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ABSTRACT

GENERALITY OF THE DIMENSIONS OF SOURCE EVALUATION ACROSS LANGUAGE/CULTURAL SYSTEMS

by Lawrence E. Sarbaugh

Seeking more precise measures of source evaluation for communication research and practice, Berlo, Lemert and Mertz developed a set of semantic differential scales which produced four dimensions of source evaluation in a Lansing, Mich. study. These dimensions, labeled "safety", "qualification", "dynamism," and "sociability," accounted for more than 60 percent of the total variance in source evaluations.

The present study was an attempt to investigate the generality of those dimensions to other language/cultural groups and to see if other dimensions should be considered.

A general hypothesis derived from Osgood's mediation hypothesis was: The greater the similarity and the larger the number of stimuli to which two or more groups of persons have been exposed, the more similar will be the dimensions of meaning developed and used by those groups. Evaluations of sources were taken as meanings receivers have for sources as stimuli.

The main dependent variables were: (1) the similarity of factor structures, and (2) the discriminating power of terms used in evaluating sources. The independent variables were language of response, language/cultural community of respondents and exposure to USA training.

Respondents were drawn from four populations: (1) bilingual Ibo-English Nigerians, (2) bilingual Yoruba-English Nigerians, (3) bilingual

Portuguese-English Brazilians, and (4) a non-English speaking population of Brazilians. Half of the bilinguals were randomly assigned to respond in English, the other half to respond in mother tongue. For each language/cultural group, there was a sample of persons who had been in the USA six months or longer for technical training; and a sample, similar in occupation and social status, who had not been to the USA for training.

Data were scores from two Q-sorts of 66 terms by each respondent, the terms obtained by a modified free association technique and from previous work. The terms were sorted into nine ranks from most to least descriptive of two persons in the respondent's field of work; the first, one he considered the "best" source of messages, and second, a person he considered the "worst" source.

Two dimensions of source evaluation, clearly defined across all language/cultural groups, may be labeled "trust" and "qualification". Three other less clearly defined structures may be labeled "friendly-sympathetic", "dynamism," and "organized-clear." Five to seven factors were required to account for 50 to 60 percent of the variance, factors six and seven being less clearly defined across groups than the others.

Comparison of factor structures indicated that groups which had been to the USA for training and responded in the same language, English in this case, produced more similar factor structures than groups which had not been to the USA and responded in different languages, each in their mother tongue. There also were statistically significant differences in discriminating power of the 66 terms as measured by differences in mean scores for best and for worst source sorts. Differences in discriminating power among language/cultural groups were consistent

with the general hypothesis. Groups responding in Portuguese were similar in discriminating power of terms to other groups responding in Portuguese; but the groups responding in Portuguese were significantly different from groups responding in Ibo or Yoruba.

A set of scales selected from the 66 terms used in the Q-sort was recommended for future use in source evaluation. The selection was based on those which discriminated most strongly between best and worst sources, described clearly defined factor structures, and had the highest average negative correlations between members of presumed bipolar pairs of terms.

GENERALITY OF THE DIMENSIONS OF SOURCE EVALUATION ACROSS LANGUAGE/CULTURAL SYSTEMS

By

Lawrence E. Sarbaugh

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PREFACE

This paper is divided into five main sections. Part I contains a background statement, a statement of the problem with supporting evidence from past research and writings, and a rationale for the study. The literature review has been incorporated where it seemed most appropriate as supporting the background, problem statement or development of rationale.

Part II outlines the methodology, again with some supporting statements from previous research where these seemed appropriate to support the decisions made.

Part III contains the findings judged most relevant to tests of the hypotheses stated in the rationale section. It first gives a resume of the factor structures obtained. This is followed by data on the coefficients of similarity computed for selected comparisons among the factor structures and the data showing the discriminating power of the various scales.

Part IV is the summary of the findings and some statements regarding the implications of the findings for communicators.

Part V is the appendix. It contains detailed tables of the factor loadings and the discriminating power of the terms, word lists used for scale selection, a record of translations and back-translation, instructions to respondents and field staff, and a table showing selected characteristics of the samples of respondents.

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ACKNOWLEDGMENTS

In systems terminology, a product is the result of the interaction of all the elements within a system. This applies to a thesis, as well as to outputs of other systems. The work required for completion of this thesis involved the interaction of many elements, especially the generous help of many people. I shall try to list a few of those whose help was most apparent, recognizing that I will be omitting many who had some effect.

First, I want to thank my guidance committee -- David K. Berlo, Hideya Kumata, Erwin P. Bettinghaus and Mason E. Miller -- for their help in framing the research design and for their counsel regarding the field work and analysis. I also should include Malcolm MacLean, Jr. in this list. Although Dr. MacLean had moved to Iowa University and did not continue on the guidance committee officially, he continued to offer suggestions regarding the work.

Charles F. Wrigley, Director, Computer Institute for Social Science Research; and Albert Talbott, Technical Research Adviser in the Department of Communication, challenged my approach to the statistical problems arising and offered valuable suggestions for handling these problems. Verling C. Troldahl, also helped me think through solutions to some of the data analysis problems.

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I also owe a debt of gratitude to more than 400 Nigerians and Brazilians who spent about two hours each in completing the Q-sorts to provide the data for this study.

Finally, I must thank my wife and children for their support and patience throughout this work.

CHAPTER I

BACKGROUND, PROBLEM, LITERATURE REVIEW AND RATIONALE

A. Background

A broad objective of communication research and practice is to increase the ability to predict responses of those to whom messages are transmitted. Planners and observers of communication events, as well as sources of messages, are concerned with these predictions. Evidence of the magnitude of this concern is the millions of dollars spent by advertisers to find what effect a given advertisement had and what can be done to sell more of product "X", whatever "X" may be.

On a somewhat less grandiose scale, several analogous questions are posed in organizations: Who can say what to the workers to get them to reduce waste of materials or increase output? What will be the effect if A rather than B talks to them? Should he talk to them one at a time or as a group? Should he talk to them in the work area, in the conference room, in his office or ??? What should he say?

These questions may be grouped into three categories of stimulus elements that are present in every communication situation -- the source of the message, i.e., "who says it"; the message code and content; and the social and physical situation in which the message is transmitted.

The present study focuses on one of those elements, the source. The study is based on the assumption that 'who says it' makes a difference in the way receivers respond to messages. There seems to be widespread belief in this assumption. Scholars have discussed it under several headings. The headings and some of those using the various headings are: ethics of speaker (Andersen & Clevenger summary, 1963; McCroskey, 1966); prestige of source (Sherif, 1935; Lorge, 1936; Asch, 1948; Lionberger, 1959); credibility of source (Hovland, et al., 1953; Berlo, Lemert and Mertz, 1966); and reference individual (Turner, 1956; Star, et al., 1958; Siegel & Siegel, 1957; Raven, 1959; Newcomb, 1958; Maccoby, et al., 1961; Hartley, 1960).

Each of us can think of persons whose statements, written or spoken, we tend to accept without question. We also can think of persons whose statements we accept only after extensive and careful checking. But we don't need to rely on our own reflections to support the assumption. Experimental situations also have been used to demonstrate the effect. Andersen and Clevenger (1963) reviewed several studies of this type, including those by Hovland, et al., (1953) and Haiman (1949).

Asch (1948) questioned whether the source and message effects can be separated, but did not deny that the source has an effect on the response.

If we accept the assumption that "Who says it" makes a difference in the receivers' responses, we are still faced with the question of what kinds of evaluations of source produce what kinds of effects. Before we can answer that question, we have to have some evaluations of sources and some understanding of the criteria people use in judging sources.

Hovland and Haiman used sources whom most persons would agree were quite different in the way receivers would judge them. Haiman used the U. S. Surgeon General, an anonymous Northwestern University sophomore, and

the secretary-general of the communist party speaking on a health topic. Hovland used a probate court judge, a person with a criminal record, and a layman chosen from the audience to talk on handling juvenile delinquency. In the two situations the Surgeon-General and the Judge produced more attitude change among the receivers of the messages than did the other sources.

Hovland discusses two criteria of judgment -- perceived expertness and perceived trustworthiness. Haiman got ratings from the receivers on the perceived competence, fairmindedness, sincerity, physical appearance, conceit and likableness of the source. While these criteria for evaluating sources may be helpful, they lack the precision needed if we are to use source evaluations to help us predict communication effects. Some means is needed that will provide reasonably precise measures of receivers' evaluations of sources with some indications of the components of the evaluations and the extent to which these components are independent.

Berlo, Lemert and Mertz (1966)[1] have been developing such an instrument. Two factor analytic studies have been conducted. A preliminary study, with Michigan State University students and students' wives, was conducted without hypotheses as to the nature and number of evaluative dimensions. A second study, based on hypotheses drawn from the first study, was conducted with a sample of the adult population of Lansing, Michigan.

Taking the measurement of source evaluation as similar to the general measurement of connotative meaning, Berlo et al. chose an analogue to the procedures followed by Osgood et al. (1957) in constructing the semantic differential.

Following the logic and method of Osgood et al. in constructing the dimensions of connotative meaning, Berlo et al. obtained a set of polar

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[1] This work will be reviewed at some length here since it is not yet published.

adjectival pairs considered relevant to evaluating sources of messages. They obtained most of these by interviewing a sample of residents of Lansing, Mich. The instructions were:

> Think of a person (or organization) about whom you are likely to say, "If it's good enough for him, it's good enough for me."
>
> Think of a person (or organization) about whom you would be likely to say, "If he says something is so, or says it is good, I would tend to doubt the statement."

For each source which the respondent identified, he was asked to describe at some length the qualities which made the source acceptable or unacceptable as a source of messages.

From the interviews and a review of the literature, Berlo, Lemert and Mertz constructed a set of 128 pairs of polar adjectives which had been frequently used to describe highly acceptable or highly unacceptable sources. To accommodate to the capacity of the electronic computer, the number was reduced to 83 pairs by asking six faculty judges to group the scales on the basis of judged synonymity in meaning. When two or more scales were judged as highly similar by five or more of the judges, the more easily understood scales were retained. "More easily understood" was based on frequency of occurrence in the Thorndike-Lorge word count list (1944).

In the preliminary study, 91 Michigan State University students and students' wives evaluated each of 18 sources on each of the 83 scales. Scales were reversed randomly and pages were ordered randomly within sets.

The 18 were selected to represent four categories of sources:

1. Public source, no context -- The New York Times, Dwight Eisenhower, Nasser, Nehru, The John Birch Society, Krushchev, J. Edgar Hoover, The American Medical Assn., and the American Broadcasting Company.

2. Public source, relevant context -- Khrushchev on Soviet foreign policy, Nehru on neutralism, and Churchill on foreign policy.

3. Public source, irrelevant context -- Perry Como on organized crime, Nasser on smoking and lung cancer, Khrushchev on modern art.

4. Interpersonal source -- Each respondent was asked to recall the names of three people he knew well: one whose opinion he respected highly, one whose opinion he did not respect, and one whose opinion he neither respected nor disrespected.

Four factors accounted for nearly 62 percent of the variance. Two of these -- safety and qualification -- accounted for 52 percent (27.8% and 24.0% respectively) of the total variance. A dynamism factor accounted for 7.8 percent and a sociability factor accounted for 2.0 percent of the variance.

From these results, three main factors of source evaluation were hypothesized and the possibility of a fourth was explored.

Scales for the second study were obtained by selecting six scales from each of the three main factors, choosing from among those with the highest loadings on one factor and low loadings on other factors. Four were selected for the sociability factor, two with clear loadings on that factor and two which also had loaded on the sociability factor but which had relatively high loadings -- 67 and 66 -- on the safety factor. Two scales were added to those for each of the three main factors to test for stability and adequacy of the "general meaning" of the factor. Another seven new scales were added. It was hypothesized that these would cluster with other sociability scales if there were such a factor. This provided a total of 35 scales for the second study.

Twelve sources were used for the second study, three for each of the four categories. They were:

1. Public, no context -- John F. Kennedy, G. Mennen Williams and Fidel Castro.

2. Public, relevant context -- Adlai Stevenson on the United Nations, Eddie Fisher on show business, and Mao Tse-Tung on Red China's domestic problems.

3. Public, irrelevant context -- Mickey Mantle on organized crime, Michigan Lt. Gov. T. John Lesinski on smoking and lung cancer, and Jimmy Hoffa on abstract art.

4. Interpersonal -- Same procedure was used as in study #1.

Respondents were selected by randomly selecting columns within the Lansing telephone book and randomly selecting names within the columns. Since considerable verbal skill was involved, if screening questions showed the person called had not completed the sixth grade of school, the person was not asked to complete the scales.

Again three main factors accounted for about 60 percent of the total variance -- safety, 33.8%; qualification, 15.6% and dynamism, 10.5%. The eight scales hypothesized to load highest on the qualification factor, and no others, did load highest on that factor; the same was true for the dynamism factor. All the hypothesized safety scales had their highest loadings on this factor; but the scales included as sociability scales, including the seven new ones, also loaded highest on the safety factor.

Berlo, Lemert and Mertz suggest the following scales as most representative of the three factors for those who may wish to use them as an index for evaluation of sources:

SAFETY -- safe-unsafe, just-unjust, kind-cruel, friendly-unfriendly, honest-dishonest.

QUALIFICATION -- trained-untrained, experienced-inexperienced, skilled-unskilled, qualified-unqualified, informed-uninformed.

DYNAMISM -- aggressive-meek, emphatic-hesitant, bold-timid, active-passive, energetic-tired.

These dimensions seem to encompass and specify somewhat more precisely the Hovland and Haiman conceptualizations of source credibility and ethos.

I. The Problem

1. Preliminary Statement of the Problem and Variables --

Berlo, Lemert and Mertz studied dimensions of source evaluation in one language and in one locality within the USA. Their work leaves unanswered the question of how general these dimensions will be found to be.

As one moves into another country where cultural values and language are different, will there be variations in the way people evaluate sources of messages, and will the variations be great enough to produce different dimensions of source evaluation? Does the language in which one responds influence the way one judges sources and will this also affect the resulting dimensions of source evaluation? Does visiting another country for several months influence the evaluation of sources? Are there some scales for evaluating sources of messages that will be used by people generally, regardless of the language/cultural community of which these people are a part?

Those are the questions with which the present study is concerned. Obviously, a necessary first step for the comparisons is to determine the dimensions of source evaluation used by groups of persons differing in language and culture. To permit the comparisons implied in the questions above, we need sampling units from some different language/cultural groups. It also would be helpful to have bilingual persons from a given culture so that some of them could respond in one language and some in another language, thus permitting comparisons to see if language of response makes any difference in the dimensions of source evaluation.

One approach to choosing the needed sampling units would be to select geographic areas which are far apart and presumably of quite different cultural patterns and languages. To sharpen the comparison, one could also

take a country where the cultural patterns are presumed to be quite similar but different languages (mother tongue) are used in different sections of the country.

A South American country and an African country would be expected to provide sampling units that reflect a sharp contrast between cultural and language patterns. Some African countries would be expected to provide sampling units within the country where many cultural patterns are similar but different languages are spoken. Sampling units such as those would permit comparisons between two language/cultural groups that are expected to be relatively similar, and comparisons between those units and a language/cultural group that is expected to be vastly different.

To provide a firmer base for comparing the effect of language of response, it would be helpful if one common language of response could be used for half of the respondents from each of the language/cultural groups. Selecting bilingual English/mother tongue respondents would permit such a control.

Since many persons of the type described are in the USA for technical training there are potential respondents from which one may draw. But this poses a problem. Does common exposure to USA culture and language affect the way people make judgments of sources of messages or of other objects? To control for this, one would need a sample of persons who had not had contact with USA personnel and had not been in the USA.

By making USA exposure and language of response independent variables in a study, additional information could be obtained and the range of the generalizations potentially extended.

Three independent variables, which have been sketched above, may be stated and operationalized as follows:

a. Language/cultural community of which respondents are members. This may be identified as a geographic area within which the people who live there speak and read a common language or languages. In Brazil, e.g., bilingual English-Portuguese would be considered one language/cultural community, while monolingual Portuguese would be considered another language/cultural community.

b. Language of response. Test materials may be prepared in each of the languages used in the study. Then the values of this variable become English and the mother tongue of each language/cultural community included in the study.

c. Exposure to USA culture. Persons who have been in the USA for training for 6 months or longer may be used as those who have been exposed to USA culture, while those who have not been in the USA and have had no contact with USA personnel will be considered as not exposed to USA culture.

Now a basis for determining the difference or similarity in dimensions of source evaluation among different language/cultural groups must be established. As noted earlier, one must first determine the dimensions of source evaluation for each of the language/cultural groupings being used. The factor analytic method used by Berlo, Lemert and Mertz may be taken as an appropriate method.

Using the Berlo, Lemert and Mertz method yields factor structures which are taken as the dimensions of source evaluation. Now some method is needed to compare the factor structures obtained in each of the sampling units, but no completely satisfactory method seems to be available. However, in discussing the problem with Dr. Charles F. Wrigley, Director, Computer Institute for Social Science Research, Michigan State University, he said that the most promising alternative is the coefficient of factor similarity (Harlow and Burt, 1954). Triandis and Osgood (1958) also have used the coefficient of similarity to compare factor structures in their studies of the dimensions of meaning.

Computationally, the coefficient of similarity is:

$$\text{Coefficient of Similarity} = \frac{f_1 f_2}{\sqrt{f_1^2}\ \sqrt{f_1^2}}$$

where $f_1 f_2$ is the sum of the cross-products of the factor saturations of the two factors being compared; and f_1^2 and f_2^2 are the sums of the squared factor saturations for each of the factors being compared.

A limitation in the application of the coefficient of similarity is lack of a sampling distribution. Since there is no sampling distribution of the coefficients, we do not have a statistical test of the significance of the difference between two coefficients of similarity or of the size of coefficient required to say it is significantly different from zero.

There is a formula which is used to compute a lower limit of best fit, this limit being the value below which we are not willing to say that the two factor structures being compared are similar. The formula is:

$$\frac{1 + 1/\sqrt{k}}{2}$$

where k is the number of factors in each of the pairs being compared. With the limitations on application of the coefficient of similarity, one tends to look for additional measures for comparing the similarity or difference among factor structures.

Another indicator of the similarity or difference in the basis of source evaluation among language/cultural groups would be provided in a comparison of the power of terms to discriminate between best and worst sources. Furthermore, it would be convenient to have a universal set of scales that could be used to evaluate sources in any language/cultural

community. One of the requirements of such scales would be that they would discriminate strongly between best and worst sources and do this equally well for all language/cultural groups. One indicator of this would be that the same terms always loaded highest on the same factors for all language/cultural groups. A more exacting test of discriminating power of the terms would be provided by a t-test of the differences between mean evaluation scores for best source and mean evaluation scores for worst source for each of the scales. The scales could then be ranked according to differences in mean scores and the rankings compared across language/cultural groups.

Since the Semantic Differential is being widely used for universal sets of scales, a measure of polarity of responses to the terms would be useful for users of that instrument. This would require using something other than the Semantic Differential for evaluating sources in this study, and Q-technique would offer an alternative.

Now, three dependent variables have been considered and may be stated and operationalized as follows:

a. Similarity of dimensions of source evaluation. Coefficients of similarity among factor structures for each cell of the design will provide this measure.

b. Universality of scale terms for evaluating sources. For each language/cultural group used in the study, the scale terms may be ranked according to their power to discriminate between best and worst source, then a coefficient of concordance computed as a measure of the universality of the discriminating power of the scale terms among the populations studied. Discriminating power of the scale may be obtained by the magnitude of the statistically significant differences between means of scores for best source and means of scores for worst source for each term in each subsample of respondents.

c. Polarity of scales which identify factors. This variable may be operationalized from visual inspection of the magnitude of the significant negative correlations among the pairs of terms in each subsample of respondents.

2. Discussion of the Problem in Relation to Past Research and Writings --

What relationships would one expect among the variables? What do past research and theoretic writings suggest as answers to the questions being raised? Work from two theoretic areas will be reviewed here. One is the common meaning structure work of Osgood and associates, which Berlo, Lemert and Mertz used as the context for their work. The other is the cultural-relativity work most often referred to as the Sapir-Whorf hypothesis.

We'll look first at evidence for commonality of dimensions of source evaluation. Then we'll look at evidence which questions the limits of common dimensions of meaning and evidence suggesting uniqueness of meaning dimensions.

One of the issues in relation to the Osgood thesis of a common meaning structure and the Sapir-Whorf cultural relativity thesis is the extent to which these two positions are contradictory, complementary, or independent. It is hoped that, in addition to providing some insights into the bases people use in evaluating sources, this study also may contribute to some further clarification of the relationship between the two theoretic positions just noted.

3. Generality of the Dimensions of Source Evaluation --

a. Evidence for common dimensions of meaning is found in the work of Osgood and his associates. Osgood's work led him to conclude that there is a common affective meaning structure which extends across language/cultural groups. Although different persons, even within a language group, will have different affective meaning for a given stimulus, Osgood states there is similarity in the structure -- a set of reference axes in semantic space -- which provides the basis for making affective judgments.

The research literature contains reports of several studies by Osgood and his associates showing support for the common meaning structure thesis. Meaning structure is operationalized as the factors resulting from a factor analysis of respondents' ratings of a sample of concepts by means of 7-point scales of bipolar adjectives. (Osgood, Suci and Tannehbaum, 1957) An example would be:

good ___ ___ ___ ___ ___ ___ ___ bad

weak ___ ___ ___ ___ ___ ___ ___ strong

Kumata (1958) was the first to test the common meaning structure thesis cross-culturally, using the semantic differential as the instrument for measuring meaning. In his study with bilingual Japanese and Korean exchange students in the USA and with monolingual Japanese in Japan and Americans living in the USA, he found that language itself did not produce different dimensions of meaning. He did, however, find differences in meanings of concepts as a function of culture. But there appeared to be underlying dimensions in making connotative judgments which cut across language and culture.

Among the problems in interpretation of the results cited by Kumata are: the possibility of enculturation of the exchange students, the limitations of translations, and the assumption of cultural differences when in fact there may be more similarities than differences for the cultures used.

Triandis and Osgood (1958) followed the Kumata design with monolinguals from the USA and Greece. They found support for a general semantic structure, but they also found differences in the meanings for certain scales and the meanings for concepts. The first common factor was an evaluative factor for both groups, accounting for 43 percent of

the variance for Americans and 39 percent for Greeks. The second factor was a dynamism factor, accounting for 17 percent of the variance for Americans and 16 percent for Greeks.

The coefficients of similarity for factors one and two in the Triandis-Osgood study were 0.93 and 0.81 respectively. While this offers firm support for a common meaning structure across the two language/cultural groups, factors three to five indicate some limits to the extent of generality between the two groups. These three factors were less readily interpretable and the coefficients of similarity ranged from 0.54 to 0.70, not reaching the criterion of 0.75 set by Osgood as the value below which the factors were no longer accepted as similar.

Suci (1960) compared semantic structures among Zuni, Navaho, Hopi and Spanish speaking subjects. He also found support for common meaning structure, but the coefficients of similarity and the percent of variance accounted for were less than in the two studies cited above. Factor one (evaluation) in Suci's study met the criterion of 0.75 for coefficient of similarity among 4 of 6 comparisons, Navaho-Zuni and Navaho-Spanish being the exception. On factor two (activity-potency), no comparison in which the Navaho appeared reached the 0.75 criterion.

Percent of variance accounted for by the first three factors was 39 percent for the Navaho sample; 52 percent for Hopi; 64 percent for Zuni and 68 percent for Spanish.

Suci's respondents were from a language/cultural area in which Whorf had worked and reported support for his cultural relativity position; but Suci obtained evidence for similarity of meaning structure as that concept is defined by Osgood and his associates. However, there also is evidence for some differences among the language/cultural groups.

The coefficients of similarity among some groups were lower than the criterion previously set as standard; and the percent of variance accounted for showed considerable variation among the language/cultural groups.

In more recent work, Tanaka, Oyama and Osgood (1963) found cross-cultural generality but cross-concept uniqueness in factor analysis of semantic differential scales for three classes of concepts -- 14 abstract words, 16 color blocks and 14 line forms. The respondents were 108 Japanese college girls and 67 USA college girls.

Another study by Tanaka and Osgood (1965) investigated the meaning structures for 24 perceptual signs -- color and line form combinations -- judged on 10 semantic differential scales by 3 language/cultural groups -- Finns, Japanese and Americans (USA). From the findings, they concluded there was a common semantic structure across language/cultural groups, but even higher consistency within language/cultural groups. And they found somewhat different structures between the 24 signs and verbal symbols.

Hofstatter (1963) collected semantic differential data on the concepts "sun" and "moon" from subjects responding in Italian and subjects responding in German. Although the gender of the concepts is reversed in the two languages, the semantic differential ratings corresponded closely. He concluded that connotative meanings are the same regardless of the grammatical differences; but he may have been using two concepts which are highly stereotyped across cultures.

Osgood (1962), in an article reviewing some of the work on generality of affective meaning systems, points out that although semantic factor structures have remained stable across groups, this does not imply

that these groups shared the same meaning for specific concepts. Here he is emphasizing that what is common is the set of reference axes which people use to assign meaning to concepts, not the meanings per se. He also notes that the factor structure has been quite unstable across concepts. Not all claims for common dimensions come from Osgood and his associates. Ralph Linton (1952) put it this way: "Behind the seemingly endless diversity of culture patterns there is a fundamental uniformity."

While the preceding studies and writings offer support for some common dimensions of meaning across language/cultural groups, they also contain data which suggest limits to the extent of the commonality.

b. Evidence questioning the extent to which common dimensions of meaning apply is more explicit in recent studies than in earlier ones. Tanaka, Oyama and Osgood (1963); and Tanaka and Osgood (1965) found cross-concept uniqueness in studies with different classes of concepts -- abstract words, color blocks, line forms and color and line form combinations.

In the 1963 study, Tanaka, Oyama and Osgood found that some scales were stable across concept classes and language/cultural groups; some were unstable across concept classes but stable across subject groups; some were factorially unstable and susceptible to interaction with subject groups. In the 1965 study by Tanaka and Osgood, Mann-Whitney U tests yielded significant differences in loadings between the factors across language/cultural groups. Tanaka and Osgood state that the higher consistency of subjects' meaning systems within than across language/cultural systems may be due to concept-scale interaction which is higher across language/cultural boundaries.

Dominance of one language/cultural group on one factor and the dominance of another group on another factor in some of the studies cited above suggests some differences in the structuring of meanings. However, the evaluative dimension (one of Osgood's three dimensions of meaning) seems to appear in all the factor analytic studies using semantic differential data.

A study by Darnell (1964) examines the relationship between the evaluative factor and the activity and potency factors reported by Osgood. He found support for an evaluative component in both the activity and potency factors. Further analysis of the Troldahl-Lemert data on source evaluation also called attention to lack of independence among the factors. It produced zero order correlations of 0.57 between the qualification and safety factors; 0.38 between the qualification and dynamism factors; and 0.51 between the safety and dynamism factors.

While concept-class differences and lack of independence set limits on the application of common dimensions of meaning, they do not negate the usefulness of the conceptualization of common dimensions of meaning.

Admitting the existence of concept-scale interaction in the work of Osgood and others begins to focus attention on the Sapir-Whorf work with its claims of the uniqueness of categorization and labeling within a language/cultural community. Osgood explains concept-scale interaction in terms of the high denotative characteristics of the scales in relation to a specific concept; and much of Whorf's writing is in terms of the denotative referent and the differences in the referent pattern among cultures.

Whorf notes lack of translatability of some concepts from one language/cultural group to another; and Osgood (1964) notes that translation

would seem to be the most likely source of bias if the similarities found in previous studies were artifactual.

In attacking the translation question, Osgood designed a study with 16 language/cultural groups using an elaborate procedure for scale selection. There is still some question as to whether the translation problem was controlled. The selectivity due to translation has been moved from the qualifiers (adjectives) to the substantives (nouns) used to obtain the qualifiers. It's the substantives that are translated in the new procedure. Some of the substantives such as SUN, LUCK, WEALTH, POISON, and HEAT were highly stereotyped across all cultures; others such as MAN, WOMAN, LOVE, DOG, FISH, and HAND tended to be amorphous (diversely qualified) everywhere.

Another Osgood procedure in the 1964 study was the elimination of those qualifiers which failed to elicit verbal opposites according to a standard procedure which is not reported in the Osgood article. This also limits the population of qualifiers. Osgood states that the evidence (using the scales which were selected) did support the generality of meaning dimensions. And he notes that functional use of oppositeness was evident in all languages studied.

In spite of the limitations noted, Osgood and his associates still make strong claims for common dimensions of meaning. This may be somewhat a function of the method employed, factor analysis, which focuses attention on common variance. The method also permits measures of specific variance which would allow one to go beyond the common dimensions of meaning to those which are specific, if reliability measures are included in the study design.

c. Evidence for unique meanings within a language/cultural community has received much attention under the label of the Sapir-Whorf hypothesis. Sapir and Whorf emphasize that language influences one's perceptions of his world, and it seems evident there is a relation between language and perception, language and thought, and language and culture, but the causality question is a sticky one.

Whorf sees language imposing a uniformity of world view upon those in the same linguistic community. He says:

> We cut nature up, organize it into concepts and ascribe significance as we do, largely because we are parties to an agreement to organize it in this way -- an agreement that holds throughout our speech community and is codified in the patterns of language. The agreement is, of course, an implicit and unstated one, BUT ITS TERMS ARE ABSOLUTELY OBLIGATORY; we cannot talk at all except by subscribing to the organization and classification of data which the agreement decrees.
>
> . . . We are thus introduced to a new principle of relativity, which holds that all observers are not led by the same physical evidence to the same picture of the universe, unless their linguistic backgrounds are similar or can in some way be calibrated.

And here one may argue that each individual is unique, even in the case of identical twins.

Sapir (Mandelbaum 1964) notes:

> . . . Vocabulary is a very sensitive index of the culture of a people, and changes of meaning, loss of old words, the creation and borrowing of new ones are all dependent on the history of culture itself. . . . Distinctions which seem inevitable to us may be utterly ignored in languages which reflect an entirely different type of culture, while these in turn insist on distinctions which are all but unintelligible to us . . .
>
> In a sense, the network of cultural patterns of a civilization is indexed in the language which expresses that civilization. . . . We see and hear and otherwise experience very largely as we do because the language habits of our community predispose certain choices of interpretation.

Brown and Lenneberg (Saporta, 1960) have looked at the language-meaning-behavior relationship from the point of view of codability; and they have found a positive correlation between the codability of colors

and the ability to discriminate among colors in a test situation. Codability here refers to the number of words the respondent has in his vocabulary to designate the categories into which he has divided a set of events.

Brown and Lenneberg admit that their correlational evidence does not establish causality; and they offer a guess that the features of language and thought probably develop together. They see Whorf, on the other hand, claiming more than a simple relationship between language and thought; they see him claiming that language is causally related to cognitive structure.

What we have seems to be a chicken-egg situation. Proof is lacking that language shapes finer and finer discriminations in the absence of cultural need to make the discrimination. But, no doubt each of us can think of a word he has found in the lexicon and then sought a referent for it, thus becoming aware of a physical object which was unknown to him previously. On the other hand, examples abound of new words being added to express elements in discoveries.

It appears that language may be the antecedent sometimes and the consequent at others and that efforts to determine that it is one or the other may not be too fruitful.

d. Comparison of the Osgood and Sapir-Whorf positions brings into focus two points of emphasis, which may not be as contradictory as sometimes claimed.

The Osgood emphasis is on common meaning dimension with a recognition of individual differences in both denotative and connotative meanings. The Sapir-Whorf emphasis on the other hand is on the relation of language to other behavior, with many of their examples showing

differences in denotation and the way the categories constructed for denotation affected behavior.

Osgood admits differences in both denotative and connotative meanings of concepts among individuals; he merely claims a common set of reference axes (the factors obtained) is used in making affective judgments. These judgments, once made, will affect other behaviors of the person.

Sapir and Whorf make a strong claim for similarity of meaning within a language/cultural community, even stronger than Osgood it seems; but, they stress differences in meanings and structuring of reality among language/cultural groups.

It appears that similarity of meaning for Sapir-Whorf, however, is different than Osgood's common dimensions. Sapir-Whorf appear to be talking about shared denotations and connotations, while Osgood is talking about a common set of references axes that may be used to measure the connotative meanings of any individual or group of individuals to determine the extent of sharing or differing in the meanings held for a given concept.

As noted in the preceding pages there is evidence for common dimensions of meaning in the sense of common dimensions used by Osgood; and we would expect then that common dimensions of source evaluation could be identified. But there also is evidence that: (1) the dimensions of meaning differ for different concept classes, (2) there is concept-scale interaction which is greater across language/cultural groups than within a given language/cultural group, (3) the systems of categorizing and labeling elements within one's perceptual world vary from one language/cultural group to another, and (4) individuals vary

as to the meanings they have for given concepts.

e. Need for special scales for source evaluation is suggested by evidence in the studies reported above. Repeatedly in the work of Osgood and his associates concept-scale interaction is noted. Osgood has attributed this interaction to the highly denotative characteristics of some scales in relation to specific concepts.

It is doubtful whether the denotative aspects can ever be eliminated from a scale. If this is the case, then the best safeguard against distortion in evaluation would seem to be to select scales specifically for concept classes, if not for specific concepts. The association approach to scale selection used by Berlo, Lemert and Mertz cited earlier would provide such a safeguard.

The work of Osgood and associates has been based on semantic differential measures. This method of scaling assumes bipolarity of the terms used as scales. Even though, as Osgood notes (1964), functional oppositeness seems common, there is some question as to the use of oppositeness by different persons, even within a language group. Thus there is some question as to the validity of the basic assumption of bipolarity in people's responses to semantic differential scales, and some research has directly attacked this question.

Work by Mordkoff (1963) and by Green and Goldfried (1965) shows that bipolarity of the terms does not hold generally. Mordkoff hypothesized that the averaged semantic differential ratings of two nominally opposite adjectives would be zero. Testing this hypothesis, he found three of 16 presumed bipolar pairs deviated significantly from the null at the 0.01 level and one deviated at the 0.05 level.

Green and Goldfried found that ten of fifteen pairs of adjectives, which the authors considered most obvious opposites, had significant negative correlations on a few more than half of the concepts judged. Two pairs had both positive and negative correlations; and one pair had no significant correlations.

Green and Goldfried found more significant correlations occurred on some concepts than on others. They concluded that to the extent bipolarity is a "reality," it tends to be specific to concepts rather than to a generalized phenomenon. They also concluded:

> The weight of evidence is that Osgood and his associates have imposed an arbitrary and artifactual structure in the domain they call semantic space. It does not follow that the semantic differential is useless, but it does follow that researchers should bear its characteistics in mind when they use it to obtain and interpret data.

It seems advisable to select specific scales for source evaluation as one concept class, and to consider a scaling procedure that will not force the bipolarity assumption. Q-technique (Stephenson, 1953) would permit treating each member of the pairs of presumed bipolar opposites as individual scales. This would not force the bipolarity assumption and would at the same time permit analysis to indicate the extent to which respondents gave symmetrically opposite responses to the members of each pair. Data on the oppositeness of the responses would then be useful in selecting scales that might be used in semantic differential type measurements of source evaluation.

Taking source evaluation as one concept class in the general study of meaning, we are now ready to build a rationale to study the following questions:

1. What are the dimensions of source evaluation within a given language/cultural group?

2. How similar are the dimensions of source evaluation across language/cultural groups?

3. Is there a universal set of scales that may be used to discriminate between "good" source and "bad" source, or different levels of "goodness" and "badness"?

C. Rationale

1. Some Basic Assumptions --

Our evaluations of entities, including sources of messages, are expressed in verbal language. Although there are overt behavioral cues that express our evaluations, these generally may be translated into a verbal code. It's the meaning of the verbal codes used to structure evaluations of sources that concerns us here, placing us in the context of studying meaning.

Both Osgood and Sapir-Whorf admit language is learned and has the qualities of other learned behavior. Like much of human behavior, it becomes habitual, people frequently responding without conscious interpretation.

From this starting point, we may state two rather basic assumptions:

Assumption # 1. People learn to structure their world.

Assumption # 2. The words people use to express the way they structure their world are learned in association with the elements in the structure.

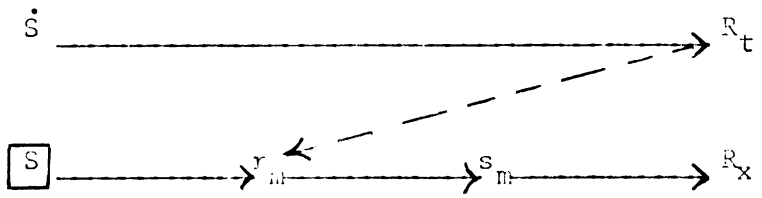
2. A Theoretic Model --

Since part of one's world is his evaluation of sources of messages, it follows that one learns a structure for evaluating sources and learns words to express that structure and the elements of which it is comprised. Thus it seems that one of the learning models would provide a basis for analyzing the structure of source evaluation. One such model is the representational mediation model of Osgood. A brief review

of this model will be used in developing postulates and finally the hypotheses to be tested.

The representational mediation hypothesis is derived from an association base, as are all approaches to learning. It differs from some other approaches in handling the intervening elements between stimulus and response, positing $r_m...s_m$ (mediated response and mediated stimulus) bonds between the external stimuli and the overt responses. These bonds taken together are comprised of the accumulation of previous associations and the evaluation of the consequences of responding in certain ways to given stimuli.

Osgood diagrams the application of the mediation hypothesis to verbal learning and behavior as follows:



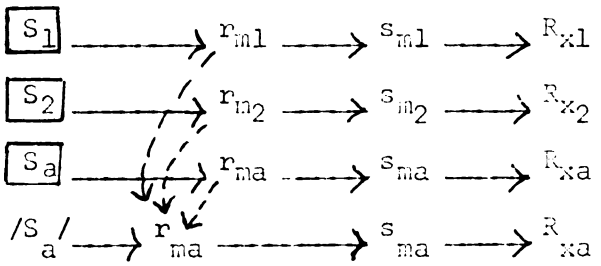
At the early stages of verbal learning, a verbal symbol ($\boxed{S}$) becomes associated with an object ($\dot{S}$). The verbal symbol as stimulus then elicits a response similar to that elicited by the object. For example, if I have sucked the juice of a lemon ($\dot{S}$) and experienced the sour, tart taste which makes my mouth "water" (R_t), the use of the verbal symbol "suck a lemon" $\boxed{S}$ will elicit somewhat the same response (R_x) as sucking the lemon. The saliva will begin to flow and my lips may tighten a bit.

However, the response to the words, "suck a lemon," will not be identical with the response to actually sucking a lemon; response to the word will be some fractional part of the response to sucking the

lemon. Compared to sucking the lemon, response to the words may produce somewhat less saliva flow, less tightening of the lips, and the quiver of body muscles which may accompany sucking the lemon may not be observable in the response to the words "suck a lemon." Another example is the response of a woman who fears mice. She probably will produce many of the same responses to the words, "there's a mouse," that she produces when she sees one of the furry creatures by her foot. But, the response will tend to be less intense and some parts of the response observable in the presence of a mouse may not be observed when the words are the stimulus.

Obviously, much language learning is much more complex than this rather simple association of symbol with object. Many of the words we use are the result of associations with other words or with chains of other words rather than direct association with physical objects. Many words also are used to refer to abstract relationships among objects or among other relationships one or more steps removed from association with physical objects or events. Let's look first at a paradigm of this pattern of association, then look at an example to explicate this aspect of language learning.

The association of word with word is diagrammed as follows by Osgood:



Osgood used the term assigns for verbal symbols learned by association with other verbal symbols, the meaning being literally "assigned"

to them via association with other signs rather than by association with objects. Portions of the representational behavior (r_{m1} - r_{mn}) associated with the set of signs $\boxed{S_1}$ to $\boxed{S_n}$ transfer to a new pattern of stimulation /S/, the assign. The $r_m...s_m$ (representational behavior) is "meaning" in the Osgood model.

An example of the learning of an assign would be learning meanings for the word "airplane" by someone who has never seen an airplane. Without the object present, we might say that it flies through the air like a bird gliding; it is metal and has a seat, an engine and a steering wheel like an automobile; the engine has a propeller which is like the automobile fan, except that it is out front and pulls the airplane through the air, and so on. If "propeller" is a new word, it could be learned in association with "auto fan"; and it could be further explicated by saying that a "propeller" propels, i.e., pulls, pushes or otherwise moves something.

For the person to acquire meaning for the assigns in this process, he must already have learned meanings for the signs with which the assigns are being associated. Again it must be emphasized that the r_m's are representational mediated responses. They are representational in that they are only a fraction of the total response; and they are mediational in that they produce distinctive self-stimulations which would not occur without the previous association of non-object and object patterns of stimulation.

Whether it is a sign or an assign, we learn the referent and the feelings toward the referent together. With some words we may be more aware of the feelings they arouse in us, while with other words we may be less aware of any positive or negative feelings and be more aware of the physical referent.

