

Willingness to Communicate: Antecedents & Consequences

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Willingness to communicate (WTC) is examined at the trait and state levels, which are viewed as complementary. Measures of trait WTC, extraversion, emotional stability, self-esteem, communication apprehension, and competence were administered to 226 male and female university students. A structural equation model examined the hypothesized antecedents to WTC and revealed a good fit to the data. Seventy of the participants also volunteered for a communication laboratory. Trait WTC was related to volunteering for the lab portion of the study and state WTC was related to initiating a difficult communication task. Also, state perceived competence predicted both time and number of ideas on an easy speaking task; state anxiety predicted time and number of ideas on a difficult speaking task.

KEY CONCEPTS: Willingness to communicate, perceived competence, communication apprehension, trait, state.

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The concept of willingness to communicate (WTC) was developed by McCroskey and associates as an expansion of Burgoon's (1976) work on unwillingness to communicate (McCroskey & Richmond, 1987). McCroskey and Richmond (1990) maintain that people demonstrate regularity in their level of WTC across situations, therefore it should be defined as a personality trait. This trait is manifested by the stability in an individual's cognitive processes when confronted with the choice to engage in communication or not (MacIntyre & Clément, 1996). Even though WTC is considered trait-like, McCroskey and Richmond (1990) acknowledge that it is also related to situational variables such that, given a specific trait-determined level of WTC, persons will still vary in their willingness to speak across situations.

This theoretical statement led us to examine WTC from two complementary perspectives: the trait and state level. At the trait level, we examined the effects of key personality traits on communication-related affective variables. In doing so, we

propose a model to represent the psychological processes associated with producing or enhancing WTC in general. At the state level, we examined variables during a specific moment in time and within a specific situation (Cattell & Scheier, 1963). From this perspective the present research investigated participants' willingness to communicate under specific laboratory conditions. Also included were state measures of anxiety and perceived competence to examine their effects in a communicative situation.

The Trait Perspective

McCroskey & Richmond (1987) maintain that there are a number of antecedents to WTC, specifically introversion, perceived communication competence, communication apprehension, self-esteem, anomie, and alienation. Because the latter two variables were not significantly linked to WTC in MacIntyre's (1994) analysis of the antecedents to WTC, they were not included in the current research. However, given the prominent role afforded communication apprehension in previous theory (for example, McCroskey & Richmond, 1990) and empirical results (for example, MacIntyre & Clément, 1996) the antecedents will be expanded to include an additional personality trait related to the experience of anxiety in general: the dimension of emotional stability versus neuroticism.

Introversion/extraversion. Early research linking personality traits with communication (Borg & Tupes, 1958; Carment, Miles & Cervin, 1965) demonstrated that introverted people are less likely to communicate than are extraverts. Thus McCroskey and Richmond (1990) proposed that this trait is an antecedent to WTC. They suggest that because an introvert tends to be less socially active than an extravert, an introvert is not required to communicate as often (McCroskey & Richmond, 1990). An extravert, on the other hand, requires communication to facilitate social interaction and, therefore, places a higher value on communication.

Emotional stability/neuroticism. Conceptually, emotional stability is a trait defined as broadly as extraversion/introversion and is considered a basic, global trait in both the Five Factor Model (Costa & McCrae, 1987) and in Eysenck's personality typology (Eysenck, 1970; Eysenck & Eysenck, 1985). Emotional stability versus neuroticism refers to an individual's typical level of anxiety, worry, and ease of emotional upset (see Goldberg, 1993). On one hand, persons with high emotional stability tend to be calm, secure, and self-assured. On the other hand, persons with low emotional stability show neurotic tendencies such as nervousness, emotional distress, insecurity, and feelings of inadequacy (Costa & McCrae, 1985, p. 2). To the extent that these tendencies are realized, a clear effect on self-esteem would be predicted. Emotional stability, in combination with extraversion/introversion, has the potential to contribute to the model of factors underlying WTC, particularly self-esteem.

Self-esteem. Self-esteem is the perception of self-worth; it is the positive or negative evaluation of self-knowledge that is included in our self-concept (Rosenberg, 1979). Self-esteem is a well-researched topic that has implications for not only thoughts and emotions, but behavior as well (Campbell & Lavelle, 1993). An individual with low self-esteem is likely to be less willing to communicate (McCroskey & Richmond, 1990). This might be true for a number of reasons. First, people with low self-esteem are more sensitive to environmental cues (Campbell & Lavelle, 1993). As a result, they will be greatly affected by the possibility of negative feedback (e.g., ridicule) that they might receive and especially prone to communication apprehension. Motivated by self-

protection, a person with low self-esteem will have a tendency to avoid situations in which his/her self-esteem might be threatened. Second, a person with low self-esteem is apt to believe that she/he has nothing meaningful to contribute, thus he or she will be less willing to communicate (McCroskey & Richmond, 1990). However, as McCroskey & Richmond (1990) point out, self-esteem does not always correlate significantly with willingness to communicate. The reason, they maintain, is that self-esteem exerts its influence through other communication variables such as communication apprehension and perceived communication competence.

