ETHOS AND CREDIBILITY: THE CONSTRUCT AND ITS MEASUREMENT AFTER THREE DECADES

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FEW subjects have received as much attention from researchers in communication or speech as "ethos," or more commonly "source credibility." Scholarly attention has focused on the impact of source credibility in the communication process, on the impact of a variety of variables on source credibility, and on the nature of the credibility construct and its measurement. Our attention in this paper deals with the latter concern, the nature of the ethos or source credibility construct and its measurement. In the course of our discussion we suggest that historical conceptualizations of the ethos or source credibility construct have not been challenged seriously and that adequate measures of the construct are available. Furthermore, continued scholarly attention to the construct and its measurement may only serve to distract the field from concerns more likely to yield meaningful knowledge about the process of human communication.

The Early History of the Construct

Throughout most of the twenty-four hundred year history of the study of rhetoric, ethos has held a central position. Aristotle's view that ethos is the most potent means of persuasion has been supported by many contemporary rhetorical scholars.[1] Similarly, other ancient rhetorical scholars (e.g., Plato, Cicero, Quintilian) expressed views comparable to Aristotle's even though their conception of the nature of ethos differed somewhat from his.[2]

Contemporary research generally has supported the proposition that source credibility is a very important element in the communication process, whether the goal of the communication effort be persuasion or the generation of understanding.[3] While most contemporary writers suggest that source credibility is the "attitude toward a source of communication held at a given time by a receiver," it is commonly noted that this "attitude" is not undimensional. but rather multidimensional. The multidimensionality of the construct was noted in classical times as well. Aristotle, for example, suggested that ethos had three dimensions: intelligence, character, and good will.[4] He believed that these were the three perceptual sources of influence on a receiver. More recently, Hovland, Janis, and Kelley in their research program investigating com-

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[1] Lane Cooper, *The Rhetoric of Aristotle* (New York: Appleton-Century-Crofts, 1932).

[2] William M. Sattler, "Conceptions of *Ethos* in Ancient Rhetoric," *Speech Monographs,* 14 (1947), 55-65.

[3] Kenneth Andersen and Theodore Clevenger, Jr., "A Summary of Experimental Research in Ethos," *Speech Monographs,* 30 (1963), 59-78; for a more recent view, see James C. McCroskey, *An Introduction to Rhetorical Communication,* 2nd ed. (Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1972), Ch. 4.

[4] Cooper.

munication and persuasion during and after World War II, suggested three dimensions for the credibility construct: expertness, trustworthiness, and intention toward the receiver.[5] Although these authors do not acknowledge familiarity with Aristotle's work, the dimensions which they suggest closely parallel those that have been discussed throughout the centuries. Historically, then, the construct of ethos or source credibility has long been thought to involve a source's knowledge of the subject that he or she discusses, his or her veracity, and his or her attitude toward the well-being of the receiver.

As one reviews early discussions of the credibility construct, three points stand out. First, the theoretical or definitional perspectives regarding the dimensions of the credibility construct were derived without the aid of psychometric technology. Although much has since been written about the source credibility construct and its dimensionality, as we will note later, the basic construct as *originally* and subsequently defined, has not been challenged seriously by sophisticated psychometric technology. Second, early authors were addressing the issue of evaluations of a source disseminating some message in a monological setting. This body of scholarship did not direct its attention to dyadic or small group communication settings. Finally, there was little or no discussion of the "personality" of the source. For example, Hovland et al. when working with personality and persuasion were concerned with personality characteristics of *receivers* not *sources*.

Recent History of the Construct

Over the last three decades, there has been extensive attention directed toward the measurement of source credibility. Prior to that time, measurement was crude at best, and often not even attempted. In 1948, Haiman in his classic study of the effect of credibility on persuasion viewed source credibility as being composed of the dimensions of reputation and competence, which are analogous to Aristotle's character and intelligence.[6] Haiman's measurement of the two dimensions was crude, but Walter, at the same time, attempted to develop a precise measure of one of them, character.[7] Subsequent to Walter's effort, attention to both the construct and its measurement lagged for over a decade. During this time, Osgood's work on the measurement of meaning appeared and was widely disseminated.[8] His studies made it popular to conceive of receiver perceptions as being multidimensional. Since source credibility was conceived as a perception held by a receiver, and since theory and definition had suggested multidimensionality, it was natural to extend Osgood's work via factor analysis in empirically determining the components of source credibility.

