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Communication Apprehension: A Barrier to Students' Leadership, Adaptability, and Multicultural Appreciation

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In today's global context, a lack of comfort in communicating with others can be an unfortunate inhibitor to success in school and work. In this study we measured the level of communication apprehension in 263 students and the relationship of their communication apprehension to measures of leadership initiative, multicultural appreciation, adaptability, and academic performance. Results revealed that communication apprehension was negatively associated with students' willingness to take on leadership opportunities, appreciation for a multicultural world, and adaptability to new situations. No significant relationships were found between communication apprehension and overall GPA. Strategies for mitigating communication apprehension and implications for future research are discussed.

New workplace demands have led to corresponding changes in the knowledge, skills, and abilities (KSAs) that graduating college students most need to ultimately succeed in today's jobs. Among the most significant workplace shifts are an increasingly global and diverse workforce (Cascio, 1995; Johnston & Packer, 1987; Offermann & Gowing, 1990), a restructuring of work around teams (Cohen & Bailey, 1997; Ilgen, 1999), and a rapid pace of change that requires continuous learning and adaptation to new roles (Cascio, 1995; Hills, 2001). As a result, today's employers are looking for much more than high test scores and GPAs in their most highly recruited job candidates. More than ever before, employers put interpersonal competence, teamwork, and communication skills at the very top of their desired skill set (O'Neil, Allred, & Baker, 1997; Zedeck & Goldstein, 2000).

In this regard, few would disagree that a lack of comfort in communicating with others could be an inhibitor to success in most any domain. Scholars in the area of communication have isolated a personal characteristic called *communication apprehension* (CA) and defined it as, "an individual's level of fear or anxiety with either real or anticipated communication with another person or persons" McCroskey (1977: 78). Common communication situations relevant to CA include one-on-one conversations, participating in a group discussion or meeting, and giving a formal presentation or speech. In comparison with people low in CA, people higher in CA are more likely to experience anxiety when required to communicate, to avoid

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situations demanding communication, and engage in less oral communication when such situations are unavoidable (Bourhis, Allen, & Bauman, 2006; McCroskey, 1976).

We contend that the operative shifts in workplace demands discussed above make CA an important individual-difference variable among students because it may negatively affect the development of these critical KSAs. For example, it is difficult to conceive of a student being an effective team player or project manager if that person is very apprehensive about communicating with others. We further suspect that CA can prevent otherwise highly capable students from reaching their full potential. However, unlike more salient personal characteristics, CA may not reveal itself in ways that prompt identification and intervention.

The purpose of our work here is to investigate the presence of CA in a student sample and to explore its relationships with several variables deemed important to educators and future employers. We seek to understand the effects of CA, if any, on student leadership initiative, multicultural appreciation, and adaptability in a changing environment. Below we provide a synthesis of the relevant extant work related to CA as well as our research hypotheses and associated rationale.

Review of Communication Apprehension

An ongoing debate in the communication literature is whether CA should be viewed as more of a trait or a state (Bourhis et al., 2006). Our view is that CA is more traitlike and can be viewed as an individual difference variable that is relatively stable across various kinds of situations (Beatty, McCroskey, & Heisel, 1998). We also believe that CA can be thought of much like common anxieties or fears (e.g., computer anxiety or fear of heights). Bourhis et al. (2006: 213–214) state that "fear is generally considered 'unreasoned' in the sense that fear is something that can be conquered or reduced as a result of appropriate intervention and is not beyond control." We therefore contend that individuals with CA can increase their awareness of it, better understand and manage it, and to some extent, overcome and function more effectively despite it. Although several previous investigations focusing on CA in the public speaking context have found it to be resistant to intervention (e.g., Duff, Levine, Beatty, Woolbright, & Park, 2007) some empirical evidence also shows that CA can be lessened or managed over time (Allen, 1989; Allen, Hunter, & Donohue, 1989; Bodie, 2010; Dwyer, 2000).

Beatty et al. (1998) proposed that CA is "caused by" or based on a combination of the personality dimensions of introversion and neuroticism—in that avoiding social interaction represents a manifestation of introversion while feelings of anxiety are a manifestation of neuroticism. From this perspective, neuroticism and introversion could be considered to be correlates and possibly antecedents of CA. Blume, Dreher, and Baldwin (2010) demonstrated that neuroticism and introversion were correlated with CA at .35 and .56, respectively.

Communication apprehension has also been found to correlate with more general social anxiety (Daly, 1978; Leary, 1983). *Social anxiety* can be defined as anxiety resulting from the prospect or presence of personal evaluation in real or imagined settings (Schlenker & Leary, 1982). Schlenker and Leary (1982) posit that social anxiety occurs when people are motivated to make a particular impression in a social interaction but doubt that they will succeed. Although the psychology and communication literatures have developed separately, they are related because socially anxious individuals are also likely to have higher communication apprehension when interacting with others. Daly (1978) even uses the term, "social–communicative anxiety" to describe this phenomenon since most social situations require communication.

