Communication apprehension refers to distressing feelings associated with actual or anticipated situations that require communication (McCroskey, 1984). Communication apprehension can be general (inducing the same degree of distress across all contexts) as well as context-specific. Context-specific communication apprehension refers to accentuated feelings of distress associated with a particular situation that requires communication (e.g., interpersonal or public speaking communication; McCroskey, 1984). The comprehensive body
Communication Apprehension and Competence

Communication-apprehensive individuals exhibit behaviors and psychological tendencies that impair their ability to navigate through various domains of their life competently. Research has found that those with higher communication apprehension possess higher self-attributed communication deficits, as they indicate having lower communication self-efficacy (Hassall, Arquero, Joyce, & Gonzalez, 2013) as well as communication competence (Croucher, 2013; Donovan & MacIntyre, 2004). In social contexts, McCroskey and Richmond (1977) found that communication-apprehensive individuals tend to disclose cynical and dishonest information about themselves, suggesting they are often less shrewd and competent about their social unfolding. Those with acuter communication apprehension also exhibit diminished adaptability, as those higher in apprehension indicate having lower tolerance for context ambiguity (Arquero, Polvillo, Hassall, & Joyce, 2017). As well, highly apprehensive individuals, relative to slightly apprehensive counterparts, experience more difficulties conforming to complex social settings (like a college campus; McCroskey & Sheahan, 1978). Communication-apprehensive individuals also deal with impaired competencies related to their professional attitudes, behaviors, and endeavors. Meyer-Griffith, Reardon, and Hartley (2009) showed that, when choosing potential careers, highly apprehensive individuals exhibit significantly higher decision-making confusion, inner conflict, and lack of commitment than moderately and slightly apprehensive individuals. They also showed that communication apprehension correlates positively and substantially with decision-making confusion, inner conflict, and lack of commitment. Beatty (1987) further showed that communication apprehension is detrimentally influential for competent public speaking efforts, as he found that, when given the option to, highly apprehensive individuals are more likely to avoid public speaking than slightly apprehensive ones.

Communication Apprehension and Connectivity

Communication is a primary medium for connectivity. Thus, it is no surprise that research has substantiated the lack of connectivity that communication-apprehensive individuals often experience. Studies have shown communication apprehension correlates negatively with connectedness toward classroom peers (Carlson et al., 2006), collaborative learning preferences (Arquero et al., 2017), and loneliness in general (Zakahi & Duran, 1985), thus indicating its close correspondence with social detachment feelings. McCroskey and Sheahan (1978) also found that, relative to slightly apprehensive counterparts, highly apprehensive individuals develop fewer and weaker relationships with peers and faculty in a college setting, thus suggesting that developing different forms of social capital can also be challenging for those with acute communication apprehension. When interacting, McCroskey and Richmond (1977) found that highly apprehensive individuals are significantly less inclined to disclose information about themselves than slightly apprehensive counterparts, a factor which can limit the development of...
Communication and Self-Esteem | Campero-Oliart, Lovelace, and Levitan

relationships commonly nourished through mutual disclosure of interests, opinions, and preferences (e.g., friendships and romantic relationships). Individuals’ communication apprehension also influences their decisions and nonverbal behavior in ways that lead them away from situations where interaction is likely (e.g., choosing a secluded house to live in, or choosing a seat far away from everyone in the classroom; McCroskey, 1976). Highly apprehensive individuals also exhibit such isolating tendencies through their occupational preferences, as they are acutely and consistently inclined to desire and choose occupations that require substantially less interaction than those desired and chosen by slightly apprehensive individuals (Daly & McCroskey, 1975). Further research has shown that communication apprehension is negatively associated with general willingness to communicate (Croucher, 2013) and with the desire to seek extracurricular interaction with academic lectures (Martin & Myers, 2006), thus further validating the strong connection between communication apprehension and an inhibited drive for interaction of various natures. Indeed, the reticent and detaching disposition continuously espoused by those with communication apprehension echoes their profound lack of connectivity.

As well, communication apprehension can help weaken internal and external factors that play a crucial role in the dynamics of relationship, affinity, and connectivity formation. When evaluated by peers, McCroskey and Richmond (1976) found that highly apprehensive individuals are viewed as substantially less sociable and extraverted than slightly apprehensive counterparts, a potentially harmful factor for the social life of communication-apprehensive individuals as they may be less likely to be approached by their peers if they are perceived as being less willing and eager to socialize. McCroskey, Richmond, Daly, and Cox (1975) showed that communication apprehension is associated with unfavorable social-attraction ratings from the opposite sex and that highly apprehensive individuals too tend to have more uncaring and disapproving views toward other people than slightly apprehensive counterparts. Such reciprocity of negative opinions between those with communication apprehension and those who are around them can further aid distance and block multidimensionality of relationships between these parties, thus diminishing the connectivity for those with communication apprehension.

Communication Apprehension and Independence

Communication-apprehensive individuals also experience a diminished sense of independence. Self-determination theory defines independence as the ability to be the only causal agent in one’s life (Deci & Ryan, 2008). If guided by this definition and analyzing the previously mentioned research highlighting the handicapping attributes that communication apprehension can bring about for individuals’ competence and connectivity, we can recognize that communication apprehension and other precluding factors engendered by it often play a decisive role in individuals’ behavior, reasoning, and decision-making, consequently lessening their ability to be self-governed. Research has further shown that communication-apprehensive individuals deal with a limited sense of interaction sharpness, as they often feel an accentuated fear of embarrassment within various social situations (Withers & Vernon, 2006), as well as accentuated anxieties towards tasks involving formal communication (Beatty, 1987). Communication-apprehensive individuals also employ maladaptive coping strategies that can help preclude their distress management rather than aid it. Shi, Brinthaupt, and McCree (2015) showed that reinforcing self-talk is negatively associated with communication apprehension and that self-critical self-talk is positively associated with communication apprehension. However, they also showed that highly apprehensive individuals engage in more frequent self-critical self-talk than slightly apprehensive counterparts when trying to manage their distress toward public speaking. In essence, the combined evidence indicates that communication apprehension often leads those who experience it to live lives in which they always cope with distressing feelings and dysfunctional idiosyncracies that limit their scope of possibility and potentiality.

