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Self-Report Measurement

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For over 60 years, communication avoidance, anxiety, and fear have constituted a major concern of social scientists who study communication. In fact, this area represents the oldest continuing empirical research effort in the field of communication. Throughout six decades of research, continuing attention has been directed toward the issue of measurement.

The three major approaches to measurement initiated in the early days of the research continue to the present. Lomas (1934) and Gilkinson (1942) began the stream of research that employs self-report measures. Henning (1935) initiated research using observer ratings. Redding (1936) launched the research that focuses on measurement of physiological arousal.

After approximately 25 years of research, Clevenger (1959) published a major review of the research done to that time. He found that all three approaches to measurement generated highly reliable scores. However, he observed that the scores did not seem to be related to each other meaningfully. As he put it:

Surprisingly, instruments which are so reliable display comparatively poor interactions. Results of comparisons of various indices of stage

fright suggest that the emotional disturbance which is recorded on physiological measuring devices is different from both the emotional disturbance which the speaker reports having experienced, and the emotional disturbance which a group of judges report having observed, and that the latter are different from each other. (p. 137)

The overwhelming concern of this early research was anxiety or fear relating to public speaking or, more commonly, stage fright. In recent years communication avoidance, anxiety, and fear have been examined in other communication contexts. However, a survey of the more recent literature indicates that Clevenger's conclusion in 1959 could be drawn today as well. Self-reports, physiological arousal indicants, and observer ratings, although often significantly correlated, are not measures of the same thing. Isomorphism, concurrent validity, and interchangeability simply are not present.

Although Clevenger's (1959) conclusion, as well as the one I drew earlier, is based on the empirical findings of research, careful conceptualization prior to that research would have made the findings expected rather than surprising. In most cases, such care in conceptualizing communication avoidance, shyness, communication apprehension, and reticence has not been present prior to instrument development. Of particular importance for conceptualization in this area is the trait-state distinction advanced by Spielberger (1966). Although this dichotomy is now discredited by many writers, the underlying concept of the distinction is critical for our understanding of measurement in this area.

Human behavior is the product of at least two interacting factors: characteristic predispositions of the individual (traits), and situational constraints on behavior at a given time (states). Individual traits are relatively enduring over time, whereas states are highly variable. Applying this to the common problem of stage fright, a person may be generally apprehensive about giving speeches and thus will experience considerable anxiety when forced into giving a speech. Another person may generally enjoy and not fear giving speeches. However, if that person is asked to give a speech on television with insufficient time to prepare, he or she may experience a comparable amount of anxiety. The anxiety of one stems primarily from the trait of the individual, the anxiety of the other is primarily the result of the situation itself. Depending on how we choose to measure stage fright in this instance, the two measures may be either highly correlated or totally uncorrelated.

Willingness to communicate, shyness, communication apprehension, and communication competence can all be measured by self-report, observer rating, or physiological arousal at either a trait or state level. However, the three measurement approaches are not equally useful for all purposes or at all levels. The primary thing we must determine before we

select or construct a measure is what we want to measure. The three primary options available are physiological arousal, behavioral disruption, and cognitive comfort or discomfort. I consider each measurement approach next and suggest when each may be most useful.

CHOOSING A MEASUREMENT APPROACH

Indicants of Physiological Arousal

If one wishes to measure physiological arousal, the many instruments that record indicants of physiological arousal are the obvious and correct choice. The case for such measures appears strong, at least on the surface. Physiological responses are hard to fake, and the instruments, if handled by competent professionals, are not as subject to such human frailties as demand characteristics and experimenter biases as are other instruments. However, there are many pitfalls in the use of such instruments. Few scientists and even fewer teachers are trained in the appropriate use of the technology involved. This equipment in the hands of the untrained individual is useless and very likely to lead to false knowledge claims that are difficult to identify in research reports. In addition, use of such instruments for screening large numbers of students would seldom be economically or strategically feasible. Finally, as Beatty notes in his chapter on physiological measurement, many issues are not yet settled, even among the experts, on how such data should be analyzed and interpreted.

The usefulness of physiological measures, for all intents and purposes, is restricted to state issues. Because of the difficulty of calibrating such equipment to each individual, the possibility of using such measures across a sufficient variety of communication settings to generate an estimate of a trait arousal level is extremely remote and, in the case of some instruments, completely impossible with current technology.

Finally, we must address the question of whether we should attempt to measure arousal at all. *Arousal does not equal anxiety; arousal simply equals arousal.* Considerable research indicates that people who report experiencing anxiety and people who report feeling exhilaration can have highly similar arousal levels. The measures of arousal, then, have insufficient face validity as indicants of the trait level of willingness to communicate, shyness, communication apprehension, or communication competence to deserve attention from researchers concerned with these constructs. Even for measurement of state levels of these variables, physiological measures are of highly questionable validity. Physiological measures only have validity as measures of *arousal*. The sole exception would be research that employs previously validated measures of these constructs

along with measures of physiological arousal in the attempt to discover the physiological impact of these constructs in various communication settings. Physiological measurement, then, is the least useful approach for measurement in this area.

Behavioral Observation

Most scholars concerned with willingness to communicate, shyness, communication apprehension, or communication competence profess their concern as a result of the presumed relationship between these constructs and potentially observable human behaviors that may have important positive or negative effects in the life of an individual. While I share this concern, I also believe that communication apprehension (in particular as it is conceptualized in Chapter 3) can have important effects on the individual that are not observable in behavior. Nevertheless, much of the research in this general area is amenable to the use of behavioral observation.

As communication competence typically is conceptualized (as the ability to perform competent communication behaviors), behavioral observation probably is the most valid and useful approach to measurement. Predispositional and physiological arousal factors are only marginally related to this construct. Thus, whether one is interested in a general trait of communication competence or competence in a specific state setting, observed behavior is the only indicant with strong face validity. When communication competence is conceptualized as a *cognitive* construct (an understanding of correct or appropriate communication behavior), however, behavioral observation does not have the same presumption of validity. What people know, and what they do, often have little relationship to each other, although it would be reasonable to expect to observe at least a modest relationship if enough observations of each are made.

