The Use of Kinesics in Establishing and Determining Meaning in Superior-Subordinate Communications.

Mary Bordelon Blalock
Louisiana State University and Agricultural & Mechanical College

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THE USE OF KINESICS
IN ESTABLISHING AND DETERMINING MEANING
IN SUPERIOR-SUBORDINATE COMMUNICATIONS

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy
in
The Department of Management

by
Mary Bordelon Blalock
B.S., University of Southwestern Louisiana, 1963
B.S., Louisiana State University, 1967
M.S., Louisiana State University, 1967
December, 1973
THE USE OF KINESICS
IN ESTABLISHING AND DETERMINING MEANING
IN SUPERIOR-SUBORDINATE COMMUNICATIONS
For my parents;
for TNB who was there,
and
for PJB, who should have been.
ACKNOWLEDGMENT

More individuals have assisted me in arriving at this state in life than I can possibly cite here. To all of them, I extend sincere appreciation, and I give an especial expression of gratitude where it is exceedingly due:

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to my Creator, who gave me health, and a reasonable amount of intelligence—and a country in which I am free to exercise it.

These acknowledgments are not intended as alibis. The responsibility for all shortcomings and heresies rests squarely upon the shoulders of the author—and are probably due to good advice unheeded.

M.B.B.

Louisiana State University
October 25, 1973
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ABSTRACT

The objective of this study was to identify and analyze positive and negative kinesics (body movements), and to determine what, if any, effect they lent to message perception, in the hope of answering specifically these questions:

1. What, if any, are the benefits of management concentrating on positive kinesics to coincide with positive verbal communication?

2. How can management develop, from the use of data gathered in the experimental process of the study, an awareness of the necessity of communication—both verbal and non-verbal—and a means for determining kinesic effectiveness?

The hypotheses under consideration in this study were: there is no difference to response to messages whether negative or positive body language is used; there is no difference in response to messages whether kinesics are congruent with verbal message content; and the effect of body language on message perception is constant regardless of personality type or demographic characteristics.

A random sample of 292 employees, consisting of nine groups, from eight different companies was selected with the assistance of Dow Chemical Company.
A demographic questionnaire and personality inventory was administered to these employees. Each group was subjected to a different message form, and then the employees were asked to fill out a semantic differential questionnaire giving their perception of seven message concepts.

Data coding and analysis was performed, and some groups were "collapsed" where needed. Analysis of the data revealed that there were differences in message perception, but that these differences could not be attributed to demographic characteristics or personality type except in very limited instances.

Subsequent analysis indicated that different types of communication (oral, visual, or written) did not influence how a message was perceived. First, the effect of body language on message perception is not very great when using positive vocalization. Secondly, positive kinesics does increase credibility of messages, and therefore, negative verbalization can be overcome to a degree. Thirdly, when using negative body language, message perception is adversely affected. Finally, any body language (positive or negative) enhances message acceptance.
CHAPTER I

INTRODUCTION TO THE STUDY

During the last few years, a scientific study of kinesics (body language) has been pursued from many angles.

Doctors of Medicine have investigated kinesics in relation to physiology, such as Finley's *Kinesiological Analysis of Human Locomotion*,\(^1\) and Jensen's *Applied Kinesiology: The Scientific Study of Human Performance*.\(^2\)

In these manuels of structural kinesiology, much attention is paid to applied anatomy,\(^3\) will and unwilled movement,\(^4\) and motor skills in a medical context.\(^5\)

---


Psychologists and psychiatrists have studied body language for mental illness clues (as in Berger's "Nonverbal Communication in Group Psychotherapy");\(^6\) and as paralanguage, i.e., a means of giving depth to verbal communication.\(^7\) Some of these studies deal primarily with emotions, such as "The Kinesic Level in the Investigation of the Emotions"\(^8\) while others concentrate on pathological illnesses.\(^9\) Much of their information, while helpful, is of limited value to businessmen.\(^10\)

---


Physical therapists and physical educationalists have explored and choreographed body movement\textsuperscript{11} for health and/or aesthetic reasons\textsuperscript{12} with still less significance for the business practitioner.

Sociologists and anthropologists have expounded on the differences and similarities\textsuperscript{13} of gestures in communication in various societies and environments.\textsuperscript{14} This material has valuable potential for businessmen once it can be dredged through and gleaned as to what is significant.


\textsuperscript{14}David Efron, \textit{Gesture and Environment} (New York: Kings Crown Press, 1942); and J. P. Foley, "Gestural Behavior and Social Setting", in \textit{Readings in Social Psychology} (T. L. Newcombe and E. L.
Actors and speech-makers have pondered the best way to use non-verbal communication though much of their work involves mimic stereotyping.

Most of these studies have been extremely limited in scope, however, and of almost no worth to a businessman because of the sometimes very technical nature of the treatise.

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More recently, most magazines—both scholarly\textsuperscript{18} and otherwise\textsuperscript{19}—have some article suggesting how much we can learn\textsuperscript{20} (or tell about ourselves\textsuperscript{21}) through the use of kinesics. These articles often are of an extremely "slick cover" nature, and usually do little more than give the reader an amused sixty seconds of reading pleasure.\textsuperscript{22}

Writers of business literature—and most especially those concerned with management and communication—have seemingly ignored and neglected this new body of knowledge.


As managers spend the largest amount of their time involved in communication,\textsuperscript{23} it appears kinesics cannot be disregarded.

