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**An Examination of the Relationship Between
Level of Communication Apprehension and Career Thoughts¹**

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Abstract

This study examined relationships among levels of communication apprehension and dysfunctional career thoughts in relation to career problem solving and decision making. Analysis of correlation coefficients found statistically significant moderate correlations between measures of negative career thinking and communication apprehension. Furthermore, significant mild to moderate correlations among subsets of these two constructs were found. Finally, the results indicated that individuals with high levels of communication apprehension had a higher amount of negative career thoughts than persons with low levels. Implications for further research are discussed in light of these results.

An Examination of the Relationship Between Communication Apprehension and Career Thoughts

Successful career problem solving and decision making draws upon cognitive skills that require memory, interpreting and drawing inferences from past experiences, attending to extensive facts and data, and visualizing the future. Counselors make inferences about persons' level of cognitive skill by listening to them talk about their thoughts or by examining their self-report responses to tests and inventories. The idea guiding this study was that persons who have good cognitive skills and can communicate those skills effectively in speaking and writing will have fewer negative career thoughts impeding their career problem solving and decision making.

The mental processes involved in career problem solving and decision making are explained in Cognitive Information Processing (CIP) theory (Peterson, Sampson, & Reardon, 1991; Sampson, Reardon, Peterson, & Lenz, 2004). According to CIP theory, emotions (affect) and thoughts (cognition) are inseparable from career choice. As persons "think through" their career problems and make decisions, their emotions can help motivate them to choose and follow through or cause them not to act at all, to act too slowly, too quickly, or too randomly to make an appropriate choice. What persons know about themselves and the world in which they live is constantly evolving and interacting. As they learn from life experiences, they organize what they know about themselves and the world in more complex ways. Career problem solving and decision making are learned skills that people acquire at different rates. Like other sets of skills, people can improve their ability to make choices through learning and practice. Career resources and career services can be used to help people learn about and practice the information-processing skills needed to become more effective problem solvers and decision makers. This

occurs as persons mentally process information by writing and speaking in journaling, counseling, advising, or interviewing.

Peterson, Sampson, Lenz, and Reardon (2002) theorized that poor career problem-solving and decision-making skills are related to negative thinking or dysfunctional career thoughts, and they developed the Career Thoughts Inventory (CTI; Sampson, Peterson, Reardon, Lenz, & Saunders, 1996) to measure such thoughts. Currently, researchers are seeking to learn more about dysfunctional career thoughts and how they relate to other constructs important in career decision making. Previous studies have found dysfunctional career thoughts to be positively correlated with the inability to choose a major field of study (Kilk, 1997), self-appraised problem-solving ability (Slatten, 1999), perfectionism and career indecision (Osborn, 1998), state anger (Strausberger, 1998), ego identity (Voight, 1999), and depression and career indecision (Saunders, Sampson, Peterson, & Reardon, 2000). Moreover, college students with higher levels of dysfunctional career thoughts do not appear to make a positive adjustment to their learning disability (Dipeolu, Reardon, Sampson, & Burkhead, 2002).

In contrast to these findings, dysfunctional career thoughts do not appear to be related to offender status (Railey & Peterson, 2000), or level of career decidedness and satisfaction with occupational choice (Wright, 2000). In addition, there have been no significant correlations identified between dysfunctional career thoughts and first term academic performance of undecided college students (Durbin, 2000), or indices of interest structure associated with Holland's RIASEC typology (Wright, Reardon, Peterson, & Osborn, 2000). In spite of the mixed findings in these exploratory studies, Cognitive Information Processing theory suggests that persons with negative self-attributions may have dysfunctional career thoughts which will lead to difficulty in making career decisions.

Previous research has not examined communication apprehension in relation to career decision making. This is an important issue in career counseling because communication apprehension may “freeze” persons as they seek to share their thoughts, ideas, and visions for themselves vocationally. As much as 15-20 percent of the US population fear, or at the very least is uncomfortable with, oral communication, especially about matters that are difficult to conceptualize (Neuliep & McCroskey, 1997). College students making educational and career decisions are required to speak about career matters many times. For example, interpersonal communication occurs in interviews (both for internships and employment), during information interviews with faculty or mentors, at career expositions, and during individual career counseling or academic advising appointments. It would be virtually impossible for a student to avoid communicating in at least one of these career related situations while in college.