Communication avoidance and shyness (which I see as virtually isomorphic constructs) are also amenable to measurement by behavioral observation. Both are behavioral constructs that envision the person who is shy or avoidant as engaging in less communication, either generally (trait) or in a given situation (state). Thus observation of behavior should provide a measure with strong face validity if carefully administered. This presumption, however, does not extend to the measurement of willingness to communicate. Because WTC is conceptualized as a cognitive predisposition, not a pattern of behavior, behavioral observation does not have a presumption of validity. The way people might prefer to behave, and the way they actually behave, often have little relationship to each other, although, again, it would be reasonable to expect to observe at least a modest relationship if enough observations of each are made.

Behavioral observation is least useful as a measure of communication apprehension because there are no behaviors that are specifically predicted from the communication apprehension conceptualization. Rather, this conceptualization envisions a variety of options available to the individual, many of which are not directly observable. In short, measurement by behavioral observation has little or no face validity for communication apprehension. It could only serve as a very indirect and imprecise measure at best.

To say that behavioral observation is potentially useful for some measurement purposes is not to say that it should regularly be the measure of choice. This approach has several limitations that may force its rejection for some purposes.

Observing behavior is often, although not always, an intrusive approach to measurement. The observer may, and often does, alter the behavior being observed. This is particularly true in dyadic and small group communication settings, but can apply to any setting. One method advocated for overcoming this problem is the use of video recording. However, as one who has carefully debriefed subjects who knew they were being videotaped, this is only a "better than nothing" improvement. Intrusion is still there. Secret video-taping, which could overcome this concern, raises serious ethical questions that may make its use inappropriate.

The most difficult problem for the researcher considering the use of behavioral observation is the determination of what behavior is to be observed. For example, if reticence is the reverse of communication competence, what behaviors shall be taken as evidence of reticence? As a field we are in far from complete agreement about the nature of what we call "competent" communication. We simply have not yet come to agreement on the set of behaviors that will operationally define this construct. Some believe we never will. In the absence of such general agreement, we have operationalism at its worst—"Reticence (or other construct) is whatever my measure measures." Such an approach is unlikely to lead to major advances in knowledge.

Behavioral observation probably is most useful for assessing states and least useful for assessing traits. This is not inherent in the technology of the method, but is a function of the limitations on the practical application of the method. Behavioral observation is highly time-consuming and expensive in most instances. It usually is difficult to apply appropriately even to assess states because resources typically are more limited than would be desirable. To assess traits requires extensive observation across many settings to generate valid data. Resources are seldom available for such careful observation. Even the use of this method where it may be most appropriate, the screening of students for reticence/competence for purposes of assignment for communication instruction, is seldom economically feasible. Thus the practical alternatives we often confront are to choose another method or to use this method in an inappropriate and

invalid way. Unfortunately, the overreaction of our society to the need to assess communication competence often leads us as individuals as well as our professional associations to accept the latter alternative.

Self-Report

The most widely employed approach to measurement in the areas of willingness to communicate, shyness, communication apprehension, and self-perceived communication competence is that of self-report scales. There are several reasons for this clear preference on the part of both researchers and practitioners—some good, some not so good.

Many people argue that the best way to find out something about someone is simply to ask her or him. I cannot argue that logic, except to point out that it is true only if the person *knows the answer* and if the person *is willing to tell you the truth*. To illustrate: If you ask me how many ounces of blood there are in my body, I cannot give you the correct answer because I do not know. However, if you ask whether I feel apprehensive about interviewing with a university president for a position, I can give you a correct and precise answer. In addition, if you are a good friend of mine and you ask me whether I fudge on my income tax return, I know the correct answer and probably will tell you the truth. But if you are a tax auditor and ask me the same question, it is most likely I will tell you I do not, whether I do or not.

Self-report measures, then, are most appropriate when they are directed toward matters of affect and/or perception in circumstances in which the respondent has no reason to fear negative consequences from any answer given. They are least useful when they are directed toward matters of fact that may be unknown or unknowable by the respondent. For research involving the constructs of willingness to communicate, shyness, communication apprehension, and self-perceived communication competence, these distinctions are critical to the decision on selection of this type of measure.

Self-report measures clearly are the most commonly used ones for measuring willingness to communicate and communication apprehension. Because these constructs are directed toward the cognitions of the individual, they are well suited to self-report measurement if care is taken to avoid causing the respondent to provide false answers. The WTC and PRCA-24 measures have strong face validity and evidence of construct and predictive validity as well. They are the only measures isomorphic with the WTC and CA constructs. Physiological and observation measures lack such isomorphism and thus must rest their case for validity on observed correlations with previously validated self-report measures.

Self-report measures are amenable to either trait or state concerns with communication apprehension. Respondents can report their general feelings, their feelings in broad categories of communication situations, and their feelings in specific situations with equal ease.

Self-report measures probably are the least useful for measuring communication competence employing the behavioral conceptualization of that construct. Although subjects can report whether they *feel* competent in general or in specific settings, they are not likely to be in a position to know whether they *are* competent. Most likely such self-reports would be influenced by the respondent's self-esteem. Respondents with high self-esteem would report being more competent, whereas those with low self-esteem would report being less competent. Such reports might even be somewhat correlated with observed competence, but they would still lack face validity. It has been my experience, for example, that many people who consider themselves the most competent in interpersonal communication or public speaking (often experts and teachers in the area) are, in fact, among the least competent.

When communication competence is conceptualized as a cognitive construct, in the sense of knowing or understanding appropriate or effective communication choices, regular paper-and-pencil tests can be used. These should not be confused, however, with what we usually mean when we talk about "self-report" measurement. Self-reports can only be used in the communication competence area when we are concerned with what the person thinks of their own competence, not how competently they could, or really do, behave. Self-perceived communication competence can be measured appropriately with the SPCC measure. It has high face validity, and evidence supports both its construct and predictive validity as well.