Communication apprehension (CA). Apprehension is certainly a well-researched topic in communication and, according to McCroskey and Richmond (1987), it is probably the best predictor of willingness to communicate. Defined as an individual's level of fear or anxiety associated with either real or anticipated communication with another person or persons, CA is viewed as having a trait-like quality (McCroskey & Richmond, 1987). Communication apprehension is also closely linked to perceived communication competence (McCroskey & Richmond, 1990). A person may experience communication apprehension if his/her perceived competence level is too low for the demands of the current situation (Philips, 1984). Thus, the consideration of how the combination of perceived competence and apprehension affects one's willingness to communicate is advisable.

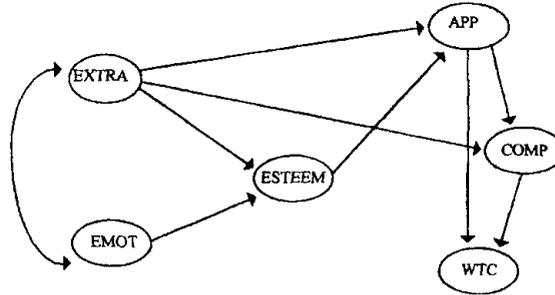
Perceived communication competence. Extrapolating from the work of Philips (1968, 1977, and 1984) on reticence, McCroskey and Richmond (1990) maintain that people who perceive themselves to be poor communicators are apt to be less willing to communicate. We must emphasize that this involves the *perception* of one's abilities. Conceivably, an individual who is actually a very capable communicator might not perceive him/herself as such, possibly due to low self-esteem or other factors. As a result, this person would tend to have low WTC in spite of high actual competence (McCroskey & Richmond, 1990). For this reason, perceived communication competence is expected to be strongly predictive of WTC.

The present study examines the previously-mentioned personality traits and communication variables in a structural equation model. The model is arranged such that the most generalized, broadly-applicable elements of personality are shown to the left and the more specific, circumscribed variables appear to the right. Relations among the variables are represented by arrows which indicate that if one were to affect change in an antecedent variable, changes in the subsequent variable would be expected. The magnitude of the resulting change would be predicted based on the magnitude of relation between the two variables, as represented by the empirically-derived coefficient associated with the arrow. The adequacy of the model can be evaluated based on the ability of the proposed model to account for the correlations among the variables obtained from the actual data. Structural equation models combine confirmatory factor analysis, which defines the latent variables, with path analysis to assess relations among latent variables.

Examining the conceptual model in Figure 1 from left to right, we begin with extraversion and emotional stability, move to an intermediate level represented by self-esteem, and conclude with three variables specifically related to communication. Consistent with McCroskey and Richmond's (1990) theoretical discussion, we propose that basic personality variables ultimately exert their influence on WTC through such variables as self-esteem, communication anxiety, and perceived competence. Links were drawn from extraversion to both perceived competence and communication

apprehension. An extravert should be more likely to have communicative experience and thus feel more competent in his/her abilities. We also hypothesize that extraverts would be lower in communication apprehension. Both extraverts and emotionally

FIGURE 1
Conceptual Model



NOTE: EXTRA = EXTRAVERSION
 EMOT = EMOTIONAL STABILITY
 ESTEEM = SELF-ESTEEM
 APP = APPREHENSION
 COMP = COMPETENCE
 WTC = WILLINGNESS TO COMMUNICATE

stable persons are predicted to have higher self-esteem because their social interactions would be more positive (see McCrae & Costa, 1990).

Based on McCroskey and Richmond's (1990) analysis, self-esteem is hypothesized to affect WTC through communication apprehension. Consistent with MacIntyre's (1994) model, the two most immediate antecedents of WTC are communication apprehension and perceived communication competence. Finally, a path was drawn between communication apprehension and perceived competence based on the hypothesis that persons who are highly anxious will tend to rate themselves as lower in perceived competence (see MacIntyre, Noels and Clément, 1996).

