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## Development and Validation of the Communication Apprehension About Death Scale

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## Development and Validation of the Communication Apprehension about Death Scale

**Abstract**

Two studies ( $N = 621$ ) were conducted to develop and initially validate the Communication Apprehension about Death scale (CADS). In Study 1, 302 general public participants completed a preliminary list of 66 items. An exploratory factor analysis identified two distinct dimensions of communication apprehension about death: communication anxiety and communication avoidance. A different group of participants ( $n = 319$ ) participated in Study 2. Participants in Study 2 completed the CADS measure, a fear of death measure, and a general communication apprehension measure. Concurrent validity support was provided through the significant positive correlations between communication apprehension about death and fear of death as well as communication apprehension about death and general communication apprehension. Collectively, the results suggest the CADS is a reliable and valid self-report measure of communication apprehension about death. We conclude with a discussion of the findings, as well as future directions needed to more critically examine CADS.

*Keywords:* communication apprehension, death, anxiety

### Development and Validation of the Communication Apprehension about Death Scale

Researchers, thanatologists, and grief practitioners advocate that an adequate death competence be demonstrated when people work with bereaved individuals (Gamino & Ritter, 2012). Death competence refers to tolerating and managing clients' problems related to dying, death, and bereavement (Gamino & Ritter, 2009). As evident, anxiety about death can have a negative impact on one's death competence. Researchers have studied death anxiety since the early 1970s, exhausting various dimensions of the emotional state. However, researchers have not yet specifically assessed the communication apprehension one feels when communicating with others about death.

While thanatologists were beginning conversations about death anxiety and competence, communication scholars were engaging in separate discussions about communication apprehension, focusing on the impact anxiety and fear about communicating has on individuals (McCroskey, 1977, 2009). Much like death anxiety, communication apprehension focuses on the emotional state of individuals, asking them to identify situations that make them nervous or anxious. Analyses of communication apprehension tend to focus on the trait of communication apprehension and on the situationality of communication apprehension, examining specific places or interactions which may cause anxiety. What is missing from these conversations, however, is a discussion of how the topic of communication may contribute to the apprehension.

The goal of this project is to design and initially validate a research measure for examining communication apprehension about death. We define *communication apprehension about death* as an individual's fear associated with real and anticipated communication about the experience of dying and death. We begin with a discussion of the two concepts that underlie this definition: death anxiety and communication apprehension. We then present two studies conducted in order to develop and validate the Communication Apprehension about Death Scale

(CADs). We conclude with a brief discussion of the validity and reliability of CADs as well as limitations and future directions for research.

### **Conceptual Framework**

#### **Death Anxiety**

Death anxiety has been defined in a variety of ways. For our understanding of death anxiety, we use utilized Tomer and Eliason's (2000) definition: "a negative emotional reaction provoked by the anticipation of a state in which the self does not exist" (p. 4). Included in the "anticipation" is dying, which is considered to be part of death anxiety (Barrett, 2013). The death or dying of others is also part of one's death anxiety. This addition is important because individuals experiencing death anxiety might be anxious about the process of dying (body degeneration, etc.) or existence after death (spiritual, physical, etc.). Although death anxiety is focused on an individual's concern about his or her own existence, the death or dying of others can also influence an individual's death anxiety by reminding the individual of his or her own mortality (Barett, 2013; Collett & Lester, 1969).

Researchers have posited a broad range of models to help explain components of death anxiety. Tomer and Eliason (2000) posited a model of death anxiety that included death salience (i.e., increased awareness of death due to terminal illness or aging), past-related regret, and future-related regret as determinants of death anxiety. Simpson (1979) differentiated between specific fears of death, including fear of dying, fear of death (i.e., fear of nonexistence), fear of the consequences of death (e.g., what happens in the afterlife, what happens to those left behind), and fear of the death or dying of others. Templer (1976) described death anxiety as being determined by two factors: a) overall psychological health, and b) specific life experiences related to death. Tomer (1994) also overviewed various philosophical and developmental

theoretical approaches to death anxiety. These included self-realization, search-for-meaning, personal construct, and psychosocial theories.