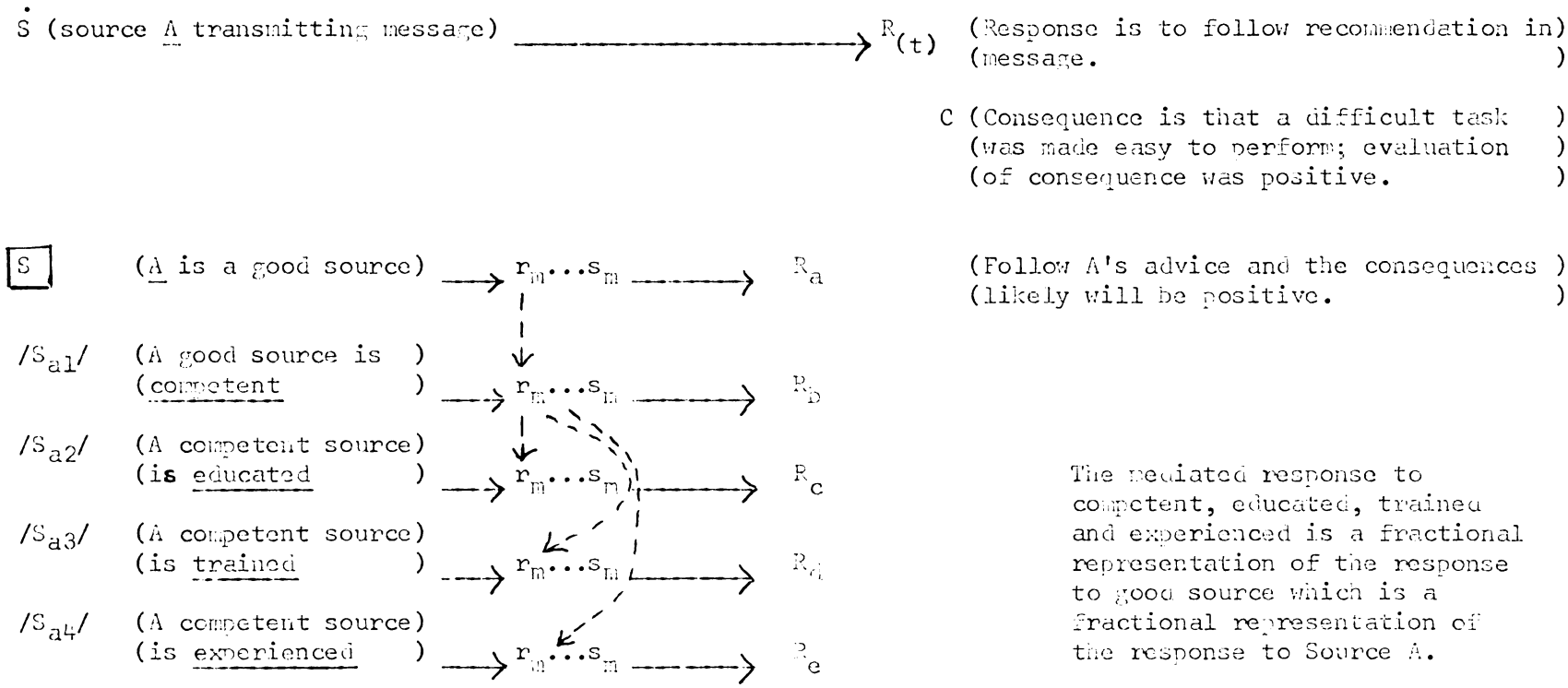
The word "snake," e.g., may arouse very strong feelings for some persons, while probably the word "table" merely denotes an object without much positive or negative feeling about it. A person who fears a snake is aware of a general physical referent; he does not distinguish between poisonous and non-poisonous snakes, and has a strong negative feeling about all snakes.

3. Application of the Model to Source Evaluation --

Evaluation of elements in the "world around us" is assumed to be a universal behavior. People evaluate the consequences of alternative responses to stimuli and respond to future occurrences of similar stimuli accordingly. Let's see how this may work with source evaluation.

Throughout his life, an individual as receiver of messages has responded to messages from many persons; and he has evaluated the consequences of his responses as positive or negative (satisfying or dissatisfying). Fitting this into the mediation paradigm, Figure I, p. 29, we see that he learns that response t to person A results in consequence C. He evaluates the consequence and learns how to respond to the source in the future. He associates verbal symbols with types of sources, the types being formed as a result of consequences experienced directly or vicariously in responding to messages from the sources.

If meanings for sources of messages and for the symbols used to refer to sources are learned in the way described above, then the association of object, sign and assigns in the paradigm illustrates the pattern for one factor of source evaluation as determined in the Lansing, Michigan study.



Ṡ -- significate

S -- Sign

/S/ -- assign

Figure 1. Application of Mediation Paradigm to Source Evaluation.

By definition, the total system of $r_m...s_m$ bonds for a person represents his accumulation of mediated responses to past stimuli and the tendencies to respond (mediated self-stimulation) which they arouse within the organism. Sources of messages are defined as one type of stimulus or one part of the stimulus complex for the receiver.

The mediation hypothesis shows an $r_m...s_m$ bond developing for each sign and each assign. The paradigm shows this in terms of a word being associated with an object and other words becoming associated with that word or with one another in sequence. But there's another way. Rather than direct association of a word with another word, the $r_m...s_m$ bonds may develop from the context in which the word appears.

If a person had not developed a meaning for the word competent, for example, he might attribute meaning to it if he saw it in the following context: "It would require a very competent person to understand such a difficult task." There is an implied association with other words that could be substituted for the word competent in this statement. It's almost as if the word competent had been omitted and the reader had filled in other words that would be meaningful to him in the context. Since the word competent is already there, the meaning assigned to it would be similar to that of other words that would be meaningful to the receiver in this context. It is the structural arrangement of the words around the word competent that arouses a certain response toward the person referred to. As a person perceives a word in a new context, his meanings for that word are extended.

In the example above, it was claimed that the structure of the language predisposed a certain type of response to the unknown word in the familar context. If there were not the consistency in language

structure and the parallel between one's language and the way he perceives the world, it would not be possible to attribute the "intended" meaning to an unknown word from the content in which it appears. Assuming that we learn our language as we learn about the world around us, it is inevitable that there is a strong relationship between our language and our "world view." "World view" as used here is another label for the accumulated mediated responses and self-stimulations within the organism, the accumulated $r_m...s_m$ bonds.

If we look at the whole spectrum of the demands of life, we would expect some similarities and some differences among respondents from different language/cultural groups. We would expect that the more alike the demands of life for any two or more persons, the more alike the categorization and structuring of the elements experienced. The more alike the categorization of experienced elements, the more alike the linguistic codes used to refer to the categorized experiences, source evaluation being one example.

Source evaluation is assumed to be one of the types of judgments which are common to all language/cultural groups. The evaluation is implied in the question: How do I respond to those from whom I receive messages?

We assume there are some behaviors common to sources of messages regardless of the language/cultural groups in which they live; and we assume that those receiving the messages will associate consequences of responding to the messages with the particular behaviors of the sources of those messages. These message sources are the external stimuli which produce the $r_m...s_m$ bonds relative to source evaluation. We also assume that these behaviors are categorized and labeled; and that when

we ask respondents to describe an ideal source, we are given labels associated with the $r_m...s_m$ bonds and thus get some insight into the nature of these bonds.

Where respondents have had similar experience with sources of messages, we would expect the $r_m...s_m$ bonds to be similar. The highest similarity is expected in highly homogeneous language/cultural groups which have limited communication outside the group. But, increasing technology, especially communication technology, has brought a steady decline in the number of language/cultural groups which have such limited communication.

If we take two persons, each from different language/cultural groups, we would expect their patterns of $r_m...s_m$ bonds to differ to the extent that their life experiences differ. If these persons are now taken into a new situation, we would expect that they would be exposed to new stimuli, adding to their set of $r_m...s_m$ bonds.

As these persons merely increase the number of stimuli to which they have been exposed, the probability of their being exposed to similar stimuli and developing some similar $r_m...s_m$ bonds increases. This is an application of the addition and multiplication principles of probability. If in addition, the new stimuli are experienced within a common language/cultural situation, such as the USA, we would expect an even higher probability of their sharing $r_m...s_m$ bonds.

This leads to the expectation that two persons from two different language/cultural groups who come to the USA for training would be more alike in their patterns of source evaluation than would two persons from those two different groups who had not been exposed to new and similar source stimuli.

There are many ways of increasing the number of stimuli to which people are exposed. The increase may come from just having lived more years; or it may come from formal study, as well as from visiting new geographic areas and societies. If the formal study involves learning a common language, and if we accept that there is a positive relationship between language and "world view," then learning a common second language also should increase the likelihood of shared $r_m...s_m$ bonds, hence shared patterns of source evaluation.

Where respondents have had similar experiences with sources of messages, we would expect the $r_m...s_m$ bonds to be similar. With respondents whose experiences have been in a highly technologically developed language/cultural group, we might expect them to place most emphasis on possession and use of technical knowledge by the source. Where the respondents' experiences have been in a less technologically and more strongly kinship oriented group, we would expect less emphasis on the source's possession of technical knowledge and more emphasis on his personal relationships with people.

Both groups of respondents may take into account both technical knowledge and personal relationships of the source in their evaluations; but, the two groups may weigh the two factors differently.

4. Hypotheses --

From the mediation hypothesis paradigm, we deduced that persons exposed to the largest number of stimuli and relatively similar stimuli will share more $r_m...s_m$ bonds than persons who have been exposed to fewer and less similar stimuli. These bonds were defined as the meanings a person has for the stimuli with which the bonds are associated.

We may gain some insight into the nature of a person's $r_m \ldots s_n$ bonds by observing his behavior, asking him to introspect, and asking him to give verbal associates for the concept class or classes in which we are interested. Having obtained a set of elements via association or introspective reports and observations, we can put them into a scale, use the scale with a sample of subjects and factor analyze the resulting data. The factors will indicate the common dimensions of meaning for the concepts being studied.

Although factor analytic studies often are conducted without explicitly stated hypotheses, some implicit hypotheses (or at least assumptions) are required in order to design the study and to decide what data to put into the factor analysis.

a. A general hypothesis that guided the design and conduct of this study may now be stated, based on the rationale developed in the preceding pages:

> General Hypothesis -- The greater the similarity and the larger the number of stimuli to which two or more groups of respondents are exposed, the more similar will be the dimensions of meaning developed and used by those groups.

Applying this to source evaluation, the hypothesis would read:

> The greater the similarity and the larger the number of source characteristics to which two or more groups of persons have been exposed, the more similar the dimensions* of source evaluation will be among these groups.

Similarity of stimuli here may be taken to include the similarity of various source objects (persons) and their qualities, and the similarity of classifying and labeling the characteristics of sources as objects. This focuses attention on the structuring of source character-

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* Factors, in factor analytic terms.

istics among different language/cultural groups.

To the extent that the structuring of source evaluation is the same, the labels for the elements and classes within the system should be readily translatable among the language/cultural groups.

The independent variables listed on p. 9 are presumed to incorporate some of the elements believed to contribute to similarity of stimuli to which respondents are exposed. These variables are: (1) language/cultural community of which respondents are members, (2) exposure to USA culture, and (3) language of response.

The relation of the first two to similarity of stimuli is quite apparent; but the third, language of response, may be less apparent. Here it is assumed that the language of response will result from $r_m...s_m$ bonds acquired in the context of a given language -- English or any other language. Similarity of language of response is thus related to similarity of stimuli connected to the response via the $r_m...s_m$ bonds.

In an effort to provide a range in the values of the variables, hence a range in similarity of stimuli to which respondents had been exposed, four language/cultural groups were selected for study. These were: bilingual English-Ibo speakers from Nigeria; bilingual English-Yoruba speakers from Nigeria; bilingual English-Portuguese speakers from Brazil; and monolingual Portuguese speakers from Brazil.

The Ibo and Yoruba from Nigeria were selected to provide respondents from relatively similar cultures, but having different languages. The Brazilians were selected to provide the contrast presumed to exist between Indo-European languages and African languages, and the contrast presumed to exist between South American and African cultures. Monolingual Portuguese from Brazil were included to provide a comparison of

the effect, if any, of knowing a second language. Other criteria for selection, and some of the similarities and differences among these groups, will be discussed in Chapter II.

The languages of response will be English and mother tongue for the bilinguals and, of course, mother tongue for the monolinguals. For each language/cultural group, there will be a sample of persons who have been in the USA for training and another equivalent sample from each language/cultural group who have not been in contact with USA personnel.

Preliminary to stating the empirical hypotheses, three assumptions were stated and a set of expected relations among the variables were derived from these assumptions. The assumptions were:

1. The measures* of source evaluation for foreign nationals who respond in English will be more like the USA measures than will the measures for foreign nationals who respond in their native language to the source evaluation instrument.

2. The measures* for foreign nationals who speak both English and their native language will be more like the USA measures than will the measures for foreign nationals who speak only their native language when both groups respond to the same source evaluation instrument.

3. When responding to the same source evaluation instrument, the measures* for foreign nationals who have AID training will be more like the USA measures than will the measures for foreign nationals who have not had AID training nor exposure to USA persons in their country.

Fourteen combinations of the independent variables are shown below, and the following codes will help in following the predicted relationships. In these codes, the subscript 1 is used to indicate the value of the variable characterizing respondents assumed to be most like USA respondents in their evaluation of message sources; subscript 2 indicates the

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* These measures are the dependent variables operationalized on p. 11.

value of the variable which characterizes respondents assumed to be least like USA respondents in their evaluation of message sources.

The code used for responding language (R) is:

r_1 English

r_2 Native

The code used for languages in which respondent is proficient (S) is:

s_1 English and native

s_2 Native only

The code used for AID training (T) is:

t_1 Engages in AID training

t_2 Has not had AID training nor exposure to USA persons

Given the above assumptions and equal weighting of the three variables, we can derive the following orders:

$r_1s_1t_1$	$r_1s_1t_1$	$r_1s_1t_1$	These groups are most similar to one another and to the USA samples.
$r_2s_1t_1$	$r_1s_1t_2$	$r_1s_2t_1$	These groups are next most similar to one another and to USA samples.
$r_2s_2t_1$	$r_2s_1t_2$	$r_1s_2t_2$	Groups in this set are still less like one another and the USA.
$r_2s_2t_2$	$r_2s_2t_2$	$r_2s_2t_2$	Groups in this set are least like one another and the USA groups.

The fourteen combinations of the values of the variables which will be used in this study for the cross language/culture comparisons are shown in Figure 2. This figure also shows the predicted similarity or difference based on the assumptions and orders stated above.

Figure 2. Combinations of Values of the Variables and Predicted Relationships

	Language of response	Language group	AID training	Predicted similarity or difference (based on above assumptions)
(1)	English (r_1)	English-Ibo (s_1)	Yes (t_1)	$r_1s_1t_1$ combinations are predicted to be most similar in factor structure and other measures of meaning to the USA respondents.
(2)	English (r_1)	English-Yoruba (s_1)	Yes (t_1)	
(3)	English (r_1)	English-Portuguese (s_1)	Yes (t_1)	
(4)	English (r_1)	English-Ibo (s_1)	No (t_2)	$r_1s_1t_2$ combinations are predicted to be less like the USA factor structure and other measures of meaning than $r_1s_1t_1$ combinations are (like USA).
*(5)	English (r_1)	English-Yoruba (s_1)	No (t_2)	
(6)	English (r_1)	English-Portuguese (s_1)	No (t_2)	
(7)	Portuguese (r_2)	English-Portuguese (s_1)	Yes (t_1)	$r_2s_1t_1$ combinations also are predicted to be less like the USA measures than $r_1s_1t_1$ combinations are like the USA measures, but there is no logical base for predicting whether $r_2s_1t_1$'s are more like USA than $r_1s_1t_2$ combinations are.
(8)	Ibo (r_2)	English-Ibo (s_1)	Yes (t_1)	
(9)	Yoruba (r_2)	English-Yoruba (s_1)	Yes (t_1)	

* Set five was dropped when the political upheaval in Nigeria made it impossible to get respondents.

Figure 2. (continued)

	Language of response	Language group	AID training	Predicted similarity or difference (based on above assumptions)
*(10)	Portuguese (r_2)	Portuguese only (s_2)	Yes (t_1)	
(11)	Ibo (r_2)	English-Ibo (s_1)	No (t_2)	$r_2s_2t_1$ and $r_2s_1t_2$ are predicted to be still less like the USA measures, but again there is no logical base for saying that either of these combinations is any more or less like USA measures than the other.
*(12)	Yoruba (r_2)	English-Yoruba (s_1)	No (t_2)	
(13)	Portuguese (r_2)	English-Portuguese (s_1)	No (t_2)	
(14)	Portuguese (r_2)	Portuguese only (s_2)	No (t_2)	Least like USA and other groups ($r_2s_2t_2$)

b. Empirical hypotheses for the predicted relationships shown in Figure 2, pp. 38-39, may be stated as follows:

Empirical Hypothesis #1: Similarity of factor structures will be greater among respondent groups which have the same values of the independent variables, with a progressive decline in similarity among groups as the difference in values of the variables increases. English language of response, e.g., would have the same value, Ibo with Yoruba would have somewhat different values of the variable "language of response", and Ibo with Portuguese would be a still greater difference.

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*Set ten has dropped due to lack of respondents. It was found that those who had been in the USA six months or more no longer clearly met the criterion for monolingual.

*Set twelve was dropped when the political upheaval in Nigeria made it impossible to get respondents.

The pattern indicated in the combinations of variables and predictions listed on pp. 38-39 would put the monolingual Portuguese who have not been to the USA ($r_2s_2t_2$) at one end of the ordering and the bilinguals who have been to the USA and respond in English ($r_1s_1t_1$) at the other end.

Having looked at this overall pattern within the similarity matrix, we may now look at some of the relationships within that overall pattern. These will be specified in hypotheses 2-5.

Empirical
Hypothesis #2: The coefficient of similarity will be lowest between monolingual Portuguese with no exposure to the USA and the Nigerian language/cultural groups who have been to the USA and who respond in English. (Set #14 in the list on p. 39 will be compared with sets #1 and #2, p. 38).

These coefficients of similarity are expected to be below the lower limit of best fit* It is assumed that the monolingual Portuguese with no contact with USA have been exposed to fewer stimuli than any of the other respondent groups and that the stimuli to which they were exposed are least similar to those which the other groups have experienced. Thus a different structure of source evaluation is expected.

The Portuguese have been compared with the Nigerian language/cultural groups, anticipating that possible differences between the African and Indo-European language/cultural patterns would offer the sharpest contrast among the respondent groups. In addition, we have the difference in language of response and difference in USA contact.

The Nigerians who have been to the USA and respond in English are expected to have been exposed to the largest number of similar stimuli

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* Lower limit of best fit = $\frac{1+1/\sqrt{k}}{2}$, where k is the number of factors in each of the pair of solutions being compared.

of any of the respondent groups. They share the contextual patterns learned in English and the labels used for the categories of source which they have learned both in their home country and in the USA.

Empirical
Hypothesis #3: The coefficient of similarity for English-Ibo and English-Yoruba respondents will be higher than between either of them and English-Portuguese respondents.

The sets listed on pp. 38-39 to be compared for this hypothesis and the predicted relationships are:

Facsims* for set #1 with set #2 > Facsims for set #1 with set #3
Facsims for set #1 with set # 2 > Facsims for set #2 with set #3
Facsims for set #8 with set #10 > Facsims for set #8 with set #7
Facsims for set #8 with set # 9 > Facsims for set #9 with set #7

The first two comparisons are $r_1s_1t_1$ combinations (pp.38-39) and the last two are $r_2s_1t_1$ combinations.

The coefficients of similarity for comparisons between the English-Ibo and the English-Yoruba who have been to the USA and respond in English are expected to be above the limit of best fit. Dimensions of source evaluation for these two sample units are expected to be most like those obtained by Berlo, Lemert and Mertz in the Lansing, Michigan study. Since variables in the present study are not identical to those used by Berlo et al., the coefficient of similarity can not be computed; visual inspection will have to be relied on for comparisons with the Lansing results.

In the discussion under hypothesis #2 the expected greater similarity between the Nigerian samples was mentioned. This hypothesis calls for a test of that expectation. The assumption underlying the

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* Facsim is an abbreviation for coefficient of factor similarity.

prediction is that the cultural patterns of the Ibo and Yoruba respondents are quite similar, thus providing a high level of similarity in the stimuli to which they have been exposed during most of their lives. The comparisons to be made here will include responses in both English and mother tongue. Only sampling units having USA contact can be used since the data are not available from the "No USA contact" Yorubas.

Empirical
Hypothesis #4: The coefficients of similarity will be higher among the language/cultural groups when they respond in English than when they respond in their mother tongue.

This test required comparing the similarity of Ibo to Yoruba when responding in English with the similarity of Ibo to Yoruba when they respond in mother tongues; and the similarity of these two to Portuguese for responses in English and in mother tongues. The sets listed on pp. 38-39 to be compared and the predicted relationship under this hypothesis are:

Facsims for set #1 with set #2 ($r_1s_1t_1$) > Facsims for set # 3 with set # 9 ($r_2s_1t_1$)

Facsims for set #4 with set #6 ($r_1s_1t_2$) > Facsims for set #11 with set #13 ($r_2s_1t_2$)

Facsims for set #1 with set #3 ($r_1s_1t_1$) > Facsims for set # 8 with set # 7 ($r_2s_1t_1$)

Facsims for set #2 with set #3 ($r_1s_1t_1$) > Facsims for set # 9 with set # 7 ($r_2s_1t_1$)

To the extent to which there is an interdependent relationship between language and $r_m...s_m$ bonds (world view), we would expect the language in which a person responds to affect the structure of his judgments.

Empirical
Hypothesis #5: The coefficients of similarity for respondents who have been to the USA for training will be higher than for respondents who have not been to the USA for training.

Matching for language/cultural group and for language of response, we're testing for the influence of USA exposure on the structure of source evaluation. The Yorubas and monolingual Portuguese were not included since data were not available for those groups both with and without exposure to USA. This left the following comparisons under hypothesis #5:

Facsims for set #1 with set #3 ($r_1s_1t_1$) > Facsims for set # 4 with set # 6 ($r_1s_1t_2$)

Facsims for set #7 with set #8 ($r_2s_1t_1$) > Facsims for set #11 with set #13 ($r_2s_1t_2$)

Empirical Hypothesis #6: The discriminating power of the scales for evaluating sources will differ among the language/cultural groups.

To the extent that language/cultural groups vary in the values that guide their behavior in responding to other persons, there will be differences in the importance they assign to various characteristics of sources. There also may be differences in the way they categorize these characteristics, as noted earlier. And with differences in categorizing there will be differences in labeling. These differences should be reflected in measures of the power of the terms to discriminate between best source and worst source. This power may be operationalized by computing the differences between the mean scores for best source and the mean scores for worst source.

A test of this hypothesis also should provide information that will help in selecting scales for future study of source evaluation. It would be encouraging to find several scales that discriminate strongly between best and worst source across all language/cultural groups, permitting selection of a set of scales for measuring source evaluation across language/cultural groups.

In selecting scales for future work with source evaluation, one should keep in mind that semantic differential may sometimes be the most useful scaling procedure. In selecting scales for use in semantic differential, it would be useful to know which terms yield the highest degree of oppositeness of response. This was the reason for including the third dependent variable -- polarity of terms.

The evidence in studies of meaning indicates that some pairs of terms are perceived as bipolar by respondents, while others presumed to be bipolar are not so perceived. From this we would expect to find some pairs of source evaluation terms with high negative correlations indicating bipolarity, while others which were selected for oppositeness may have low negative correlations or even zero correlations.

Pretest data indicated that the responses were not consistently bipolar across best and worst source evaluations. A "bad" source was unfriendly, e.g.; but a "good" source was not necessarily friendly. The final empirical hypothesis involves exploration of the polarity of source evaluation responses with terms which were selected to include presumed bipolar pairs.

Empirical Hypothesis #7: Bipolarity of the ranking responses in evaluating sources of messages will not be consistently demonstrated for terms which have been selected as paired opposites.

Although the terms to be used in this study will be selected as bipolar pairs, Q-technique may be used as a scaling instrument to avoid the bipolarity assumption required by semantic differential. By using Q-technique and taking each member of a bipolar pair as an individual scale, the bipolarity of responses may be checked. This may be done by studying the magnitude of negative correlations between members of presumed polar opposites.

The predictions in all seven hypotheses are expected to hold whether respondents are evaluating their "best" source or their "worst" source. If the data yield commonality of evaluative structure and high agreement among samples for terms which discriminate most between best and worst source, a set of scales which may be used for source evaluation across language/cultural groups may be one practical result of the study.

While it is hoped that the study may yield a set of source evaluation scales that may be used across language/cultural groups, a more ambitious aim is that it will contribute to clarification of some of the theoretic issues pertaining to cross-cultural generality of meaning.

Two elements in the present design may tend to restrict the appearance of differences in results among the language/cultural groups. One is the selection of respondents from the same rather narrow socio-economic level -- middle management and professional workers -- in all language/cultural groups. There may be a highly similar set of stimuli to which this type of person is exposed throughout the world. From the rationale, exposure to similar stimuli would result in similar $r_m...s_m$ bonds and thus similar evaluative patterns in judging sources of messages.

A second element which may restrict the appearance of differences in results among the language/cultural groups is the translatability problem. When one is forced to control the test stimulus presented to provide comparability of results, the stimulus population is restricted by demands for translation equivalence. It may be that the only terms which survive a synonymity criterion in back-translation are those which have high commonality of meaning across language/cultural groups.

If, in the face of these two limitations, differences are found in tests of the above hypotheses, the result will become more convincing. If no differences are found, however, it may be due to the overriding effect of the design elements just mentioned. If the latter situation occurs, a test with different socio-economic levels within the same country with the same language would be suggested.

Although it was stated above that the predictions in the hypotheses are expected to hold for evaluations of best and worst sources, the data will be checked for differences between evaluations of best source and worst source. Some unpublished work by Danbury (1963) indicated that evaluations of negative concepts (worst source) produce higher variability within a sample than do evaluations of positive concepts (best source). The data will be inspected for that and other differences between best and worst source judgments.

CHAPTER II

METHODOLOGY

A. The Design

A 28 cell design was developed to test the hypotheses developed in Chapter I, with an R-type factor analysis for each cell of the design. The following diagram shows the various combinations of the three independent variables described in Chapter I (see p. 9), plus a fourth, best source and worst source, which represents two levels of the objects of judgment.

Language group	Response language	Exposed to USA description of -- Best source	Exposed to USA description of -- Worst source	Without USA Exposure description of -- Best source	Without USA Exposure description of -- Worst source
English-Ibo	English	1	2	3	4
	Ibo	5	6	7	8
English-Yoruba	English	9	10	(11)*	12*
	Yoruba	13	14	(15)*	(16)*
English-Portuguese	English	17	18	19	20
	Portuguese	21	22	23	24
Portuguese only	Portuguese	25*	26*	27	28

* Due to the political upheaval in Nigeria, one of the areas used for sampling, data for English-Yoruba speaking respondents were not available. This eliminated 4 cells from the design. Two more cells were dropped when it was found that monolingual Brazilians who had been in the USA six months no longer could be considered monolingual.

"Best" source was operationalized for the respondents by asking them to think of a person within their field of work whose statements they would tend to accept without question. This would be the person in their field of work whom they would prefer to go to for information within their field, if they could choose anyone they wished, i.e., the person they thought was the best source of messages.

"Worst" source was operationalized by asking respondents to think of a person within their field of work whose statements they would never accept without questioning. They were asked to think of the person whom they would consider the worst source of information in their field of work.

Q-sort was used to get respondents' evaluations of the sources they chose. They were asked to sort 66 terms into 9 ranks from most to least descriptive of the persons they had selected as best and worst sources. The 66 terms are those that survived translation and sampling criteria from among terms people often use to describe sources of messages. Method of selection of the terms will be described later.

Although Osgood, Kumata and others in their studies of the dimensions of meaning used semantic differential, as did Berlo, Lemert and Mertz in their study of source credibility, Q-sort was selected for this study for the following reasons:

1) Semantic differential assumes the pairs of terms selected are polar opposites. Some work by Danbury (1963) and Darnell (1964), as well as that of Mordkoff (1963) and Green and Goldfried (1965) cited earlier, indicates that the presumed polar terms may not be interpreted as polar opposites by respondents.

2) Some preliminary trials with respondents from various countries

showed a tendency for them to mark down one side or the other of the scales even when the presumed polarity was alternated, i.e.,

good . . . . . bad
unfair . . . . . fair
strong . . . . . weak

There also was a tendency to mark all end scale positions. Q-sort with a forced distribution forces the respondent to make more discriminations; however it also may be argued that it forces discriminations which respondents do not usually make in judging the concepts being used in the test.

3) Danbury (1963), comparing semantic differential and Q-sort in a source evaluation study, found similar factor structures emerging from both procedures.

So, it was decided to use Q-sort in the present study, not forcing the assumption of polarity and leaving open the possibility of checking the polarity of responses to the terms which are presumed to be bi-polar. However, if one knew the polarity of responses, it would be useful in selecting terms for use in a semantic differential measure of source evaluation. This can be checked with the Q-sort data.

B. Sampling

1. Respondents --

Since a major aim of the study was to explore the differences in semantic structure of source evaluation as we move from one language/cultural group to another, the important point in selection of respondents was to get language/cultural groups that were presumed to reflect degrees of difference. Brazil and Nigeria were selected as two countries which would provide the differences sought.

Taking Brazil and Nigeria as countries from which to sample offered the following advantages:

1) Both Indo-European and African language/cultural groups.

2) One country, Nigeria, in which there are groups speaking different languages but sharing many cultural patterns.

3) Differences in levels of technological development.

4) Feasible means of data collection.

Although it is difficult to claim that any two groups have similar cultural patterns, the Ibo of Eastern Nigerian and the Yoruba of Western Nigeria were selected as two language/cultural groups within one country which would share many cultural patterns but have different languages. Being Nigerian they would be expected to be more like one another than either would be like Brazil. Both the Ibo and the Yoruba people have made greater progress in education and accepted Christianity to a greater extent than other tribal groups in Nigeria. Both are agriculturally oriented in their economy, but the Ibo may be somewhat more business oriented than the Yoruba. Both have been under the influence of British colonialism.

In their earlier history, the Yoruba developed large kingdoms, while the traditional social unit among the Ibo was the extended family and village. Cultural patterns still reflect more centralization among the Yoruba and more egalitarianism among the Ibo.

Dr. Arthur Niehoff, director of a Michigan State University diffusion research project in Nigeria in 1966, said he was impressed by the devotion to cooperative activity and technological development among the Ibo. For example, a village will pool its resources to send a young man to college. The selection of the young man also will be a

village decision. This type of behavior was not so evident among the Yoruba.

Level of technological development was referred to in the rationale as one element that might contribute to differences in source evaluation. Brazil and Nigeria, according to one set of criteria, reflect some differences in this regard and both differ from the USA in this respect.

Dr. David T. Lewis, sociologist at Miami University, Oxford, Ohio, recommended five measures (Appendix B-3) which he considers useful for ranking countries as to level of technological development. These are: urbanization, percentage of population engaged in agriculture, per capita gross national product (GNP), economic development status, and literacy rate.

Data for these measures show that in comparison to other countries of the world, Nigeria ranks low on GNP per capita, low on urbanization, medium on percentage of population in agriculture, low on literacy (10-50% literate), and very low on economic development. Brazil ranked low on GNP per capita, high on urbanization, medium on percentage of population in agriculture, medium on literacy (50-90% literate), and intermediate in economic development.

Another factor in the selection of Brazil and Nigeria was the availability of Michigan State University research teams in these two countries to facilitate data collection.

It is not presumed that the sample of any of the language/cultural groups is necessarily representative of the rest of the continent on which it is found nor of all social levels within a language/cultural group. This is not required to test the hypotheses, since the main

concern is whether differences exist among language/cultural groups.

Initially, the goal was 50 respondents per cell of the design. But, limitations of time, money and other resources to collect data from relatively inaccessible persons of the desired type resulted in fewer than that in most cells, as will be seen in Table 1.

Table 1. Number of Completed Test Schedules by Language/Cultural Groups

Language/Cultural Group	No. Responding	
	In English	In Native Language
English-Ibo without USA exposure	48	50
English-Ibo with USA exposure	37	36
English-Portuguese without USA exposure	20	20
English-Portuguese with USA exposure	44	48
Monolingual Portuguese without USA exposure	20	49
English-Yoruba with USA exposure	31	28
TOTAL	190	231

In selecting respondents, field research teams had two restrictions placed on them in addition to the language requirement set above. First, respondents were to be from among persons who had not visited the USA and who had had limited (preferably no) contact with USA personnel. Second, they were to be of as nearly the same social class as possible to those in the sample of trainees selected in the USA.

Based on the lists of those who had attended communication seminars conducted by Michigan State University for the Agency for International Development, interviewers were instructed to select teachers, extension workers, community development officers, engineers, public health officers, and persons working in middle management levels of

public or private organizations and businesses. A list of the characteristics of those in the samples is in appendix B-2.

Of the bilinguals selected, half responded in English and half responded in their mother tongue. Assignment to response language was random with the exception of ten Brazilians.* With these ten, the most proficient in English were given the English language sets and the least proficient in English were given the Portuguese sets. The Q-sorts from these ten respondents were used in the analysis since it did not destroy their value in tests of the relationships involving two of the independent variables: (1) language of response and (2) exposure to USA training. It did reduce the probability of finding any difference between those who had facility in both languages and those who had facility in only one of the languages. The samples involved in the breakdown were still treated as separate groups in the analysis, however, on the chance that a difference might be strong enough to appear even with the contamination of part of one of the groups.

The sample units exposed to USA training were obtained from those attending the Agency for International Development communication seminars conducted by Michigan State University, Brazilian and Nigerian students at Michigan State University, and by colleagues from the following universities: Cornell, Kansas State, Illinois, Iowa, Iowa State, Western Michigan, Ohio State, Wilberforce (Xenia, Ohio), Wisconsin, Purdue, Colorado, Nebraska, University of Michigan, Indiana, Minnesota, Pittsburgh, Washington, Howard (Washington, D. C.), Southern Illinois, Western Illinois, and Miami (Oxford, Ohio).

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* One of the field staff failed to follow instructions.

2. Terms Used to Describe Sources --

In the present study and others like it, one of the crucial questions becomes how to get a representative sample of linguistic codes that people use in referring to sources of messages. What words do people associate with "good" source and with "bad" source? One way is an association technique.

We can ask: What adjectives would you use to describe a person whose statements you would accept without question, i.e., a good source of statements? What adjectives would you use to describe a person whose statements you would never accept without question, the worst source of statements you can imagine? Thus we would obtain the labels people give to those characteristics associated with "good" source and with "bad" source.

Two other approaches may offer help. One is introspection, the other is previous research in the field. We may introspect ourselves, and we may ask others to introspect. In each case, we're trying to bring to light the pattern of $r_m...s_m$ bonds. All three approaches were used in the present study.

The first step, following the Berlo, Lemert and Mertz pattern, was to use the word association approach. One-hundred-twenty people from Africa, Asia and South America in three of the MSU/AID communication seminars were asked to list five words they would use to describe the best possible source of messages in their field of work; they also were asked to think of the worst possible source of messages in their field of work and to list the five adjectives they would use to describe that source. In addition, the same questions were asked of fifteen Brazilian, and fifteen Ibo and fifteen Yoruba speaking Nigerian students at

Michigan State University. The MSU students, all bilinguals, were asked to respond in their mother tongue. Although those in the seminars had been invited to respond in their mother tongue, most responded in English.

The structure of the Nigerian language is such that no extensive class of terms comparable to English adjectives is used; phrases or statements are used instead. Dr. Charles Kraft, linguist in the Michigan State University African Studies Center, said that in his opinion the use of phrases for the Nigerian languages and use of single words in English would not alter results.

Approximately 250 adjectives and phrases were obtained via the association approach. See appendix C for the list.

The terms obtained from the seminar participants were combined into presumed polar pairs (active-passive, educated-uneducated, etc.) then submitted to another group of AID participants. These participants were asked to do two things: (1) check each pair of terms to indicate whether they believed the two words in each pair were opposite in meaning, (2) check the twenty pairs of terms they believed were most important in judging sources of messages.

If 15 percent or more of the respondents said the words in a pair were not opposites, that pair was deleted from the list of scales used. Also, for a pair of words to be in the list of terms used, at least 15 percent of the respondents had to check the words in a pair as being among the twenty they thought most important in judging message sources. Use of these criteria yielded 100 terms (fifty pairs) from those initially used in describing "best" and "worst" sources.

More than 100 adjectives and phrases were obtained from the three bilingual groups at the Michigan State University campus, many of the terms being duplicates of those obtained from the MSU participants. Thirty-two pairs were selected from the Nigerian and Portuguese native language lists and the English translations of these were added to the 100 terms gleaned from the communication seminar participants. This yielded 164 terms used to describe sources of messages.

The list of 164 terms was checked to see that it included at least three pairs from each of the Berlo, Lemert and Mertz factors of source evaluation. The list also was checked to see that it contained terms from each of seven categories developed from introspective reports and previous research. (The seven categories are listed and explicated below.) When we were satisfied that those requirements had been met, we arranged for the Ibo, Yoruba and Portuguese translations of the terms.

The seven categories developed from introspective reports are expressed in the following questions which people were asking in deciding how to respond to sources:

1. What does he (or she) know about this topic?

2. How will he use what he knows to help or hinder me in achieving my goals?

3. How consistent is he in transmitting what he knows? Are his reports consistently supported by later events or consistently not supported by later events?

4. How easy is it for me to understand what he's saying and the implications of these statements for me?

5. What power does he have to convey messages to the receiver and how does he use that power?

6. How flexible is he in his production and transmission of messages and in his other behavior?

7. How efficient is he?

For each of these we may ask what are the characteristics of persons that are most likely to be used in evaluating a source on each of the areas covered by the questions? At this stage of developing an evaluative structure, we may alternately construct categories and seek characteristics (by word association or otherwise). The categories may suggest characteristics that may be used in evaluation and the characteristics obtained may suggest new ways of categorizing. These questions become the basis for hypothesized factors of source evaluation.

Characteristics of sources that seem to fit semantically within the frame of the first question (What does he know?) are: educated, skilled, trained, experienced, competent, informed, etc. These will be recognized as the qualification factor obtained in the studies by Berlo, Lemert, Mertz, Danbury and Troldahl.

The second question (How will he use what he knows?) seems to encompass such characteristics as trustworthy, friendly, sympathetic, just, kind, respectful, concerned, unselfish, patient, safe, etc. These appear to be related to the perceptions of the source's intentions in relation to the receiver(s).

The consistency question (#3) does not appear to be mutually exclusive from the second question. Berlo, Lemert and Mertz (1966) found the consistency elements split off into the safety and qualification factors. It does, however, seem to encompass something different than intentions; but it also relates to how the source uses what he knows.

Some of the words in English used to refer to the characteristics used in evaluating one's consistency are : reliable, logical, rational, accurate, correct, dependable, trustworthy, consistent, etc. Two aspects of consistency commonly used by researchers are implied by these

labels. One is the notion of internal consistency; the other is external consistency. With internal consistency, we are looking at whether what the source says one time is consistent with what he says another time. With external consistency, we're asking whether what the source says is consistent with some outside criterion, with something other than what the source has been saying.

Regardless of what the source knows, or how he uses what he knows, can I understand his messages easily? Some of the characteristics associated with this category are: clear, understandable, comprehensible, etc. Let's take an example. I have two sources. I judge that both of them know what will help me and both have favorable intentions toward me. But, one of them is easier than the other for me to receive and interpret. I will evaluate the easier one more positively and select that one as my source of messages. This is what we would expect if the reward/effort ratio operates here.

The power category also may be related to the intentions category. Power may be a more important factor in terms of the potential for inducing in others responses that may affect me, more than in the speed or slowness with which messages are transmitted to me. Some of the words used to express characteristics of persons on the power factor are: powerful, strong, aggressive, active, energetic, decisive, ambitious, etc.

There very well may be differences in evaluating the power factor, if indeed such a factor is found in the analysis. If evaluative differences do appear, I would assume that the evaluation is a result of the consequences the person has observed from different levels of possession and use of power by those in authority positions. A person

who has experienced negative consequences of exploitive use of power would be expected to rate negatively those he perceives as very powerful, strong and active. On the other hand, a person who has had negative experiences with weak, procrastinating authorities may rate highly positively those he perceives as powerful, strong, active and decisive.

I would expect power to be curvilinear in its relation to positive and negative rankings of sources. The highly qualified, untrustworthy source with high power would be ranked lower than a highly qualified, untrustworthy source with low power. A highly qualified, highly trustworthy, powerful source would be expected to rank highest among those sought for information.

Flexibility seems to connotate a willingness to change, a willingness to look at the new and not cling tenaciously to what has been and is now. Some of the words used to express characteristics of flexibility are: flexible, open-minded, modern, up-to-date, reasonable, etc.

Among the associations given when people are asked to describe a good source and in their introspective reports are such terms as: efficient, organized, systematic, purposeful, and capable. These might be categorized as a general efficiency factor, somewhat interrelated to each of the others considered above.

The categories as expressed by the seven questions on p. 56 and the subcategories indicated by the terms used to describe the sources of messages may be considered a sample of the population of categories and subcategories used by people throughout the world.

It is recognized that the items put into a factor analysis affect the output. So, it was to make the input as representative as possible of the population of source evaluation responses that the scale

items used were checked against the Berlo, Lemert and Mertz scales, introspective reports and the word association responses.