I. STATEMENT OF THE PROBLEM AND HYPOTHESES

Body language is based upon the behavioral patterns of nonverbal communications. Clinical studies have revealed the extent to which body language can actually contradict verbal communications.\textsuperscript{24}

Kinesics can include any non-reflexive or reflexive movement of a part, or all of the body, used by a person to communicate an emotional message to the outside world. To understand unspoken body language, one must take into consideration emotional and environmental differences.\textsuperscript{25} The average businessman, unschooled in cultural nuances of kinesics, often misinterprets or misrepresents what he sees or communicates. Therefore, he may negate a positive message to his subordinates by the use of negative body movements.


\textsuperscript{24}Helen Flanders Dunbar, Emotions and Bodily Changes (fourth edition; New York: Columbia University Press, 1954); David Efron, \textit{loc. cit.}; and David Efron and J. P. Foley, \textit{loc. cit.}

In reviewing the literature, the author could find no study that has been done relating to the use of kinesics in establishing and determining meaning in superior-subordinate communication, although there is a growing wealth of publications relative to the introduction of the use of kinesics in all fields. Extensive search of the traditional media of dissertation listings was made: Research Studies in Education, Dissertation Abstracts, the Phi Delta Kappan, as well as Business Periodical's Index and the Reader's Guide to Periodical Literature. Such research brought nothing to light which would indicate that the study undertaken has been previously attempted, either in private or public education.

Considering the amount of time managers expose themselves in non-verbal communication daily (you cannot "not communicate" even though you do not speak), it would seem proper to attempt to ascertain if, in fact, kinesics does affect message perception.

The objective of this study, therefore, was to identify and analyze positive and negative body movements and to determine what, if any, effect they lent to message perception. Specifically, some questions under consideration were:

1. What, if any, are the benefits of management concentrating on positive kinesics to coincide with positive verbal communication?
2. How can management develop, from the use of data gathered in the experimental process of this study, an awareness of the necessity of communication—both verbal and non-verbal—and a means for determining kinesic effectiveness?

The null hypotheses under consideration in this study were:

1. There is no difference in response to messages whether negative or positive body language is used;

2. There is no difference in response to messages whether or not kinesics are congruent with verbal message content;

3. The effect of body language on message perception is constant regardless of personality type or demographic characteristics.

If any or all of these null hypotheses are rejected; by default, the working hypothesis must be accepted, which is: at least to some degree, kinesics does affect response to messages.

II. PURPOSE, SCOPE, AND LIMITATIONS OF THE STUDY

The purpose of this study was to obtain information which would contribute to the body of knowledge already
accumulated in the fields of management and communications. In addition, the dissertation was intended to furnish management—both practitioners and academicians—with information for evaluating and orienting themselves toward successful communication of ideas.

The scope of this study was restricted to a sample of industrial employees. This restriction was imposed by the desire to analyze one group well rather than to incompletely cover a broader area.

Notwithstanding the customary limitations of time and money, another possible cause of discrepancy lies in the reaction of the individual subject towards the questions asked in the experiment. The respondents may have had difficulty in answering questions thoughtfully and honestly, no matter how careful the examiner may have been to put them at ease and explain the purpose of the study. There is no way to avoid receiving answers which the respondent feels ought to be given rather than those which are first hit upon. It is a partial answer to say that similar questionnaires have been successful with other occupational groups when used by researchers in psychology and sociology.

One limitation may have been not restricting the scope of the experiment to the study of employees on a single management level on the hierarchy rather than a plethora of
management levels. Or the study might have been limited in expecting thoughtful and honest answers from hurried and sometimes suspicious subjects. Perhaps restricting the study further would have given more unified answers. Since there are no materials at hand with which the hypotheses can be tested, they must be left for subsequent investigators.

III. METHOD OF ANALYSIS

The majority of information presented in the study was obtained through an experiment using employees (the selection of which will be more fully detailed in Chapter II).

The Video-tape. With the cooperation of Dr. T. Win Welford, a video-tape was produced to project positive and negative body motions along with positive and negative vocalization. To project these different meanings (via body language), the operational definition of gesticulation was employed; i.e., use of eye contact, head and hand

26Dr. Welford teaches kinesics in Speech and Drama at Southeastern Louisiana University, Hammond, Louisiana.


28R. W. Exline and L. C. Winters, Affective Relations and Mutual Glances in Dyads in Affect, Cognition, and Personality (S. S. Tomkins and
motions, posture, and proximity were varied to change kinesic meanings. For purposes of different verbal messages, repetition, hesitation, and mispronunciation were used. Dr. Welford, who is currently preparing a text on the use of kinesiology in speech, not only suggested the above as the best variables to employ to project desired meaning, but also indulgently acted as the "employer" in the video-tape.


A test was prepared (Appendix A) and the following four video-tape sequences were shot (Appendix C) which were:

Take 1: Positive kinesics, positive vocalization
Take 2: Negative kinesics, positive vocalization
Take 3: Negative kinesics, negative vocalization
Take 4: Positive kinesics, negative vocalization

Mr. Ralph M. Newell\textsuperscript{33} and Mr. Frank Majers\textsuperscript{34} both provided the technical advice as well as the filming for the experiment.