Is it possible that negative career thoughts, problematic in career decision making, and problems in oral communication are related? College students experiencing anxiety and apprehensiveness in communicating information about self and occupational information or their decision-making skills might be especially likely to have negative career thoughts that would impede successful career problem solving and decision making. Almost 40 years ago, Osipow and Phillips (1967) and Osipow and Alderfer (1968) examined this issue. In the first study, Osipow and Phillips reported a process evaluation of a speech course designed to develop oral communication skills and improve career maturity. They characterized the results as a qualified success in that some students benefited from preparing and delivering four speeches related to career issues and decision making. However, some students indicated that the career focus of the course was too limiting as the semester moved along in time.

Later, Osipow and Alderfer (1968) used Super's (1963) notion of crystallizing a career decision, basically a verbal-based cognitive process, to structure a speech class to foster this process. The idea was to have 407 high school students at several grade levels give a series of speeches around topics of career development in order to further their vocational maturity in the crystallization stage. Results indicated that certainty about educational and career plans increased for females at all grade levels taking the experimental speech class, but this was not true of males. The authors were unable to explain these results for men, which were counter to most other studies of career maturity. These two studies provide limited support for the idea that facility in career problem solving and decision making might be related to cognitive skills communicated in speech. We found no follow-up studies exploring this topic. The present study, however, examined the concept of career thinking rather than career maturity.

Moreover, the present study did not examine skills in preparing or delivering speeches in a speech class, but examined the concept of communication apprehension (CA) as it pertains to career thoughts. In the past, communication apprehension has also been called stage fright, speech anxiety, performance anxiety (Horwitz, 2002), and reticence (McCroskey, 1977). However, for the purposes of this study, these terms are not used interchangeably. McCroskey (1977) viewed CA as "an individual's level of fear or anxiety associated with either real or anticipated communication with another person or persons" (p. 78). While this definition was originally based on oral communication, CA now encompasses all areas of communication, including writing (McCroskey & Beatty, 1998).

The differences between persons who do and do not experience high levels of CA are numerous. Unfortunately, people who experience high levels of CA are often viewed or described in a negative manner. For example, high communication apprehensives may be harder

to get to know, may be viewed as introverted, less attractive and desirable, and unsocial (McCroskey & Wheelless, 1977). McCroskey and Daly (1976) go as far as stating that the highly communication apprehensive individual is socially maladaptive and has little chance for success in society. On the other hand, individuals with low levels of CA may be described using more positive words such as adventurous, extraverted, confident (McCroskey, 1977), cheerful, able to cope, decisive, objective, and determined (McCroskey & Daly, 1976). Communication apprehension has also been linked to occupational choice. Daly and McCroskey (1975) found that individuals with high CA prefer occupations that require little communication, such as computer programmer, while the opposite is true for individuals with low CA.

There also appears to be a relationship between CA and self-esteem. McCroskey, Daly, Richmond, and Falcione (1977) asserted that many of the words used to describe individuals with high CA also were used to describe individuals with low self-esteem. The results of this study indicated that high communication apprehension and high self-esteem were negatively correlated; as oral communication apprehension increases, self-esteem decreases. Because of this relationship, teachers, counselors, and student affairs personnel who are in direct contact with students with high CA scores need to be aware of the possibility that high communication apprehensive students may have a lowered self-esteem, which affects their attitudes, cognitive processes, and personal behavior (McCroskey, Daly, Richmond, & Falcione, 1977).

The purpose of this study was two-fold. First, the authors sought to examine the relationship between communication apprehension and career thoughts. Specifically, it was believed that:

- As communication apprehension increases so will the incidence of negative career thoughts.

Secondly, the authors wanted to examine students' levels of communication apprehension related to career decision making by looking at the relationship between levels of communication apprehension (i.e., high versus low) and negative career thoughts. Negative thinking has been found to interfere with effective career problem solving and decision making (Sampson, Reardon, Peterson, & Lenz, 2004). The second part of the study purported to answer the following question: Are students who experience high levels of communication apprehension prone to have more negative thoughts about career related issues than students with lower levels of communication apprehension? Specifically, the following hypotheses were tested:

- Students with low levels of communication apprehension will have lower levels of negative career thoughts related to decision-making confusion than will students with high levels of communication apprehension.
- Students with low levels of communication apprehension will have lower levels of negative career thoughts related to commitment anxiety than will students with high levels of communication apprehension.
- Students with low levels of external conflict will have lower levels of negative career thoughts related to external conflict than will students with high levels of communication apprehension.