McCarthy and Goffin (2004) found that a measure of social confidence and dyadic subdimension scale of CA were negatively correlated at −.68. Also, CA was one of the most highly correlated constructs with their composite Measure of Anxiety in Selection Interviews at .51, while social confidence was correlated at −.35. Further evidence in the nomological network is that, similar to CA, individuals with higher levels of introversion and neuroticism are also more likely to experience social anxiety (Levinson, Langer, & Rodebaugh, 2011). Therefore, prior research supports the fact that individuals higher in introversion and neuroticism are more likely to have higher CA and social anxiety.

Although often discussed anecdotally, CA has been a relatively neglected topic within the management education literature, and therefore, two points of clarification are warranted. First, although sometimes casually thought of as dichotomous (you either have it or you don't), CA instead exists on a continuum from low to high and has been traditionally measured as such (Bourhis et

al., 2006; McCroskey, 1977, 1984). Second, CA is not necessarily synonymous with communication *ability* or *effectiveness* (McCroskey, 1984), and thus, like many fears and anxieties, is often not entirely rational. That is, a student may be quite good at communicating when actually doing so but has an apprehension that keeps him from actively engaging in communication opportunities that may serve to his benefit.

Empirical research on CA within the management literature is relatively limited, but some good foundation work has emerged (e.g., Blume et al., 2010; McCarthy & Goffin, 2004; Pate & Merker, 1978). In a theoretical paper, Pate and Merker (1978) proposed some ways that CA research could be relevant to organizational behavior researchers. For example, they hypothesized that individuals with higher CA will seek jobs with lower communication requirements and would seek less advice or assistance from their managers.

In the communication literature, there is a body of extant research on CA including a meta-analysis of 36 studies (Allen & Bourhis, 1996). In that meta-analysis, the authors found a consistent negative relationship between the level of CA and both the quality ($r = -.38$) and quantity ($r = -.29$) of communication behavior (Allen & Bourhis, 1996). Evidence also exists that CA negatively influences students' presentations (Allen & Bourhis, 1996) and interview outcomes (Ayres & Crosby, 1995; Daly & Leth, 1976; McCarthy & Goffin, 2004).

Perhaps the more understated consequence of CA is that it may chip away at a person's willingness to engage with others on critical interpersonal levels. This could be especially problematic when behaviors are more discretionary. For example, even if individuals with higher CA know that visibility, face time, networking, volunteering to lead the team, and so on are critical success factors, they may still subtly choose to opt out of these experiences whenever they can. A study by Blume et al. (2010) revealed this very effect in a management assessment center. The authors found that students with higher CA had a lower percentage of "air time" in a leaderless group discussion and that CA negatively influenced the demonstration of critical thinking skills.

To help practically illustrate the nature of CA here, consider the cases of Emma and Mason who are students at a respected university and have nearly identical scholastic aptitude test (SAT) scores. They both are well-liked by classmates and do well on projects, including those with some group-based and formal presentation elements. However, Mason has a relatively high level of self-reported CA and Emma does not. The central question of our investigation is how such CA might manifest itself in Mason's behavior in school and his ultimate success profile. That is, does CA have any material effects on college performance and career preparation? If so, then it may well warrant more consideration as a factor in preparing today's students for the workplace they will face.

The "college success" of students such as Mason and Emma has traditionally been defined using only variables such as GPA and placement statistics. However, an exciting program of research, founded by the College Board, has begun to more overtly address the multidimensional nature of student performance and success. This research has targeted a broader range of student outcomes beyond GPA (e.g., Oswald, Schmitt, Kim, Ramsay, & Gillespie, 2004; Schmitt et al., 2009). Such outcomes are particularly germane in understanding effects of CA. More specifically, Oswald et al. (2004) developed a 12-dimension model of college performance, and from these dimensions, we selected those in which we believe communication would be most critical and can be conceptually linked to CA.

Specifically, in addition to overall academic performance (GPA), the three student outcomes of interest here were leadership initiative, multicultural appreciation, and adaptability. These three student outcomes are also consistent with the changing demands of the workplace discussed above (e.g., see Bell, Connerley, & Cocchiara, 2009; Chen, Donahue, & Klimoski, 1994; Egan & Bendick, 2008; Graen, Hui, & Taylor, 2006) and what recruiters are seeking in graduates. Below we present our conceptual rationale and research hypotheses.

THEORY AND HYPOTHESES

Leadership Initiative

A frequently identified goal of business education is the development of leadership initiative and skills. Leadership initiative includes behaviors such as attempting to motivate others, coordinating groups and tasks, and serving as a representative or otherwise performing a managing role in a group (Oswald et al., 2004). While there has been much written about leadership development, a fundamental or underlying requirement for demonstrating leadership is the ability and willing-

ness to persuasively communicate and influence individuals and groups to pursue their goals. Recent research by de Vries, Bakker-Pieper, and Oostenveld (2010) has also demonstrated that communication styles play an important role in the style of a leader, knowledge sharing, and leadership outcomes.