The State Perspective

In addition to testing the proposed antecedents of WTC at the trait level, the current study also investigates the impact of a particular situation on state WTC in a communication laboratory. Zakahi and McCroskey (1989) asked laboratory participants to complete a questionnaire and respond to a few questions. That study began with a pool of 87 individuals who scored high on WTC and 89 who scored low. Twenty-five randomly selected participants from each group were contacted and asked to come to a lab. Results revealed that 92% of the respondents who scored high on the WTC scale were willing to participate in the laboratory study, but only 24% of those who scored low on the scale were willing to participate (Zakahi & McCroskey, 1989). As a result of their findings, they proposed that WTC could possibly be a confounding variable in communication research. The present research extends the Zakahi and McCroskey (1989) study by asking participants not only to come to a laboratory but also to engage in both oral and written communicative tasks.

Because communication apprehension and perceived competence are proposed

as the most immediate antecedents to WTC at the trait level (see MacIntyre, 1994), these variables were further examined as "state" variables in a communication lab as well. The state reactions observed in the lab will reflect more than just the influence of relevant trait-like variables. States potentially will be affected by several variables including mood, physiological factors (e.g., arousal levels), environmental conditions (eg., the presence of recording equipment), and a host of other factors. Previous research on both apprehension and perceived competence indicates that these variables are associated with actual communicative behavior (Richmond & McCroskey, 1985).

In the present study, measures of the communicative behavior displayed in the lab will be taken. Specifically, time spent communicating and the number of ideas given will be recorded. These indices were chosen because they are relatively objective measures of behavior that can be predicted by the state-level measures of WTC, communication apprehension, and perceived competence in a regression equation. Given that WTC is defined by the intention to *initiate* communication, the time spent communicating and the number of ideas generated will likely be more strongly affected by communication apprehension and/or perceived competence.

The specific research questions and hypothesis involved in the present research are as follows:

- RQ1: Will the proposed structural model of antecedents to WTC account for the correlations observed by measuring those variables?
- H1: Those who volunteer for the laboratory will be higher in trait-like WTC than those who do not volunteer.
- H2: In the lab, those higher in state WTC will be more likely to initiate communication, both oral and written. Participants lower in WTC will be more likely to refuse. Corresponding differences in anxiety and perceived communication competence also are expected.
- RQ2: Which state variable, willingness, anxiety or perceived communication competence, will best predict the number of ideas and length of time spent communicating?

METHOD

Participants

Participants were 226 male and female university students (53 males and 171 females with the sex of two participants not reported) ranging in age from 17 to 47 years with an mean age of 21 years. They were enrolled in Interpersonal Communication, Introductory Psychology, Personality Psychology, and Introductory English university-level courses. The Introductory Psychology students received extra credit in the form of bonus points for participation in this study. From this pool of participants, 86 volunteered for the laboratory portion of the study. Sixteen participants did not keep their appointment, possibly because of illness, forgetting the meeting, or changing their minds about participating. Data for a total of 226 participants were available for the trait-level analysis, and a subset of 70 participants provided data for the laboratory portion of the study (state-level analysis).

Materials

Five scales were used to measure willingness to communicate, perceived

competence, self-esteem, extraversion, emotional stability, and communication anxiety. An additional speaking and writing task questionnaire was also developed and administered. Descriptions are as follows:

Trait Level

Willingness to Communicate Scale (McCroskey & Richmond, 1990). This is a 12-item scale that asks respondents to indicate how willing they would be to communicate (0% - 100%) in various situations (e.g., public, meeting, group, or dyad) and with various interlocutors (e.g., stranger, acquaintance, or friend). Following McCroskey (1992), eight "filler items" were administered but the corresponding data were not analyzed. A reliability analysis found Cronbach's alpha coefficient to be .90. This scale was divided into three observed variables; namely, willingness with friends, acquaintances, and strangers. Factor loadings in the structural model for these variables were .61 for friend, .91 for acquaintance and .56 for stranger.

Self-Perceived Competence Scale (McCroskey & McCroskey, 1988). This 12-item scale was used to measure perceived competence. The scale employs a structure similar to the WTC scale and measures perceived competence in communicating with friends, acquaintances, and strangers in dyads, meetings, groups, and in public. A reliability analysis produced a Cronbach's alpha coefficient of .89. This scale was divided into the three observed variables, competence with friends, acquaintances, and strangers. The factor loading for friends was .58, for acquaintances .97, and strangers .63.