Method

The following section describes the participants, procedure, and instruments used in this study. Before proceeding to those areas, a description of pre-study considerations will be discussed. The researchers conducted a pilot study one year prior to the current study. The pilot study was a research project conducted as part of a course in Inter-racial Communication. After conducting the pilot study and with approval from the Institutional Review Board (IRB), the data

collection for the current study began in fall 2003 and ended in spring 2004. The current study differed slightly from the pilot study only with respect to the data being categorized according to race/ethnicity. The current study was conducted in conjunction with two other studies.

Participants

A sample of 175 undergraduate students enrolled in ten sections of an undergraduate career course offered at a large Southeastern research university volunteered to participate in this study. Demographic information for this group is outlined in Table 1. The students who volunteered to participate consisted of 87 men (50%) and 88 women (50%). The 175 participants included 4 Asian-American (2%), 27 African-Americans (15%), 20 Hispanic-Americans (11%), 112 Caucasians (64%), 9 who classified themselves as “other” (5%), and 3 (2%) preferred not to respond to the question pertaining to ethnic group (see Table 1). In addition, the participants consisted of 19 freshmen (11%), 81 sophomores (46%), 37 juniors (21%), 37 seniors (21%), and 1 who identified him- or herself as “other” (1%). All students enrolled in the course were at least 18 years of age. The age range of the 175 students was 18 to 27 years, with a mean of 20 years ($SD = 1.43$).

Insert Table 1 demographics of sample about here

Procedure

Students enrolled in ten sections of the career course volunteered to participate in this research study during regularly scheduled class time. Lead instructors for the course sections administered the questionnaires by reading from a standard script to ensure that all participants received the same instructions. Participants were made aware, both orally and through informed

consent, that they could choose not to participate, or could withdraw at any time during the study, without penalty. Students completed McCroskey's Personal Report of Communication Apprehension-24 (PRCA-24) scale by marking their responses to each statement on a scantron. After completion of the PRCA-24, lead instructors collected the questionnaires and placed them in a folder that corresponded with each section number of the course. Students participating in the study received extra credit toward their course grade.

Each scantron was reviewed for completion of the twenty-four items and proper identification (first and last name). Students with scantrons missing responses or lacking identification were eliminated from the study. Scantrons were then matched with prior data (student demographic data sheets and Career Thoughts Inventory results) collected on the first day of class. These data were taken from the same 10 sections of the course. Due to the large number of students who dropped or added the course during the University's allotted Add/Drop period, and those students who were otherwise absent when data were collected, 77 (of the 252) PRCA-24 results could not be matched with the prior data collection.

Instruments

McCroskey's Personal Report of Communication Apprehension scale is a 24-item instrument that uses a five-step Likert-type rating scale ranging from strongly agree (1) to strongly disagree (5) (McCroskey, 1984b). The 24 statements cover four different contexts in which communication is needed. Each context has six questions, which alternate between three positive and three negative items to avoid response bias (Bledsoe, 1990). These contexts include talking in group discussions, participation in meetings, dyad conversations, and public speaking (McCroskey, 1984; Rubin, Rubin, & Jordan, 1997). The four contexts permit four subscores in addition to the overall communication apprehension score (McCroskey, 1984a; McCroskey,

1984b). Scores on the PRCA-24 range from 21-120 (McCroskey, 1982). According to McCroskey (1982) low CA scores are 51 and below, average CA scores are between 51 and 80, and high CA scores are 80 and above.

According to McCroskey (1984a) the internal reliability for the PRCA-24 is estimated to be .94. Furthermore, McCroskey (1984a) stated that data conducted from over 25,000 participants revealed that the scores form a normal distribution, with a mean of 65.6 and a standard deviation of 15.3. The PRCA-24 has also been found to be a valid instrument (McCroskey, 1984b; Pitt, Berthon & Robson, 2000).

