

Human Communication

A Journal of the Pacific and Asian Communication Association

Vol. 11, No. 4, pp. 401 – 422

Social Communication Apprehension: The Intersection of Communication Apprehension and Social Phobia

Jason S. Wrench

SUNY New Paltz

Shannon M. Brogan

Ohio University-Chillicothe

James C. McCroskey

West Virginia University

Doreen Jowi

Bloomsburg University of Pennsylvania

Jason S. Wrench (Ed.D. West Virginia University, 2002) is an assistant professor in the Communication and Media Department at SUNY New Paltz: wrenchj@newpaltz.edu. Shannon M. Brogan (Ph.D. Ohio University, 2003) is an assistant professor in the School of Communication Studies at Ohio University-Chillicothe: brogan@ohio.edu. James C. McCroskey (Ed.D. Pennsylvania State University, 1966) is Professor in the Department of Communication Studies at University of Alabama at Birmingham: email@JamesCMcCroskey.com. Doreen Jowi (Ph.D. Ohio University, 2005) is an assistant professor in the Department of Communication Studies & Theatre Arts at Bloomsburg University of Pennsylvania. The first author may be contacted at: 1 Hawk Drive, New Paltz, NY, 12561, U.S.A.

Abstract

This study developed and tested a new research measure for examining social communication apprehension. The variables that were employed in the current research are: human temperament (extraversion, neuroticism, & psychoticism), communication apprehension, willingness to communicate, desire for control, and individual's level of social communication apprehension. Results from this study found that extraversion and neuroticism accounted for 72% of the variance in the individual's level of social communication apprehension. Furthermore the linear combination of communication apprehension, willingness to communicate, and desire for control accounted for 47% of the variance in individual's level of social communication apprehension. The results also found that people have higher social communication apprehension levels with strangers than they do with an acquaintances, and people have more social communication apprehension with an acquaintance than they do a friend. Lastly, the results indicated that the context (casual get-together, bar/club, or party) where people are interacting socially effected an individual's social communication apprehension.

Introduction

The blob is at a party, pink with embarrassment as it watches a conga line of other blobs. As Latin music plays, it sweats, hyperventilates, and backs away from the dancing, party-hat wearing revelers. There's not butterfly here, but the [anti-anxiety medicine] kicks in anyway: the blob beings socializing, de-pinks, and bounces. (Aurthur, 2005).

While the "Blob" story above may sound like a cute narrative or the experience some people had at yesterday's social gathering, the Blob is actually the mascot chosen by Pfizer Pharmaceuticals to represent and depict their selective serotonin reuptake inhibitor (SSRI) Zoloft. The Blob depiction above is one of four commercial spots animated by former MTV cartoonist Pat Smith utilizing the Blob character (Aurthur, 2005). The interesting aspect about this television commercial is that it was the first advertisement of its kind actively advertising a psychopharmacologic for social anxiety or what psychiatrists refer to as social phobia. However, social phobia is an overarching term that can cover a wide range of problems ranging from the inability to eat in public to public speaking anxiety (APA, 1994; Vale, 2003). Social phobia as a construct is so all-inclusive that it makes understanding its manifestations even more important (Kessler, Stein, & Berglund, 1998).

In another study conducted by Wrench, Brogan, McCroskey, and Jowi (2005), the authors examined the innate conceptual problems in the construction of "social phobia." In essence, the researchers argued that the umbrella term "social phobia" is so large that it misplaces many communication phenomena under it without truly understanding the communicative nature of the phenomena. For example, in the Blob commercial designed to make the public aware of Zoloft's help in reducing social phobia in people, the exact context that is used in the scenario is a party situation. The way the Blob is depicted as having anxiety is very reminiscent of communication apprehension. While communication apprehension (CA) is generally viewed in four contexts (group, meeting/classroom, interpersonal, & public), examining how CA is manifested in actual social settings has not been done. While social phobia researchers have noticed that the nature of the situation can manifest different types of fear in people (Veale, 2003), no research has really examined how communication apprehension within a social environment (parties, bars/clubs, casual get-togethers, etc...) is manifested. The purpose of the current project is not to analyze the intersection of social phobia and communication apprehension research, this has already been done (Wrench, Brogan, McCroskey, & Jowi, 2005). Instead the goal of the current project is to design and initially validate a new research measure for examining social communication apprehension, which is defined as an individual's level of fear or anxiety associated with either real or anticipated communicative interaction with another person or persons during a social gathering.

Before examining the scale created in this study, a discussion of communication apprehension related literature needs to be discussed before a series of hypotheses about the nature of the new scale can be made. To examine the concurrent validity of the Social Communication Apprehension Scale (SCAS), the literature review will examine research in the areas of human temperament, communication apprehension, willingness to communicate, and desire for control.

Human Temperament

One commonly employed way of examining an individual's temperament is through the three-factor model of temperament created by Hans Eysenck (1956). The model consists of three "supertraits" (extraversion, neuroticism & psychoticism). The first two supertraits (extraversion & neuroticism) were initially measured and discussed by Eysenck (1955). The third supertrait, psychoticism was later created to account for a missing component noticed by Eysenck and Eysenck (1976). Extraversion exists on a continuum from extravert to introvert. People can exist at any point along the continuum. Extraverts are characterized by their desire to be sociable, have stimulation around them, and possess an easy going nature; whereas, introverts are quiet, asocial (or not social), serious, reliable, and controlled individuals (Beatty, McCroskey, & Valencic, 2001).

The second of Eysenck's (1998) supertraits, neuroticism, also exists along a continuum ranging from high to low neuroticism. Neuroticism is defined as an individual's tendency towards mania (being really happy) and depression (being really sad) (Beatty, McCroskey, & Valencic, 2001). In other words, neuroticism measures an individual's emotional stability, which a person can have (low neurotic) or cannot have (high neurotic). Furthermore, people who are highly neurotic are prone to high levels of anxiety, depression, and panic attacks (Eysenck, 1998).

The last of the three supertraits, psychoticism, refers to the extent to which an individual believes that societal rules and norms do or do not pertain to her or him (Eysenck & Eysenck, 1976). People who are highly psychotic tend to be loners, unempathetic (do not care about other people's emotions), and antisocial (violating social rules and norms). Highly psychotic individuals are more likely to be big risk takers. People at the opposite end of the psychoticism spectrum are high self-monitors (Beatty, McCroskey, & Valencic, 2001). Eysenck's (1956, 1978) conceptualization of the three temperamental supertraits is a biological framework for understanding human behavior. In essence, Eysenck sees the three supertraits as intervening variables between genetics and human behavior. In other words, an individual's genetics causes her or him to have differing scores on the three supertraits (extraversion, neuroticism, & psychoticism); in turn an individual's supertraits impact how people actually behave. In communication research, Eysenck's supertraits have accounted for a great deal of variance in a variety of communication variables: communication apprehension (Beatty, McCroskey, & Heisel, 1998, Beatty & Valencic, 2000, Kelly & Keaten, 2000), communicator style (Bodary & Miller, 2000, Horvath, 1995), humor enactment (Wrench & McCroskey, 2001), nonverbal immediacy (Cole, 2000), sociocommunicative orientation (Cole & McCroskey, 2000), and verbal aggression (Valencic, Beatty, Rudd, Dobos, & Heisel, 1998, Wrench, 2002). However, research has also shown that there are some communication variables that are not related to Eysenck's supertraits: ethnocentrism (Wrench & McCroskey, 2003) and writing apprehension (McCroskey, Richmond, Heisel, & Hayhurst, 2004).