Communication Apprehension Scale (McCroskey, Richmond, and McCroskey, 1987). This is a 12-item scale, using a structure similar to the two preceding scales, was used to measure communication apprehension with friends, acquaintances, and strangers in dyads, groups, meetings, and in public. Cronbach's alpha coefficient was found to be .88. This scale was also divided into apprehension with friends, acquaintances, and strangers with factor loadings of .60, .87, and .78, respectively.

Self-Esteem (Rosenberg, 1979). This is a 10-item questionnaire measured on a nine-point scale. Cronbach's alpha coefficient was determined to be .85. This scale was divided into three variables (defined by the sum of the first three items, the middle three items, and the final four items) with factor loadings of .82, .81 and .74, respectively.

Transparent Bi-Polar Inventory (Goldberg, 1992). This is a 35-item scale used to measure the big five personality traits. However, only the fourteen items corresponding to extraversion (Cronbach's alpha coefficient = .73) and emotional stability (Cronbach's alpha coefficient = .74) were used. Both variables were measured with 7 items on a nine-point scale. Each latent variable was represented by three observed variables based on the sum of the first two items, the next two items, and the final three items. The factor loadings for extraversion were .78, .69, and .62. The loadings for emotional stability were .67, .79, and .76.

Communication Tasks. A 20-item list of speaking and writing tasks (10 each) was developed and administered for the purpose of selecting tasks to be administered in the communication lab (see Appendix A). Although the items in the list were not used as a scale, reliability estimates revealed a degree of communality among responses to the items (20-item alpha = .82, 10 speaking items alpha = .69, and 10 writing items alpha = .72).

Respondents were asked to indicate how willing they would be to do each of the

tasks. From this set of questions, tasks were selected that would be appropriate for communicating for three minutes and were also chosen so as not to give any one group of students an advantage. For example, question number 12 was a task that, on average, respondents reported that they were unwilling to do, but this question was not chosen because it was thought that students majoring in English might have an unfair advantage.

A subset of four tasks (see *Communication Tasks* below) was chosen for the lab portion of the study. The choice was based on the responses available before the first lab session was conducted ($n = 114$). One writing task and one speaking task were chosen based on an average above four on a five-point scale, indicating high willingness. These were designated as "easy tasks." One speaking and one writing task were chosen based on a mean below three, indicating low willingness. These were classified as "difficult tasks."¹

State Level

The above trait-level measures are inappropriate for measuring state reactions. Following research by Walk (1956) and MacIntyre and Gardner (1991), in order to obtain the required ratings expeditiously, a thermometer-shaped figure was used for each of three state variables, willingness, anxiety, and perceived competence. The three state measures were presented on a single sheet of paper. Participants made four sets of these ratings, one corresponding to each of the tasks below:

Willingness. Respondents were asked to judge how willing they would be to perform each task (scale of 1 to 10).

Anxiety. Respondents were asked to judge how anxious they felt about performing each task (scale of 1 to 10).

Perceived competence. Respondents were asked to indicate how competent they felt about performing each task (scale of 1 to 10). Participants were asked to perform the following communication tasks, each within a three-minute time limit:

Communication Tasks. The following four tasks were administered in the lab portion of the study: (1) speak about your favorite hobby (easy), (2) describe the educational system in some detail (difficult), (3) write a postcard telling a friend what the university is like (easy), and (4) write a short essay concerning federal control on immigration (difficult).¹

Procedure

Participants were given the scales 1-6 during regularly scheduled classes. The questionnaires were administered in two different random orders. Students also were asked to volunteer for the laboratory portion of the study. If they agreed, they were asked to sign the bottom portion of the consent form and to provide a telephone number. Volunteers were contacted and asked to come to the lab individually. When participants arrived, their name and phone number were removed from the questionnaire and destroyed; all were assured that participation was strictly voluntary and that they could refuse to answer any question.

Participants were told that they would be asked to consider doing four tasks – two speaking and two writing tasks. Before proceeding, however, participants were shown each task and then asked to fill out 10-point state measures indicating how anxious, willing, and competent they felt at that particular moment about performing each task. Participants were asked to provide these three ratings even if they did not intend

to do the task. They were also informed that they would have a three-minute time limit for each task, and could speak or write as little or as much as they wished within this time period. This procedure was repeated for each of the four tasks.

The two speaking tasks were performed first, starting with the easy one. Participants' responses were recorded on audio tape. The writing tasks were performed next; again the easy task was completed first. The spoken and written responses for each participant were coded on the basis of the amount of time (in seconds) it took to complete the task and the number of ideas communicated.