The use of self-report instruments to measure shyness is problematic. The question that must be addressed is whether respondents actually know how much they talk compared to others. On the one hand, Bernard and Killworth (1977) present convincing evidence that people cannot accurately report with whom they talk on a given day (the basic data for much communication network research). On the other hand, at least one measure of shyness, what has come to be known as the McCroskey Shyness Scale (MSS), has good face validity, has generated a respectable validity quotient when assessed against observer ratings (McCroskey & Richmond, 1982a), and has appropriate midrange correlations with communication apprehension and willingness to communicate. Importantly, Bernard and Killworth attempted to use self-reports to measure behavior at the state level, whereas the MSS presumes to tap shyness at the trait level. Given the different outcomes of these two uses of self-reports, we may infer that self-reports of shyness may be more valid for trait measurement than they are for state measurement. However, more research is

needed before we should completely disregard the self-report approach for all state behavior measurement purposes.

Although determining advice for or against the use of self-report scales for measuring shyness is difficult, the decision probably should be based on two considerations: (a) Does the self-report measure have a substantial case for validity compared to observer ratings? and (b) Is it practically feasible to use observer ratings as an alternative?

As I noted previously, behavioral observation has strong face validity for the measurement of behavioral shyness. Such face validity is lacking for most other measurement approaches. Thus behavioral observation, other things being equal, should be the measure of choice. However, in many instances it is not feasible to employ this method. When this is the case, the researcher should turn to self-report measurement with extreme care. The only behavioral shyness self-report measure currently available that has a strong case for validity, as noted earlier, is the McCroskey Shyness Scale. There are a number of other shyness measures available in the literature, however, most of them clearly are simply crude measures of interpersonal communication apprehension, and most of them have only modest data supporting validity, if any at all. One of the most widely used measures of shyness (Zimbardo, 1977), for example, has a modest case for predictive validity, but I have been unable to generate acceptable validity quotients against observer ratings for this measure. It is probable that this measure is simply a crude and imprecise measure of communication apprehension because it generates moderate correlations with established communication apprehension measures, and the Zimbardo conceptualization of shyness is very similar to the conceptualization of communication apprehension outlined earlier in this book.

All in all, self-report measures are potentially very useful for researchers concerned with willingness to communicate, communication apprehension, self-perceived communication competence, and (with appropriate caution) shyness. They represent an inexpensive and efficient method of assessing large numbers of respondents with minimum effort imposition. Of course, the choice of self-report instrument must hinge on the instrument's demonstrated validity. The use of unvalidated instruments should be avoided. Validated instruments for most purposes are available and should be chosen over the many others that have appeared in the literature.

AVAILABLE MEASURES

A wide variety of self-report measures related to willingness to communicate, communication apprehension, communication competence, and shy-

ness have been reported in the literature. Many of these have been used infrequently, and little information concerning their validity is available, so these will not be considered here. The ones that are discussed next are instruments that have been used in several studies, have a good case for validity, and/or show some promise for future use. These are grouped in seven categories: measures of willingness to communicate, measures of communication competence, measures of shyness, measures of communication apprehension in generalized contexts, measures of trait-like communication apprehension, measures of state communication apprehension, and measures of introversion.

Measures of Willingness to Communicate

Clearly, the measure with the best case for reliably and validly measuring the trait of willingness to communicate is the WTC scale (McCroskey, 1992; McCroskey & Richmond, 1987), as in Figure 7.1.

The Predispositions Toward Verbal Behavior (PVB) scale was developed by Mortensen, Arntson, and Lustig (1977), a 25-item, 7-step scale, Likert-type scale with good reliability. Some of the items on the scale appear to be more appropriate for a measure of communication apprehension, whereas the bulk of the items appear to measure trait-like orientations toward initiating, maintaining, and dominating communication, as the conceptualization of predispositions toward verbal behavior outlined. This conceptualization is quite different from the willingness to communicate conceptualization, so it is not surprising that the measure is not a good measure of that construct. The PVB appears to be measuring a variety of trait orientations; therefore, what the single score it generates actually represents is unclear. Although it was not designed specifically to do so, it may be that this measure actually measures (with a reversal of scoring) a person's tendencies toward behavioral shyness. We consider that later when we consider measures of behavioral shyness.

The Unwillingness-to-Communicate Scale (UCS) was the first measure designed to measure a construct similar to the WTC construct (Burgoon, 1976). The scale has been found to have two independent dimensions, one measuring communication apprehension and the other measuring perceived communication rewards. Clearly, this is *not* a valid measure of WTC and should not be used for that purpose. The apprehension dimension is considered later as a measure of trait communication apprehension.

DIRECTIONS: Below are 20 situations in which a person might choose to communicate or not to communicate. Presume you have *completely free choice*. Determine the percentage of times you would *choose to initiate communication* in each type of situation. Indicate in the space at the left what percentage of the time you would chose to communicate. Choose any numbers between 0 and 100.

-
- ___ 1. Talk with a service station attendant.
 - ___ 2. Talk with a physician.
 - ___ 3. Present a talk to a group of strangers.
 - ___ 4. Talk with an acquaintance while standing in line.
 - ___ 5. Talk with a salesperson in a store.
 - ___ 6. Talk in a large meeting of friends.
 - ___ 7. Talk with a police officer.
 - ___ 8. Talk in a small group of strangers.
 - ___ 9. Talk with a friend while standing in line.
 - ___ 10. Talk with a waiter/waitress in a restaurant.
 - ___ 11. Talk in a large meeting of acquaintances.
 - ___ 12. Talk with a stranger while standing in line.
 - ___ 13. Talk with a secretary.
 - ___ 14. Present a talk to a group of friends.
 - ___ 15. Talk in a small group of acquaintances.
 - ___ 16. Talk with a garbage collector.
 - ___ 17. Talk in a large meeting of strangers.
 - ___ 18. Talk with a spouse (or girl/boy friend).
 - ___ 19. Talk in a small group of friends.
 - ___ 20. Present a talk to a group of acquaintances.
-

SCORING: The WTC permits computation of one total score and seven subscores. The range for all scores is 0-100. Follow the procedures outlined below.