Self-Esteem and Sociometer Theory

Self-esteem refers to individuals’ overall evaluation of their value (Leary & Baumeister, 2000). According to sociometer theory, self-esteem is a social instrument of measurement that evaluates individuals’ degree of connection and integration with society and other individuals (Leary & Baumeister, 2000). Corroborating this theory, Gruenenfelder-Steiger, Harris, and Fend (2016) showed that peers act as a source of information regarding the self and that peers are central to
the development of self-esteem and self-image in adolescence. Furthermore, Luciano and Orth (2017) also showed that romantic transitions of contrasting nature impact self-esteem in opposing ways: Although beginning a romantic relationship has a positive effect on self-esteem, separating from a romantic relationship has a negative effect on self-esteem.

Correlational studies have also suggested that conformity to social expectations and norms is associated with higher self-esteem, and deviance from these is associated with lower self-esteem. Donnellan, Trzesniewski, Robins, Moffitt, and Caspi (2005) showed that self-esteem is significantly and negatively correlated with socially deviant behaviors (e.g., aggression and delinquency) and that these correlations hold across age groups and research designs. A study examining the relationship between adolescents’ body satisfaction relative to social expectations and their self-esteem also found a strong positive correlation between the two (van den Berg, Mond, Eisenberg, Ackard, & Neumark-Sztainer, 2010). Although a large portion of the discussed research on sociometer theory is correlational and thus is only limited to inferences of association, the overall evidence corroborates the premises of sociometer theory relating higher self-esteem to a more profound sense of connectedness to society and individuals.

**Self-Esteem and Self-Determination Theory**

According to self-determination theory, individuals fulfill their true self-esteem when they act in deterministic ways (Deci & Ryan, 2008). Self-determination theory complements the premises of sociometer theory in that it also proposes that individuals have an inherent need to feel connected with others, and it further proposes that individuals have other inherent needs that will fulfill their self-esteem. That is, individuals achieve their highest self-esteem when they meet three innate psychological needs and satisfy them to their highest level: competence (mastering skills and overcoming obstacles), connectedness (establishment and maintenance of relationships), and autonomy (being the only causal mediator in one’s life; Deci & Ryan, 2008).

A corroborating work of this theory evaluated the link between low self-esteem and psychiatric illness, and demonstrated the potent relationship between low self-esteem and internal handicapping factors for one’s self-sufficiency such as depression (Sowislo & Orth, 2013). On the other hand, an investigation concerned with self-esteem and its beneficial effect on anxiety demonstrated that higher self-esteem helps diminish anxiety- arousal common in response to threatening stimuli (Greenberg et al., 1992), thus helping individuals become more independent from internal factors that could obscure their judgment in threatening situations. The mastering of situations that might have induced social anxiety in the past has also been shown to enhance self-esteem meaningfully in the future (Nordstrom, Goguen, & Hiester, 2014). In academic contexts as well, academic competence is strongly correlated with self-esteem from early ages (Rahmani, 2011), and performance in subjects like math and literature can be predicted from individuals’ academic self-concept (Ghazvini, 2011). Collectively, the supporting evidence for self-determination theory suggests that the inhibition of factors frustrating deterministic behaviors can have a positive impact on the development of self-esteem, and the nourishment of these hindering factors can yield a negative effect on the development of self-esteem.

**Present Study**

The lack of competence, connectedness, and independence that communication apprehensive individuals exhibit and the centrality of these attributes to self-esteem suggests a negative relationship between communication apprehension and self-esteem. An early inquiry found a strong correlation between general communication apprehension and self-esteem that held across cohorts of the general adult population (McCroskey, Richmond, Daly, & Falcone, 1977). To our knowledge, however, correlations between specific dimensions of communication apprehension and self-esteem as well as the strength of these correlations, if any, have not yet been examined. Previous research has shown that contexts of communication apprehension bear distinctive correlations with factors such as loneliness (Zakahi & Duran, 1985), suggesting that context-specific forms of communication apprehension bear different consequences for people’s psyche. Therefore, the aims of the present study were: (a) to reevaluate the correlation between general communication apprehension and general self-esteem in a contemporary sample, (b) to explore potential correlations between context-specific forms of communication apprehension and general self-esteem, and (c) to explore whether a specific context of communication apprehension was more strongly correlated with general self-esteem than others.
Hypotheses
It was first hypothesized that the correlation between general communication apprehension and general self-esteem would be negative and statistically significant. This prediction was based on the initial findings outlined by McCroskey et al. (1977). Second, it was hypothesized that correlations between contexts of communication apprehension assessed in this study—interpersonal, small group, meeting, and public speaking—and general self-esteem would also be negative and statistically significant. The rationale for this prediction followed that those who exhibit higher context-specific communication apprehension may likely develop: (a) a weaker sense of connectivity due to the detaching and cagey tendencies that they may adopt in that specific context, (b) a diminished sense of autonomy due to the limitations that their apprehension may impose for their context-specific endeavors, and (c) a diminished sense of competence due to the impairments that their context-specific apprehension will likely impose on their ability to carry out relevant context-specific tasks successfully. As the paucity of these attributes become increasingly evident in individuals exhibiting higher context-specific forms of communication apprehension, a decline in their self-esteem may become increasingly apparent as well. It was further hypothesized that interpersonal communication apprehension would be most strongly correlated with general self-esteem out of all contexts of communication apprehension assessed in this study. The rationale for this prediction followed that those who exhibit higher interpersonal communication apprehension may likely experience increasing challenges developing interpersonal connections. Thus, this intensified lack of interpersonal connectivity may contribute to an accentuated decline in their self-esteem due to a diminished sense of connection with the primary component of society, the individual.