It also was assumed that the seven questions stated above might be factors of source evaluation, so an effort was made to equalize the number of scales believed to be encompassed by each of the seven categories. This should reduce the likelihood that the proportion of variance attributable to each factor is a function of the number of scales attached to each factor rather than the importance which the respondents assign to the factor.

A list of the scales used is in appendix D along with the back-translations from each of the languages.

C. Procedures

1. Translation procedure --

A back-translation procedure was followed which required one translator to translate English terms into the native language. Then a second translator in each language did a back-translation, translating the native languages back to English. With the Portuguese, there was a high degree of synonymity. Many of the back-translations produced exactly the original English terms. As expected, the Nigerian languages were more difficult to translate and the back-translations produced fewer duplicates of the original English terms.

Where there were discrepancies between the back-translation and the original English terms, both translators for the language met to discuss the differences to see if a consensus could be reached. With some of the terms, they agreed that the translations were too ambiguous to be meaningful. One example of this was the pair of terms "scientific-unscientific." The Yoruba translators said they didn't have

scientific as a general concept within the language. The Ibo translators could translate scientific as "of this world," and unscientific as "not of this world."

After the two translators had conferred, a third translator was used to give another back-translation of the Ibo and Yoruba terms.

The following criteria were then used to select sixty-six terms (presumably thirty-three polar pairs) to be used in the test instrument:

a) Those listed most often by the respondent groups when they were giving the five words they would use to describe "best" and "worst" sources.

b) Include at least three pairs from each of the three Berlo-Lemert-Mertz factors.

c) Include at least two pairs from each of the seven categories listed on p. 56.

d) Those which yield exact back-translations or synonyms of the original English terms. (Thesaurus by Roget as a guide to synonymity.)

e) In case of decisions beyond these criteria, randomly select to obtain the desired sixty-six terms.

Sixty-six terms were selected. This number is within the recommended range of 40-99 items in a Q-sort, and kept the task for respondents within a reasonable time. Pretest of the instrument showed that more than half of the respondents required about one hour, a quarter required 1½ hours and about 10 percent required two hours to complete the test.

The list of terms in each language and the back-translations are contained in Appendix D.

2. Instrument preparation --

The Q-sort terms were printed on the back of IBM cards. These cards were then sent to the computer lab and the column code punched into the cards for each term, along with deck number and respondent number.

Nine yellow rank cards were provided, one for each of the nine ranks in the Q-sort. The number of descriptive terms which respondents were to put in each rank was stated on each of the rank cards. The rank cards also were prepunched with the rank number. This permitted machine tabulation of the data when it was obtained. It also permitted machine assembling of the Q-decks.

To help respondents with the sorting, three blue rank cards were provided to sort the sixty-six terms first into most descriptive (blue card A), least descriptive (blue card C), and uncertain (blue card B?).

The instructions for the Q-sort are in appendix A. Instructions were given in the language in which the respondent did the Q-sort. This was done to get the respondent thinking in the given language before sorting the items into ranks.

Personal data on each respondent -- age, occupation, schooling, language facility, etc. -- were obtained at the end of the Q-sorts. See appendix B-1 for a copy of these questions. Since these questions were answered after the Q-sorts and thus would not influence Q-sort responses, they were given in English to all except the Portuguese-only respondents.

The Q-sort cards for best source sorts were put in a No. 10 white envelope with a set of the blue and a set of the yellow rank cards. The envelope for the "best source" sort was marked "A". An identical

set was prepared for "worst source" sorts, and this envelope was marked "B". These two envelopes were then put in a 9" x 12" envelope with a copy of the instructions and the questionnaire for personal data.

Although the instruments for the various language/cultural groups were kept in separate boxes, each envelope was labeled to match the code sheet as a further precaution against mixing of data.

3. Test Administration --

The person administering the test read the introduction from the instruction sheet with the respondent, then asked if there were any questions about the plan for the study. Then he explained the general procedure for the Q-sort and asked the respondents to begin. If respondents had questions about the procedure, the person administering the test answered them.

Some data were collected by mail. The procedure here was to send a letter seeking the cooperation of potential respondents. When a person agreed to help, a test packet with a stamped and addressed return envelope was sent to him.

4. Pretest of the instrument --

A pretest was conducted to provide a check of the test administration procedures, and to permit further screening of the terms used in the instrument. The pretest was given to eighteen Portuguese-only respondents and to twenty-five respondents from other language groups who responded in English. Sixteen schedules were selected for analysis from each of the two languages (Portuguese and English). A correlated t-test was used for each term, separately for the English and for the Portuguese responses, to test the null hypothesis that mean scores for "best" source were equal to mean scores for "worst" source. Alpha .05

two-tailed (t 2.13) was used as the level below which terms were rejected.

Four pairs of terms which did not discriminate between best and worst sources were dropped following the pretest. These were: flexible-rigid, dogmatic-not dogmatic, senior-junior, and imaginative-unimaginative.

Six pairs of terms were dropped due to translation ambiguities. These were: scientific-unscientific, dynamic-not dynamic, just-unjust, reasonable-unreasonable, precise-imprecise, productive-unproductive.

Hardworking and tired were dropped when energetic-lazy showed a higher negative correlation than energetic-tired or hardworking-lazy; furthermore, respondents remarked that a source could be both energetic and tired. Modern-old-fashioned was dropped and up-to-date and out-of-date retained when the latter pair showed higher negative correlations in the pretest and when old-fashioned did not discriminate between best and worst source.

The following pairs were added to replace those dropped from the list used in the pretest: active-passive, decisive-indecisive, impartial-partial, kind-cruel, trustworthy-untrustworthy, intelligible-unintelligible, persuasive-unpersuasive, certain-uncertain, patient-impatient, humble-arrogant, approachable-unapproachable, and mature-immature. These terms translated with a minimum of ambiguity and they were terms frequently given by both Nigerians and Brazilians in the association phase of the study.

Some measures of polarity of the terms were computed, but since the Q-sort does not force the assumption of polarity, these measures were not a deciding factor in selection of terms from the pretest data.

The strongest measure of polarity is the negative correlations obtained from the intercorrelations used for the R-type factor analysis. Another measure is the discrepancy from symmetrical ranks (9-1, 8-2, 7-3, 6-4 and 5-5 being symmetrical in a 9-rank scale.) If the two ranks for a positive term and a negative term in a presumed polar pair totaled more than ten this was a positive discrepancy; if they totaled less than ten this was a negative discrepancy. The means of these discrepancies were computed and a t-test was run for each pair to determine whether the discrepancies were significantly different from zero at the .05 level, two-tailed. About half of the pairs in the pretest met this criterion.

B. The Analysis

1. Factor Analysis --

An R-type factor analysis, using principal axis solution and varimax rotation, was run for each of the twenty-two cells in the study design. In the analysis, the rank in which an item was placed in the Q-sort was taken as the score for each respondent on each term; and the scores for each term were correlated with the scores for each of the other terms.

The Kiel-Wrigley criterion (Kiel 1965) was used to decide when to stop factor rotations in the computer output. Operationally, this criterion is as follows: Underline the highest loading for each variable as each new factor is extracted. The criterion states that each factor must have at least three underlines. When the last factor no longer has three underlines, we have extracted one factor beyond the criterion and that factor which did not have three underlines is dropped. As

can be seen, this method requires extracting one more factor than will be kept in the analysis.

The first step in describing the factors was to list the highest loaded variables for each factor for all rotations beginning with the 3-factor rotation and continuing through the 7-factor rotation for each cell in the design. The criteria for selecting the highest loaded variables were: (1) the highest factor loading for a variable must be 0.50 or above; and (2) the next highest loading on a factor for that variable must not be more than half the primary loading.

The descriptions of the factors for several rotations in each cell of the design provided a check of the stability of the factors. One could see which variables continued to cluster together and which variables split off as more factors were extracted.

Factor purity scores were computed for all variables for the 5, 6, and 7-factor rotations, these rotations having been selected as potentially most meaningful. These scores were computed by dividing the squares of the highest loading on a variable by h^2, the communality on that variable. The purity score so derived gave the proportion of variance extracted by the factor on which the variable had its primary loading.

Selection of the rotation on which to compute purity scores was based on: (1) Facsims (coefficients of similarity) computed within samples comparing the factors in each rotation with the factors in all other rotations, (2) percent of total variance accounted for by all factors and by each new factor extracted, and (3) on whether the factors were describable in a way that was psychologically meaningful to the researchers working on the study.

The coefficients of similarity provided an indication of the stability of the factors across each succeeding rotation. When a rotation ceased to add a new factor or the separation of a factor into two distinct factors, or when a rotation reflected fracturing of a factor without producing a new stable factor, it was judged that the point of optimum rotation had been reached. In all cases, factoring was continued until at least 50 percent of the total variance was accounted for by the factors obtained. The last factor added in each of the samples yielded at least four percent of the variance accounted for. In each sample, the facsim criterion resulted in fewer factors than provided by the Kiel-Wrigley criterion.

The factor purity scores helped sharpen the final descriptions of the factors. In describing factors, the variables with the highest purity scores were taken as most descriptive of a factor. Only rarely were variables with purity scores of less than 50 used in describing a factor.

2. Comparison of Factor Structures --

Coefficients of similarity were computed for the 5,6 and 7-factor rotations across selected cells in the design. The capacity of the computer program would not permit comparison of all twenty-two cells in the design in one matrix, so the cells selected were those which would permit tests of the hypotheses stated at the end of Chapter I.

The formula for the coefficient of similarity is

$$\frac{f_1 f_2}{\sqrt{f_1^2}\ \sqrt{f_2^2}}$$

where $f_1 f_2$ is the sum of the cross products of the factor loadings for the two factors being compared and f_1^2 and f_2^2 are the sums of the

squared factor leadings for each of the factors.

The criterion for accepting factor structures as similar was the lower bound of best fit. It is determined by the formula $\frac{1 + 1/\sqrt{k}}{2}$ where k is the number of factors in each cell of the pair of cells being compared. By this formula, the lower bound of best fit for comparing two 4-factor solutions would be 0.75. One over the square root of 4 would be 1/2; one plus 1/2 would be 1.5 and 1.5 divided by two would be 0.75.

The coefficients of similarity give a basis for making a "similar - not similar" judgment based on the lower bounds of best fit. However, the empirical hypotheses ask for more refined judgments of similarity. Search for statistical tests to provide a firmer base for such judgments led to discussion with Charles F. Wrigley, Director of the Computer Institute for Social Science Research, Michigan State University and with Albert Talbott, Director, Research Services, Department of Communication, Michigan State University.

Dr. Wrigley stressed that lack of a sampling distribution for the coefficients of similarity and the small sample size being used in the study leave us with considerable uncertainty as to what we have when we use the coefficients of similarity to compare factor structures. To provide a firmer base for judgments about the relative similarity of factor structures among the various cells in the design, he suggested developing four random Q-sorts of the items used in the study and factor analyzing these. This was done and the factor structures from the random sorts were included in computing the coefficient of similarity matrices.

Coefficients of similarity were computed across all six possible pairs of the four random Q-sorts. These then became the basis for judging the strength of the comparisons of the sets of data collected from the various language/cultural groups.

Two uses of the coefficients of similarity were employed to provide a test of the hypotheses. One was to list the number of coefficients of one set reaching the lower limit of best fit compared to the number of coefficients of another set reaching the lower limit criterion. The other use involved the computation of sums of squared coefficients for the six factors in the six factor rotations and the mean of the six coefficients in the six factor rotations. The mean was computed by taking the mean of the sums of the squared coefficients and extracting the square root. The same computations were made for the six sets of coefficients obtained from the pairs of random Q-sorts.

Having the range and the deviations from the means of the values obtained from the random sorts provided some added feeling of confidence in the inferences from the respondents' data. Perhaps future work with random sorts will provide enough cases to develop some sampling distributions and tests of statistical significance which are not now available.

To test empirical hypothesis #1, coefficients of similarity for the six-factor rotations for worst source sorts for the eleven language/cultural groups were put into six matrices, one for each factor. The hypothesized order of the $r_1s_1t_1$ to $r_2s_2t_2$ combinations of the values of the independent variables as listed in Figure 2, p. 38 was tested by averaging the coefficients for the language/cultural groups which fit the combinations, i.e., $r_1s_1t_1$, $r_2s_2t_2$, etc. These averages were

then put in a matrix and the arrangement studied to see if the values in the matrix followed the hypothesized order.

3. Discriminating Power of Q-items --

As in the pretest, t-tests of the differences between the mean scores of the Q-sorts for best source and the mean scores of the Q-sorts for worst source were computed within each cell of the design. These data permitted culling those scales which did not significantly discriminate between best and worst sources of messages.

To test hypothesis 6 and to permit further testing of hypotheses 2-5, the mean difference scores for each of the eleven language/cultural groups were correlated with one another over the sixty-six scales. This produced an 11 x 11 correlation matrix which was then factor analyzed to see whether factors would emerge which would match the language/cultural groups predicted to be most similar. Z-transformations were used in testing the significance of the differences between selected correlations within this 11 x 11 matrix.

Further analysis of this part of the data involved comparing mean differences between selected pairs of scales over the eleven language/cultural groups. A two-factor analysis of variance design with repeated measures on the same subjects (Winer, 1962, pp. 302-317) was used to test significance of differences in discriminating power of the scale items. To handle the unequal frequencies in the subclasses, an approximate method of computing sums of squares (Walker and Lev, 1953, pp. 381-82) was used.

Those items showing the highest power to discriminate across language/cultural groups were retained for future use in source evaluation work.

4. Polarity of Terms --

To test empirical hypothesis #7 concerning the bipolarity of responses to terms presumed to be opposites, the correlations of the presumed bipolar pairs were listed. These correlations were averaged for each bipolar pair, using the z-transformation method and weighting for different sample sizes (McNemar, 1962, p. 140). The terms were then ranked from highest to lowest average correlation. From this ranking, it was possible to infer which pairs of terms might be most appropriate for semantic differential use, should someone want to use that instrument rather than Q-sort for source evaluation scaling.

5. Final Selection of Scales --

One aim of this study was to find a set of source evaluation scales that could be used for future work with several different language/cultural groups. With the three types of data available to guide this selection, the following criteria were set:

a. High loadings (at least 0.50, preferably higher) on common factors across language/cultural groups.

b. Power to discriminate between best and worst sources across language/cultural groups.

c. High negative correlations (at least 0.50 or larger) between members of presumed bipolar pairs.

The terms will be ranked according to the power to discriminate and according to the magnitude of the average negative correlations. If these rankings coincide with the high loadings on the factors, we will have a set of bipolar scales that will discriminate between best and worst sources and encompass the main dimensions of source evaluation.

CHAPTER III

RESULTS

In this chapter, four types of findings will be presented: (1) factor structures obtained and the scales which are most descriptive of those structures; (2) comparison of the factor structures; (3) the discriminating power of terms across language/cultural groups; and (4) the strength of the negative correlations between the presumed bipolar pairs of terms used in the Q-sort scales.

A. Factor Structures

1. Some General Information About the Factor Rotations --

The listing of the loadings on each variable on each factor for each language/cultural group is in appendix E. The variables are listed in rank order by magnitude of factor purity value* under the factor on which the variable had its primary loading.

The criteria used in selecting the best factor rotation for each language/cultural group were:

a. Coefficients of factor similarity across the rotations within a sample group should show stability of factors once they are extracted in a rotation. Some factors will emerge on the 2-factor and 3-factor rotations and remain stable across all

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* Factor purity as used here = $\frac{(\text{Primary loading})^2}{h^2}$, where h^2 is the communality.

further rotations; others will fracture and become virtually meaningless. Stability is defined here as showing a coefficient of similarity of at least 0.60 or greater.

b. The variables which emerge with the highest and purest loadings on a factor must form a cluster that is psychologically meaningful, in the judgment of the researchers working on the study.

c. The factors in the rotation selected should account for 50 percent or more of the total variance.

Using these criteria, 5-factor rotations were selected for two of the sample groups, 6-factor rotations were selected for eleven of the sample groups and 7-factor rotations were selected for the remaining nine groups.

The Kiel-Wrigley criterion (Kiel 1966) yielded one 7-factor solution, three 8-factor solutions, seven 9-factor solutions, two 10-factor solutions, four 11-factor solutions, three 12-factor solutions, and six solutions of more than 12 factors, with the highest number of factors being 15. The random Q-sorts produced one 11-factor solution; one 12-factor solution; and two solutions of more than 12 factors, one of which had 15 factors.

The proportion of the total variance accounted for ranged from 45.7 percent to 70 percent in the rotations selected for further analysis.

The 45.7 percent, one of two below 50 percent, was for a 5-factor rotation, and the 70.0 percent was for a 6-factor rotation. The lowest one was the monolingual Portuguese group without USA training when judging their best source. The highest one was English-Portuguese respondents without USA training responding in English regarding their worst source.

2. Nature of the Factors --

The two dimensions of source evaluation used by Hovland, et al. are very much in evidence in the factor structures obtained in the present study, but there are other dimensions that emerged too. Three of these dimensions appeared rather consistently.

One dimension was formed by such variables as sympathetic, unsympathetic, friendly, unfriendly, approachable, unapproachable, kind, cruel, cooperative and uncooperative. This will be recognized as the dimension that Berlo, Lemert and Mertz labeled sociability.

The dynamism dimension which Berlo, Lemert and Mertz found in their study also appeared rather consistently. The variables which formed this dimension were: powerful, powerless, strong, weak, active, passive, energetic, lazy, courageous and cowardly. In the present study, these often tended to cluster with other dimensions rather than form a distinct factor.

Among several of the groups there was a dimension characterized by terms such as organized, disorganized, systematic, unsystematic, certain, uncertain, efficient, inefficient, clear, unclear, comprehensible, and incomprehensible. These variables also were among those which did not consistently form as a distinct factor.

The nature of the structures for each of the twenty-two sets of respondent data may be seen on the following pages. They have been arranged so that the description for "best source" appears at the top of the page, and that for "worst source" appears at the bottom of the page. A synthesis of the factors will be presented following the descriptions on the next thirteen pages.

Table 2. Factor Structures for Ibo-English Respondents With USA Training Responding in English

Best Source Sorts

Factor	Descriptive Variables	% of Variance
F_1	not untrustworthy, not dishonest, not insincere, patient, not partial, impartial, not unreliable, reliable, safe, not dangerous, trustworthy.	13.1
F_2	efficient, systematic, not unsystematic, competent, organized, not disorganized, comprehensible, not incomprehensible, experienced.	8.1
F_3	persuasive, not unpersuasive, friendly, sympathetic.	6.8
F_4	not uneducated, not inexperienced, not untrained, not incompetent, clear, not unsympathetic.	7.6
F_5	not passive, not cowardly, not powerless, powerful, not weak.	7.3
F_6	energetic, courageous.	6.2
F_7	trained, not unclear.	5.6
	Total	54.7

Worst Source Sorts

Factor	Descriptive Variables	% of Variance
F_1	not organized, disorganized, incomprehensible, not comprehensible, not systematic, unsystematic, not competent, incompetent, not clear, unclear, not efficient, inefficient.	16.7
F_2	untrustworthy, not trustworthy, not sincere, insincere, not reliable, unreliable, not honest, dishonest, not safe, dangerous.	11.6
F_3	not approachable, not friendly, not cooperative, not kind, not patient, not sympathetic, not humble, unapproachable, unfriendly, cruel, impatient, unsympathetic, uncooperative, arrogant.	12.9
F_4	not experienced, inexperienced, immature, not mature, not trained, untrained, not persuasive, unpersuasive.	9.2
F_5	not strong, not powerful, powerless, weak.	6.3
F_6	lazy, not energetic, passive, cowardly.	5.7
	Total	62.4

Table 3. Factor Structures for Yoruba-English Respondents With USA Training Responding in English

Best Source Sorts

Factor	Descriptive Variables	% of Variance
F_1	organized, not disorganized, systematic, decisive, persuasive, trained, not untrained, active, clear, not unintelligible, comprehensible.	14.6
F_2	trustworthy, not untrustworthy, not insincere, not unreliable, not dishonest.	10.3
F_3	not weak, not powerless, not cowardly, unsympathetic, unapproachable, not approachable.	8.2
F_4	cooperative, not uncooperative, friendly, not out-of-date.	5.9
F_5	courageous, powerful, strong, unclear, not up-to-date.	7.1
F_6	not cruel, not partial, kind, not unfriendly, not mature.	7.0
F_7	not incompetent, not uneducated.	6.1
	Total	59.2

Worst Source Sorts

Factor	Descriptive Variables	% of Variance
F_1	not organized, disorganized, not certain, uncertain, not clear, unclear, not comprehensible, incomprehensible, unsystematic, not systematic.	15.2
F_2	uncooperative, not cooperative, unsympathetic, not energetic, not friendly, unapproachable, not approachable.	10.6
F_3	cowardly, not courageous, not strong, weak, not powerful, powerless, passive.	7.6
F_4	not trustworthy, untrustworthy, not impartial, partial, not unpersuasive.	8.4
F_5	not educated, uneducated, not trained, untrained, not experienced, not intelligible.	8.6
F_6	not patient, impatient, not humble, dangerous, not safe, not mature, cruel.	11.6
	Total	61.7

Table 4. Factor Structures for Portuguese-English Respondents With USA Training Responding in English

Best Source Sorts

Factor	Descriptive Variables	% of Variance
F_1	trustworthy, not untrustworthy, not unreliable, not unsystematic.	7.7
F_2	not unfriendly, friendly, sympathetic, not unsympathetic, kind, approachable, not unapprochable, cooperative, not uncooperative.	11.3
F_3	decisive, powerful, strong, active, not passive, not weak, not indecisive, partial.	8.9
F_4	persuasive, not unpersuasive, certain, not uncertain, not out-of-date.	7.5
F_5	clear, not unclear, intelligible, not unintelligible, not incomprehensible, systematic.	7.8
F_6	trained, experienced, educated, not inexperienced, not uneducated.	6.4
F_7	honest, competent, not impatient, not arrogant, not dishonest.	7.6
	Total	57.3

Worst Source Sorts

Factor	Descriptive Variables	% of Variance
F_1	not sincere, insincere, dishonest, not honest, not trustworthy, not safe, dangerous.	9.0
F_2	unfriendly, not friendly, not kind, unsympathetic, not sympathetic, unapproachable, not approachable.	12.5
F_3	not active, not energetic, passive, weak, lazy, not courageous, not strong.	9.6
F_4	not clear, unclear, unintelligible, not organized.	6.8
F_5	not up-to-date, out-of-date, incompetent, not competent, inexperienced, not experienced, not trained, untrained.	10.7
F_6	partial, not impartial, not humble.	5.7
F_7	immature, not mature, not certain, uncertain, unreliable.	8.9
	Total	63.2

Table 5. Factor Structures for Ibo-English Respondents with USA Training Responding in Ibo

Best Source Sorts

Factor	Descriptive Variables	% of Variance
F_1	trustworthy, not untrustworthy, reliable, not unreliable, honest, not dishonest, not uncooperative, not unsympathetic, sincere.	13.9
F_2	strong, powerful, not uneducated, educated, competent, not unpersuasive.	11.6
F_3	This factor is not a strong, clean factor. Communalities are in forties and fifties. Highest loaded variables (fifties and sixties) are: not inexperienced, efficient, systematic, not out-of-date, not incompetent.	7.5
F_4	certain, comprehensible, approachable.	7.5
F_5	not weak, not passive, not cowardly, not powerless.	6.8
F_6	not unfriendly, mature, not unclear, clear.	6.3
F_7	sympathetic, not cruel, kind.	6.3
	Total	59.9

Worst Source Sorts

Factor	Descriptive Variables	% of Variance
F_1	not strong, untrained, not trained, not energetic, not friendly, not kind, cruel.	13.3
F_2	not comprehensible, not mature, not decisive, not up-to-date.	8.7
F_3	unapproachable, not approachable, not intelligible, not clear, unclear, disorganized, unintelligible.	8.5
F_4	not competent, incompetent, inexperienced, not experienced, out-of-date.	12.2
F_5	not reliable, not impartial, not trustworthy, not sincere, dishonest, impatient, uncooperative, not honest, unreliable, untrustworthy.	14.7
F_6	passive, weak, lazy.	6.7
	Total	64.1

Table 6. Factor Structures for Yoruba-English Respondents With USA Training Responding in Yoruba

Best Source Sorts Factor	Descriptive Variables	% of Variance
F_1	honest, not dishonest, trustworthy, not untrustworthy, reliable, intelligible, clear, not up-to-date.	11.7
F_2	mature, not immature, not impatient, patient, humble, not arrogant, approachable, not unsympathetic, sympathetic.	10.8
F_3	not incompetent, not uneducated, efficient, not inexperienced.	8.3
F_4	not unreliable, not unpersuasive, not inefficient, uncooperative.	7.4
F_5	experienced, educated, competent.	6.9
F_6	not sincere, not out-of-date, powerful.	6.5
F_7	courageous, strong, impartial, not unclear, not unfriendly.	7.1
	Total	58.7

Worst Source Sorts Factor	Descriptive Variables	% of Variance
F_1	not patient, disorganized, unsystematic, impatient, unapproachable, not systematic, not safe, incomprehensible.	12.4
F_2	not strong, weak, passive, cowardly, powerless, not courageous, not powerful, indecisive, not decisive.	13.5
F_3	uncooperative, dangerous.	6.8
F_4	insincere, not sincere, not impartial, uncertain, not reliable, unclear, not clear, partial, not active.	10.6
F_5	not intelligible, unintelligible, not certain.	6.6
F_6	not educated, not trained, untrained, uneducated, not experienced.	7.6
F_7	not friendly, unfriendly, unsympathetic, not sympathetic. Approachable loads highest on this factor but it also loads on factor two and three so that it lacks purity.	8.0
	Total	65.5

Table 7. Factor Structures for Portuguese-English Respondents With USA Training Responding in Portuguese

Best Source Sorts Factor	Descriptive Variables	% of Variance
F_1	not immature, mature, not kind, not unintelligible, intelligible, uncooperative.	7.0
F_2	friendly, not unfriendly, not unsympathetic, cowardly, not energetic, weak, approachable.	9.3
F_3	trained, up-to-date, experienced, not incompetent, competent, not untrained, not uneducated, not inexperienced, educated.	7.0
F_4	reliable, not impatient, patient, not unreliable, out-of-date.	6.6
F_5	not untrustworthy, sincere, trustworthy, not dangerous.	7.1
F_6	impartial, not partial.	5.5
F_7	not disorganized, organized, efficient, not inefficient, systematic, not uncertain, certain.	8.7
	Total	51.2

Worst Source Sorts Factor	Descriptive Variables	% of Variance
F_1	weak, not strong,passive, not active, not energetic, lazy, not decisive, indecisive, not safe, uncertain, not certain.	14.0
F_2	not honest, dishonest, dangerous, not sincere, insincere, not impartial, partial, not trustworthy, untrustworthy, not kind, not sympathetic, unsympathetic. (Kind, sympathetic, and unsympathetic have substantial secondary loadings on factor three)	11.4
F_3	unfriendly, not friendly, unapprochable, not approachable, not cooperative, uncooperative, not humble, arrogant.	9.4
F_4	not competent, incompetent, not up-to-date, out-of date, not trained, untrained, not experienced, inexperienced, uneducated, not educated.	10.7
F_5	not organized, disorganized, not systematic, unsystematic, not reliable, unreliable.	7.1
F_6	not mature, immature, unclear, not persuasive.	7.1
	Total	59.7

Table 8. Factor Structures for Ibo-English Respondents Without USA Training Responding in English

Best Source Sorts

Factor	Descriptive Variables	% of Variance
F_1	not immature, sympathetic, patient, not impatient, up-to-date.	6.9
F_2	not lazy, not incompetent, not untrained, not cowardly.	7.3
F_3	friendly, not unfriendly, kind, not uncooperative, cooperative, not unpersuasive.	8.2
F_4	not unreliable, not untrustworthy, not dishonest, not insincere, uneducated, trustworthy, not dangerous, reliable.	7.7
F_5	not disorganized, intelligible, competent, not inexperienced, decisive.	7.4
F_6	powerful, strong, not uncertain, not unclear, not sincere.	6.0
F_7	energetic, educated, not organized, not safe, not clear.	7.7
	Total	51.2

Worst Source Sorts

Factor	Descriptive Variables	% of Variance
F_1	not active, not strong, not energetic, not kind, weak, not powerful.	8.2
F_2	unpersuasive, indecisive, not decisive, not persuasive, incomprehensible, not comprehensible.	7.8
F_3	not approachable, unapproachable, unsympathetic, not organized, not humble, arrogant, not sympathetic, unfriendly, not friendly, impatient, not patient, uncooperative, not cooperative.	13.7
F_4	untrained, uneducated, not educated, not trained, not competent.	8.2
F_5	dishonest, not trustworthy, untrustworthy, not efficient, not up-to-date, not reliable, insincere, not sincere.	8.7
F_6	partial, not impartial, inefficient, not experienced, inexperienced.	5.9
	Total	52.5

Table 9. Factor Structures for Portuguese-English Respondents Without USA Training Responding in English

Best Source Sorts

Factor	Descriptive Variables	% of Variance
F_1	impatient, not lazy, not patient, strong, decisive, not indecisive.	9.4
F_2	not educated, not out-of-date, not untrustworthy, persuasive, not comprehensible, uneducated, up-to-date.	10.7
F_3	not disorganized, active, energetic, not inefficient, weak, organized.	11.3
F_4	competent, experienced, not sincere, not inexperienced, not incompetent, cruel, not honest, not unclear, not untrained, insincere.	12.4
F_5	intelligible, not safe, not unintelligible.	8.7
F_6	not unsympathetic, sympathetic, trustworthy, cooperative, not unapproachable, not unreliable, reliable, approachable.	11.4
	Total	63.9

Worst Source Sorts

Factor	Descriptive Variables	% of Variance
F_1	not efficient, untrained, not decisive, not trained not competent, not active, inefficient, passive, indecisive, incompetent, disorganized, not intelligible, lazy, not powerful.	18.5
F_2	not sympathetic, not approachable, unapproachable, unsympathetic, arrogant, not humble, partial, systematic.	12.8
F_3	uncertain, not certain, immature, unclear.	11.3
F_4	not honest, dishonest, not impartial, not sincere, cruel, not kind, dangerous.	10.6
F_5	not mature, cowardly, not comprehensible, incomprehensible.	7.6
F_6	uncooperative, weak, not energetic, not strong, powerless, not courageous, not cooperative.	9.4
	Total	70.0

Table 10. Factor Structures for Ibo-English Respondents Without USA Training Responding in the Ibo

Best Source Sorts

Factor	Descriptive Variables	% of Variance
F_1	competent, not uneducated, educated, not untrained, not inexperienced, not uncooperative, experienced, trained.	10.2
F_2	organized, not disorganized, systematic, sympathetic, not unsympathetic, not impatient, patient, not arrogant, trustworthy.	9.3
F_3	not unfriendly, not weak, sincere, not courageous.	8.6
F_4	strong, energetic.	6.8
F_5	persuasive, up-to-date.	5.1
F_6	not insincere, not unintelligible, not uncertain, not inefficient, not untrustworthy.	7.4
	Total	47.4

Worst Source Sorts

Factor	Descriptive Variables	% of Variance
F_1	untrustworthy, not sincere, not trustworthy, uncooperative, not cooperative, insincere, not efficient, unreliable, not honest.	12.0
F_2	not strong, not trained, not energetic, not active not powerful, lazy.	9.3
F_3	not patient, impatient, unsystematic, not systematic, not organized, not humble.	7.4
F_4	uneducated, inexperienced, passive, not persuasive, weak, unfriendly, powerless.	9.2
F_5	unsympathetic, not kind, cruel, not sympathetic.	6.7
F_6	not comprehensible, unpersuasive, unintelligible.	5.7
	Total	50.3

Table 11. Factor Structures for Portuguese-English Respondents Without USA Training Responding in Portuguese

Best Source Sorts

Factor	Descriptive Variables	% of Variance
F_1	experienced, strong, not comprehensible, not organized, not indecisive, not incompetent, not inexperienced.	8.0
F_2	not unclear, educated, clear, not unfriendly, not partial, powerful, impartial, energetic.	11.2
F_3	efficient, up-to-date, persuasive, approachable, not kind, certain, not unapproachable.	9.2
F_4	sincere, not cruel, not untrustworthy, not dishonest, not insincere, unsystematic, honest.	9.6
F_5	not cowardly, inefficient, not lazy, courageous, safe, out-of-date, humble.	9.0
F_6	patient, not unreliable, uneducated, not arrogant, sympathetic, not unsympathetic, not impatient, not immature.	10.1
	Total	57.1

Worst Source Sorts

Factor	Descriptive Variables	% of Variance
F_1	inefficient, not efficient, disorganized, not organized, indecisive, not decisive, unpersuasive, not persuasive, incompetent, not competent, not active, lazy, powerless, uncertain, uncooperative.	14.1
F_2	not sincere, insincere, untrustworthy, not trustworthy, dangerous, not clear, not energetic.	13.5
F_3	not sympathetic, unapproachable, not approachable, unfriendly, unsympathetic, not intelligible, unintelligible, not friendly, not kind, cruel, incomprehensible.	11.4
F_4	uneducated, not educated, untrained, not trained, out-of-date, not up-to-date, not experienced, inexperienced.	8.7
F_5	immature, not mature, dishonest.	6.1
	Total	53.8

Table 12. Factor Structures for Monolingual Portuguese Without USA Training Responding in Portuguese

Best Source Sorts

Factor	Descriptive Variables	% of Variance
F_1	mature, not immature, not uncertain, not unpersuasive, certain, energetic, not indecisive, courageous, persuasive, powerful, comprehensible.	10.6
F_2	not untrained, not inexperienced, competent, experienced, not sympathetic, not incompetent, not weak.	10.3
F_3	not cruel, not arrogant, not systematic, uneducated, kind, not dangerous, unintelligible.	8.0
F_4	not disorganized, intelligible, efficient, safe, not inefficient, not incomprehensible.	8.9
F_5	educated, reliable, friendly, not unfriendly, not unreliable, clear, not unclear.	7.9
	Total	45.7

Worst Source Sorts

Factor	Descriptive Variables	% of Variance
F_1	not efficient, inefficient, uneducated, not educated, not competent, inexperienced, untrained, not up-to-date, incompetent.	11.5
F_2	not sincere, insincere, untrustworthy, not trustworthy, dangerous, not reliable, arrogant, dishonest.	10.2
F_3	unfriendly, not friendly, uncooperative, not kind, cruel, unapproachable.	9.6
F_4	not patient, and not approachable, both of which have secondary loadings on the preceding factor.	4.9
F_5	not strong, indecisive, not powerful, not energetic, not decisive, uncertain, not safe, not certain, disorganized, not organized, not persuasive.	11.8
F_6	partial, not impartial, immature.	4.8
F_7	incomprehensible, not clear, unclear, not comprehensible, unintelligible.	7.5
	Total	60.3

3. Synthesis of the Factor Structures --

As noted earlier, the two dimensions of source evaluation used by Hovland, et al, and which Berlo, Lemert and Mertz found accounting for the highest proportion of variance, were very much in evidence in the factor structures obtained in the present study. These two factors did not always account for the highest proportion of variance in the present study, however.

The factor structures have been reviewed and seven dimensions which were identifiable among several of the respondent groups are presented below. These are called dimensions to distinguish them from the factors extracted in each of the twenty-two cells in the design. They are labeled I, II, III, etc., but this should not be taken to mean that the factors making up dimension I were those which consistently accounted for most variance extracted or were consistently cleanest across all language/cultural groups.

a. Dimension I: All but one of the language/cultural groups studied had a factor described by the variables trustworthy, untrustworthy, sincere, insincere, reliable, unreliable, honest, dishonest, and partial and impartial in some combination. As will be seen later in this chapter, trustworthy and untrustworthy discriminated most strongly between best and worst sources when compared with all other terms.

Of all the sample groups, only one yielded no clearly definitive factor encompassing the variables just listed. That group was the monolingual Portuguese with no USA training judging their best sources. All the factors for that group were somewhat confused.

The percentage of total variance accounted for by this factor ranged from 7.1 to 13.9 percent. It was generally one of the strongest

factors, although not consistently so across all groups.

The highest percentage of variance accounted for by any factor in the rotations was 18.5 percent and the lowest was 5.1 percent. The factor accounting for 18.5 percent of the variance was a combination of qualification, dynamism, and general efficiency. The lowest factor was described by two variables -- persuasive and up-to-date.

b. Dimension II: The qualification or expertese factor of Berlo, Lemert and Mertz, and of Hovland, et al., also was found in all language/cultural groups in varying degrees of purity and strength. The variables loading on this factor were competent, incompetent, experienced, inexperienced, trained, untrained, and to some extent, up-to-date and out-of-date.

The percentage of variance accounted for by this factor ranged from 6.1 to 18.5 percent, the 18.5 being the one noted above which encompassed variables usually associated with dynamism and general efficiency. Two language/cultural groups, when judging their best sources, each yielded two factors encompassing some of the qualification variables. These two groups were the Ibo-English without USA training responding in English and the Yoruba-English group with USA contact responding in Yoruba.

The qualification variables were interspersed with the dynamism variables -- powerful, strong, decisive, energetic, active -- for four groups. These groups were: Ibo-English without USA training responding in Ibo regarding their worst source; English-Portuguese without USA training responding in English regarding their worst source; English-Portuguese without USA training responding in Portuguese regarding their best source; and the English-Ibo with USA training responding in Ibo

regarding their best source.

Another group, the English-Portuguese without USA training responding in English regarding their best source yielded a factor which included the qualification variables interspersed with sincere, honest and unclear.

The pair of terms "educated" and "uneducated" discriminated reasonably strongly between best and worst sources, as will be seen later. However, the factor analysis did not consistently put these variables on the same factor with the others which Berlo, Lemert and Mertz called the qualification variables. This does not seem surprising when we consider that the respondents were from cultures where formal education is respected but has not been available to many of the authorities within the culture; and we asked people to describe a person as a source in their field of work. It may be that the denotative aspect of meaning is operating more strongly with "educated" than with the other "qualification" variables. Also, non-formal educational experience may still be given higher credence than formal education in those cultures.

c. Dimension III: The dynamism factor of Berlo, Lemert and Mertz appeared less clearly as a separate factor than did the "trust" and "qualification" factors. In only nine of the twenty-two sets of Q-sorts did the dynamism variables clearly cluster on a single factor. And even within the nine groups, the variables often associated with dynamism sometimes split among other factors.

The groups yielding a definite dynamism factor were:

i. English-Portuguese with USA training responding in English regarding their best source. (Table 4, p. 77)

ii. English-Portuguese with USA training responding in English regarding their worst source. (Table 4, p. 77)

iii. English-Portuguese with USA training responding in Portuguese regarding their worst source. (Table 7, p. 80)

iv. English-Portuguese without USA training responding in Portuguese regarding their worst source. (Table 11, p. 84)

v. Monolingual Portuguese without USA training giving judgments of their worst source. (Table 12, p. 85)

vi. Yoruba-English with USA training responding in English regarding their worst source. (Table 3, p. 76)

vii. Yoruba-English with USA training responding in Yoruba regarding their worst source. (Table 6, p. 79)

viii. Ibo-English without USA training responding in Ibo regarding their worst source. (Table 10, p. 83)

ix. Ibo-English without USA training responding in English regarding their worst source. (Table 8, p. 81)

The percentage of variance accounted for by this factor in the nine groups ranged from 7.6 to 14.1. In two of the groups, iii and vii in the list above, the percentage of variance accounted for by the so-called dynamism factor was the highest of any of the factors.

Another pattern was observable within a few of the groups when the number of rotations was increased. This was the tendency for the dynamism variables to separate into two factors that might be labeled possession of power and use of power. This was found with the Ibo-English with USA training responding in English about their worst source, and somewhat less clearly with the Ibo-English with USA training responding in Ibo regarding their best source.

d. Dimension IV: One noticeable difference in results of the present study and those of Berlo, Lemert and Mertz was the strength of what they labeled the sociability factor -- friendly, sympathetic, approachable, kind, etc. In three of the respondent groups, this factor accounted for the highest percentage of the total variance and in three groups it accounted for the second highest percentage of the variance. The highest percentage of variance accounted for was 13.7.

The Portuguese language groups were most evident among those where this factor was clearly established. It was a strong factor for the Yoruba responding in Yoruba and the Ibo when they responded in English. When the Ibo speakers responded in Ibo and the Yoruba responded in English the variables appeared in the factor structures, but tended to be split between two factors and mixed with other variables.

e. Dimension V: The variables which combine to form this factor are: organized, disorganized, efficient, inefficient, systematic, unsystematic, certain and uncertain. In five of the data sets, this factor also encompassed the terms comprehensible, intelligible, and clear. Competence and dynamism also combined with the variables on this factor in some cases.

In thirteen of the twenty-two cases, the primary variables on this factor were quite visible as separate definitive factors or in combination with the intelligibility, competence and/or dynamism variables. It was only in combination with the other variables that this factor ever accounted for the highest proportion of the variance.

f. Dimension VI: In five of the twenty-two data sets, there emerged a factor in which the variables with the strongest and cleanest loadings were: clear, unclear, intelligible, unintelligible, compre-

hensible, and incomprehensible in some combination. As noted earlier, these variables sometimes combined with those taken as most descriptive of Factor V. The percentage of variance accounted for by this factor ranged from 5.7 to 8.7, somewhat less than the other factors considered thus far.

g. Dimension VII: Another pair of variables that in some cases emerged as a separate factor were partial and impartial. In three of the twenty-two sets, these variables formed the core of a factor; while in eight of the data sets, these two variables combined with other variables in a factor, most often in the "trust" factor. When they formed a separate factor, the percentage of variance accounted for was between 5.0 and 6.0.