Prior research has concluded that those who communicate more frequently in groups are more likely to emerge as leaders and be viewed by the group as leaders (Bass, 1949; Mullen, Salas, & Driskell, 1989; Riggio, Riggio, Salinas, & Cole, 2003). In their meta-analysis, Mullen et al. (1989) found that this effect was stronger in magnitude among real groups than among artificial groups, as well as stronger when measured by observer judgments than by group member judgments (although the effects were strong and significant for both types of groups and measurements). Since a reluctance to communicate is likely to make those with higher CA less inclined to be proactive in interacting with others, they would consequently be expected to demonstrate less leadership initiative. More specifically, individuals with higher CA would be less likely to take the lead or assign tasks or roles to people in a group. While simply demonstrating leadership initiative certainly does not guarantee that someone will become an effective leader, it is a necessary condition to be able to practice one's leadership skills and to ultimately grow in leadership effectiveness (DeRue & Wellman, 2009; McCall, 2004).

Hypothesis 1: Individual levels of CA will be negatively related to leadership initiative.

Multicultural Appreciation

Consistent with Oswald et al. (2004), we define *multicultural appreciation* as someone's interest in participating in, contributing to, and influencing a multicultural environment. This includes showing openness, tolerance, and interest in a diversity of individuals. In this regard, many ways that individuals learn to appreciate other cultures require some interaction with others from different cultural backgrounds. For example, someone could attend a cultural event or befriend someone from a different cultural background.

Gudykunst and Kim (1997) suggest that when individuals are confronted with cultural differences they tend to view people from other cultures as strangers (i.e., unknown people who are members of different groups). Since most individuals have a limited amount of experience interacting with people from other cultural groups, this is likely to increase uncertainty regarding what to say in order to make a positive impression. Individuals with higher CA may be more likely to experience anxiety when communicating in these types of situations and this could cause them to avoid interacting with those from different cultural groups (Buss, 1980; Neuliep & McCroskey, 1997).

In addition, according to uncertainty reduction theory, whenever two people come together and interact for the first time they have a very limited amount of information about each other (Berger & Bradac, 1982; Berger & Calabrese, 1975). In such circumstances considerable uncertainty exists, and this high level of uncertainty tends to lead to increased anxiety (Berger & Calabrese, 1975; Neuliep & McCroskey, 1997). In order to develop a friendship in this situation, this uncertainty can be reduced by feedback that the individuals receive from each other via communication (Berger & Calabrese, 1975; Lalljee & Cook, 1973). For example, Lalljee and Cook (1973) found that in first encounters, filled pause rates such as "ah's" decrease and speech rate increases as the interaction and conversation progresses. Also, longer conversations would be expected to lead to less uncertainty, which is correlated with increases of liking each other (Clatterbuck, 1979; Douglas, 1990). However, someone with higher CA would be less likely to reduce this uncertainty via conversation with someone from a different culture, since individuals with higher CA tend to communicate less (Allen & Bourhis, 1996). For this reason, individuals with higher CA may be less likely to develop multicultural awareness via such friendships. Therefore, individuals with higher CA may be less likely to seek and benefit from situations that would increase their multicultural awareness and appreciation.

Hypothesis 2: Individual levels of CA will be negatively related to multicultural appreciation.

Adaptability

Adaptability is the ability to effectively adjust to a changing environment and deal well with expected or unexpected changes (Oswald et al., 2004). Examples would be moving to a new university, beginning a new job, or adjusting to changes in a daily schedule. Many of these types of

changes necessitate increased communication to respond to new demands and to establish new routines. Individuals with higher CA may not adapt as well to situations requiring them to communicate more, especially if this communication involves people with whom they are unfamiliar (Berger & Calabrese, 1975; Parks, 1980; Zakahi, Jordon, & Christophel, 1993). Since those with higher CA tend to communicate less with others (Allen & Bourhis, 1996), they may not be as effective in adjusting to new settings or meeting and interacting with new people.

Communication apprehension may also cause individuals to perceive changes as a threat and respond with a "flight or fight" mentality if they realize the change will require them to increase their communication with others or develop new relationships. In addition, they may feel that they have less control in the change process if they are not as likely to make suggestions, ask questions, or offer constructive criticism. Zakahi et al. (1993) examined the social networks of college students in the 1st and 12th weeks of their freshman year and the 2nd semester of their sophomore year. Their results demonstrated that those with lower CA had more close friends than those with moderate or higher CA during their freshman year. Therefore, if individuals with higher CA have fewer friends and smaller support networks (McCroskey & Sheahan, 1978; Zakahi et al., 1993), they may not receive the same level of support as someone with lower CA and this could also impede their adaptation to change.