Communication Apprehension

Communication Apprehension (CA) is the most widely researched concept in the field of communication studies. While the initial focus of "communication apprehension" as McCroskey (1970) originally described it was "communication-bound anxiety," the scope of CA has greatly

widened during the last 35 years. The most commonly used definition for CA comes from McCroskey (1977), where he defined CA as "an individual's level of fear or anxiety associated with either real or anticipated communication with another person or persons" (p. 78). From 1977 to 1997 when Daly, McCroskey, J. Ayres, Hopf, and D. Ayers released the second edition of *Avoiding Communication: Shyness, Reticence, and Communication Apprehension*, CA became the single most researched concept in the field of communication studies. Communication apprehension (CA) has been researched in a variety of different communication research contexts: instructional communication (McCroskey & Sheahan, 1978), pharmacy student education (Baldwin, McCroskey, & Knutson, 1979), organizational communication (McCroskey & Richmond, 1979), interpersonal communication (McCroskey, Richmond, Daly, & Cox, 1975), and many others. Today, a simple perusal of the major communication journals clearly demonstrates that CA is still consistently researched and discussed.

Communication apprehension (CA) as a construct is measured by McCroskey's (1982) Personal Report of Communication Apprehension-24 (PRCA-24) scale. The scale measures four different contexts that CA can exist in: interpersonal, meeting, group, and public. Interpersonal CA is the level of fear or anxiety associated with either real or anticipated communication with another individual in a one-on-one interaction. In essence, if someone experiences anxiety while thinking about interacting with another person or during an actual interaction with another person, he or she is said to have interpersonal CA. The second and third types of CA, meeting and Group CA, examine the level of fear or anxiety associated with either real or anticipated communication with another person or persons during a meeting/classroom environment or in a small group. Each of these types of CA is contextually based to either a meeting or a small group situation. Lastly, Public CA is the level of fear or anxiety associated with either real or anticipated communication with another person or persons during a formal speaking situation. The last type of CA is probably the form of CA that is closest aligned with the research conducted in Social Phobia discussed earlier. However, each of these four contexts are highly related with one another (Beatty, McCroskey, & Heisel, 1998).

McCroskey (1982) also noted that CA can present itself along a four-point continuum (1) as a trait, (2) in a generalized context, (3) with a given individual or group across contexts, and (4) with a given individual or group in a given situation. First, CA can be exhibited in some people as a human trait (Beatty, McCroskey, & Heisel, 1998). By classifying CA as a "trait," it is understood that for some people high levels of CA are a biological part of one's temperament. Most recently, Beatty, McCroskey, and Heisel (1998) ushered in a new era of understanding for CA with their communibiological paradigm. According to the research conducted by Beatty, McCroskey, and Heisel (1998), CA is a combination of one's genetically predisposed tendency to be introverted and highly neurotic, which are two of the three supertraits discussed by Hans Eysenck (1998; H. Eysenck & M. Eysenck, 1985). This finding was replicated by McCroskey, Heisel, and Richmond (1998). Overall, the communibiological explanation of CA indicates that an individual's tendency to be apprehensive while thinking about or actually engaging in communication with another person is clearly biologically based.

The second way that CA can manifest itself is in generalized contexts. According to McCroskey, Richmond, and Wrench (in press), "This view of CA recognizes those individuals who experience high levels of anxiety about communicating in a particular context or situation but who have much less or even no anxiety about communicating in other contexts." In essence, some people will experience within one CA context (interpersonal, meeting, group, or public)

widened during the last 35 years. The most commonly used definition for CA comes from McCroskey (1977), where he defined CA as "an individual's level of fear or anxiety associated with either real or anticipated communication with another person or persons" (p. 78). From 1977 to 1997 when Daly, McCroskey, J. Ayres, Hopf, and D. Ayers released the second edition of *Avoiding Communication: Shyness, Reticence, and Communication Apprehension*, CA became the single most researched concept in the field of communication studies. Communication apprehension (CA) has been researched in a variety of different communication research contexts: instructional communication (McCroskey & Sheahan, 1978), pharmacy student education (Baldwin, McCroskey, & Knutson, 1979), organizational communication (McCroskey & Richmond, 1979), interpersonal communication (McCroskey, Richmond, Daly, & Cox, 1975), and many others. Today, a simple perusal of the major communication journals clearly demonstrates that CA is still consistently researched and discussed.

Communication apprehension (CA) as a construct is measured by McCroskey's (1982) Personal Report of Communication Apprehension-24 (PRCA-24) scale. The scale measures four different contexts that CA can exist in: interpersonal, meeting, group, and public. Interpersonal CA is the level of fear or anxiety associated with either real or anticipated communication with another individual in a one-on-one interaction. In essence, if someone experiences anxiety while thinking about interacting with another person or during an actual interaction with another person, he or she is said to have interpersonal CA. The second and third types of CA, meeting and Group CA, examine the level of fear or anxiety associated with either real or anticipated communication with another person or persons during a meeting/classroom environment or in a small group. Each of these types of CA is contextually based to either a meeting or a small group situation. Lastly, Public CA is the level of fear or anxiety associated with either real or anticipated communication with another person or persons during a formal speaking situation. The last type of CA is probably the form of CA that is closest aligned with the research conducted in Social Phobia discussed earlier. However, each of these four contexts are highly related with one another (Beatty, McCroskey, & Heisel, 1998).

McCroskey (1982) also noted that CA can present itself along a four-point continuum (1) as a trait, (2) in a generalized context, (3) with a given individual or group across contexts, and (4) with a given individual or group in a given situation. First, CA can be exhibited in some people as a human trait (Beatty, McCroskey, & Heisel, 1998). By classifying CA as a "trait," it is understood that for some people high levels of CA are a biological part of one's temperament. Most recently, Beatty, McCroskey, and Heisel (1998) ushered in a new era of understanding for CA with their communibiological paradigm. According to the research conducted by Beatty, McCroskey, and Heisel (1998), CA is a combination of one's genetically predisposed tendency to be introverted and highly neurotic, which are two of the three supertraits discussed by Hans Eysenck (1998; H. Eysenck & M. Eysenck, 1985). This finding was replicated by McCroskey, Heisel, and Richmond (1998). Overall, the communibiological explanation of CA indicates that an individual's tendency to be apprehensive while thinking about or actually engaging in communication with another person is clearly biologically based.

The second way that CA can manifest itself is in generalized contexts. According to McCroskey, Richmond, and Wrench (in press), "This view of CA recognizes those individuals who experience high levels of anxiety about communicating in a particular context or situation but who have much less or even no anxiety about communicating in other contexts." In essence, some people will experience within one CA context (interpersonal, meeting, group, or public)

and not the other three. For example, there are many people who experience public CA who do not score high on the other three levels of CA at all (Richmond & McCroskey, 1985).

The third manifestation of CA is CA with a given individual or group across contexts. Under this manifestation of CA, an individual experiences high levels of CA when interacting with a specific person (teacher, supervisor, parent, etc...) or within a specific group (team at work, therapy group, board of directors, etc...). McCroskey, Richmond, and Wrench (in press) noted that approximately 95% of the population reports having felt apprehension at least once in their lives when communicating with some specific person or group. In this manifestation of CA; however, we are more concerned with CA with a person or group that is seen across the different CA contexts (interpersonal, meeting, group, and public speaking). For instance, someone may have high levels of CA when communicating with their parent. Under this manifestation of CA, this individual would exhibit CA when interacting with her or his parent interpersonally, in meetings, within groups, and if having to give a speech in front of her or his parent. In essence, CA at this level is very person or group focused, but is exhibited across the CA contexts.