Method
Participants
A target sample size of at least 30 participants was calculated by performing a power analysis for a bivariate correlation. An online correlation power calculator was used (Kohn, 2017), which accounted for the alpha (.05) and power (.80) levels, and an expected correlation coefficient of \( r = -.54 \) with a corresponding effect size of \( r^2 = .29 \). This correlation coefficient was obtained from a similar study, which found a statistically significant negative correlation between general communication apprehension and general self-esteem (McCroskey et al., 1977). A total of 40 participants were recruited \( (M_{\text{age}} = 19.48, SD = 2.83, \text{age range: 18–34}) \). Twenty-eight participants identified as women \( (M_{\text{age}} = 19.04, SD = 1.71, \text{age range: 18–26}) \) and 12 as men \( (M_{\text{age}} = 20.50, SD = 4.42, \text{age range: 18–34}) \). This sample was from a small liberal arts institution with a roughly 80% European American student body. Participants were recruited from introductory psychology classes through a research participant pool system called SONA. Participants needed to be at least 18 years of age and have no previous history of psychiatric illnesses.

Measures
Communication apprehension. Participants completed the Personal Report of Communication Apprehension (McCroskey, Beatty, Kearney, & Plax, 1985), a 24-item Likert-type scale that assesses communication apprehension in general and in four major contexts: interpersonal, small group, meeting, and public speaking contexts of communication. Six items in the scale represent every major context. When filling out the measure, individuals record the extent to which every statement applies to their feelings toward oral communication \( (1 = \text{strongly agree}, 2 = \text{agree}, 3 = \text{undecided}, 4 = \text{disagree}, 5 = \text{strongly disagree}) \). This measure includes statements such as, “I dislike participating in group discussions,” “I have no fear of speaking up in conversations,” and “I feel relaxed while giving a speech.” A Cronbach’s \( \alpha \) of .96 was found in this study, and further reports ranging from .93 to .95 (McCroskey et al., 1985) for all 24 items of the scale were indicators of its excellent internal consistency. Reports of test-retest reliability coefficients greater than .80 have also indicated it is stable over time (Rubin, Graham, & Mignerey, 1990). Concerning its validity, this measure correlates significantly with anxiety measures like the Spielberger State Anxiety Measure \( (r = .69; \text{McCroskey & Beatty, 1984}) \) and assertiveness measures like the Rathus Assertiveness Schedule \( (r = -.70; \text{McCroskey et al., 1985}) \). Its context-specific subscales also predict anxiety in related contexts (McCroskey & Beatty, 1984), and these findings have been replicated for the public speaking context (Beatty, 1987, 1988; Beatty, Belfantz, & Kuwabara, 1989; Beatty & Friedland, 1990). Studies have also shown that the public speaking subscale score predicts withdrawal, avoidance, and length of dialogue (Beatty, 1987; Beatty, Forst, & Stewart, 1986).
**Self-esteem.** Participants completed the Rosenberg Self-Esteem Scale (Rosenberg, 1979), a 10-item Likert-type scale that measures general self-esteem. This measure includes statements such as, “On the whole, I am satisfied with myself” and “At times I think I am no good at all,” to which individuals record the number that best represents their opinion toward every item-statement (1 = strongly agree, 2 = agree, 3 = disagree, 4 = strongly disagree). A Cronbach’s α of .92 found in this study and further reports ranging from .88 (Gray-Little, Williams, & Hancock, 1997) to .91 (Sinclair et al., 2010) for all 10 items showed the overall adequate internal consistency of this scale. Reports of test-retest reliability coefficients of .88 over two weeks (Rosenberg, 1979) and of .77 over two years (Donnellan, Kenny, Trzesniewski, Lucas, & Conger, 2012) also indicated its satisfactory stability. The validity of this scale is also well-corroborated. Zeigler-Hill (2010) showed it correlates strongly with Self-Liking (r = .90) and Self-Competence scales (r = .71) as well as with the State Self-Esteem Scale (r = .71), and studies showed it correlates with the Coppersmith Self-Esteem Inventory (r = .52; Francis & Wilcox, 1995) and the Single-Item Self-Esteem Scale (r = .69; Robins, Hendin, & Trzesniewski, 2001). Further, Orth, Robins, and Widaman (2012) showed this scale also predicts future depression (β = -.20), negative affect (β = -.13), and physical health (β = -.11). This measure also correlates negatively with neuroticism (r = -.50; Robins, Tracy, Trzesniewski, Potter, & Gosling, 2001) and depression (r = -.62; Lovibond & Lovibond, 1995).

**Procedure**

Before conducting the study, Shepherd University’s institutional review board approval was obtained. Presentation of consent and debriefing forms, as well as completion of all measures, were done online. Participants were first presented with informed consent information. After providing consent, participants completed the communication apprehension scale, followed by the self-esteem scale. Once finished with both measures and demographic questions, participants were debriefed on the nature and purpose of the study. There was no time limit or other restriction during the completion of the measures.