In 1961, two studies were conducted that had a major impact on subsequent work. In his doctoral dissertation, Andersen reported the development of semantic differential scales designed to measure ethos. These scales purportedly tapped the perceived "authoritativeness" and "dynamism" of a speaker.[9]

[5] Carl I. Hovland, Irving L. Janis, and Harold H. Kelley, *Communication and Persuasion* (New Haven, Connecticut: Yale University Press, 1953).

[6] Franklyn Haiman, "An Experimental Study of the Effects of Ethos in Public Speaking," Diss. Northwestern University, 1948.

[7] Otis Walter, Jr., "The Measurement of Ethos," Diss. Northwestern University, 1948.

[8] Charles E. Osgood, George J. Suci, and Percy H. Tannenbaum, *The Measurement of Meaning* (Urbana, Illinois: University of Illinois Press, 1957).

[9] Kenneth E. Andersen, "An Experimental Study of the Interaction of Artistic and Non-Artistic Ethos in Persuasion," Diss. University of Wisconsin, 1961.

Later that same year, Berlo and Lemert presented a convention paper in which they reported on semantic differential-type scales used to measure the dimensions of competence, trustworthiness, and dynamism.[10]

As a result of these two studies, the concept of dynamism surfaced for the first time as a component of source credibility. While we discuss the significance of this in more detail at a later point, it is important to note that the scales which defined this factor (for example, bold-timid, aggressive-meek, energetic-tired, active-passive) were not designed to measure the evaluative dimension of meaning as reported by Osgood et al., but rather were associated with the activity and potency dimensions. Such items were unrelated to previous conceptualizations of ethos or credibility. Source credibility had been conceived as an evaluation or attitude toward a source; thus, items included from the activity and potency dimensions served only to obscure the construct. They probably represented an independent factor because they were *not* associated with the credibility construct but were associated with each other.

In 1966, on the basis of a series of studies begun in 1963, McCroskey, following in the footsteps of Haiman and Walter, reported both Likert-type and semantic differential-type measures for dimensions of credibility which he labelled "authoritativeness" and "character".[11] In 1969, after further replication of their earlier work, Berlo et al. published a report providing scales to measure three dimensions of credibility. Again, the measure developed was of the semantic differential type. Over this eight year period, two new labels appeared for dimensions developed, "safety" and "qualification." These two are essentially equivalent to the "competence" and "trustworthiness" dimensions they originally reported. The "dynamism" label remained the same.[12]

About this time, a substantial number of papers appeared in speech and communication journals concerning the dimensionality of the source credibility construct.[13] All employed factor analyses as their primary research tool. The number of dimensions reported varied widely, and the labels applied to those dimensions varied even more widely. Many of these studies employed such small samples that their internal validity was highly questionable. Others employed so few sources that their external validity was highly questionable. As a response to this confused situation, McCroskey and his associates reported a series of studies conducted between 1971 and 1975, in which they investigated a wide variety of types of communication sources and types of communication receivers with scales drawn from most of the previous factor analytic studies that had been reported prior to that time.[14]

[10] David K. Berlo and James B. Lemert, "A Factor Analytic Study of the Dimensions of Source Credibility." Paper presented at the 1961 convention of the Speech Association of America, New York.

[11] James C. McCroskey, "Scales for the Measurement of Ethos." *Speech Monographs*, 33 (1966), 65-72.

[12] David K. Berlo, James B. Lemert, and Robert J. Mertz. "Dimensions for Evaluating the Acceptability of Message Sources," *Public Opinion Quarterly*, 33 (1969), 563-76.