Before examining these results, an inter-rater reliability analysis was performed on the coding of the number of ideas spoken and written by a randomly chosen sample of participants ($n = 33$). Results revealed a correlation of $r = .99$ for the easy speaking task and $r = .94$ for the difficult speaking task. The inter-rater reliability analysis for the easy writing task was $r = .94$ and $r = .94$ for the difficult speaking task, indicating very good reliability in the coding of the data.

RESULTS

The results will be introduced in four parts: (1) a trait-level structural model to examine antecedents of WTC; (2) a t-test to determine whether those who volunteered for the lab have higher WTC than those who did not; (3) multivariate analyses of variance (MANOVAs) to examine the differences in state willingness, anxiety, and perceived competence between those who chose to perform each particular task and those who did not; and (4) multiple regressions to examine state predictors of time and number of ideas communicated on each task.

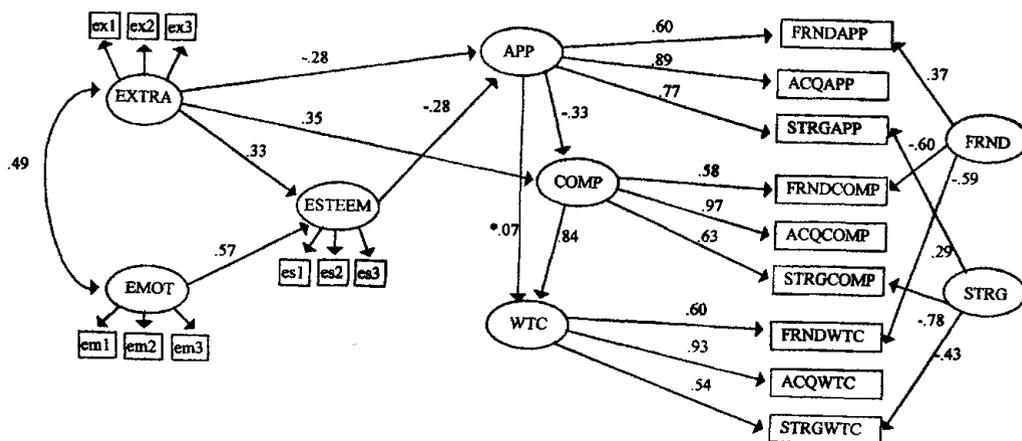
Trait-level

A structural model, analyzed using AMOS 3.5 (Arbuckle, 1995), was evaluated on the data collected from the survey measures of the trait variables. A covariance matrix with listwise deletion and standardized estimates was utilized in the analysis.² The present analysis revealed a good fit for the model of the antecedents of WTC (see RQ1). The chi-square for this model was significant ($\chi^2(121, N = 226) = 207.28, p < .05$) indicating significant residual variance in the covariance matrix. However, the ratio of chi-square to degrees of freedom (1.71) indicated a good model. The goodness of fit index (GFI) = .91, the adjusted GFI = .88, the TLI = .94, the CFI = .95, and the NFI = .90 all indicated a good model (Note: Goodness of fit indexes with a value of 1.0 indicate a model that fully accounts for the correlations obtained). For a discussion of the evaluation of fit indices, see Arbuckle (1995) and Hu & Bentler (1995).

Within the model, eight of the nine paths shown in Figure 2 were significant ($t > 2$). Moving from left to right, the correlation between the two exogenous personality variables (extraversion and emotional stability) was positive (.49). There were positive paths between extraversion and both self-esteem (.33) and perceived competence (.35) and a negative path from extraversion to anxiety (-.28). This indicates that an extravert is likely to feel competent about his/her communication abilities, is likely to feel less anxious about communication, and is also likely to have higher self-esteem. There was a positive path leading from emotional stability to self-esteem (.57) indicating that an individual who is higher in emotional stability is also likely to have high self-esteem.

Moving farther along on the model, a negative coefficient was found between communication anxiety and communication perceived competence (-.33); a highly

FIGURE 2
Structural Model Results



NOTE: ex1, ex2 & ex3 are indicator variables for extraversion
em1, em2 & em3 are indicator variables for emotional stability
es1, es2 & es3 are indicator variables for self-esteem
*Nonsignificant path

Legend:

extra = extraversion
emot = emotional stability
esteem = self-esteem
app = apprehension
comp = competence
wtc = willingness to communicate

strg = stranger
frnd = friend
acq = acquaintance
○ = latent variables
□ = observed variables

anxious communicator is less likely to feel competent about his or her abilities. The path between anxiety and willingness was nonsignificant ($t < 2$). Perceived competence was found to be the best predictor of an individual's WTC with very strong path (.84) in this sample. Finally, at the farthest end of the model, two latent variables—friends and strangers—were included to help account for measurement variance common among the WTC, perceived competence and apprehension scales.