**Results**

**Analyses**

Two preliminary comparisons were conducted. The first one involved a series of independent-samples t tests to compare participants’ average general apprehension score, as well as their average context-specific apprehension subscores, to those from U.S. college students nationwide (McCroskey, 1982). The second one involved a repeated-measure Analysis of Variance (ANOVA) to compare participants’ average context-specific apprehension subscores to each other to test for average differences. A simple linear regression was conducted to test this study’s first hypothesis, which involved participants’ general apprehension scores as the predictor variable and their self-esteem scores as the criterion variable. A linear multiple regression was conducted to test this study’s second hypothesis, which involved participants’ context-specific apprehension subscores as predictor variables and self-esteem scores as the criterion variable. Further analyses involved examination of the semipartial correlation coefficients from each of the four correlations between context-specific forms of communication apprehension and self-esteem. These denote the strength of each correlation. Alpha levels for all analyses were set to .05.

**Preliminary Comparisons**

Independent-samples t tests were conducted to compare participants’ average scores for general and context-specific communication apprehension to corresponding average scores from college students nationwide. This was to assess whether the sample’s average communication apprehension levels conformed to normative ones. Participants’ average general apprehension score (M = 72.50, SD = 19.57; McCroskey, 1982) was significantly higher than the national average (M = 65.60, SD = 15.30), t(40038) = 2.85, p = .004, d = 0.45. Participants’ average context-specific apprehension subscores were also significantly higher than the national average for the public speaking, t(40038) = 2.70,
Communication and Self-Esteem | Campero-Oliart, Lovelace, and Levitan

Table 1: Estimated Mean Differences Among Contexts of Communication Apprehension Subscores

<table>
<thead>
<tr>
<th>Context</th>
<th>Small Group</th>
<th>Meeting</th>
<th>Interpersonal</th>
<th>Public Speaking</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M diff.</td>
<td>SE</td>
<td>M diff.</td>
<td>SE</td>
</tr>
<tr>
<td>Small Group</td>
<td>-0.93</td>
<td>0.69</td>
<td>-1.95</td>
<td>0.70</td>
</tr>
<tr>
<td>Meeting</td>
<td>-2.88***</td>
<td>0.76</td>
<td>3.20*</td>
<td>0.95</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>1.95</td>
<td>0.70</td>
<td>2.88**</td>
<td>0.76</td>
</tr>
<tr>
<td>Public Speaking</td>
<td>-4.13***</td>
<td>0.89</td>
<td>-3.20*</td>
<td>0.95</td>
</tr>
</tbody>
</table>

Note. *p < .05, **p < .01, ***p < .001.

Figure 2. Scatter-plot showing the trend of scores on self-esteem and general communication apprehension. The trend line illustrates the negative correlation between general communication apprehension and general self-esteem.

$\eta^2 = .32$, indicating that communication apprehension level varied significantly from context to context. Post hoc pairwise comparisons with Bonferroni corrections revealed that participants’ average public speaking subscore ($M = 21.48, SD = 6.21$) was significantly higher than their average small group ($M = 17.35, SD = 5.70; p < .001$), interpersonal ($M = 15.40, SD = 5.78; p < .001$), and meeting subscores ($M = 18.28, SD = 5.74; p = .01$). This analysis also revealed that participants’ average interpersonal subscore was significantly lower than their average meeting subscore ($p = .003$), and that there were no significant differences between their average small group and meeting subscores ($p = 1.0$) or between their average small group and interpersonal subscores ($p = .05$; See Table 1). These findings indicated that context of communication had a considerable impact on the level of communication apprehension participants felt; public speaking was the most distress-inducing context, interpersonal communication was the least distress-inducing context.

Study Aim 1

It was first hypothesized that general communication apprehension ($M = 72.50, SD = 19.57$) would be negatively and significantly correlated with general self-esteem ($M = 20.40, SD = 5.17$). As expected, the linear regression showed that general communication apprehension accounted for a significant amount of variance in general self-esteem (38%; 36% adjusted), $R = .61, R^2 = .36, F(1, 38) = 23.02, p < .001, f^2 = .61$. These results indicated that 36% of the variance in general self-esteem was explained by general communication apprehension alone, which was revealing. As general communication apprehension increased, general self-esteem decreased (see Figure 2), indicating that general communication apprehension was a potent predictor of self-esteem, $\beta = -.61, t(38) = -4.80, p < .001$.

Study Aim 2

Second, it was hypothesized that each context of communication apprehension assessed (interpersonal, small group, meeting, and public speaking) would be significantly and negatively correlated with general self-esteem, and it was further hypothesized that the interpersonal context would be most notably correlated with general self-esteem.
out of the four contexts of communication apprehension. The overall model of the multiple regression accounted for a significant amount of variance in general self-esteem, \( R = .65, R_{adj}^2 = .35, F(4, 35) = 6.31, p = .001, f^2 = .72 \), but none of the individual predictor variables were significant. Combined, the lack of the predictive significance of the individual contexts of communication apprehension for self-esteem, and the significant intercorrelations extant among these contexts (see Table 2) suggested multicollinearity among predictor variables. A collinearity analysis was conducted to evaluate the degree of multicollinearity. Tolerance values higher than 0.10 and variance inflation factors lower than 4 for all predictor variables (see Table 3) suggested a low concern for multicollinearity within the regression (Belsley, Kuh, & Welsch, 2004). Eigenvalues close to 0 and a condition number close to 15, however, indicated a multicollinearity issue (see Table 4; Belsley et al., 2004). The significance of the overall model suggested that the combination of the contexts-specific types of communication apprehension predict general self-esteem substantially. The multicollinearity among these contexts, however, made it unclear whether it was a specific context or the shared variance among all contexts that drove this association.