A look at the seven factors discussed above will show that five of these show stability and strength across more than half of the language/cultural groups studied. The last two factors show much less stability and strength.

4. Comparison of Factor Structures Across Language/Cultural Groups --

a. Data used for the comparisons covered in this section were coefficients of similarity, and some of the problems in handling these data have already been noted on pp. 67-70 of the methodology chapter. As noted in that chapter, four random Q-sorts were analyzed to strengthen the basis for inferences about the factor structures in the absence of more precise statistics and sampling distributions.

In the random Q-sorts, none of the pairs had a coefficient of similarity of 0.50, the highest being 0.47. This is quite a bit less than the lower bound of best fit which was 0.72 for the 5-factor solutions; 0.70 for the 6-factor solutions; and 0.69 for the 7-factor solutions.

The two tables which follow will permit an inspection of the distribution of the coefficients of similarity for the random data and that collected from six of the respondent groups.

Table 13. Distribution of Coefficients of Similarity for 6 Pairs of Factor Rotations from Four Sets of Random Q-sorts

Values of Coefficients of Similarity	No. of Factor Pairs for Each Value Level		
	5-Factor Solution	6-Factor Solution	7-Factor Solution
0.41 - 0.47	0	0	3
0.31 - 0.40	5	11	6
0.21 - 0.30	13	14	19
0.11 - 0.20	11	7	12
0.07 - 0.10	1	4	2
	30	36	42

The following table shows the distribution of the coefficients of similarity obtained from comparisons of six pairs of respondent groups.

Table 14. Distribution of Coefficients of Similarity for 6 Pairs* of Factor Rotations from Q-sorts of Respondents' Source Evaluations

Values of Coefficients of Similarity	No. of Factor Pairs for Each Value Level		
	5-Factor Solution	6-Factor Solution	7-Factor Solution
0.07 - 0.10	0	0	0
0.11 - 0.20	0	1	1
0.21 - 0.30	1	1	0
0.31 - 0.40	1	0	4
0.41 - 0.50	4	7	10
0.51 - 0.60	4	6	11
0.61 - 0.70	14	14	10
0.71 - 0.80	5	6	5
0.80 and above	1	1	1
	30	36	42

* These pairs included the comparisons of the Ibo, Yoruba and Portuguese with USA training responding in English and responding in mother tongues.

In contrast to the random sorts listed above, 27 of 36 pairs of factors obtained with the Q-sort data collected from respondents had coefficients of similarity of 0.50 or above. Seven of the nine which were less than 0.50 were among pairs where low similarity had been predicted.

The factor loadings in the random sort data displayed non-meaningful patterns. Terms considered opposite in meaning often would appear on the same factor with the same valance, e.g., courageous -0.49, and cowardly -0.49. Often the variables that cluster on a factor in the analysis of data from respondents would be distributed across all the factors in analysis of the random data.

The comparisons of the random sorts with the data collected from respondents have provided some confidence that the results obtained from analysis of respondents' data reflect more than random variability.

Problems with curtailed distributions in the Q-sorts of best sources produced factor structures for these sorts which were somewhat difficult to describe in some of the groups.

The difference in means between terms presumed to be positive and terms presumed to be negative were larger for the judgments of best sources than for the judgments of worst sources. The standard deviations for the best source sorts were significantly lower than for the worst source sorts, leading one to expect a higher probability of significant differences between the means of positive and negative terms within best source samples than within the worst source samples. The correlations between positive and negative terms, however, were generally lower for the best source sorts than for the worst source sorts. This led to the suspicion that the curtailed distribution of the scores in

the best source sorts was producing low correlations.

McNemar (1962, pp. 144-45) discusses this problem and provides a formula to adjust the correlations when one of the variables has a curtailed distribution. But, he points out that there is no satisfactory formula for adjusting when there is a double curtailment problem as is the case in the present data.

When the formula for single curtailment was applied to data from one language/cultural group, it was found that this adjustment increased the correlations from ten to fourteen correlational units. This, and the fact that in 690 of 726 cases the standard deviations for "worst source" sorts were larger than for "best source" sorts, seems to support the claim that curtailed distribution reduced correlations; and the reduced correlations in turn resulted in less clearly defined factor structures among the "best source" sorts. This was taken as justification for using the "worst source" sorts for the factor comparisons.

b. Tests of hypotheses 1-5, using coefficients of similarity measures, indicated support for hypotheses four and five; partial support for hypotheses 1 and 3; and lack of support for hypothesis 2.

Hypothesis 1 stated that the respondent groups could be ordered from most to least similar and that bilingual respondents with USA training and responding in English ($r_1s_1t_1$) would be most similar to one another, followed by $r_2s_1t_1$ or $r_1s_1t_2$, which would be followed by $r_2s_1t_2$, with $r_2s_2t_2$ last.

As will be seen in Table 15, three of five factors met the lower limit of best fit criterion for the groups predicted to be most alike, i.e., the $r_1s_1t_1$ groups. In contrast to this, none of the factors met the

lower limit criterion among the groups predicted as least similar, i.e., the $r_2s_1t_2$ groups; and three of five coefficients for these groups were in the range of coefficients produced by the random Q-sorts.

The data did not support the claim that groups in the $r_1s_1t_2$ combinations were either more or less similar than groups in the $r_2s_1t_1$ combinations; and there was no basis in the rationale for expecting groups in one of these combinations to be more alike than in the other. On four of five factors, however coefficients for both of these combinations fell between the coefficients for the $r_1s_1t_1$ and the $r_2s_1t_2$ groups.

Table 15. Average Coefficients of Similarity for Four Language of Response and USA Exposure Combinations (Six-Factor Rotation)

	Respondent Groups	Coefficients for Each of 5 Factors				
		F_1	F_2	F_3	F_4	F_5
$r_1s_1t_1$	Bilinguals with USA training, English response	69	71	70	79	64
$r_1s_1t_2$	Bilinguals without USA training, English response	63	65	54	50	65
$r_2s_1t_1$	Bilinguals with USA training, mother tongue response	58	59	63	62	57
$r_2s_1t_2$	Bilinguals without USA training, mother tongue response	59	48	31	45	53

Appendix H contains a matrix of the coefficients of similarity obtained when each of the language/cultural groups was paired with each of the other language/cultural groups. These are the date that were used to obtain the averages listed in Table 15.

Hypothesis 2 was not supported. It stated that the coefficients of similarity would be lowest between the monolingual Portuguese without USA training and the Nigerian language/cultural groups with USA training and responding in English. It also was hypothesized that these

coefficients would be below the lower limit of best fit.

The coefficients of similarity between these Portuguese and Nigerian respondents were not below the lower limit of best fit as predicted.

The following table shows the number of factor pairs meeting the lower limit of best fit criterion when the six highest factor pairings within each factor of a 6-factor solution were selected for each pair of language/cultural groups being compared.

Table 16. Number of Factor Pairs Meeting Lower Limit of Best Fit Criterion for Three Language/Cultural Groups (Six-Factor Rotation)

Language/Cultural Groups	No. of Factor Pairings Meeting Lower Limit Criterion in 6-Factor Solution
Ibo vs Yoruba, both with USA training and responding in English	3
Yoruba with USA training responding in English vs Monolingual Portuguese without USA training	3
Ibo with USA training responding in English vs Monolingual Portuguese without USA training	2

The factors which showed high similarity for the Ibo-Yoruba comparison and the coefficients of similarity were:

i. Organized, systematic, clear, certain, efficient. (facsim -- 0.86)

ii. Approachable, cooperative, friendly, sympathetic. (facsim -- 0.77)

iii. Experienced, trained, educated. (facsim -- 0.70)

A fourth factor which appeared quite similar from the factor description of the two sets was one described by the variables trustworthy,

sincere, reliable, impartial, honest, etc.; and it produced a facsim of 0.67. This comparison, however, did not reach the lower limit of best fit. It appeared to be a somewhat stronger and cleaner factor with the Ibo than with the Yoruba. The dynamism factor also did not reach the lower limit criterion, the coefficient being 0.68 with the criterion at 0.70; and it contributed the lowest proportion of the variance of any factor in both groups. The variables usually considered dynamism variables had split into two factors in the Ibo group.

The three factor pairs meeting the lower limit criterion for the comparison of Yoruba and non-English speaking Portuguese and the coefficients of similarity were:

i. Cooperative, friendly, kind, sympathetic, etc. (facsim -- 0.74)

ii. Trustworthy, sincere, impartial, etc. (facsim -- 0.73)

iii. Educated, experienced, trained, etc. (facsim -- 0.72)

As with the Ibo-Yoruba comparison, the dynamism variables yielded a coefficient of similarity of 0.66, the "dynamism" variables combining with "organized" in the non-English speaking Portuguese group.

The two factors meeting the lower limit criterion in the Ibo-Portuguese comparison were:

i. Friendly, kind, cooperative, etc. (facsim of 0.83)

ii. Trustworthy, sincere, etc. (facsim of 0.80)

Others producing coefficients above 0.60 were: experienced, educated, etc., with a facsim of 0.63; and organized, efficient, strong, etc., with a facsim of 0.66.

The sums of the squared coefficients of similarity and the mean of the coefficients for each of the three pairs of comparisons was highest

for the Yoruba-Ibo, next highest for the Yoruba-Portuguese and lowest for the Ibo-Portuguese.

Table 17. Sums of the Squared Coefficients of Similarity and the Means of the Coefficients for Three Language/Cultural Groups With USA Training Responding in English (Six-Factor Rotation)

Language/Cultural Group	Sums of Squared Coefficients	Means of the Coefficients
Yoruba and Ibo	2.92	0.70
Yoruba and Portuguese	2.86	0.69
Ibo and Portuguese	2.55	0.65

While the values of the aggregated coefficients of similarity reflected rather small differences, the differences were in the predicted direction.

Hypothesis 3 stated that coefficients of similarity between English-Ibo and English-Yoruba respondents will be higher than between either of them and English-Portuguese respondents. It was supported, albeit quite tentatively when the responses were in English.

The difference in magnitude of the sums of squared coefficients of similarity was in the predicted direction, as shown in the list below.

Table 18. Sums of Squared Coefficients of Similarity and Means of Coefficients for Comparison of English Responses vs Mother Tongue Responses, All With USA Training (Six-Factor Rotation)

Language/Cultural Group Being Compared	Sums of Squared Coefficients	Means of Coefficients
Ibo and Yoruba responding in English	2.75	.68
Yoruba and Portuguese responding in English	2.70	.67
Ibo and Portuguese responding in English	2.63	.66
Ibo and Yoruba responding in mother tongues	2.24	.61
Ibo and Portuguese responding in mother tongues	1.71	.53
Yoruba and Portuguese responding in mother tongues	1.63	.52

Considering the lower limit of best fit criterion, the Ibo-Portuguese responding in English yielded four of six factor pairs that met the criterion; the Ibo-Yoruba responding in English yielded three of six factor pairs which met the criterion; and the Yoruba-Portuguese responding in English yielded two factor pairs which met the lower limit criterion. None of the factors in the three comparisons where responses were in mother tongue met the lower limit criterion, although the Ibo-Yoruba comparison had one factor which was close -- 0.6948 with 0.70 being the criterion.

Looking at the factors which were similar across these groups, it may be recalled that the three factors for the Ibo-Yoruba responding in English were: (i) organized, (facsim -- 0.83) (ii) friendly-sympathetic, (facsim -- 0.77); and (iii) experienced (facsim -- 0.70). The factor described by trustworthy, etc., did not reach the criterion, having a facsim of 0.67.

The four factors that were similar for Ibo and Portuguese subjects with USA training responding in English were:

i. Organized, systematic, clear, comprehensible, intelligible. (facsim -- 0.74)

ii. Friendly, sympathetic, approachable. (facsim -- 0.74)

iii. Trustworthy, sincere, honest, safe. (facsim -- 0.70)

iv. Experienced, trained, competent. (facsim -- 0.70)

The dynamism variables were split between two factors for the Ibo group, yielding coefficients of 0.58 and 0.46 with factor three of the Portuguese group.

The relatively high similarity among the three language/cultural groups when they had had USA training and responded in English was

apparent when we added the comparison of the Yoruba-Portuguese groups to those already noted. While only two factor pairings met the lower limit criterion for these two groups, two other factor pairings were very close to the criterion. The first two factors listed below are those that met the criterion and the next two are those which nearly met the criterion:

i. Organized, systematic, clear, comprehensible. (facsim -- 0.76)

ii. Educated, trained, experienced, competent. (facsim -- 0.72)

iii. Courageous, strong, powerful, active. (facsim -- 0.69)

iv. Trustworthy, impartial, honest, sincere. (facsim -- 0.68)

A factor encompassing the variables friendly, sympathetic, etc., was present in both groups but the facsim was 0.60; and another factor encompassing the variables humble, patient, safe and mature in the Yoruba group showed some similarity to both factors one and two (trust and friendliness) for the Portuguese group. The facsims were 0.55 and 0.54.

Although none of the comparisons reached the lower limit of best fit among the three language/cultural groups when they responded in their mother tongues, the trust factor showed the highest similarity. The closest fit on the factor was between the Ibo and Yoruba with a facsim of 0.69. As is evident from data in Table 18, the lowest agreement was among the Ibo-Portuguese and Yoruba-Portuguese when they responded in their mother tongues.

Hypothesis 4 stated that the coefficients of similarity will be higher among the language/cultural groups when they respond in English than when they respond in their mother tongues. This hypothesis

received the most positive support of any of the hypotheses comparing factor structures.

In support of this hypothesis, it was found that more factors met the lower limit of best fit criterion among the groups responding in English than among the groups responding in mother tongues. The following table shows this more clearly:

Table 19. Number of Factors Meeting the Lower Limit of Best Fit Between Groups Responding in English and Those Responding in Mother Tongue (Six-Factor Rotation)

Language/Cultural Group Being Compared	English Response	Mother Tongue Response
Ibo and Yoruba with USA training	3 factors	0 factors
Ibo and Portuguese with USA training	4 factors	0 factors
Yoruba and Portuguese with USA training	2 factors	0 factors
Ibo and Portuguese without USA training	0 factors	0 factors

While none of the comparisons of groups without USA training had a factor that reached the lower limit of best fit criterion, the groups responding in English had three factors with coefficients of 0.65, 0.65 and 0.64; for the groups without USA training responding in mother tongues, none of the factors had a coefficient as high as 0.60.

The sums of the squared coefficients and the means of the coefficients for the set of six factors for each of the comparisons were higher for the English responses than for the mother tongue responses.

The similarities in factor structures, as well as some of the differences, among the three sets with USA training responding in English, may be noted in Table 20 and in Tables 2-7. Five factors from the 6-factor solution appear with reasonable clarity across all three sets.

These might be labeled: (1) organized and clear; (2) friendly, sympathetic, and approachable; (3) experienced, trained and educated; (4) trustworthy, sincere, and impartial; and (5) dynamic -- strong, courageous.

Table 20. Sums of Squared Coefficients and Means of Coefficients for Groups Responding in English and Groups Responding in Mother Tongue (Six-Factor Rotation)

Language/Cultural Groups	English Response		Mother Tongue Response	
	Sums	Means	Sums	Means
Ibo and Yoruba, USA Training	2.75	0.68	2.24	0.61
Ibo and Portuguese, USA Training	2.63	0.66	1.71	0.53
Yoruba and Portuguese, USA Training	2.70	0.67	1.63	0.52
Ibo and Portuguese without USA Training	1.99	0.56	1.31	0.47

The set of factors comparing the Ibo and Portuguese without USA training responding in English yielded less definitive factors. However, four of the five factor structures noted in the preceding paragraph were identifiable in this pair too. Those were the dynamism, qualification, trust and friendship factors.

While none of the factor pairs met the lower limit of best fit criterion among the sets responding in mother tongue, some of the same variables appeared in factors across all four sets in the comparison. The factors encompassing variables which occurred across all the sets might be labeled (1) qualification, (2) trust and (3) dynamism. Other variables appearing on factors but clustering less clearly included: approachable, organized, intelligible, comprehensible, patient, certain and persuasive.

Hypothesis 5 stated that the coefficients of similarity for respondents who have been to the USA for training will be higher than for those who have not been to the USA for training. It was supported by the data from the two language/cultural groups available for this comparison, the bilingual Ibo and the bilingual Portuguese. The Yoruba data for those without USA training were not available, due to the unsettled political situation within Nigeria at the time of data collection.

When the groups responded in English, four of six factors were at or above the lower limit of best fit for those with USA training in contrast to none of the factors at or above that limit for the groups without USA training. When the groups responded in their mother tongues, neither those with USA training nor those without USA training yielded factors which met the lower limit of best fit criterion. Those with USA training did produce somewhat larger coefficients of similarity, however.

The following table will show the relationships of the sums of squared coefficients and the mean coefficients for each of the cells in this comparison.

Table 21. Relationship Between Groups with USA Training and Groups Without USA Training for Responses in English and Responses in Mother Tongues (Six-Factor Rotation)

Language of Response	USA Training	Without USA Training
English	2.63*	1.90
	0.66*	0.56
Mother Tongue	1.71	1.31
	0.53	0.47

(* Top figures are sums of squared coefficients of similarity; lower figures are means of the coefficients.)

Although no statistical test of the significance of the differences between the cells is available, it is encouraging that the differences all are in the predicted direction. The groups with USA training yielded larger coefficients of similarity than those without USA training; and the groups responding in English had larger coefficients than those responding in mother tongues.

To provide a stronger base for inferences, we may again refer to data computed from the random Q-sorts. The sums of the squared coefficients of similarity shown in Table 22 for all possible pairs of the random Q-sorts are considerably lower than those for respondents' sorts shown on the preceding pages.

Table 22. Sums of Squared Coefficients of Similarity for Six Pairs of Comparisons of Four Random Q-Sorts

Decks Paired	Sums
09-19	0.44
09-39	0.25
09-29	0.02
19-29	0.51
19-39	0.24
29-39	0.29

It will be noted that the range of differences among the values for the random sorts are less than that for the comparisons in hypotheses four and five and for part of hypothesis three.

5. Discriminating Power of Terms --

a. The t-tests of the 726 differences between the mean Q-sort values for "best source" and the mean Q-sort values for "worst source" showed all but 24 were statistically significant at the .05 level, 2-tailed. From this it was concluded that most of the terms discriminate between "best" and "worst" source of messages for the eleven language/cultural groups studied. Some terms consistently discriminated

more strongly than others, however; and there were some differences between language/cultural groups. The differences between the means for best and worst source ranged from 0.02 to 4.88, where 8.00 was the maximum difference possible.

The list of differences between the mean scores for best source and worst source is in appendix F. The data in that table provided the basis for analyzing the relative discriminating power of the terms.

Fifteen of the nonsignificant differences were from one language/cultural group, the Ibo-English respondents with USA training responding in Ibo. Six of the remaining nonsignificant differences were from the Ibo-English respondents without USA training responding in Ibo.

The predominance of nonsignificant differences in one language of response might suggest translation problems; but, the terms yielding nonsignificant differences were not consistent across both Ibo response groups. The translators also claimed that respondents should not have had any difficulty with the intended interpretations of the Ibo terms. Another possible explanation for most of the nonsignificant differences occurring in one language of response is limited facility of the respondents in reading the language. The field staff reported that several of the Nigerian respondents had difficulty reading the Nigerian language in which they were responding. It may be that those who had been in the USA had even less facility in the language than those who had not been to the USA. Adequate evidence was not available to confirm either of those possibilities.

There was little overlap of terms among the 24 nonsignificant differences, 21 terms in the list producing the 24 cases of nonsignificance. The three which occurred more than once among the language/

cultural groups were: out-of-date, cowardly, and safe. The other terms which produced nonsignificant differences between the means for "best" and "worst" sources were: approachable, unapproachable, courageous, decisive, strong, passive, powerful, friendly, unfriendly, dangerous, unclear, incomprehensible, uncertain, organized, impatient, humble, arrogant, and immature.

Fourteen of the 20 terms which discriminated most strongly across the eleven language/cultural groups might be encompassed under Hovland's expertness and trustworthiness dimensions of source evaluation. Trustworthy and untrustworthy had the highest differences between mean Q-values for "best" and "worst" sources across the eleven groups. Next highest were competent and incompetent. Following closely were: sincere, insincere, honest, dishonest, efficient, inefficient, reliable, unreliable, experienced, inexperienced, educated, uneducated, kind, cruel, partial and impartial.

Terms which yielded the lowest differences between the means for "best source" and "worst source" Q-sorts were: powerful, powerless, strong, weak, persuasive, unpersuasive, passive, energetic, systematic, unsystematic, impatient, courageous, unapproachable, approachable, unfriendly, out-of-date, intelligible, unintelligible, safe and incomprehensible.

To obtain a set of source evaluation scales that might be used effectively across several language/cultural groups, we wanted to eliminate those which did not discriminate strongly, and keep those which consistently discriminated strongly between the "best" and "worst" sources of messages. We also wanted to have scales which would represent the various dimensions of source evaluation obtained in the

factor analysis.

If the terms that discriminated most strongly between "best" and "worst" sources are grouped according to the factors which were most common among the respondent groups, the sets shown in Figure 3 are found.

Figure 3. Terms Which Discriminated Most Strongly Between "Best" and "Worst" Sources, Grouped by Common Factors

F_1	F_2	F_3	F_4
Trustworthy	Competent	Sympathetic	Efficient
Untrustworthy	Incompetent	Unsympathetic	Inefficient
Sincere	Educated	Kind	Organized
Insincere	Uneducated	Cruel	Disorganized
Honest	Experienced	Humble	Mature
Dishonest	Inexperienced	Arrogant	Immature
Reliable	Trained	Friendly	
Unreliable	Untrained		

F_5	F_6	F_7
Lazy	Clear	Impartial
Active	Unclear	Partial
Decisive		
Indecisive		
Certain		
Uncertain		

b. A factor analysis of the discriminating power of the set of 66 terms across eleven language/cultural groups was used to seek further support for the hypothesized differences between language/cultural groups. In this analysis, the mean differences between "best" and "worst" source sorts for each term for one group were correlated with those obtained for each of the other groups. This produced an 11 x 11 matrix for the factor analysis in which the first principal axis factor extracted 92 percent of the total variance. This was taken as an indication of a high degree of similarity in discriminating power of the set

of 66 terms as a set across the eleven groups. Further analysis, however, indicated some support for the general hypothesis.

The members of each of the three pairs with the highest agreement in discriminating power of the set of sixty-six terms responded in the same language, while those with the lowest agreement responded in different languages. These pairs with lowest agreement also were comparisons of cultural groupings which it had been assumed would reflect the greatest differences -- Nigerian vs Brazilian.

The three pairs of respondent groups which showed the highest level of agreement in the set of mean differences were:

i. Bilingual Portuguese with USA training responding in Portuguese and bilingual Portuguese without USA training responding in Portuguese.

ii. Bilingual Portuguese with USA training responding in Portuguese and monolingual Portuguese without USA training responding in Portuguese.

iii. Yoruba with USA training responding in English and the Ibo without USA training responding in English. Ibo with USA training responding in English also showed high agreement with the other Ibo and Yoruba groups responding in English.

The correlations between the two respondent groups in each of those three pairs ranged from 0.979 to 0.990, the difference between them not being significant at the 0.05 level. However, the difference between those correlations and the those of the pairs of respondent groups showing the lowest agreement were statistically significant beyond the 0.05 level. Correlations between members of the three lowest

pairs ranged from 0.855 to 0.971, the difference between those pairs not being statistically significant.

The three pairs which showed the lowest agreement were:

i. Yoruba with USA training responding in Yoruba and the bilingual Portuguese without USA training responding in Portuguese.

ii. Bilingual Ibo without USA training responding in Ibo and monolingual Portuguese without USA training responding in Portuguese.

iii. Bilingual Ibo with USA training responding in Ibo and monolingual Portuguese without USA training responding in Portuguese.

While the agreement between the language/cultural groups was high in all cases, the lowest correlation being 0.855, the differences between the highest and lowest agreement pairs were consistent with the hypothesized effects of language/cultural differences.

c. Results from an analysis of variance of the discriminating power of the terms also supported the general hypothesis. There was a significant interaction (Table 23), indicating that the discriminating power of the terms was not uniform across all language/cultural groups.

The treatment by subjects analysis within each language/cultural group produced differences between terms that were significant beyond the 0.01 level when the null hypothesis was: The mean of the Q-sorts for best source for term one minus the mean for the worst source for term one equals the mean for the best source for term n minus the mean for the worst source for term n. The eleven treatment by subjects analyses also provided the error terms for the overall analysis variance which was an 11 x 66 two-factor design with repeated measures on the same subjects within groups. The summary data for this analysis are in Table 23.

Table 23. Analysis of Variance of Discriminating Power of Terms Across Eleven Language/Cultural Groups

Source of Variation	df	MS	F
A (between language/cultural groups)	10	0.023816	2.459*
S within A (Error term for A)	400	0.009687	
B (between source evaluation terms)	65	46.46790	100,579.87**
A x B	650	0.45993	995.52**
B x S within A (Error term for B and A x B)	26,000	0.000462	
TOTAL	27,125		

* Significant at 0.05 level, 2-tailed.
** Significant beyond the .01 level, 2-tailed.

The significance of differences between the 3,300 pairs of comparisons among 66 terms and 55 possible pairs of the eleven language/cultural groups were not worked out to appraise all the "simple" effects. However, a range statistic was computed employing the Tukey Test a (Winer, 1962, pp. 87 and 309-311) and this value may be used in appraising the data in Table 24 and in appendix Table 55. The difference obtained by this method is a conservative estimate since it uses the maximum range for computing differences required for significance, and the smallest of the unequal cell frequencies was used in the present computation. The error term was a within cells mean square obtained by pooling $SS_{\text{within A}}$ and $SS_{\text{BxS within A}}$ as suggested in Winer.

With this estimating procedure, a difference between the means between A within b_i will be considered significant at the 0.05 level when that difference is 0.58 or greater; a difference of 0.70 or greater will be considered significant at the 0.01 level, 2-tailed. Thirty of the differences in Table 24 were 0.58 or greater; 27 were 0.70 or greater.

Table 25, p. 112, shows the 66 source evaluation terms ranked according to the average of the mean differences between best source and worst source evaluations.

Table 24. Differences Between Mean Differences of Best and Worst Source Q-Sorts by Pairs of Language/Cultural Groups for the Term "Competent"

Groups	1 (N=37)	2 (N=31)	3 (N=44)	4 (N=36)	5 (N=28)	6 (N=48)	7 (N=48)	8 (N=20)	9 (N=50)	10 (N=29)	11 (N=48)
USA Training:											
1. Ibo (ER)		-0.21	+1.10	-0.86	-0.33	+1.02	-0.56	+0.72	+0.69	+0.13	+0.24
2. Yoruba (ER)			+1.31	-0.65	-0.12	+1.23	-0.35	+0.93	+0.89	+0.34	+0.45
3. Portuguese (ER)				-1.96	-1.43	-0.08	-1.66	-0.38	-0.42	-0.97	-0.86
4. Ibo (MT)					+0.53	+1.88	+0.30	+1.58	+1.54	+0.99	+1.10
5. Yoruba (MT)						+1.35	-0.23	+1.05	+1.01	+0.46	+0.57
6. Portuguese (MT)							-1.58	-0.30	-0.34	-0.89	-0.78
No USA Training:											
7. Ibo (ER)								+1.28	+1.24	+0.69	+0.80
8. Portuguese (ER)									-0.04	-0.59	-0.48
9. Ibo (MT)										-0.55	-0.44
10. Portuguese (MT)											-0.11
11. Monolingual Portuguese											

(ER) indicates English language response.
(MT) indicates Mother Tongue response.
Subtraction was in the direction of columns - rows.

Table 25. Average of Mean Differences Between Q-sorts of Best Source and Worst Source Across Eleven Language/Cultural Groups

Terms Sorted	Average of Mean Differences	Terms Sorted	Average of Mean Differences
Untrustworthy	3.634	Immature	1.819
Trustworthy	3.585	Up-to-date	1.817
Competent	3.255	Unsympathetic	1.763
Incompetent	3.120	Active	1.765
Sincere	3.096	Untrained	1.754
Honest	3.065	Trained	1.755
Insincere	3.031	Certain	1.745
Dishonest	2.978	Comprehensible	1.694
Efficient	2.898	Patient	1.678
Unreliable	2.722	Clear	1.670
Reliable	2.534	Friendly	1.635
Inefficient	2.530	Cowardly	1.625
Dangerous	2.312	Unclear	1.586
Cooperative	2.284	Safe	1.578
Experienced	2.240	Approachable	1.552
Inexperienced	2.238	Unintelligible	1.521
Partial	2.172	Intelligible	1.482
Educated	2.154	Incomprehensible	1.461
Uneducated	2.134	Out-of-date	1.421
Impartial	2.112	Unfriendly	1.415
Cruel	2.108	Unsystematic	1.394
Lazy	2.091	Weak	1.372
Uncooperative	2.026	Systematic	1.355
Sympathetic	2.023	Unapproachable	1.314
Mature	2.021	Passive	1.312
Organized	1.973	Energetic	1.303
Kind	1.918	Courageous	1.296
Indecisive	1.904	Impatient	1.283
Uncertain	1.881	Persuasive	1.220
Arrogant	1.880	Unpersuasive	1.202
Decisive	1.878	Powerless	1.202
Humble	1.834	Strong	0.994
Disorganized	1.832	Powerful	0.789

6. Negative Correlations Between Presumed Polar Pairs --

Hypothesis 7 stated that the bipolarity of ranking responses would not be consistently demonstrated for the terms that were presumed to be polar opposites. Using negative correlations between members of the presumed bipolar pairs as an indicator of the bipolarity of ranking responses, support for this hypothesis was found.

The mean negative correlations* between the presumed bipolar pairs across the twenty-two data decks (eleven language/cultural groups sorting for "best source" and for "worst source") ranged from -0.22 to -0.88. The correlations for the individual decks ranged from +0.15 for the pair of terms powerful-powerless to -0.91 for the pair of terms sympathetic-unsympathetic. Competent-incompetent and experienced-inexperienced yielded negative correlations of -0.90 for one group.

As noted earlier, the Q-sorts for "worst source" fairly consistently produced more variance than the Q-sorts for "best source." This yielded higher correlations within the "worst source" matrices and it is again reflected in the higher negative correlations between presumed bipolar pairs for "worst source" Q-sorts than for "best source" Q-sorts.

Some of the differences between sorts of "best source" and "worst source" and some of the differences among terms are readily visible by looking at the table of correlations. This is in appendix G. It also is quite apparent from looking at this table that the correlations were lower for the four sets of data derived by a table of random digits than for the regular Q-sorts.

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* Mean correlation was computed by using the formula which employs a weighted average of z transformations as given in McNemar, 1962, p. 140.

The correlations for the presumed bipolar pairs with the four random sets of data ranged from +0.33 to -0.57. Only seven of 132 correlations in the random sets were above -0.40 and only one was above -0.50. The random sets are excluded from the averages listed below.

The presumed bipolar pairs are listed below in order from highest to lowest mean negative correlation:

educated-uneducated	.66	impartial-partial	.47
trustworthy-untrustworthy	.65	decisive-indecisive	.53
friendly-unfriendly	.65	clear-unclear	.53
appraochable-unapproachable	.64	kind-cruel	.53
competent-incompetent	.64	certain-uncertain	.52
organized-disorganized	.62	mature-immature	.52
honest-dishonest	.61	up-to-date - out-of-date	.52
trained-untrained	.61	sincere-insincere	.51
experienced-inexperienced	.61	intelligible-unintelligible	.51
sympathetic-unsympathetic	.60	active-passive	.49
persuasive-unpersuasive	.60	comprehensible-incomprehensible	.47
efficient-inefficient	.60	strong-weak	.45
		humble-arrogant	.45
patient-impatient	.58	energetic-lazy	.40
systematic-unsystematic	.56	courageous-cowardly	.40
cooperative-uncooperative	.56	powerful-powerless	.35
reliable-unreliable	.56	safe-dangerous	.29

It is interesting to note that those antonyms formed without the prefix un, in, or dis yielded the lowest negative correlations.

In selecting scales for future work it is convenient that all but three of the terms that discriminated most strongly between "best" and "worst" source had negative correlations of 0.50 or more with their presumed opposite. Of the twelve terms with the highest negative correlations, all but two -- approachable-unapproachable and persuasive-unpersuasive -- were among the list that discriminated most strongly between "best" and "worst" sources.

Powerful-weak had stronger negative correlations in some of the data sets than did powerful-powerless: and active-lazy showed higher

correlations than the terms with which they had been paired in the planning. This suggests exploring some other combinations of terms, especially among the dynamism variables, if bipolar opposites are needed.

7. Scales Recommended for Future Work --

Based on the factor structures obtained, the discriminating power, and the negative correlations between presumed bipolar pairs, terms in the set on p. 107, are recommended as those from which to select scales for future work. If bipolarity is sought, it would appear wise to delete humble-arrogant from the list and to combine active-lazy instead of the pairing set up when the present study was planned.

CHAPTER IV

DISCUSSION OF FINDINGS

A. Factor Structures

Characteristics of the factor structures across the groups showed similarities to the seven categories on page 56 which were used as a guide in selecting the Q-sort items. It had been suggested that the seven categories might represent dimensions which people consider in their judgments of sources. Although the factor analysis produced meaningful 7-factor solutions, even more by the Kiel-Wrigley criterion, the same seven factors were not consistently obtained across all groups.

Two factors did appear consistently across all groups. These were the so-called trust and qualification factors. Three others which appeared with high regularity, but not as cleanly as the first two, were: (1) dynamism, (2) friendly-sympathetic-approachable and (3) organized-efficient-systematic.

One of the apparent differences between results in this study and those of Berlo, Lemert and Mertz is the greater strength of the factor described by the variables friendly, sympathetic, approachable, kind, etc. This was a weak factor in the Berlo, Lemert and Mertz work, accounting for less than 5 percent of the variance. Hovland, et al., make mention of it but do not give it much attention.

In the rationale, the possibility of a strong factor of this type (friendly, etc.) among the sample groups with strong kinship orientation

and low technological development was discussed. While the present study did not provide a definitive test of the relationship of the "friendly, etc." factor to level of technological development and kinship orientation, the findings are suggestive. One of the problems in such a study would be to control for individual variability within countries in the level of technological (modern) and kinship orientation.

Another apparent difference between the present results and those of Berlo, Lemert and Mertz is in the proportion of variance accounted for. Generally, the trust factor is high in both studies, but it reached a top limit of 13.9 per cent of the variance in the present study compared to 33.8 percent in the Berlo, Lemert and Mertz study. While Berlo, Lemert and Mertz obtained three factors which accounted for approximately 60 percent of the variance, it took five to seven factors to extract 50-60 percent of the variance in the present study.

The difference in proportion of variance extracted between the present study and the Berlo, Lemert and Mertz work may be a function of some differences in the designs. In the present study, Q-sort was used instead of semantic differential, forcing more discriminations by the respondents; foreign nationals were used as subjects instead of USA respondents; samples of respondents for each analysis were smaller; ideal-type (best-worst) sources were used as the concepts for judgments; and an effort was made to introduce some additional scales.

Even though there are differences, the present study and previous work highlight some common dimensions of source evaluation. The four dimensions which Berlo, Lemert and Mertz labeled safety, qualification,

dynamism and sociability appeared rather consistently across all the sample groups. A fifth dimension in the present study was described by the variables organized, systematic, comprehensible, etc. Some of these loaded on the first three factors in the Berlo, Lemert and Mertz work.

Further factoring broke the structures apart still more; sometimes in meaningful patterns and sometimes fracturing the patterns in ways that did not seem meaningful. One instance where further factoring seemed meaningful was in separating the dynamism factor into what might be called possession of power (strong, powerful) and use of power (active, energetic, courageous). In some situations this may not be a meaningful distinction; but if one is trying to understand what a source must do to improve his receivers' evaluation of him, it might be a necessary distinction to guide modification of his behavior.

While studies such as the present one call attention to specific elements people consider in evaluating sources, they do not go far enough to indicate under what conditions one factor becomes more important than another in determining how the receiver will respond to the source and his message. More work also is needed on the inter-relation of the various dimensions. One specific relationship that needs to be explored is whether dynamism is curvilinearly related to trust and friendliness. Which is worse, e.g., a high dynamism, low trust source or a low dynamism, low trust source when expertese is high?

B. Hypothesized Relationships

1. Comparison of Factor Structures Among Language/Cultural Groups --

a. The general rank ordering from $r_1s_1t_1$ to $r_2s_2t_2$ appeared with

the exception of the $r_2s_2t_2$ (non-English speaking Portuguese) group. It did not show the lowest agreement with other groups as predicted and this is difficult to explain.

As noted before, one of the difficulties in all of these comparisons was the lack of tests of statistical significance for coefficients of similarity. The effort made to counter this difficulty was to compare the measures from respondents' data with measures from four random Q-sorts. Two types of aggregating measures were used: (1) the sum of squared coefficients of similarity, and (2) the number of factors meeting the lower limit of best fit among the language/cultural groups. As shown on pages 92 and 104, the measures were consistently lower for the random decks. In addition the factor structures were compared visually for the appearance of the same variables across the various language/cultural groups.

Claims for support of the hypotheses were based on the consistency with which differences in coefficients of similarity were in the predicted direction, and on the number of coefficients meeting the lower limit of best fit criterion. The lower limit criterion was met by more of the comparisons predicted to most similar than by those predicted to be least similar under hypotheses one, four and five. Differences in coefficients of similarity were in the predicted direction on four of four comparisons for both hypotheses three and four; on both differences for hypothesis five; and on 18 of 20 pairs for hypothesis one.

Further confidence in the validity of this claim accrues when the differences in coefficients of similarity across the random Q-sort samples are compared. With hypotheses four and five, the range of

differences between the sums of squared coefficients of similarity for the pairs being compared was 0.40 to 1.07; in the random sorts the differences ranged from 0.01 to 0.38. This added confidence holds in hypothesis three when the comparisons are for the groups responding in mother tongues where the range is 0.53 to 0.61; but it does not hold when the groups respond in English where the range is only 0.05 to 0.12. Table 22, p. 104, shows the sums of the squared coefficients for the random sorts.

2. Discriminating Power of Terms --

This part of the analysis was more directed toward obtaining useful scales for future work than with testing the theoretic hypothesis. The t-test and analysis of variance were used, not to draw inferences about some hypothetical population, but to obtain a rigorous way of describing differences between respondents' scores on judgments of best source and judgments of worst source.

With this way of analyzing the data, the expertness and trustworthiness variables were dominant among those with the highest discriminating power. Variables from the other dimensions also discriminated well between best and worst sources; and the variables did this quite well across all the language/cultural groups.

In the rationale it was claimed that people might use common reference bases in the evaluations but categorize and label differently. While the evidence obtained in support of that notion was not dramatic, it was observable in the correlations of the discriminating power of the terms across language/cultural groups and in the 2-factor analysis of variance.

One of the things revealed in this analysis is the weakness of safe-dangerous, as a pair of variables to discriminate between best and worst

source. Without further analysis of the Berlo, Lemert and Mertz data or collecting additional data from a sample of USA respondents, one has no basis for knowing whether the difference in power of safe-dangerous is a cultural phenomenon or an artifact of the factor rotation in the Berlo, Lemert and Mertz analysis. That difference in results with safe-dangerous does demonstrate the value of going beyond the factor analysis in selecting scales that will discriminate between good and bad sources, or in selecting scales for any other kind of judgments.

3. Bipolarity of Responses --

This phase of the study, while somewhat incidental to the main purpose, has served two useful functions. It helped separate those scales which, according to the negative correlation data, participants were less likely to see as opposite characteristics of the sources they judged. As noted earlier, this will be useful in selecting scales for semantic differential use. This part of the study also helped focus attention on the problem of curtailed distributions which were reducing the correlations obtained.

C. Implications

1. For Source Evaluation by Communicators --

The findings from this study provide a set of source evaluation scales which may be used cross-culturally, and used with more confidence that we will be tapping the evaluative dimensions these people use in judging sources. The findings also indicate that while the general bases of source evaluation are similar, there appear to be variations in the semantic structures.

The communicator will do well to prepare himself for differences, such as the relative strength of the friendly, sympathetic, etc. factor. If we conclude there is a difference between two language/cultural groups when there is not, the consequences would seem to be less serious in the communication situation than if we were to infer there is no difference when, in fact, there is.

As happens to one involved with translations from one language to another, the differences in categorizing and labeling became painfully apparent. The lack of one-to-one translations was re-emphasized by the translation experiences and the findings of the study.

The findings suggest, too, that there is some gain in similarity of the bases of judgment when people have had a training experience in the same country and when they use the same language.

2. For Future Research --

The findings in this study have indicated that there are similarities among language/cultural groups in their evaluative structures, and that there are some differences too. It leaves unanswered how the structures may vary with concept classes. Osgood has found there are differences in dimensions of meaning with different concept classes. Is there a set of concept classes that is small enough in size that it would be feasible to obtain dimensions of meaning and sets of scales to use with people from different countries in work involving those concepts?