[13] See, for example, Jack L. Whitehead, Jr., "Factors of Source Credibility," *Quarterly Journal of Speech*, 54 (1968), 59-63; E. Scott Bandhuim and Margaret K. Davis, "Scales for the Measurement of Ethos: Another Attempt," *Speech Monographs*, 39 (1972), 296-301; Ronald L. Applbaum and Karl W. E. Anatol, "Dimensions of Source Credibility: A Test for Reproducibility," *Speech Monographs*, 40 (1973), 231-37; Raymond L. Falcione, "The Factor Structure of Source Credibility Scales for Immediate Supervisors in an Organizational Context," *Central States Speech Journal*, 25 (1974), 63-66; and Christopher J. S. Tuppen, "Dimensions of Communicator Credibility: An Oblique Solution," *Speech Monographs*, 41 (1974), 253-60.

[14] James C. McCroskey, Michael D. Scott, and Thomas J. Young, "The Dimensions of Source

The conclusion from most of McCroskey et al.'s studies was that there were five dimensions of credibility: competence, character, sociability, extroversion, and composure. Specific scales were recommended to measure each of these dimensions on the basis of the type of source which was involved.

After all of this research effort, it would be reasonable to expect that the field would have obtained closure on the number of dimensions in the source credibility construct and the most appropriate measures of those dimensions. Unfortunately, quite the opposite appears to be true. New studies are constantly appearing and almost always suggest some new dimensional structure. Instead of conceptual or operational closure, we have calls for additional studies to investigate dimensionality, as well as new methodologies for analysis.[15]

It is our position that the dimensionality of the source credibility construct has been sufficiently demonstrated through many studies. In addition, satisfactory measures of those dimensions have been available for many years. We believe the cause of the current confusion is a distortion of the source credibility construct which occurred in the early 1960's and has been perpetuated to the present.

The Distortion of the Construct

Prior to 1960, it was clearly recognized that the construct of ethos or source credibility involved the evaluation of the source on the part of the receiver. Both theoretical and methodological papers held to this tenet. The work of Berlo was singularly influential in taking later researchers beyond the original limitations of the construct. Probably because of the popularity of the work of Osgood and the semantic differential at the time of his early research in 1961, Berlo, as previously noted, included scales in his research which had no apparent isomorphic relationship to the construct under investigation. In particular, these scales were designed to measure the activity and potency dimensions of meaning that had been isolated by Osgood. Inclusion of such scales, and the use of factor analytic technique, resulted in the "discovery" of a factor subsequently labeled dynamism. While noting that his primary concern was with the measurement of the "evaluation of message sources," Berlo persisted in maintaining a dynamism dimension of source credibility even in his 1969 report.

This "dynamism" dimension apparently had a direct bearing on the developments in subsequent research. It should be pointed out that Berlo et al., were hesitant when discussing this dimension. They stated that ". . . the relative *instability* of dynamism suggests that it may not be psychologically independent of the other two factors."[16]

Credibility for Spouses and Peers." Paper presented at the 1971 convention of the Western Speech Communication Association; James C. McCroskey, Thomas Jensen, Cynthia Todd, and J. Kevin Toomb, "Measurement of the Credibility of Organization Sources." Paper presented at the 1972 convention of the Western Speech Communication Association; James C. McCroskey, Thomas Jensen, and Cynthia Todd, "The Generalizability of Source Credibility Scales for Public Figures." Paper presented at the 1972 convention of the Speech Communication Association; James C. McCroskey, Thomas Jensen, and Cynthia Valencia, "Measurement of the Credibility of Peers and Spouses." Paper presented at the 1973 convention of the International Communication Association; James C. McCroskey, Thomas Jensen, and Cynthia Valencia, "Measurement of the Credibility of Mass Media Sources." Paper presented at the 1973 Western Speech Communication Association; and James C. McCroskey, William Holdridge, and J. Kevin Toomb, "An Instrument for Measuring the Source Credibility of Basic Speech Communication Instructors," *Speech Teacher*, 23 (1974), 26-33.

15 Gary Cronkhite and Jo Liska, "A Critique of Factor Analytic Approaches to the Study of Credibility," *Communication Monographs*, 43 (1976), 91-107.