1. Group discussion—add scores for items 8, 15, and 19; divide sum by 3. Scores above 89 = high WTC, scores below 57 = low WTC in this context.
2. Meetings—add scores for items 6, 11, and 17; divide sum by 3. Scores above 80 = high WTC, scores below 39 = low WTC in this context.
3. Interpersonal—add scores for items 4, 9, and 12; divide sum by 3. Scores above 94 = high WTC, scores below 64 = low WTC in this context.
4. Public speaking—add scores for items 3, 14, and 20; divide sum by 3. Scores above 78 = high WTC, scores below 33 = low WTC in this context.
5. Stranger—add scores for items 3, 8, 12, and 17; divide sum by 4. Scores above 63 = high WTC, scores below 18 = low WTC with these receivers.
6. Acquaintance—add scores for items 4, 11, 15, and 20; divide sum by 4. Scores above 92 = high WTC, scores below 57 = low WTC with these receivers.
7. Friends—add scores for items 6, 9, 14, and 19; divide sum by 4. Scores above 99 = high WTC, scores below 71 = low WTC with these receivers.
8. Overall WTC—add scores for stranger, acquaintance, and friend; divide sum by 3. Scores above 82 = high WTC, scores below 52 = low WTC.

Figure 7.1. Willingness to communicate scale

Measures of Communication Competence

The best measure of self-perceived communication competence is the Self-Perceived Communication Competence (SPCC) scale, which was specifically designed for that purpose (McCroskey & McCroskey, 1988), as shown in Figure 7.2. This measure requests self-reports of individuals' perceptions of their own communication competence within a matrix of four types of communication context and three types of communication receivers. The

DIRECTIONS: Below are 12 situations in which you might need to communicate. People's abilities to communicate effectively vary a lot, and sometimes the same person is more competent to communicate in one situation than in another. Please indicate how competent you believe you are to communicate in each of the situations described below. Indicate in the space provided at the left of each item your estimate of your competence. Presume 0 = completely incompetent and 100 = competent.

-
- ___ 1. Present a talk to a group of strangers.
 - ___ 2. Talk with an acquaintance.
 - ___ 3. Talk in a large meeting of friends.
 - ___ 4. Talk in a small group of strangers.
 - ___ 5. Talk with a friend.
 - ___ 6. Talk in a large meeting of acquaintances.
 - ___ 7. Talk with a stranger.
 - ___ 8. Present a talk to a group of friends.
 - ___ 9. Talk in a small group of acquaintances.
 - ___ 10. Talk in a large meeting of strangers.
 - ___ 11. Talk in a small group of friends.
 - ___ 12. Present a talk to a group of acquaintances.
-

SCORING: To compute the subscores, add the percentages for the items indicated and divide the total by the number indicated below.

Public	1 + 8 + 12; divide by 3.
Meeting	3 + 6 + 10; divide by 3.
Group	4 + 9 + 11; divide by 3.
Dyad	2 + 5 + 7; divide by 3.
Stranger	1 + 4 + 7 + 10; divide by 4.
Acquaintance	2 + 6 + 9 + 12; divide by 4.
Friend	3 + 5 + 8 + 11; divide by 4.

To compute the total SPCC score, add the subscores for Stranger, Acquaintance, and Friend. Then divide that total by 3. Scores above 87 = high SPCC, scores below 59 = low SPCC.

Figure 7.2. Self-perceived communication competence scale (SPCC)

requested responses are direct, low-inference estimates of competence. The judgment as to what makes the person competent or incompetent is left to the respondent and not imposed by the instrument. This measure has excellent reliability and face validity, and its predictive and construct validity are quite satisfactory (Richmond, McCroskey, & McCroskey, 1989).

Several other self-report measures of communication competence have received extensive use in the research literature (Duran, 1983; Rubin, 1985; Spitzberg, 1983; Spitzberg & Cupach, 1984; Wiemann, 1977). However, all these were designed to be measures of actual communication competence—not the subject's self-perception of her or his competence. Whether these instruments actually measure the individual's true competence is a matter of dispute in the literature. Clearly, however, they do not measure the subject's self-perception of her or his communication competence. In every case the self-report is based on the scale developer's perception of what makes a competent communicator—not that of the respondent. Hence, it is quite possible that a person with a high self-perception of competence could obtain a low score, or a person with a low self-perception of competence could obtain a high score, on any one of these instruments. Whether these instruments, then, are valid measures of true (behavioral) communication competence is subject to validation against actual communication behavior. In any case, these measures are, at best, measures of *researcher*-perceived communication competence, not *self*-perceived. The two should not be confused.

Measures of Shyness

As noted previously, I consider shyness to be the tendency to avoid communication and talk less. In other words, shyness represents a behavioral tendency, not a cognitive or affective orientation. Shyness has been defined in other ways by other scale developers. Scales that measure "shyness" conceptualized in a different way are considered in another section.

The measure of communication avoidance that I developed (McCroskey, Andersen, Richmond, & Wheelless, 1981) was generated as an artifact of attempting to develop a measure of communication apprehension with simplified wording that could be used with preliterate children. Preliminary work indicated the presence of two factors that, although being substantially correlated (around .60), were clearly distinct. The items on one factor measured communication apprehension. Those on the other factor related specifically to the amount a person believes he or she talks compared to others. Items on this factor provided the foundation for the instrument that has come to be known as the McCroskey Shyness Scale (MSS) to distinguish it from other instruments with a similar name but that are designed to measure a different construct.

After some refinement the measure became a 14-item, 5-step, Likert-type scale with good reliability and face validity. The validity of the MSS is also demonstrated by moderately high correlations between MSS scores and observer ratings (McCroskey & Richmond, 1982a). The scale is presented in Figure 7.3.

In unpublished research I have found the PVB scale and the MSS to be correlated above .80, suggesting concurrent validity for the two measures. Because the MSS has good correlations with observer ratings, it seems likely that the PVB will be found to have similar correlations. In general, then, either measure can be chosen with some confidence. However, if length of scale or simplicity of wording is an important concern, the MSS should be preferred because it is shorter and simpler.

A measure that was designed to measure something in the opposite direction of behavioral shyness also needs to be considered here. The

DIRECTIONS: The following 14 statements refer to talking with other people. If the statement describes you very well, circle "YES." If it somewhat describes you, circle "yes." If you are not sure whether it describes you or if you do not understand the statement, circle "?". If it somewhat describes you, circle "no." If the statement is a very poor description of you, circle "NO." There are no right or wrong answers. Work quickly; record your first impression.

