate accounting majors and their speaking anxiety: how often they actually make presentations. In this paper I explore a wider range of psychological studies on public speaking anxiety and its amelioration, and a new set of possible explanations for differences in communication apprehension among accounting students. In contrast to almost every prior study, the current survey of undergraduate accounting and business majors revealed significantly lower communication apprehension than McCroskey's mean scores, as well as nearly every study using the Personal Report of Communication Apprehension (PRCA) conducted on accounting majors since 1990. These results correlate to frequent presenting, with women deriving more benefit from frequently presenting than men.

Literature Review

Simons and Riley (2014, p. 1) captured the concerns of the accounting field over communication apprehension among accounting majors when they wrote:

Accounting practitioners and educators agree that effective oral and written communication skills are essential to success in the accounting profession. Despite numerous initiatives to improve accounting majors' communication skills, many students remain deficient in this area. Communication literature suggests that one factor rendering these initiatives ineffective is communication apprehension (CA). There is general agreement that accounting majors around the globe have higher levels of CA than other majors. Therefore accounting educators interested in improving students' communication skills need to be aware of the dimensions and implications of CA.

As they note, several studies have compared communication apprehension (CA) levels of accounting majors with those of other business majors as well as non-business majors (Arquero et al., 2007; Byrne, Flood, & Shanahan, 2009; Fordham & Gabbin, 1996; Gardner et al., 2005; Ilias, Abd Razak & Yunus, 2013; Stanga & Ladd, 1990). These studies have been used to argue for the relative weakness of accounting graduates' communication skill level.

There are two problems, however, with how these studies have been incorporated into subsequent research. First, most researchers have emphasized weaknesses compared to non-accounting majors which are not significant against the statistical mean developed by McCroskey. Second, no study on undergraduates has collected data on how frequently students engage in making presentations, or participating in groups, dyads or meetings. To date there has been only one study which measured the correlation between the self-reported levels of confidence (in recently graduated business professionals) in making business presentations and how frequently they actually present (Marcel 2015). In that study, frequency of presenting outweighed every other measured variable, including undergraduate major, age, gender, job title, and whether an advanced degree had been taken, in its contribution to confidence and comfort levels in presenting. Given the robustness of these findings, they bear testing relative to undergraduate students.

Second, there is substantial evidence from psychological studies on populations aged 10-85 that finds persistent patterns of social anxiety disorder and public speaking anxiety concentrated among younger, lower-income, less educated and female populations (Cairney et al., 2000; Costello, Egger, & Angold, 2005; Davidson, Hughes, Georges, & Blazer, 1993; Fehm, Beesdo, Jacobi, & Fiedler, 2007; Furmark et al.,

1999; Offord et al., 1996; Stein, Walker, & Forde, 1996). In contrast to McCroskey's contention that the PRCA norm he established from undergraduate data was essentially constant throughout the lifespan (McCroskey, Andersen, Richmond and Wheelless, 1981), the community studies conducted in Canada, the US, Sweden and Australia cited above definitively establish that social phobia and public speaking anxiety substantially decrease over the lifespan. But notably, the highest levels tend to be measured between the ages of 15 and 30. Thus, measuring communication apprehension among college students and trying to extrapolate a lifetime average may be akin to measuring feverish patients in an attempt to establish a normal human body temperature.

Some factors found in psychological studies to be correlated with higher public speaking and social anxiety have been analyzed in studies on accounting students, like gender (Arquero et al., 2007; Byrne et al., 2009; Coetzee, Schmulian, & Kotze, 2014; Elias, 1999; Gardner et al., 2005; Ilias, Abd Razak, & Yunus, 2013; Simons, Higgins, & Lowe, 1995); prior academic training (Arquero et al., 2007; Coetzee et al., 2014); and level in school (Fordham & Gabbin, 1996; Gardner et al., 2005; Hassall, Joyce, Ottewill, Arquero, & Donoso, 2000; Hutchinson, Neuliep, & More, 1995). Only Coetzee et al. (2014) considered income level. No studies to date using the PRCA instrument have been published reporting scores for adult accountants.

Accounting Majors and Communication Apprehension: A Closer Look

It may be surprising to note that, while scholars frequently characterize a group of accounting students as having high levels of communication apprehension, especially as compared with other majors, this characterization is as often not supported by data as it is supported. James C. McCroskey, creator of the Personal Report of Communication Apprehension (PRCA) instrument to measure communication apprehension, stipulates that "Scores can range from 24-120. Scores below 51 represent people who have very low CA. Scores between 51-80 represent people with average CA. Scores above 80 represent people who have high levels of trait CA" (McCroskey, 1982). Yet scholars of many stripes consistently refer to average levels of CA measured by PRCA in the 60's as high levels of CA. Thus, for example, Arquero et al. (2007) write about high levels of CA among the Spanish and British accounting majors they studied, whose overall PRCA scores averaged 67.78 (SD 12.60) and 67.77 (SD 13.38) for Spanish and British accounting majors respectively, vs. 63.82 for non-accounting majors.