With the differences claimed in this study among the language/cultural groups, the question of differences among the sub-language/cultural groups within a country comes up. Is there variation in the structure

between status levels within a country, or even within a city? What difference, if any, would be found between the source evaluation structure for residents in Southside Chicago and University of Chicago families, e.g.?

To what extent, if at all, will scores on an evaluation instrument composed of the best scales identified in this study help predict receiver response to a message from different source types?

The findings seem to support the appropriateness of the general theoretic framework for attacking questions regarding differences in behavior among people from differing language/cultural groups. If this is so, the theoretic frame may fruitfully be used to explore other questions cross-culturally.

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APPENDIX A

Instructions to Staff and Respondents

Source Evaluation Study

Instructions to Respondents

Each of us talks to many people nearly every day in doing our work. We also receive letters, memos, pamphlets and other written items from many people. What we hear or read from some of these people we tend to accept without question. However, what we hear or read from others we do not accept without further checking. It is not just what is said, but "who says it" that determines whether we accept or reject what we hear or read.

Each of us can think of both kinds of people in our work. In this study, we are trying to learn the different ways people describe these two types of persons -- those whose statements we accept without question, and those whose statements we do not accept.

Please read the instructions carefully and try to do what is asked at each step. You probably will find it easiest to read one paragraph of the instructions, do what it asks; then go to the next step and so on. Work quickly, but carefully.

We think you will enjoy being part of this study.

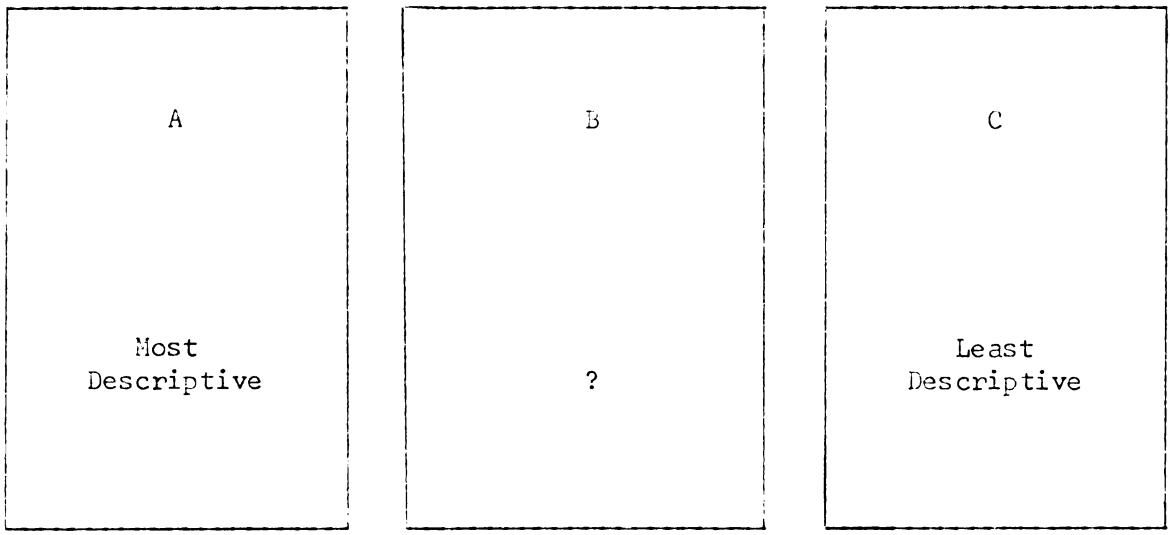
Instructions

First, within your field of work, think of a person whose statements you accept witnout question. Consider this person as your best source of messages.

Write that person's initials (or name) on the back of envelope "A".

Open envelope "A" and take out the cards you find inside. You will find a set of white cards, a set of orange cards, and three blue cards. The white cards each contain a word or phrase which some people have used to describe sources of messages in their field of work. We want you to use the white cards to describe the source whose initials you have written on the envelope.

Now, spread the blue cards on a table in front of you as follows:



On blue card A, place those white cards which you think best describe the source whose initials you wrote on the envelope.

On blue card C, place those white cards which you think least describe the source whose initials you wrote on the envelope.

On blue card B, place those cards which you have difficulty deciding whether to place on blue card A or on blue card C.

Now, spread the orange cards out in front of you so that they are in order from 1 to 9 as follows:

RANK ONE

LEAST DESCRIPTIVE

Place 3
white cards here.

RANK TWO

Place 5
white cards here.

RANK THREE

Place 8
white cards here.

RANK FOUR

Place 11
white cards here.

RANK FIVE

Place 12
white cards here.

RANK SIX

Place 11
white cards here.

RANK SEVEN

Place 8
white cards here.

RANK EIGHT

Place 5
white cards here.

RANK NINE

MOST DESCRIPTIVE

Place 3
white cards here.

Take the white cards from blue card A (most descriptive).

Select three of these white cards you believe most accurately describe the source whose initials you put on the envelope. Then put these three on orange card number 9. Now take the five cards you think next most accurately describe your source and put them on orange card number 8. Continue in this way going from most to least descriptive. Do this until you have used all the cards from blue card A.

Now take the white cards from blue card C (least descriptive). Select the three cards that you believe least accurately describe the source whose initials you wrote on the envelope; put these three cards on orange card number 1. Put on orange card number 2, the 5 white cards which you believe are next least accurate in describing your source. Continue this way until you have all the cards in order from least to most descriptive.

The pile on blue card B (?) are to be used to fill the middle categories, putting on each orange card the number of white cards stated in parentheses on the orange card.

When you have all the white cards sorted on top of the 9 orange cards, check each pile to be sure that you have the number of white cards asked for on each of the orange cards. If you have too many or too few on any of the orange cards, move the white cards (still keeping them ranked the way you want) so that you have the correct number in each pile.

When you finish sorting the white cards into the 9 piles, put the number two pile on top of the number one pile, number three on top of number two, and so on, ending with pile number 9 on top. Keep the cards in this order, put the rubber band around them and put them back in the small envelope in which you found them.

YOU ARE NOW READY FOR ENVELOPE "B"

Think of a person in your field of work whose statements you do not accept without checking. Consider this person as your worst source of messages.

Write that person's initials (or name) on envelope "B".

Now take the white cards from envelope "B" and put them in order from most descriptive to least descriptive of the person whose initials you have written. (REMEMBER, YOU ARE NOW DESCRIBING THE WORST SOURCE, i.e., THE PERSON WHOSE STATEMENTS YOU DO NOT ACCEPT WITHOUT CHECKING.)

Use the blue and orange cards, as you did with the best source, to help describe your source, putting on each of the orange cards the number of white cards indicated on that orange card.

When you have all the white cards sorted on top of the 9 orange cards, check each pile to be sure that you have the number of white cards asked for on each of the orange cards. If you have too many or too few on any of the orange cards, move the white cards (still keeping them ranked the way you want) so that you have the correct number in each pile.

When you finish sorting the white cards to describe the worst source, again put the number two pile on top of number one pile, number three pile on top of number two pile and so on until number nine pile is on top.

Put the rubber band around the cards, keeping them in order, and return them to envelope "B".

This completes the sorting, and there are just a few remaining questions which you can answer quickly.

Source Evaluation Study

Note to Field Staff

The purpose of this study is to explore some of the bases people use to judge sources of messages and to test some hypotheses about language and meaning. We want to know how the basis for judging message sources is affected by language and cultural differences.

One theoretic position holds that the basis for judgment is the same regardless of language; another position holds that the judgments are a function of language and will vary as language varies. We're trying to explore this with three different language groups -- Ibo and Yoruba in Nigeria, and Portuguese in Brazil. The findings also should be useful to extension workers, teachers, etc. in knowing how their audiences are likely to respond to different kinds of message sources.

Test materials for the respondents from whom you will collect data are packaged in sets for each respondent. Each of the 9 x 12 envelopes contains test materials, instruction sheets and questionnaire for one respondent. (The questionnaire is the last item to be completed by the respondent.)

To help you anticipate the kind of questions respondents ask and places where they may have difficulty with the procedure, I suggest that you complete a Q-sort with one of the decks of cards marked "sample". The instruction sheet should give you the information you need to complete the sort.

The words and phrases on the white cards were selected from those which we have found people use to describe sources of messages. They have been collected from persons speaking several different languages.

In administering the test materials, I suggest that you read through the first two pages of the instructions with the respondent. Then demonstrate arranging the rank cards and sorting. When the respondent finishes the sorting, be sure to check with him to see that he has the proper number of cards in each pile and has them stacked as directed. The order of stacking is important since the cards will be fed directly into the calculating equipment for machine tabulation.

Be sure to have the respondents open the "A" envelope first and complete the sort for "best source" before opening the "B" envelope. Be sure also that they tape the black protective cards around the set of IBM cards in the same way they found them. Then put the packet back in the envelope and seal it. When the "A" deck has been sorted and sealed in the envelope, the respondent is ready to open the "B" envelope and begin the sort to describe "worst source". Again check with him at the end of the sorting to see that the proper number is in each rank (pile), the cards properly stacked, the protective cards on each side of the deck, the rubber bands around the deck to keep the cards in order, and the deck sealed in the "B" envelope.

The deck number and respondent number at the top of the questionnaire should match the numbers on the envelope in which all the test materials are packaged. Please note on the outside of the package any discrepancies you find in the numbering.

When you have completed the data collection for a respondent, be sure the "A" set and the "B" set of cards and the questionnaire are put back in the same 9 x 12 envelope from which they were taken. Put a check mark on the outside of the package to indicate that the test packet has been completed.

Now return the package to the person from whom you received it so that it may be shipped back to Michigan State University, Department of Communication, East Lansing, Michigan 48823.

APPENDIX B

Characteristics of Respondents in Samples

Deck No. _____

Respondent No. _____

Now we need some information about you to help in grouping the responses on the card sorts which you have finished. Will you please answer the following questions:

___(8. WHAT IS YOUR AGE? (Check the line which includes your age.)

___ 25 years old or less
___ 26-35 years old
___ 36-45 years old
___ 46-55 years old
___ 56 years old or older

___(9. HOW MUCH FORMAL SCHOOLING HAVE YOU HAD?

___ Completed the equivalent of a bachelors degree in a university and have studied some beyond this degree.
___ Completed the equivalent of a bachelors degree, but no study beyond this.
___ Attended a university, but have not yet completed requirements for a degree.
___ Completed secondary school, but have not attended a university.
___ Attended secondary school, but have not completed requirements for graduation.
___ Attended elementary school, but not secondary school.
___ Other (specify other schooling) _____

_____

__(10. WHAT IS YOUR POSITION (OCCUPATION)? Please describe briefly what you do.

__(11. WHAT IS YOUR RELIGIOUS AFFILIATION?

___ Christianity
___ Islam
___ Other (Please list) _____
___ No religious affiliation

__(12. HOW MUCH AND WHAT KIND OF CONTACT HAVE YOU HAD WITH PERSONS FROM THE UNITED STATES OF AMERICA?

___ Have been in the USA for training or study for 6 months or longer.
___ Have been in the USA for study or training for 3-5 months.
___ Have been in the USA for study or training less than 3 months.
___ Have not been in the USA for training or study, but have worked or studied with a USA person in my own country.
___ Have not been to the USA for study or training and have never worked or studied with a person from the USA.
___ Other contact (please specify) _____

_____

(Please add any comments which you believe will help clarify the nature of your contact, if any, with USA persons.)

__(13a. WHAT ORGANIZATIONS (OF ANY TYPE) DO YOU BELONG TO OR OTHERWISE PARTICIPATE IN? (If none, write 'none'; otherwise list the organizations.)

13b. WHAT IS THE NATURE OF YOUR PARTICIPATION IN THESE ORGANIZATIONS? List offices held, committee assignments, and other activities.

__(14a. WHAT LANGUAGE DO YOU USE MOST IN YOUR WORK IN YOUR COUNTRY?_____

_____

14b. AT WHAT AGE DID YOU LEARN THIS LANGUAGE?_____

14c. HOW WELL DO YOU SPEAK AND READ THIS LANGUAGE?

___ very well
___ quite well
___ satisfactorily, but not well
___ poorly

__(15a. WHAT OTHER LANGUAGES, IF ANY, DO YOU USE IN YOUR WORK?_____

_____

15b. AT WHAT AGE DID YOU LEARN THIS LANGUAGE?_____

15c. HOW WELL DO YOU SPEAK AND READ THIS OTHER LANGUAGE?

___ very well
___ quite well
___ satisfactorily, but not well
___ poorly

__(16a. WHAT LANGUAGE DO YOU USE IN YOUR HOME?_____

16b. AT WHAT AGE DID YOU LEARN THIS LANGUAGE?_____

__(17a. HAVE YOU STUDIED LANGUAGES OTHER THAN THOSE YOU HAVE LISTED ABOVE?

___ yes
___ no

17b. IF YES, WHAT OTHER LANGUAGES HAVE YOU STUDIED?_____

_____

17c. HOW COMPETENT DO YOU FEEL IN THESE LANGUAGES?

Thank you very much for your help. If you would like a copy of the summary of the study results, print your name and address on the blank 3 x 5 card which you will find in the envelope. Give this card to the person administering the questionnaire.

Code for Deck Numbers

Deck No.

01 - 11	English - Ibo speakers responding in English with exposure to U.S.A.
02 - 12	English - Yoruba speakers responding in English with exposure to U.S.A.
03 - 13	English - Portuguese speakers responding in English with exposure to U.S.A.
04 - 14	English - Ibo speakers responding in Ibo with exposure to U.S.A.
05 - 15	English - Yoruba speakers responding in Yoruba with exposure to U.S.A.
06 - 16	English - Portuguese speakers responding in Portuguese with exposure to U.S.A.
21 - 31	English - Ibo speakers responding in English without exposure to U.S.A.
23 - 33	English - Portuguese speakers responding in English without exposure to U.S.A.
24 - 34	English - Ibo speakers responding in Ibo without exposure to U.S.A.
26 - 36	English - Portuguese speakers responding in Portuguese without exposure to U.S.A.
27 - 37	Portuguese only speakers responding in Portuguese without exposure to U.S.A.

Table 26 Age Level of Respondents

Age	Deck Number 01 - 11 No.	%	02 - 12 No.	%	03 - 13 No.	%	04 - 14 No.	%	05 - 15 No.	%	06 - 16 No.	%
25 Years or less	13	35.1	14	45.2	5	11.4	16	44.4	11	39.3	11	22.9
26 - 35	21	56.8	13	41.9	26	59.1	16	44.4	15	53.6	28	58.3
36 - 45	3	8.1	3	9.7	10	22.7	2	5.6	2	7.1	7	14.6
46 - 55	0	0.0	0	0.0	2	4.6	0	0.0	0	0.0	1	2.1
56 or older	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
No reply	0	0.0	1	3.2	1	2.3	2	5.6	0	0.0	1	2.1
TOTAL	37	100.0	31	100.0	44	100.1	36	100.0	28	100.0	48	100.0

Table 26 (continued)

Age	Deck Number 21 - 31 No.	%	23 - 33 No.	%	24 - 34 No.	%	26 - 36 No.	%	27 - 37 No.	%
25 Years or less	27	56.2	1	5.0	20	40.0	6	20.7	10	25.0
26 - 35	14	29.2	11	55.0	23	46.0	13	44.8	18	45.0
36 - 45	5	10.4	5	25.0	5	10.0	8	27.6	8	20.0
46 - 55	1	2.1	2	10.0	1	2.0	1	3.4	2	5.0
56 or older	0	0.0	0	0.0	0	0.0	0	0.0	1	2.5
No reply	1	2.1	1	5.0	1	2.0	1	3.4	1	2.5
TOTAL	48	100.0	20	100.0	50	100.0	29	99.9	40	100.0

Table 27 Years of Schooling Completed by Respondents

Years of Schooling	Deck Number 01 - 11 No.	%	02 - 12 No.	%	03 - 13 No.	%	04 - 14 No.	%	05 - 15 No.	%	06 - 16 No.	%
Bachelors degree plus	14	37.8	8	25.8	26	59.1	9	25.0	11	39.3	25	52.1
Bachelors degree	3	8.1	2	6.4	4	9.1	5	13.9	3	10.7	5	10.4
University, but no degree	15	40.5	18	58.1	5	11.4	18	50.0	11	39.3	10	20.8
Completed secondary school	4	10.8	2	6.4	7	15.9	1	2.8	3	10.7	4	8.3
Attended secondary school, but didn't complete	1	2.7	0	0.0	0	0.0	1	2.8	0	0.0	2	4.2
Elementary school only	0	0.0	0	0.0	1	2.3	0	0.0	0	0.0	1	2.1
No reply	0	0.0	1	3.2	1	2.3	2	5.6	0	0.0	1	2.1
TOTAL	37	99.9	31	99.9	44	100.1	36	100.1	28	100.0	48	100.0

Table 27 (continued)

Years of Schooling	Deck Number 21 - 31 No.	%	23 - 33 No.	%	24 - 34 No.	%	26 - 36 No.	%	27 - 37 No.	%
Bachelors degree plus	0	0.0	6	30.0	0	0.0	2	6.9	2	5.0
Bachelors degree	2	4.2	5	25.0	0	0.0	9	31.0	12	30.0
University, but no degree	3	6.3	5	25.0	0	0.0	4	13.8	8	20.0
Completed secondary school	22	45.8	1	5.0	9	18.0	9	31.0	13	32.5
Attended secondary school, but didn't complete	4	8.3	2	10.0	8	16.0	2	6.9	2	5.0
Elementary school only	16	33.3	0	0.0	32	64.0	1	3.4	2	5.0
No reply	1	2.1	1	5.0	1	2.0	2	6.9	1	2.5
TOTAL	48	100.0	20	100.0	50	100.0	29	99.9	40	100.0

Table 28 Religious Affiliation of Respondents

Religious Affiliation	Deck Number 01 - 11		02 - 12		03 - 13		04 - 14		05 - 15		06 - 16	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Christianity	34	91.9	24	77.4	37	84.1	32	88.9	25	83.3	41	85.4
Islam	0	0.0	4	12.9	0	0.0	0	0.0	2	7.1	0	0.0
Hindu	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Unitarian	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	2.1
Jewish	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	4.2
No religious affiliation	2	5.4	2	6.5	6	13.6	2	5.6	1	3.6	3	6.2
No reply	1	2.7	1	3.2	1	2.3	2	5.6	0	0.0	1	2.1
TOTAL	37	100.0	31	100.0	44	100.0	36	100.1	28	100.0	48	100.0

Table 28 (continued)

Religious Affiliation	Deck Number 21 - 31		23 - 33		24 - 34		25 - 36		27 - 37			
	No.	%	No.	%	No.	%	No.	%	No.	%		
Christianity	45	93.7	17	85.0	47	94.0	26	89.7	35	87.5		
Islam	0	0.0	0	0.0	1	2.0	0	0.0	0	0.0		
Hindu	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
Unitarian	1	2.1	1	5.0	0	0.0	1	3.4	4	10.0		
Jewish	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
No religious affiliation	1	2.1	1	5.0	1	2.0	1	3.4	0	0.0		
No reply	1	2.1	1	5.0	1	2.0	1	3.4	1	2.5		
TOTAL	48	100.0	20	100.0	50	100.0	29	99.9	40	100.0		

Table 29 Occupational Class of Respondents

Occupation	Deck Number 01 - 11		02 - 12		03 - 13		04 - 14		05 - 15		06 - 16	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Technical	9	24.3	7	22.6	24	53.3	7	19.4	15	53.6	8	16.7
Professional	0	0.0	0	0.0	7	15.6	0	0.0	0	0.0	2	4.2
Educator	4	10.3	5	16.1	6	13.3	1	2.8	3	10.7	23	47.9
Administrator	3	8.1	0	0.0	3	6.7	1	2.8	0	0.0	4	8.3
Skilled, nontechnical	2	5.4	1	3.2	2	4.4	0	0.0	0	0.0	4	8.3
Business	0	0.0	0	0.0	1	2.2	1	2.8	0	0.0	1	2.1
Government	4	10.8	2	6.4	1	2.2	4	11.1	2	7.2	0	0.0
Social Science	1	2.7	2	6.4	0	0.0	0	0.0	0	0.0	2	4.2
Student	13	35.1	13	41.9	0	0.0	18	50.0	8	28.6	3	6.3
No reply	1	2.7	1	3.2	1	2.2	4	11.1	0	0.0	1	2.1
TOTAL	37	99.9	31	99.8	45	99.9	36	100.0	28	100.1	48	100.1

Table 29 (continued)

Occupation	Deck Number 21 - 31		23 - 33		24 - 34		26 - 36		27 - 37	
	No.	%	No.	%	No.	%	No.	%	No.	%
Technical	1	2.1	4	20.0	0	0.0	4	13.8	6	15.0
Professional	0	0.0	1	5.0	0	0.0	1	3.5	0	0.0
Educator	18	37.5	3	15.0	13	26.0	5	17.2	10	25.0
Administrator	0	0.0	1	5.0	0	0.0	2	6.9	2	5.0
Skilled, nontechnical	18	37.5	1	5.0	23	46.0	11	37.9	3	7.5
Business	3	6.2	5	25.0	5	10.0	2	6.9	5	12.5
Government	7	14.6	2	10.0	8	16.0	1	3.5	7	17.5
Social Science	0	0.0	1	5.0	0	0.0	1	3.5	0	0.0
Student	0	0.0	0	0.0	0	0.0	0	0.0	1	2.5
No reply	1	2.1	2	10.0	1	2.0	2	6.9	6	15.0
TOTAL	48	100.0	20	100.0	50	100.0	29	100.1	40	100.0

Table 30 Exposure of Respondents to USA Training, to USA Personnel

Contact with USA Persons	Deck Number 01 - 11 No.	%	02 - 12 No.	%	03 - 13 No.	%	04 - 14 No.	%	05 - 15 No.	%	06 - 16 No.	%
USA Training-study 6 months or more	30	81.1	26	83.9	38	86.3	29	80.6	27	96.4	40	83.3
USA training-study 3-5 months	5	13.5	1	3.2	3	6.8	2	5.6	0	0.0	1	2.1
USA training-study less than 3 months	2	5.4	0	0.0	0	0.0	1	2.8	1	3.6	2	4.2
No USA training-study but worked or studied with USA person in own country	0	0.0	1*	3.2	0	0.0	0	0.0	0	0.0	2	4.2
No USA training-study, never worked or studied with person from USA	0	0.0	0	0.0	1*	2.3	0	0.0	0	0.0	0	0.0
No reply	0	0.0	3	9.7	2	4.6	4	11.1	0	0.0	3	6.3
TOTAL	37	100.0	31	100.0	44	100.0	36	100.1	28	100.0	48	100.1

Table 30 (continued)

Contact with USA Persons	Deck Number 21 - 31 No.	%	23 - 33 No.	%	24 - 34 No.	%	26 - 36 No.	%	27 - 37 No.	%
USA training-study 6 months or more	0	0.0	0	0.0	0	0.0	2	6.9	0	0.0
USA training-study 3-5 months	0	0.0	0	0.0	0	0.0	2	6.9	0	0.0
USA training-study less than 3 months	1	2.1	0	0.0	0	0.0	1	3.5	2	5.0
No USA training-study but worked or studied with USA person in own country	21	43.7	8	40.0	20	40.0	11	37.9	13	32.5
No USA training-study, never worked or studied with person from USA	24	50.0	11	55.0	29	58.0	11	37.9	22	55.0
No reply	2	4.2	1	5.0	1	2.0	2	6.9	3	7.5
TOTAL	48	100.0	20	100.0	50	100.0	29	100.0	40	100.0

* In USA with husband who was studying in USA.

Table 31 Involvement of Respondents in Formal Organizations

Involvement in Formal Organizations	Deck Number 01 - 11 No.	%	02 - 12 No.	%	03 - 13 No.	%	04 - 14 No.	%	05 - 15 No.	%	06 - 16 No.	%
Holds offices and/or committee posts in 3 or more organizations and engages in other special activities	1	2.7	1	3.2	0	0.0	1	2.8	1	3.6	0	0.0
Holds office and/or committee posts in 3 or more organizations	0	0.0	0	0.0	0	0.0	2	5.6	0	0.0	2	4.2
Holds offices and/or committee posts in 1-2 organizations	19	51.4	6	19.3	9	20.4	11	30.6	7	25.0	6	12.5
Member of one or more organizations	8	21.6	14	45.2	17	38.6	4	11.1	10	35.7	16	33.3
No organization membership or activity	8	21.6	8	25.8	12	27.3	12	33.3	7	25.0	21	43.8
No reply	1	2.7	2	6.5	6	13.6	6	16.7	3	10.7	3	6.2
TOTAL	37	100.0	31	100.0	44	99.9	36	100.1	28	100.0	48	100.0

Table 31 (continued)

Involvement in Formal Organizations	Deck Number 21 - 31 No.	%	23 - 33 No.	%	24 - 34 No.	%	26 - 35 No.	%	27 - 37 No.	%
Holds offices and/or committee posts in 3 or more organizations and engages in other special activities	1	2.1	0	0.0	0	0.0	0	0.0	0	0.0
Holds office and/or committee posts in 3 or more organizations	2	4.2	0	0.0	3	6.0	1	3.4	0	0.0
Holds offices and/or committee posts in 1-2 organizations	13	27.1	3	15.0	13	26.0	4	13.8	2	5.0
Member of one or more organizations	13	27.1	8	40.0	13	26.0	8	27.6	13	32.5
No organization membership or activity	17	35.4	7	35.0	17	34.0	15	51.7	22	55.0
No reply	2	4.2	2	10.0	4	8.0	1	3.4	3	7.5
TOTAL	48	100.1	20	100.0	50	100.0	29	99.9	40	100.0

Table 32 Language Facility of Respondents

Language Facility	Deck Number 01 - 11 No.	%	02 - 12 No.	%	03 - 13 No.	%	04 - 14 No.	%	05 - 15 No.	%	06 - 16 No.	%
Multi-lingual with high proficiency in all	1	2.7	3	9.7	3	6.8	4	11.1	2	7.1	4	8.3
Multi-lingual with high proficiency in more than one but not all	20	54.1	16	51.6	19	43.2	16	44.4	14	50.0	16	33.3
Multi-lingual with high proficiency in only one	2	5.4	0	0.0	12	27.3	0	0.0	0	0.0	14	29.2
Bilingual with high proficiency in both	13	35.1	10	32.3	3	6.8	14	38.9	12	42.9	2	4.2
Bilingual with high proficiency in one	1	2.7	0	0.0	6	13.6	0	0.0	0	0.0	4	8.3
Monolingual	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
No reply	0	0.0	2	6.4	1	2.3	2	5.6	0	0.0	8	16.5
TOTAL	37	100.0	31	100.0	44	100.0	36	100.0	28	100.0	48	99.9

Table 32 (continued)

Language Facility	Deck Number 21 - 31 No.	%	23 - 33 No.	%	24 - 34 No.	%	26 - 36 No.	%	27 - 37 No.	%
Multi-lingual with high proficiency in all	2	4.2	0	0.0	1	2.0	0	0.0	0	0.0
Multi-lingual with high proficiency in more than one but not all	6	12.5	8	40.0	10	20.0	3	10.3	4*	10.0
Multi-lingual with high proficiency in only one	1	2.1	1	5.0	9	18.0	4	13.8	5*	12.5
Bilingual with high proficiency in both	27	56.2	4	20.0	15	30.0	2	6.9	2*	5.0
Bilingual with high proficiency in one	11	22.9	4	20.0	14	28.0	8	27.6	0	0.0
Monolingual	0	0.0	0	0.0	0	0.0	0	0.0	13	32.5
No reply	1	2.1	3	15.0	1	2.0	12	41.4	16	40.0
TOTAL	48	100.0	20	100.0	50	100.0	29	100.0	40	100.0

* Not English

A Basis for Ranking Countries by Level of Technological Development

(Cross-Polity* Study Variables and Classification)

I. Urbanization

A. High (20% or more of population in cities of 20,000 or more and 12.5% or more of population in cities of 100,000 or more)
B. Low (less than 20% of population in cities of 20,000 or more and less than 12.5% of population in cities of 100,000 or more)

II. Agricultural Population

A. Low (16-33%) and very low (under 16%)
B. Medium (34-66%)
C. High (over 66%)

III. Per Capita Gross National Product

A. Very high ($1200 & above) and high ($600-1199)
B. Medium ($300-599)
C. Low ($150-299)
D. Very low (under $150)

IV. Economic Developmental Status

A. Developed (self-sustaining economic growth; GNP/capita over $600)
B. Intermediate (sustained and near self-sustaining economic growth)
C. Underdeveloped (reasonable prospect of attaining sustained economic growth by the mid-1970's) and very underdeveloped (little or no prospect of attaining sustained economic growth within the foreseeable future)

V. Literacy Rate

A. High (90% or above)
B. Medium (50-89%)
C. Low (10-49%) and very low (under 10%)

* Arthur S. Banks and Robert B. Textor, A Cross-Polity Survey, The M.I.T. Press, Cambridge, Massachusetts, 1963.

APPENDIX C

Terms People Used to Describe Best Source and Worst Source of Messages

Terms People Used to Describe Best Source and Worst Source of Messages

acquaintance (close)
active
adamant
adjustable
advises many people well
aggressive
ambitious
an author
an authority
appreciative (of my efforts)

bad
bad attitudes
bad behavior
bad personality
bad voice
beautiful
bold
broad knowledge

capable
careful
cautious
characterless
cheerful
Christian
colleague
common sense
compromising attitude
concise
conservative
content (with own ideas)
cooperative
courageous
courteous
cultured

deceitful
dependable
develops new ideas
devoted
diplomatic
discourteous
discreet
discriminatory in belief
dishonest
dislikes helping others
disobedient
disrespectful
dogmatic
drunkard
dull

easily annoyed
educated
efficient
elastic
elderly
energetic
enlightened
enthusiastic
envies neighbors
evil-hearted
experienced
expert

faithful
foolish
formal
friendly

gets along well with people
good
good attitude
good behavior
good character
good expression
good judgment
good personality
good voice
gossip
grateful

handsome
hard working
high-tempered
honest
humble

ignorant
ill expression
imaginative
immature
impatient
impolite
important
inaggressive
incapable
incomprehensible
indifferent
indolent
industrious
inefficient
inexperienced
inexpert

influential
informal
initiative
insincere
inspiring
intelligent
intolerant
irresponsible
irritable

jovial

keen sense of humor
kind
kind-hearted
knowledge (has)
knowledge (lacks)
knows nothing

lacks humor
lazy
learned
liar
listens
loud
loves others
loves to help others
low social class

mature
money-mad (loves money too much)

no initiative
no self-confidence
no self-respect
nonchalant
nonconformist
not courageous
not devoted
not influential
not learned
not listener
not moral
not progressive
not respecting
not willing to take responsibility

obedient
objective
open-minded

passive
patient
persuasive

Ph.D.
playboy
polite
poor common sense
poor judgment
popular
practiced exentsively in field
progressive (interested in progress)
pugnacious

qualified

reckless
reasons logically
relative (kin)
reliable
researcher
resourceful
respectable
respected
respectful
respecting
responsible
right-minded
rigid

sad
seeks welfare of country and people
self-centered
self-confident
selfish
self-respecting
sense of humor
shallow
sincere
skillful
slippery
sociable
stable
stout
stranger
stubborn
studied in field
stupid
sympathetic

tactful
tactless
talkative
tall
(good) teacher (produced many students)
thoughtful
timid
tolerant

trained
trustworthy
truthful

ugly
unapproachable
uncautious
uncompromising
uncooperative
uncultured
undependable
understandable
understanding
undiplomatic
uneducated
unenlightened
unenthusiastic
unfaithful
unfriendly
ungrateful
unhelpful
unimaginative
unimportant
unintelligent
unqualified
unreliable
unresourceful
unselfish
unsociable
unstable
unsuccessful
untrained
untrustworthy

vague
village-head

wayward
willing to help people
willing to learn
willing to take responsibility
wise
writer of books (in fields)

APPENDIX D

Terms Used for Q-sorts and Back-translations of Terms

Figure 5 Q-sort Items Given to Respondents to Describe Source

The English word will be listed first followed by the Portuguese translation, then the Ibo translation and the Yoruba translation for each of the 66 terms. (Each respondent used only one language.)

Competent
Competente
Onye mara ọlụ ya nke ọma
Samusamu; ye (fun ipo)

Incompetent
Incompetente
Onye namaghi ọlụ ya nke ọma
Ode; aisē samusamu

Educated
Instruido
Ọmara akwụkwọ
Omowe

Uneducated
Nao instruido
Ọmaghị akwụkwọ
Aimowe

Experienced
Experiente
Ọmutachara ine nile gbasara ọlụ ya
Tilóyē

Inexperienced
Inexperiente
Ọlụ amaghị ya aka
Ailoye

Trained
Treinado
Onye azụrụ azụ
Ti Kose

Untrained
Destreinado
Onye anazughị azụ
Koi Ko'se

Powerful
Poderoso
Onye nwere ike nke uku
L'agbara

Powerless
Impotente
Onye nenweghị ike
Ailagbara
(e.g. ati pase bi oga)

Strong
Forte
Onye siri ike
L'agbara

Weak
Fraco
Onye nesighi ike
Ailagbara

Active
Ativo
Onye dị nkọ
Ni itara

Passive
Passivo
Onye jụrụ oyi
Ai ni itara

Energetic
Enérgico
Onye nwere ume nke uku
Lagbara

Lazy
Preguicoso
Ume gnwụ
(ọdighị acho ilụ ọlụ)
Yole

Decisive
Firme
Ika okwu isi
Lepinnu

Indecisive
Indeciso
Onye n'akwusighị ike na okwu
Ailepinnu

Figure 5 (continued)

Courageous
Corajoso
Onye nadịghị atụ ẹgwu
Gboya

Cooperative
Cooperativo
Iji otu obi alụ ọlụ
Fowosowopo

Friendly
Amistoso
Onye neme enyi
Ré

Impartial
Imparcial
Ọna emenotu onye
dịka omere ibe ya
Ai soju saju

Kind
Bondoso
Onye obi-ọma
Loju ãnu, lãnu

Safe
Seguro
Ebe na adịghị atụ ẹgwu
(uzọ na adịghị ẹgwu)
Sẽ balopo

Clear
Claro
Owere anya
(oworo anya)
Òròre ye ni tara

Comprehensible
Compreensível
Ihe enwere ike ịghọta aghọta

Yéni

Honest
Honesto
Ụzọ ya ziri ezi
Sõtó

Cowardly
Covarde
Onye na'atụ ẹgwu nke ukụ
L'ojo

Uncooperative
Não cooperativo
Ọchọghị iji otu obi lua ọlụ
Takete

Unfriendly
Inamistoso
Onye nadịghị eme enyi
Aire

Partial
Parcial
Ọnaghị eme otu onye
dịka omere ibe ya
Soju saju

Cruel
Cruel
Onye obi jọrọ njọ
Alailoju ãnú, àilãnu

Dangerous
Perigoso
Ebe natu ẹgwu
(uzọ dị ẹgwu)
Ní jàmbá

Unclear
Obscuro
Owẹghị anya
(owọghị anya)
Orore ye ni baibai

Incomprehensible
Incompreensivel
Ihe ana enwẹghị ike ịghọta
aghọta
Awá máridi

Dishonest
Desonesto
Ụzọ ya ezighi ezi
Àisõtó

Figure 5 (continued)

Sincere
Sincero
Ono n'ezi okwu
Aini tanje; aise meji

Insincere
Insincero
Onoghi n'ezi okwu
Kitanje; nse meji

Trustworthy
Digno de confiança
Onye anatukwasi obi
Sẽ gbekele

Untrustworthy
Indigo de confiança
Onye anadighi atukwasi obi
Aise gbekele

Reliable
Previsível
Onye ana eji aka
Sẽ-fòkàntán

Unreliable
Imprevisivel
Onye anadighi eji aka
Aisẽgbekele

Intelligible
Inteligível
Onye enwere ike ighota ihe okwuru
Ni itūnò
(nitori pe owo re kunna)

Unintelligible
Ininteligível
Onye anenweghi ike ighota ihe okwuru
Ai ni itumo

Persuasive
Persuasivo
Onye ji okwu agbanwe obi madu

Le yinilo kan pada

Unpersuasive
Não persuasivo
Onye n'enweghi ike iji okwu gbanwe obi madu
Aile yinilo kan pada

Certain
Seguro de si
Ihe were anya
(ihe amara nke ọma)
Dáju

Uncertain
Inseguro
Ihe n'eweghi anya
(ihe ana amaghi nke ọma)
Ko-daju

Efficient
Eficiente
Inwe ike ilụ ọlụ nke ọma
Mose nise

Inefficient
Ineficiente
Enweghi ike ilụ ọlụ nke ọma
Aimosenise

Organized
Organizado
Ime ihe n'usoro
(Adighi eme aghara)
Seto

Disorganized
Desorganizado
Ime aghara

Dàrú

Systematic
Sistemático
Ime ihe n'usoro
Léto

Unsystematic
Assistemático
Adighi eme ihe n'usoro
Aileto

Figure 5 (continued)

Patient
Paciente
Inwe ndidi
Ni suru

Impatient
Impaciente
Anaghi enwe ndidi
Ai ni suru

Humble
Humilde
Onye di nwayo n'obi

Ni rele

Arrogant
Arrogante
Onye neme ngala
(Onye n'akpa nganga)
Saschan; aini rele

Up-to-date
Atualizado
Ihe ana eme ugbua
Bode nu; ti igba yi

Out-of-date
Destualizado
Ihe anadighi emekwa ugbua
Ko ye akoko yi

Approachable
Acessível
Onye ana enweta ngwa ngwa

Se-sunmo

Unapproachable
Inacessível
Onye ana adighi enweta ngwa ngwa
Ai se sunmo

Mature
Maturo
Ihe ruru ogo
Dagba to (nitorina) logbon

Immature
Imaturo
Ihe nerughi ogo
Aidagba to

Sympathetic
Simpático
Obi ebere
(onye nwere obi ebere)
Mikedun

Unsympathetic
Antipático
Obi ike
(Onye n'enweghi obi ebere)
Daju; aini kedun

Figure 6 Back-translations of the 66 Terms Which Survived Translations into the Three Languages with Reasonable Synonymity

English	Portuguese	Ibo	Yoruba
1. competent	competent	skilled	smart
2. incompetent	incompetent	unskilled	stupid
3. educated	educated	educated	educated
4. uneducated	uneducated	uneducated	uneducated
5. experienced	experienced	knows everything about his work	smart
6. inexperienced	inexperienced	doesn't know his work	stupid
7. trained	trained	trained	trained
8. untrained	untrained	untrained	untrained
9. powerful	mighty	a person with great ability, power or strength	strong
10. powerless	powerless	one without great ability, power or strength	weak
11. strong	strong	strong	strong, brave
12. weak	weak	one who is not strong	weak, cowardly
13. active	active	active	active
14. passive	passive	passive	passive
15. energetic	energetic	an untiring person	strong, energetic
16. lazy	lazy	doesn't want to work	lazy
17. decisive	firm	decisive	determined
18. indecisive	weak	indecisive	undetermined
19. courageous	courageous	fearless person	brave, courageous
20. cowardly	coward	cowardly	cowardly

Figure 6 (continued, p. 2)

English	Portuguese	Ibo	Yoruba
21. cooperative	cooperative	is one-minded in his work	cooperative
22. uncooperative	uncooperative	is not one-minded in his work	uncooperative
23. friendly	friendly	friendly	friendly
24. unfriendly	unfriendly	unfriendly	unfriendly
25. impartial	impartial	give equal treatment	impartial
26. partial	partial	to treat a person more than others	partial
27. kind	kind	good-hearted	kind
28. cruel	cruel	not good-hearted	cruel
29. safe	safe	not to be feared	approachable, easy to deal with
30. dangerous	dangerous	to be feared	dangerous
31. clear	clear	clear, understandable	clear
32. unclear	obscure	not clear, not understandable	unclear
33. comprehensible (understandable)	comprehensible	understandable	understandable
34. incomprehensible	incomprehensible	not understandable	incomprehensible
35. honest	honest	his ways are pure, straight	truthful
36. dishonest	dishonest	his ways are unclean, crooked	deceitful
37. sincere	sincere	stands for truth	without deception
38. insincere	insincere	doesn't stand for truth	deceitful
39. trustworthy	honest or trust	trustworthy	dependable, trustworthy
40. untrustworthy	not honest or trust	untrustworthy	undependable, untrustworthy
41. reliable	predictable, foreseen	reliable, trustworthy	trusting, reliable
42. unreliable	unpredictable, unforeseen	unexpected	untrustworthy, unreliable

Figure 6 (continued, p. 3)