Researchers have also investigated death anxiety from a variety of standpoints, including counseling (Gamino & Ritter, 2009), nursing (Lange, Thom, & Kline, 2008; Murray, 1974), palliative care (Adelbratt & Strang, 2000), psychology (Gibbs & Achterberg-Lawlis, 1978), and hospice (Ayres & Hopf, 1995) among others. These different disciplines have identified a number of characteristics that can lead to increased or decreased levels of death anxiety. Thorson and Powell (1988) discovered that gender and age do affect one's death anxiety; women and young adults scored higher on a modified version of Templer's (1970) death anxiety scale. Berman and Hays (1973) also found that women scored higher on the death anxiety scale, and analysis revealed a weak relationship between death anxiety and a belief in the afterlife. They did not find a significant statistical relationship between belief in an external locus of control and death anxiety, however. Strong religious beliefs were repeatedly proven to be correlated with a lower death anxiety score than those without a strong religious conviction (Gibbs & Achterberg-Lawlis, 1978; Templer, 1972). Experiencing the death of a close loved one led to lowered death anxiety as well (Gibbs & Achterberg-Lawlis, 1978). Further, results of the same study also indicated that cancer patients perceived less pain when they had a low death anxiety score. Templer, Ruff, and Franks (1971) explored and found a relationship between a parent's level of death anxiety and his or her child's level of death anxiety. Other aspects investigated one's previous experience with death education, which was negatively correlated with death anxiety (Murray, 1974; Peters et al., 2013). Finally, Cicirelli (2000) explored differences in death anxiety between older Whites and African Americans. He found that both groups were similar in most dimensions of anxiety, but Whites had a higher fear of the dying process.

Previous researchers have also devised a variety of scales to assess one's attitudes and anxieties toward death. Thorson and Powell (1992) developed a Revised Death Anxiety Scale (RDAS), a 25-item scale that has different constructions of death anxiety based on high and low death anxiety scores. Neimeyer (1994) created a Threat Index that focused on people's awareness of imminent death. Neimeyer and Moore (1994) established a Multidimensional Fear of Death Scale based on Hoelter (1979)'s questionnaire. This scale included eight factors labeled as Fear of the Dying Process, Fear of the Dead, Fear of Being Destroyed (e.g., cremation), Fear for Significant Others, Fear of the Unknown, Fear of Conscious Death, Fear for the Body after Death, and Fear of Premature Death.

After examining the numerous relevant scales, we determined the scales most salient for the present study on communication apprehension related to death anxiety were the Collett-Lester Fear of Death-Revised Scale (Collett & Lester, 1969; Lester, 1990) and the Death Attitude Profile-Revised (Wong, Reker, & Gesser, 1994). These two scales were selected primarily for their use in other studies examining death anxiety, their variety of subscales examining the multidimensionality of death anxiety, and their focus on the emotionality of dying and death. The Collett-Lester Fear of Death-Revised Scale (Collett & Lester, 1969; Lester, 1990) explored people's fear of death among four subscales: Death of Self, Dying of Self, Death of Others, and Dying of Others. Wong Reker, and Gesser (1994) developed the Death Attitude Profile-Revised, which scored a person on various dimensions including fear of death, death avoidance, neutral acceptance, approach acceptance, and escape acceptance. These researchers, like us, were interested in anxiety after a death, rather than anxiety just during the dying process. The RDAS, Threat Index, and Multidimensional Fear of Death Scale were not used because these scales primarily measure anxiety related to a specific dying and death situation (such as dying in a

hospital). In order to design a general communication apprehension about death scale, we needed to include measures, which focus on the awareness, fear, and avoidance associated with death anxiety.

### **Communication Apprehension**

Communication Apprehension (CA) is the perhaps the most researched communication concept in the communication discipline (Richmond, Martin, & Cox, 1997) with close to 1000 studies identifying CA as a primary variable. CA is “an individual’s level of fear or anxiety associated with either real or anticipated communication with another person or persons” (McCroskey, 1977, p. 78). Individuals who experience high levels of anxiety will often withdraw or avoid communication interactions (Daly & McCroskey, 1984). Anxiety and avoidance are important conceptual elements of CA and often become cyclical; anxiety leads to avoidance and prolonged avoidance leads to increased anxiety (McCroskey, 1982b). An important element of the definition of CA is that it considers both real and anticipated communication experiences. Because many people do not think, or even talk about, death and dying, studying conversations about death has to take into account the anticipated as well as the real communication encounters people may have.

CA is typically broken down into two types: trait CA and state CA. Trait CA measures general anxiety across contexts (McCroskey, 2009). Individuals can have low, medium, and high trait CA. Additionally, trait CA may be part of an individual’s temperament. In considering temperament, trait CA allows scholars to consider personality traits, such as being introverted or extraverted (Beatty, McCroskey, & Heisel, 1998). State CA is situationally based; here, individuals may experience anxiety in certain situations, like public speaking, but not others, like group conversations (McCroskey, 1982a). There has been extensive discussion of CA as trait or

state based and a majority of communication scholars have approached CA as a trait in order to attempt to present a universal representation of CA (see McCroskey, 1982b for a more detailed discussion).