A compilation of findings to date makes this more clear. Table 1 shows results of all PRCA scores reported in studies on accounting and business majors since 2000. Where standard deviations were supplied, results from unpaired T-tests between these reported CA levels and McCroskey's mean are included. The table reports studies conducted outside the US, then US studies. There are fifteen measures reported for each group. For studies from outside the US, seven results for accounting majors were statistically significantly above the McCroskey mean; two were statistically indistinguishable; and two were statistically below the mean. For US studies, two were above the McCroskey mean at a significant level; five were statistically indistinguishable; and one was statistically below the mean. More non-accounting measures were higher than McCroskey's mean. But without reported standard deviations, we may conditionally conclude that the data do not run as uniformly high as some researchers seem to have suggested. We should keep in mind that, of the measures which at first glance are lower than McCroskey, *eight* are for accounting students and five are for non-accounting students; one of the latter includes MBA students.

Table 1
Accounting and Non-Accounting Business Majors

Study	Year	Nation	n	Year and Major	Mean	SD	T-test p
McCroskey			40000	All majors	65.60	15.30	
Ilias Abd Razak &	2013	MAL	179	Final year AC	73.93	3.77	<.0001***
Warnock & Curtis	1997	IRL	83	3rd AC	72.60	15.50	<.0001***
Gardner, Milne, Stringer & Whiting	2005	NZ	181	1st Bus	69.20	14.40	.0016**
Gardner et al.	2005	NZ	181	1st AC	68.50	14.40	.0109**
Gardner et al.	2005	NZ	434	1st-3rd AC	68.40	13.70	<.0001***
Hassall et al.	2001	Spain	235	1st-3rd Bus	68.10		
Arquero, Hassall, Joyce & Donoso	2007	Spain	236	AC	67.78	12.60	.0289**
Arquero et al.	2007	UK	235	AC	67.77	13.38	.0301**
Gardner et al.	2005	NZ	96	3rd AC	67.40	11.40	.2494
Arquero et al.	2007	Spain	335	Non-AC	63.99		
Hassall et al.	2001	UK	380	1st-3rd AC, Bus	63.80		
Arquero et al.	2007	UK	379	Non-AC	63.65		
Byrne, Flood & Shanahan	2009	IRL	34	1st AC & FI	63.60	14.40	.4461
Hutchinson et al.	1995	Austral	260	Bus UGs & MBAs	58.80	13.00	<.0001***
Coetzee, Schmulian & Kotze	2014	SA	337	2nd AC	56.20	17.90	.0003***
McCroskey			40000	All majors	65.60	15.30	
Ameen, Jackson & Malgwi	2010	US	78	Majors 1998	69.88		
Elias	1999	US	64	Traditional age AC	69.54	19.51	.0396**
Simons, Higgins &	1995	US	233	1st AC	68.10	17.4	.0132**
Stanga & Ladd	1990	US	161	1st AC	67.50	16.00	.1159
Ameen et al.	2010	US	95	Non-Bus 2006	66.67		
Ameen et al.	2010	US	396	Non-AC Bus 1998	66.45		
Fordham & Gabbin	1996	US	62	1st Bus	66.40	10.90	.6807
Ameen et al.	2010	US	45	AC 2006	66.29		
Ameen et al.	2010	US	102	Non-Bus 1998	64.56		
Fordham & Gabbin	1996	US	283	1st AC	64.20	12.20	.1251
Fordham & Gabbin	1996	US	84	3rd AC	64.00	13.80	.3383
Elias	1999	US	62	Older AC UGs	63.09	15.44	.1968
Ruchala & Hill	1994	US	22	3rd AC (pre-test)	63.00	14.10	.4255
Ameen et al.	2010	US	182	Non-AC Bus 2006	62.90		
Ruchala & Hill	1994	US	22	3rd AC (post-test)	56.10	14.80	.0036**

MAL = Malaysia; IRL = Ireland; Austral = Australia SA = South Africa AC = Accounting UG = Undergraduate