The final manifestation of CA is CA with a given individual or group in a given situation. Under this category of CA, people again experience CA when interacting with a specific person or group, but this is not recurring communication apprehension and is relegated to a specific situation. McCroskey, Richmond, and Wrench (in press) provided the following examples, you have to apologize to a friend for offending that person; a police officer you know pulls you over and informs you that your license plate is missing; you arrive home to find a message that tells you your date has had a last-minute change of heart; a teacher confronts you after class with the accusation that you have been cheating, or you have to tell your parents something that you know they won't like." In essence, these are situations that are not likely to recur; and therefore, the apprehension that one experiences while communicating within these situations is not going to manifest itself in a consistent pattern of behavior (Richmond & McCroskey, 1985).

Research has also demonstrated many negative ramifications of having high levels of social phobia. These same negative ramifications seen among highly social phobic people are also seen among people who are highly communicative apprehensive. Overall, communication apprehension has been shown to negatively impact interpersonal relationships (Richmond & McCroskey, 1985), organizational relationships and work quality/quantity (Richmond, J. McCroskey, & L. McCroskey, 2005), and educational success (J. McCroskey, Richmond, & L. McCroskey, 2006).

Willingness to Communicate

The term "willingness to communicate" (WTC) was originally construed by Burgoon (1976) as "unwillingness to communicate," which she described as a "chronic tendency to avoid and/or devalue oral communication" (p. 60). McCroskey and Richmond (1987) retooled the concept to examine an individual's general attitude toward initiating and communicating with other people. McCroskey (1992) wrote that "the construct is that of an orientation toward communication which we have referred to previously as a predisposition to avoid communication... a behavioral tendency regarding talking frequency" (p. 21).

Research on WTC has tended to focus on how WTC impacts communicative interactions and perceptions. In an early study of WTC in the classroom, Chan and McCroskey (1987) found

that those students with low WTC scores participated less in classes than those students with high scores. In many ways, WTC is seen as the antithesis to communication apprehension, and the two variables are negatively correlated (McCroskey, 1992). Conversely, McCroskey, Burroughs, Daun, and Richmond (1990) and Burroughs and Marie (1990) found that individuals with high WTC scores also scored higher on self-perceived communication competence in comparisons of both Swedish and American student samples and Micronesian and American student samples. In essence, these results indicate that people who have a greater tendency to communicate with others also perceive themselves as more competent when communicating.

Research has also been conducted examining WTC from a communibiological perspective. In a study by McCroskey, Richmond, Heisel, and Hayhurst (2004), the researchers examined the possible temperamental basis of WTC. The study found that extraversion related positively to WTC and neuroticism related negatively to WTC. These relationships are the inverse of what McCroskey, Heisel, and Richmond (2001) found for CA, which is further verification of the negative relationship between these two constructs.

Where communication apprehension has been shown to negatively influence human life, willingness to communicate has been shown to be a positive influence on human life. Overall, willingness to communicate has been shown to positively impact interpersonal relationships (Richmond & McCroskey, 1985), organizational relationships and work quality/quantity (Richmond, J. McCroskey, & L. McCroskey, 2005), and educational success (J. McCroskey, Richmond, & L. McCroskey, 2006).

Desire for Control

Understanding how various psychological perspectives on control affect human cognitions and behavior is a constant research endeavor by social scientists (Skinner, 1996). In fact, Skinner (1996) categorized over 100 different variables associated with the more general category of "control." General research in the area of control has shown that when people perceive they are in control they "exert more effort, try harder, initiate action, and persist in the face of failures and setbacks; they evidence interest, optimism, sustained attention, problem solving, and an action orientation" (Skinner, 1996, p.556); however, when people do not feel that they have control they "withdraw, retreat, escape, or otherwise become passive; they become fearful, depressed, pessimistic, and distressed" (Skinner, 1996, p.556). One possible explanation for the negative reactions people exhibit when they perceive a lack of control was proposed by Seligman (1975) called learned helplessness. Learned helplessness is "an acquired repertoire of behaviors and skills by which a person self-regulates internal events – such as emotions, pain, and cognitions – that interfere with the smooth execution of behavior" (Rosenbaum, 1983, p. 68). Under this perspective, people who experience negative events eventually internalize such events that in the future when faced with similar events they feel "helpless" and either avoid the event or feel the situation is impossible. In essence, these people are conditioned to feel that certain situations are "helpless" and thus people who perceive they have no control will exhibit the negative reactions discussed above by Skinner (1996). One possible mitigating variable between lack of control and learned helplessness is the desire for control.

Unique among these perspectives is Burger and Cooper's (1979) Desirability for Control scale because it is the only perspective that examines people's innate desire to have control in their lives on a general level. According to Burger and Cooper (1979), the desirability of control

scale was designed "to measure individual differences in the level of motivation to control the events in one's life" (p. 381). People who are motivated to gain control are more likely to "seek opportunities for interacting with the environment; supports master strivings during interactions; and is the source of absorption, involvement, and joy during the process of attempting to produce desired outcomes" (Skinner, 1996, p. 557). In essence, people who desire control in their lives tend to have many positive experiences because they are more likely to have an internal locus of control and work harder to achieve their goals (Burger, 1984; Gebhardt & Brosschot, 2002). Previous research examining desirability of control has found that the variable is positively related to a number of positive attributes: ability to cope with stress (Burger, 1992a), academic performance (Burger, 1992b), active problem solving (Gebhardt & Brosschot, 2002), dominance (Gebhardt & Brosschot, 2002), general well-being (Cooper, Okamura, & McNeil, 1995), health promotive behaviors (Burger, 1992a; Gebhardt & Brosschot, 2002), and self-esteem (Gebhardt & Brosschot, 2002). Research examining desirability of control has also found that the variable is negatively related to a number of psychopathologies: anxiety (Wilkinson & Chamove, 1992), depression (Burger & Arkin, 1980; Burger, 1984; Gebhardt & Brosschot, 2002), feelings of discomfort stemming from crowding (Burger, Oakman, & Bullard, 1983), inability to cope with stress (Burger, 1992), negative fear of failure (Gebhardt & Brosschot, 2002), social inadequacy (Gebhardt & Brosschot, 2002), trait anxiety (Gebhardt & Brosschot, 2002). While there are clear overlaps between these results and previous research in communication, only one study has investigated the relationship between desire for control and human communication.

MacIntyre, Clément, Dörnyei, and Noels (1998) noted that communication does provide a means to control other people. Based on this earlier study, MacIntyre and Donovan (2004) examined the relationship between an individual's desire for control and her or his communication apprehension, willingness to communicate, and self-perceived communication competence. Using a small sample of university students ($N = 95$), MacIntyre and Donovan predicted there would be a negative relationship between desire for control and communication apprehension and a positive relationship between desire for control and both willingness to communicate and self-perceived communication competence. The researchers did find a relationship between desire for control and both willingness to communicate ($r = .37$) and self-perceived communication competence ($r = .43$), but failed to find a relationship between desire for control and communication apprehension. The researchers admitted that the lack of a relationship between desire for control and communication apprehension was "difficult to explain but might reflect a difference between trait anxiety and communication apprehension, the influence of a mediating variable such as opportunity for control, or measurement issues" (p. 581-582).