The factor loadings for the latent variable friend on the observed friend variables were as follows: friend anxiety .37, friend competence -.60 and friend willingness -.59. The factor loadings the latent variable stranger were as follows: stranger anxiety .29, stranger competence -.78 and stranger willingness -.42. An attempt was made to include a latent variable for acquaintance, but was removed because it introduced problems with model identification.

State-level

In order to determine whether there was a significant difference in WTC between those who volunteered for the laboratory portion of this study and those who did not, a one-tailed t-test was conducted (see H2). The mean WTC of the group who did not attend the lab was $M = 735.60$ while the mean WTC of those who volunteered for the lab was $M = 786.23$. A t-test revealed that the group who attended the laboratory reported significantly higher WTC ($t(209) = 1.79, p < .05$) than the group who did not. This indicates that WTC was related to the decision to volunteer for the laboratory

portion of the study.

The third hypothesis predicts differences in the state measures of willingness, anxiety, and perceived competence between those who agreed and those who refused to communicate. To address this issue, two multivariate ANOVAs were performed on the data from the difficult speaking and writing tasks. The easy tasks were excluded from the analysis because nobody refused the easy writing task and only one person refused the easy speaking task, making it impossible to statistically compare people who communicated with those who refused.

The analysis of the difficult speaking task revealed a significant average correlation among the dependent variables (average $r = .233, p < .05$) and a significant multivariate effect (Pillais³ = .155, $p < .05$). Subsequent univariate tests showed significant differences only for state WTC ($F(3,66) = 6.23, p < .05$). Inspection of the means revealed that those who initiated communication had much higher scores for state WTC ($M = 7.18$) than those who refused ($M = 1.43$). A similar multivariate ANOVA was conducted on the difficult writing task. The dependent variables showed a significant average correlation ($r = .542, p < .001$) and a nonsignificant Box M test (Box $M = 6.37, p < .44$). A significant multivariate effect was obtained (Pillais = .153, $p < .05$).

At the univariate level, a significant difference in error variance was observed only for the anxiety rating ($F(1,68) = 11.38, p < .001$). Univariate tests for mean differences revealed significant effects for both WTC ($F(3,66) = 11.98, p < .01$) and perceived competence ($F(3,66) = 4.78, p < .05$). As with the speaking task, the means for the difficult writing task showed that those who initiated communication had higher scores for state WTC ($M = 5.65$) than those who refused ($M = 3.22$). The means for state perceived competence indicated that those who complied indicated higher ratings of perceived competence ($M = 3.52$) than those who did not comply ($M = 2.22$).

To address the second research question (RQ2) and determine whether willingness, anxiety, or perceived competence best predicts the number of ideas and length of time communicated in the lab, eight stepwise multiple regression analyses were conducted. The reason for conducting 8 regressions is to avoid combining the two criterions, time and number of ideas, into an aggregate variable whose scores would be difficult to interpret, even if the data were standardized. Conceptually, there are differences between speaking and writing that justify keeping them separate. Also, the easy and difficult tasks produce clearly different effects from anxiety and perceived competence.⁴

The two criterion variables in the regressions were (1) time spent speaking and (2) number of ideas communicated for the easy speaking task, the difficult speaking task, the easy writing task, and the difficult writing task (yielding 8 regression equations). The three state variables (willingness, anxiety, and perceived competence) measured for each task were used as the predictors. For the easy speaking task, results indicated that only perceived competence predicted speaking time ($\beta = .314; t(64) = 2.62, p < .05$) and number of ideas presented ($\beta = .345; t(64) = 2.92, p < .01$). For the difficult speaking task, only anxiety predicted speaking time ($\beta = .305; t(62) = 2.51, p < .05$) and number of ideas ($\beta = .340; t(62) = 2.83, p < .01$). There were no significant predictors for either of the writing tasks.

DISCUSSION

Two research questions and two hypotheses were examined in this paper. First, the proposed structural model of trait-level data was tested. Second, it was hypothesized

that those who volunteered to attend a communication lab would be higher in WTC than those who did not. Third, it was hypothesized that those who were higher in WTC would be less apt to refuse to do the communication tasks. Finally, the second research question asked which state variable would best predict the number of ideas and time communicated for each task?