Hypothesis 3: Individual levels of CA will be negatively related to adaptability in a changing environment.

Academic Performance

A meta-analysis by Bourhis and Allen (1992) demonstrated that CA has a small, negative correlation with academic performance (e.g., $r = -.10$ for GPA) for students in elementary school, high school, and college. Communication apprehension may influence academic achievement and learning if students with higher CA are less likely to ask questions or participate in class exercises. Since CA is likely to affect students' educational experiences in their early years, these students may be labeled as less capable by instructors or may internalize feelings of inadequacy in the classroom as well (Bourhis et al., 2006). The result could be that students with higher CA eventually become less engaged in educational activities and have lower academic achievement.

In addition, students with higher CA may also be less inclined to work with classmates on homework or when studying for exams, which could negatively influence academic outcomes. In a sample of full-time MBA students, Baldwin, Bedell, and Johnson (1997) found that communication centrality was positively linked to individual grades in the program. The authors concluded that "network centrality enabled students to avail themselves of resources and support to a greater degree than their less central colleagues could" (1997: 1390). In today's more contemporary classrooms, where many instructors are assigning more points to team projects and presentations, CA may be even more important in determining academic performance.

Hypothesis 4: Individual levels of CA will be negatively related to academic performance.

METHODS

Sample

Our sample consisted of 263 undergraduate students with at least junior standing at a large, midwestern university. Seventy of these students were part of the business honors program. The other 193 were students enrolled in an organizational behavior course. In the overall sample, 79% were business majors (finance, marketing, and accounting were the most common majors), and 21% were nonbusiness majors (including journalism, interior design, and apparel merchandizing). Forty percent of the students were female and 78% were Caucasian. All students signed an informed consent form and voluntarily participated in the study.

Measures

Participants completed sections of a biographical data (Biodata) measure developed by Oswald et al. (2004), which includes the outcome variables of interest for our study. This measure was intended to go beyond the traditional college student performance outcomes of GPA. For the purposes of this study, we selected those dimensions most conceptually linked to CA and did not investigate the nine other dimensions (e.g., artistic appreciation, social responsibility, physical health, career orientation) because there were no evident theoretical reasons

to expect these outcomes to be related to CA. Participants also completed measures of CA, the Big Five personality variables, and general self-efficacy.

Control Variables

Past research has demonstrated that CA is correlated with extraversion and neuroticism (Blume et al., 2010; Hsu, 2004), both of which would be expected to be related to our criterion variables of leadership (Judge, Bono, Ilies, & Gerhardt, 2002); adaptability (Caligiuri, 2000); and multicultural appreciation (Oswald et al., 2004). In addition, some studies have suggested that CA may be related to lower self-efficacy (Hopf & Colby, 1992) and that low self-efficacy may mediate the relationship between variables such as CA and relevant outcomes (Arnkoff, Glass, & Robinson, 1992; Diaz, Glass, Arnkoff, & Tanofsky-Kraff, 2001). Therefore, we controlled for extraversion, neuroticism, and general self-efficacy in order to demonstrate that CA influences the criterion variables above and beyond the effects of these variables.

We also controlled for other Big Five personality variables where there was a theoretical reason to believe they might be related to the criterion variables (Spector & Brannick, 2011). For leadership, we were informed by the meta-analytic findings of Judge et al. (2002) and thus controlled for openness to experience and conscientiousness. For multicultural appreciation, we controlled for openness and agreeableness based on relatively high correlations found by Oswald et al. (2004). We would expect individuals who are more open to new experiences and more agreeable to be more appreciative and curious of others who are different from themselves.

For adaptability, we again controlled for openness to experience and conscientiousness (LePine, Colquitt, & Erez, 2000). We would expect that openness would be important in a novel context that requires learning, while conscientiousness could enable individuals to approach changes in a methodical way (LePine et al., 2000). For GPA, we controlled for openness and conscientiousness based on prior meta-analytic research (O'Connor & Paunonen, 2007; Poropat, 2009). We also controlled for honors student status for all analyses, since we expect honors students to have higher academic performance and would like to determine if there are differing relationships with the other criterion variables for honors students.

General Self-Efficacy

We used the 8-item general self-efficacy measure (Chen, Gully, & Eden, 2001) in which participants evaluated statements such as "I am confident that I can perform effectively on many different tasks" on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The alpha reliability coefficient was .92 for our sample.

Big Five Personality

We used the positively worded items of Goldberg's (1999) Big Five factor markers in the International Personality Item Pool. In our sample, extraversion, agreeableness, conscientiousness, neuroticism, and openness had internal consistency reliabilities of .80, 80, 74, 84, and .70, respectively.