1. I am a shy person.	YES	yes	?	no	NO
2. Other people think I talk a lot.	YES	yes	?	no	NO
3. I am a very talkative person.	YES	yes	?	no	NO
4. Other people think I am shy.	YES	yes	?	no	NO
5. I talk a lot.	YES	yes	?	no	NO
6. I tend to be very quiet in class.	YES	yes	?	no	NO
7. I don't talk much.	YES	yes	?	no	NO
8. I talk more than most people.	YES	yes	?	no	NO
9. I am a quiet person.	YES	yes	?	no	NO
10. I talk more in a small group (3-6) than others do.	YES	yes	?	no	NO
11. Most people talk more than I do.	YES	yes	?	no	NO
12. Other people think I am very quiet.	YES	yes	?	no	NO
13. I talk more in class than most people do.	YES	yes	?	no	NO
14. Most people are more shy than I am.	YES	yes	?	no	NO

SCORING: YES = 1, yes = 2, ? = 3, no = 4, NO = 5.

Please score your response as follows:

Step 1: Add the scores for items 1, 4, 6, 7, 9, 11, and 12.

Step 2: Add the scores for items 2, 3, 5, 8, 10, 13, and 14.

Step 3: Complete the following formula:

$$\text{Shyness} = 42 + \text{Total of Step 2} - \text{Total of Step 1}.$$

Scores above 52 = high shyness; scores below 32 = low shyness.

Figure 7.3. Shyness scale (SS)

research effort from which this measure has emerged is concerned with compulsive communication behavior—essentially people who are driven to talk or, as they are referred to in this work, “talkaholics.” The Talkaholic Scale (TS; McCroskey & Richmond, 1993, 1995) is presented in Figure 7.4. This instrument has very good reliability, and interviews with individuals who have scored highly on the instrument confirm they truly are compulsive communicators. This instrument correlates with the MSS at about .60, but is not highly correlated with any of the other measures discussed in this chapter. This suggests that people who score highly on this instrument are not shy, but, more than that, they are *compulsively* not shy. It is not clear at this point whether high scorers on this scale are the same peo-

DIRECTIONS: The questionnaire includes 16 statements about talking behavior. Please indicate the degree to which you believe each of these characteristics applies to you by marking, on the line before each item, whether you (5) strongly agree that it applies, (4) agree that it applies, (3) are undecided, (2) disagree that it applies, or (1) strongly disagree that it applies. There are no right or wrong answers. Work quickly; record your first impression.

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- ___ 1. Often I keep quiet when I know I should talk.
 - ___ 2. I talk more than I should sometimes.
 - ___ 3. Often I talk when I know I should keep quiet.
 - ___ 4. Sometimes I keep quiet when I know it would be to my advantage to talk.
 - ___ 5. I am a “talkaholic.”
 - ___ 6. Sometimes I feel compelled to keep quiet.
 - ___ 7. In general, I talk more than I should.
 - ___ 8. I am a compulsive talker.
 - ___ 9. I am not a talker; rarely do I talk in communication situations.
 - ___ 10. Quite a few people have said I talk too much.
 - ___ 11. I just can’t stop talking too much.
 - ___ 12. In general, I talk less than I should.
 - ___ 13. I am not a “talkaholic.”
 - ___ 14. Sometimes I talk when I know it would be to my advantage to keep quiet.
 - ___ 15. I talk less than I should sometimes.
 - ___ 16. I am not a compulsive talker.
-

SCORING: To determine your score on the TAS, complete the following steps:

Step 1: Add the scores for items 2, 3, 5, 7, 8, 10, 11, and 14.

Step 2: Add the scores for items 13 and 16.

Step 3: Complete the following formula:

$$\text{Talkaholic score} = 12 + \text{total from Step 1} - \text{total from Step 2.}$$

Scores above 39 = talkaholic.

Figure 7.4. The talkaholic scale

ple who are referred to by others as people who "talk too much." At this point there is reason to believe they may not be. Available evidence suggests that attributions of excessive talking of others are more likely based on qualitative rather than quantitative judgments of the other person's communication behavior.

Measures of Communication Apprehension in Generalized Contexts

Most of the early measures that fit in this category of instruments were concerned with communication apprehension in the public speaking context, commonly called "stage fright." Only recently have measures appeared that attempt to measure communication apprehension in other generalized contexts. All these measures attempt to tap a trait-like orientation that applies only to a specific type of communication context (as opposed to a trait-like orientation that cuts across contexts, which is considered in the next section).

The first widely used measure of trait-like stage fright was the Personal Report of Confidence as a Speaker (PRCS) developed by Gilkinson (1942). Numerous shorter versions of the PRCS have appeared in the literature, the most commonly used being one reported by Paul (1966). Both the longer and shorter versions have been demonstrated to be highly reliable, and numerous research studies point to their validity.

Because the PRCS employs a forced true-false response option, I developed the Personal Report of Public Speaking Anxiety (PRPSA), a 34-item, 5-step, Likert-type scale, to increase precision of measurement (McCroskey, 1970). The PRPSA is presented in Figure 7.5. This scale is highly reliable and was found to maintain that reliability in subsequent research, with only half as many items (Hensley & Batty, 1974). The concurrent validity of this scale was demonstrated by correlations above .80 with the PRCS. Those same correlations, of course, question the need for the scale, at least in its long, 34-item form. It is essentially equivalent, not superior, to the PRCS. It might be preferred to the PRCS if the short (17-item) one is used when length of measurement is a problem.

Buss (1980) reports the use of two scales that appear to measure communication apprehension in separate categories of communication contexts. One is referred to as a measure of "audience anxiety," a 5-item scale with a reliability of .73. Unfortunately, three of the items relate to public speaking and two relate to talking in class, two contexts that have been found to be correlated yet distinct in terms of the level of generalized communication apprehension they generate. Consequently, this scale is not recommended for use.