The camera was located 18 feet away from Dr. Welford with a telephoto reading of 30. An F=15-64 mm lens was used at "wide away". For negative proximity, the lens was zoomed completely back so as to get the whole body and give the audience (employees) a feeling of separation. Positive proxemics zoomed in to 30 wide to show only a "bust" of Dr. Welford. Each take lasted approximately three minutes.

To ensure the exact wording would always be used, it was arranged so that Dr. Welford could read the message (out of the range of the camera eye.)

\textsuperscript{33}Director of Recording Services at Louisiana State University, Baton Rouge, Louisiana.

\textsuperscript{34}Information Representative for Recording Services at Louisiana State University, Baton Rouge, Louisiana.
The Pre-Test. A pre-test was conducted using a few sympathetic friends and colleagues of the author, showing the experiment exactly as it would be conducted. This pre-test resulted in the researcher adding a "canned" speech to present to the employee groups to initiate the experiment.

The Questionnaire. Using the assistance of Dr. Kenneth L. Koonce, the questionnaire design and sample were determined. It was decided to use as many demographic variables as feasible to determine if they were relevant. The reasons for this decision were:

1. This information is not presently available in literature in the area;

2. One can only speculate as to whether or not there are differences in kinesic perception between sexes, ages, marital status, religions, education, and personality types.

Further employing Dr. Koonce's advice, there was no attempt to balance demographically the different participating groups, as is explained in the section on "Experimental Groups" below. Instead, a sufficiently large number of participants was obtained for each group to obtain a well-rounded

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35Department of Experimental Statistics, Louisiana State University, Baton Rouge, Louisiana.
sample. (The minimum was set at twenty-five participants per group for nine groups.) Also, no subject was allowed to participate in more than one group so as to eliminate reinforcement or bias for the second message by repeated expressions, etc.

Dr. Joseph G. Dawson\textsuperscript{36} provided assistance in selecting the psychological test used in the experiment—Cattell's Sixteen Personality Factor Questionnaire (Appendix B). This test is not designed to measure neurotic or psychotic conditions, but attempts to assess the entire personality. As described by Cattell and Eber:

The 16 P.F. is the psychologists' answer, in the questionnaire realm, to the demand for a test giving fullest information in the shortest time about most personality traits. It is not merely concerned with some narrow concept of neuroticism or "adjustment," or special kind of ability, but sets out to cover planfully and precisely all the main dimensions along which people can differ, according to basic factor analytic research.\textsuperscript{37}

Cattell's P.F. has been used in many cross-cultural surveys, and has been translated into French, Italian, German, and Japanese among other languages; and therefore, seemed especially appropriate, since one factor the author was attempting to measure was the ethnic background effect.

\textsuperscript{36}Head, Clinical Psychology Department, Louisiana State University, Baton Rouge, Louisiana.

For measurement of message perception, seven concepts of the message relating to message content were placed upon a five-point, equal-interval ordinal scale. Specifically, the scales are five-step, bipolar, adjectival scales representing linear functions and passing through a common origin. Prepared as advised by Smith, adverb modifiers qualify each step on the scale; the greater the intensity of the association, the more extreme the displacement towards one or the other polar terms. With several of these various dimensions measured, it is assumed that the meaning of the message will be accurately located.

Experimental Groups. Through the cooperation of W. L. McDermott, the employees participating in this study were chosen to get a wide cross-section of companies. Represented were: Dow Chemical Company; H. E. Wiese, Inc.; Nichols Construction Corporation; National Maintenance Corporation; Industrial Electrical Constructors; The McCarty Corporation; Sline Industrial Painters Company; and Barnard and Burk, Inc.

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The eight companies represented encompassed the functions of engineering, production, maintenance, technical, and staff, through all levels of management. Illustrative of these functions were such job categories as operators (both technical and non-technical Shift Supervisors through Junior Operators and Technicians); union and non-union craftsmen of all trades (such as boilermakers, electricians, millwrights, painters, pipefitters, etc.); engineers of all disciplines (such as electrical, chemical, mechanical, instrument, and civil); both instrument and electrical technicians; computer experts; economic evaluators; and secretaries.

Utilizing the advice of Dr. Koonce, the author requested that Dow personnel get as random an assignment of subjects to groups as possible so that, as nearly as possible, bias would be eliminated.

On the morning of the study, the author arrived early to complete final preparations in the conference room which had been provided at the Dow Louisiana site. Chairs were already arranged in rows facing the front of the room, where a large table was standing. Upon this table, the Ebcor Recorder-Monitor (which resembles almost exactly a black-and-white television set with tape recorder attached) was placed. Employees had been previously notified of their time of experiment, and arrived at thirty minute intervals, beginning at 9:00.
There were nine separate groups employed in the experiment, which were divided as follows:

- **Group A** - Saw positive kinesics; heard positive vocalization
- **Group B** - Saw negative kinesics; heard positive vocalization
- **Group C** - Saw negative kinesics; heard negative vocalization
- **Group D** - Saw positive kinesics; heard negative vocalization
- **Group E** - Heard positive vocalization; saw nothing
- **Group F** - Heard negative vocalization; saw nothing
- **Group G** - Saw positive kinesics; heard nothing
- **Group H** - Saw negative kinesics; heard nothing
- **Group I** - Read the message (neither saw nor heard the message)

The situation (message) for each group was the same; i.e., a neutral one so as to focus on the message interpretations. Group I only read the message, and as such, served as a control group in case the message itself was biased.