Communication Apprehension

We measured CA using the Personal Report of Communication Apprehension (PRCA-24; McCroskey, 1978). Six items measure an individual's perceived CA in four contexts. These contexts are participating in group discussions, talking in meetings, conversing with others, and giving a speech. Sample items include "I am tense and nervous while participating in group discussions" and "I'm afraid to speak up in conversations." An individual's CA score on the PRCA-24 is determined by summing or averaging responses across the four contexts. Based on results from over 40,000 college students using a 5-point Likert scale, McCroskey (1996) reported that the mean score on the PRCA-24 is 2.73 with a standard deviation of .64. Data from over 3,000 nonstudent adults in a national sample provided virtually identical norms (McCroskey, 1996). Based on norms from this population, McCroskey (1984) suggests that individuals who score one standard deviation above and below the mean have relatively high or low CA (corresponding scores would be above 3.37 or below 2.09, respectively). We used a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) and the alpha reliability coefficient was .95 for our sample.

GPA

We measured overall academic performance based on a student's overall GPA. We were able to obtain honors students' GPA directly from their academic transcripts at of the end of their junior

year. For the remainder of the participants, we asked students to self-report their current GPAs. A meta-analysis by Kuncel, Credé, and Thomas (2005) found that self-reported GPAs of college students were correlated at .90 with the actual GPA obtained from college records.

Criterion Variables

The biodata dimensions of leadership initiative, multicultural appreciation, and adaptability were measured using Oswald et al.'s (2004) measure. This biodata measure asks factual kinds of questions typically focused on past academic experiences. It is a proprietary measure owned by the College Board, which is the organization that administers the SAT. Oswald et al. include definitions of each dimension and a few sample items in their appendix for some scales. Each dimension in our study was measured with 10 items which varied in the type of response scale (e.g., frequency of behavior, Likert scale) and approach to measuring the constructs (e.g., past beliefs and attitudes, behaviorally based experiences). A sample item for the Leadership Initiative scale is "In the past year, how many times have you been responsible for assigning tasks and setting deadlines for other people?" A sample item for the Multicultural Appreciation scale is "During the past year, how many times have you gone to an event where the purpose was to expose people to a new culture?" A sample item for the Adaptability scale is "How difficult has it been for you to deal with situations that forced you to make adjustments in your daily life (e.g., a broken leg, illness, or family crisis)?" In our sample, the alpha reliabilities for the biodata dimensions leadership initiative, multicultural appreciation, and adaptability were .87, 83, and .72, respectively.

RESULTS

Means, standard deviations, intercorrelations, and scale reliabilities are reported in Table 1. As expected, CA had a negative correlation with extraversion ($r = -.52$) and positive correlation with neuroticism ($r = .38$). CA also had a strong, negative relationship with general self-efficacy ($r = -.50$) and openness to experience ($r = -.42$). Table 2 contains the results of the hierarchical multiple regression analyses for each of the dependent variables. Hypotheses 1, 2 and 3 were supported, as CA had a negative effect on participants' perceptions of their leadership initiative ($\beta = -.31$, $p < .01$), multicultural appreciation ($\beta = -.22$, $p < .01$), and adaptability ($\beta = -.20$, $p < .01$). However, CA did not have a significant relationship with participants' academic performance as measured by their GPA ($\beta = -.03$, $p > .05$), meaning Hypothesis 4 was not supported.

Following Spector and Brannick's (2011) recommendation, we examined multiple models with and without certain control variables. In all these models, CA remained a significant predictor for all criterion variables (with the exception of GPA), indicating a robust effect of CA on these variables

TABLE 1
Means, Standard Deviations, Cronbach's Alphas, and Correlations Among Variables ($N = 263$)

		1	2	3	4	5	6	7	8	9	10	11	12
1	Communication apprehension	(.95)											
2	Honors student	−.30**											
3	General self-efficacy	−.50**	.32**	(.92)									
4	Extraversion	−.52**	.21**	.34**	(.80)								
5	Agreeableness	−.22**	.36**	.25**	.39**	(.80)							
6	Conscientiousness	−.17**	.19**	.31**	.07	.26**	(.74)						
7	Neuroticism	.38**	−.15*	−.24**	−.15*	−.04	−.04	(.84)					
8	Openness	−.42**	.10	.46**	.26	.20**	.16**	−.24**	(.70)				
9	GPA	−.08	.55**	.14*	−.07	.14*	.26**	−.01	.01				
10	Leadership initiative	−.50**	.23**	.36**	.44**	.20**	.32**	−.14*	.29**	.23**	(.87)		
11	Multicultural appreciation	−.29**	.15*	.15*	.26**	.31**	−.01	−.02	.23**	−.02	.32**	(.83)	
12	Adaptability	−.50**	.34**	.47**	.32**	.16**	.36**	−.37**	.31**	.27**	.50**	.25**	(.72)
	Mean	2.35	.27	4.17	3.56	3.90	3.63	2.81	3.68	3.47	3.39	3.15	3.46
	Standard deviation	.66	.44	.54	.74	.60	.62	.70	.54	.36	.73	.68	.47

Note. Cronbach's alphas listed on diagonal in parentheses, where applicable.
*$p < .05$. **$p < .01$.