Buss's second scale is referred to as a shyness scale, a 9-item scale with a reliability of .78. Although this scale clearly does not measure

DIRECTIONS: This instrument is composed of 34 statements concerning feelings about communicating with other people. Indicate the degree to which the statements apply to you by marking whether you (1) strongly agree, (2) agree, (3) are undecided, (4) disagree, or (5) strongly disagree with each statement. Work quickly; record your first impression.

1. While preparing for giving a speech, I feel tense and nervous.
2. I feel tense when I see the words speech and public speech on a course outline when studying.
3. My thoughts become confused and jumbled when I am giving a speech.
4. Right after giving a speech I feel that I have had a pleasant experience.
5. I get anxious when I think about a speech coming up.
6. I have no fear of giving a speech.
7. Although I am nervous just before starting a speech, I soon settle down after starting and feel calm and comfortable.
8. I look forward to giving a speech.
9. When the instructor announces a speaking assignment in class, I can feel myself getting tense.
10. My hands tremble when I am giving a speech.
11. I feel relaxed while giving a speech.
12. I enjoy preparing for a speech.
13. I am in constant fear of forgetting what I prepared to say.
14. I get anxious if someone asks me something about my topic that I do not know.
15. I face the prospect of giving a speech with confidence.
16. I feel that I am in complete possession of my self while giving a speech.
17. My mind is clear when giving a speech.
18. I do not dread giving a speech.
19. I perspire just before starting a speech.
20. My heart beats very fast just as I start a speech.
21. I experience considerable anxiety while sitting in the room just before my speech starts.
22. Certain parts of my body feel very tense and rigid while giving a speech.
23. Realizing that only a little time remains in a speech makes me very tense and anxious.
24. While giving a speech I know I can control my feelings of tension and stress.
25. I breathe faster just before starting a speech.
26. I feel comfortable and relaxed in the hour or so just before giving a speech.
27. I do poorer on speeches because I am anxious.
28. I feel anxious when the teacher announces the date of a speaking assignment.
29. When I make a mistake while giving a speech, I find it hard to concentrate on the parts that follow.
30. During an important speech I experience a feeling of helplessness building up inside me.
31. I have trouble falling asleep the night before a speech.
32. My heart beats very fast while I present a speech.
33. I feel anxious while waiting to give my speech.
34. While giving a speech I get so nervous I forget facts I really know.

SCORING: To determine your score on the PRPSA, complete the following steps:

Step 1: Add the scores for items 1, 2, 3, 5, 9, 10, 13, 14, 19, 20, 21, 22, 23, 25, 27, 28, 29, 30, 31, 32, 33, and 34.

Step 2: Add the scores for items 4, 6, 7, 8, 11, 12, 15, 16, 17, 18, 24, and 26.

Step 3: Complete the following formula:

$$\text{PRPSA} = 132 - \text{Total from Step 1} + \text{Total from Step 2.}$$

Figure 7.5. Personal report of public speaking anxiety (PRPSA)

behavioral shyness as conceptualized earlier, it does appear to be a fairly good measure of communication apprehension in dyadic and small social group contexts. The problem, as with the audience anxiety scale, is that the context of dyadic and small group communication are confounded in the scale. Apprehension concerning these two contexts has been found to be correlated, but the levels are distinct from each other and often dramatically different for a given individual. Consequently, this scale is not recommended for use.

Leary (1982) also has developed two instruments that appear to measure communication apprehension in separate categories of communication contexts. Unlike the Buss (1980) scales, these are clear measures of two distinct contexts. The first scale is the Interaction Anxiousness (IA) scale. This is a 15-item, 5-step, Likert-type scale tapping apprehension about interpersonal, primarily dyadic, communication. The second scale is the Audience Anxiousness (AA) scale. This is a 12-item, 5-step, Likert-type scale tapping stage fright, primarily in public speaking contexts. Both instruments generate good reliability, with some evidence for validity.

As can be seen from the previous discussions, we have several instruments that appear to be satisfactory measures of communication apprehension in the public speaking context, but we have no commonly accepted measures of trait-like communication apprehension for the contexts of talking in meetings or classes, talking in small group settings, or talking in dyadic settings. The only measures that seem to hold considerable promise for these purposes, other than the Leary IA scale, are those represented by the subscale scores on the 24-item Personal Report of Communication Apprehension (PRCA-24). Each subscale is a 6-item, 5-step, Likert-type instrument. The reliabilities we have obtained have been very satisfactory, and the face validity of the instruments is good. The scales have been employed by numerous other researchers with positive indications of both reliability and validity. Because they are short (only six

items) and still fairly reliable (usually $> .80$), they provide attractive options, particularly when a large number of other instruments are being employed. Also, because they are a part of the larger PRCA (see Figure 7.6) instrument, they can be broken out from the overall score when that instrument is used with no additional effort on the part of the research subjects required.

MEASURES OF TRAITLIKE COMMUNICATION APPREHENSION

The PRCA, in its various forms, has been the self-report measure employed in the overwhelming majority of studies involving trait-like communication apprehension. There are 20-item (McCroskey, 1970), 10-item (McCroskey, 1978), 25-item (McCroskey, 1978), and 24-item (McCroskey, 1982) versions of this instrument available. All use 5-step, Likert-type response formats. The reliability of all the forms is very high, usually above .90. The forms are correlated around .90. There is overwhelming evidence for the predictive validity of the measures.

The 10-, 20-, and 25-item versions of the instrument have been appropriately criticized for their inclusion of a disproportionate number of items relating to public speaking when the instruments purport to tap trait-like communication apprehension across communication contexts. The more recently developed, 24-item version of the instrument overcomes this criticism because it includes 6 items for each of four contexts: public speaking, talking in meetings or classes, talking in small groups, and talking in dyads. As noted earlier, this version also permits the generation of four subscores (one for each context) as well as an overall score. In some research, the subscores have been found to differ (in expected ways) in their predictive power for a variety of dependent variables.

This instrument has been used in several national and numerous studies in a variety of cultures around the world by an extensive variety of researchers. Its reliability and validity has consistently been very high. Thus, the clear choice of which form to use is the 24-item version. One cautionary note: A newer version of this instrument, the PRCA-24B, has been developed and employed in several studies. It was hoped that it could be used interchangeably as an alternative to the original PRCA-24. This has *not* been found to be the case. The scores on the new instrument are not equivalent to those on the original. Consequently, until these problems can be worked (if they can be), I advise use of the original PRCA-24, presented here in Figure 7.6.