**The Experiment.** Five minutes were allowed to elapse for any late-comers. As each group was assembled, the author gave a "canned" speech about the purpose of the experiment. The employees were told that the author was in the process of a dissertation and was endeavoring to discover more meaningful ways to clarify communications between management and employees. The employees were informed that, although there was no real "personal" information requested, that all material would be held confidential.
Next, the groups were told that the message was quite short, so to please give full attention from the beginning. Finally, they were requested not to discuss the experiment with other participants who had not yet been interviewed. Using the advice of Dr. Koonce, no mention was made at any time concerning body language as this might bias the participants.

Feeling some participants might have trouble with Cattell's Sixteen P.F. Questionnaire, a brief explanation and illustration on the chalk board of how to check off the desired answer on the scale was given.

Experiment packets (Appendix B) were then distributed, and pencils were made available if necessary. Each participant was instructed to read the letter, check off the demographic information on page 2, and the personality evaluation on page 3. Employees were requested to stop, and not turn the page, when the blank sheet was reached.

Using the Sony 3600 recorder and monitor, with a half-inch tape, the groups saw, heard, and/or read their portion of the experiment as described above. Participants were then requested to turn to the last page and check off their

40 Scotch video-tape Cat. No. 361-1/2-1200-R148B; 1/2 in. x 1200 ft. (12.7 mm x 365 m.)
appropriate message perception for each of the seven concepts listed.

Each group was then thanked and told a copy of the completed dissertation would be made available through both Dow and L.S.U. libraries.

Data Preparation. Coding of the questionnaires was performed on an IBM code sheet, according to program format used by the L.S.U. computer center, under the direction of Dr. Koonce. Data was coded in order to facilitate the analytical methods as discussed in the "Preview" section below.

IV. PREVIEW

Chapter II is devoted to the presentation of the findings from the questionnaire to the employees. Included in this section is the discussion of the employees' sex, marital status, ethnic background, age, religion, education and personality evaluation in relation to their message perception. These factors are analyzed in Phase I first by frequency distribution within each group. After that, the groups are "collapsed" with attendant explanation. Means, standard deviations, and analysis of variance follow in Phase II of the analysis.
In Chapter III (following the procedures outlined above) personality and demographic factors are correlated. This analysis compares the variables given by the employees concerning themselves; stressing not only the similarities, but the differences as well. This system of analysis provides a sort of "checks and balances" concerning any meaningful variables affecting message perception such as age, marital status, personality type, etc.

Chapter IV is a brief summary of the study, a check of the hypotheses, and some conclusions and recommendations for further study.
CHAPTER II

ANALYSIS OF MESSAGE PERCEIVED BY
DEMOGRAPHICS, PERSONALITY FACTORS, AND MESSAGE TYPES

In seeking to isolate what factors contribute to an awareness of message nuances, the employees studied were analyzed by demographic characteristics and personality factors, and subjected to varying forms of the same message to ascertain the discrimination between messages these subjects could discern. Chapter II is an analysis of the effects on message perception of personality factors as well as the demographic factors of age, marital status, ethnic background, religion, and education; consistent with testing and/or developing the third hypothesis, which is:

The effect of body language on message perception is constant regardless of personality type or demographics.

In order to test the hypothesis, several steps were necessary. Demographic characteristics such as age, education, marital status, sex, religion, and ethnic background, were compared with message discrimination to discover any possible relationships. Then, personality characteristics such as whether a person is an introvert, ambivert, or extrovert were contrasted with message perception to gain insight into possible recurring patterns.
This chapter will attempt to draw a profile, based upon the findings of the above-mentioned data, so that a guide might be given toward employing kinesics as an aid in fostering better communications between employers and their workers.

I. BACKGROUND OF THE STUDY

Through the cooperation of Dow Chemical Company U.S.A., the employees participating in this study were chosen to get a wide cross-section of companies. The experiment was carried out as described in the preceding chapter.

To obtain a perfectly balanced, random striated sample would mean all people would have to be identified first, and then assigned to each group. This method was impractical for several reasons. First of all, it would have been nearly impossible to obtain access to personnel files of eight companies. Secondly, employees would not have had the anonymity promised them. Also, with a random assignment of a large enough number of employees to different groups (such as was made by Dow), theoretically, a random assignment is the final result anyway. Therefore, an initial group of 292 employees was tested. Due to faulty or incomplete information, the group was reduced to 227 persons to be coded.
The sample sizes required to be 99 percent certain that the standard error of the mean values of the messages was no greater than .1 are shown in Appendix D. The table in Appendix D indicates the sample size need be no greater than 222 employees for the largest standard deviation which was obtained, and on some questions the responses required dropped to 148. As a result, the mean interpretation of the messages resulting from this experiment are considered very reliable representations of the employee's message perception.

After receiving Phase I from the computer and tabulating the results, the author found that the data, in some instances, needed to be "collapsed". Collapsing means that data is combined into smaller categories, or in some instances, eliminated altogether. The rationale behind, and justification for, this statistical procedure is that, when inaugurating a study, certain categories are artificially established by the author during the preparation and writing of the questionnaire (such as this author established six possible age intervals), but author establishment does not make these categories exist per se. Phase I data indicated that some artificial cells had been created in initiating the study, hence the following collapsing was performed:

1. Marital Status was collapsed from four groups to two groups due to insufficient numbers of people
in the "widow" and "divorced" categories. The new categories were established as "currently married or widowed" and "single or divorced".