TABLE 2
Effect of Communication Apprehension on Outcome Variables ($N = 263$)

Dependent variable	Leadership initiative		Multicultural appreciation		Adaptability		GPA	
Independent variables	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b	Model 4a	Model 4b
Step 1: Controls								
Honors student	.07	.04	.04	.01	.16**	.14**	.57**	.57**
General self-efficacy	.10	.04	−.04	−.09	.21**	.17**	−.01	−.01
Extraversion	.35**	.24**	.14*	.06	.15**	.08	−.19**	−.20**
Neuroticism	−.02	.05	.05	.09	−.25**	−.20**	.04	.05
Openness to experience	.10	.05	.18**	.14*	.07	.03	−.03	−.03
Conscientiousness	.24**	.23**			.24**	.23**	.18**	.18**
Agreeableness			.22**	.24**				
Step 2:								
Communication apprehension		−.31**		−.22**		−.20**		−.03
R^2	.31	.36	.14	.17	.40	.42	.37	.37
ΔR^2 for step 2		.05**		.03**		.02**		.00
Overall Model F	19.3**	20.6**	7.3**	7.5**	28.3**	26.3**	25.4**	21.7**

Note. Entries are standardized regression coefficients.
*$p < .05$. **$p < .01$.

examined in our study. As expected, regression results indicated that honors students had higher GPAs ($\beta = .57$, $p < .01$). In addition, honors students in our sample reported being more adaptable than nonhonors students ($\beta = .14$, $p < .01$). Table 2 also reports the variance accounted for in our models, which was .36, .17, .42, and .37 for leadership initiative, multicultural appreciation, adaptability, and GPA, respectively.

DISCUSSION

What stands out most in our results is how detrimental CA can be to the achievement of important educational outcomes, even among otherwise highly capable students. More specifically, CA was negatively associated with students' perceptions of their adaptability, appreciation for a multicultural world, and willingness to take on leadership opportunities that might broaden their skill sets or enhance their ability to influence others. On the other hand, we found no significant relationships between CA and overall GPA. This suggests that at least in the present sample the negative effects of CA may not be reflected as much in conventional measures of academic performance but are manifest in more subtle ways. In other words, CA may have effects that are not readily seen and thus may be less likely to receive attention and intervention efforts in the way a low GPA would.

One expressed goal of most contemporary business schools is for greater student development of leadership skills. The increasing focus on collaborative and team-based learning is designed to provide students the opportunity to build such skills (Graen et al., 2006). However, if, as our data suggest, students with CA are less likely to participate fully in such experiences, then they miss the opportunity for that type of skill development. For example, uncomfortable experiences in teams can reinforce the belief that working with others in teams is undesirable and therefore is to be avoided (Holmer, 2001).

A similar observation could be made for failing to interact with those from other cultures. The diversity literature supports the notion that an effective way to develop cultural intelligence is to more frequently interact with those of divergent cultures (Baldwin, Bommer, & Rubin, 2012). However, for those experiencing higher CA, our results suggest that these opportunities are more likely to be missed in college, which is analogous to overweight people not going to the gym because they are concerned about what others will think of them. That is, the very activities that might be useful to developing greater communication effectiveness are avoided because of that apprehension.

Our findings should also be fuel for discussion among those serious about trying to expand consideration of important college student outcomes

beyond GPA. These data reveal CA to be a significant detriment to three of the variables recently identified as most important in more broadly judging college student success (Oswald et al., 2004; Schmitt et al., 2007). The findings are also consistent with recent data on student assessment center performance, which has shown that CA can attenuate scores on critical thinking because those skills could only be demonstrated by way of communication-intensive exercises (Blume et al., 2010). We suspect that the same attenuation of useful professional skills such as leadership and multicultural awareness may be occurring because of CA.

In addition, we believe our findings are timely as scholars in several different disciplines (e.g., law, medicine) increasingly focus attention on the distinctions between the skills required for *academic* success compared with those requisite for *professional* success (Epstein, 2002; Groopman, 2007; Schultz & Zedeck, 2008). That is, while our results empirically document the potential negative effects that CA could have on some college success measures, we suspect that the impact on professional outcomes may be even *greater*. For example, we expect that CA could influence other important workplace skills, such as the ability to effectively network with coworkers, proactively present ideas to a manager, or act in politically savvy ways. Our findings represent a call for greater efforts to understand, assess, and mitigate CA in our future professionals. We expand on these implications below.