Individuals may also experience apprehension based on whether they are communicating individually or in groups, and like trait and state CA, can vary based on certain situations or across all contexts. CA contexts are conceptualized in four different ways: interpersonal, group, public speaking, and meetings (McCroskey, 1982a). These conceptualizations speak to apprehension based on individual communication experiences (public speaking and interpersonal) and group experiences (group and meeting). Researchers have found that CA negatively impacts communication in all of these contexts (Richmond & McCroskey, 1985, 1995). Not surprisingly, individuals with high CA are less likely to engage in a variety of social situations, often not doing so because they feel they lack the communication competence necessary to communicate successfully (Watson, Monroe, & Atterstrom, 1984). Also, the more often an individual encounters a particular communication experience, such as public speaking or group discussions, the less CA they experience (Pederson, Tkachuk, & Allen, 2008). Pederson et al. (2008) also found that the level of importance an individual felt about a particular communication situation and topic; as importance increased, CA decreased.

A number of factors and traits have been identified as connecting to the outcome of CA. The connection between CA and self-esteem has been well-documented, with an inverse correlation between self-esteem and CA. A review of five studies by McCroskey, Richmond, Daly, & Falcione (1977) found that as reported levels of trait CA decreased, self-esteem increased. CA is also inversely related to self-disclosure; as CA decreases, self-disclosure increases (McCroskey & Richmond, 1977). McCroskey (2009) also identified four major

communication traits, which have been exhaustively connected to CA: shyness, willingness to communicate, compulsive communication, and communication competence. Cultural norms and stereotypes play a role in an individual's reported level of CA (Richmond & McCroskey, 1985). Sex has also been connected to CA, with females generally reporting higher levels of CA about public speaking (Donovan & MacIntyre, 2004; McCroskey, Simpson, & Richmond, 1982). Age differences results have not consistently been reported; McCroskey (1982) argued this was because communication researchers were primarily studying age-similar groups (college students, children, etc.), so researchers do not report those findings. Limited research which does report age as a variable suggests there are age differences for communication apprehension, with males 45 years and older and females 55 years and older reporting lower communication apprehension than other age groups (Martin & Anderson, 1996).

CA is primarily measured using McCroskey's (1982) Personal Report of Communication Apprehension- 24 (PRCA-24) scale. The PRCA-24 measures trait and state CA across the contexts of public speaking, group discussions, meetings, and interpersonal communication with acquaintances. There is a strong relationship between each of the context, which allows the PRCA-24 to measure both trait and state CA (Beatty et al., 1998). Measuring CA on a continuum, individuals who report high levels of CA would be categorized as experiencing trait CA because an individual would have to score high on all contexts to report high levels of CA. Conversely, individuals who report low levels of CA would be categorized as probably experiencing state CA. Researchers can then identify which context individuals reported higher levels of anxiety. McCroskey also conceptualized CA beyond the PRCA-24, focusing on specific situations such as interethnic communication apprehension (PRECA), intercultural communication apprehension (PRICA), and public speaking anxiety (PRPSA) (McCroskey,

1970; Neuliep & McCroskey, 1997). The PRCA has also been adapted to specifically examine age groups include elementary and secondary education students. Booth-Butterfield and Gould (1986) introduced the Communication Anxiety Inventory, a 41-item measure, which measures context-CA and state-CA. However, this particular measure for CA has not enjoyed the same level of success and use as the PRCA-24.

Communication researchers have examined CA in a variety of communication contexts connected in a variety of contexts, including communication education (Baldwin, McCroskey, & Knutson, 1979; Jordan & Powers, 2007; McCroskey & Sheahan, 1978), public speaking (Beatty & Andriate, 1985; Beatty, Forst, & Stewart, 1986; McCroskey, 1978; Robinson, 1997), religion (Wrench, Corrigan, McCroskey, Punyanunt-Carter, 2006), interpersonal communication (McCroskey, 1976; McCroskey, Richmond, Daly, & Cox, 1975; Richmond, 1978; Wrench, Brogan, McCroskey, & Jowi, 2008), organizational and workplace communication (McCroskey & Richmond, 1979; Winiecki & Ayres, 1999), and intercultural communication (Lin & Rancer, 2003; Neuliep & McCroskey, 1997; Neuliep & Ryan, 1998). One study by Ayres and Hopf (1995) examined CA with the terminally ill, which is of particular relevance to our study. The researchers found that people with high levels with CA were less willing to communicate, volunteer, or work with terminally ill patients.

Although the PRCA-24 identifies a number of contexts from which researchers can explore communication apprehension, the research on death anxiety identifies a number of unique challenges to traditional conceptualizations of communication apprehension. Therefore, we explored the following research question in study 1:

RQ: What are the dimensions of communication apprehension with death?