Rationale

The goal of the current project is to test a new scale for measuring Social Communication Apprehension. To complete this analysis, we have a set of hypotheses geared at helping us to test concurrent validity and predictive validity. The first two hypotheses are geared to measure concurrent validity. Previous research examining both communication apprehension (Beatty, McCroskey, & Heisel, 1998; Beatty & Valencic, 2000; Kelly & Keaten, 2000) and social phobia (Vale, 2003) have related the constructs to human temperament. If as the American Psychiatric Association (1994) discusses in their guidelines for treatment of social phobia, that social

situations like parties, clubs, bars, and other social gatherings are contexts where social phobia can be manifested, then a relationship between human temperament and social communication apprehension would be expected. Furthermore, the exact relationship would probably mirror the results found by Beatty, McCroskey, and Heisel (1998) and Beatty and Valencic (2000) with extraversion being negatively related and neuroticism positively related to social communication apprehension while psychoticism is not meaningfully related at all. Based on this insight, the following hypothesis is proposed:

H1: There will be a relationship between an individual's temperament and her or his social communication apprehension.

If social phobia is as Wrench, Brogan, McCroskey, and Jowi (2005) found related to communication apprehension, and anxiety that arises during social environments is also a form of social phobia (APA, 1994; Vale, 2003), then social communication apprehension as a contextual based form of communication apprehension should be positively related to general communication apprehension. Furthermore, since communication apprehension and willingness to communicate are inversely related constructs (Richmond & McCroskey, 1985), willingness to communicate should be negatively related to the newly developed social communication scale. Lastly, as was noted by the study by MacIntyre and Donovan (2004) willingness to communicate was positively related to desire for control. While their study did not find a relationship between communication apprehension and desire for control, the lack of a relationship was puzzling to the researchers and could be due to their small sample size ($N = 95$). The current study will employ more than twice that many participants, it is probably that a negative relationship will be found between desire for control and communication apprehension. Since we are predicting a negative relationship between desire for control and communication apprehension, we can also predict that there will be a negative relationship between desire for control and social communication apprehension. Based on these previous findings, the following hypothesis is posed:

H2a: There will be a positive relationship between general communication apprehension and an individual's level of social communication apprehension.

H2b. There will be a negative relationship between willingness to communicate and an individual's level of social communication apprehension.

H2c. There will be a negative relationship between desire for control and an individual's level of social communication apprehension.

While the first two hypotheses were designed to measure concurrent validity, the third hypothesis is designed to measure predictive validity or whether a newly developed scale can measure a scale in a similar manner to a previously developed scale. While there is not a scale designed for measuring social communication apprehension, it would be possible to take a previous validated tool for measuring communication apprehension in a specific context and re-tool it to measure apprehension in a social-context. Previous research has validated the Richmond, Smith, Heisel, and McCroskey's (1998) Fear of Physician scale to measure the degree to which one experiences anxiety while communicating with her or his physician.

Previously, Wrench and Punyanunt (2005) used the scale to measure computer mediated communication apprehension in different contexts and Richmond, J. McCroskey, and L. McCroskey (2005) used the scale to measure apprehension with supervisors. In each of these cases, the scale has been very reliable and valid. For this reason, the following hypothesis is given:

- H3. There will be a positive relationship between the newly developed social communication apprehension scale and a re-tooled version of Richmond, Smith, Heisel, and McCroskey's (1998) Fear of Physician scale for the social context.

Method

Participants and Procedures

Participants in this project included 204 undergraduate students at four undergraduate institutions. The institutions included 1 mid-Atlantic University, 1 mid-western University, and two regional campuses belonging to the mid-western University's system. The sample included 113 (55.4%) females, 78 (38.2%) males, and 13 (6.4%) who did not respond to the sex question. The mean age of the sample was 21.24 ($SD = 5.48$).

Participants were informed of their rights as human subjects and were asked to participate in the current project. Participants were recruited through undergraduate courses in a variety of academic fields. Once a participant completed the questionnaire, the questionnaire was handed back to the administrator, who was the professor of record of the course where the scale was administered. All of the scales were then sent to one of the researchers who had a research assistant enter the raw data into SPSS 13.0 for data analysis.

New Instrumentation

Social Communication Apprehension Scale. The Social Communication Apprehension Scale was created for this project to measure an individual's apprehension in social situations (parties, night clubs, bars, get-together, etc...). The scale consists of 18 items measured with a Likert scale ranging from 1 *strongly disagree* to 5 *strongly agree*. The 18 items appearing on the Social Communication Apprehension scales were derived from research in the area of social phobia that specifically examined communicative interactions between people in actual social situations.

To ascertain the structure of the scale, a Principal axes factor analysis was conducted, which yielded two factors with eigenvalues over 1.0 controlling 55% of the variance – but only the first (eigenvalue = 7.12) would be kept by the standard scree test, as the second factor had an eigenvalue of only 2.71. Promax rotation of the two factors found all 9 pro-trait items had their higher loading on Factor I. The other 9 items, all con-traits, had their higher loading on Factor II, which correlated at .50 with Factor I. Overall, the scale is essentially unidimensional (Table 1), showing just traces of the response sets one usually can uncover with balanced measures (Altemeyer & Hunsberger, 2004). Higher scores on the scale are coded to represent more anxiety while communicating in social environments. The alpha reliability obtained for the Social Communication Apprehension Scale in this study was .91 ($M = 41.18$, $SD = 12.93$).

Table 1. Social Communication Apprehension Scale Factor Analysis

Items	Factor 1	Factor 2
1. I always feel anxious in social situations. (14)	.77	-.03
2. I experience anxiety when I communicate with people in social settings. (10)	.75	.06
3. Even small get-togethers make me apprehensive. (4)	.73	.08
4. At a party, I tend to hangout near a wall away from people. (16)	.73	-.03
5. Social interaction makes me anxious. (9)	.72	-.11
6. I get really nervous when I have to interact with people at a party. (2)	.71	.01
7. I tend to be very apprehensive while communicating in social situations. (13)	.71	-.05
8. I am usually anxious when talking to people in a bar. (11)	.69	.01
9. I get nervous when I talk to people in a nightclub. (7)	.68	.02
10. I am outgoing when surrounded by a lot of people. (15)	.18	.88
11. I am usually very outgoing at a dinner party. (8)	.07	.76
12. I have no problems talking to people in a nightclub. (17)	-.03	.69
13. I am at ease at parties. (12)	-.15	.66
14. Social interaction is the best part of my day. (18)	.03	.66
15. I am less shy than most people in social situations. (5)	-.01	.64
16. I seldom feel anxious in social situations. (6)	-.02	.55
17. I am usually at ease when talking to people in a bar. (3)	-.16	.54
18. I can communicate with people in social settings without experiencing anxiety. (1)	-.09	.50

Principal Axes Factor analysis with a Promax Rotation

Numbers in parentheses indicate original item numbers on the scale.

Previously Validated Instrumentation

Personal Report of Communication Apprehension-24. The Personal Report of Communication Apprehension-24 (PRCA-24) is one of the most used scale instruments in the field of communication studies. The scale was created by McCroskey (1982) to measure the degree of apprehension associated with either real or perceived communication. This scale has been shown to be internally consistent with alphas ranging from .93 to .95 for the entire scale (McCroskey, Beatty, Kearny, & Plax, 1985). The scale consists of 24 Likert items ranging from 1 *strongly disagree* to 5 *strongly agree*. The alpha reliability obtained in the current study was .93 ($M = 61.78$, $SD = 13.72$).