The structural model supports McCroskey and Richmond's (1990) proposed antecedents of WTC. Surprisingly, however, a nonsignificant path was found between communication apprehension and WTC. Contrary to McCroskey's theory, in this study apprehension exerts its influence on WTC only through perceived competence, although this result might be a statistical artifact of the unusually strong relation between perceived competence and WTC. In examining communication contexts involving second language use, MacIntyre and Charos (1996) also found that perceived competence was more strongly related to WTC than was communication apprehension. The present results suggest that if communication apprehension is low, an individual's perceived competence is likely to be higher, which in turn leads to a greater willingness to communicate.

Phillips (1984) argues that a preoccupation with apprehension about communicating can have a direct impact on an individual's level of perceived competence. Furthermore, people who feel they are competent communicators are inclined to seek out circumstances in which they can cultivate their communication skills (Richmond & McCroskey, 1985). This would explain the very strong path found from perceived competence and WTC. This explanation would also account for the paths from extraversion to perceived competence and apprehension. By definition, extraverts tend to be socially active individuals and therefore, tend to have more opportunities to gain communicative experience. This, combined with higher self-esteem, would serve to lower their apprehension about communicating (Eysenck & Eysenck, 1985).

Discussion of the results of structural equation models frequently use the language of causality. Indeed, this analytic procedure is often called "causal modeling" or "causal analysis." Essentially the procedure tests whether a particular proposed model is supported by an obtained correlation matrix in the sense that the model accounts for those correlations. The resulting model does not allow for the inference of causality, but does indicate where the correlations are consistent with the proposed structure and where expected relations are not observed. The nature of the causality shown in the model is that if one were to make changes in an antecedent, then changes in another variable would be expected. Subsequent research, *designed* to test for causality, is required.

In addition, the model may be useful in generating hypotheses to be tested. For example, based on the model in Figure 2, one can hypothesize that if an experimenter reduced apprehension among a group of communicators, then an increase in perceived competence would be expected. If the experimental procedure succeeded in increasing the perception of communication competence, then increases in WTC would be predicted. Conversely, increasing apprehension would be expected to lower perceived competence leading to a reduction in WTC.

This study supported and extended Zakahi and McCroskey's (1989) research on WTC as an important variable in communication research. The finding that those who volunteered for the laboratory portion of the study scored significantly higher on WTC than those who did not was replicated. Although Zakahi and McCroskey interpreted

this as a confounding variable, the result sheds light on the validity of the WTC concept. Clearly those who chose to volunteer for a communication lab were indicating a willingness to enter a situation in which communication would be expected. In fact, this is evidence in favor of the key hypothesized effect of WTC, that is, choosing to communicate when given the opportunity. Should a researcher want to obtain a sample of participants with a broader range of levels of willingness, he/she might make attending the laboratory a course requirement so that larger range of levels of willingness to communicate among participants may be obtained. Future research might also have respondents fill out a WTC scale and then observe communication in a more naturalistic setting where the focus is on the interlocutor who initiates conversation.

Once in the lab, additional effects of WTC were observed. The only state variable found to differentiate those who chose to initiate a response for the difficult speaking task from those who chose to refuse was WTC. For the difficult writing task, state WTC and perceived competence differentiated those who responded from those who did not. We have already noted that those who attended the lab were higher in WTC than those who did not. Therefore, willingness not only influenced who volunteered for the lab, but also affected whether they completed the communication tasks once in the laboratory situation. This offers strong support for McCroskey's definition of WTC as the probability of initiating communication when given the choice to do so.

In terms of actual communication behavior, the multiple regression analysis revealed that perceived competence predicted both the speaking time and number of ideas for the easy speaking task, while anxiety predicted the time and number of ideas for the difficult speaking task. Anxiety likely played a negligible role in the easy speaking task simply because the topic (i.e., speak about a hobby) was familiar and non-threatening. Only one person refused to respond indicating simply that he/she had no hobbies. Perceived competence might have played a larger role in the writing task because higher competence allows one to offer more detailed, elaborate responses, especially when the task is relatively easy and open-ended. On the more difficult speaking task, anxiety emerges as the best predictor. This may reflect a disruption of cognitive processes that accompanies anxiety arousal (Eysenck, 1979). In essence, more anxious speakers tend to show higher concern with self-presentation and potential embarrassment, so that if the individual believes that she/he might not make a good impression, anxiety can be aroused (Leary & Kowalski, 1995). Anxiety might arise even if the speaker perceives that the impact he/she is making is good, but yet not up to their personal standards (Leary & Kowalski, 1995). In essence, heightened anxiety seems to override the effect of perceived competence on the difficult tasks.