Despite this statistical picture, which certainly admits of ambiguity, many researchers like Simons and Riley (2014) have often overlooked important qualifiers on claims that accounting majors have far worse levels of communication apprehension than other majors. Stanga and Ladd (1990) reported that accounting majors had higher levels of communication apprehension than the finance, management, and marketing majors who took the PRCA, but also noted that the results for their respondents overall were somewhat *below* the national averages for PRCA test-takers. Accounting majors most closely resemble their miscellaneous other majors category—still a group with lower than McCroskey's national rates of communication apprehension. Fordham and Gabbin (1996) reported that while the number of apprehensive communicators, including accounting majors, stays fairly stable from sophomore to senior year, 20% of accounting sophomores and 24% of accounting seniors registered in the *very low to low-average* range, while only 8% of non-accounting sophomores do. Borzi and Mills (2001) reported that public speaking apprehension was *lower than expected* among accounting majors, and lower among female accounting majors than female non-accounting majors—though levels were higher among male accounting majors compared to their non-accounting male counterparts. Gardner et al. (2005) reported that there was no correlation in their study of accounting majors between higher levels of CA and lower grades in accounting courses, *contra* Boorhis and Allen (1992), who reported that higher levels of CA correlate to worse educational outcomes. Ameen, Jackson, and Malgwi (2010) noted that the percentage of students reporting high levels of communication apprehension studied had *dropped* significantly among accounting majors from 1998 to 2006, while levels remained fairly static for other business majors, and *increased* among non-business majors studied over the same time period. Thus the evidence has not been conclusive, and interpretations have perhaps focused too much on the negative.

Reconsidering Communication Anxiety as Trait-like

Let us consider for a moment some of the evidence and assumptions behind the notion that CA is an inherited and largely unchanging trait, which was McCroskey's conclusion based on his reading of heredity-focused psychological studies (Beatty, McCroskey, & Heisel, 1998). This is an important question, both for students and for their future careers, since if high communication apprehension levels are stable throughout one's lifetime, as McCroskey, Andersen, Richmond and Wheelless (1981) assert, according to trait theory, one may be at a lifelong disadvantage in both academic achievement and career success. Another measure developed by McCroskey attempts to capture students' actual communication production, or how much students are willing to communicate (Chan & McCroskey, 1987; McCroskey & Richmond, 1987; McCroskey & Richmond, 1990). The assumption would be that high CA would result in low willingness to communicate (WTC), and that these levels would persist, since CA is a trait.

Donovan and MacIntyre (2004) reported differences for female and male junior high school, high school and university students in predictors of WTC. Younger girls had higher WTC while older boys had higher WTC. But for older girls, their reduced WTC correlated with higher CA, whereas for boys, their willingness to communicate was more directly correlated to their levels of self-perceived communication competence. All three variables—communication apprehension, willingness to communicate, and self-perceived communication competence—are amenable to change, and vary, according to these authors, based on age. We would not expect such changes if CA were a stable trait.

Among college students, the vast majority of studies published using willingness to communicate as a key variable involved in second language learning in higher education. A distant second is studies relating to health communication. Like levels of communication apprehension, there is evidence that WTC can change, even in the course of a semester, in a positive direction (Hodis, Bardhan, & Hodis,

2010; MacIntyre, 2012; Phillips, 1977). Research in second language learning has also demonstrated the positive effects of classroom interventions on WTC (Clément, Baker, & MacIntyre, 2003; Eddy-U, 2015; Munezane, 2015; Tannenbaum & Tahar, 2008).

Several studies to date have measured levels of CA among students, sometimes before and after they have completed oral communication courses or modules (Ayres, Hopf & Will, 2000; DiBartolo & Molina, 2010; Dwyer, 2000; Miller & Stone, 2009; Priem & Solomon, 2009; Rose, Rancer & Crannell, 1993; Ruchala & Hill, 1994; Whitworth & Cochran, 1996; Yale, 2014). The overwhelming weight of evidence suggests that levels of CA most frequently decrease and willingness to communicate increase after appropriate skills development and behavioral changes. This, too, weakens the case for the stability of CA as a trait.

We would not expect a generally low level of anxiety in test-taking or any other academic skill which has never or rarely been practiced; yet before measuring subjects' levels of communication experience, McCroskey and other researchers characterized high communication apprehension as a trait. There is a substantial body of research which finds that levels of willingness to communicate and competence improve after students have made multiple presentations (Elfering & Grebner, 2012; Hodis et al., 2010; Metzger, 1974; Pearson, Child & Kah, 2006; Rubin, Rubin & Jordan, 1997; Seim, Waller, & Spates, 2010; Yale, 2014). This supports the possibility of change based on increased experience with presenting. Psychological interventions also center on this premise (Stein et al., 1996).