The Career Thoughts Inventory and the CTI Workbook (CTI; Sampson, Peterson, Lenz, Reardon, & Saunders, 1996; 1998) are based on Cognitive Information Processing theory. The 48-item instrument assesses an individual's level of dysfunctional thinking about career related issues. The items are endorsed by the individual using a four point Likert type scale ranging from strongly disagree (0) to strongly agree (3). In addition to providing information about an individual's overall level of negative career thoughts (the CTI total score), the CTI also assesses the individual on three constructs: Decision-Making Confusion, Commitment Anxiety, and External Conflict (Sampson, Peterson, Lenz, Reardon, & Saunders, 1996).

Decision-Making Confusion (DMC) assesses an individual's inability to engage or sustain the career decision-making process due to disabling emotions and/or a lack of understanding about the decision-making process itself (Sampson, Reardon, Peterson, & Lenz, 2004). The Commitment Anxiety (CA) scale indicates an individual's anxiety about the decision-making process and represents his or her inability to commit to a specific career choice. The final construct, External Conflict (EC), measured by the CTI reflects an individual's inability to balance the importance of self-perceptions with the importance of input from

significant others, resulting in a reluctance to assume responsibility for decision making (Sampson, Reardon, Peterson, & Lenz, 2004).

According to Sampson, Reardon, Peterson and Lenz (2004) the internal consistency (alpha) coefficients of the CTI total score range from .97 to .93 and the three construct scales alpha coefficients range from .94 to .74. In addition, the CTI has been found to be a valid instrument (Sampson, Reardon, Peterson, & Lenz, 2004).

Results

Hypothesis 1:

Pearson-product moment correlations of test scores for communication apprehension and negative career thoughts are reported in Table 2. The relationship between overall level of communication apprehension (the total CA score) and overall level of negative career thoughts (the CTI total score) was found to be significant at the .01 level (.34). The CTI total score was also found to be significantly (alpha = .01) correlated with the public speaking (.37), interpersonal (.26), and meeting (.29) contexts of communication apprehension. The relationship between the CTI total score and the group context was found to be significant at the .05 level (.18). Likewise, the total communication apprehension score was found to be significantly (alpha = .01) correlated with all three CTI construct scores (ranging from .20 to .30).

 Insert Table 2 correlations about here

Further examination of Table 2 indicates that significant positive correlations exist between some of the four contexts of communication apprehension (group, meetings, interpersonal, and public speaking) and some of the three construct scores (DMC, CA, EC) of the

CTI. Specifically, Decision-Making Confusion was found to be significantly ($\alpha = .01$) related to the meetings, interpersonal, and public speaking contexts. DMC was also found to be significantly related to the group context, but at the .05 level. Commitment Anxiety was found to be significantly correlated with public speaking at the .01 level, and with the meeting and interpersonal contexts at the .05 level. Finally External Conflict was significantly correlated with the interpersonal and public speaking contexts of communication apprehension at the .01 level, and with the meeting context at the .05 level.

Hypothesis 2:

To test the second hypothesis, a 3 x 3 between-subjects multivariate analysis of variance was performed on three CTI dependent variables: Decision-Making Confusion, Commitment Anxiety, and External Conflict. Independent variables from the PRCA-24 were communication apprehension levels: Low, Average, and High.

SPSS MANOVA was used for the analyses with the sequential adjustment for nonorthogonality. Order of entry of IVs was low, average, and high. There were no univariate or multivariate within-cell outliers at $p = .05$. Results of evaluation of assumptions of normality were satisfactory. The test of the assumption of homogeneity of covariance matrices in the three groups resulted in a fail to reject decision (Box's $M = 21.5$, $F [12, 17425] = 1.71$, $p = .06$), indicating there was not a violation of the assumption. Levene's test of the assumption of homogeneity of variance for each of the dependent variables resulted in fail to reject decisions for all variables.

The means and standard deviations for the three dependent variables in the Low, Average, and High groups are summarized in Table 3. The multivariate null hypothesis of equality of the means over all groups for all variables was rejected at the .05 level (Wilke's $\lambda = .85$, F

[6,340] = 4.94, $p < .001$; Pillai's statistic [.15] and Hotellings test statistic [.18]) also resulted in p values that were less than .001. The small p value resulting from the overall test supported confidence that true mean differences exist among the three groups of communication apprehension levels. The Wilke's multivariate effect size was relatively small at .15.