The results of this study help to clarify the concept of WTC. By definition, WTC deals with the decision to initiate communication. We found that WTC did indeed predict participants' volunteering for the communication lab. Furthermore, consistent with McCroskey and Baer's (1985) definition, WTC affected the decision to initiate communication during the lab. In fact, WTC was the sole predictor of those who attempted difficult speaking tasks, when given the choice. Apparently, once communication has been initiated, the influence of WTC is complete and other communication variables (anxiety and perceived competence) play more dominant roles.

These trait-level and state-level results are complementary and can be integrated. We would argue that trait-level WTC prepares individuals for communicative

experiences by creating a general tendency to place themselves in situations in which communication is expected. Within a particular situation, state WTC predicts the decision to initiate communication. After communication begins, other state variables, such as apprehension and perceived competence, exert a greater influence on communicative behavior. In turn, these variables likely act as antecedents affecting the person's WTC the next time opportunity arises (Beatty, 1988).

In conclusion, it can be seen from these results that trait willingness may bring an individual into situations in which communication is likely. However, once in a particular situation, state willingness can influence whether communication takes place. If communication does occur, then other variables important to communication, such as anxiety or perceived competence, become more relevant to communicative behavior.

APPENDIX A

Directions: Please Indicate how willing/unwilling you would be if asked to do the following:

5 - definitely yes
4 - probably yes
3 - unsure
2 - probably no
1 - definitely no

- # _____ 1. Write a note telling your friend where you are now and what time you'll home.
- # _____ 2. Describe the role of parliament in the Canadian government.
- _____ 3. Speak about your favorite relative and explain why this person is your favorite.
- _____ 4. Write about your favorite t.v. show.
- _____ 5. Talk about the pros and cons of capital punishment.
- _____ 6. Write a postcard telling a friend what the university is like.
- # _____ 7. Describe the educational system of your home province/state in some detail.
- _____ 8. Describe the layout of your bedroom.
- _____ 9. Write down three things that you would like to receive for your birthday.
- * _____ 10. Discuss the idea that a person should seek commitment rather than freedom.
- # _____ 11. Write an advertisement for a bicycle.
- * _____ 12. Discuss the idea that poets are the unacknowledged legislators of the world.
- _____ 13. Discuss the courses you are taking at your university.
- * _____ 14. Write a short essay concerning federal control on immigration.
- # _____ 15. Give Directions from one familiar landmark to another.
- # _____ 16. Write down your skills in such a manner as if you would be applying for a job.
- # _____ 17. Speak about your favorite hobby.
- _____ 18. Write about the culture of your country and what it means to you.
- _____ 19. List three benefits and three problems with unions.
- * _____ 20. Write a short essay concerning asking for course credit for extracurricular activities.

* - Taken directly or adapted from Wall (1977).

- Taken directly or adapted from MacIntyre, Noels & Clément (1997).

NOTES

- 1 To address the issue of whether high and low WTC participants found these tasks relatively "easy" or "difficult", a median split on trait-like WTC scores was performed. The speaking tasks and writing tasks were then ranked within each WTC group. Both high and low WTC participants ranked the easy speaking task as the one they were most willing to do. Both high and low WTC participants ranked the difficult speaking task as the one they were third least willing to do. The difficult writing task was ranked as the one both groups were least willing to write. The easy writing task was ranked second by the high WTC group (mean = 4.47 out of 5) and third by the low WTC group (mean = 4.41 out of 5). This indicates that within both high WTC and low WTC groups, participants were relatively willing to do both easy tasks and relatively unwilling to do both difficult tasks.
- 2 This matrix can be obtained from the first author.
- 3 Following Tabachnick and Fidell (1996), the Pillais statistic was chosen for this analysis because the test for equality of covariance matrices was significant (Box M = 33.9, $p < .001$). A local test (advocated by Kirk, 1995) for homogeneity of error variance suggested that only the anxiety rating produced significantly different error variances for the speaking task ($F(1,68) = 12.2, p < .001$). Only the univariate effects for WTC were interpreted, therefore these violations were not considered to have a major impact on the meaning of the results.
- 4 Finally, a 2x2 within-subjects ANOVA, with the factors mode of communication (speaking vs. writing) and difficulty level (easy vs. difficult) revealed a significant interaction for both of the dependent variables used as the criterion in the regression analyses, number of ideas ($F(1,67) = 7.67, p < .01$) and time ($F(1,69) = 9.23, p < .01$). This indicates that there are significant differences across the tasks, as is evident from the regressions.

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