Willingness to Communicate. The Willingness to Communicate (WTC) scale measures people's tendency to initiate or avoid communication with people. The scale, created by McCroskey and Richmond (1987) and then validated by McCroskey (1992) consists of 20 communication situations where participants are asked to indicate the percentage of times (0-100%) a participant would choose to communicate in each type of situation. The alpha reliability of the Willingness to Communicate scale obtained in this study was .90 ($M = 70.92$, $SD = 17.49$).

Eysenck Personality Questionnaire. The version of the Eysenck Personality Questionnaire used in this study was created and validated by S. Eysenck, H. Eysenck's, and Barret's (1985). This version of the Eysenck Personality Questionnaire contains the updated versions of Eysenck's (1956) extraversion (10-items) and neuroticism (10-items) scales with the psychoticism (12-items) proposed by H. Eysenck and M. Eysenck (1976) and Eysenck (1978). Extraversion, neuroticism, and psychoticism as proposed by Eysenck (1943) are "supertraits" that are biologically based and can account for great deals of variance in other biological, sociological, psychological, and behavioral variables. Each subscale consists of a series of Likert items ranging from 1 *strongly disagree* to 5 *strongly agree*. The alpha reliabilities for the three supertraits were as follows: extraversion, .80 ($M = 36.23$, $SD = 5.50$); neuroticism, .84 ($M = 26.66$, $SD = 6.62$); and psychoticism, .61 ($M = 26.52$, $SD = 4.77$).

Desire for Control Scale. The Desire for Control Scale was created by Burger and Cooper (1979) to assess an individual's need to have and maintain control in her or his life. The scale consists of 20 Likert type questions ranging from 1 *the statement does not apply to me at all* to 7 *the statement always applies to me*. The alpha reliability obtained for the Need for Control Scale in this study was .81 ($M = 96.34$, $SD = 14.19$).

Fear of Social Communication. The Fear of Physician Scale was originally created by Richmond, Smith, Heisel, and McCroskey (1998) to measure an individual's level of fear associated with her or his primary care physician. In this study, the Fear of Physician Scale was re-tooled to analyze an individual's level of apprehension when communicating with nine different people, which consisted of three contexts (bar, party, and casual get-together) and three levels of familiarity (stranger, acquaintance, and friend). The Fear of Communication scale, as we are referring to it in this study, analyzes the degree to which an individual is apprehensive of talking to either a stranger, acquaintance, or friend in a specific context (bar/club, party, and casual get-together). While the use of this scale is not designed to replace the Social Communication Apprehension Scale, the different communicative contexts and levels of familiarity should allow us to have a fairly clear understanding of predictive validity since the Fear of Physician Scale has been shown to be useful when examining fear with specific communicative targets (Richmond, J. McCroskey, & L. McCroskey, 2005). The scale consists of five Likert items ranging from 1 *strongly disagree* to 5 *strongly agree*. This resulted in 9 basic

sub-scales (stranger in bar or club /party/casual get-together, acquaintance in bar or club/party/casual get-together, & friend in bar or club /party/casual get-together). Once the sub-scales were compiled, total scores for individual (stranger, acquaintance, & friend) and context (bar, party, & casual get-together) were created. Each sub category was divided by 3 to make them consistent with the other scales in this section. The alpha reliabilities for individuals in this study were as follows: stranger, $\alpha = .88$ ($M = 12.83$, $SD = 4.23$); acquaintance, $\alpha = .91$ ($M = 10.27$, $SD = 3.64$); and friend, $\alpha = .89$ ($M = 8.10$, $SD = 3.16$). The alpha reliabilities for the social communicative contexts in this study were as follows: bar/club, $\alpha = .75$ ($M = 10.78$, $SD = 3.51$); party, $\alpha = .74$ ($M = 10.12$, $SD = 3.20$); and casual get-together, $\alpha = .69$ ($M = 10.28$, $SD = 3.08$).

Results

The first hypothesis predicted that there would be a relationship between an individual's temperament and her or his social communication apprehension. To examine this hypothesis, a multiple linear regression was calculated using the three temperament factors (extraversion, neuroticism, & psychoticism) as the independent variables and social communication apprehension as the dependent variable, $F(3, 171) = 60.30$, $p < .0005$. The sample multiple correlation coefficient, R , was .72, which indicates that approximately 72%¹ of the variance of an individual's level of social communication apprehension could be accounted for by the linear combination of an individual's temperament. However, only extraversion ($t = -10.00$, $p < .0005$, $\beta = -.56$) and neuroticism ($t = 5.27$, $p < .0005$, $\beta = .30$) accounted for any of the unique variance in an individual's level of social communication apprehension.

As a post hoc analysis to this hypothesis, a median split was calculated for both extraversion ($MD = 36$) and neuroticism ($MD = 26$). These median splits created two groups of individuals for each supertrait. The two supertraits were then collapsed into four basic comparison groups (high extraversion/high neuroticism, high extraversion/low neuroticism, low extraversion/high neuroticism, & low extraversion/low neuroticism). A one-way analysis of variance was calculated using the four supertrait combinations as the independent variables and social communication apprehension as the dependent variable, $F(3, 171) = 28.76$, $p < .0005$. Using a least significant difference post hoc test, the multiple comparisons can be seen in Table 2.

The second hypothesis predicted that there would be a positive relationship between general communication apprehension and an individual level of social communication apprehension and negative relationships between both willingness to communicate and desire for control and willingness to communicate. To examine this hypothesis, a multiple linear regression was calculated using the communication apprehension, willingness to communicate, and desire for control as the independent variables and social communication apprehension as the dependent variable, $F(3, 171) = 51.36$, $p < .0005$. The sample multiple correlation coefficient, R , was .69, which indicates that approximately 47% of the variance of an individual's level of social communication apprehension could be accounted for by the linear combination of an individual's communication apprehension, willingness to communicate, and

¹ It is important to recognize these simple and multiple correlations are the appropriate estimates of variance accounted for in this hypothesis because of the nature of temperamental variable constructs – not the square of the correlations as is the case in most research reported in the communication discipline. For a complete discussion of this issue please see Wrench and McCroskey (2003).

desire for control. In fact, all three independent variables accounted for unique variance in an individual's level of social communication apprehension: communication apprehension ($t = 7.46$, $p < .0005$, $\beta = .47$), willingness to communicate ($t = -4.27$, $p < .0005$, $\beta = -.27$), and desire for control ($t = -2.06$, $p < .05$, $\beta = -.12$).

Table 2. Temperament & Social Communication Apprehension LSD Post Hoc Analysis

	N	M	SD	High E. High N	Low E. High N	High E. Low N
High E. High N	38	37.71	10.99			
Low E. High N	56	51.05	11.80	*		
High E. Low N	51	32.51	9.85	*	*	
Low E. Low N	30	41.87	9.03	NS	*	*

E = Extraversion & N = Neuroticism

* = Significant Difference Noted in Post Hoc

NS = No Significant Difference Noted in Post Hoc

As a post hoc analysis to this hypothesis, Pearson product moment correlations were calculated among desire for control, communication apprehension, and willingness to communicate to determine the accuracy of MacIntyre and Donovan (2004) results. In this study, need for control was found to be negatively related to communication apprehension, $r(204) = -.31$, $p < .0005$, and positively related to willingness to communicate, $r(203) = .29$, $p < .0005$.