There have been studies which point to greater reticence among rural students and recent immigrants (Grutzeck, 1970), which suggest that their reticence may indeed be based on simply not knowing "the rules of the social situation in which they find themselves" (Phillips and Metzger, 1973). All these point to a lack of experience, rather than a psychological trait.

Finally, in every study McCroskey himself conducted on non-student adults where PRCA scores were reported, means below his college average were published, comprising 62% of the subjects in those studies (Allen, Richmond, & McCroskey, 1984; Cole & McCroskey, 2003; Kearney & McCroskey, 1980; McCroskey, Simpson, & Richmond, 1982; Richmond, Smith, Heisel, & McCroskey, 1998; Richmond, McCroskey, & Davis, 1982). Likewise, in all other studies reporting PRCA scores conducted on non-student adults, including in Europe and Mexico, scores for 60% of respondents were below McCroskey's college average (Booth-Butterfield, Chory, & Benyon, 1997; Croucher, 2013; Croucher, Sommer, Rahmani, & Appenrodt, 2015; Degner, 2010; Downs, Javidi, & Nussbaum, 1988; Gibbs, Rosenfeld, & Javidi, 1994; Hsu, 2010; Macksey & Lewis, 1982; Madlock, 2012; Madlock & Martin, 2011; Madlock, Martin, Bogdan, & Ervin, 2007; Neupauer, 1996; Pitt, Berthon, & Robson, 2000; Pitt & Ramaseshan, 1989; Rubin & Rubin, 1989; Roby, 2009; Russ, 2012; Russ, 2013; Stark, Morley, & Shockley-Zalabak, 1987; Yook 2015). The preponderance of evidence so far on adult subjects thus further erodes the idea that mean scores remain fixed across the lifespan. No study to date using the PRCA has undertaken longitudinal data collection to evaluate the stability of scores over as much as five years.

In sum, based on my review of the extant literature, there have been no measures made of how often students present in total, and how that frequency may relate to their levels of communication anxiety. Levels of communication anxiety have been measured and traits asserted. But a crucial missing link in research on the extent to which CA is a trait is the *extent of students' experience in making presentations*. Since adult studies with lower scores point to decreased apprehension in relation to increased experience, it seems relevant to test this hypothesis with college students.

Current Study

This study sought to test a hypothesis regarding the relationship between frequency of presenting and levels of CA among accounting majors at a small, private, business-focused research university in the US Northeast. Studies on frequency of presenting relative to levels of public speaking apprehension (PSA) and CA to date have been limited. A previous study of 2-12 year business major alumni (Marcel, 2015) found that the single greatest predictor of self-reported communication confidence was frequency of presenting. That study did not, however, utilize the PRCA instrument for measurement. The relevant question concerns whether frequency of presenting confers any benefit toward reducing CA and PSA, levels which were not reported in the alumni study.

Method

Seniors and accounting-major juniors were surveyed in spring 2015 and 2016. Permission for human subject research was granted by the university's Institutional Review Board. Lists of all seniors and junior accounting majors were provided by the University registrar. Students identified received emails at their University addresses. A total of 2338 students received emails. Of these, 374 were accounting majors. A total of 472 usable responses were received, including 91 accounting majors, yielding a 20.19% overall response rate.

The survey was conducted via email using Qualtrics survey software. Emails with the survey link and follow-up messages were sent using the university email system; the survey was not associated with any course. Students who completed the survey were entered to win one of 25 \$30 gift cards. Required minimum completed responses were calculated using Cochran's rules for both continuous and categorical data collection (Bartlett, Kotrlik, & Higgins 2001). Sufficient responses were received to reach alpha at 0.01 and $t = 2.58$ for continuous data with a 0.03 margin of error; for categorical data, responses achieved a 0.05 margin of error and $t = 1.65$.

The survey collected data on students' major, age, and gender, and how frequently they made presentations in the prior twelve months; and utilized the PRCA-24 instrument to measure communication anxiety.

Given the somewhat lower expected response rates to email surveys in general (Kaplowitz, Hadlock, & Levine, 2004), one additional step was taken to address possible non-respondent bias. T-tests were performed comparing overall GPAs of respondents and non-respondents for the 2015 cohort. The average GPA for respondents is 3.40 (SD = 0.33, median = 3.47), while for non-respondents it is 3.31 (SD = .3494, median = 3.35). An unpaired t-test resulted in $p = 0.00002$; thus these samples are significantly different in terms of their GPAs. In contrast to the university's demographics, 257 respondents or 54.45% of respondents were female and 45.55% were male. Age-wise, 12.7% were 20 years old; 39% were 21; 39.4% were 22; 5% were 23; and 3.5% were 24 or older.