### **Concurrent Validity**

The purpose of validity when validating an operationalized scale is to determine whether the scale represents or measures what it purports to measure (Kerlinger, 1986). This is typically performed by including related constructs and scales (DeVellis, 1991). Specifically, concurrent validity examines the degree to which the purposed scale is related to a measure obtained at the same time (Cohen & Swerdlik, 2005). The new measure should correlate in a theoretically meaningful way and the measures may be for the same construct. Because the purpose of this specific study was to design a measure examining communication apprehension about death, we identified two related concepts to help validate the study: fear of death and communication apprehension. We theorize that communication apprehension about death will be impacted by an individual's fear of death; the more afraid that person is of death or dying, the more likely they are to be apprehensive to talk about it. Additionally, we anticipate that communication apprehension about death will be related to general communication apprehension; they are both designed to test communication apprehension, but CA about death is a much more specific situation than is encompassed in the PRCA. Based on this, we posit the following hypotheses:

H<sub>1</sub>: Communication apprehension about death will be positively correlated with fear of death.

H<sub>2</sub>: Communication apprehension about death will be positively correlated with general communication apprehension.

Past research suggests there are sex and age differences for both communication apprehension and death anxiety. Overall, females report higher levels of communication apprehension and death anxiety. Also, younger adults report higher levels of communication apprehension and death anxiety. The clear research about sex differences make it easy to hypothesize that females will have higher communication apprehension about death; however,

the lack of clear research about communication apprehension and death anxiety suggest there will be differences, although what kind of difference cannot be related to past research. Based on past research, we argue that there should be sex and age differences in CADS.

H<sub>3</sub>: Females will report higher levels of communication apprehension about death than males.

H<sub>4</sub>: Communication apprehension about death scores will differ based on age.

### **Study One: Item Development and Exploratory Factor Analysis**

#### **Participants and Procedures**

Data collection for Study 1 began after the researchers received IRB approval from their universities. Participants were recruited through a variety of channels, including social media (Facebook and Twitter), university email list serves, disciplinary list serves, and open study call posters with a QR code linking to the survey.

A total of 302 individuals participated in Study 1. The sample consisted of 98 males and 204 females, with ages ranging from 18 to 68 years ( $M = 29.09$ ,  $SD = 10.86$ ). Participants reported a variety of racial/ethnic backgrounds, including Caucasian ( $n = 270$ , 89.4 %), African American ( $n = 20$ , 6.6 %), Asian ( $n = 4$ , 1.3 %), American Indian ( $n = 2$ , .7%), and Other ( $n = 6$ , 2%). Participants were directed to a Qualtrics survey that consisted of demographic questions and the 66 scale items. Data collection for Study 1 occurred between March and May, 2013. All incomplete surveys were removed from the data set.

Item generation for this study was based on three communication scales and four thanatology scales. The communication scales used were the Personal Report of Communication Apprehension, Situational Communication Apprehension Scale, and Unwillingness to Communication Scale. The three thanatology scales used were the Death Attitudes Profile-

Revised, Fear of Death Scale, Reaction to Loss Scale, and the Revised Collett-Lester Scale. The researchers read through each scale, identifying questions that related to the idea of communicating about death (although no questions specifically spoke to communication). Questions were altered to emphasize communication and death as appropriate. Given the extensive research and validation of death anxiety and communication apprehension measures, the researchers used these questions as templates to write their scale items, which focused on communication apprehension about death. Including questions derived from rewording previously validated measures proven successful in the past (Weber & Patterson, 1996; Wrench et al., 2006, 2008). This was easily accomplished with the two communication apprehension scales, as they are designed for researchers to insert specific communication phenomenon as the focus. For the thanatology scales, the researchers adapted questions to focus more on the communication aspects of death. For example, one question “I feel anxious about the total isolation of death” became “I feel anxious talking about the total isolation of death.” During the scale revision process, some original scale items were not used due to redundancy or lack of relevancy. Item generation resulted in 66 questions. All scale items used a 5-point Likert type scale, ranging from *strongly disagree* to *strongly agree*.

## **Results**

To answer the research question, an exploratory factor analysis was performed to determine factors for the scale. The Bartlett Test of Sphericity supported the researchers' belief that the data was appropriate for factor analysis,  $\chi^2(2145) = 13608.80, p < .00$ .

A principal component analysis was completed, using an orthogonal varimax rotation. Factors with eigenvalues greater than 1.00 and above the bend in the scree plot were retained. Additionally, only items loading higher than the .60 criterion were considered as successful

loading. The factor analysis produces a two-factor solution. Examination of the items loading on these factors revealed that one factor addresses *communication anxiety* and one factor addresses *communication avoidance*.