Implications for Practice

To revisit the introductory scenario whereby Mason is a student comparable to Emma in many regards, but with relatively high CA, how might he best proceed? More broadly, we ask how can management educators assist students like Mason in addressing and managing the barrier of CA?

First, managing CA should begin with self-awareness. An honest and accurate assessment of one's level of CA and its potential effects on academic, social, and future career outcomes is essential (McCroskey & Beatty, 2000). While no one relishes going "public" with most any apprehension or fear (and in most cases there would be no need to do so), CA should ideally be assessed early in students' collegiate careers to help them understand what they may be experiencing. A heightened awareness of CA will enable higher CA students to self-monitor (Day, Schleicher, Unckless, & Hiller, 2002; Gangestad & Snyder, 2000) and confront their anxiety about impending communication events. Students should be educated regarding the implications of higher CA and encouraged to go against feelings of anxiety to communicate whenever possible, particularly in relatively low-risk learning contexts that can be created in college environments. This is consistent with the clever adage that "The biggest difference between an experienced speaker and an inexperienced speaker is when an experienced speaker is scared to death, he knows it is *normal*."

Second, students should be made aware that higher CA is not necessarily synonymous with poor communication *skills*. In fact, many students with higher CA are actually effective communicators when they do communicate (McCroskey, 1984) and have the ability to "step up and deliver" when they are forced to do so. Yet, it is almost certainly the case that these individuals are not maximizing their opportunities to communicate and interact with others (Allen & Bourhis, 1996). In this way, students with higher CA may overly "self-screen" before engaging in learning activities. Some levels of self-monitoring may be healthy, but those higher in CA may do too much filtering and monitoring so as to degrade their learning.

With this in mind, it is important for educators to realize that simply offering communication classes or skills training may have a limited effect in reducing CA (Bourhis et al., 2006; Duff et al., 2007; McCroskey & Beatty, 2000), and training may also need to focus directly on reducing CA (McCroskey, 1984). Exposure, practice, and success in leading colleagues for diverse classroom assignments can lay the groundwork for choosing to practice—rather than opting out of—these communication opportunities in more discretionary activities. To this end, rotation of various team and classroom leadership opportunities could be programmed into learning activities. This could provide the opportunity to individuals with higher CA who normally might not speak out much in team meetings to do so because they have been assigned the role of leading a team meeting.

In addition, assertiveness training may be appropriate to encourage students to overcome CA (Stanga & Ladd, 1990). Assertiveness training focuses on encouraging individuals to communicate the full range of thoughts and emotions (including opinions and feelings) with confidence. Some recent research on how to reduce "choking" may be

instructive here as well (Baumeister, 1984; McCroskey, 1984). The existing research suggests that there are two antidotes for choking that have shown promise: pressure practice and focused, automated behavior (Beilock & Gray, 2007; Beilock, Kulp, Holt, & Carr, 2004; Lewis & Linder, 1997).

A good example of pressure practice comes from the work of Raoul Oudejans, who studies many kinds of high-pressure situations, with a particular focus on police officers. Oudejans (2008) found that training under stress to shoot a handgun helps to prevent skilled police officers from missing an important target when it counts. These techniques may help individuals with higher CA to perform better in high-pressure settings such as presentations and interviews. For example, students could practice interviews with interviewers from actual companies or give negative performance feedback in a developmental assessment center context. The important point is that these situations have the ability to stimulate apprehension, that is, have simulation and psychological fidelity (Hays & Singer, 1989).

Third, a popular approach found in many business curricula is to infuse communication skills into courses in all functional areas (e.g., finance, marketing, etc.), so that students can practice and develop their communication skills in the context of particular functional domains (Gardner, Milne, Stringer, & Whiting, 2005). While such an infusion strategy has many positive educational outcomes, it may not be the most effective way to address CA. Just as assigning students to group projects does not necessarily improve their teamwork skills (Holmer, 2001), simply assigning a group presentation as part of a project (without some type of support or intervention) is unlikely to enable students with higher CA to progress toward a reduction of that apprehension.

In fact, without appropriate coaching and instruction, CA could actually *increase* if students have negative experiences with these projects (McCroskey, 1984). For example, if a student does not know how to overcome CA and communicate effectively, he may do a very poor job on his presentation and simply reinforce his apprehension of communicating. Likewise, a student with higher CA assigned to a team project may not participate fully in the project and reinforce the practice of not contributing his insights in a team setting. Of course, there are no easy solutions to these challenges, and responses to interventions are likely to depend on the student's level of CA. However, the documentation of the negative effects of CA should heighten the focus on educational alternatives and remedies.