Results

In contrast to the view of McCroskey that communication apprehension is a trait that occurs with a normal distribution across populations, these results suggest a different picture. An overall look at the PRCA scores portion of the survey shows that 30.17% scored in the low range; 59.28% scored in the average range; and 10.33% scored in the high communication apprehension range. Thus only 10.33%, rather than an expected 15.4%, scored in the high range. As another thumbnail view, 10.97% had all

four scores in the low range; 16.03% had all four scores in the average range; and only 2.74% had all four scores in the high range.

Mean PRCA scores were compared with McCroskey's national averages (Table 2). Using unpaired T-tests, in all cases, mean scores were below McCroskey's national average, and below the weighted average of scores of accounting majors from the studies cited in Table 1 and reported in Table 2, of 66.41. Likewise, mean scores for Accounting, Finance and Economics/Finance, Management/Managerial Economics, Marketing, Information Design and Corporate Communication (IDCC), and all business majors, with and without Accounting majors included, were statistically below McCroskey's average to a significant extent. Internally, scores were not significantly different based on t-tests among accounting majors, all business majors, and all non-accounting business majors.

Table 2
Unpaired T-tests: McCroskey Mean and Current Findings

Source	Mean Score	SD	n		
McCroskey	65.60	15.3	40000		
Weighted Accounting Majors Mean Score (all studies)	66.41		2869		
Weighted Non- Accounting Majors Mean Score	64.60		2607		
Current Study by Major Compared to McCroskey				Unpaired T-Test: p	t
All Respondents	58.797	16.06	472	<0.0001	9.4568
Accounting	59.772	14.989	92	0.0003	3.6496
Corporate Finance and Accounting	59.894	16.754	95	0.0003	3.6298
Finance and Economics/Finance	58.667	15.742	81	<0.0001	4.0739
Management and Managerial Economics	54.657	13.506	73	<0.0001	6.1066
Marketing and IDCC	58.507	17.288	75	<0.0001	4.0101
Computer Information Systems	55.913	15.427	23	0.0024	3.0355
All business majors including Accounting	58.501	15.916	453	<0.0001	9.8155
All non-Accounting business majors: CFA, FI, EC/FI, MG, MGEC, MK, IDCC	58.177	16.148	361	<0.0001	9.1721

Female gender has been a factor identified in some psychological and communication studies as correlating to higher levels of CA. Table 3 shows that in this study, using unpaired T-tests, female respondents reported higher levels of communication apprehension compared to males, but not significantly so compared to McCroskey's mean. Both men's and women's total scores were significantly lower than McCroskey's averages (for women, $p = <0.0001$; $T = 6.4586$ and for men, $p = <0.0001$; $T = 7.2346$). Compared to McCroskey's mean, only interpersonal (dyadic) scores were higher for women, but not significantly so.

Table 3

CA Scores of Women and Men Compared to McCroskey Mean: Unpaired T-tests

Category	McCroskey Mean	McCroskey SD	Female n = 257	SD	P Value	t
Group	15.4	4.8	13.77	4.67	<0.0001	5.4408
Meeting	16.4	4.2	13.71	5.09	<0.0001	10.2271
Dyad	14.2	3.9	14.21	4.70	-0.9804	0.0245
Public	19.3	5.1	17.73	5.50	<0.0001	4.9136
Total	65.6	15.3	59.411	16.88	<0.0001	6.4586
Category	McCroskey Mean	McCroskey SD	Male n = 215	SD	P Value	t
Group	15.4	4.8	13.735	4.464	<0.0001	5.0744
Meeting	16.4	4.2	13.265	4.362	<0.0001	10.9132
Dyad	14.2	3.9	14.046	4.063	0.5637	0.5773
Public	19.3	5.1	16.986	4.841	<0.0001	6.6369
Total	65.6	15.3	58.032	14.824	<0.0001	7.2346

When we look at how often students reported that they presented in the past twelve months, the more frequently-presenting groups show significantly lower mean levels of CA than McCroskey's average (Table 4). For presenting in particular, there is a straight-line increase in communication apprehension as students report less frequent presenting. Still, it is worth noting that even those students who report making presentations less than once a month have lower levels of apprehension than McCroskey's Public Speaking mean. Those presenting less than once a month are not significantly different in their CA levels compared to McCroskey's subjects ($p = 0.1946$; $t = 1.2971$). But those who present once per month *are* significantly less anxious compared to their McCroskey peers ($p = 0.0098$; $t = 2.5821$). And indeed, that may be one of the most pedagogically useful findings of this study: that *presenting at least once per month is correlated with a marked reduction in public speaking apprehension as measured by McCroskey's instrument*.