The first factor, labeled “Communication Anxiety about Self-Death” focuses on the anxiety that results from talking about death and dying-related issues. This factor focuses on the emotional response (anxiety) produced by communication. Anxiety is a well-established emotional trait of communication apprehension. This factor consists of six items, all of which loaded strongly on the factor, with loading scores between .819 and .715. The factor had an Eigenvalue of 24.20 and accounted for 36.68% of the variance (see Table 1 for factor loadings).

--Insert Table 1 here --

The second factor, labeled “Death Communication Avoidance” focuses on the communication approach, which resulted from talking about death and dying-related issues. This factor focuses on the communication response (avoidance) produced by communication. Avoidance is also a well-established response of communication apprehension. This factor consists of six items, all of which loaded strongly on the factor, with loading scores between .762 and .710 (see Table 1). This factor had an Eigenvalue of 4.34 and accounted for 4.34 % of the variance.

After summing and averaging the scores for the two factors, items comprising each factor were analyzed for reliability. Using Cronbach’s alpha, reliability estimates were calculated for the two factors: communication anxiety about self-death  $\alpha = .924$  and death communication avoidance  $\alpha = .919$ . All items on the scale were analyzed to determine an overall reliability estimate for the scale ( $\alpha = .930$ ). This supports face validity of the scale, whereas it accurately measures the construct (Netemeyer et al., 2003).

The measure is best described as a 12-item scale assessing two dimensions: communication anxiety and communication avoidance. See Table 2 for the complete Communication Apprehension about Death Scale (CADS).

--Insert Table 2 here --

### **Study Two: Validation and Relationship between Communication Apprehension about Death, Personal Reports of Communication Apprehension, and Death Anxiety**

The second step of this project was scale validation through concurrent validity. In this step, we created a priori hypotheses attempting to show relationships or differences between the scale and other related measures.

#### **Participants and Procedures**

Data collection for Study 2 began in July, 2013 after the researchers received IRB approval-addendum from their universities. Participants were recruited through a variety of channels, including social media (Facebook and Twitter), university email listservs, disciplinary listservs, and snowball sampling from others sharing the link to the survey.

A total of 319 individuals participated in Study 2. The sample consisted of 115 males and 203 females, with ages ranging from 18 to 68 + years. Most participants were in the 18 to 22 category. Participants reported a variety of racial/ethnic backgrounds, including Caucasian ( $n = 261, 81.8\%$ ), African American ( $n = 27, 8.5\%$ ), Asian ( $n = 11, 3.4\%$ ), Hispanic ( $n = 4, 1.3\%$ ), Hispanic-White ( $n = 5, 1.6\%$ ), American Indian ( $n = 1, .3\%$ ), and Other ( $n = 11, 3.1\%$ ).

#### **Measures**

***Communication Apprehension about Death Scale.*** The Communication Apprehension about Death Scale (CADS) consists of 12 items measured using a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The scale asks participants to report on two dimensions

related to communicating about death: communication anxiety and communication avoidance. Communication anxiety asked questions related to the emotional anxiety response participants might experience when talking about death and included questions such as “I feel anxious talking about the shortness of life.” Communication avoidance questions focus on the frequency and intensity at which participants may avoid talking about death; this dimension includes questions like “I avoid talking about death at all costs.” The overall scale had a high reliability at .92 ( $M = 2.48$ ,  $SD = .82$ ). The two factors also had high reliability; the communication anxiety factor was reliable at .92 ( $M = 3.00$ ,  $SD = .51$ ) and the communication avoidance factor was reliable at .93 ( $M = 2.25$ ,  $SD = .52$ ).

***Personal Report of Communication Apprehension-24.*** General communication apprehension was measured using the Personal Report of Communication Apprehension-24 (PRCA-24; McCroskey, 1982a). The PRCA-24 measures the degree of apprehension with real and perceived communication interactions. The scale consists of 24 items measured on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The PRCA-24 asks questions like, “Ordinary, I am very tense and nervous in conversations” and “I am afraid to express myself in meetings.” Reliability for the total scale was .87 ( $M = 62.92$ ,  $SD = 17.12$ ), which is consistent with reliability coefficients from other studies (McCroskey, Beatty, Kearney, & Plax, 1985).