16 Berlo, Lemert, and Mertz.

McCroskey in his 1966 report, when discussing dynamism, made two crucial points. First, he suggested that a dynamism dimension did not appear in his work simply because there were no scales included designed to test that dimension. Second, and perhaps more important, he pointed out that the earlier definitional and theoretical work suggested that "ethos" or "source credibility" was held to be an attitude of a receiver toward a source. And since Osgood's work suggested that the evaluative dimension of meaning was representative of attitude, their work with congruity would have been confounded by a "dynamism" dimension.[17] It is important to note that these two early research reports did not differ substantially in their findings. There were two clear and stable dimensions of credibility reported, but dynamism, while being statistically independent, was psychologically unclear and relatively unstable.

At about this time studies which were not concerned with source credibility per se, but which employed factor analytic procedures, also appeared. Most notable were ones by Markham and Norman.[18] Both of these were concerned with personality perception, not source credibility, and the Norman study, in particular, stressed that the concern was not with evaluation. Their effect, however, appeared to be further expansion of the source credibility construct.

In 1970, Tucker published an article which called for caution in the use of the scales that were available at that time to measure source credibility.[19] He properly noted that semantic differential-type scales may take on different meaning as a function of the concept which they are designed to measure. Unfortunately, the recommended solution for this problem was for the researcher to factor analyze his or her data in each study to be sure that the dimensionality held stable. Such an approach, however, will guarantee a lack of generalizability from study to study, since presumably the dimensionality would change from study to study.

In a well-intentioned, but we now believe misguided, attempt to respond to the problem pointed out by Tucker, McCroskey and his associates set out to test generalizability of scales for the measurement of source credibility across types of sources and types of subjects. While in his earlier report, McCroskey had challenged the validity of the dynamism dimension and argued for the existence of only authoritativeness and character dimensions, in this series of studies he ignored his own advice and included scales to measure that dimension. In addition, he drew upon scales that had been reported by Markham and Norman which were never intended to measure source credibility. As a result, the McCroskey series produced dimensions which were fairly generalizable across source types and across subject types, but their isomorphism with the credibility construct was tenuous at best.

Recently, Cronkhite and Liska have presented a critique of the source credibility research.[20] While we will not elaborate their position here at length, the basic thrust of their argument was

[17] McCroskey, "Scales for the Measurement of Ethos."

[18] David Markham, "The Dimensions of Source Credibility of Television Newscasters," *Journal of Communication*, 18 (1968), 57-64 and Warren T. Norman, "Toward an Adequate Taxonomy of Personality Attributes: Replicated Factor Structure in Peer Nomination Personality Ratings," *Journal of Abnormal and Social Psychology*, 66 (1963), 574-83.

[19] Raymond K. Tucker, "On the McCroskey Scales for the Measurement of Ethos." *Central States Speech Journal*, 22 (1971), 127-29.

[20] Cronkhite and Liska.

that if we were to do our factor analytic research correctly, we would find the true dimensions of source credibility. We take issue with the point. Much of the factor analytic work has been done properly. The major problem with the research is the distortion of the construct prior to collection of the data. As we have noted elsewhere, the work on source credibility possibly presents the best example of the abuse of factor analysis extant in the communication literature.[21] To illustrate, let us report what several years ago might have been considered the "ultimate factor analytic study of source credibility." So that we are not misunderstood, let us stress that this is a real study conducted with real subjects, and not a fictitious example that we have created here.

An Illustrative Study

Scale Selection

Scales were generated for use in this study by three methods: 1) a sample of 726 college students enrolled in basic communication classes were asked to provide adjectives to describe "the person you would be most likely to believe" and "the person you would be least likely to believe;" 2) the theoretical literature concerning ethos and source credibility was surveyed to find adjectives most frequently employed to describe credible and non-credible sources; and 3) previous research concerning the measurement of source credibility and ethos was reviewed to determine the adjectives most commonly found to appear in the various studies.

This procedure resulted in selection of thirty pairs of bipolar adjectives. To this list we added six pairs of bipolar adjectives thought to measure the perception of size, since it has been suggested in previous research that size has an impact on credibility.[22] In addition, we added five pairs of bipolar adjectives that we believed would measure nothing at all related to source credibility.