Another measure of trait-like communication apprehension that may be recommended for some uses is the Personal Report of Communication Fear (PRCF; McCroskey et al. 1981). This measure is not

DIRECTIONS: This instrument is composed of 24 statements concerning feelings about communicating with other people. Please indicate the degree to which each statement applies to you by marking whether you (1) strongly agree, (2) agree, (3) are undecided, (4) disagree, or (5) strongly disagree. Work quickly; record your first impression.

-
- 1. I dislike participating in group discussions.
 - 2. Generally, I am comfortable while participating in group discussions.
 - 3. I am tense and nervous while participating in group discussions.
 - 4. I like to get involved in group discussions.
 - 5. Engaging in a group discussion with new people makes me tense and nervous.
 - 6. I am calm and relaxed while participating in group discussions.
 - 7. Generally, I am nervous when I have to participate in a meeting.
 - 8. Usually I am calm and relaxed while participating in meetings.
 - 9. I am very calm and relaxed when I am called upon to express an opinion at a meeting.
 - 10. I am afraid to express myself at meetings.
 - 11. Communicating at meetings usually makes me uncomfortable.
 - 12. I am very relaxed when answering questions at a meeting.
 - 13. While participating in a conversation with a new acquaintance, I feel very nervous.
 - 14. I have no fear of speaking up in conversations.
 - 15. Ordinarily I am very tense and nervous in conversations.
 - 16. While conversing with a new acquaintance, I feel very relaxed.
 - 17. Ordinarily I am very calm and relaxed in conversations.
 - 18. I'm afraid to speak up in conversations.
 - 19. I have no fear of giving a speech.
 - 20. Certain parts of my body feel very tense and rigid while I am giving a speech.
 - 21. I feel relaxed while giving a speech.
 - 22. My thoughts become confused and jumbled when I am giving a speech.
 - 23. I face the prospect of giving a speech with confidence.
 - 24. While giving a speech, I get so nervous I forget facts I really know.
-

SCORING: To compute context subscores begin with a score of 18 for each context and follow the instructions below.

- Step 1: Group discussion—add scores for items 2, 4, and 6. Subtract scores for items 1, 3, & 5. Scores can range from 6 to 30.
- Step 2: Meetings—add scores for items 8, 9, and 12. Subtract scores for items 7, 10, and 11. Scores can range from 6 to 30.
- Step 3: Interpersonal—add scores for items 14, 16, and 17. Subtract scores for items 13, 15, and 18. Scores can range from 6 to 30.
- Step 4: Public speaking—add scores for items 19, 21, & 23. Subtract scores for items 20, 22, and 24. Scores can range from 6 to 30.

To compute the total score for the PRCA-24, add the four subscores. Scores above 80 = high CA, scores below 51 = low CA.

Figure 7.6. PRCA-24

completely isomorphic with the various forms of the PRCA, hence its slightly different name. It was designed to employ a much lower vocabulary level than the PRCA so it could be used with preliterate children. With older children and adults the two measures correlate around .80, suggesting substantial concurrent validity but not isomorphism. This measure can be used with small children, but the PRCA-24 should be used with all older groups. One problem with the PRCF when used with young children is that many of the items are worded in a negative way to avoid response bias. Young children have considerable difficulty handling the double-negative response of disagreeing with a negatively worded item. Therefore, because this measure must be presented orally to the young children, the administrator of the instrument must take great care to be certain that the correct response from the child is determined and recorded. Carelessness in administration will lead to greatly reduced reliability and validity of the scores.

The Measure of Elementary Communication Apprehension (MECA) was designed to overcome the wording problems in the PRCF (Garrison & Garrison, 1979). The MECA is a 20-item, 5-choice, Likert-type instrument. It is unique in that the response options are presented in the form of faces, ranging from a broad smile to a broad frown. The problem of response bias is controlled by presenting the faces in reverse order for half the items. Concurrent validity with the PRCF is very good, and it is fairly good with the PRCA-10. Discriminate validity of the MECA has also been established. This measure should be the instrument of choice when working with small children, but probably should not be used with older children. They tend to feel the "smiling faces" response options are a bit beneath them.

MEASURES OF STATE COMMUNICATION APPREHENSION

In the past, most measurement of trait-like and generalized-context communication apprehension has employed self-report instruments. In contrast, most state measurement of communication apprehension has employed physiological indicants or behavioral observation. The recognition of the weaknesses of the latter two approaches for measuring communication apprehension has led to the increased use of self-reports in recent years.

The State Anxiety measures developed by Spielberger (1966) have been employed most frequently. These measures can be used to tap any state anxiety, not just state anxiety about a communication situation. These instruments take two forms. One is a 20-item, true-false type of instrument. It has very good reliability and strong face validity. Richmond (1978) employed a modified version of the instrument with good results. She adapted the instructions for the instrument to apply specifically to a com-

nunication situation and converted the response options to a 5-step, Likert-type format. She obtained high reliability and a strong indication of validity. The other Spielberger form is a 5-item, five-step interval measure. It also yields high reliability and strong validity.

These instruments can be recommended strongly for use as measures of state communication apprehension. However, the instruments are under copyright and fees for use are high. As an alternative, the State Communication Apprehension Measure (SCAM) is recommended (see Figure 7.7). This measure was developed by Richmond and me to avoid copyright infringement (McCroskey & Richmond, 1982b). Unlike the Spielberger instrument, the SCAM is a 20-item, 5-step, Likert-type instrument. It has high reliability, around .90, and good face validity. With minor rewording of the instructions, this instrument can also be used to measure apprehension toward communication with any identifiable type of receiver or receiver group.

DIRECTIONS: Please complete the following questionnaire about how you felt the last time you interacted with someone who had a supervisory role over you. Mark 7 (in the space before the statement) if the statement is extremely accurate for how you felt; 6 if moderately accurate; 5 if somewhat accurate; 4 if neither accurate nor inaccurate; 3 if somewhat inaccurate; 2 if moderately inaccurate; or 1 if extremely inaccurate. There are no right or wrong answers. Just respond to the items quickly to describe as accurately as you can how you felt while interacting with a supervisor, such as a teacher.