2. Under the heading of "Religion", there was one person of the Jewish faith, and three persons specifying "none". Statistically, one person should not comprise a cell. Therefore, these four individuals were dropped from the sample as it did not disturb the sample size to do so. Also, one Church of Christ member, one Mormon, seven Baptists, and one Presbyterian did not classify themselves as Protestants, but chose to write in their religious preference. Using the definition of a protestant found in Webster ("any Christian not belonging to the Roman Catholic or Orthodox Eastern Church"), the author coded these individuals as protestants.

3. The original eight categories for ethnic background were collapsed to four categories: (a) Afro-American (which includes those persons who specified "black" under the "other" category; (b)
Northern European, which is defined as Anglo-Saxon, German, Scandinavian, and Slavic; (c) Southern European, which is defined as French, Italian, and Spanish; and Other, which includes persons of greatly mixed ancestry. (There were no Orientals participating in the study.)

4. As there were no participants under eighteen years of age, this category was dropped. Also, due to the small number of participants in the "18 to 21" and "22 to 25" years of age categories, these two classifications were combined to read, "18 to 25".

5. There were only three people with post-graduate degrees (two with Ph.D.'s); so the last two categories of "some post-graduate work" and "post-graduate degree" were combined.

These above-mentioned manipulations left 223 employees for the study, and are broken down in Table I.

After these data were ready, Phase II of the computer was run. First, raw means were calculated for each category. It was felt that perhaps this data was insufficient alone, because when classifications are not equal (example 22 females and 201 males) a true (raw) mean may not tell the whole story. An adjustment made because of unequal numbers is called an
<table>
<thead>
<tr>
<th>Sex</th>
<th>Marital Status</th>
<th>Ethnic Background</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>Male</td>
<td>Afro-Am.</td>
</tr>
<tr>
<td>22</td>
<td>201</td>
<td>16</td>
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</table>

<table>
<thead>
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<th>Age</th>
<th>Religion</th>
<th>Personality</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 to 25</td>
<td>Catholic</td>
<td>Introvert</td>
</tr>
<tr>
<td>26 to 30</td>
<td>Protestant</td>
<td>Ambivert</td>
</tr>
<tr>
<td>31 to 35</td>
<td></td>
<td>Extrovert</td>
</tr>
<tr>
<td>36 or older</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>98</td>
<td>47</td>
</tr>
<tr>
<td>40</td>
<td>125</td>
<td>123</td>
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</table>

<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>less than high school diploma some college college degree post-graduação work</td>
</tr>
<tr>
<td>9</td>
</tr>
</tbody>
</table>

Source: Appendices B and E
adjusted mean. Adjusted means were computed, and in this instance, there was no real difference. Therefore, raw means were used, as they may be more significant.

II. METHOD OF ANALYSIS

In interpreting the tables in this chapter, a few explanatory remarks should be made to facilitate understanding of the analysis. This commentary is sub-divided into what the columnar headings mean.

The "Source of Variation" Column. The Source of Variation Column lists the factors under consideration (sex, marital status, ethnic background, age, religion, education, and personality). The demographic variables are very straightforward, and are, after collapsing:

A. Sex
1. Female
2. Male

B. Marital Status
1. Never Married or Divorced
2. Currently Married or Widowed

C. Ethnic Background
1. Afro-American
2. Northern European
3. Southern European
4. Other

D. Age
1. 18 to 25 years of age
2. 26 to 30 years of age
3. 31 to 35 years of age
4. 36 years or older

E. Religion
1. Catholic
2. Protestant

F. Education Completed
1. Less than high school
2. High school diploma
3. Some college
4. College degree
5. Post graduate work

The personality factors from the 16 P.F. test were scored and interpreted with the advise of Dr. Dawson and Dr. Caesar B. Moody.42 Rather than undertake a complete personality inventory (which was not the intent of this dissertation), a simplified evaluation was made as described below:

41Head, Psychology Department, Southeastern Louisiana University, Hammond, Louisiana.
1. The closer to "1" checked for the following variables, the more introverted the personality;
   A. Reserved, detached, critical, aloof
   B. Less intelligent, concrete-thinking
   C. Affected by feelings, emotionally less stable, easily upset
   D. Humble, mild, accommodating, conforming
   E. Sober, prudent, serious, taciturn
   G. Shy, restrained, timid, threat-sensitive
   I. Trusting, adaptable, free of jealousy, easy to get along with
   J. Practical, careful, conventional, regulated by external realities, proper
   M. Conservative, respecting established ideas, tolerant of traditional difficulties
   P. Relaxed, tranquil, unfrustrated

2. The closer to "10" checked for the following variables, the more introverted the personality;
   F. Conscientious, perservering, staid, moralistic
   H. Tender-minded, clinging, over-protected, sensitive
   K. Shrewd, calculating, worldly, penetrating
   L. Apprehensive, self-reproaching, worrying, troubled
   N. Self-sufficient, prefers own decisions, resourceful
   O. Controlled, socially precise, following self-image

3. The closer to "1" checked for the following variables, the more extroverted the personality;
F. Conscientious, persevering, staid, moralistic
H. Tender-minded, clinging, over-protected, sensitive
K. Shrewd, calculating, worldly, penetrating
L. Apprehensive, self-reproaching, worrying, troubled
N. Self-sufficient, prefers own decisions, resourceful
O. Controlled, socially precise, following self-image