A total of 2,057 students enrolled in undergraduate classes in communication served as subjects in this study. None of the subjects who provided adjectives initially were included. Each subject responded on the 41 scales with regard to a particular source. Six different types of sources were employed: 1) peers, operationalized as "the student you talked with most recently," N = 372; 2) spouse, operationalized as "the person you date most often or if married, your husband or wife," N = 352; 3) a major organization, operationalized as twelve different organizations within the United States (the particular organization to which a student responded was determined randomly), N = 344; 4) a media source, operationalized as twelve different radio, television, and print sources (the particular source to which a student responded was determined randomly), N = 331; 5) political figure, operationalized as twelve different political figures, currently prominent in the election being held at the time the data were collected (the source to which the student responded again was determined randomly), N = 323; 6) teacher, operationalized as the teacher of the class in which the student was currently enrolled (a total of 15 different teachers was used), N = 335.

Data Analysis

The data were subjected to principal

[21] James C. McCroskey and Thomas J. Young, "The Use and Abuse of Factor Analysis in Communication Research." *Human Communication Research*, 5 (1979), 375-82.

[22] Eldon E. Baker and W. Charles Redding, "The Effects of Perceived Tallness in Persuasive Speaking: An Experiment." *Journal of Communication*, 12 (1962), 51-53.

components factor analysis and varimax rotation. An eigenvalue equal 1.0 was established as the cut-off for rotation. For a solution to be acceptable, we required that each factor have a minimum of two scales with their primary loading on that factor. In addition, at least two items had to have a loading on that factor of .60 with no other loading above .40 on other factors. These criteria were selected because they were highly representative of decision criteria employed in previous studies. More liberal criteria would not have altered the obtained results.

Results

An eight-factor solution was obtained which accounted for sixty-four percent of the total variance. Table 1 reports the items and their factor loadings. As noted in Table 1, the factors were labeled as follows: sociability, size, extroversion, composure, competence, time, weight, and character. Subsequent analysis of the data for each source type produced results extremely comparable to those reported in Table 1 and thus will not be reported here.

Conclusions

There are clearly eight dimensions of "source credibility" reflected from the analysis reported above. In the tradition of prior factor analytic studies with source credibility, it is clear that we have confirmed the presence of the five dimensions that the McCroskey studies have demonstrated previously: sociability, competence, extroversion, composure, and character. In addition, we have "discovered" three new dimensions of source credibility: size, weight, and time.

While the preceding interpretation may seem ludicrous on its face, it is quite comparable to that provided by many previous factor analytic researchers concerned with source credibility. In point of fact, we have confirmed no dimensions of credibility at all, and we certainly have not discovered any new ones. We have as strong an empirical base for arguing a dimension called "general size" or "time," however, as we do for one we call "extroversion" or "composure".

Why have we gone to such lengths to collect data that we now say really do not demonstrate much of anything? We have done so to illustrate that if a construct is not carefully defined, and a researcher does not closely adhere to that definition, massive amounts of data and sophisticated computer resources cannot lead to the conclusion that one dimension or another exists. That is not to say that if ethos or source credibility research had begun simply with a question, such as "How do people perceive other people?", structures such as the one we found might not have emerged. However, the ethos or source credibility construct has been carefully defined in the theoretical literature, and early research attempted to verify empirically its existence and to provide reliable scales for its measurement. When we begin adding other scales, scales which bear no resemblance to the originally defined construct, it doesn't somehow change the construct. At best it suggests the credibility construct is but a subset of all that which is perceivable. We must remember that methodological research on a construct is designed to improve measurement, not to alter the nature of the construct.