The third hypothesis predicted there would be a positive relationship between the newly created social communication apprehension scale and the Richmond, Smith, Heisel, and McCroskey (1998) Fear of Physician scale re-tooled in this study to examine 9 possible combinations of types of people found in social situations (strangers, acquaintances, & friends) and three different social contexts (casual get-together, bar/club, & party). Since the nine measurements of the re-tooled Fear of Physician scale are used twice in this study once to examine social communicative targets (strangers, acquaintances, & friends) and once to measure social context (casual get-together, bar/club, & party), two separate multiple linear regressions were employed to determine if both social communicative target apprehension and/or social context apprehension can be used to examine an individual's social communicative apprehension. The first linear regression used the amount of apprehension an individual reported towards interacting with specific social communicative targets (strangers, acquaintances, & friends) as the independent and social communication apprehension as the dependent variable, $F(3, 167) =$

50.16, $p < .0005$. The sample multiple correlation coefficient, R , was .69, which indicates that approximately 47% of the variance of an individual's level of social communication apprehension could be accounted for by the linear combination of the amount of apprehension an individual reported towards interacting with specific social communicative targets (strangers, acquaintances, & friends). However, only stranger social apprehension ($t = 4.68$, $p < .0005$, $\beta = .37$) and friend social apprehension ($t = 3.86$, $p < .0005$, $\beta = .28$) accounted for any of the unique variance.

The second linear regression used the amount of apprehension an individual reported towards interacting within specific social communicative contexts (casual get-together, bar/club, & party) as the independent and social communication apprehension as the dependent variable, $F(3, 167) = 50.27$, $p < .0005$. The sample multiple correlation coefficient, R , was .69, which indicates that approximately 48% of the variance of an individual's level of social communication apprehension could be accounted for by the linear combination of the amount of apprehension an individual reported towards interacting within specific social communicative contexts (casual get-together, bar/club, & party). However, only bar/club social apprehension ($t = 2.78$, $p < .05$, $\beta = .33$) and party social apprehension ($t = 3.08$, $p < .005$, $\beta = .36$) accounted for any of the unique variance.

Based on these results, we decided that a post hoc analysis examining the differences between the three different specific social communicative targets (strangers, acquaintances, & friends) and the three different specific social communicative contexts (casual get-together, bar/club, & party). To examine these differences, each set was analyzed separately. First, a one-way within-subjects repeated measures ANOVA was conducted using three scores for stranger social apprehension ($M = 12.80$; $SD = 4.23$), acquaintance social apprehension ($M = 10.28$; $SD = 3.65$), and friend social apprehension ($M = 8.14$; $SD = 3.17$). This study found significant differences between the three social communicative targets, Wilk's $\Lambda = .461$, $F(2, 193) = 112.91$, $p < .0005$, $\eta^2 = .54$. Based on this finding, paired t -tests were calculated to examine the differences more thoroughly. All three paired t -tests were significant: stranger/acquaintance, $t(193) = 11.14$, $p < .0005$; stranger/friend, $t(193) = 15.07$, $p < .0005$; and acquaintance/friend, $t(193) = 10.42$, $p < .0005$. This finding indicates that people did have differing perceptions of their apprehension in social situations depending on whom the social communicative target was. Specifically, people were less apprehensive talking to a friend than they were to an acquaintance, and were less apprehensive talking to a friend or acquaintance than they were a stranger.

Next, a one-way within-subjects repeated measures ANOVA was conducted using three scores for social communicative apprehension contexts: Casual get-together ($M = 10.28$; $SD = 3.08$), party ($M = 10.12$; $SD = 3.21$), and bar/club ($M = 10.81$; $SD = 3.55$). This study found significant differences between the three social communicative targets, Wilk's $\Lambda = .882$, $F(2, 193) = 12.97$, $p < .0005$, $\eta^2 = .12$. Based on this finding, paired t -tests were calculated to examine the differences more thoroughly. Only two of the paired t -tests were significant: bar or club/party, $t(194) = 4.98$, $p < .0005$, and bar or club/casual get-together, $t(199) = 3.62$, $p < .0005$. A significant difference was not found between casual get-together and party, $t(195) = -1.27$, $p > .05$. This finding indicates that participants had differing perceptions of their communication apprehension depending on the type of social context. Overall, people were more apprehensive communicating in the bar/club context than in either parties or casual get-togethers, and there was no difference in communication apprehension during parties or casual get-togethers.

Discussion

The purpose of this project was to develop and test a new scale for examining social communication apprehension. The variables that were employed in the current research were human temperament (extraversion, neuroticism, & psychoticism), and communication apprehension, willingness to communicate, desire for control, and individual's level of social communication apprehension. Three interesting findings emerged in support of the proposed hypotheses. The first hypothesis predicted that there would be a relationship between an individual's temperament and his or her social communication apprehension was supported. Extraversion and neuroticism accounted for the variance in the individual's level of social communication apprehension, which is the same pattern seen between general communication apprehension and extraversion and neuroticism (Beatty, McCroskey, & Heisel, 1998, Beatty & Valencic, 2000, Kelly & Keaten, 2000).

The second hypothesis predicted a positive relationship between general communication apprehension and an individual's level of social communication apprehension, and negative relationships between both willingness to communicate and desire for control was supported with an individual's level of social communication apprehension. This hypothesis was only partially supported. The linear combination of communication apprehension, willingness to communicate, and desire for control accounted for 47% of the variance in individual's level of social communication apprehension. Further, the results indicated that the desire for control was negatively associated with communication apprehension, and positively associated with willingness to communicate. While these results are consistent with MacIntyre and Donovan's (2004) hypotheses, the current study's results differ from the results found by MacIntyre and Donovan. MacIntyre and Donovan failed to find a relationship between desire for control and communication apprehension, but the current study did find such a relationship. One possible reason MacIntyre and Donovan (2004) failed to find a relationship between desire for control and communication apprehension could be the small sample size used in their study.

The third hypothesis predicted the existence of a positive relationship between the newly created social communication apprehension scale and social communication apprehension as measured by the Richmond, Smith, Heisel, and McCroskey (1998) Fear of Physician scale was supported. The findings of the newly developed scale are consistent with those of the aforementioned scale because they are both designed to measure communication apprehension in social contexts. Most importantly, the results of the study indicate that interacting with specific social communicative targets such as strangers, friends, and acquaintance effects a person's level of social communication apprehension. According to the results of the study, 47% of the variance of a person's level of social communication apprehension is explained by a linear combination of an individual's anxiety associated with communicating with strangers and friends, but an individual's anxiety associated with communicating with acquaintances did not account for any of the unique variance.

The second set of findings in the third hypothesis indicated that interacting within specific social contexts (casual get-together, bar/club, and party) effected a person's level of social communication apprehension. The second finding indicated that a linear combination of casual get-together, bar or club, and party explained 48% of the variance in a person's level of social communication apprehension. However, only bar/club and party accounted for any of the unique variance in this finding. Ideally, a person's specific social communicative contexts influence an individual's level of apprehension.

The post-hoc analysis looking at the social communicative contexts further explained the nature of these findings. In essence, people have more social communication anxiety with a stranger than they do with an acquaintance, and people have more social communication apprehension with an acquaintance than they do a friend. In essence, the more an individual feels intimately involved with another person, the less likely he or she is to experience social communication apprehension. As for the context of social communication apprehension, people were more apprehensive communicating in the bar/club context than in either parties or casual get-togethers, and there was no difference in communication apprehension during parties or casual get-togethers. Apparently, the bar/club context creates in people a unique level of social communication apprehension not seen in other contexts.