***Collett-Lester Death Anxiety.*** In order to measure fear of death, we turned to the Collett-Lester Fear of Death-Revised Scale. The Collett-Lester Fear of Death-Revised Scale (Collett & Lester, 1969; Lester, 1990) is comprised of 32 statements and explored people’s fear of death among four subscales: Death of Self, Dying of Self, Death of Others, and Dying of Others. Participants are instructed to read each statement and indicate how disturbed or anxious they are on a scale of one to five, with one being “not anxious,” and five being “very anxious.” Each

subscale includes eight statements. Examples include “The total isolation of death,” “The pain involved in dying,” “The loss of someone close to you,” and, “Having to be with someone who is dying.” Overall scale reliability was high at .97 ( $M = 3.22$ ,  $SD = .93$ ) as were the four subscales of Death of Self ( $\alpha = .94$ ,  $M = 2.79$ ,  $SD = .97$ ), Dying of Self ( $\alpha = .94$ ,  $M = 3.25$ ,  $SD = .52$ ), Death of Others ( $\alpha = .89$ ,  $M = 3.73$ ,  $SD = 1.52$ ), and Dying of Others ( $\alpha = .94$ ,  $M = 3.43$ ,  $SD = 1.04$ ).

## Results

Data were analyzed with the Statistical Package for the Social Sciences (SPSS). Pearson product-moment correlations were calculated to determine relationships between pairwise combinations of variables (see Table 3). In order to test concurrent validity, we proposed two hypotheses. The first hypothesis posited that there would be a positive correlation between communication apprehension about death and fear of death. A significant positive correlations were observed between communication apprehension about death and overall fear of death ( $r[319] = .635$ ,  $p < .00$ ) as well as communication apprehension about death and the four fear of death subscales: fear of own death ( $r[319] = .709$ ,  $p < .00$ ), fear of own dying ( $r[319] = .549$ ,  $p < .00$ ), fear of others' death ( $r[319] = .457$ ,  $p < .00$ ), and fear of others' dying ( $r[319] = .502$ ,  $p < .00$ ). Correlations were also observed between the two subscales, with significant positive correlations between communication anxiety about death and fear of death ( $r[319] = .692$ ,  $p < .00$ ) and communication avoidance about death and fear of death ( $r[319] = .368$ ,  $p < .00$ ). The CADS subscales were also significantly positively correlated with the fear of death subscales (see Table 3). As fear of death increased, communication apprehension about death, including communication anxiety and communication avoidance, increased. Thus, hypothesis one was supported.

-- Insert Table 3 here --

The second hypothesis proposed that a significant positive correlation would exist between communication apprehension about death and general communication apprehension. Hypothesis two was supported with a significant positive correlation observed between communication apprehension about death and general communication apprehension ( $r[319] = .172, p < .00$ ). Significant positive correlations were observed between communication anxiety about death and general communication apprehension ( $r[319] = .161, p < .00$ ) and communication avoidance about death and general communication apprehension ( $r[319] = .133, p < .00$ ). Digging deeper, positive correlations were also observed between communication apprehension about death and the subcategories of communication apprehension: communication apprehension in groups ( $r[319] = .133, p < .00$ ), communication apprehension in meetings ( $r[319] = .190, p < .00$ ), communication apprehension in interpersonal relationships ( $r[319] = .157, p < .00$ ), and communication apprehension in public speaking situations ( $r[319] = .106, p < .05$ ). Communication anxiety about death was also positively correlated with communication apprehension in groups ( $r[319] = .130, p < .00$ ), communication apprehension in meetings ( $r[319] = .178, p < .00$ ), communication apprehension in interpersonal relationships ( $r[319] = .135, p < .00$ ), and communication apprehension in public speaking situations ( $r[319] = .014, p < .05$ ). Communication avoidance about death was positively correlated with all but one of the communication apprehension subcategories: communication apprehension in groups ( $r[319] = .093, p < .05$ ), communication apprehension in meetings ( $r[319] = .147, p < .00$ ), and communication apprehension in interpersonal relationships ( $r[319] = .146, p < .00$ ).

The third and fourth hypotheses examine differences in communication apprehension about death based on sex and age. An independent samples *t*-test revealed that females reported

significantly higher levels of communication anxiety about death,  $t(317) = -2.862, p < .00$ , and overall communication apprehension about death,  $t(317) = -2.377, p < .01$ , than males. There was not a significant difference on communication avoidance based on sex. Females are more communicatively anxious and apprehensive about death; however, they do not avoid communicating about death more than males. Hypothesis 3 was mostly supported.