We recognize that there is an ongoing debate in the communication literature regarding the extent to which individuals *can* overcome CA (e.g., see Allen, 1989; Bourhis et al., 2006; Duff et al., 2007; McCroskey & Beatty, 2000), but we believe the above ideas provide a useful starting point. In addition, it should be noted that most research to date has focused on alleviating CA in the public-speaking context and not so much in other important contexts, such as group settings. Moreover, it is certainly true that some individuals are likely to be better equipped and able to overcome CA than others (e.g., based on their available resources, goals, self-monitoring, self-awareness, cognitive and social abilities, etc.). While we would not expect remarkable transformation in most individuals, and we may not be able to help all students mitigate the effects of their CA, that shouldn't prevent us from providing assistance to students to understand, manage, and learn to deal with CA more effectively.

Finally, although we believe the above ideas will benefit most students and especially those with moderate to higher levels of CA, some students with very high CA may require more in-depth interventions and coaching to reduce it. A full discussion is beyond the scope of our work here, but techniques such as systematic desensitization, cognitive modification, and visualization have been utilized in the context of public speaking and are reviewed elsewhere in the communication literature (e.g., see Bodie, 2010; Bourhis, 2006; McCroskey, 1984; Stanga & Ladd, 1990).

Future Research Directions

There are several important directions for CA research. First, while most research from the communication literature focuses on reducing CA in the context of a speech or presentation (e.g., Bodie, 2010), for business graduates, other communication settings are likely to be more important (Reinsch & Shelby, 1996). That is, most graduates will spend much more time interacting in teams, meetings, and one-on-one conversations than in giving presentations. The ability to overcome CA in a team setting and in a one-on-one conversation is likely to influence practices that are important for both academic and career outcomes (e.g., networking, interacting with a boss, etc.) and more research is

needed to develop interventions for these contexts. One idea in this regard might be the reinstatement or adaptation of oral exams[1] (e.g., see Bridges, 1999). This could encourage students to prepare for and use their communication skills in a monitored environment that allows for constructive feedback.

Second, the increasing popularity of on-line education (Allen & Seaman, 2010) gives rise to questions regarding whether students with higher CA are more likely to select on-line classes over traditional ones. If so, are there significant effects on educational outcomes? There may be positive effects if they are more comfortable participating in discussion board forums rather than traditional classroom discussions, but there could also be negative effects if these individuals do not have as many opportunities to communicate face-to-face with others and develop their interpersonal or communication skills. Future projects might also examine how those with different levels of CA utilize popular social media applications (e.g., Facebook) and new technologies that enable individuals to communicate in a text-based manner (e.g., texting on cell phone) versus face-to-face interactions (e.g., see Pierce, 2009).

We also need additional research on the relationship between CA and other personality traits, and how these individual difference variables influence performance outcomes. Recent research has demonstrated the value of examining interactions of multiple personality traits rather than focusing solely on individual traits (Judge & Erez, 2007; Witt, Burke, Barrick, & Mount, 2002). Judge and Erez (2007) found that a constellation of extraversion and emotional stability predicted job performance, even when controlling for the main effects of emotional stability and extraversion. Although Judge and Erez didn't consider the possibility that this effect was due to CA, future research could examine the role of CA in explaining findings such as these. For example, lower CA could be thought of as a mediator of the effects of extraversion and emotional stability on performance outcomes (e.g., Blume et al., 2010). In addition to job performance outcomes, over 30 years later we repeat the call by Pate and Merker (1978) for additional research to examine how CA influences variables such as leadership effectiveness, team orientation, and team outcomes. This research could examine potential moderating effects of CA, as well as the direct effects of CA on these outcomes.

[1] We thank an anonymous reviewer for this suggestion.

Limitations

One limitation of our work here concerns the sample, which consisted of a relatively homogeneous set of students taking courses in a top business school. That is, the sample was largely Caucasian, and thus, generalizations to more diverse collections of students may not be warranted without additional research. In addition, one reason that Hypothesis 4 may have not been supported is due to range restriction in GPA, considering that students in our sample had relatively high GPAs (i.e., mean of 3.47).

A second limitation is that our measures were self-reported and may be subject to same-source bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Podsakoff & Organ, 1986). This bias may have inflated the size of some of the correlations in Table 1. While we were able to follow some of Podsakoff et al.'s (2003) recommendations for minimizing common method variance (e.g., we separated the measurement of predictor and criterion variables on the survey with demographic variables and used different scale anchors for the predictor and criterion variables), future research could take additional steps to minimize common method variance. For example, while we believe self-report data sources are the most appropriate for measuring CA (i.e., apprehension is inherently personal and may or may not be reflected in observable ways), future research would be enhanced with the inclusion of criterion variables (e.g., leadership initiative) gathered from others or temporally separating the measurement of predictor and criterion variables (Podsakoff et al., 2003).

CONCLUSIONS

While issues associated with communication skills and apprehension may have once been thought to be the domain of other disciplines, management scholars have demonstrated increased interest in uncovering the applied capabilities of effective performers—particularly those of a noncognitive nature. The present findings suggest that CA may be one key inhibitor to academic and professional success, and directing greater attention to both its research and practice would be time well spent.

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