The Construct Then and Now

Since we have gone to considerable expense in terms of time and effort to illustrate the futility of massive factor analytic studies to determine the dimensionality of source credibility, it should

TABLE 1

FACTOR LOADINGS FOR 41 ITEMS
(N = 2057)

Item	Sociability	Size	Extro-version	Compo-sure	Competence	Time	Weight	Character
intelligent-unintelligent	•	•	•	•	—.73	•	•	•
untrained-trained	•	•	•	•	.74	•	•	•
expert-inexpert	•	•	•	•	—.78	•	•	•
uninformed-informed	•	•	•	•	.73	•	•	•
competent-incompetent	•	•	•	•	—.67	•	•	•
stupid-bright	—.30	•	•	•	.71	•	•	•
timid-bold	•	•	—.74	•	•	•	•	•
verbal-quiet	•	•	.84	•	•	•	•	•
talkative-silent	•	•	.81	•	•	•	•	•
meek-aggressive	•	•	—.76	•	•	•	•	•
extroverted-introverted	•	•	.67	•	•	•	•	•
not dynamic-dynamic	—.30	•	—.50	•	.41	•	•	•
sinful-virtuous	•	•	•	•	•	•	•	.69
dishonest-honest	—.33	•	•	•	.33	•	•	.67
unselfish-selfish	.43	•	•	•	•	•	•	—.50
sympathetic-unsympathetic	.59	•	•	•	•	•	•	—.40
high character-low character	.47	•	•	•	—.43	•	•	—.47
untrustworthy-trustworthy	—.42	•	•	•	.35	•	•	.58
nervous-poised	•	•	•	.74	•	•	•	•
relaxed-tense	•	•	•	—.80	•	•	•	•
calm-anxious	•	•	•	—.81	•	•	•	•
excitable-composed	•	•	•	.68	•	•	•	•
uptight-cool	—.33	•	•	.69	•	•	•	•
controlled-fearful	•	•	•	—.62	•	•	•	•
sociable-unsociable	.74	•	•	•	•	•	•	•
unfriendly-friendly	—.78	•	•	•	•	•	•	•
cheerful-gloomy	.77	•	•	•	•	•	•	•
good natured-irritable	.80	•	•	•	•	•	•	•
cold-warm	—.81	•	•	•	•	•	•	•
pleasant-unpleasant	.79	•	•	•	•	•	•	•
large-small	•	—.83	•	•	•	•	•	•
little-big	•	.84	•	•	•	•	•	•

TABLE 1— (Continued)

tall-short	•	—.80	•	•	•	•	•	•
skinny-fat	•	•	•	•	•	•	.88	•
light-heavy	•	.31	•	•	•	•	.84	•
huge-tiny	•	—.66	•	•	•	•	—.46	•
black-white	•	•	•	•	•	•	•	.37
day-night	•	•	•	•	•	.83	•	•
early-late	•	•	•	•	•	.83	•	•
hard-soft	—.42	•	•	•	•	•	•	•
few-many	•	•	•	•	•	.30	•	•

•Loadings $< \pm .30$ are omitted.

be apparent that we are prepared to argue that there is a better method. That indeed is the case. Although we believe that factor analysis is a very useful technique, it cannot be a substitute for the essential ingredient of the human critical capacity. We believe the esablishment of the dimensionality of the construct, and in this case that of source credibility, must follow a two-step process. The first step is to define carefully, through critical evaluation, the nature of the construct to be measured. We believe this step was satisfactorily completed by Aristotle, and subsequently by Hovland and his associates. The second step in this process is carefully designing instruments to measure the theoretical dimensions of the construct. In this case, these theoretical dimensions can be labeled competence, character, and good will or intention. Once such measures are developed, data can be collected from subjects and submitted to factor analysis to verify that theoretically unique dimensions are indeed at least partially independent from one another.

This procedure was originally followed by McCroskey in a series of studies reported in 1966. At that time he found that the dimensions of character and good will were not independent perceptions. In the current investigation, there were scales included which were designed to measure the three theoretical dimensions of competence, character, and intention. Once again, the scales designed to measure character and intention would not form separate clusters. Rather, two dimensions appeared from this group of scales and can be labeled "competence" and "character". The related scales and their appropriate factor loadings from a two-factor solution are reported in Table 2.

It is our conclusion, therefore, that while theoretically there are three dimensions in the source credibility or ethos construct, in terms of empirically based perceptions, these three collapse to two. This is not to suggest that intention is unimportant, but only that a perception of the source's intention is dependent on perceptions of that source's character.