Individually, the small group context held the strongest correlation with general self-esteem (\( r = -.59, r^2 = .35, p < .001 \)), followed by the interpersonal (\( r = -.54, r^2 = .29, p < .001 \)), public speaking (\( r = -.51, r^2 = .26, p = .001 \)), and meeting contexts (\( r = -.42, r^2 = .18, p = .007 \)). In the regression model, the small group (\( \beta = -.34, p = .09, sr^2 = .05 \)), interpersonal, (\( \beta = -.24, p = .21, sr^2 = .03 \)), and public speaking contexts (\( \beta = -.24, p = .14, sr^2 = .04 \)) followed the predicted direction of the association with self-esteem. However, the meeting context did not follow the predicted direction of association (\( \beta = .12, p = .54, sr^2 = .01 \)) even though the correlation between this context and general self-esteem did. With multicollinearity in mind, a tentative inference was that all four communication apprehension contexts correlate considerably with general self-esteem. As for their individual correlative strength, the small group context of communication apprehension may be more closely associated with self-esteem, and the meeting context may be (more confidently suggested) the least correlated with self-esteem.

### Table 2

<table>
<thead>
<tr>
<th>Variables</th>
<th>Correlation Results (r)</th>
<th>Regression Results</th>
<th>S. E. (Unique)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Self-Esteem</td>
<td>Small Group</td>
<td>Meeting</td>
</tr>
<tr>
<td>Small Group</td>
<td>-.59***</td>
<td>-0.34</td>
<td>-.37</td>
</tr>
<tr>
<td>Meeting</td>
<td>-.42**</td>
<td>.11</td>
<td>.12</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>-.54***</td>
<td>.71***</td>
<td>.65***</td>
</tr>
<tr>
<td>Public Speaking</td>
<td>-.51***</td>
<td>.56***</td>
<td>.50***</td>
</tr>
</tbody>
</table>

\( R^2 = .42 \ R^2_{adj} = .35 \ R = .65 \) \( S_{st} = 4.16 \)

Note: *p < .05, **p < .01, ***p < .001.

### Table 3

<table>
<thead>
<tr>
<th>Variables</th>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Group</td>
<td>.37</td>
<td>2.70</td>
</tr>
<tr>
<td>Meeting</td>
<td>.44</td>
<td>2.28</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>.46</td>
<td>2.18</td>
</tr>
<tr>
<td>Public Speaking</td>
<td>.66</td>
<td>1.52</td>
</tr>
</tbody>
</table>

Note: VIF = Variance Inflation Factor.

### Table 4

<table>
<thead>
<tr>
<th>Model Dimen-</th>
<th>Eigen</th>
<th>Condition</th>
<th>Variance Proportions</th>
</tr>
</thead>
<tbody>
<tr>
<td>(constant)</td>
<td>Small Group</td>
<td>Meeting</td>
<td>Interper-</td>
</tr>
<tr>
<td>1 1 4.83</td>
<td>1.00</td>
<td>.00</td>
<td>.00</td>
</tr>
<tr>
<td>2 0.07</td>
<td>8.28</td>
<td>.38</td>
<td>.03</td>
</tr>
<tr>
<td>3 0.04</td>
<td>11.31</td>
<td>.44</td>
<td>.00</td>
</tr>
<tr>
<td>4 0.04</td>
<td>11.66</td>
<td>.13</td>
<td>.14</td>
</tr>
<tr>
<td>5 0.03</td>
<td>13.88</td>
<td>.05</td>
<td>.82</td>
</tr>
</tbody>
</table>

Note: Condition index with the largest value (bold) denotes the condition number.
Communication and Self-Esteem | Campero-Oliart, Lovelace, and Levitan

Discussion

The present study sought to reexamine the relationship between general communication apprehension and general self-esteem, assess potential correlations between specific contexts of communication apprehension and general self-esteem, and assess whether a specific context of communication apprehension was more strongly correlated with general self-esteem than others. The first hypothesis was supported by the results, which indicated a substantial and negative association between general communication apprehension and self-esteem. With this study’s unique sample in mind, these findings indicate that general communication apprehension is a potent predictor of self-esteem even among samples with higher-than-normal levels of apprehension. Although multicollinearity in the multiple regression analysis prevented our intended test for subsequent hypotheses, a comparison of correlation coefficients and effect sizes of individual correlations between contexts of communication apprehension and general self-esteem tentatively indicated that all contexts of communication apprehension were closely and negatively associated with self-esteem. These comparisons also tentatively suggested that, although the small group context may be more notably associated with self-esteem, the meeting context may be the least correlated with self-esteem out of all contexts of communication apprehension. Perhaps more distinct correlative differences among these contexts could have been observed if the sample had included a more even distribution of communication apprehension levels.

Multicollinearity among contexts of communication apprehension is not unprecedented, and some hypotheses have been formulated regarding the source of this occurrence. After encountering multicollinearity when testing these variables in another culture, Renshaw (2010) partially attributed this occurrence to potentially divergent interpretations of several contexts of communication that may be engendered by idiosyncratic social dynamics of particular cultures. However, the occurrence of multicollinearity in the study, as well as in previous research testing these variables in the American culture (Zakahi & Duran, 1985), suggests this occurrence may not be culturally bound. Renshaw (2010) also attributed multicollinearity among these variables to conceptual discrepancies in a translated version of the Personal Report of Communication Apprehension scale and suggested the necessity of revisions to the original measure. Nevertheless, several works have validated the conceptual structure and construct validity of this scale as a measure of context-specific communication apprehension (Booth-Butterfield & Gould, 1986; Levine & McCroskey, 1990).