4. The closer to "10" checked for the following variables, the more extroverted the personality;
   A. Reserved, detached, critical, aloof
   B. Less intelligent, concrete-thinking
   C. Affected by feelings, emotionally less stable, easily upset
   D. Humble, mild, accommodating, conforming
   E. Sober, prudent, serious, taciturn
   G. Shy, restrained, timid, threat-sensitive
   I. Trusting, adaptable, free of jealousy, easy to get along with
   J. Practical, careful, conventional, regulated by external realities, proper
   M. Conservative, respecting of established ideas, tolerant of traditional difficulties
   P. Relaxed, tranquil, unfrustrated

After mathematically coding the columns, a mean score was computed for each participant. Based upon the score they received, an employee was designated as follows:
1 - 5 Introvert
5 - 6 Ambivert
6 - 10 Extrovert

A complete listing of all answers for every employee used in this study can be seen in Appendix E.

The "F Value" Column. The "F Value" is a value calculated which is derived from statistical distribution if the null hypothesis is true. (This is the most important statistic calculated in the entire study.) If a null hypothesis is rejected, by default, the working hypothesis must be used.

The "Probability of F" Column. The "Probability of F" column is added for those less mathematically inclined individuals. It is significant only at certain confidence levels, as indicated:

1. One can be 90% confident a statement is true if the probability is less than .10;
2. One can be 95% confident a statement is true if the probability is less than .05;
3. One can be 99% confident a statement is true if the probability is less than .01.
In seeking to determine what, if any, effect body language has on communications, it was necessary to isolate and examine demographics and personality to insure that any differences in message perception found were, in fact, due to kinesics and not something else. Therefore, seven measures of message perception were evaluated using demographics and personality factors as the sources of variation. These factors were favorability, truthfulness, believability, reputability, reliability, pleasantness, and informability; and Tables II through VIII examine each of these elements in turn.

Perception of Message "Favorability". As can be seen in Table II, the probability that differences observed in message favorability were due to chance was .99, or in other words, there was no significant difference in message perception due to sex. Going down the list of factors, favorability of message perceived was likewise not affected significantly by marital status, ethnic background, age, religion, education, or personality. This table illustrates the point that apparently, whether or not a person perceives a message as favorable has little to do with demographics or personality.
#TABLE II

ANALYSIS OF VARIANCE TABLE OF MESSAGE FAVORABILITY BY DEMOGRAPHICS, PERSONALITY FACTORS AND MESSAGE TYPE

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>F Value</th>
<th>Probability of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>1</td>
<td>0.01</td>
<td>0.99</td>
</tr>
<tr>
<td>Marital Status</td>
<td>1</td>
<td>2.87</td>
<td>0.09</td>
</tr>
<tr>
<td>Ethnic Background</td>
<td>3</td>
<td>0.01</td>
<td>1.00</td>
</tr>
<tr>
<td>Age</td>
<td>3</td>
<td>0.64</td>
<td>0.59</td>
</tr>
<tr>
<td>Religion</td>
<td>1</td>
<td>0.01</td>
<td>0.97</td>
</tr>
<tr>
<td>Education</td>
<td>4</td>
<td>1.71</td>
<td>0.15</td>
</tr>
<tr>
<td>Personality</td>
<td>2</td>
<td>0.88</td>
<td>0.59</td>
</tr>
<tr>
<td>ERROR#</td>
<td>139</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Appendix B

#There is a total of 139 degrees of freedom
Perception of Message "Truthfulness". Table III, which concerns message truthfulness, likewise indicates similar findings; i.e., whether or not a message is considered truthful has no apparent bearing on whether or not a person is female or male; married or not; Catholic or Protestant; well-educated or barely literate; or comes from any especial ethnic origin. Likewise, it made little difference in gleaning this perception whether or not a person's personality was outgoing, withdrawn, or somewhere in between. Most significant of the factors under consideration was age, although not much conclusive can be said about this finding either. Persons under 25 and over 35 tended to be more favorably disposed to perceive a message as concerns truthfulness, regardless of what medium was used. Perhaps this is the age where youthful naiveté has vanished and a philosophic viewpoint has not yet been established.

Perception of Message "Believability". Message believability is dealt with in Table IV, and marital status is the main factor studied which seemed to affect a person's message perception (5% level). It would appear that being in close union with another individual may make a person more attuned to pursuit of what is, or is not, believable. Personality
TABLE III

ANALYSIS OF VARIANCE TABLE OF MESSAGE TRUTHFULNESS
BY DEMOGRAPHICS, PERSONALITY FACTORS AND MESSAGE TYPE

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>F Value</th>
<th>Probability of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>1</td>
<td>0.30</td>
<td>0.59</td>
</tr>
<tr>
<td>Marital Status</td>
<td>1</td>
<td>2.89</td>
<td>0.09</td>
</tr>
<tr>
<td>Ethnic Background</td>
<td>3</td>
<td>0.51</td>
<td>0.68</td>
</tr>
<tr>
<td>Age</td>
<td>3</td>
<td>2.42</td>
<td>0.07</td>
</tr>
<tr>
<td>Religion</td>
<td>1</td>
<td>0.06</td>
<td>0.80</td>
</tr>
<tr>
<td>Education</td>
<td>4</td>
<td>0.74</td>
<td>0.57</td>
</tr>
<tr>
<td>Personality</td>
<td>2</td>
<td>1.95</td>
<td>0.14</td>
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Source: Appendix B