Conclusions

The findings of this project add to the growing body of literature investigating communication measurements in the areas of social communication apprehension and social phobia. Overall, the results from this study indicate that there definitely appears to be a form of communication apprehension previously not discussed in the form of social communication apprehension. While this is just a preliminary study investigating the nature of the newly developed scale to measure social communication apprehension, there appears to be a wealth of information that can be gained by communication scholars who opt to investigate this area. For example, based on the findings indicating that bars/clubs innately cause people to be more communicatively apprehensive, many questions of romantic courtship in those environments can be further explained. Future research investigating social communication apprehension, should investigate the ramifications that social communication apprehension has on people in a variety of social environments.

References

- Altemeyer, B. & Hunsberger, B. (2004). A revised Religious Fundamentalism Scale: The short and sweet of it. *The International Journal for the Psychology of Religion*, 14, 47-54.
- American Psychiatric Association (Eds.). (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: APA.
- Authur, K. (2005, January 2). Little blob, don't be sad (or anxious or phobic). *The New York Times*, 154 (53082), Arts & Leisure p. 38.
- Baldwin, H. J., McCroskey, J. C., & Knutson, T. J. (1979). Communication apprehension in the pharmacy student. *American Journal of Pharmaceutical Education*, 43, 91-93.
- Beatty, M. J., McCroskey, J. C., & Heisel, A.D. (1998). Communication apprehension as temperamental expression: A communibiological paradigm. *Communication Monographs*, 65, 197-219.
- Beatty, M. J., & McCroskey, J. C., & Valencic, K. M. (2001). *The biology of communication: A communibiological perspective*. Cresskill, NJ: Hampton Press.
- Beatty, M. J., & Valencic, K. M. (2000). Context-based apprehension versus planning demands: A communibiological analysis of anticipatory public speaking anxiety. *Communication Education*, 49, 58-71.
- Bodary, D. L., & Miller, L. D. (2000). Neurobiological substrates of communicator style. *Communication Education*, 49, 82-98.
- Burger, J. M. (1984). Desire for control, locus of control, and proneness to depression. *Journal of Personality*, 52, 71-89.
- Burger, J. M. (1992a). *Desire for control: Personality, social, and clinical perspectives*. New York: Plenum.
- Burger, J. M. (1992b). Desire for control and academic performance. *Canadian Journal of Behavioural Science*, 24, 147-155.
- Burger, J. M., & Arkin, R. M. (1980). Prediction, control, and learned helplessness. *Journal of Personality and Social Psychology*, 38, 482-491.
- Burger, J. M., & Cooper, H. M. (1979). The desirability of control. *Motivation & Emotion*, 3, 381-393.
- Burger, J. M., Oakman, J. A., & Bullard, N. G. (1983). Desire for control and the perception of crowding. *Personality and Social Psychology Bulletin*, 9, 475-479.
- Burgoon, J. K. (1976). The unwillingness-to-communicate scale: Development and validation. *Communication Monographs*, 43, 60-69.
- Burroughs, N. F., & Marie, V. (1990). Communication orientations of Micronesian and American students. *Communication Research Reports*, 7, 139-146.
- Chan, B., & McCroskey, J. C. (1987). The WTC scale as a predictor of classroom participation. *Communication Research Reports*, 4, 47-50.
- Cole, J. G. (2000). A temperamental perspective of nonverbal immediacy. *Communication Research Reports*, 17, 90-94.
- Cole, J. G., & McCroskey, J. C. (2000). Temperament and socio-communicative orientation. *Communication Research Reports*, 17, 105-114.

- Cooper, H., Okamura, L., & McNeil, P. (1995). Situation and personality correlates of psychological well-being: Social activity and personal control. *Journal of Research in Personality*, 29, 395-417.
- Daly, J. A., McCroskey, J. C., Ayres, J., Hopf, T., & Ayres, D. M. (Eds.). (1997). *Avoiding communication: Shyness, reticence, and communication apprehension* (2nd ed.). Cresskill, NJ: Hampton Press.
- Eysenck, H. J. (1956). The questionnaire measurement of neuroticism and extraversion. *Revista di Psiocologia*, 50, 113-140.
- Eysenck, H. J. (1978). Superfactors, P, E, and N in a comprehensive factor space. *Multivariate Behavioral Research*, 13, 475-481.
- Eysenck, H. J. (1998). *Dimensions of personality* (Rev. ed.). New Brunswick, NJ: Transaction.
- Eysenck, H. J., & Eysenck, M. W. (1985). *Personality and individual differences: A natural science approach*. New York: Plenum Press.
- Eysenck, H. J., & Eysenck, S. B. G. (1976). *Psychoticism as a dimension of personality*. London: Hodder & Stoughton.
- Eysenck, S. B., Eysenck, H. J., & Barrett, J. (1985). A revised version of the psychoticism scale. *Personality and Individual Differences*, 6, 21-29.
- Fresco, D. M., Coles, M. E., Heimberg, R. G., Liebowitz, M. R., Hami, S., Stein, M. B., & Goetz, D. (2001). The Liebowitz Social Anxiety Scale: A comparison of the psychometric properties of self-report and clinician-administered formats. *Psychological Medicine*, 31, pp. 1025-1035.
- Gebhardt, W. A., & Brosschot, J. F. (2002). Desirability of control: Psychometric properties and relationships with locus of control, personality, coping, and mental and somatic complaints in three Dutch samples. *European Journal of Personality*, 16, 423-438.
- Horvath, C. W. (1995). Biological origins of communicator style. *Communication Quarterly*, 43, 394-407.
- Kelly, L., & Keaten, J. A. (2000). Treating communication anxiety: Implications of the communibiological paradigm. *Communication Education*, 49, 45-57.
- Kessler, R. C., Stang, P., Wittchen, H. U., Stein, M., & Waters, E. E. (1999). Lifetime comorbidities between social phobia and mood disorders in the US National Comorbidity Survey. *Psychological Medicine*, 29, 555-567.
- Kessler, R. C., Stein, M. B., & Berglund, P. (1998). Social phobia subtypes in the National Comorbidity Survey. *American Journal of Psychiatry*, 155, 613-619.
- Liebowitz, M. R. (1987). Social phobia. *Modern Problems in Pharmacopsychiatry*, 22, 141-173.
- MacIntyre, P. D., Clément, R., Dörnyei, Z., & Noels, K. A. (1998). Conceptualizing willingness to communicate in a L2: A situational model of L2 confidence and affiliation. *The Modern Language Journal*, 82, 545-562.
- MacIntyre, P. D., & Donovan, L. A. (2004). Desire for control and communication-related personality variables. *Psychological Reports*, 94, 581-582.
- McCroskey, J. C. (1970). Measures of communication-bound anxiety. *Speech Monographs*, 37, 269-277.
- McCroskey, J. C. (1977). Oral communication apprehension: A summary of recent theory and research. *Human Communication Research*, 4, 78-96.