 Insert Table 3 means and standard deviations about here

To identify the dependent variables that contributed to the rejection of the multivariate null hypothesis, univariate ANOVA's were conducted for Decision-Making Confusion, Commitment Anxiety, and External Conflict. All of the ANOVA hypotheses were rejected at the .05 level. The computed values of $F(2, 175)$ were 11.88, 5.44, and 9.91 for Decision-Making Confusion, Commitment Anxiety, and External Conflict, respectively. The values of strength of association (η^2) for the same variables were .12, .06, and .10.

Significant ANOVA's supported follow-up analyses (pairwise comparisons with Bonferroni adjustment) for each dependent variable. The point estimates, test results, and 95% confidence intervals for all comparisons are given in Table 4. The Tukey HSD procedure was used for each dependent variable to provide additional family-wise protection. Of all comparisons, the Low versus Average and the Low versus High contrasts were statistically significant. These contrasts were significant for all three dependent variables. The Low group had a lower mean than the Average group for DMC, CA, and EC. Additionally, the Low group had a lower mean than the High group for DMC, CA, and EC.

Insert Table 4

Discussion

Summary of Findings

Results indicated that there were significant relationships among the constructs measured by the two instruments (CTI and PRCA-24) used in this study. The overall CTI total score was significantly positively correlated with the overall PRCA-24 total score, providing support for the authors' first hypothesis. Based on this study, it appears there is greater likelihood that individuals exhibiting elevated levels of communication apprehension may be experiencing high levels of negative thoughts. In addition to the correlation of the two overall total scores of the instruments, the total PRCA-24 scores were significantly correlated with all three construct scores (Decision-making Confusion, Commitment Anxiety, External Conflict) on the Career Thoughts Inventory. Finally, significant positive correlations were found between most of the four contexts of communication apprehension and the three construct areas of negative career thoughts.

Most of the correlations between the different aspects of negative career thinking and communication apprehension were minimal to moderate. Specifically the relationships between the sub scores of these two instruments were the weakest (ranging from .15 to .33). However, the relationship between the two total scores (total CTI and total CA) was one of the strongest in the analysis ($r = .34$).

In addition, the results of the data analysis (MANOVA) provided support for the additional hypotheses tested in the study. Specifically, individuals with low levels of

communication apprehension had significantly lower scores on Decision-Making Confusion, Commitment Anxiety, and External Conflict than individuals with average and high levels of communication apprehension.

Limitations of Study

There were several limitations to this study. First, the sampling technique was criterion based, in that, participants were enrolled in one of ten sections of an undergraduate career planning course at a large Southeastern university. Given that the sampling technique relied on an accessible group of students enrolled at the university, the sample was biased toward white sophomore students. Thus generalization of this study's results can only be extended to others who meet these criteria at similar institutions. Secondly, the low number of participants in the High CA group is another threat to internal validity (i.e., power), which results in a type II error. This type of error is associated with false negatives – or the chance that one will miss the significant effect when it is really there. Finally, due to the data collection procedures, there were a large number of incomplete data sets that were excluded in this study. It is unknown whether those students who chose not to participate, withdrew from the course before the PRCA-24 data were collected, or who were absent during data collection periods differed in their level of communication apprehension and negative thinking than those included in the study.

Despite the limitations discussed above, the authors believe there are several implications and recommendations for practice that can be drawn from the findings in this study. Additionally, a need for more research in the areas of communication apprehension and its impact on individuals' career development is recognized and outlined below.

Recommendations for Practice

The increased amount of negative career thoughts experienced by individuals with average and high levels of communication apprehension, coupled with the positive relationship between CTI and PRCA-24 scores, calls for added awareness by counselors, advisors, higher education administrators, faculty, or anyone else that may work with college students in the career decision-making process. There are many times when a college student considers issues surrounding his or her career development while enrolled in higher education. As a result many different levels of college and university staff will encounter students who are experiencing communication apprehension and/or negative career thinking.