There was a direct correlation between higher presenting frequency and lower mean CA scores for almost all communication categories. The exceptions were Groups and Dyads, where those presenting once per month registered higher apprehension than those presenting less than monthly. But these scores were not statistically distinct in either case.

Table 4
Comparison of Mean PRCA Scores Relative to Frequency of Presenting

Frequency of presenting	n	G 15.4	SD	M 16.4	SD	D 14.2	SD	PS 19.3	SD	Total 65.6	SD
1-5 times per week	58	13.07	4.51	12.36	4.74	12.45	3.77	15.84	5.78	53.72	16.42
2-3 times per month	157	13.48	4.56	13.24	4.45	13.37	4.17	16.34	5.02	56.44	15.61
once per month	191	14.28	4.72	13.85	4.87	15.01	4.70	18.34	4.96	61.48	15.80
less than once per month	66	13.47	4.15	14.15	5.13	14.89	3.97	18.48	5.19	61.00	15.34

G = Group; M = Meeting; D = Dyadic; PS = Public Speaking. The numbers in the top row are McCroskey's mean scores for each component.

A comparison of students who took a (humanities) Effective Speaking class, a (business) Managerial Communication class, or both with students who took no course revealed no significant differences in level of CA when frequency of presenting was controlled for. The one exception was in Public Speaking scores, where students who had taken a course and present 1-3 times per month had mildly lower CA levels than students who did not take a course and present 1-3 times per month ($p = 0.0718$; $t = 1.8057$). There was no statistically significant difference between the other PRCA scores for course takers vs. non-course-takers. Thus, frequency of presenting seems to be the salient factor rather than having taken a dedicated communication course.

The beneficial impact of frequency was more marked for women than men (Table 5). Unpaired T-tests performed on mean scores for the least frequent presenters (less than once per month) and most frequent presenters (1-5 times per week) for each of the four communication sub-scores and total PRCA scores show that the differences were significant in four of the five tests for women, but none for men.

Table 5
Unpaired T-tests: Differences in Least Frequent Presenters' vs. Most Frequent Presenters' Mean PRCA Scores for Women and Men

Group	Group	Meetings	Dyads	PS	Total
Women: <1X/month vs 1-5X/week					
p	0.3394	0.0157***	0.0028**	0.0120***	0.0086***
T	0.9618	2.4752	3.0944	2.5776	2.7021
Men: <1X/month vs 1-5X/week					
p	0.5868	0.9458	0.1275	0.1591	0.4848
T	0.5472	0.0683	1.5505	1.4297	0.7040

Significant at 0.05 *Significant at 0.01

Students were also asked to report who comprises the audiences they present to. Results are reported in Table 6. Strikingly, over 98% of students report that in the last year they gave presentations to classmates and professors; 96.7% of accounting students report doing so. This speaks to the robustness of the Communication-Across-the-Curriculum program at this university, which requires all business majors to take a communication-intensive course both within their majors and within in their General Education requirements. No undergraduate class is larger than 45 students across this university; thus professors are afforded the ability to assign more presentations than might be possible at colleges and universities with larger class sizes or lectures without discussion sections.

Table 6
Audiences

Who comprises your audiences? (percentages given)	AC Majors n = 91	Non-AC Majors n = 381	All students n = 472
Classmates and professors	96.70	98.95	98.52
Peers in on-campus activities	62.64	57.22	58.26
Internal to a company where you have worked or interned: within your department, team or work group	32.97	45.67	43.22
Internal to a company where you have worked or interned: outside your department, team or work group	17.58	28.87	26.69
Internal to a company where you have worked or interned: leadership team	15.22	21.26	20.13
External businesses: clients, vendors, outside business partners, etc.	10.99	16.01	15.04
Non-profit and community groups	6.59	10.50	9.74
Political groups	1.10	1.31	1.27

The remaining data in Table 6, however, also tell an important story. Well over half of all students reported having made presentations to peers in on-campus activities in the prior twelve months. Accounting majors did so somewhat more frequently than non-accounting majors, 62.6% vs. 57.2%, but the overall finding, 58.3%, suggests a high level of involvement among the student body in what perhaps are seen as lower-risk, ungraded opportunities to practice and develop their presentation skills. Likewise, over 40% of all students reported having made presentations within the department, team or work group at the company where they had interned or worked. The average is somewhat lower for accounting majors than non-accounting majors, 33% vs. 45.7%. Additionally, an average of 17.6% of accounting majors and 28.9% of non-accounting majors also presented outside their own department, team or work group at their company; 15.2 and 21.3% respectively to their company's leadership team; and 11% and 16% respectively to external business partners, including clients and vendors. And 9.7% of all students presented to non-profit and community groups.