English	Portuguese	Ibo	Yoruba
43. intelligible	intelligible	intelligible	meaningful, intelligible
44. unintelligible	unintelligible	unintelligible	unmeaningful, unintelligible
45. persuasive	persuasive	convincing, persuasive	can change another's mind
46. unpersuasive	not persuasive	unconvincing, unpersuasive	cannot change another's mind
47. certain	confident	certain	certain
48. uncertain	without faith	uncertain	uncertain
49. efficient	efficient	efficient	efficient
50. inefficient	inefficient	inefficient	inefficient
51. organized	organized	does things in orderly way	arrange, plan
52. disorganized	disorganized	disorderly or reckless	mixed-up, disorganized
53. systematic	systematic	systematic	arranged
54. unsystematic	unsystematic	unsystematic	disorderly
55. patient	patient	patient	patient
56. impatient	impatient	impatient	impatient
57. humble	humble	humble	humble
58. arrogant	arrogant	arrogant, proud	proud
59. up-to-date	up-to-date	what is done at present	modern
60. out-of-date	out-of-date	out-dated	out-of-date
61. approachable	approachable	easily accessible person	approachable
62. unapproachable	unapproachable	not easily accessible person	unapproachable
63. mature	mature	worthy, mature	old enough, therefore wise
64. immature	immature	unworthy, immature	too young
65. sympathetic	sympathetic	a kind fellow	to be sorry for
66. unsympathetic	antipathetical	hardhearted or unkind	not sorry for

APPENDIX E

Factor Matrices for Each Cell in Design

Table 33 Factor Matrix, Bilingual Ibo-English, English Response, USA Training, Best Source 7-Factor Rotation

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 1				
Untrustworthy	-0.77	0.20 F-5	0.69	0.86
Dishonest	-0.74	0.21 F-5	0.67	0.82
Dangerous	-0.60	0.18 F-4	0.44	0.82
Insincere	-0.66	-0.26 F-3	0.53	0.82
Patient	0.78	0.34 F-7	0.75	0.81
Unapproachable	-0.47	0.13 F-6	0.28	0.80
Partial	-0.66	-0.19 F-7	0.55	0.79
Unreliable	-0.76	0.32 F-5	0.77	0.74
Impartial	0.61	0.28 F-7	0.51	0.73
Reliable	0.65	0.37 F-6	0.64	0.67
Uncooperative	-0.64	0.34 F-7	0.62	0.66
Safe	0.58	0.35 F-5	0.60	0.56
Humble	0.48	0.27 F-5	0.43	0.53
Trustworthy	0.57	0.42 F-3	0.69	0.46
Arrogant	-0.38	0.37 F-4	0.58	0.25
Factor 2				
Efficient	-0.81	-0.18 F-7	0.69	0.94
Unsystematic	0.69	0.21 F-3	0.59	0.81
Comprehensible	-0.72	0.28 F-1	0.64	0.81
Competent	-0.76	0.27 F-3	0.79	0.73
Systematic	-0.72	-0.45 F-6	0.74	0.71
Disorganized	0.74	0.50 F-3	0.87	0.63
Organized	-0.53	-0.34 F-6	0.47	0.59
Experienced	-0.55	0.39 F-6	0.57	0.53
Incomprehensible	0.56	-0.51 F-7	0.62	0.51
Unintelligible	0.46	0.40 F-6	0.52	0.40
Unfriendly	-0.28	-0.22 F-1	0.24	0.34
Up-to-date	-0.47	0.46 F-1	0.68	0.33
Factor 3				
Persuasive	-0.58	-0.22 F-2	0.44	0.77
Friendly	-0.63	0.34 F-1	0.61	0.65
Unpersuasive	0.62	0.29 F-6	0.67	0.57
Sympathetic	-0.55	0.49 F-1	0.62	0.48
Kind	-0.53	-0.33 F-4,5	0.62	0.46
Honest	0.57	0.44 F-1	0.75	0.44
Cooperative	-0.51	0.42 F-1	0.62	0.42
Intelligible	-0.39	0.38 F-7	0.45	0.35
Decisive	0.47	-0.44 F-2	0.71	0.32

Table 33 (continued)

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 4				
Uneducated	-0.75	-0.37 F-3	0.57	0.88
Inexperienced	-0.72	0.29 F-2	0.62	0.83
Strong	-0.60	-0.21 F-1	0.47	0.76
Unsympathetic	0.66	-0.24 F-1,7	0.55	0.75
Clear	-0.62	-0.34 F-2	0.50	0.69
Untrained	-0.61	-0.43 F-7	0.62	0.80
Incompetent	-0.59	0.35 F-2	0.64	0.55
Impatient	0.37	-0.25 F-1	0.31	0.45
Factor 5				
Passive	-0.68	0.28 F-4	0.56	0.83
Cowardly	-0.67	0.25 F-3	0.52	0.72
Powerless	-0.63	-0.25 F-2	0.58	0.70
Weak	-0.67	0.24 F-3	0.68	0.67
Lazy	-0.53	0.32 F-3	0.43	0.55
Mature	-0.51	0.40 F-7	0.48	0.55
Powerful	0.60	-0.39 F-1	0.69	0.52
Indecisive	-0.41	-0.34 F-4	0.40	0.42
Inefficient	0.49	0.39 F-6	0.62	0.39
Uncertain	0.39	-0.37 F-1	0.52	0.29
Educated	-0.23	-0.21 F-1	0.19	0.27
Active	0.39	0.39 F-7	0.62	0.25
Factor 6				
Energetic	-0.73	0.13 F-2	0.59	0.90
Courageous	-0.68	-0.15 F-2	0.52	0.89
Out-of-date	-0.59	0.42 F-2	0.64	0.55
Sincere	0.58	0.52 F-1	0.68	0.49
Cruel	0.43	0.38 F-4	0.52	0.35
Factor 7				
Trained	0.63	0.25 F-6	0.50	0.89
Unclear	-0.63	0.26 F-2	0.53	0.74
Certain	-0.46	-0.35 F-2	0.49	0.43
Immature	-0.43	-0.40 F-1	0.44	0.42
Approachable	-0.32	0.29 F-2	0.33	0.31

Table 34 Factor Matrix, Bilingual Yoruba-English, English Response, USA Training, Best Source 7-Factor Rotation

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 1				
Organized	-0.76	0.17 F-6	0.69	0.85
Active	-0.68	0.23 F-2	0.58	0.82
Energetic	-0.61	-0.23 F-3	0.48	0.78
Trained	-0.69	-0.26 F-6	0.63	0.75
Persuasive	-0.68	0.33 F-2	0.61	0.75
Decisive	-0.69	-0.24 F-3,6	0.66	0.72
Clear	-0.72	0.28 F-5	0.72	0.72
Unintelligible	0.62	0.23 F-6	0.54	0.71
Systematic	-0.57	0.28 F-2	0.47	0.69
Comprehensible	-0.65	0.28 F-5	0.64	0.66
Disorganized	0.65	0.39 F-5	0.66	0.64
Honest	0.67	0.41 F-2	0.74	0.61
Inefficient	0.60	-0.43 F-6	0.66	0.54
Uncertain	0.62	-0.54 F-7	0.71	0.54
Humble	0.51	0.29 F-6	0.52	0.50
Sincere	0.44	0.39 F-2	0.39	0.50
Untrained	0.53	0.33 F-7	0.56	0.50
Certain	-0.52	-0.40 F-3	0.56	0.48
Inexperienced	0.51	0.41 F-7	0.61	0.42
Factor 2				
Untrustworthy	-0.79	0.09 F-4	0.64	0.97
Trustworthy	0.83	0.20 F-4	0.79	0.87
Unreliable	-0.68	-0.19 F-5	0.54	0.87
Insincere	-0.78	0.25 F-5	0.70	0.87
Efficient	-0.55	-0.26 F-4	0.44	0.69
Dishonest	-0.69	-0.43 F-6	0.72	0.66
Intelligible	-0.55	-0.29 F-1	0.54	0.56
Safe	0.60	-0.49 F-5	0.75	0.47
Patient	0.40	-0.33 F-1	0.37	0.43
Experienced	-0.51	-0.46 F-7	0.68	0.38
Educated	-0.45	-0.44 F-7	0.63	0.33
Reliable	0.43	0.38 F-1	0.68	0.25
Factor 3				
Weak	0.79	0.26 F-1	0.75	0.84
Powerless	0.71	-0.23 F-5	0.61	0.83
Unsympathetic	-0.65	-0.23 F-7	0.56	0.76
Cowardly	0.50	0.25 F-6	0.39	0.64
Unapproachable	-0.69	-0.41 F-4	0.76	0.62
Incomprehensible	-0.55	0.40 F-4	0.56	0.53
Approachable	0.54	0.35 F-5	0.57	0.51
Lazy	0.45	0.43 F-5	0.51	0.40
Sympathetic	0.48	0.35 F-2	0.62	0.37
Competent	0.37	-0.36 F-7	0.41	0.33

Table 34 (continued)

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 4				
Cooperative	0.75	0.22 F-1	0.66	0.85
Friendly	0.64	0.24 F-3	0.60	0.69
Out-of-date	-0.67	-0.33 F-7	0.67	0.67
Uncooperative	-0.56	0.35 F-7	0.53	0.58
Passive	-0.53	0.45 F-2	0.59	0.49
Factor 5				
Courageous	-0.60	-0.16 F-6	0.42	0.86
Powerful	-0.69	0.31 F-2	0.67	0.70
Up-to-date	0.64	0.35 F-4	0.69	0.59
Unclear	-0.57	0.32 F-6	0.57	0.57
Strong	-0.67	-0.50 F-1	0.80	0.55
Impartial	-0.51	0.40 F-6	0.72	0.36
Unsystematic	0.39	0.39 F-1	0.44	0.35
Factor 6				
Cruel	-0.78	-0.27 F-5	0.76	0.80
Partial	-0.53	0.24 F-5	0.37	0.76
Kind	0.68	0.36 F-2	0.67	0.70
Mature	-0.56	-0.31 F-7	0.51	0.60
Unfriendly	-0.56	0.40 F-7	0.63	0.49
Immature	0.41	0.23 F-1 -0.23 F-2	0.38	0.43
Unpersuasive	0.48	0.41 F-1	0.54	0.42
Arrogant	-0.38	-0.31 F-7	0.34	0.42
Dangerous	-0.38	-0.33 F-2	0.41	0.35
Factor 7				
Incompetent	0.78	0.42 F-1	0.85	0.72
Uneducated	0.61	0.43 F-1	0.69	0.55
Impatient	-0.46	-0.28 F-3	0.41	0.53
Indecisive	0.44	0.44 F-3	0.54	0.36

Table 35 Factor Matrix, Bilingual Portuguese-English, English Response, USA Training, Best Source 7-Factor Rotation

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 1				
Trustworthy	0.63	-0.16 F-6	0.48	0.84
Untrustworthy	-0.66	-0.25 F-2	0.58	0.76
Unreliable	-0.63	-0.23 F-6	0.54	0.72
Unsystematic	-0.65	0.37 F-5	0.68	0.62
Incompetent	-0.49	0.39 F-6	0.50	0.47
Immature	-0.51	-0.48 F-4	0.60	0.44
Reliable	0.47	-0.35 F-7	0.51	0.44
Up-to-date	0.56	-0.36 F-6	0-77	0.40
Organized	0.40	-0.37 F-2	0.50	0.32
Humble	0.38	0.29 F-6 -0.29 F-7	0.46	0.32
Factor 2				
Unfriendly	-0.79	0.08 F-1,3	0.64	0.97
Unsympathetic	-0.67	-0.23 F-6	0.57	0.79
Friendly	0.76	-0.27 F-4	0.74	0.77
Sympathetic	0.68	-0.33 F-3	0.63	0.73
Kind	0.60	0.30 F-1	0.50	0.71
Approachable	0.67	0.29 F-4	0.66	0.69
Safe	0.53	-0.30 F-6	0.43	0.66
Cooperative	0.58	-0.36 F-7	0.53	0.65
Unapproachable	-0.58	-0.38 F-4	0.54	0.62
Uncooperative	-0.53	0.29 F-7	0.46	0.62
Insincere	-0.58	0.34 F-7	0.62	0.55
Dangerous	-0.52	0.43 F-4	0.55	0.48
Cruel	-0.50	0.46 F-4	0.64	0.40
Sincere	0.51	-0.48 F-7	0.69	0.38
Factor 3				
Decisive	0.81	0.21 F-1	0.77	0.85
Powerful	0.66	0.22 F-7	0.52	0.85
Partial	0.59	-0.18 F-1	0.44	0.80
Passive	-0.55	-0.19 F-4,6	0.42	0.72
Weak	-0.56	0.30 F-6	0.46	0.69
Strong	0.66	0.26 F-4	0.67	0.65
Powerless	-0.54	0.32 F-6	0.45	0.65
Indecisive	-0.60	0.31 F-5,7	0.56	0.64
Energetic	0.50	-0.29 F-6	0.39	0.63
Active	0.57	-0.28 F-2,7	0.58	0.55
Courageous	0.46	0.31 F-1	0.40	0.53
Impartial	-0.37	0.29 F-1	0.27	0.29
Cowardly	-0.42	-0.28 F-2	0.39	0.45

Table 35 (continued)

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 4				
Persuasive	0.71	0.09 F-3,6	0.52	0.96
Unpersuasive	-0.78	-0.16 F-3	0.66	0.93
Certain	0.57	-0.26 F-5	0.50	0.65
Uncertain	-0.59	0.37 F-5	0.56	0.63
Out-of-date	-0.54	0.30 F-6	0.59	0.50
Inefficient	-0.58	0.54 F-7	0.73	0.47
Untrained	-0.50	0.48 F-6	0.57	0.44
Mature	0.48	0.34 F-2	0.56	0.41
Factor 5				
Unclear	0.77	-0.21 F-4	0.67	0.88
Clear	-0.74	0.21 F-3	0.62	0.88
Intelligible	-0.69	-0.20 F-6	0.58	0.84
Unintelligible	0.71	-0.25 F-1	0.63	0.79
Incomprehensible	0.69	-0.26 F-2	0.64	0.76
Systematic	-0.51	0.41 F-1	0.50	0.52
Comprehensible	-0.54	-0.41 F-7	0.65	0.45
Disorganized	0.49	-0.45 F-1	0.59	0.41
Factor 6				
Trained	-0.80	0.09 F-5	0.65	0.98
Experienced	-0.44	-0.34 F-5	0.36	0.54
Educated	-0.55	0.31 F-2	0.57	0.53
Inexperienced	0.54	-0.37 F-4	0.55	0.52
Uneducated	0.52	-0.41 F-2	0.64	0.43
Lazy	0.46	0.44 F-7	0.57	0.38
Factor 7				
Honest	-0.73 F-7	0.29 F-1	0.68	0.78
Competent	-0.65	-0.53 F-6	0.80	0.54
Impatient	0.56	0.32 F-5	0.60	0.52
Arrogant	0.56	-0.45 F-2	0.63	0.51
Efficient	-0.56	0.33 F-3	0.64	0.49
Dishonest	0.59	-0.44 F-1	0.73	0.47
Patient	-0.58	-0.43 F-5	0.73	0.45

Table 36 Factor Matrix, Bilingual Ibo-English, Ibo Response, USA Training, Best Source 7-Factor Rotation

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 1				
Trustworthy	-0.79	-0.23 F-2	0.73	0.85
Untrustworthy	0.81	0.19 F-4	0.79	0.84
Reliable	-0.69	-0.18 F-3	0.56	0.83
Indecisive	0.55	0.29 F-2	0.42	0.73
Dishonest	0.72	0.30 F-4	0.74	0.70
Honest	-0.70	-0.33 F-4	0.72	0.68
Uncooperative	0.69	0.30 F-6	0.72	0.66
Unsympathetic	0.59	0.33 F-6	0.54	0.65
Sincere	-0.66	-0.37 F-2	0.73	0.59
Arrogant	0.47	0.29 F-4	0.38	0.57
Unreliable	0.54	-0.31 F-3	0.57	0.52
Safe	-0.50	-0.38 F-4	0.52	0.48
Insincere	0.60	-0.39 F-6	0.81	0.45
Partial	0.34	0.33 F-2	0.29	0.39
Disorganized	0.39	0.33 F-6	0.39	0.38
Dangerous	0.36	0.35 F-3	0.39	0.33
Humble	-0.41	-0.38 F-3	0.55	0.31
Untrained	0.44	0.41 F-2	0.71	0.27
Unsystematic	0.42	-0.41 F-5	0.66	0.27
Factor 2				
Strong	-0.77	-0.16 F-1	0.68	0.88
Powerful	-0.76	-0.21 F-1	0.73	0.80
Intelligible	-0.52	-0.22 F-6	0.41	0.65
Uneducated	0.66	0.43 F-5	0.69	0.64
Active	-0.49	-0.28 F-6	0.42	0.58
Educated	-0.61	0.43 F-4	0.67	0.55
Competent	-0.66	-0.43 F-5	0.80	0.53
Unpersuasive	0.53	0.42 F-4	0.55	0.52
Experienced	-0.53	0.41 F-7	0.62	0.45
Trained	-0.56	-0.55 F-1	0.71	0.43
Incomprehensible	0.53	-0.45 F-7	0.71	0.40
Unintelligible	0.45	-0.34 F-3	0.64	0.31
Factor 3				
Inexperienced	0.65	0.17 F-4	0.48	0.88
Efficient	-0.63	-0.23 F-1	0.48	0.83
Systematic	-0.57	-0.18 F-1	0.40	0.81
Out-of-date	0.56	0.43 F-2	0.55	0.56
Incompetent	0.53	0.27 F-2	0.49	0.56
Organized	-0.50	-0.37 F-7	0.55	0.46
Immature	0.47	0.45 F-2	0.52	0.42
Up-to-date	0.40	0.38 F-5	0.40	0.40
Uncertain	0.47	-0.46 F-7	0.77	0.29
Persuasive	-0.33	-0.33 F-4	0.40	0.28

Table 36 Factor Matrix, Bilingual Ibo-English, Ibo Response, USA Training, Best Source 7-Factor Rotation

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 4				
Certain	-0.83	-0.26 F-5	0.78	0.87
Comprehensible	-0.65	0.21 F-5	0.54	0.78
Approachable	-0.59	-0.38 F-3	0.59	0.58
Inefficient	0.55	0.47 F-2	0.64	0.47
Impatient	0.55	0.50 F-1	0.45	0.45
Cooperative	-0.45	0.38 F-7	0.51	0.39
Unapproachable	0.46	0.41 F-3	0.59	0.35
Energetic	-0.47	-0.45 F-2	0.74	0.30
Factor 5				
Weak	0.79	-0.25 F-3 0.25 F-7	0.76	0.82
Powerless	0.64	0.26 F-2	0.59	0.71
Passive	0.58	0.23 F-6	0.52	0.65
Cowardly	0.69	0.33 F-1	0.77	0.62
Decisive	-0.48	-0.42 F-1	0.48	0.47
Impartial	-0.28	-0.35 F-6	0.59	0.25
Factor 6				
Unfriendly	0.67	0.29 F-3	0.56	0.79
Mature	-0.67	0.29 F-3	0.61	0.73
Unclear	0.63	-0.33 F-7	0.58	0.68
Clear	-0.54	-0.34 F-4	0.59	0.49
Courageous	0.56	-0.48 F-2	0.73	0.43
Friendly	-0.49	-0.43 F-4	0.63	0.38
Factor 7				
Lazy	-0.56	0.20 F-3	0.42	0.75
Sympathetic	0.65	-0.38 F-1	0.70	0.61
Cruel	-0.56	0.35 F-1	0.61	0.51
Kind	0.59	-0.46 F-1	0.75	0.47
Patient	0.51	-0.48 F-1	0.69	0.38

Table 37 Factor Matrix, Bilingual Yoruba-English, Yoruba Response, USA Training, Best Source 6-Factor Rotation

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 1				
Honest	-0.80	-0.13 F-6	0.68	0.95
Reliable	-0.70	0.17 F-2	0.57	0.87
Courageous	-0.58	0.24 F-3	0.40	0.85
Friendly	0.57	-0.17 F-6	0.38	0.85
Up-to-date	0.64	-0.21 F-2	0.53	0.78
Clear	-0.74	0.30 F-6	0.72	0.76
Dishonest	0.66	0.28 F-4	0.63	0.69
Indecisive	0.63	-0.32 F-6	0.59	0.69
Trustworthy	-0.73	0.35 F-3	0.82	0.66
Intelligible	-0.62	0.43 F-5	0.63	0.61
Unclear	0.53	0.39 F-6	0.49	0.57
Partial	0.47	0.34 F-5	0.42	0.53
Untrustworthy	0.57	0.42 F-3	0.71	0.46
Unintelligible	0.46	0.43 F-4	0.63	0.33
Passive	0.35	-0.33 F-2	0.37	0.33
Factor 2				
Impatient	-0.68	0.25 F-1	0.55	0.83
Sympathetic	0.50	-0.16 F-3	0.31	0.83
Humble	0.67	0.22 F-3	0.55	0.82
Approachable	0.71	-0.27 F-4	0.61	0.81
Unsympathetic	-0.60	0.30 F-3	0.48	0.76
Mature	0.70	0.29 F-6	0.70	0.69
Patient	0.71	-0.36 F-1	0.74	0.69
Arrogant	-0.63	0.31 F-4	0.58	0.69
Untrained	0.56	0.24 F-1	0.45	0.69
Active	0.52	0.30 F-3	0.44	0.62
Immature	-0.68	-0.46 F-6	0.75	0.62
Kind	0.52	0.34 F-3	0.51	0.53
Organized	0.38	0.27 F-5	0.28	0.52
Uncertain	0.45	-0.28 F-5	0.40	0.51
Cowardly	0.29	0.43 F-6	0.52	0.47
Trained	-0.37	-0.27 F-1	0.39	0.35
Factor 3				
Energetic	0.59	0.17 F-1	0.41	0.84
Lazy	-0.51	0.17 F-2	0.32	0.81
Efficient	0.74	-0.30 F-6	0.75	0.73
Incompetent	-0.75	0.33 F-1	0.80	0.70
Uneducated	-0.53	0.28 F-4	0.43	0.65
Strong	0.55	-0.40 F-1	0.49	0.62
Incomprehensible	-0.47	0.30 F-1 -0.30 F-2	0.43	0.52
Comprehensible	-0.48	0.38 F-5	0.49	0.47
Powerless	-0.49	-0.42 F-6	0.52	0.46
Weak	-0.50	0.38 F-5	0.57	0.44

Table 37 (continued)

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 4				
Unreliable	0.81	0.17 F-5	0.75	0.88
Inefficient	0.72	-0.25 F-3	0.65	0.79
Uncooperative	-0.52	0.21 F-1	0.39	0.71
		-0.21 F-6		
Unpersuasive	0.62	-0.35 F-3	0.56	0.70
Unsystematic	0.73	0.36 F-1	0.79	0.67
Safe	-0.53	-0.36 F-6	0.46	0.61
Unfriendly	0.51	-0.38 F-2	0.50	0.52
Impartial	0.47	-0.33 F-1	0.45	0.50
Disorganized	0.51	-0.33 F-3	0.57	0.45
Systematic	-0.47	-0.40 F-1	0.52	0.42
Cooperative	0.34	0.30 F-5	0.31	0.37
		-0.30 F-6		
Unapproachable	0.46	-0.45 F-2	0.75	0.29
Factor 5				
Educated	0.74	0.10 F-4	0.56	0.97
Experienced	0.84	0.18 F-2	0.76	0.92
Competent	0.64	-0.28 F-6	0.56	0.74
Insincere	0.33	-0.32 F-2	0.29	0.39
Inexperienced	-0.45	-0.45 F-3	0.53	0.39
Decisive	0.41	-0.36 F-1	0.45	0.38
Persuasive	0.38	-0.37 F-1	0.51	0.29
Factor 6				
Sincere	-0.70	-0.17 F-1	0.55	0.90
Out-of-date	-0.66	-0.23 F-1	0.61	0.70
Powerful	0.54	-0.28 F-1	0.43	0.68
Dangerous	0.39	0.25 F-4	0.29	0.53
Cruel	0.38	-0.29 F-3	0.29	0.50
Certain	0.51	0.47 F-5	0.71	0.36

Table 38 Factor Matrix, Bilingual Portuguese-English, Portuguese Response, USA Training, Best Source 7-Factor Rotation

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 1				
Immature	-0.65	0.30 F-7	0.55	0.76
Mature	0.57	-0.32 F-4	0.49	0.67
Uncooperative	0.46	-0.18 F-4	0.34	0.63
		0.18 F-5		
Kind	-0.59	-0.39 F-2	0.60	0.58
Unintelligible	-0.50	-0.29 F-6	0.48	0.53
Intelligible	0.44	0.33 F-5	0.38	0.52
Cooperative	-0.36	-0.30 F-5	0.50	0.27
Indecisive	-0.43	-0.42 F-5	0.70	0.26
		0.42 F-7		
Factor 2				
Strong	0.50	-0.12 F-6	0.27	0.93
Friendly	-0.72	-0.21 F-1	0.58	0.90
Unsympathetic	0.60	-0.22 F-1	0.46	0.79
Weak	-0.56	-0.23 F-5	0.41	0.76
Unfriendly	0.54	-0.19 F-5	0.40	0.73
Courageous	0.44	0.32 F-1	0.34	0.57
Cowardly	-0.53	0.34 F-3	0.51	0.55
Energetic	0.51	0.36 F-5	0.53	0.48
Arrogant	0.43	0.27 F-5	0.40	0.46
Lazy	-0.50	0.33 F-1	0.54	0.46
Approachable	-0.57	-0.48 F-4	0.71	0.46
Sympathetic	-0.45	-0.31 F-5	0.45	0.44
Humble	-0.37	-0.30 F-1	0.41	0.33
Factor 3				
Educated	0.49	-0.12 F-6	0.26	0.91
Trained	0.69	-0.18 F-1	0.60	0.80
Uneducated	-0.56	0.22 F-1	0.41	0.76
Inexperienced	-0.51	-0.27 F-1	0.36	0.72
Untrained	-0.50	0.25 F-7	0.38	0.67
Up-to-date	0.60	0.29 F-1	0.55	0.66
Experienced	0.55	0.24 F-1	0.49	0.61
Passive	-0.41	-0.28 F-2	0.29	0.56
Incompetent	-0.57	0.32 F-1	0.59	0.55
Competent	0.46	0.43 F-2	0.43	0.45
Unpersuasive	-0.46	-0.37 F-5	0.61	0.34

Table 38 (continued)

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 4				
Reliable	-0.72	-0.13 F-6	0.58	0.90
Impatient	0.72	0.16 F-2	0.62	0.83
Unreliable	0.61	-0.25 F-1	0.46	0.80
Patient	-0.63	-0.38 F-2	0.66	0.60
Out-of-date	-0.57	-0.39 F-1	0.58	0.56
Powerless	0.45	0.26 F-3	0.39	0.52
Powerful	0.32	0.25 F-5	0.25	0.41
Insincere	-0.42	0.35 F-5	0.54	0.33
Factor 5				
Untrustworthy	0.72	0.12 F-3	0.58	0.91
		-0.12 F-7		
Sincere	-0.66	0.17 F-1	0.50	0.88
Trustworthy	-0.59	-0.21 F-2	0.45	0.78
Dangerous	0.58	0.30 F-1	0.50	0.67
Persuasive	0.47	0.37 F-2	0.49	0.46
Cruel	0.49	0.33 F-1	0.52	0.45
Honest	-0.42	0.36 F-2	0.64	0.27
Factor 6				
Impartial	-0.75	-0.13 F-4	0.58	0.96
Partial	0.73	0.12 F-2	0.56	0.93
Unclear	-0.50	-0.37 F-1	0.47	0.52
Clear	0.53	0.46 F-1	0.69	0.40
Unapproachable	0.46	0.41 F-2	0.54	0.39
Dishonest	0.51	0.43 F-5	0.72	0.37
Comprehensible	0.28	0.27 F-1	0.31	0.25
		-0.27 F-2		
Factor 7				
Disorganized	0.76	0.12 F-3	0.62	0.93
Organized	-0.74	-0.19 F-4	0.65	0.85
Inefficient	0.66	-0.22 F-4	0.52	0.84
Efficient	-0.71	0.30 F-3	0.66	0.76
Systematic	-0.66	0.31 F-5	0.73	0.59
Uncertain	0.59	-0.39 F-1	0.60	0.58
Certain	-0.51	0.36 F-1	0.56	0.47
Decisive	-0.56	0.42 F-2	0.69	0.45
Active	-0.47	0.38 F-2	0.58	0.37
Incomprehensible	-0.30	-0.27 F-1	0.25	0.36
Unsystematic	0.41	-0.37 F-3	0.59	0.29
Safe	-0.41	-0.35 F-5	0.62	0.27

Table 39 Factor Matrix, Bilingual Ibo-English, English Response, Without USA Training, best Source 7-Factor Rotation

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 1				
Immature	0.66	-0.18 F-7	0.51	0.87
Sympathetic	-0.75	-0.27 F-3	0.63	0.83
Patient	-0.59	-0.38 F-7	0.54	0.64
Impatient	0.52	0.25 F-5	0.24	0.64
Up-to-date	-0.57	-0.29 F-3	0.58	0.57
Out-of-date	0.44	-0.43 F-7	0.47	0.41
Experienced	-0.40	0.40 F-2	0.49	0.33
Unsystematic	0.47	0.43 F-2	0.70	0.32
Trained	-0.43	0.39 F-2	0.65	0.28
Factor 2				
Lazy	-0.71	0.14 F-1	0.53	0.93
Incompetent	-0.58	0.25 F-7	0.46	0.73
Untrained	-0.68	-0.29 F-4	0.63	0.73
Cowardly	-0.60	0.33 F-4	0.55	0.67
Weak	-0.54	-0.29 F-5	0.46	0.63
Arrogant	0.49	0.30 F-3	0.44	0.54
Incomprehensible	-0.41	-0.23 F-1	0.32	0.52
Factor 3				
Friendly	-0.78	-0.17 F-4	0.66	0.92
Unfriendly	0.73	0.16 F-4	0.59	0.90
Kind	-0.70	-0.25 F-4	0.61	0.80
Uncooperative	0.63	0.26 F-5	0.57	0.71
Unpersuasive	0.64	0.27 F-2	0.59	0.70
Approachable	-0.52	-0.24 F-1	0.41	0.66
Cooperative	-0.63	0.31 F-2,7	0.65	0.61
Mature	0.45	-0.22 F-1,5	0.40	0.51
Unsympathetic	0.52	0.50 F-1	0.53	0.46
Persuasive	-0.42	0.30 F-7	0.39	0.45
Systematic	0.39	-0.33 F-1	0.49	0.31
Factor 4				
Unreliable	0.78	0.22 F-1	0.68	0.89
Untrustworthy	0.59	0.24 F-2	0.41	0.84
Powerless	-0.43	-0.17 F-5	0.24	0.78
Dishonest	0.57	0.27 F-3	0.43	0.75
Insincere	0.60	-0.25 F-7	0.53	0.68
Uneducated	-0.59	-0.32 F-2	0.61	0.58
Cruel	0.46	-0.28 F-2	0.38	0.55
Dangerous	0.50	0.36 F-7	0.50	0.50
Trustworthy	-0.50	-0.39 F-7	0.54	0.46
Reliable	-0.52	0.50 F-6	0.63	0.43
Impartial	-0.38	0.38 F-7	0.49	0.29

Table 39 (continued)

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 5				
Disorganized	0.65	0.15 F-4	0.47	0.90
Intelligible	-0.70	0.34 F-6	0.68	0.71
Competent	-0.64	-0.31 F-6	0.64	0.63
Inexperienced	0.65	-0.40 F-2	0.69	0.62
Decisive	-0.55	0.33 F-1	0.48	0.61
Efficient	-0.49	-0.27 F-1	0.40	0.60
Unintelligible	0.48	0.31 F-1	0.42	0.55
Partial	0.39	-0.34 F-7	0.37	0.42
Humble	0.43	-0.38 F-1	0.46	0.41
Indecisive	0.25	-0.19 F-4	0.16	0.40
Inefficient	0.40	0.35 F-3	0.46	0.34
Factor 6				
Powerful	-0.67	0.31 F-4	0.61	0.73
Sincere	0.60	-0.24 F-4	0.52	0.68
Uncertain	0.57	0.37 F-2	0.51	0.65
Strong	-0.46	-0.38 F-3	0.42	0.51
Honest	0.44	-0.31 F-4	0.38	0.51
Unclear	0.52	0.37 F-7	0.54	0.50
Passive	0.45	-0.31 F-7	0.41	0.49
Unapproachable	-0.44	0.37 F-1	0.40	0.47
Courageous	-0.45	0.42 F-2	0.56	0.37
Factor 7				
Energetic	0.72	0.19 F-1	0.59	0.89
Organized	-0.65	-0.28 F-5	0.59	0.71
Certain	-0.63	-0.33 F-6	0.60	0.67
Safe	-0.54	-0.29 F-4	0.46	0.63
Clear	-0.59	-0.29 F-2	0.55	0.63
Educated	0.63	-0.36 F-5	0.70	0.57
Comprehensible	-0.44	-0.34 F-5	0.39	0.49
Active	0.45	0.32 F-2	0.53	0.38

Table 40 Factor Matrix, Bilingual Portuguese-English, English Response, Without USA Training, Best Source 6-Factor Rotation

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 1				
Impatient	-0.82	0.10 F-6	0.69	0.96
Lazy	0.73	-0.20 F-6	0.61	0.88
Patient	0.58	-0.24 F-6	0.45	0.74
Decisive	-0.76	-0.44 F-3	0.83	0.69
Indecisive	0.81	0.50 F-3	0.69	0.54
Strong	-0.63	0.41 F-3	0.79	0.50
Unpersuasive	-0.48	-0.37 F-2	0.49	0.48
Clear	-0.45	0.39 F-4	0.52	0.39
Powerless	0.47	-0.46 F-3	0.62	0.36
Factor 2				
Educated	-0.82	-0.35 F-5	0.83	0.81
Out-of-date	-0.77	-0.38 F-5	0.77	0.76
Untrustworthy	-0.65	0.36 F-1	0.63	0.67
Persuasive	0.67	0.37 F-1	0.67	0.66
Incomprehensible	0.53	-0.26 F-5	0.43	0.65
Comprehensible	-0.68	-0.30 F-6	0.71	0.65
Uneducated	0.72	-0.35 F-4	0.83	0.63
Up-to-date	0.69	0.43 F-6	0.78	0.60
Systematic	-0.53	0.37 F-6	0.56	0.49
Certain	0.51	0.40 F-6	0.60	0.43
Courageous	0.41	0.38 F-3	0.45	0.37
Factor 3				
Impartial	-0.51	-0.10 F-6	0.29	0.91
Disorganized	0.76	0.17 F-2	0.67	0.85
Active	-0.67	-0.31 F-1	0.62	0.72
Energetic	-0.74	-0.34 F-1	0.77	0.71
Inefficient	0.62	-0.31 F-2	0.61	0.64
Weak	-0.69	-0.49 F-2	0.85	0.56
Passive	0.36	-0.26 F-4	0.26	0.50
Organized	-0.47	0.43 F-5	0.49	0.46
Partial	0.55	0.48 F-6	0.67	0.46
Efficient	-0.46	0.44 F-2	0.47	0.45
Kind	0.56	0.51 F-6	0.75	0.42
Trained	-0.56	0.47 F-4	0.77	0.41

Table 40 (continued)

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 4				
Competent	0.75	-0.26 F-3	0.66	0.84
Experienced	0.78	-0.31 F-5	0.81	0.76
Sincere	-0.77	-0.38 F-6	0.81	0.73
Inexperienced	-0.67	0.39 F-1	0.69	0.65
Incompetent	-0.74	0.38 F-1	0.87	0.62
Cruel	0.57	-0.40 F-3	0.51	0.62
Honest	-0.69	-0.33 F-6	0.77	0.61
Unclear	-0.66	0.39 F-1	0.73	0.59
Untrained	-0.64	-0.44 F-6	0.70	0.59
Insincere	0.54	0.31 F-5	0.51	0.58
Arrogant	0.54	-0.43 F-1	0.62	0.47
Dangerous	0.40	0.36 F-1	0.38	0.44
Unfriendly	0.46	-0.44 F-3	0.51	0.41
Friendly	-0.53	0.52 F-3	0.75	0.38
Factor 5				
Intelligible	0.78	-0.19 F-1	0.67	0.90
Safe	-0.78	-0.17 F-2	0.68	0.90
Unintelligible	-0.73	-0.18 F-6	0.55	0.82
Mature	-0.53	0.31 F-4	0.55	0.52
Dishonest	0.56	0.50 F-4	0.66	0.48
Cowardly	0.53	-0.45 F-3	0.65	0.43
Powerful	-0.56	0.47 F-6	0.74	0.42
Uncertain	-0.49	-0.46 F-2	0.69	0.35
Unsystematic	-0.51	-0.50 F-4	0.76	0.34
Factor 6				
Unsympathetic	-0.80	0.22 F-4	0.72	0.89
Humble	0.53	0.23 F-5	0.38	0.75
Sympathetic	0.78	0.41 F-3	0.83	0.74
Trustworthy	0.56	0.35 F-2	0.46	0.67
Cooperative	0.61	0.31 F-3	0.56	0.66
Unapproachable	-0.66	-0.34 F-2	0.66	0.65
Unreliable	-0.63	-0.36 F-4	0.63	0.63
Reliable	0.62	0.35 F-5	0.62	0.62
Approachable	0.56	0.38 F-2	0.58	0.53
Uncooperative	-0.45	-0.42 F-3	0.42	0.49
Immature	-0.54	0.47 F-5	0.72	0.40

Table 41 Factor Matrix, Bilingual Ibo-English, Ibo Response, Without USA Training, Best Source 6-Factor Rotation

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 1				
Active	0.55	-0.17 F-4	0.36	0.85
Educated	0.58	-0.21 F-6	0.42	0.82
Comprehensible	0.43	0.18 F-4	0.24	0.79
Competent	0.75	-0.25 F-4	0.74	0.77
Uneducated	-0.74	-0.35 F-5	0.74	0.75
Untrained	-0.61	0.35 F-3	0.51	0.74
Cruel	-0.49	0.25 F-6	0.33	0.72
Inexperienced	-0.72	0.38 F-3	0.72	0.71
Uncooperative	-0.70	0.41 F-5	0.78	0.63
Experienced	0.51	-0.37 F-4	0.45	0.58
Trained	0.56	-0.38 F-5	0.58	0.55
Passive	-0.53	0.36 F-3	0.56	0.50
		-0.36 F-5		
Partial	-0.35	0.31 F-3	0.27	0.44
Intelligible	0.45	-0.42 F-2	0.48	0.42
Certain	0.27	0.25 F-4	0.21	0.35
Unpersuasive	0.34	0.27 F-4	0.40	0.29
		-0.27 F-5		
Factor 2				
Efficient	-0.60	-0.17 F-3	0.41	0.89
Trustworthy	-0.58	-0.18 F-3	0.40	0.86
Organized	-0.72	-0.24 F-3	0.68	0.77
		0.24 F-5		
Sympathetic	-0.65	-0.30 F-6	0.56	0.75
Systematic	-0.71	-0.34 F-3	0.69	0.73
Arrogant	0.58	-0.23 F-5	0.48	0.70
		0.23 F-6		
Patient	-0.60	-0.36 F-5	0.53	0.68
Disorganized	0.59	-0.33 F-3	0.53	0.65
Unsympathetic	0.61	-0.33 F-3	0.59	0.63
Impatient	0.57	0.31 F-6	0.53	0.62
Out-of-date	0.39	-0.21 F-5	0.28	0.55
Unsystematic	0.39	0.29 F-5	0.33	0.46
Indecisive	0.29	-0.29 F-3	0.29	0.29
Unreliable	0.25	0.35 F-1	0.53	0.23
Factor 3				
Decisive	-0.40	0.16 F-1	0.19	0.85
Courageous	0.62	0.23 F-5	0.49	0.79
Honest	-0.54	0.22 F-1	0.37	0.78
Unfriendly	0.58	0.28 F-4	0.53	0.65
Weak	0.63	0.35 F-4	0.64	0.62
Sincere	-0.55	-0.40 F-6	0.50	0.61
Lazy	0.51	-0.39 F-1	0.45	0.58

Table 41 (continued)

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 3 (contd)				
Approachable	0.40	-0.36 F-4	0.31	0.50
Immature	-0.32	0.22 F-6	0.22	0.48
Powerless	0.54	-0.35 F-1	0.63	0.46
Reliable	-0.44	-0.42 F-6	0.47	0.41
Incompetent	0.47	-0.43 F-1	0.60	0.36
Factor 4				
Unclear	0.53	0.15 F-6	0.32	0.86
Strong	-0.78	-0.24 F-3	0.71	0.85
Dangerous	0.48	0.17 F-2	0.27	0.85
Energetic	-0.65	-0.31 F-3	0.60	0.70
Cooperative	-0.54	-0.31 F-3	0.44	0.67
Dishonest	0.29	0.23 F-6	0.15	0.56
Unapproachable	0.54	0.43 F-5	0.66	0.44
Powerful	-0.51	0.49 F-1	0.67	0.39
Impartial	-0.48	0.45 F-1	0.65	0.36
Safe	-0.20	-0.20 F-6	0.16	0.26
Factor 5				
Up-to-date	0.57	-0.08 F-4	0.33	0.97
Cowardly	-0.29	-0.10 F-6	0.10	0.85
Persuasive	0.63	-0.25 F-2	0.53	0.75
Clear	0.45	0.28 F-2	0.39	0.52
Kind	-0.45	-0.31 F-2	0.42	0.49
Factor 6				
Insincere	0.80	-0.16 F-1	0.71	0.91
Unintelligible	0.81	0.20 F-4	0.74	0.89
Uncertain	0.70	0.16 F-2	0.55	0.87
Inefficient	0.65	0.40 F-2	0.64	0.66
Untrustworthy	0.58	0.29 F-3	0.58	0.59
Friendly	-0.32	-0.26 F-5	0.20	0.53
Incomprehensible	0.43	0.42 F-3	0.41	0.46
Mature	-0.43	-0.26 F-1 0.26 F-3	0.41	0.45
Humble	-0.53	-0.53 F-2	0.64	0.45