- McCroskey, J. C. (1982). *An introduction to rhetorical communication* (4th Ed). Englewood Cliffs, NJ: Prentice-Hall.
- McCroskey, J. C. (1992). Reliability and validity of the willingness to communicate scale. *Communication Quarterly*, 40, 16-25.
- McCroskey, J. C. (2006). *An introduction to rhetorical communication: A Western rhetorical perspective* (9th ed.). Boston, MA: Allyn & Bacon.
- McCroskey, J. C., Beatty, M. J., Kearney, P., & Plax, T. G. (1985). The content validity of the PRCA-24 as a measure of communication apprehension across communication contexts. *Communication Quarterly*, 33, 165-173.
- McCroskey, J. C., Burroughs, N. F., Daun, A., & Richmond, V. P. (1990). Correlates of quietness: Swedish and American perspectives. *Communication Quarterly*, 38, 127-137.
- McCroskey, J. C., Heisel, A. D., & Richmond, V. P. (2001). Eysenck's BIG THREE and communication traits: Three correlational studies. *Communication Monographs*, 68, 360-366.
- McCroskey, J. C., & Richmond, V. P. (1979). The impact of communication apprehension on individuals in organizations. *Communication Quarterly*, 27, 55-61.
- McCroskey, J. C., Richmond, V. P., Daly, J. A., & Cox, B. (1975). The effects of communication apprehension on interpersonal attraction. *Human Communication Research*, 2, 51-65.
- McCroskey, J. C., & Richmond, V. P. (1987). Willingness to communicate. In J. C. McCroskey & J. A. Daly (Eds.), *Personality and interpersonal communication* (pp. 119-131). Newbury Park, CA: Sage.
- McCroskey, J. C., Richmond, V. P., Heisel, A. D., & Hayhurst, J. L. (2004). Eysenck's BIG THREE and communication traits: Communication traits as manifestations of temperament. *Communication Research Reports*, 21, 404-410.
- McCroskey, J. C., Richmond, V. P., & McCroskey, L. L. (2006). *An introduction to communication in the classroom: The role of communication in teaching and training*. Boston: Allyn & Bacon.
- McCroskey, J. C., & Sheahan, M. E. (1978). Communication apprehension, social preference, and social behavior in a college environment. *Communication Quarterly*, 26, 41-45.
- McCroskey, J. C., Richmond, V. P., & Wrench, J. S. (in press). *Human communication in everyday life: Applying the principles of communication research*. Boston, MA: Allyn & Bacon.
- McCuthceon, L. E. (2000). The Desirability of Control scale: Still reliable and valid twenty years later. *Current Research in Social Psychology*, 5, 225-235.
- Perugi, G., Nassini, S., Maremmanni, I., Madaro, D., Toni, C., Simonini, E., et al. (2001). Putative clinical subtypes of social phobia: A factor-analytical study. *Acta Psychiatrica Scandinavica*, 104, 280-288.
- Preston, J. D., O'Neal, J. H., & Talaga, M. C. (2005). *Handbook of clinical psychopharmacology for therapists* (4th ed.). Oakland, CA: New Harbinger.
- Richmond, V. P., & McCroskey, J. C. (1985). *Communication: Apprehension, avoidance, and effectiveness*. Scottsdale, AZ: Gorsuch Scarisbrick.
- Richmond, V. P., McCroskey, J. C., McCroskey, L. L. (2005). *Organizational communication for survival: Making work, work* (3rd edition). Boston: Allyn & Bacon.

- Richmond, V. P., Smith, R. S., Jr., Heisel, A. M., & McCroskey, J. C. (1998). The impact of communication apprehension and fear of talking with a physician on perceived medical outcomes. *Communication Research Reports*, 15, 344-353.
- Richmond, V. P., Wrench, J. S., & Gorham, J. (2001). *Communication, affect, and learning in the classroom* (3rd Ed.). Acton, MA: Tapestry Press.
- Rosenbaum, M. (1983). Learned resourcefulness as a behavioral repertoire for self-regulation of internal events: Issues and speculations. In M. Rosenbaum, C. M. Franks, & Y Jaffe (Eds.), *Perspectives on behavior therapy in the eighties* (pp. 54-73). New York: Springer.
- Salkovskis, P. M. (1991). The importance of behaviour in the maintenance of anxiety and panic. *Behavioural Psycho-therapy*, 19, 6-19.
- Schneir, F. R., Heckelman, L. R., Garfinkel, R., Campeas, R., Fallon, B. A., Gitow, A. et al. (1994). Functional impairment in social phobia. *Journal of Clinical Psychiatry*, 55, 322-331.
- Seligman, M. E. P. (1975). *Helplessness: On depression, development, and death*. San Francisco, CA: Freeman.
- Skinner, E. A. (1996). A guide to constructs of control. *Journal of Personality and Social Psychology*, 71, 549-570.
- Stein, D. J., Stein, M. B., Goodwin, W., Kumar, R., & Hunter, B. (2001). The selective serotonin reuptake inhibitor paroxetine is effective in more generalized and in less generalized social anxiety disorder. *Psychopharmacology*, 158, 267-272.
- Tillfors, M., Furmark, T., Marteinsdottir, I., Fischer, H., Pissioti, A., Långström, B., & Fredrikson, M. (2001). Cerebral blood flow in subjects with social phobia during stressful speaking tests: A PET study. *American Journal of Psychiatry*, 158, 1220-1226.
- Valencic, K. M., Beatty, M. J., Rudd, J. E., Dobos, J. A., & Heisel, A. D. (1998). An empirical test of a communibiological model of trait verbal aggressiveness. *Communication Quarterly*, 46, 327-341.
- Van Ameringen, M. A., Lane, R. M., Walker, J. R., Bowen, R. C., Chokka, P. R., Goldner, E. M., et al. (2001). Sertraline treatment of generalized social phobia: A 20-week, double-blind, placebo-controlled study. *American Journal of Psychiatry*, 158, 275-281.
- Van Ameringen, M., Mancini, C., Oakman, J. M., & Farvolden, P. (1999). Selective serotonin reuptake inhibitors in the treatment of social phobia: The emerging gold standard. *CNS Drugs*, 11, 307-315.
- Veale, D. (2003). Treatment of social phobia. *Advances in Psychiatric Treatment*, 9, 258-264.
- Wakefield, J. C., Horwitz, A. V., & Schmitz, M. F. (2005). Are we overpathologizing the socially anxious? Social phobia from a harmful dysfunction perspective. *Canadian Journal of Psychiatry*, 50, 317-319.
- Wilkinson, E. G., & Chamove, A. S. (1992). Anxiety and desire for control. *New Zealand Journal of Psychology*, 21, 71-73.
- Wrench, J. S. (2002). The impact of sexual orientation and temperament on physical and verbal aggression. *Journal of Intercultural Communication Research*, 31, 85-106.
- Wrench, J. S., Brogan, S. M., McCroskey, J. C., & Jowi, D. (2005). *The relationships among social phobia, communication apprehension, and willingness to communicate*. Manuscript in Process.

- Wrench, J. S. & McCroskey, J. C. (2001). A temperamental understanding of humor communication and exhilaratability. *Communication Quarterly*, 49, 170-183.
- Wrench, J. S., & McCroskey, J. C. (2003). A communibiological explanation of ethnocentrism and homophobia. *Communication Research Reports*, 20, 24-33.
- Wrench, J. S., & Punyanunt-Carter, N. M. (2005, October). *The relationship between computer-mediated communication competence, apprehension, self-efficacy and presence*. Paper presented at the Ohio Communication Association's Convention, Dayton, OH.
- Yonkers, K. A., Dyck, I. R., & Keller, M. B. (2001). An eight-year longitudinal comparison of clinical course and characteristics of social-phobia among men and women. *Psychiatric Services*, 52, 637-643.