Multicollinearity often indicates that variables assessed may be redundant. However, the collinearity diagnostics evaluated in this study indicated contradicting degrees of concern for multicollinearity among contexts of communication apprehension, suggesting a lack of consistent evidence confirming the redundancy of these variables. A plausible explanation for the multicollinearity occurrence in this study could be that the association between general communication apprehension and self-esteem was driven by the shared variance across contexts of communication apprehension and not the unique variance. Although this could conceivably suggest that communication apprehension may not vary substantially across context, this study and other research works have found significant variations in levels of communication apprehension across contexts (Booth-Butterfield & Gould, 1986; McCroskey, 1984), thus contradicting the previous notion. If level of communication apprehension does vary across context, then it is perhaps the effect of each context of communication apprehension for self-esteem that does not change substantially. Considering the highly apprehensive sample of this study, it could also be that the observed multicollinearity among contexts of communication apprehension is idiosyncratic of highly apprehensive groups, and thus perhaps the effects of context-specific forms of communication apprehension for self-esteem are only relatively unvarying among individuals with acute communication apprehension. Plausibly, the effects of context-specific forms of communication apprehension for self-esteem may be more distinguishable among those with lower communication apprehension.

Limitations and Future Directions

The correlational basis of this study prevented inferences of causation from our findings. Generalizations for groups of specific socioeconomic, racial, ethnic, and cultural backgrounds were difficult to make in this study as no information was collected regarding these and other demographics. Unique characteristics of this study’s sample also prevented the extension of the findings to more diverse populations, as this study’s sample was comprised of college students averaging 19 years of age and with a large proportion of them identifying
as women (70% of the sample). This study’s sample also belonged to a younger generation than the nationwide college student cohort from McCroskey (1982), and so possible generational differences could have impacted the observed apprehension differences. For instance, today’s college students have increased exposure to alternative modes of communication that do not require face to face or oral communication across contexts (e.g., e-mail, texting, social media), which could be conducive to a higher sense of oral communication apprehension. However, research has found that face to face communication prevails as the preferred communication medium across the latest three generations (i.e., generations X, Y, and Z; Lester, Standifer, Schultz, & Windsor, 2012; Seemiller, 2017) and that there is high intergenerational convergence in many contextual communication practices and preferences (Woodward & Vongswadi, 2017). These similitudes suggest that the current sample may indeed have had particularly high apprehension, not only in relation to norms of earlier cohorts but in relation to today’s norms as well. As such, this study’s acutely communication-apprehensive sample also limited the extension of the findings to young adult population groups with higher apprehension levels than are generally found in young adults. Further, the observed multicollinearity might also plausibly be idiosyncratic of highly apprehensive persons. Overall, the scope of generalization for these findings overarches a somewhat younger, mostly feminine, and considerably more communication-apprehensive cohort of the general population.

Future directions for this research could be assessing differences in communication apprehension across individuals with low, moderate, and high self-esteem, testing relations between contexts of communication apprehension and self-esteem in less apprehensive samples, and implementing discrete measures to assess each context of communication apprehension. An alternative method of measurement could be to assess communication apprehension through psychophysiological signs of distress. For example, Beatty and Behnke (1991) evaluated the effect of public speaking apprehension on heart-rate level and found that the average heart-rate of highly apprehensive individuals was substantially higher than slightly apprehensive ones when their performance held low stakes. Future research could use heart-rate and other psychophysiological-distress indices to assess communication apprehension for other contexts.

**Implications**

The present findings provide meaningful implications for our understanding of communication apprehension and its detrimental impact on psychological well-being. The multicollinearity among contexts of communication apprehension also tentatively indicates that their effects on the self-esteem of highly apprehensive individuals may be of relatively equal strength, although their effects on self-esteem could plausibly differ more among less apprehensive persons. These findings also amplify the group range that was formerly established for the relation between general communication apprehension and self-esteem (McCroskey et al., 1977), as these suggest that this relationship is strong even among highly apprehensive individuals. This study’s findings also have practical value for organizational and counseling domains. Employers, for instance, could use self-esteem level as an index of general communication apprehension when considering individuals for positions with substantial communication demands. For therapeutic efforts, counselors could consider the impact of communication apprehension on self-esteem and implement treatment methods to work on their patients’ communication competencies as implicit means to nourish their self-esteem.

**Conclusions**

This study showed the presence of the strong relationship between general communication apprehension and self-esteem in a contemporary sample of highly apprehensive individuals, delineated issues and explanations surrounding multicollinearity across contexts of communication apprehension, and expounded on implications from this occurrence in connection with this study’s highly apprehensive sample. Future research may want to assess relations between context-specific forms of communication apprehension and self-esteem in less apprehensive groups, as this study found evidence tentatively suggesting that these dimensions may have similar effects on self-esteem, but primarily examined those with higher apprehension. Although correlational findings do not imply causality, communication-apprehensive individuals could still focus on improving their communication competencies because doing so could help inhibit their apprehension and could also positively impact their self-esteem. Simultaneously, nourishing one’s self-esteem may just as well help inhibit one’s communication apprehension.
Communication and Self-Esteem | Campero-Oliart, Lovelace, and Levitan

References


Author Note. Alejandro R. Campero-Oliart.

https://orcid.org/0000-0002-8837-1855, Department of Psychology, Shepherd University; Christopher T. Lovelace, https://orcid.org/0000-0003-1741-0017, Department of Psychology, Shepherd University; Lindsey C. Levitan, Department of Psychology, Shepherd University.

Alejandro R. Campero-Oliart is now at Department of Psychology, American University, Washington DC.

Gracias a mis padres. Sincere thanks to Dr. Levitan and Dr. Lovelace for embarking in this endeavor with me until the end. Their collaboration, mentorship, and support made this project possible.