Table 42 Factor Matrix, Bilingual Portuguese-English, Portuguese Response, Without USA Training, Best Source 6-Factor Rotation

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 1				
Comprehensible	0.76	0.18 F-5	0.67	0.87
Experienced	-0.59	0.28 F-2	0.50	0.69
Organized	0.63	0.37 F-2	0.57	0.69
Indecisive	0.62	-0.29 F-3	0.64	0.81
Strong	-0.65	0.45 F-2	0.74	0.58
Inexperienced	0.51	0.32 F-6	0.46	0.55
Incompetent	0.55	0.45 F-6	0.60	0.51
Incomprehensible	-0.49	-0.44 F-2	0.50	0.48
Uncooperative	-0.49	0.41 F-5	0.57	0.43
Factor 2				
Unclear	-0.72	-0.19 F-3	0.62	0.84
Educated	0.71	-0.25 F-6	0.59	0.84
Clear	0.76	0.34 F-3	0.73	0.80
Unfriendly	-0.63	-0.23 F-3	0.53	0.76
Partial	-0.67	0.28 F-4	0.61	0.74
Passive	-0.51	-0.24 F-3	0.35	0.73
Powerful	0.67	-0.42 F-6	0.69	0.65
Impartial	0.61	0.26 F-5	0.58	0.64
Energetic	0.52	0.24 F-4	0.45	0.60
Weak	-0.47	0.34 F-5	0.41	0.54
Competent	0.57	0.45 F-5	0.67	0.49
Cooperative	0.26	-0.20 F-4 0.20 F-5	0.21	0.31
Factor 3				
Efficient	0.68	-0.18 F-1	0.58	0.80
Up-to-date	0.52	-0.24 F-4	0.37	0.72
Persuasive	0.66	0.30 F-2	0.64	0.69
Approachable	0.72	-0.35 F-2	0.79	0.67
Kind	-0.62	0.37 F-6	0.58	0.66
Certain	0.53	-0.38 F-5	0.51	0.55
Intelligible	0.49	0.33 F-2	0.48	0.50
Unapproachable	-0.53	-0.41 F-5	0.55	0.50
Unintelligible	-0.44	-0.41 F-2	0.48	0.41
Friendly	0.37	0.37 F-5	0.34	0.41
Mature	0.53	-0.41 F-4	0.71	0.39

Table 42 (continued)

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 4				
Sincere	-0.81	0.22 F-6	0.68	0.80
Cruel	0.67	-0.25 F-6	0.60	0.75
Untrustworthy	0.76	-0.40 F-5	0.80	0.72
Dishonest	0.71	-0.39 F-5	0.73	0.68
Dangerous	0.48	0.32 F-1	0.36	0.64
Insincere	0.53	-0.33 F-2	0.47	0.59
Unsystematic	-0.54	-0.35 F-5	0.56	0.52
Honest	-0.50	-0.35 F-3	0.53	0.48
Systematic	-0.36	-0.31 F-1	0.29	0.44
Uncertain	-0.49	0.44 F-1	0.61	0.40
Trained	0.49	0.37 F-2	0.67	0.38
Active	0.42	0.32 F-3	0.49	0.35
		-0.32 F-5		
Decisive	0.51	-0.48 F-1	0.76	0.34
Unpersuasive	-0.46	-0.44 F-2,6	0.69	0.31
Trustworthy	-0.44	-0.41 F-3,6	0.70	0.28
Factor 5				
Cowardly	0.67	-0.23 F-6	0.53	0.85
Inefficient	-0.66	-0.21 F-6	0.52	0.83
Lazy	0.62	0.21 F-6	0.50	0.77
Courageous	-0.62	-0.34 F-6	0.56	0.69
Safe	-0.51	-0.31 F-1	0.45	0.58
Out-of-date	-0.55	-0.32 F-3	0.54	0.57
Humble	-0.54	-0.37 F-3	0.56	0.52
Disorganized	-0.50	-0.42 F-2	0.61	0.41
Powerless	0.53	0.53 F-6	0.74	0.38
Reliable	0.40	-0.39 F-4	0.53	0.30
		0.39 F-6		
Factor 6				
Patient	0.69	-0.15 F-3	0.52	0.90
Unreliable	-0.60	-0.14 F-2	0.40	0.90
Uneducated	0.53	-0.20 F-2	0.37	0.74
Arrogant	-0.71	0.36 F-3	0.74	0.67
Sympathetic	0.70	0.40 F-3	0.73	0.67
Unsympathetic	-0.69	-0.45 F-3	0.77	0.61
Impatient	-0.56	-0.50 F-2	0.57	0.54
Immature	-0.52	-0.33 F-2	0.52	0.52
Untrained	0.52	0.35 F-1	0.60	0.46

Table 43 Factor Matrix, Monolingual Portuguese, Portuguese Response, Without USA Training, Best Source 5-Factor Rotation

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 1				
Unpersuasive	-0.60	-0.13 F-5	0.37	0.95
Powerful	0.57	-0.15 F-5	0.36	0.90
Uncertain	-0.64	0.20 F-2	0.47	0.86
Persuasive	0.56	-0.17 F-4	0.37	0.84
Courageous	0.57	-0.15 F-2	0.38	0.84
Mature	0.62	-0.23 F-4	0.47	0.83
Immature	-0.60	-0.25 F-2	0.44	0.83
Partial	-0.40	0.18 F-3	0.20	0.81
Comprehensible	-0.55	0.24 F-5	0.39	0.78
Certain	0.62	-0.25 F-4	0.51	0.75
Energetic	0.59	-0.35 F-2	0.58	0.60
Indecisive	-0.56	0.33 F-2	0.54	0.57
Patient	-0.37	0.28 F-2	0.25	0.54
Untrustworthy	-0.56	-0.37 F-2	0.68	0.46
Strong	0.53	0.51 F-4	0.62	0.46
Powerless	-0.23	-0.25 F-2	0.19	0.40
Factor 2				
Sympathetic	0.69	-0.24 F-4	0.57	0.84
Untrained	0.69	0.28 F-4	0.58	0.81
Inexperienced	0.64	0.28 F-5	0.51	0.81
Active	-0.49	0.19 F-4	0.30	0.80
Competent	-0.63	0.30 F-5	0.50	0.79
Experienced	-0.62	-0.30 F-5	0.52	0.74
Uncooperative	-0.32	-0.14 F-5	0.15	0.68
Weak	0.56	-0.25 F-1	0.46	0.67
Incompetent	0.61	-0.30 F-5	0.56	0.67
Passive	0.50	0.26 F-3	0.39	0.65
Trained	-0.47	0.28 F-1	0.35	0.64
Unsystematic	-0.47	0.35 F-3	0.41	0.55
Decisive	-0.48	0.40 F-1	0.46	0.51
Insincere	-0.43	-0.34 F-1	0.37	0.49
Humble	0.43	0.35 F-4	0.37	0.49
Trustworthy	0.48	-0.46 F-4	0.52	0.45
Unsympathetic	-0.49	-0.42 F-5	0.58	0.42
Sincere	0.34	-0.34 F-5	0.33	0.36

Table 43 (continued)

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 3				
Cruel	-0.72	0.18 F-1	0.57	0.93
Arrogant	-0.64	-0.30 F-2	0.51	0.81
Systematic	-0.61	-0.27 F-4	0.45	0.81
Honest	0.39	0.27 F-2	0.23	0.64
Uneducated	0.54	-0.41 F-5	0.49	0.59
Unintelligible	0.52	-0.36 F-1	0.47	0.58
Kind	0.54	0.42 F-4	0.52	0.56
Dangerous	-0.51	0.34 F-1	0.51	0.51
Cooperative	0.48	0.39 F-5	0.48	0.47
Lazy	-0.51	0.46 F-2	0.57	0.46
Unapproachable	-0.48	-0.43 F-5	0.58	0.40
Factor 4				
Disorganized	0.70	-0.11 F-2	0.51	0.97
Intelligible	-0.70	-0.17 F-3	0.55	0.88
		0.17 F-5		
Efficient	-0.76	-0.22 F-2	0.66	0.87
Impatient	0.47	-0.14 F-2	0.27	0.84
Organized	-0.38	0.18 F-1	0.21	0.71
Safe	-0.56	-0.37 F-2	0.51	0.62
Inefficient	0.62	-0.48 F-1	0.65	0.60
Cowardly	0.41	-0.31 F-3	0.29	0.58
Incomprehensible	0.54	0.35 F-1	0.51	0.57
Dishonest	0.60	-0.60 F-3	0.74	0.48
Impartial	-0.36	0.27 F-1	0.28	0.46
Factor 5				
Educated	0.69	-0.22 F-2	0.57	0.83
Reliable	0.66	0.26 F-1	0.56	0.79
Unfriendly	-0.49	-0.22 F-2	0.33	0.73
Friendly	0.74	0.37 F-3	0.77	0.71
Unreliable	-0.53	0.25 F-1	0.40	0.71
Unclear	-0.47	0.25 F-1	0.34	0.65
Clear	0.59	-0.39 F-4	0.56	0.62
Approachable	0.41	0.22 F-2	0.29	0.58
Up-to-date	0.47	0.42 F-1	0.46	0.48
Out-of-date	-0.52	-0.41 F-3	0.56	0.48

Table 44 Factor Matrix, Bilingual Ibo-English, English Response
USA Training, Worst Source 6-Factor Rotation

Variable	Loadings on Primary Factor	Loadings Next Highest Factor	Communality (h^2)	Factor Purity
Factor 1				
Organized	-0.69	0.18 F-4	0.52	0.91
Incomprehensible	0.76	-0.21 F-2	0.66	0.88
Unclear	0.56	-0.19 F-2	0.37	0.84
Systematic	-0.66	-0.26 F-3	0.53	0.88
Disorganized	0.77	0.34 F-3	0.71	0.83
Unsystematic	0.72	0.31 F-3	0.64	0.82
Competent	-0.77	0.33 F-4	0.73	0.82
Efficient	-0.75	0.36 F-4	0.69	0.81
Comprehensible	-0.76	-0.23 F-3	0.72	0.80
Inefficient	0.77	-0.28 F-4	0.75	0.78
Clear	-0.71	0.27 F-2	0.65	0.77
Incompetent	0.69	-0.37 F-4	0.69	0.70
Up-to-date	-0.58	-0.29 F-3	0.48	0.69
Uncertain	0.67	-0.35 F-2	0.74	0.60
Indecisive	0.54	-0.34 F-6	0.50	0.59
Decisive	-0.46	0.38 F-6	0.48	0.44
Unintelligible	0.47	-0.40 F-4	0.58	0.39
Active	-0.47	-0.46 F-6	0.62	0.35
Intelligible	-0.43	0.37 F-4	0.57	0.33
Factor 2				
Untrustworthy	-0.88	-0.25 F-6	0.87	0.89
Sincere	0.81	-0.29 F-3	0.75	0.87
Reliable	0.78	-0.31 F-1	0.72	0.84
Trustworthy	0.77	-0.24 F-1	0.71	0.84
Insincere	-0.79	-0.32 F-6	0.77	0.81
Dishonest	-0.79	-0.29 F-6	0.78	0.80
Unreliable	-0.75	0.23 F-5	0.70	0.80
Honest	0.73	-0.29 F-3	0.69	0.78
Safe	0.69	-0.36 F-3	0.66	0.72
Dangerous	-0.64	-0.32 F-4	0.60	0.69
Factor 3				
Approachable	-0.81	-0.20 F-1	0.73	0.90
Friendly	-0.82	0.23 F-2	0.77	0.88
Cooperative	-0.76	-0.16 F-1	0.66	0.87
Unfriendly	0.80	0.25 F-6	0.75	0.86
Cruel	0.66	-0.28 F-2	0.55	0.79
Kind	-0.72	0.27 F-2	0.67	0.78
Arrogant	0.55	0.21 F-6	0.40	0.76
Patient	-0.62	0.24 F-6	0.51	0.76
Uncooperative	0.70	0.28 F-6	0.66	0.74
Sympathetic	-0.57	-0.26 F-1	0.47	0.69
Impatient	0.56	0.29 F-1	0.48	0.64
Humble	-0.54	-0.35 F-4	0.46	0.64
Unsympathetic	0.64	0.33 F-1	0.65	0.62
Unapproachable	0.66	-0.37 F-4	0.73	0.59

Table 44 (continued)

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 4				
Experienced	0.79	-0.23 F-1	0.70	0.89
Inexperienced	-0.82	0.25 F-6	0.77	0.88
Immature	-0.64	0.23 F-3	0.54	0.76
Trained	0.50	-0.28 F-1	0.75	0.63
Persuasive	0.50	-0.28 F-1	0.40	0.61
Mature	0.63	-0.35 F-3	0.67	0.58
Unpersuasive	-0.53	0.32 F-3	0.51	0.56
Untrained	-0.62	0.48 F-5	0.74	0.53
Educated	0.56	-0.53 F-5	0.78	0.40
Uneducated	-0.48	0.48 F-5	0.60	0.39
Certain	0.48	-0.47 F-1	0.69	0.34
Factor 5				
Powerful	-0.73	0.17 F-4	0.60	0.90
Strong	-0.79	-0.20 F-1	0.70	0.90
Powerless	0.58	-0.16 F-1	0.39	0.86
Courageous	-0.43	0.37 F-2	0.36	0.52
Weak	0.56	0.45 F-1	0.66	0.47
Out-of-date	0.44	0.39 F-1	0.46	0.42
Factor 6				
Cowardly	0.64	0.26 F-5	0.50	0.81
Lazy	0.68	0.45 F-1	0.76	0.61
Passive	0.58	0.41 F-1	0.56	0.61
Energetic	-0.63	-0.46 F-1	0.68	0.58
Partial	-0.41	0.32 F-1	0.48	0.34
Impartial	0.43	0.36 F-2	0.54	0.33

Table 45 Factor Matrix, Bilingual Yoruba-English, English Response, USA Training, Worst Source 6-Factor Rotation

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 1				
Organized	-0.83	-0.10 F-3 0.10 F-5	0.72	0.96
Certain	-0.77	0.14 F-6	0.63	0.93
Disorganized	0.80	0.23 F-5	0.71	0.90
Unclear	0.79	0.19 F-5	0.70	0.89
Comprehensible	-0.72	-0.17 F-5	0.58	0.88
Unsystematic	0.81	0.24 F-5	0.76	0.87
Clear	-0.77	-0.24 F-4	0.74	0.81
Incomprehensible	0.71	0.34 F-5	0.64	0.78
Systematic	-0.69	0.27 F-2	0.62	0.77
Uncertain	0.53	0.24 F-3	0.41	0.68
Inefficient	0.69	-0.36 F-4	0.74	0.64
Unintelligible	0.68	0.43 F-5	0.72	0.64
Indecisive	0.61	0.47 F-3	0.70	0.54
Persuasive	-0.28	0.18 F-6	0.15	0.51
Decisive	-0.61	-0.47 F-3	0.79	0.48
Competent	-0.54	-0.45 F-5	0.71	0.41
Factor 2				
Uncooperative	-0.75	-0.16 F-6	0.65	0.86
Cooperative	0.80	-0.31 F-1	0.78	0.81
Unsympathetic	-0.67	-0.31 F-3	0.64	0.70
Energetic	0.69	-0.34 F-1	0.69	0.69
Friendly	0.60	0.36 F-6	0.53	0.67
Unapproachable	-0.62	0.34 F-4	0.65	0.59
Unfriendly	-0.51	-0.31 F-6	0.47	0.56
Approachable	0.54	-0.37 F-3	0.55	0.52
Kind	0.62	0.55 F-6	0.80	0.48
Active	0.48	-0.38 F-3	0.64	0.36
Sympathetic	0.45	0.38 F-4,6	0.62	0.33
Factor 3				
Cowardly	0.82	0.18 F-1	0.75	0.91
Weak	0.62	0.28 F-1	0.46	0.82
Courageous	-0.74	-0.34 F-5	0.72	0.77
Powerful	-0.58	-0.23 F-2	0.47	0.73
Powerless	0.53	0.23 F-5	0.38	0.72
Passive	0.63	0.31 F-6	0.56	0.70
Strong	-0.61	0.37 F-6	0.62	0.61

Table 45 (continued)

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 4				
Impartial	0.73	-0.12 F-3	0.56	0.94
Partial	-0.64	0.23 F-3	0.50	0.82
Trustworthy	0.72	0.44 F-2	0.78	0.67
Untrustworthy	-0.73	-0.47 F-6	0.80	0.66
Unpersuasive	0.63	0.40 F-1	0.70	0.56
Unreliable	-0.52	-0.43 F-6	0.60	0.46
Reliable	0.45	-0.38 F-1	0.49	0.40
Sincere	0.55	0.54 F-6	0.75	0.40
Efficient	0.51	-0.49 F-1	0.68	0.38
Lazy	-0.46	-0.43 F-2	0.56	0.37
Factor 5				
Educated	-0.69	0.11 F-4	0.50	0.95
Uneducated	0.68	0.15 F-3	0.49	0.94
Trained	-0.83	-0.20 F-1	0.76	0.90
Experienced	-0.69	-0.22 F-1	0.59	0.82
Untrained	0.67	-0.29 F-2	0.68	0.67
Up-to-date	-0.51	-0.31 F-6	0.46	0.57
Out-of-date	0.51	0.30 F-1	0.45	0.57
Intelligible	-0.63	-0.43 F-1	0.73	0.55
Inexperienced	0.43	-0.37 F-2	0.45	0.41
Incompetent	0.45	0.39 F-1	0.53	0.39
Factor 6				
Patient	0.82	-0.15 F-3	0.70	0.95
Impatient	-0.72	0.13 F-5	0.57	0.92
Humble	0.79	0.22 F-2	0.72	0.88
Dangerous	-0.65	-0.31 F-2	0.55	0.78
Safe	0.52	0.34 F-2	0.43	0.63
Mature	0.61	-0.36 F-5	0.62	0.60
Cruel	-0.66	-0.55 F-2	0.86	0.50
Insincere	-0.65	-0.63 F-4	0.86	0.50
Dishonest	-0.55	-0.43 F-2	0.64	0.47
Immature	-0.37	-0.30 F-1,4	0.37	0.37
Arrogant	-0.41	-0.40 F-2	0.47	0.36
Honest	0.45	0.45 F-2	0.59	0.34

Table 46 Factor Matrix, Bilingual Portuguese-English, English Response, USA Training, Worst Source 7-Factor Rotation

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 1				
Sincere	-0.73	0.25 F-2	0.63	0.85
Insincere	0.64	-0.35 F-2	0.61	0.68
Dishonest	0.61	-0.28 F-4	0.57	0.66
Trustworthy	-0.70	0.51 F-7	0.79	0.63
Safe	-0.55	0.33 F-2	0.50	0.61
Unpersuasive	-0.53	0.29 F-5	0.47	0.60
Honest	-0.58	0.30 F-4	0.57	0.59
Dangerous	0.55	-0.37 F-2	0.61	0.49
Untrustworthy	0.46	-0.44 F-7	0.54	0.39
Persuasive	0.43	-0.37 F-5	0.54	0.35
Factor 2				
Unapproachable	-0.76	-0.13 F-4	0.61	0.94
Approachable	0.65	-0.12 F-1	0.46	0.94
Unfriendly	-0.86	0.21 F-1	0.79	0.93
Kind	0.76	-0.15 F-1	0.63	0.91
Unsympathetic	-0.76	0.18 F-3	0.65	0.90
Friendly	0.82	-0.22 F-4	0.79	0.86
Sympathetic	0.72	-0.23 F-5	0.66	0.79
Comprehensible	0.61	0.28 F-4	0.64	0.59
Cruel	-0.51	0.44 F-1	0.47	0.55
Incomprehensible	-0.61	-0.37 F-4	0.70	0.54
Uncooperative	-0.47	0.36 F-6	0.55	0.41
Cooperative	0.47	0.39 F-3	0.60	0.37
Factor 3				
Active	0.75	0.15 F-6	0.62	0.91
Energetic	0.81	0.23 F-4	0.75	0.87
Passive	-0.77	0.26 F-5	0.76	0.78
Weak	-0.71	-0.28 F-7	0.69	0.74
Lazy	-0.72	0.30 F-1	0.72	0.72
Courageous	0.64	-0.29 F-6	0.57	0.71
Decisive	0.61	0.51 F-4	0.71	0.52
Strong	0.60	0.41 F-7	0.68	0.52
Powerless	-0.51	-0.37 F-2	0.53	0.49
Indecisive	-0.53	-0.49 F-4	0.70	0.40
Cowardly	-0.44	0.43 F-1	0.54	0.36
Powerful	0.41	0.37 F-2,7	0.58	0.29
Factor 4				
Unintelligible	-0.62	-0.22 F-2	0.51	0.76
Clear	0.75	-0.33 F-6	0.74	0.76
Unclear	-0.59	-0.31 F-2	0.55	0.62
Organized	0.59	0.36 F-7	0.59	0.60
Intelligible	0.56	0.45 F-2	0.77	0.40
Systematic	0.47	0.42 F-7	0.65	0.34

Table 46 (continued)

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 5				
Up-to-date	-0.72	0.16 F-4	0.56	0.92
Out-of-date	0.62	-0.21 F-2	0.47	0.82
Trained	-0.66	0.29 F-3	0.58	0.75
Untrained	0.67	-0.26 F-3	0.60	0.75
Inexperienced	0.74	-0.33 F-1	0.73	0.75
Incompetent	0.73	-0.32 F-7	0.79	0.68
Competent	-0.74	0.40 F-7	0.85	0.64
Experienced	-0.62	0.36 F-1	0.68	0.57
Efficient	-0.66	-0.40 F-1	0.80	0.54
Uneducated	0.51	-0.43 F-2	0.56	0.47
Inefficient	0.58	0.41 F-1	0.71	0.45
Patient	-0.48	0.36 F-2	0.57	0.40
Educated	-0.48	0.39 F-2	0.59	0.38
Factor 6				
Partial	0.77	-0.19 F-7	0.66	0.91
Impartial	-0.73	0.22 F-4	0.60	0.88
Humble	-0.70	-0.35 F-3	0.71	0.70
Arrogant	0.54	-0.44 F-2	0.68	0.42
Factor 7				
Immature	-0.76	0.25 F-6	0.69	0.83
Mature	0.72	-0.30 F-5	0.64	0.80
Unreliable	-0.63	0.21 F-5	0.52	0.76
Uncertain	-0.67	-0.33 F-4	0.65	0.71
Certain	0.69	-0.28 F-1	0.69	0.69
Disorganized	-0.50	-0.40 F-4	0.53	0.46
Reliable	0.54	-0.45 F-1	0.68	0.43
Unsystematic	-0.43	-0.42 F-4	0.50	0.36
Impatient	-0.42	-0.41 F-2	0.59	0.30

Table 47 Factor Matrix, Bilingual Ibo-English, Ibo Response, USA Training, Worst Source 6-Factor Rotation

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 1				
Strong	-0.77	0.23 F-4	0.68	0.87
Untrained	0.76	-0.22 F-4	0.71	0.81
Energetic	-0.66	0.29 F-4	0.59	0.74
Organized	-0.50	0.29 F-3	0.37	0.67
Friendly	-0.65	0.31 F-4	0.65	0.65
Kind	-0.69	0.37 F-3	0.76	0.63
Cruel	0.70	-0.44 F-5	0.86	0.58
Trained	-0.57	0.39 F-5	0.60	0.53
Sympathetic	-0.52	0.43 F-5	0.54	0.51
Insincere	0.62	-0.49 F-5	0.78	0.49
Partial	0.56	-0.51 F-5	0.64	0.48
Unsympathetic	0.51	-0.43 F-5	0.57	0.45
Unfriendly	0.53	0.46 F-6	0.67	0.41
Factor 2				
Comprehensible	0.76	0.39 F-3	0.73	0.78
Up-to-date	0.66	-0.33 F-1	0.60	0.74
Systematic	0.58	-0.27 F-1	0.47	0.71
Mature	0.70	0.33 F-5	0.70	0.70
Decisive	0.73	0.41 F-4	0.80	0.66
Safe	0.55	-0.29 F-1	0.46	0.66
Certain	0.62	0.46 F-5	0.69	0.53
Inefficient	-0.48	-0.39 F-4	0.65	0.35
Dangerous	0.40	-0.39 F-3	0.51	0.31
Factor 3				
Unapproachable	-0.71	-0.14 F-2	0.54	0.94
Approachable	0.77	-0.32 F-6	0.73	0.80
Clear	0.57	0.26 F-5	0.51	0.64
Intelligible	0.67	-0.37 F-6	0.72	0.62
Disorganized	-0.58	0.39 F-1	0.63	0.54
Unclear	-0.55	-0.48 F-2	0.58	0.52
Unintelligible	-0.55	0.39 F-1	0.63	0.47
Efficient	0.55	0.40 F-5	0.67	0.44
Patient	0.41	0.31 F-5	0.39	0.43

Table 47 (continued)

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 4				
Courageous	0.58	0.14 F-2	0.36	0.93
Competent	0.77	-0.35 F-1	0.87	0.68
Incompetent	-0.68	0.36 F-6	0.69	0.67
Indecisive	-0.57	-0.34 F-5	0.49	0.67
Cooperative	0.56	0.36 F-5	0.48	0.65
Experienced	0.60	0.32 F-2	0.56	0.64
Inexperienced	-0.67	0.39 F-6	0.71	0.64
Immature	-0.56	-0.35 F-5	0.54	0.59
Out-of-date	-0.62	-0.31 F-6	0.71	0.54
Uncertain	-0.58	-0.45 F-3	0.63	0.52
Educated	0.64	-0.53 F-1	0.82	0.51
Cowardly	-0.46	-0.31 F-5	0.46	0.46
Incomprehensible	-0.43	-0.43 F-5	0.48	0.38
Powerful	0.50	-0.48 F-1	0.67	0.37
Unsystematic	-0.45	0.35 F-1 -0.35 F-2	0.56	0.37
Active	0.50	-0.45 F-1	0.71	0.35
Factor 5				
Reliable	0.81	0.26 F-4	0.82	0.80
Impartial	0.71	-0.34 F-1	0.66	0.77
Trustworthy	0.76	0.43 F-4	0.84	0.69
Sincere	0.71	0.29 F-4	0.75	0.67
Dishonest	-0.73	0.45 F-1	0.83	0.64
Impatient	-0.62	-0.37 F-2	0.63	0.60
Uncooperative	-0.64	-0.42 F-4	0.72	0.57
Honest	0.66	-0.39 F-1	0.78	0.56
Unpersuasive	-0.44	-0.24 F-2	0.36	0.55
Unreliable	-0.68	0.44 F-1	0.88	0.52
Untrustworthy	-0.66	-0.40 F-3	0.86	0.51
Arrogant	-0.49	-0.48 F-2	0.49	0.49
Humble	0.62	-0.46 F-6	0.78	0.48
Factor 6				
Passive	0.80	0.23 F-1	0.71	0.90
Weak	0.63	0.41 F-1	0.70	0.57
Lazy	0.53	-0.31 F-3	0.59	0.49
Powerless	0.51	0.41 F-1	0.57	0.46
Persuasive	-0.44	0.28 F-3,4	0.45	0.44
Uneducated	0.54	-0.50 F-4	0.68	0.44

Table 48 Factor Matrix, Bilingual Yoruba-English, Yoruba Response, USA Training, Worst Source 7-Factor Rotation

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 1				
Incomprehensible	0.69	0.16 F-4	0.53	0.89
Patient	-0.75	-0.36 F-3	0.77	0.73
Safe	-0.63	-0.34 F-4	0.56	0.71
Disorganized	0.74	-0.31 F-2	0.80	0.69
Unsystematic	0.70	0.30 F-4	0.73	0.67
Unapproachable	0.65	-0.36 F-7	0.66	0.64
Systematic	-0.59	0.36 F-5	0.55	0.64
Impatient	0.63	0.29 F-4	0.66	0.61
Humble	-0.69	-0.35 F-3	0.81	0.58
Unpersuasive	0.55	-0.38 F-2	0.60	0.50
Kind	-0.59	0.51 F-7	0.79	0.45
Mature	-0.40	-0.38 F-7	0.37	0.45
Cruel	0.46	-0.41 F-7	0.65	0.32
Factor 2				
Strong	0.85	-0.20 F-1	0.81	0.91
Weak	-0.82	-0.20 F-4	0.78	0.87
Passive	-0.78	0.29 F-4	0.72	0.84
Cowardly	-0.73	-0.27 F-5	0.65	0.81
Powerless	-0.64	0.21 F-6	0.54	0.75
Courageous	0.66	-0.24 F-1	0.58	0.75
Indecisive	-0.67	0.32 F-1	0.60	0.74
Powerful	0.66	-0.32 F-1	0.60	0.72
Decisive	0.56	-0.40 F-4	0.55	0.58
Lazy	-0.60	0.56 F-6	0.71	0.50
Competent	0.61	-0.47 F-4	0.74	0.49
Energetic	-0.28	-0.28 F-1	0.56	0.47
Efficient	0.54	0.43 F-5	0.75	0.40
Factor 3				
Uncooperative	-0.81	0.15 F-1	0.71	0.93
Up-to-date	0.50	-0.24 F-6	0.37	0.68
Dangerous	-0.70	-0.30 F-6	0.74	0.67
Immature	0.54	0.21 F-1	0.46	0.64
Arrogant	0.58	0.51 F-1	0.75	0.45
Incompetent	-0.61	-0.49 F-2	0.85	0.44
Inefficient	0.50	0.48 F-6	0.78	0.32

Table 48 (continued)

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 4				
Insincere	0.69	0.21 F-3	0.62	0.76
Sincere	-0.73	0.27 F-7	0.74	0.72
Impartial	-0.77	-0.32 F-5	0.85	0.70
Unclear	0.60	-0.32 F-6	0.52	0.70
Uncertain	0.67	-0.36 F-5 0.36 F-7	0.75	0.59
Out-of-date	0.40	0.24 F-1	0.28	0.58
Active	-0.62	0.41 F-7	0.70	0.55
Reliable	-0.56	-0.33 F-1	0.58	0.54
Clear	-0.52	-0.37 F-1	0.54	0.50
Partial	0.60	-0.45 F-2	0.73	0.50
Honest	-0.53	0.33 F-7	0.64	0.44
Trustworthy	-0.53	0.39 F-2	0.74	0.38
Untrustworthy	0.49	-0.49 F-7	0.65	0.37
Cooperative	-0.46	0.43 F-3	0.81	0.27
Factor 5				
Intelligible	0.68	-0.23 F-4	0.60	0.77
Unintelligible	-0.68	0.39 F-1	0.63	0.73
Certain	0.64	-0.32 F-7	0.63	0.65
Organized	0.55	-0.36 F-1	0.60	0.50
Persuasive	0.58	0.28 F-2	0.75	0.46
Dishonest	-0.46	-0.44 F-7	0.51	0.42
Unreliable	-0.48	-0.35 F-7	0.62	0.37
Factor 6				
Educated	-0.86	0.16 F-2	0.80	0.92
Trained	-0.71	-0.20 F-2	0.59	0.85
Untrained	0.75	-0.29 F-5	0.73	0.76
Uneducated	0.71	-0.31 F-2	0.74	0.68
Experienced	-0.64	0.34 F-2	0.61	0.67
Inexperienced	0.46	0.43 F-1	0.75	0.28
Factor 7				
Friendly	0.76	-0.16 F-4	0.64	0.90
Unfriendly	-0.70	0.35 F-1	0.67	0.73
Unsympathetic	-0.51	0.27 F-5	0.39	0.65
Sympathetic	0.57	0.27 F-2	0.65	0.50
Approachable	0.57	-0.48 F-1	0.75	0.43
Comprehensible	0.42	0.38 F-3	0.68	0.26

Table 49 Factor Matrix, Bilingual Portuguese-English, Portuguese Response, USA Training, Worst Source 6-Factor Rotation

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 1				
Weak	0.69	0.12 F-4	0.51	0.93
Passive	0.72	-0.14 F-2	0.56	0.91
Decisive	-0.72	0.14 F-2	0.58	0.89
Active	-0.67	0.18 F-4	0.53	0.85
Energetic	-0.77	0.23 F-4	0.69	0.85
Strong	-0.75	-0.29 F-3	0.67	0.84
Safe	-0.71	0.25 F-4	0.61	0.83
Powerless	0.57	0.16 F-3	0.41	0.78
Uncertain	0.67	0.25 F-2	0.58	0.74
Indecisive	0.73	-0.43 F-6	0.72	0.73
Certain	-0.77	0.45 F-6	0.82	0.72
Lazy	0.62	-0.37 F-2	0.57	0.68
Efficient	-0.62	0.40 F-4	0.68	0.57
Courageous	-0.45	0.39 F-2	0.40	0.49
Powerful	-0.46	0.43 F-6	0.46	0.46
Inefficient	0.55	-0.50 F-4	0.71	0.43
Factor 2				
Honest	0.83	-0.17 F-4	0.75	0.92
Dangerous	-0.63	0.16 F-6	0.45	0.89
Dishonest	-0.72	0.19 F-6	0.62	0.82
Sincere	0.80	-0.24 F-4	0.79	0.82
Impartial	0.67	0.32 F-1	0.58	0.77
Partial	-0.52	0.26 F-5	0.40	0.67
Insincere	-0.72	0.34 F-1	0.80	0.65
Sympathetic	0.63	-0.41 F-3	0.67	0.60
Trustworthy	0.62	-0.45 F-4	0.66	0.59
Kind	0.65	-0.47 F-3	0.73	0.58
Unsympathetic	-0.61	0.51 F-3	0.69	0.54
Cowardly	-0.59	0.49 F-1	0.66	0.52
Untrustworthy	-0.53	0.36 F-3	0.57	0.50
Cruel	-0.54	-0.38 F-5	0.63	0.47
Factor 3				
Unfriendly	0.77	0.14 F-1 -0.14 F-4	0.65	0.91
Unapproachable	0.66	-0.18 F-6	0.50	0.88
Uncooperative	0.60	-0.20 F-2	0.42	0.86
Friendly	-0.74	0.23 F-2	0.64	0.86
Cooperative	-0.68	0.27 F-4	0.58	0.80
Approachable	-0.72	0.40 F-5	0.70	0.74
Humble	-0.64	0.32 F-2	0.62	0.66
Arrogant	0.54	-0.36 F-1	0.51	0.57
Comprehensible	-0.57	0.48 F-6	0.68	0.48

Table 49 (continued)

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 4				
Competent	0.84	0.12 F-2	0.74	0.95
Up-to-date	0.70	0.25 F-5	0.60	0.80
Educated	0.57	0.23 F-6	0.43	0.76
Out-of-date	-0.73	0.34 F-2	0.72	0.75
Trained	0.69	-0.25 F-1	0.63	0.75
Experienced	0.65	0.33 F-6	0.58	0.73
Untrained	-0.69	0.32 F-2	0.66	0.73
Uneducated	-0.65	-0.25 F-6	0.59	0.71
Inexperienced	-0.61	0.28 F-1	0.52	0.71
Incompetent	-0.68	-0.30 F-6	0.67	0.69
Factor 5				
Reliable	0.61	-0.27 F-4	0.47	0.78
Organized	0.69	0.32 F-6	0.63	0.76
Disorganized	-0.59	-0.30 F-6	0.52	0.66
Impatient	-0.49	-0.27 F-1	0.37	0.63
Unreliable	-0.59	0.33 F-3	0.58	0.61
Systematic	0.57	-0.42 F-1	0.57	0.57
Unsystematic	-0.55	-0.36 F-4	0.56	0.55
Patient	0.59	-0.38 F-3	0.68	0.51
Intelligible	0.45	-0.40 F-3	0.55	0.36
Unintelligible	-0.42	0.32 F-3	0.56	0.32
Factor 6				
Immature	-0.62	-0.30 F-4	0.52	0.74
Unclear	-0.67	-0.25 F-4	0.61	0.73
Mature	0.71	0.28 F-4	0.70	0.72
Persuasive	0.55	-0.36 F-1	0.62	0.49
Unpersuasive	-0.48	-0.42 F-4	0.54	0.43
Incomprehensible	-0.52	0.51 F-3	0.64	0.42
Clear	0.48	-0.36 F-1	0.59	0.39

Table 50 Factor Matrix, Bilingual Ibo-English, English Response, Without USA Training, Worst Source 6-Factor Rotation

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 1				
Powerful	-0.55	-0.20 F-2	0.33	0.77
Active	-0.65	-0.23 F-5	0.59	0.72
Strong	-0.70	-0.34 F-2	0.63	0.71
Energetic	-0.64	0.37 F-3	0.58	0.71
Kind	-0.60	0.45 F-3	0.67	0.54
Weak	0.49	0.44 F-5	0.47	0.52
Incompetent	0.40	-0.37 F-4	0.36	0.44
Passive	0.44	-0.43 F-4	0.48	0.40
Factor 2				
Unpersuasive	0.71	0.28 F-1	0.60	0.84
Indecisive	0.55	-0.18 F-4	0.38	0.79
Decisive	-0.60	-0.25 F-6	0.45	0.79
Persuasive	-0.60	-0.23 F-3	0.47	0.78
Incomprehensible	0.79	0.24 F-6	0.80	0.78
Comprehensible	-0.62	0.25 F-4	0.54	0.71
Uncertain	0.47	-0.24 F-4	0.34	0.65
Certain	-0.49	0.28 F-4	0.38	0.63
Powerless	0.32	0.19 F-5	0.21	0.48
Courageous	-0.55	-0.48 F-1	0.64	0.47
Cowardly	0.40	0.34 F-1	0.39	0.41
Intelligible	-0.37	0.37 F-1	0.53	0.26
Factor 3				
Approachable	0.74	0.11 F-4	0.59	0.93
Unapproachable	-0.74	0.24 F-1	0.62	0.89
Unsympathetic	-0.67	0.24 F-1	0.56	0.80
Immature	-0.56	-0.24 F-5	0.41	0.78
Organized	0.65	-0.27 F-2	0.55	0.77
Humble	0.67	-0.28 F-5	0.58	0.77
Arrogant	-0.61	0.26 F-6	0.51	0.74
Sympathetic	0.54	-0.24 F-6	0.40	0.71
Unfriendly	-0.60	0.27 F-1	0.51	0.70
Unsystematic	-0.64	0.31 F-2	0.60	0.69
Disorganized	-0.57	0.31 F-2	0.48	0.67
Friendly	0.65	-0.34 F-1	0.63	0.67
Impatient	-0.56	0.30 F-6	0.51	0.61
Cooperative	0.58	-0.41 F-1	0.56	0.59
Uncooperative	-0.59	0.32 F-1	0.59	0.58
Patient	0.63	0.41 F-1	0.70	0.57
Unreliable	-0.51	-0.30 F-2	0.50	0.51
Cruel	-0.50	0.35 F-1	0.51	0.48
Systematic	0.53	-0.44 F-2	0.64	0.44
Lazy	-0.41	0.40 F-1	0.56	0.30

Table 50 (continued)

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 4				
Untrained	-0.87	0.12 F-5	0.78	0.97
Uneducated	-0.76	0.15 F-1	0.66	0.89
		-0.15 F-3		
Educated	0.71	0.19 F-3	0.60	0.83
Trained	0.71	-0.41 F-6	0.71	0.72
Clear	0.48	-0.25 F-1	0.35	0.66
Unclear	-0.52	-0.29 F-3	0.48	0.57
Competent	0.55	-0.40 F-6	0.56	0.53
Unintelligible	-0.51	0.30 F-2	0.52	0.51
Factor 5				
Dishonest	0.73	0.23 F-1	0.65	0.82
Trustworthy	-0.70	0.32 F-3	0.64	0.77
Out-of-date	0.52	-0.32 F-4	0.41	0.66
Untrustworthy	0.68	-0.44 F-3	0.71	0.66
Dangerous	0.50	0.32 F-2	0.38	0.65
Efficient	-0.55	-0.34 F-6	0.53	0.58
Up-to-date	-0.59	0.43 F-4	0.60	0.57
Reliable	-0.51	0.42 F-3	0.47	0.56
Insincere	0.57	0.48 F-6	0.59	0.55
Sincere	-0.57	-0.42 F-6	0.60	0.55
Honest	-0.58	-0.43 F-1	0.70	0.48
Safe	-0.31	0.28 F-3	0.26	0.38
Factor 6				
Partial	0.64	0.12 F-2	0.44	0.93
Impartial	-0.40	-0.21 F-4	0.21	0.74
Inefficient	0.65	0.29 F-5	0.59	0.71
Experienced	-0.56	0.30 F-4	0.54	0.58
Inexperienced	0.46	-0.33 F-1	0.39	0.55
Mature	-0.34	0.29 F-3	0.26	0.44

Table 51 Factor Matrix, Bilingual Portuguese-English, English Response, Without USA Training, Worst Source 6-Factor Rotation