-
- | | |
|---|--|
| <input type="checkbox"/> 1. I was apprehensive. | <input type="checkbox"/> 11. I was bothered. |
| <input type="checkbox"/> 2. I was disturbed. | <input type="checkbox"/> 12. I felt satisfied. |
| <input type="checkbox"/> 3. I felt peaceful. | <input type="checkbox"/> 13. I felt safe. |
| <input type="checkbox"/> 4. I was loose. | <input type="checkbox"/> 14. I was flustered. |
| <input type="checkbox"/> 5. I felt uneasy. | <input type="checkbox"/> 15. I was cheerful. |
| <input type="checkbox"/> 6. I was self-assured. | <input type="checkbox"/> 16. I felt happy. |
| <input type="checkbox"/> 7. I was fearful. | <input type="checkbox"/> 17. I felt dejected. |
| <input type="checkbox"/> 8. I was ruffled. | <input type="checkbox"/> 18. I was pleased. |
| <input type="checkbox"/> 9. I felt jumpy. | <input type="checkbox"/> 19. I felt good. |
| <input type="checkbox"/> 10. I was composed. | <input type="checkbox"/> 20. I was unhappy. |
-

SCORING: To determine your score on the SCAM, complete the following steps:

Step 1: Add the scores for items 3, 4, 6, 10, 12, 13, 15, 16, 18, and 19.

Step 2: Add the scores for items 1, 2, 5, 7, 8, 9, 11, 14, 17, and 20.

Step 3: Complete the following formula:

$$\text{SCAM} = 80 - \text{Total from Step 1} + \text{Total from Step 2.}$$

Figure 7.7. Situational communication apprehension measure (SCAM)

INTROVERSION

Although the construct of introversion/extraversion was developed many years ago in the field of psychology and is not *per se* a communication construct, it is a construct that clearly is related to all the constructs discussed in this book. Because introversion/extraversion has been identified as one of the five major domains of personality (McCrae & Costa, 1994), and the domain that appears to be most closely related to the concerns of researchers in this area, researchers in this area often perceive a need to obtain an appropriate measure of this orientation. Eysenck (1970, 1971) has provided an extensive list of items that can be used to measure introversion (as opposed to a specific, set scale). Many of these items specifically address discomfort when communicating with others or the avoidance of communication; hence, if used they would confound any correlations with specific communication orientation measures. A similar problem exists in many specific measures of introversion that I have been able to locate.

In order to overcome the potential confound of communication-oriented items in an introversion instrument, I selected 12 items from those provided by Eysenck that included no reference to communication. In order to make it less obvious what the measure was trying to examine, I chose six items that Eysenck indicated were measures of neuroticism (another of the five major domains of personality) to serve as distractor items. The resulting instrument is presented in Figure 7.8. The instrument may be scored to provide two scores—one for introversion and one for neuroticism. Both have yielded good reliability estimates (.80-.90 for introversion, .75-.85 for neuroticism) across administrations in several cultures and in several different translated versions. A strong indication of their validity has been reflected in obtained significant correlations between many of the measures discussed in this chapter and the introversion score (as anticipated) and very low and almost always nonsignificant obtained correlations with neuroticism (as also expected). This instrument can be employed with confidence in its performance.

CONCLUSION

Self-report instruments are readily available for use as measures of willingness to communicate, self-perceived communication competence, shyness, communication apprehension (trait, generalized context, person group, or state), and introversion/extraversion. Many have both good reliability and support for validity. Care must be taken to determine that self-report measurement is appropriate for the task at hand. Self-report instruments, when properly developed and validated, and when employed for legitimate pur-

DIRECTIONS: Below are 18 statements that people sometimes make about themselves. Please indicate whether or not you believe each statement applies to you. Presume: 3 = Yes; 2 = Undecided; and 1 = No. Work quickly, record your first impression.

-
- 1. Are you inclined to keep in the background on social occasions?
 - 2. Do you like to mix socially with people?
 - 3. Do you sometimes feel happy, sometimes depressed, without any apparent reason?
 - 4. Are you inclined to limit your acquaintances to a select few?
 - 5. Do you like to have many social engagements?
 - 6. Do you have frequent ups and downs in mood, either with or without apparent cause?
 - 7. Would you rate yourself as a happy-go-lucky individual?
 - 8. Can you usually let yourself go and have a good time at a party?
 - 9. Are you inclined to be moody?
 - 10. Would you be very unhappy if you were prevented from making numerous social contacts?
 - 11. Do you usually take the initiative in making new friends?
 - 12. Does your mind often wander while you are trying to concentrate?
 - 13. Do you like to play pranks upon others?
 - 14. Are you usually a "good mixer"?
 - 15. Are you sometimes bubbling over with energy and sometimes very sluggish?
 - 16. Do you often "have the time of your life" at social affairs?
 - 17. Are you frequently "lost in thought" even when you should be taking part in a conversation?
 - 18. Do you derive more satisfaction from social activities than from anything else?
-

*Items for this measure were selected from those recommended by H. J. Eysenck (1970, 1971) based on his extensive research involving introversion and extraversion.

SCORING: To determine your score on the Introversion Scale, complete the following steps:

- Step 1: Add the scores for items 1 and 4.
- Step 2: Add the scores for items 2, 5, 7, 8, 10, 11, 13, 14, 16, and 18.
- Step 3: Complete the following formula:
Introversion = 40 + Total from Step 1 - Total from Step 2

Scores above 28 indicate high Introversion, scores below 20 indicate low Introversion (high extraversion).

SCORING: To determine your score on neuroticism, add the scores for items 3, 6, 9, 12, 15, and 17.

Figure 7.9. Introversion scale

poses, can be invaluable tools to both researchers and practitioners concerned with the many constructs discussed in this book. The use of poorly developed or invalid self-report measures, or the use of self-report instruments when other measurement approaches are more appropriate, are abuses that both researchers and practitioners must avoid.

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