Correspondence concerning this article should be addressed to Alejandro R. Campero-Oliart, Department of Psychology, American University, Washington, DC 20016. E-mail: alejandrooliart@gmail.com
Psi Chi Journal of Psychological Research 2019 Reviewers

We sincerely appreciate the hard work on the part of the following individuals who each completed at least one review in 2019. Without the assistance of such dedicated professionals, Psi Chi Journal would not be able to function. —Debi Brannan (Editor)

Leslie D. Cramblet Alvarez
Adams State University

Kathryn B. Anderson
Our Lady of the Lake University

Maria Anderson
Farmingdale State College

Glena Lynne Andrews
George Fox University

Trey Asbury
Texas Woman’s University

Lara K. Ault
Saint Leo University

Ruth L. Ault
Davidson College

Danielle Balaghi
Michigan School of Psychology

Angela Banitt Duncan
Washburn University

Daniel W. Barrett
Western Connecticut State University

Mark E. Basham
Regis University

Susan E. Becker
Colorado Mesa University

Michelle Beddo
Saginaw Valley State University

Barbara Blatchley
Agnes Scott College

Stefanie S. Boswell
University of the Incarnate Word

Karen Brakke
Spelman College

Kosha D. Bramesfeld
University of Toronto Scarborough

Scott R. Brandhorst
Southeast Missouri State University

Sheila Brownlow
Columbia College

Brittany Canfield
California Southern University

Mary Jo Carnot
Chadron State College

Bradley James Caskey
Birmingham–Southern College

Shawn R. Charlton
University of Central Arkansas

Maria Carla Chiarella
University of North Carolina at Charlotte

Daniel Corts
Augustana College

Sarah Cronin
Bemidji State University

Grace Deason
University of Wisconsin - La Crosse

Teddi S. Deka
Missouri Western State University

Fabiana DesRosiers
Dominican College

Kristen Ann Diliberto-Macaluso
Berry College

Martin J. Downing
Lehman College

Gregory S. Drury
Stephen F. Austin State University

Leslie G. Eaton
State University of New York at Cortland

Ryan C. Ebersole
Albany Medical Center

Warren Fass
University of Pittsburgh, Bradford

Shlomit Flasher-Grinberg
Saint Francis University

Tifani Fletcher
West Liberty University

Azenett A. Garza Caballero
Witten State University

Rebecca Gilbertson
University of Minnesota Duluth

Jonathan J. Hammersley
Western Illinois University

Thomas Fredrick Harlow
University of Maryland Global Campus

Elizabeth A. Harwood
Rivier University

Karen Yvette Holmes
Norfolk State University

Mary T. Howell-Carter
Farmingdale State College

Robert Hymes
University of Michigan-Dearborn

Fanli Jia
Seton Hall University

David C. Johnson
Manchester University

Nancy Davis Johnson
Queens University of Charlotte

Marla Johnston
Farmingdale State College

Nancy J. Karlin
University of Northern Colorado

Emily Keener
Slippery Rock University

Jackie Köhler
Northwest Missouri State University

Camille Tessitore King
Stetson University

Casey Knisfail
California State University, Sacramento

Penny Koonz
Marshall University

David S. Kreiner
University of Central Missouri

Stella G. Lopez
University of Texas at San Antonio

Charles A. Lyons
Eastern Oregon University

Pam Marek
Kennesaw State University

Tammy McClain
West Liberty University

Julie Gay McIntyre
Russell Sage College

Albee Therese Ongsuko
Mendota

Walter Murphy
Texas A&M University-Central Texas

Susan L. O’Donnell
George Fox University

Valerie Perez
Wesley College

Mariluyn Petro
Nebraska Wesleyan University

Lindsay A. Phillips
Alabama College

Tracy M. Powell
Western Oregon University

William Ragan
Walden University

Jessica D. Rhodes
Westminster College

Lisa Rosen
Texas Woman’s University

Raylene Ross
University of South Carolina

Michael Russell
Washburn University

David A. Saarnio
Arkansas State University

J. Austin Williamson
Augustana College

William D. Woody
University of Northern Colorado

Bill Wozniak
University of Nebraska at Kearney

Robert R. Wright
Brigham Young University–Idaho

Xiaomeng (Mona) XU
Idaho State University

Jason R. Young
Hunter College

Evan L. Zucker
Loyola University New Orleans

Katie Ann R. Skogsberg
Centre College

Fernanda Sofia Woolcott
Princeton University

Tammy L. Sonnenstag
Xavier University

Shana Southard-Dobbs
Lauder University

Crystal N. Stiltenpohl
University of Southern Indiana

Rebecca M. Stoddart
Saint Mary’s College

Christopher Terry
Elimau College

Leonell Torres-Pagan
University of Puerto Rico

Janet P. Trammell
Poppinown University

Kimberli R.H. Treadwell
University of Connecticut

Dunja Trunk
Bloomfield College

Scott VanderStoep
Hope College

Allison A. Vaughan
San Diego State University

Taylor Wadian
University of Cincinnati Blue Ash College

Rebekah Wanic
University of San Diego

Kathleen West
University of North Carolina Charlotte

Wayne Wilkinson
Arkansas State University

J. Austin Williamson
Augustana College

William D. Woody
University of Northern Colorado

Bill Wozniak
University of Nebraska at Kearney

Robert R. Wright
Brigham Young University–Idaho

Xiaomeng (Mona) XU
Idaho State University

Jason R. Young
Hunter College

Evan L. Zucker
Loyola University New Orleans
Master of Arts in Psychology
A Master’s degree in psychology can lead to a new or more rewarding career in health & human services or a doctorate.

Featuring flexible program scheduling, CCSU’s MA in Psychology offers three tracks
General Psychology
Highly flexible and tailored to students’ particular interests, the graduate program in General Psychology prepares graduates for careers in health services or further graduate study.

Community Psychology
The program in Community Psychology prepares students to be active practitioners in prevention and community-based research. You can take the lead in developing and implementing interventions against the onset of substance abuse, interpersonal violence, and depression.