The important point is that source credibility must be distinguished from other perceptions that people have of other people. We are not arguing that people do not perceive other people's extroversion, composure, sociability, general size, or for that matter their attractiveness, their similarity, or any of

TABLE 2

FACTOR LOADINGS FOR COMPETENCE AND CHARACTER ITEMS, TWO-FACTOR SOLUTION**
(N = 2057)

	FACTOR LABEL		
Item	Competence	Character	Communality
intelligent-unintelligent	.74	*	.61
untrained-trained	—.77	*	.62
expert-inexpert	.81	*	.68
uninformed-informed	—.77	*	.63
competent-incompetent	.68	—.33	.57
stupid-bright	—.73	.37	.67
sinful-virtuous	*	.57	.35
dishonest-honest	*	.76	.67
unselfish-selfish	*	—.74	.57
sympathetic-unsympathetic	*	—.75	.58
high character-low character	.41	—.72	.69
untrustworthy-trustworthy	—.32	.76	.68

*Loadings below .30 are omitted.
**Correlation between dimensions = .58 based on unweighted scores.

a wide variety of other perceptions. Rather, we are arguing that we must separate those perceptions which are related to source credibility from those which are not. If we are interested in perceptions of attraction, we should measure that directly and work with the attraction construct. Such scales are available.[23] If we are concerned with perceived interpersonal similarity, we should measure that directly, and again, there are scales available for that purpose.[24] Similarly, if we are interested in perceived extroversion, composure, or sociability, the scales reported in Table 1 that are related to those perceptions would be appropriate. But source credibility and person perception are not the same thing. Source credibility is merely a subset of a much larger construct of person perception. For other facets of the person perception phenomenon, the reader may consult the extensive body of literature in that area.[25]

Measuring the Credibility Construct

As we noted previously, we believe that the construct of ethos and source credibility has been amply defined in the past. We also believe that there are adequate measures of that construct readily available. The Likert-type scales for measuring authoritativeness (or competence) and character which McCroskey developed have proved useful, particularly in assessments of public figures.[26] These scales have had very high internal reliability, and their use in a wide variety of studies over the past 15 years indicates their predictive and construct validity. Minor modifications in the wording of these scales would be necessary for use with other types of sources. For researchers who wish to have more concise measures of the two dimensions of source credibility, the bipolar scales reported by Berlo or McCroskey for these two dimensions or those reported in Table 2 are adequate. In all three instances, reliability in the neighborhood of .80 should be expected.

Future Directions

It is obvious from the preceding discussion that we believe it is time, once and for all, to call a halt to the proliferation of factor analytic studies of source credibility; that is, those intended to "discover" its dimensions. We believe further studies of this type will serve no useful purpose, and in fact will continue to direct our attention away from more worthwhile pursuits.[27] Hopefully, as a field we will learn from our experiences and misdirected efforts. Sophisticated statistical analyses and high speed computers cannot substitute for the critical capacity of human beings. Factor analysis must be preceded by careful conceptualization and construct delineation, or the product of even the most massive research effort, as we hope we have illustrated above, will lead to nothing, or worse, to inappropriate knowledge claims.

[23] James C. McCroskey and Thomas A. McCain, "The Measurement of Interpersonal Attraction," *Speech Monographs*, 41 (1974), 261-66.

[24] James C. McCroskey, Virginia P. Richmond, and John A. Daly, "The Development of a Measure of Perceived Homophily in Interpersonal Communication," *Human Communication Research*, 1 (1975), 323-32.

[25] See, for example, David J. Schneider, "Implicit Personality Theory: A Review," *Psychological Bulletin*, 79 (1973), 294-309.

[26] McCroskey, "Scales for the Measurement of Ethos."

[27] Although the rationale set forth in this essay was developed prior to the publication of a paper by Jesse D. Delia ("A Constructivist Analysis of the Concept of Credibility," *Quarterly Journal of Speech*, 62 (1976), 361-375), the reader should consult this article for a similar view. We concur with Delia's analysis of the problem, but take exception with his recommended solution.