A one-way multivariate of analysis (MANOVA) was calculated to examine age differences in communication apprehension about death, with a Bonferroni correction to account for multiple variate analyses. Age had a significant effect on general communication apprehension about death ( $F(9, 309) = 4.04; p < .000$ ; partial  $\eta^2 = .105$ ), communication anxiety about death ( $F(9, 309) = 2.77; p < .005$ ; partial  $\eta^2 = .075$ ), and communication avoidance about death ( $F(9, 309) = 3.75; p < .000$ ; partial  $\eta^2 = .099$ ). Tukey's HSD post-hoc tests showed that differences were between created by individuals 18 to 22 ( $M = 2.59, SD = .77$ ), 33 to 37 ( $M = 2.67, SD = 1.16$ ), and 63 to 67 ( $M = 2.72, SD = 1.58$ ) for general communication apprehension about death, between individuals 18 to 22 ( $M = 3.12, SD = 1.05$ ), 33 to 37 ( $M = 3.33, SD = 1.33$ ), and 63 to 67 ( $M = 3.06, SD = 1.78$ ) for communication anxiety about death, and between individuals 18 to 22 ( $M = 2.40, SD = .89$ ), 33 to 37 ( $M = 2.36, SD = 1.36$ ), and 63 to 67 ( $M = 3.00, SD = 1.76$ ) for communication avoidance about death. Younger adults report lower levels of overall general communication apprehension about death, middle aged adults report higher levels of communication anxiety about death, and older adults report higher levels of communication avoidance about death. These findings support Hypothesis 4.

### Discussion

The purpose of this study was to develop, test, and validate a communication apprehension measure specific to talking about dying and death. In Study 1, we created 12-item,

two-dimension measure focused specifically on communication apprehension about dying and death. The Communication Apprehension about Death Scale (CADS) measures individual's communication anxiety and avoidance about death. This is in line with the major components of communication apprehension, which theoretically argues people who are apprehensive about communicating experience anxiety and will, if possible, avoid the communication situation. Although these are theoretically part of communication apprehension, current CA measures do not specifically identify these two dimensions. The items on CADS marry death anxiety and communication apprehension, focusing specifically on many of the issues only associated with death and dying. Thus, the construction of this scale is conceptually different from typical death anxiety scales as well as communication apprehension measures.

The most popular communication apprehension measure, the PRCA-24, focuses primarily on state-CA (although a combination of the four identified states are designed to equal trait), which is situationally-based. CADS is context-based and focuses on the topics related to death and dying rather than on the space in which the conversations occur. Likewise, death anxiety scales focus on the topics, but not the communicative anxiety and avoidance which come with fear of death. CADS focuses broadly on the communication of death and dying topics rather than strictly on the emotional responses of fear. However, CADS could be used to determine situationally-based communication apprehension about death based on the intended audience (e.g., children, people with terminal illness, the recently bereaved), much like Situational Communication Apprehension Measure (SCAM; Richmond, 1978) can be adapted. Presently, more research is needed to discover the impact of CADS in specific situations.

Study 2 sought to validate CADS, using fear of death and communication apprehension measures to test concurrent validity. CADS was positively correlated with general

communication apprehension (as well as each of the four categories) and fear of death. This supports the concurrent validity of CADS. CADS also reported high reliability. Given the results of study 1 and study 2, the CADS instrument can be described as an internally reliable, 12-item, two-factor measure of communication apprehension about death. The high correlations of CADS, fear of death, and communication apprehension indicate that CADS can be used to examine apprehension about death in a theoretically meaningful and different way than a general communication apprehension scale or fear of death measure could.

The examination of sex and age differences and communication apprehension about death helps to solidify validity. Study 2 shows that females report higher levels of general communication apprehension about death and communication anxiety about self-death than males. These findings connect to past research showing that females report higher levels of communication apprehension and death anxiety. There was not a significant difference between males and females regarding the communication avoidance factor. It is possible that avoidance was not significantly different because males and females are both likely to make health and end-of-life decisions for self and others (Corr & Corr, 2012; du Pre, 2013), so avoidance may not be possible.

Additionally, age differences show the complexity of communication apprehension about death. Although young adults report lower scores of general communication apprehension about death and are less avoidant of communication about death, they still report high levels of anxiety. Likewise, older adults report high levels of general communication apprehension about death and more likely to avoid communication about death, even though they report lower levels of anxiety. Although young adults report higher levels of death anxiety and communication apprehension in public speaking, younger adults may have lower general apprehension and

avoidance because they just do not think or talk about death. Higher levels of anxiety are consistent with findings discussed in the literature review finding that young adults report higher levels of death anxiety (Thorson & Powell, 1988) Older adults may have higher apprehension and communication avoidance because it will likely involve their death; although they reported lower levels of anxiety, their average scores were still high enough ( $M = 3.06$ ) to warrant anxiety about death communication.