Health Psychology
The only program of its kind in New England, the program in Health Psychology enables students to deeply understand biological, behavioral, and social factors in health and illness and to develop interventions fostering health.

To learn more and apply: www.ccsu.edu/grad

GREAT NEWS!
Psi Chi Journal Reveals Broader Eligibility Requirements
The first author of articles published in Psi Chi Journal of Psychological Research is no longer required to be a Psi Chi member! Effective January 2020, only a single author (either the first author or a coauthor) is now expected to provide an official Psi Chi membership ID number at the time of submission.

The Psi Chi Board of Directors and Journal Editorial Team both approve of this exciting development. Consistent with best practices in publishing, this change will help open up the journal’s rigorous, but educational, peer-review process to a new, broader audience.

LEARN MORE ABOUT PUBLISHING YOUR EMPIRICAL RESEARCH WITH PSI CHI AT www.psichi.org/journal_main
# PSI CHI Advertising Contract: *Psi Chi Journal*

## CLIENT INFORMATION

**Advertiser:**

**Contact Name:**

**Address | Street or P.O. Box:**

**City | State | Zip | Country:**

**Phone (daytime):**

**E-mail:**

**Submitted by:**

**Authorized Signature:**


## DIGITAL PUBLICATION

**Issue**

- Spring (deadline Jan 31)
online Feb 22
- Summer (deadline April 15)
online May 17
- Fall (deadline Sept 3)
online Sept 28
- Winter (deadline Nov 15)
online Dec 14

**Size/Dimensions**

- Full page (no bleed): 6 ½” x 9 ½”
  Cost: $400
  Black & White only
- Half page (horizontal): 6 ½” x 4 ½”
  Cost: $275
  Black & White only

## OUR JOURNAL

Advertising in *Psi Chi Journal* allows you to connect with established psychology researchers and mentors, as well as undergraduates and graduate students striving to build a career in one of the many areas of research. People regularly visit our journal online to:

- view current and past issues,
- submit their research for publication,
- learn about reviewing for *Psi Chi Journal* and share invited editorials as teaching tools in the classroom.

All issues and advertisements are permanently free online to both members and nonmembers alike. During the 2017–18 fiscal year, psichi.org received almost 1.5 million page views, ensuring that high-achieving students and professionals will see your content for years to come.

To further enhance the visibility of our journal, latest issues and calls for submissions are regularly featured in *Psi Chi Digest* e-mails (177,000+ subscribers) and on our four social media platforms:

- Facebook (22,500+ followers)
- Twitter (4,700+ followers)
- LinkedIn (10,200+ followers)
- Instagram (1,000+ followers)

Articles are also indexed in PsycINFO, EBSCO, and CrossRef databases—essential tools that researchers use to search for millions of psychology-related articles. This makes *Psi Chi Journal* a key place to communicate your message with our Professional Organization’s three quarters of a million lifetime members and far beyond.

## AD SPECIFICATIONS

Digital format: PDF, EPS, and TIFF

Resolution: 300 dpi | B&W line art—1,200 dpi
Black & white ads (no RGB or 4-color process)
PDF settings: Press quality, embed all fonts

## DEADLINE/BILLING

Payment due upon receipt of invoice.

## CONTACT

Submit contract by e-mail to:
Susan Iles
Advertising Sales
Psi Chi Central Office
E-mail: susan.iles@psihi.org
Phone: 423-771-9964

---


---

All advertisements must be scholarly and professional in nature, and Psi Chi reserves the right to reject (or cancel) any ads that are not in the best interest of the Organization or consistent with the Society’s mission.
LOOKING FOR COLLABORATIVE RESEARCH EXPERIENCE?

Join the Psi Chi CROWD!

Students and faculty within the United States and beyond are invited to participate in the CROWD, which is Psi Chi’s annual, guided cross-cultural research project. Specific benefits of joining the CROWD include

- a reduced burden of having to solicit large numbers of participants,
- increased diversity of student samples,
- accessible materials and protocols for participating researchers, and
- a convenient platform to engage students in the scientific research process.

Contributing to the CROWD provides unique data collection and publication experiences that can be used to strengthen any student’s CV.

For more information, visit https://www.psichi.org/Res_Opps or contact the NICE Chair, Megan Irgens, at nicechair@psichi.org.
Publish Your Research in *Psi Chi Journal*

Undergraduate, graduate, and faculty submissions are welcome year round. Only one author (either first author or coauthor) is required to be a Psi Chi member. All submissions are free. Reasons to submit include

- a unique, doctoral-level, peer-review process
- indexing in PsycINFO, EBSCO, and Crossref databases
- free access of all articles at psichi.org
- our efficient online submissions portal

View Submission Guidelines and submit your research at [www.psichi.org/?page=JN_Submissions](http://www.psichi.org/?page=JN_Submissions)

---

**Become a Journal Reviewer**

Doctoral-level faculty in psychology and related fields who are passionate about educating others on conducting and reporting quality empirical research are invited become reviewers for *Psi Chi Journal*. Our editorial team is uniquely dedicated to mentorship and promoting professional development of our authors—Please join us!

To become a reviewer, visit [www.psichi.org/page/JN_BecomeAReviewer](http://www.psichi.org/page/JN_BecomeAReviewer)

---

**Resources for Student Research**

Looking for solid examples of student manuscripts and educational editorials about conducting psychological research? Download as many free articles to share in your classrooms as you would like.

Search past issues, or articles by subject area or author at [www.psichi.org/journal_past](http://www.psichi.org/journal_past)

---

**Add Our Journal to Your Library**

Ask your librarian to store *Psi Chi Journal* issues in a database at your local institution. Librarians may also e-mail to request notifications when new issues are released.

Contact PsiChiJournal@psichi.org for more information.