#There is a total of 139 degrees of freedom
TABLE IV

ANALYSIS OF VARIANCE TABLE OF MESSAGE BELIEVABILITY
BY DEMOGRAPHICS, PERSONALITY FACTORS AND MESSAGE TYPE

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>F Value</th>
<th>Probability of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
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<td>1.22</td>
<td>0.27</td>
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<tr>
<td>Marital Status</td>
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<td>3.34</td>
<td>0.07 *</td>
</tr>
<tr>
<td>Ethnic Background</td>
<td>3</td>
<td>0.23</td>
<td>0.87</td>
</tr>
<tr>
<td>Age</td>
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<td>2.05</td>
<td>0.11</td>
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<tr>
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<td>0.74</td>
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<tr>
<td>Education</td>
<td>4</td>
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<td>0.82</td>
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<td>Personality</td>
<td>2</td>
<td>4.42</td>
<td>0.01 *</td>
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</table>

Source: Appendix B

#There is a total of 139 degrees of freedom

*Five percent level
also seemed to have a small bearing (5% level) on whether or not a message is believed, with introverts tending to disbelieve more than ambiverts or extroverts. A person's gender, lineage, generation, or formal instruction seemed not to influence his degree of perceived believability.

**Perception of Message "Reputability".** Table V, treating whether or not the message was reputable, offered no measurably significant message perception differences on any of the demographics: sex, marital status, ethnic background, age, religion, or education. In examining personality type, persons designated as ambiverts were slightly more predisposed to perceive a message as reputable, but not enough so to be statistically conclusive.

**Perception of Message "Reliability".** Whether or not a message was perceived by the employees studied as reliable was independent of the demographic characteristics and personality factors under consideration. As Table VI demonstrates, the reliability content these people evidenced was not guided by their lifespan, place of worship, degree of literacy, nationality, conjugal state, or sex. Their type of personality did not affect their judgment of whether or not a message could be classified as reputable, either.
TABLE V
ANALYSIS OF VARIANCE TABLE OF MESSAGE REPUTABILITY
BY DEMOGRAPHICS, PERSONALITY FACTORS AND MESSAGE TYPE

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>F Value</th>
<th>Probability of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
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<td>2.14</td>
<td>0.14</td>
</tr>
<tr>
<td>Marital Status</td>
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<td>0.57</td>
<td>0.54</td>
</tr>
<tr>
<td>Ethnic Background</td>
<td>3</td>
<td>0.51</td>
<td>0.68</td>
</tr>
<tr>
<td>Age</td>
<td>3</td>
<td>2.24</td>
<td>0.09</td>
</tr>
<tr>
<td>Religion</td>
<td>1</td>
<td>0.75</td>
<td>0.61</td>
</tr>
<tr>
<td>Education</td>
<td>4</td>
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<td>0.68</td>
</tr>
<tr>
<td>Personality</td>
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<td>0.06</td>
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</table>

Source: Appendix B

#There is a total of 139 degrees of freedom
TABLE VI

ANALYSIS OF VARIANCE TABLE OF MESSAGE RELIABILITY
BY DEMOGRAPHICS, PERSONALITY FACTORS AND MESSAGE TYPE

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>F Value</th>
<th>Probability of F</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
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<td>0.14</td>
</tr>
<tr>
<td>Ethnic Background</td>
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<td>0.85</td>
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<tr>
<td>Age</td>
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<td>1.03</td>
<td>0.38</td>
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<tr>
<td>Religion</td>
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<td>0.01</td>
<td>0.96</td>
</tr>
<tr>
<td>Education</td>
<td>4</td>
<td>0.20</td>
<td>0.93</td>
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<tr>
<td>Personality</td>
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<td>1.84</td>
<td>0.16</td>
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<tr>
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<td></td>
</tr>
</tbody>
</table>

Source: Appendix B

#There is a total of 139 degrees of freedom
Perception of Message "Pleasantness". The message variable of "pleasantness" was unaffected by any of the factors studied. It can be stated (Table VII) that ambiverts, introverts, and extroverts were all equally likely to find a message pleasant. Similarly, whether or not a message was deemed pleasant could not be attributed to an employee's gender, connubial condition, lineage, age, religious beliefs, or schooling.

Perception of Message "Informability". In deciding whether or not a message source was informed, the marital status of a person did affect message acumen a little (5% level) as is evidenced in Table VIII. Once more, it can be speculated that perhaps living with another person in close communion might tend to make an individual more attuned to whether or not a message source is indeed informed. As with the preceding six message meanings tested, whether an employee perceived a message source as being informed seemed independent of his personality type. Furthermore, the subject's education, age, religion, ethnic background, and sex did not affect how he judged a message on informability.