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 1				
Efficient	-0.79	0.14 F-5	0.66	0.94
Untrained	0.66	-0.14 F-2,6	0.49	0.83
		0.14 F-5		
Decisive	-0.82	0.22 F-6	0.77	0.86
Trained	-0.84	0.32 F-3	0.83	0.85
Competent	-0.78	0.32 F-3	0.73	0.83
Active	-0.76	-0.28 F-2	0.70	0.82
Inefficient	0.76	-0.29 F-3	0.75	0.77
Passive	0.66	0.29 F-3	0.57	0.75
Indecisive	0.73	0.30 F-3	0.79	0.68
Incompetent	0.73	-0.45 F-3	0.78	0.68
Out-of-date	0.52	0.35 F-2	0.46	0.59
Disorganized	0.65	-0.53 F-3	0.73	0.58
Intelligible	-0.62	0.29 F-4	0.68	0.57
Lazy	0.58	-0.52 F-6	0.64	0.52
Powerful	-0.61	0.43 F-6	0.73	0.52
Reliable	-0.56	-0.51 F-5	0.74	0.42
Inexperienced	0.47	-0.36 F-6	0.57	0.38
Organized	-0.49	0.47 F-3	0.69	0.35
Factor 2				
Sympathetic	-0.91	0.18 F-3	0.89	0.94
Approachable	-0.85	-0.24 F-1	0.82	0.88
Unapproachable	0.86	0.25 F-5	0.86	0.87
Unsympathetic	0.78	0.26 F-1	0.70	0.86
Arrogant	0.78	-0.33 F-1	0.84	0.72
Humble	-0.54	0.43 F-1	0.51	0.56
Partial	0.55	-0.42 F-1	0.56	0.54
Systematic	0.69	0.47 F-3	0.91	0.52
Up-to-date	-0.60	-0.45 F-1	0.73	0.49
Patient	-0.56	0.48 F-1	0.71	0.44
Unreliable	0.51	0.50 F-1	0.66	0.40
Impatient	0.56	-0.56 F-3	0.79	0.40
Friendly	-0.57	0.36 F-5	0.83	0.39
Factor 3				
Uncertain	-0.78	0.13 F-5	0.65	0.95
Certain	0.61	-0.16 F-1	0.41	0.91
Immature	-0.72	-0.23 F-6	0.68	0.76
Unclear	-0.68	0.36 F-1	0.77	0.61
Untrustworthy	-0.56	-0.42 F-4	0.66	0.47
Trustworthy	0.49	0.47 F-4	0.53	0.45
Clear	0.57	-0.46 F-1	0.74	0.44
Experienced	0.53	-0.46 F-1	0.65	0.43
Unfriendly	0.59	0.52 F-2	0.91	0.39
Unsystematic	-0.55	-0.46 F-5	0.88	0.34

Table 51 (continued)

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 4				
Honest	0.93	0.18 F-2	0.34	0.92
Dishonest	-0.83	0.21 F-1	0.79	0.87
Impartial	0.69	0.17 F-6	0.55	0.87
Sincere	0.66	0.28 F-3	0.70	0.83
Cruel	-0.58	0.41 F-3	0.55	0.61
Kind	0.65	0.37 F-6	0.77	0.55
Dangerous	-0.62	-0.43 F-3	0.76	0.59
Safe	0.56	0.53 F-6	0.81	0.38
Educated	0.38	0.33 F-6	0.47	0.30
Factor 5				
Mature	0.69	-0.28 F-1	0.62	0.78
Cowardly	-0.70	-0.40 F-6	0.73	0.67
Comprehensive	-0.61	0.46 F-4	0.69	0.54
Incomprehensive	0.56	-0.45 F-3,4	0.75	0.42
Insincere	-0.55	-0.49 F-4	0.73	0.41
Unpersuasive	0.53	0.42 F-2	0.72	0.40
Persuasive	-0.54	-0.36 F-2	0.73	0.39
Unintelligible	-0.48	0.43 F-1 -0.43 F-4	0.61	0.38
Factor 6				
Uncooperative	-0.75	0.29 F-5	0.73	0.77
Weak	-0.65	-0.23 F-2	0.59	0.72
Energetic	0.66	0.34 F-3	0.62	0.70
Strong	0.64	-0.34 F-1	0.63	0.66
Powerless	-0.58	0.34 F-1	0.54	0.62
Courageous	0.64	-0.45 F-1	0.79	0.51
Cooperative	0.66	0.50 F-4	0.85	0.50
Uneducated	-0.51	-0.33 F-4	0.60	0.43

Table 52 Factor Matrix, Bilingual Ibo-English, Ibo Response, Without USA Training, Worst Source 6-Factor Rotation

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 1				
Trustworthy	0.75	0.16 F-3 -0.16 F-5	0.64	0.88
Sincere	0.74	-0.19 F-5	0.63	0.86
Untrustworthy	-0.80	0.24 F-4	0.76	0.84
Uncooperative	-0.67	0.27 F-6	0.59	0.76
Decisive	0.46	0.25 F-2	0.33	0.65
Cooperative	0.67	0.45 F-2	0.68	0.65
Insincere	-0.66	0.39 F-4	0.73	0.80
Efficient	0.56	0.47 F-4	0.56	0.55
Unreliable	-0.50	-0.29 F-3	0.47	0.53
Honest	0.53	-0.49 F-5	0.52	0.53
Impartial	0.40	-0.33 F-3	0.30	0.53
Experienced	0.45	0.25 F-2 -0.25 F-3	0.38	0.52
Incomprehensible	-0.44	0.26 F-4	0.38	0.52
Inefficient	-0.49	-0.42 F-2	0.48	0.49
Reliable	0.42	-0.38 F-2	0.44	0.41
Competent	0.42	0.34 F-4	0.43	0.40
Incompetent	-0.54	-0.54 F-4	0.73	0.40
Certain	0.40	-0.37 F-6	0.45	0.35
Factor 2				
Strong	0.71	-0.17 F-1	0.53	0.94
Trained	0.75	0.24 F-1	0.66	0.84
Energetic	0.67	0.33 F-5	0.59	0.77
Active	0.71	0.24 F-4	0.66	0.77
Powerful	0.66	0.20 F-1,4	0.53	0.76
Friendly	0.56	-0.25 F-5	0.42	0.75
Lazy	-0.59	-0.33 F-1	0.54	0.83
Untrained	-0.41	-0.35 F-1	0.31	0.53
Factor 3				
Approachable	0.53	0.23 F-4	0.36	0.73
Patient	0.68	-0.26 F-2	0.53	0.73
Unsystematic	-0.71	-0.27 F-2	0.70	0.73
Impatient	-0.60	0.27 F-6	0.51	0.70
Systematic	0.68	0.35 F-1	0.70	0.65
Organized	0.57	0.46 F-1	0.57	0.58
Humble	0.64	-0.48 F-5	0.79	0.53
Arrogant	-0.40	0.09 F-4	0.51	0.91

Table 52 (continued)

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 4				
Intelligible	0.54	0.09 F-1	0.31	0.95
Uneducated	-0.68	0.17 F-5	0.51	0.90
Inexperienced	-0.72	-0.18 F-1	0.62	0.85
Passive	-0.70	-0.40 F-2	0.67	0.73
Persuasive	0.59	-0.32 F-6	0.54	0.65
Weak	-0.61	-0.43 F-2	0.62	0.60
Educated	0.36	0.18 F-1	0.22	0.56
Unfriendly	-0.52	-0.38 F-2	0.51	0.53
Dishonest	0.47	-0.33 F-1	0.43	0.52
Powerless	-0.55	-0.46 F-2	0.61	0.51
Cowardly	-0.46	-0.37 F-3	0.45	0.48
Disorganized	0.41	-0.36 F-3	0.46	0.36
Factor 5				
Unsympathetic	0.72	-0.19 F-3 0.19 F-6	0.61	0.86
Courageous	-0.40	-0.17 F-1	0.24	0.68
Kind	-0.59	0.31 F-2	0.51	0.67
Cruel	0.55	-0.28 F-1	0.46	0.86
Sympathetic	-0.62	0.45 F-3	0.75	0.51
Mature	-0.39	0.25 F-4	0.31	0.49
Indecisive	0.49	0.48 F-3	0.54	0.44
Uncertain	-0.47	-0.43 F-6	0.53	0.41
Partial	0.38	-0.29 F-1 0.29 F-3	0.33	0.33
Unclear	-0.42	-0.39 F-1	0.50	0.35
Factor 6				
Safe	-0.42	0.12 F-1	0.21	0.84
Immature	-0.53	-0.28 F-2	0.37	0.78
Comprehensible	-0.56	0.35 F-1	0.46	0.68
Unpersuasive	0.61	-0.32 F-3	0.57	0.66
Up-to-date	-0.43	0.22 F-3	0.32	0.56
Unapproachable	0.35	-0.28 F-3	0.23	0.54
Dangerous	-0.41	-0.31 F-5	0.32	0.54
Unintelligible	0.48	-0.30 F-1,2	0.50	0.46
Out-of-date	-0.46	-0.40 F-1	0.46	0.46
Clear	-0.44	0.32 F-5	0.43	0.45

Table 53 Factor Matrix, Bilingual Portuguese-English, Portuguese Response, Without USA Training, Worst Source 5-Factor Rotation

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 1				
Passive	0.53	-0.15 F-4	0.31	0.90
Decisive	-0.53	0.13 F-2,3	0.32	0.87
Efficient	-0.71	-0.22 F-4	0.58	0.87
Disorganized	0.61	0.17 F-3	0.43	0.85
Organized	-0.55	0.20 F-4	0.37	0.80
Indecisive	0.74	0.22 F-3	0.69	0.79
Unpersuasive	0.58	-0.22 F-3	0.42	0.79
Persuasive	-0.74	-0.27 F-4,5	0.75	0.72
Incompetent	0.64	-0.29 F-5	0.58	0.70
Active	-0.69	0.41 F-5	0.68	0.70
Inefficient	0.60	0.37 F-4	0.53	0.68
Uncooperative	0.57	-0.42 F-2	0.52	0.62
Competent	-0.64	-0.47 F-4	0.68	0.59
Powerless	0.62	-0.47 F-2	0.66	0.58
Uncertain	0.58	0.52 F-2	0.62	0.55
Safe	-0.51	-0.38 F-4	0.49	0.54
Lazy	0.53	-0.39 F-2	0.52	0.53
Courageous	-0.37	-0.33 F-5	0.31	0.44
Strong	-0.44	-0.38 F-4	0.55	0.35
Factor 2				
Sincere	0.88	-0.21 F-5	0.83	0.94
Insincere	-0.78	-0.18 F-3	0.66	0.92
Untrustworthy	-0.76	-0.21 F-3	0.64	0.90
Trustworthy	0.81	0.25 F-3	0.73	0.90
Dangerous	-0.59	0.28 F-4	0.53	0.66
Clear	0.61	-0.37 F-4	0.57	0.65
Energetic	0.55	-0.38 F-1	0.52	0.59
Honest	0.59	-0.54 F-5	0.69	0.50
Systematic	-0.43	-0.28 F-5	0.38	0.48
Partial	-0.52	0.44 F-5	0.55	0.48
Impartial	0.43	-0.36 F-5	0.41	0.46
Cooperative	0.50	-0.42 F-1	0.57	0.44
Reliable	0.38	-0.30 F-4	0.35	0.42
Unreliable	-0.47	0.46 F-1	0.53	0.42
Humble	0.39	0.32 F-5	0.42	0.37
Cowardly	-0.42	0.40 F-5	0.59	0.30

Table 53 (continued)

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 3				
Sympathetic	0.71	-0.18 F-5	0.54	0.93
Unapproachable	-0.62	0.14 F-5	0.42	0.91
Approachable	0.74	-0.15 F-5	0.61	0.90
Unfriendly	-0.78	-0.22 F-2	0.70	0.86
Unsystematic	0.35	0.11 F-1	0.15	0.84
Unsympathetic	-0.68	0.22 F-5	0.55	0.84
Intelligible	0.66	-0.35 F-1	0.59	0.73
Patient	0.54	-0.23 F-5	0.40	0.73
Cruel	-0.58	0.22 F-1 -0.22 F-2	0.47	0.70
Incomprehensible	-0.60	-0.24 F-2,5	0.52	0.70
Friendly	0.72	0.40 F-2	0.74	0.70
Unintelligible	-0.57	-0.35 F-5	0.57	0.58
Arrogant	-0.46	-0.39 F-2	0.37	0.56
Impatient	-0.40	-0.35 F-2	0.28	0.55
Kind	0.53	0.41 F-2	0.52	0.54
Unclear	-0.43	-0.25 F-2	0.40	0.47
Comprehensible	0.50	0.49 F-2	0.58	0.44
Weak	0.46	0.45 F-1	0.49	0.44
Certain	0.45	-0.33 F-1	0.49	0.42
Factor 4				
Uneducated	0.62	-0.16 F-1	0.41	0.93
Educated	-0.71	0.35 F-2	0.63	0.80
Untrained	0.73	-0.30 F-5	0.67	0.76
Out-of-date	0.69	0.26 F-2	0.63	0.76
Experienced	-0.72	-0.40 F-1	0.75	0.69
Up-to-date	-0.65	-0.39 F-2	0.63	0.66
Trained	-0.61	-0.45 F-1	0.59	0.64
Inexperienced	0.50	0.33 F-1	0.43	0.59
Powerful	-0.43	0.39 F-2	0.40	0.45
Factor 5				
Immature	0.76	0.03 F-4	0.59	0.96
Mature	-0.79	0.09 F-3	0.65	0.97
Dishonest	0.61	-0.47 F-2	0.66	0.57

Table 54 Factor Matrix, Monolingual Portuguese, Horst Source 7-Factor Rotation

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 1				
Efficient	-0.77	-0.21 F-5	0.70	0.65
Uneducated	0.65	0.24 F-4	0.50	0.85
Incompetent	0.62	0.26 F-2	0.61	0.82
Inexperienced	0.71	0.23 F-6	0.56	0.78
Untrained	0.70	0.29 F-5	0.54	0.69
Inefficient	0.67	0.32 F-7	0.60	0.85
Up-to-date	-0.56	-0.25 F-5	0.45	0.85
Educated	-0.57	0.41 F-3	0.61	0.82
Competent	-0.59	-0.40 F-7	0.74	0.48
Courageous	-0.55	-0.36 F-2	0.65	0.47
Experienced	-0.47	-0.35 F-6	0.50	0.44
Weak	0.57	0.53 F-5	0.75	0.48
Active	-0.57	-0.45 F-7	0.71	0.41
Mature	-0.39	-0.24 F-6	0.36	0.49
Trained	-0.67	-0.43 F-7	0.63	0.46
Factor 2				
Sincere	-0.76	-0.10 F-1,5,6	0.65	0.84
Insincere	0.71	0.13 F-3	0.55	0.92
Untrustworthy	0.71	0.18 F-4	0.53	0.86
Trustworthy	-0.73	-0.26 F-5	0.73	0.79
Dangerous	0.72	-0.24 F-3	0.67	0.77
Reliable	-0.67	0.32 F-4	0.66	0.63
Arrogant	0.52	-0.39 F-3	0.49	0.35
Humble	-0.54	0.35 F-5	0.35	0.53
Dishonest	0.58	-0.44 F-3	0.65	0.51
Sympathetic	-0.52	0.36 F-4	0.58	0.47
Honest	-0.54	0.51 F-3	0.64	0.46
Unsystematic	-0.40	0.30 F-5	0.38	0.42
Cowardly	0.46	0.36 F-5	0.60	0.34
Factor 3				
Unfriendly	-0.63	-0.22 F-4	0.77	0.90
Uncooperative	-0.77	0.18 F-5	0.70	0.85
Friendly	0.60	-0.26 F-1	0.56	0.76
Kind	0.65	-0.30 F-2	0.57	0.74
Cruel	-0.62	-0.33 F-6	0.64	0.58
Unapproachable	-0.63	-0.42 F-4	0.73	0.65
Unpersuasive	-0.47	0.33 F-5	0.42	0.54
Unsympathetic	-0.37	0.32 F-2	0.26	0.58
Intelligible	0.52	-0.37 F-5	0.64	0.42
Cooperative	0.48	-0.42 F-4	0.56	0.42

Table 54 (continued)

Variable	Loadings on Primary Factor	Loadings on Next Highest Factor	Communality (h^2)	Factor Purity
Factor 4				
Patient	0.62	0.31 F-3	0.59	0.66
Approachable	0.54	0.45 F-3	0.76	0.30
Factor 5				
Strong	-0.70	-0.11 F-4	0.53	0.92
Indecisive	0.70	00.18 F-7	0.70	0.90
Powerful	-0.63	-0.13 F-6	0.44	0.88
Energetic	-0.68	-0.20 F-4	0.55	0.83
Decisive	-0.75	-0.27 F-1	0.72	0.73
Uncertain	0.73	0.35 F-1	0.76	0.70
Safe	-0.65	-0.30 F-7	0.62	0.67
Certain	-0.68	0.27 F-3	0.53	0.87
Disorganized	0.59	0.32 F-7	0.61	0.58
Organized	-0.55	0.30 F-4	0.53	0.58
Persuasive	-0.60	0.34 F-4	0.67	0.53
Passive	0.58	0.55 F-1	0.69	0.49
Powerless	0.48	0.43 F-1	0.65	0.35
Factor 6				
Partial	0.66	0.25 F-2	0.61	0.72
Immature	0.53	0.26 F-1	0.42	0.67
Impartial	-0.50	-0.41 F-2	0.49	0.52
Lazy	-0.43	0.42 F-1	0.53	0.35
Factor 7				
Incomprehensible	0.76	0.17 F-6	0.63	0.91
Clear	-0.76	-0.23 F-5	0.68	0.84
Unclear	0.66	0.31 F-5	0.62	0.70
Comprehensible	-0.65	-0.39 F-2	0.68	0.62
Unintelligible	0.51	-0.29 F-4	0.45	0.57
		0.29 F-5		
Out-of-date	0.49	0.45 F-1	0.52	0.47
Impatient	0.54	0.39 F-6	0.65	0.45
Unreliable	0.52	-0.39 F-4	0.64	0.42
Systematic	0.33	0.32 F-2	0.45	0.24
		-0.32 F-5		

APPENDIX F

Differences Between Mean Scores for Best Source and Mean Scores for Worst Source by Term and Language/Cultural Group

Table 55 Difference Between Mean Scores for Best Source and Mean Scores for Worst Source for Each of the 66 terms for Each Language/Cultural Group

	Terms	Differences Between Means										
		01-11	02-12	03-13	04-14	05-15	06-16	21-31	23-33	24-34	25-35	27-37
1.	competent	3.08	2.67	4.18	2.22	2.75	4.10	2.52	3.80	3.76	3.21	3.32
2.	incompetent	3.43	3.19	3.66	2.83	2.84	3.69	2.65	2.80	3.32	3.09	2.85
3.	educated	2.46	2.29	2.25	1.81	2.43	2.12	1.94	2.35	1.88	2.07	2.19
4.	uneducated	2.09	2.16	2.11	1.38	2.57	2.19	2.31	2.79	2.33	2.00	1.78
5.	experienced	1.81	2.84	2.91	1.88	2.43	2.31	2.48	2.05	2.44	1.59	1.82
6.	inexperienced	1.81	2.90	2.11	1.82	3.25	2.06	1.68	2.75	3.00	1.59	1.25
7.	trained	1.35	2.19	2.18	1.47	0.00	1.58	1.92	2.30	3.32	1.69	1.32
8.	untrained	1.73	1.68	2.07	2.25	0.00	1.94	2.38	2.05	3.24	1.17	0.90
9.	powerful	0.43	0.64	0.93	1.25	1.29	0.17	1.06	0.40	1.76	0.48	0.05
10.	powerless	0.70	1.03	0.80	1.39	2.11	1.35	1.08	0.70	2.12	1.24	0.79
11.	strong	0.43	0.61	0.70	1.28	1.07	1.02	0.58	1.50	1.52	1.24	1.00
12.	weak	1.00	0.84	1.09	1.08	1.14	1.25	1.48	1.90	1.72	1.97	1.60
13.	active	1.03	1.74	1.93	1.38	2.29	2.21	1.42	1.80	1.76	1.86	2.02
14.	passive	1.24	1.29	1.20	0.88	2.39	1.40	0.69	1.70	2.10	0.83	0.70
15.	energetic	1.95	1.58	1.43	1.25	1.18	1.27	1.27	1.00	1.80	0.90	1.69
16.	lazy	1.97	1.99	1.20	1.58	2.50	2.68	2.25	2.15	3.22	1.97	2.18
17.	decisive	1.82	1.81	2.25	0.94	2.54	2.19	1.98	1.90	0.82	2.62	2.20
18.	indecisive	2.98	1.94	2.14	1.38	2.57	1.67	1.90	2.70	1.30	1.90	1.35
19.	courageous	1.27	1.00	1.30	0.94	1.04	1.12	2.15	1.45	0.68	1.97	1.25
20.	cowardly	1.05	1.32	1.80	0.85	1.23	2.08	2.21	1.90	0.20	2.38	2.78
21.	cooperative	1.40	2.45	2.10	2.11	2.64	2.42	3.08	2.35	2.52	2.14	1.85
22.	uncooperative	1.32	2.16	1.77	1.97	0.86	2.12	3.10	1.80	2.98	2.31	1.40
23.	friendly	1.92	2.58	1.73	0.89	0.04	1.52	2.44	3.10	1.16	1.55	1.25
24.	unfriendly	0.86	1.74	1.52	0.36	0.18	1.35	2.31	2.70	1.32	1.45	1.28
25.	impartial	1.54	2.10	2.39	1.75	1.96	2.31	1.90	2.45	2.52	1.79	2.52
26.	partial	1.46	1.87	2.16	1.47	2.29	2.19	2.02	2.75	3.02	2.28	2.38
27.	kind	1.38	1.77	1.20	1.42	2.50	2.15	2.71	1.35	3.32	2.28	1.32
28.	cruel	1.46	1.81	1.18	2.00	2.61	2.50	2.56	1.70	2.74	2.41	2.22
29.	safe	1.00	0.52	1.54	0.06	2.79	2.71	1.67	1.95	1.06	2.45	1.62
30.	dangerous	2.40	2.58	1.91	0.25	3.71	2.92	3.23	1.50	1.32	2.59	3.02
31.	clear	1.05	1.29	1.62	0.85	1.96	1.73	1.94	2.10	1.92	1.62	1.38
32.	unclear	1.54	1.32	1.54	0.38	2.07	1.58	1.90	1.95	1.06	1.90	1.30

Table 55 (continued)

	Terms	Differences between means										
		01-11	02-12	03-13	04-14	05-15	06-16	21-31	23-33	24-34	26-36	27-37
33.	comprehensible	0.95	1.81	1.54	0.88	1.79	2.23	1.44	2.55	1.78	1.90	1.75
34.	incomprehensible	0.84	1.63	1.73	0.53	0.42	1.61	1.54	2.00	2.12	1.79	1.62
35.	honest	3.60	3.13	2.59	1.78	3.32	3.09	3.90	2.15	3.00	3.00	3.60
36.	dishonest	3.03	3.03	2.77	1.67	3.04	3.92	4.00	1.60	3.00	2.48	3.42
37.	sincere	2.65	2.45	2.34	1.75	3.10	3.88	3.40	3.30	2.60	3.83	3.00
38.	insincere	2.92	2.55	3.50	2.14	3.36	3.85	3.17	2.95	2.90	2.78	3.70
39.	trustworthy	3.43	2.27	3.23	2.56	4.18	4.68	3.95	2.30	3.34	4.66	4.00
40.	untrustworthy	3.65	3.16	3.25	2.75	3.04	4.71	4.23	2.70	3.34	4.62	3.92
41.	reliable	3.49	3.00	2.66	2.06	3.39	1.42	3.94	1.60	2.36	1.83	0.98
42.	unreliable	3.89	3.58	3.07	2.06	4.18	1.46	3.95	1.95	2.82	2.07	1.05
43.	intelligible	1.35	2.29	1.43	1.14	1.14	1.38	1.82	1.60	2.26	1.03	0.95
44.	unintelligible	1.43	2.00	1.61	1.42	1.96	1.17	1.53	1.25	2.12	1.24	0.95
45.	persuasive	1.03	0.94	1.34	1.07	1.14	0.92	0.94	1.85	1.58	0.79	1.22
46.	unpersuasive	1.16	0.87	1.57	1.19	1.25	0.81	1.29	1.95	1.12	1.03	0.98
47.	certain	2.32	2.45	1.30	0.78	0.39	2.17	2.15	2.60	2.00	1.45	1.68
48.	uncertain	2.51	2.71	1.93	0.44	0.93	2.42	2.73	2.10	1.52	1.72	1.68
49.	efficient	1.95	3.26	3.20	1.64	3.14	3.52	3.83	3.20	2.74	2.72	2.68
50.	inefficient	2.16	2.68	2.96	1.36	3.00	3.10	2.71	2.90	1.86	2.48	2.62
51.	organized	1.97	2.10	2.16	0.72	2.50	1.23	2.25	2.65	2.44	1.38	2.30
52.	disorganized	1.73	1.97	1.75	0.75	2.04	1.25	2.17	2.35	2.26	1.48	1.90
53.	systematic	1.32	2.29	1.00	0.83	2.43	0.75	2.73	0.15	2.42	0.14	0.35
54.	unsystematic	1.57	2.16	1.02	1.17	2.62	0.62	2.21	0.35	2.02	0.34	0.15
55.	patient	0.57	1.64	0.93	1.06	2.82	1.60	2.69	1.60	2.53	2.07	0.85
56.	impatient	0.57	1.58	0.82	0.83	2.54	0.79	2.17	1.30	2.16	1.00	0.35
57.	humble	0.86	2.42	0.82	0.94	2.89	1.60	3.21	1.05	2.98	1.62	1.78
58.	arrogant	0.81	1.81	1.66	0.78	2.64	2.62	2.50	2.15	1.54	1.72	2.25
59.	up-to-date	1.92	2.36	2.09	0.75	1.79	2.62	2.15	1.45	0.68	2.10	1.28
60.	out-of-date	1.38	1.58	2.30	0.93	1.75	2.44	1.39	1.45	0.02	2.07	1.28
61.	approachable	1.35	2.61	0.33	1.18	2.46	1.50	3.02	0.65	0.26	1.07	1.80
62.	unapproachable	0.54	2.52	1.14	1.19	2.57	1.35	2.94	0.60	0.04	0.85	0.70
63.	mature	1.66	2.58	2.52	0.78	1.54	2.96	1.90	2.10	1.86	2.03	2.03
64.	immature	1.68	2.29	2.68	0.93	1.21	2.56	1.96	1.80	1.60	1.83	2.00
65.	sympathetic	1.14	1.93	1.20	1.33	2.46	2.54	3.48	1.50	3.24	1.93	1.50
66.	unsympathetic	0.97	2.19	1.02	1.14	2.18	2.48	2.92	0.35	2.42	2.10	1.38

APPENDIX G

Correlations Between Presumed Bipolar Pairs

Table 56 Negative Correlations Between Presumed Bipolar Pairs of Source Evaluation Scales (Samples with USA Training, plus Two Random Sorts*)

Presumed Bipolar Pairs	Deck Numbers													
	01	11	02	12	03	13	04	14	05	15	06	16	09*	19*
Competent-Incompetent	-45	-70	-32	-80	-47	-90	-57	-82	-17	-59	-54	-82	-11	09
Educated-Uneducated	-35	-80	-59	-67	-70	-85	-44	-74	-36	-73	-64	-75	11	26
Experienced-Inexperienced	-45	-82	-64	-54	-49	-90	-14	-43	-36	-66	-75	-87	-11	05
Trained-Untrained	-25	-79	-59	-77	-49	-87	-67	-66	-76	-79	-36	-73	34	12
Powerful-Powerless	-50	-54	-08	-37	-25	-63	-28	-41	-32	-64	05	-31	-10	-29
Strong-Weak	-43	-37	-39	-56	-48	-68	-09	-62	-38	-81	-25	-57	-28	34
Active-Passive	-33	-57	10	-32	-35	-69	-45	-49	-54	-58	-52	-58	04	-17
Energetic-Lazy	-27	-75	-25	-59	-30	-62	-04	-46	-16	-52	-32	-58	-22	-18
Decisive-Indecisive	-42	-73	-53	-78	-69	-78	-33	-35	-45	-64	-73	-59	-06	10
Courageous-Cowardly	-29	-31	-21	-58	-37	-60	-24	-58	-21	-58	-29	-70	-25	35
Cooperative-Uncooperative	-51	-81	-22	-57	-77	-75	-35	-69	-25	-31	-53	-64	42	27
Friendly-Unfriendly	-41	-80	-47	-51	-72	-83	-70	-77	-20	-72	-59	-81	-32	07
Impartial-Partial	-65	-56	-22	-68	-58	-67	-60	-66	-59	-72	-10	-65	06	-25
Kind-Cruel	-32	-70	-53	-85	-41	-48	-59	-70	-37	-75	-45	-60	-02	-05
Safe-Dangerous	-33	-71	02	-57	-40	-66	-17	-20	-09	-30	-02	-02	-33	-39
Clear-Unclear	-43	-64	-44	-64	-57	-72	-51	-63	-31	-58	-62	-62	01	-14
Comprehensible-Incomprehensible	-72	-76	-46	-71	-65	-78	-15	00	35	-22	-22	-76	06	-13
Honest-Dishonest	-32	-64	-33	-75	-73	-80	-78	-80	-68	-53	-56	-88	-20	-05
Sincere-Insincere	-30	-63	-25	-84	-26	-75	-50	-78	-28	-73	-38	-87	13	21
Trustworthy-Untrustworthy	-61	-74	-66	-75	-64	-71	-83	-78	-53	-51	-48	-75	-35	-13
Reliable-Unreliable	-56	-68	-35	-72	-70	-71	-61	-79	-19	-38	-66	-62	-13	-57
Intelligible-Unintelligible	-47	-72	-49	-72	-63	-67	-30	-72	-42	-38	-25	-61	-28	-25
Persuasive-Unpersuasive	-56	-48	-68	-48	-64	-75	-72	-57	-48	-59	-62	-76	17	-11
Certain-Uncertain	-27	-80	-59	-53	-74	-66	-28	-25	-50	-50	-70	-75	18	-19
Efficient-Inefficient	-26	-65	-22	-69	-60	-87	-34	-73	-39	-61	-62	-85	-18	-26
Organized-Unorganized	-41	-75	-57	-63	-65	-73	-51	-51	-19	-44	-83	-85	08	27
Systematic-Unsystematic	-48	-70	-58	-61	-74	-66	-29	-55	-55	-67	-63	-67	31	-26
Patient-Impatient	-33	-56	-49	-74	-63	-67	-47	-47	-72	-66	-64	-69	03	14
Humble-Arrogant	-01	-48	-40	-67	-54	-68	-15	-33	-50	-54	-40	-64	24	-02
Up-to-date/Out-of-date	-34	-73	-37	-76	-71	-76	09	-03	-47	-51	-50	-85	04	-05
Approachable-Unapproachable	-47	-74	-48	-75	-75	-77	-67	-55	-64	-83	-65	-69	05	-15
Mature-Immature	-35	-74	-30	-50	-69	-84	-07	01	-77	-41	-60	-79	-28	-35
Sympathetic-Unsympathetic	-33	-59	-59	-58	-61	-71	-37	-68	-54	-50	-32	-82	26	22

* Decks developed via a table of random digits.

Table 56 (continued)

Presumed Bipolar Pairs	Deck Numbers											
	21	31	23	33	24	34	26	36	27	37	29*	39*
Competent-Incompetent	-57	-70	-56	-82	-32	-72	-51	-62	-46	-68	-25	-16
Educated-Uneducated	-53	-82	-70	-85	-46	-67	-68	-63	-46	-69	-03	11
Experienced-Inexperienced	-59	-60	-53	-59	-48	-37	-56	-70	-62	-43	00	07
Trained-Untrained	-41	-70	-75	-69	-21	-53	-30	-64	-53	-62	33	10
Powerful-Powerless	-23	-51	-38	-58	-25	-50	-46	-44	15	-20	-37	-11
Strong-Weak	-29	-56	-67	-44	-47	-44	-32	-45	-16	-46	-15	09
Active-Passive	-40	-49	-25	-82	-49	-61	-35	-54	-36	-69	01	-18
Energetic-Lazy	-03	-57	-10	-59	-34	-57	-15	-43	-37	-14	-42	-26
Decisive-Indecisive	-40	-44	-80	-80	03	-03	-62	-44	-46	-57	22	-17
Courageous-Cowardly	-49	-43	-44	-74	-07	26	-34	-56	-35	-58	00	-42
Cooperative-Uncooperative	-54	-81	-64	-64	03	-61	-45	-58	-28	-60	-19	11
Friendly-Unfriendly	-69	-70	-73	-78	-36	-61	-18	-77	-46	-69	22	-15
Impartial-Partial	-70	-18	-70	-36	-35	-43	-63	-67	-54	-69	-08	12
Kind-Cruel	-17	-63	-32	-48	02	-61	-62	-59	-52	-62	-24	04
Safe-Dangerous	-25	-37	-21	-81	-40	08	-21	-10	-21	-10	13	35
Clear-Unclear	-41	-69	-45	-76	-27	-10	-70	-41	-25	-66	-40	06
Comprehensible-Incomprehensible	-31	-62	-64	-86	-18	-10	-34	-42	-39	-51	-01	39
Honest-Dishonest	-23	-60	-54	-78	-02	-28	-44	-83	-34	-83	-37	-37
Sincere-Insincere	-18	-64	-56	-78	-27	-49	-49	-76	-49	-75	02	05
Trustworthy-Untrustworthy	-31	-73	-56	-74	-41	-58	-52	-85	-58	-79	-14	-34
Reliable-Unreliable	-57	-50	-50	-60	-32	-45	-46	-59	-38	-45	-40	-02
Intelligible-Unintelligible	-32	-79	-67	-57	-10	-41	-31	-61	-22	-38	39	12
Persuasive-Unpersuasive	-47	-46	-62	-80	-53	-67	-50	-74	-56	-43	-04	-06
Certain-Uncertain	-14	-37	-66	-83	-08	-17	-28	-60	-64	-71	-14	26
Efficient-Inefficient	-44	-64	-59	-86	-16	-41	-40	-66	-63	-73	27	-28
Organized-Unorganized	-29	-66	-65	-87	-34	-39	-76	-75	-48	-74	-31	-06
Systematic-Unsystematic	-37	-63	-57	-86	-18	-49	-18	-61	-41	-72	-40	18
Patient-Impatient	-65	-46	-78	-82	-31	-46	-48	-54	-52	-58	-19	03
Humble-Arrogant	-27	-50	-30	-39	-39	-35	-45	-66	-29	-60	40	17
Up-to-date/Out-of-date	-37	-71	-52	-63	-27	09	-64	-66	-43	-53	05	06
Approachable-Unapproachable	-48	-74	-63	-94	-61	-39	-59	-69	-33	-53	-15	03
Mature-Immature	-26	-63	-34	-60	-31	-13	-39	-72	-57	-34	-19	06
Sympathetic-Unsympathetic	-71	-62	-71	-91	-45	-57	-66	-72	-43	-48	17	-18

* Decks of data developed via a table of random digits.

APPENDIX H

Coefficients of Similarity for Eleven Language/Cultural Groups

TABLE 57

Coefficients of Similarity Between Pairs of Language/Cultural Groups for Worst Source Sorts on Dimension I (Trust)

Data Deck Number of Respondent Group	11	12	13	14	15	16	31	33	34	36
11										
12	67									
13	70	69								
14	73	65	63							
15	72	59	53	69						
16	57	63	65	61	44					
31	70	60	70	68	64	54				
33	73	52	64	61	61	59	63			
34	66	72	60	75	67	54	65	62		
36	68	60	55	69	60	62	57	66	59	
37	79	73	73	74	61	77	70	62	62	77

TABLE 58

Coefficients of Similarity Between Pairs of Language/Cultural Groups for Worst Source Sorts on Dimension II (Qualification)

Data Deck Number of Respondent Group	11	12	13	14	15	16	31	33	34	36
11										
12	70									
13	70	72								
14	60	65	64							
15	61	68	65	61						
16	67	75	71	57	60					
31	63	80	70	59	65	68				
33	58	65	61	65	52	61	65			
34	50	43	51	63	45	46	48	51		
36	60	73	62	63	66	61	66	76	48	
37	63	72	74	69	66	67	70	77	64	69

TABLE 59

Coefficients of Similarity Between Pairs of Language/Cultural Groups for Worst Source Sorts on Dimension III (Dynamism).

Data Deck Number of Respondent Group	11	12	13	14	15	16	31	33	34	36
11										
12	66									
13	58	69								
14	49	41	49							
15	51	68	70	61						
16	49	63	79	47	63					
31	43	44	61	43	59	57				
33	55	50	61	50	63	55	65			
34	46	45	60	71	39	48	60	52		
36	64	38	57	49	58	71	54	55	53	
37	51	66	63	38	64	83	38	49	42	74

TABLE 60

Coefficient of Similarity Between Pairs of Language/Cultural Groups for Worst Source Sorts on Dimension IV (Sociability)

Data Deck Number of Respondent Group	11	12	13	14	15	16	31	33	34	36
11										
12	77									
13	74	60								
14	58	56	52							
15	77	67	62	66						
16	78	67	83	59	65					
31	81	73	64	64	84	71				
33	66	47	65	49	49	67	54			
34	46	38	32	54	40	33	38	31		
36	70	60	85	56	59	81	65	63	31	
37	83	74	67	58	64	75	75	48	43	70

TABLE 61

Coefficients of Similarity Between Pairs of Language/Cultural Groups for Worst Source Sorts on Dimension V (Systematic)

Data Deck Number of Respondent Group	11	12	13	14	15	16	31	33	34	36
11										
12	86									
13	74	76								
14	67	66	56							
15	54	52	41	66						
16	61	57	60	56	65					
31	63	71	59	46	84	58				
33	71	66	65	48	25	47	50			
34	40	35	35	49	60	58	30	51		
36	34	36	22		31	36	58	76	45	
37	66	66	64	52	34	48	70	77	53	

Dimensions VI and VII were not similar enough across the groups to satisfactorily select factors for matching.

APPENDIX I

Proportion of Variance Extracted by Rotations

Table 62. Percent of Total Variance Extracted for the 2-factor to n-factor Rotations for Each Cell in the Study Design

Respondent Group No.	No. of Factors Extracted by Kiel-Wrigley Criterion	Factor Rotation Number											
		2	3	4	5	6	7	8	9	10	11	12 or more	
01	13	24.8	33.3	40.4	46.4	51.9	57.1	61.8	65.7	69.6	72.8	75.1	78.3
02	9	26.9	35.7	42.7	48.5	54.0	59.2	63.9	67.7				
03	12	26.5	36.6	42.6	48.0	53.0	57.3	61.6	65.3	69.3	71.2	73.6	
04	9	31.9	38.8	45.2	50.4	55.6	59.9	63.9	67.6				
05	13	26.2	34.5	41.4	47.6	53.4	58.7	63.5	69.0	71.9	75.5	78.0	81.7
06	9	24.4	31.2	37.2	42.2	46.9	51.2	55.2	58.9				
11	8	37.9	46.7	52.8	58.2	62.4	66.1	69.5					
12	11	37.8	45.0	51.6	57.0	61.7	66.0	69.6	72.8	75.8	78.3		
13	9	33.9	41.6	48.8	54.3	59.2	63.1	66.7	69.7				
14	8	44.1	49.9	55.6	60.0	64.1	67.7	71.3					
15	9	34.5	42.1	49.4	55.4	61.0	65.4	69.7	73.6				
16	9	34.5	45.0	51.1	55.8	60.0	63.8	67.1	70.2				
21	15	20.5	28.4	34.9	41.2	46.4	51.2	55.7	59.7	63.3	66.3	69.2	71.8
23	11	30.8	41.5	50.5	57.4	63.9	69.5	74.5	79.1	83.1	86.3		
24	10	25.3	31.8	37.9	42.8	47.4	51.5	55.7	59.2	62.4			
26	13	29.4	37.8	44.8	51.3	57.0	62.5	67.2	71.0	74.4	77.8	80.6	83.3
27	12	23.1	31.5	39.1	46.7	50.9	55.4	59.8	63.8	67.5	70.9	73.9	
31	7	30.7	37.1	42.7	47.7	52.4	56.7						
33	11	37.7	48.3	57.1	64.2	70.2	75.3	79.7	83.7	86.9	89.3		
34	9	25.4	32.6	39.4	45.2	50.3	54.2	57.8	60.9				
36	10	33.1	41.8	47.8	53.7	58.1	62.3	66.3	70.0	73.4			
37	7	23.7	40.9	47.3	52.1	56.3	60.2						
09	13	17.1	25.0	32.1	38.9	44.9	50.2	55.2	59.7	62.8	67.8	71.4	75.1
19	15	18.9	25.9	32.6	39.1	44.8	50.3	55.4	59.7	63.8	67.6	71.3	74.5
29	11	24.8	33.6	41.7	48.9	55.9	61.6	66.4	70.5	74.3	77.8		
39	12	17.7	25.3	32.6	38.9	44.7	50.2	55.4	60.1	64.5	68.4	72.1	

This is to certify that the

thesis entitled

GENERALITY OF THE DIMENSIONS OF SOURCE EVALUATION

ACROSS LANGUAGE/CULTURAL SYSTEMS

presented by

Lawrence E. Sarbaugh

has been accepted towards fulfillment of the requirements for

Ph. D. **degree in** Communication

David K. Berlo
Major professor

Date May 12, 1967