The studies are not without limitations. First, as a process to create and validate CADS, we focused on concurrent validity. However, a next step needs to be to test the divergent validity of CADS. Ideally, this would be done using communication measures that focus on willingness to communicate or communication competence. There are no likeminded scales in the thanatology (dying and death) field that specifically measure an individual's positive attitudes or feelings toward communicating about dying and death; however, there are items in the Death Attitudes Profile-Revised which speak to positive death acceptance (Wong, Reker, & Gesser, 1994). Second, although these studies include members of the general public, a majority of participants were college students. Students notoriously report higher levels of fear and anxiety about death (Davis, et al., 1983; Templer, 1970), primarily as a result of not normally thinking about death, believing they will "live forever", and because it is a morbid topic for younger populations. Likewise, a majority of participants were female, and as reported earlier, women tend to report higher levels of anxiety. Although we do report age and sex findings, more research is needed to examine these variables, along with other variables such as race and ethnicity, religious affiliation, and cultural beliefs. Finally, the CADS measure asks participants to holistically consider their communication apprehension about dying and death. At this point, we did not examine specific, and popular, topics related to the death and dying process, which

might influence their communication apprehension. For example, because of the popularity of conversations about organ donation, participants could report less communication apprehension about death because it is already part of their typical conversations. Finally, communication apprehension about death could impact decision-making about dying and death issues, such as end-of-life care, burial options, and advanced directives. More research is needed in order to fully explore the impact of communication apprehension about death has on the important decisions we make as our lives come to a close.

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Table 1

*Factor Loading*

	Factor One: Communication Anxiety about Self-Death	Factor Two: Death Communication Avoidance
I feel anxious talking about never thinking or experiencing anything again.	<u>.819</u>	.080
I feel anxious talking about how it will feel to be dead.	<u>.804</u>	.219
I feel anxious talking about the shortness of life.	<u>.769</u>	.229
I feel anxious talking about the fact that I am going to die one day.	<u>.744</u>	.258
I feel anxious talking about dying young.	<u>.727</u>	.217
I feel anxious talking about the total isolation of death.	<u>.715</u>	.236
I avoid talking about death altogether.	.228	<u>.762</u>
I avoid talking about death at all costs.	.237	<u>.747</u>
I have an intense fear of talking about death.	.333	<u>.731</u>
I always try not to talk about death.	.289	<u>.711</u>
I am tense and nervous while participating in discussions about death.	.256	<u>.710</u>
I am tense and nervous while discussing death.	.301	<u>.699</u>

Table 2

*Communication Apprehension about Death Scale Items*

- 
- Q1. I feel anxious talking about never thinking or experiencing anything again. (CANX)  
Q2. I feel anxious talking about how it will feel to be dead. (CANX)  
Q3. I feel anxious talking about the shortness of life. (CANX)  
Q4. I feel anxious talking about the fact that I am going to die one day. (CANX)  
Q5. I feel anxious talking about dying young. (CANX)  
Q6. I feel anxious talking about the total isolation of death. (CANX)  
Q7. I avoid talking about death altogether. (CAV)  
Q8. I avoid talking about death at all costs. (CAV)  
Q9. I have an intense fear of talking about death. (CAV)  
Q10. I always try to not talk about death. (CAV)  
Q11. I am tense and nervous while participating in discussions about death. (CAV)  
Q12. I am tense and nervous while discussing death. (CAV)
-

Table 3

*Correlations Coefficients for Communication Apprehension*

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. CADS	--	.911**	.817**	.635**	.709**	.549**	.457**	.502**	.172**	.133**	.190**	.157**	.106*
2. CANX		--	.513**	.692**	.759**	.611**	.522**	.527**	.161**	.130**	.178**	.135**	.104*
3. CAV			--	.368**	.429**	.303**	.238**	.318**	.133**	.093*	.147**	.146**	.073
4. Fear of Death				--	.864**	.903**	.871**	.886**	.256**	.147**	.275**	.213**	.233**
5. Own Death					--	.777**	.627**	.609**	.201**	.118*	.241**	.154**	.169**
6. Own Dying						--	.677**	.723**	.248**	.173**	.262**	.220**	.192**
7. Others' Death							--	.804**	.248**	.116*	.243**	.228**	.259**
8. Others' Dying								--	.235**	.139**	.246**	.185**	.223**
9. CA									--	.845**	.909**	.858**	.795**
10. CA-Group										--	.710**	.688**	.480**
11. CA- Meeting											--	.726**	.657**
12. CA- Interpersonal												--	.546**
13. CA-Public speaking													--

\* Correlation significant at .05 level (1-tailed)

\*\* Correlation significant at .01 level (1-tailed)