In a separate question, it is notable that 10.76% of students reported receiving training for presenting in an on-campus student organization or extracurricular activity, and 9.91% reported receiving such

training at a job or internship. While we cannot attest to the content, extent or quality of such trainings, about one-fifth of students indicated this exposure.

Differentiators in frequency occurred outside the classroom; no students answered “never” to the question of how often they presented. In sum, the lower-than-average overall PRCA scores for this sample of students seem to be supported by a high level of both classroom and non-classroom presentations, giving students a multitude of situations and audiences to whom they can present and from whom they can receive feedback.

Discussion

The need for strong oral communication skills is widely accepted among accounting educators and employers. Concerns have been repeatedly expressed that accounting undergraduates are lacking in this skill set. The review of prior research demonstrates that such fears have been somewhat overestimated relative to national averages for communication apprehension levels among all undergraduate-aged students, including other business students.

The contribution of experience to diminishing public speaking apprehension is demonstrated in this study, in terms which go beyond previous studies that focused on the efficacy of purely classroom-based presentation assignments and interventions. This study suggests the need to collect data on how often and in what settings students make presentations, both inside and outside the classroom, in addition to simply measuring levels of CA. We may liken the non-classroom experiences to doing homework problems. Practicing on problem sets is understood to be effective preparation for higher risk demonstrations of skill on tests. Likewise, these non-classroom presentations may afford students the chance to practice a skill in a low- or non-risk setting, which builds strength for the more high-risk presentation in a graded classroom setting.

In a similar way, while students with low or low-average CA levels may elect not to take a course focusing on improving their oral communication skills, these data show that *more anxious students do tend to benefit from taking such classes*. Taking a course or courses may simply bring the more initially anxious students up to the same comfort level as students who start out with lower levels of apprehension. Many classroom intervention studies do suggest this. We should note that one group of majors traditionally considered less adept at presenting (and less willing to present), namely Corporate Finance and Accounting majors, are required to take the Managerial Communication course; their scores are also significantly lower than McCroskey’s mean. This evidence could be used to convince reluctant students that the benefits of such courses will outweigh the initial perceived emotional cost of taking them.

These findings strongly support the recommendation that all university students should participate in extracurricular and work activities which afford them the opportunity to make presentations. The finding that *presenting at least once a month yields statistically significant reductions in CA for the Public Speaking component* is of interest, if we are looking for a benchmark to offer students. Thus, even if students take an effective speaking or managerial communication class, where they may present 3-6 times in a semester, it is unlikely that an accounting student would have space in her or his degree requirements to take more than one or at most two such courses. Therefore, adopting a consistent communication across the curriculum approach is helpful—students having opportunities to receive further instruction and give presentations in courses throughout their college career. Likewise, encouraging students to participate in extracurricular activities, jobs and internships which afford them

chances to present also appears to be important, in giving them ongoing practice in both graded and ungraded settings. While pedagogical research tends to focus on classroom procedures as the basis for learning, communication skills, which are by their nature complex, situational, and related to human beings' developmental level, clearly benefit from being exercised in a wide range of settings and audiences.

These findings on frequency of presenting also seem to suggest a means of overcoming the heightening factor of female gender which some (though not all) studies have reported. The effect of more frequently presenting on mean CA scores was more marked for female students in every category except group communication when compared to male students. This may suggest a more potent effect of practice and engagement for women than men, and perhaps a more viable path for remediating CA among female students.

The frequency of making presentations was used as a proxy for how frequently students engage in communication acts measured by the PRCA. Since public speaking is generally engaged in the least frequently of all the types, it arguably can be more accurately estimated retrospectively (prior twelve months), and may suggest that those who present more often are also engaging in the other types of communication measured as well. This assumption seemed to bear out. Students who make fewer than twelve presentations per year reported the highest overall levels of communication apprehension, while students who reported making 1-5 presentations per week had the lowest levels. However, all students showed lower total levels of CA than the national average reported by McCroskey. Only in dyadic communication did two groups—those presenting once per month or less than monthly—have higher component scores.