For instance, on many occasions these students meet with academic advisors to map out or plan their program of study. Meetings like these provide advisors with an opportunity to “check in” with students about how they may be thinking about their major and intended career path. Based on the results of the conversations, an academic advisor may make a referral to the campus career center or student counseling center. Similarly, faculty members who notice a student with particularly high levels of CA - for example while preparing for an oral exam or presentation - could take the opportunity to discuss the student’s feelings or experience and make the appropriate referral. Campus administrators also have a unique opportunity to influence the course requirements and provide funding for intervention programs for students experiencing high levels of anxiety and negative thoughts. For example, creating sections (or increasing the existing number) of a speech course that is specifically designed for those students who have high communication apprehension would be warranted. Likewise, administrators can also fund programs (e.g., mock interview programs) or increase the amount of funds a center receives in order to expand the existing services (e.g., individual and group counseling).

Perhaps most importantly, career development professionals can be more vigilant of students who may be experiencing negative career thoughts or anxiety about communicating in different contexts. Not only can a career counselor make a referral if necessary, but he/she will also be able to address negative thinking and communication apprehension in the counseling relationship. Specifically, the counselor can work with the student to develop an appropriate intervention plan – especially as it relates to the client’s career decision(s). Simply discussing the variety of career-related situations, such as interviewing or attending a career exposition, which will require communicating in different contexts would be helpful. Based on conversations between the career counselor and the client, examples of interventions may include:

- Referral to individual career counseling
- Participate in information interviews
- Participate in Mock Interviews before interviewing for positions
- Read books related to interviewing success and effective strategies
- Attend an interviewing workshop
- Attend a workshop focusing on effective career exposition strategies
- Attend an anxiety reduction workshop which focuses on communicating with others
- Read books on topics related to public speaking and making effective presentations
- Speech therapy
- Mental health counseling
- Referral to student health center

A case example is provided below to help illustrate the influence a career advisor or counselor can have on a student who is experiencing high levels of communication apprehension and negative thoughts.

Case of Sheila

Sheila is a 21 year old college senior who is graduating next semester. She decides to visit the college career center after hearing from her friends that it can help prepare her for job searching. Sheila, who is majoring in finance, drops by the career center after class one day and speaks with a career advisor. The career advisor is aware of Sheila's negative thinking right away. Sheila states that she is extremely overwhelmed with the idea of finding her "perfect career" and does not think she "has what it takes" to get a job after graduation. She also states that she does not want to overlook an occupation and does not know "what all she can do" with a degree in finance. The career advisor introduces the Career Thoughts Inventory to Sheila and she agrees to take it. After Sheila completes the Career Thoughts Inventory, they discuss her results. Sheila is experiencing high levels of Commitment Anxiety and has an elevated total CTI score.

The career advisor takes the opportunity to inquire about Sheila's attitude towards job searching in general. As Sheila describes her apprehension about the interviewing process, the career advisor follows up with inquiries about Sheila's feelings about her impending graduation and her anxiety. This conversation provides the career advisor with more data regarding Sheila's thoughts about career problem-solving in general. The career advisor and Sheila decide that she would benefit from individual career counseling and an appointment is made for the following week. Before Sheila leaves, the career advisor introduces the Career Thoughts Inventory Workbook and they work through several sections together. The career advisor asks Sheila to work on reframing her negative career thoughts (taken from the CTI) into more positive statements before meeting with her counselor next week.

During her first counseling session, Sheila goes into more detail about her anxiety with speaking in groups. She comments that would rather take a test than give an oral presentation in

class. Sheila also states that she was unable to think clearly in her internship interview because there were several company representatives in the room. Sheila expresses that she is fearful of having to go through several interviews in the coming months. She believes her apprehension toward interviewing and speaking with employers at the upcoming career exposition are the biggest obstacles in her job search process. Based on this information, the counselor encourages Sheila to sign up for a practice interview with the career center's mock interview program and attend the *Career Exposition Strategies* workshop at the end of the week. Sheila agrees that both activities will be good for her. At the end of the counseling session the counselor and Sheila mutually agree on some services and resources that may help her feel more comfortable about her job search. The list of activities is written on Sheila's Individual Learning Plan (Sampson et al., 2004).