This finding, which corroborates the conclusions of a previous study on recent business alumni (Marcel 2015), argues for the need to collect this data in any study of CA, in order to test the correlation further across a broader range of colleges and universities whose students' backgrounds vary more widely than in the current case. The idea that communication apprehension is a fixed and immutable trait has never been established by communication scholars, because no longitudinal research has ever been performed which follows up on subjects whose CA levels were initially measured while in college. Likewise, psychological studies as well as studies utilizing the PRCA measure do show a consistent pattern of reductions and lower levels of CA and public speaking anxiety across the lifespan.

Finally, we should caution ourselves regarding expectations of student achievement on measures which are simply pedagogical, versus those which are psychological and tied to overall levels of development. We have begun to see, I hope, the problem of asserting a standard, such as a national average for communication apprehension, while not tethering that average to anything like a lifespan curve. There is no single psychological average for public speaking anxiety in the general population that has been reported in any psychological literature. That is because studies of community and clinical populations vary widely in reported levels; and even those diagnosed often experience eventual remission.

Nevertheless, there is solid psychological evidence that the college years represent, for most of our students, the highest period of public speaking anxiety they may experience in their entire lives. Except in the cases of clinical public speaking anxiety disorders, which affect between 1 and 15% of the population, depending on the instrument and sensitivities used to measure, there is a steady slope of reported decreases in public speaking apprehension across the lifespan. This argues against the simplicity of so-called "trait" anxiety as something both widespread and not amenable to change.

As many studies have reported, anxious students generally benefit from taking classes aimed at improving their communication skills (DiBartolo & Molina, 2010; Dwyer, 2000; McCroskey, 1972; McCroskey & Andersen, 1976; Miller & Stone, 2009). All students in this study appeared to benefit from presenting often, and reported higher levels of apprehension when they had not. For students who do experience what we should call clinical levels of public speaking anxiety and social anxiety disorder, colleges and universities should make sure their student counseling services or other professionals are able to administer psychological interventions where they are needed. Gerald Phillips and associates' work on reticence remission at Penn State (Phillips, 1977; Phillips & Metzger, 1973) stands as a testament to what can be achieved if resources are committed and the work is handled in a consistent and evidence-driven way.

Limitations and Future Research

Because the respondents in this study are somewhat homogeneous in regional background, age and family income, it is not possible here to separate these factors from frequency as contributing to greater confidence in presenting. Psychological studies have suggested that younger age, lower income, lower levels of education and female gender are all associated with higher levels of public speaking apprehension in the general population. The design of this study did not permit explorations of the factors of (family) income, age or level of education in any comparative sense. However, it should be noted that the average SAT scores for admitted students at this university correlate to family incomes of \$200,000 per year or above (Rampell 2009; Zumbun 2014), which is well above the 2013 median US household income of \$52,250 (Noss 2014). This could stand as a proxy for levels of wealth relative to prevalence of communication anxiety, a factor which has been commented upon in classroom research by Coetzee et al. (2014) and noted in community studies by psychologists. As such, it suggests that this cohort of respondents is not representative of the US population in that important measure.

Likewise, since the university in this study is known for small class sizes, perhaps students with higher levels of CA in general would be attracted to larger universities, where they would expect to be able to avoid small classes, and expectations for frequent presenting and oral communication assignments. In order to address some of these limitations, studies using the same instrument are currently planned with two diverse urban public universities, one on the east coast and one on the west coast, and with a large state university in the Midwest. Particular attention will be paid to accounting students, because concern over CA has run so high among accounting educators. However, if frequency is a significant factor in reducing CA among undergraduates, it will be important to survey students in a variety of majors, including non-business fields, to test the strength and characteristics of this correlation.

Conclusion

While accounting educators and employers have expressed concern over the levels of communication skills and apprehension manifested by accounting undergraduates, there is cause for optimism. Based on studies to date, accounting majors' average PRCA scores at a practical level are not significantly different from those of other undergraduates of all majors. There is much evidence to suggest that public speaking anxiety and social anxiety disorder, which impact overall communication apprehension, tend to remit in the lifespan. In the short term, the majority of studies assessing interventions have found that a multi-pronged approach is most effective in courses aimed at improving student presentation skills. Accounting faculty can advocate for presentations to be assigned in their own and other courses. They can encourage their students to take public speaking courses, especially anxious ones, because evidence suggests that such students will experience the most benefit. But the

exhortation that students seek out opportunities to present in both extracurricular activities and work settings seems equally justified, as this study shows a direct relationship between frequency of presenting, both inside and outside the classroom, and lower levels of both PSA and CA. This may hold especially for women students. There is, in short, hope for anxious students, who can be assured that improvement is possible, in both the near and longer term. But making presentations now will bring that relief curve forward for our students, when they are willing to do so.

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