Over the next six weeks, Sheila and her counselor identify, discuss, and reframe her negative career thoughts. In addition, Sheila reports back to her career counselor about the progress she is making in her anxiety reduction group at the student counseling center, and in her assigned readings on interviewing and public speaking. Sheila plans to attend several of the career center's workshops over the course of the semester. Finally, Sheila participates in two mock interviews through the career center. At the conclusion of the counseling relationship, Sheila reports feeling more comfortable and confident about interviewing and believes she has a solid plan for her job search.

Implications for Further Research

While considerable research exists on the topic of communication apprehension, there has been little focus regarding its impact on career-related issues. Based on previous studies (Fuller, Holland, & Johnston, 1999) focusing on profile elevation, a construct contained in

Holland's RIASEC theory (Holland, 1997), and its correlates with personality variables, a possible relationship could exist between profile elevation and level of communication apprehension. In fact, Bullock and Reardon (2004) suggested that more research is needed between these two constructs. The counseling and academic advising fields could benefit from further research on CA levels in relation to profile elevation, Holland types, and Holland's secondary constructs (e.g., differentiation, congruence).

While research exists about the effectiveness of anxiety reduction programs in general, further research is needed to examine the effectiveness of career-related interventions, such as mock interviews, on a person's level of communication apprehension. If certain career center programs or resources are more useful than others in reducing a client's level of CA, then increased funds and staff time could be designated accordingly.

Additional studies could expand the previous research of Daly and McCroskey (1975) by focusing on occupational preference with individuals of differing CA levels. For example studies could look at students/clients aspirational daydreams in relation to his or her Holland code. Furthermore, an extension of that research could include examining job satisfaction with respect to communication apprehension level and occupational choice. It would be interesting to investigate if job satisfaction differs among individuals with high and low communication apprehension, especially if they are in an occupation that requires high levels of communication.

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Table 1

Demographic Information of Sample

Variable	n	%
Gender		
Female	88	50.3
Male	87	49.7
Ethnicity		
African American	27	15.4
Asian American	4	2.3
Caucasian	112	64.0
Hispanic American	20	11.4
Other	9	5.1
No Reply	3	1.7
Classification		
Freshman	19	10.9
Sophomore	81	46.3
Junior	37	21.1
Senior	37	21.1
Other	1	.6

Table 2

Correlation Matrix

	Total CTI	DMC	ComAnx	EC	Group	Meetings	Dyad	PubSpk	Total CA
Total CTI	1								
DMC	.92**	1							
ComAnx	.81**	.66**	1						
EC	.68**	.52**	.43**	1					
Group	.18 *	.19 *	.06	.14	1				
Meetings	.29**	.26**	.19*	.17*	.74**	1			
Dyad	.26**	.21**	.15*	.24**	.61**	.58**	1		
PubSpk	.37**	.33**	.26**	.28**	.42**	.47**	.55**	1	
Total CA	.34**	.30**	.20**	.25**	.85**	.85**	.82**	.75**	1

* Correlation is significant at the .01 level

* Correlation is significant at the .05 level

Table 3

Descriptive Statistics^a

<i>Variable</i>	<i>CA Level</i>		
	<i>Low (n=31)</i>	<i>Average (n=122)</i>	<i>High (n=22)</i>
Decision Making	8.13 (7.69)	14.07 (7.00)	16.95 (6.74)
Confusion			
Communication	12.94 (5.81)	16.04 (4.91)	16.86 (4.81)
Anxiety			
External Conflict	2.94 (2.41)	5.25 (2.78)	5.55 (2.54)

^aTable contains means and (in parentheses) standard deviations.

Table 4

CA Level Contrasts

Contrast	Estimate	95% Interval
<i>Decision Making Confusion</i>		
Low versus Average	-5.94*	-9.32, -2.57
Average versus High	-2.88	-6.76, 1.00
Low versus High	-8.83*	-13.50, -4.15
<i>Communication Apprehension</i>		
Low versus Average	-3.11*	-5.51, -.70
Average versus High	-.82	-3.60, 1.95
Low versus High	-3.93*	-7.27, -.59
<i>External Conflict</i>		
Low versus Average	-2.31*	-3.59, -1.03
Average versus High	-.30	-1.77, 1.17
Low versus High	-2.61*	-4.38, -.84

* Significant at the 0.05 level with Tukey's procedure