IV. SUMMARY OF FINDINGS

Chapter II, dealing with how an employee's demographic characteristics and personality affects message perception
<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>F Value</th>
<th>Probability of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>1</td>
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<tr>
<td>Marital Status</td>
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<tr>
<td>Religion</td>
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<td>0.69</td>
</tr>
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<td>Education</td>
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</tr>
</tbody>
</table>

Source: Appendix B

#There is a total of 139 degrees of freedom
<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>F Value</th>
<th>Probability of F</th>
</tr>
</thead>
<tbody>
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<td>0.40</td>
<td>0.53</td>
</tr>
<tr>
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<td>1</td>
<td>5.29</td>
<td>0.02 *</td>
</tr>
<tr>
<td>Ethnic Background</td>
<td>3</td>
<td>0.55</td>
<td>0.66</td>
</tr>
<tr>
<td>Age</td>
<td>3</td>
<td>1.15</td>
<td>0.33</td>
</tr>
<tr>
<td>Religion</td>
<td>1</td>
<td>1.50</td>
<td>0.22</td>
</tr>
<tr>
<td>Education</td>
<td>4</td>
<td>0.30</td>
<td>0.88</td>
</tr>
<tr>
<td>Personality</td>
<td>2</td>
<td>1.62</td>
<td>0.20</td>
</tr>
<tr>
<td>ERROR#</td>
<td>139</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Appendix B

#There is a total of 139 degrees of freedom
indicates conclusively that for at least these 223 employees, demographic characteristics such as age, religion, sex, ethnic background, and education do not materially affect how a message is perceived. Marital status alone affects message perception, and then, only to a slight degree, and only on certain message aspects. Additionally, type of personality, i.e., whether a person is an introvert, ambivert, or extrovert, does not affect message perception.

As Chapter II was the discussion of how demographic characteristics and personality factors affected message discrimination (Hypothesis three), the next step in this study was the analysis of if, and how, kinesics qualifies message perception. This, then, is the topic of Chapter III.
CHAPTER III

ANALYSIS AND COMPARISON OF MESSAGE PERCEIVED
BY TYPE OF MESSAGE EXPERIENCED

Chapter III is a parallel analysis of Chapter II. How demographic characteristics, personality factors, and type of message related to message perception was analyzed in Chapter II to test the third hypothesis, which stated: the effect of body language on message perception is constant regardless of personality type or demographics. It was determined that the effects due to these characteristics are negligible. As these characteristics are, for the most part, inconsequential as message affectors, the focus of the entire study rests on how different types of communication—written, oral, and visual—affect message perception. Therefore, it is the objective of this chapter to measure and evaluate hypotheses one and two concerning how different types of communication affect message perception.

I. METHOD OF ANALYSIS

The two hypotheses treated in this chapter are:
1. There is no difference in response to messages whether negative or positive body language is used.
2. There is no difference in response to messages whether or not kinesics are congruent with verbal message content.

In order to test these hypotheses, five steps were necessary, as follows:

1. Body language used alone as a variable was measured as an affector of message perception.
2. Vocalization used alone as a variable was measured as an affector of message perception.
3. Voice and kinesics used together were measured as affectors of message perception as a main effect, and for interaction.
4. Demographic characteristics and personality factors were compared with use of body language to discover any possible relationships as a main effect and for interaction.
5. Demographic characteristics and personality factors were compared with the use of vocalization to discover any possible relationships as a main effect and for interaction.

In interpreting the tables in this chapter, the reader is invited to return to the preceding chapter for a description and statistical explanation of these columnar headings: "Source of Variation", "F Value", and "Probability of F".
The most important sources of variation (5% or less chance of the variation being due to chance) for each table is graphed for the purpose of allowing closer scrutiny of possible variation causation. These graphs use as their axes the two elements which were the sources of variation and make it pictorially easy to see how the mean of one variable changed for each shift in the other variable. Because of unequal number of participants falling into each classification, means are adjusted for sex, marital status, ethnic background, age, religion, education, personality, personality by body language, personality by voice, sex by body language, marital status by body language, ethnic background by body language, age by body language, religion by body language, education by body language, sex by voice, marital status by voice, ethnic background by voice, age by voice, religion by voice, and education by voice.

II. KINESICS AND VOCALIZATION COMPARED TO MESSAGE PERCEIVED

Chapter II showed that the differences in message perception were not attributable to personality or demographics. In endeavoring to discover what, if any, effect kinesics has on communications, it was indispensable that written, oral, and visual characteristics be separated and
scrutinized to make certain what discrepancies in message perception were, in actuality, due to body language and not anything else. Accordingly, seven gauges of message perception were assessed using the written word, speech, and body language as the sources of variation. These gauges were favorability, truthfulness, believability, reputability, reliability, pleasantness, and informability; and Tables IX through XV investigate each of these elements in turn.

**Perception of Message "Favorability".** The most important variable for message favorability appears to be due primarily to a combination of body language and voice, as is seen in Table IX. Voice or body language analyzed alone, or voice and body language in combination with any demographic characteristic or personality factor, did not produce any discernible fluctuation in message perception. Figure 1 (which is a graphic picture of the asterisked column) shows that when no vocalization or body language at all is used (written medium), the lowest message favorability of all results. Body language alone or voice alone apparently did not affect how favorably a message was perceived (probability of F scores of .2 and .6 respectively), but when kinesics and voice were employed together, a great deal of significance (.0013) is found. Or, in other words,
<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>F Value</th>
<th>Probability of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Language</td>
<td>2</td>
<td>1.43</td>
<td>0.24</td>
</tr>
<tr>
<td>Voice</td>
<td>2</td>
<td>0.86</td>
<td>0.57</td>
</tr>
<tr>
<td>Body Language by Voice</td>
<td>4</td>
<td>4.92</td>
<td>0.01 **</td>
</tr>
<tr>
<td>Personality by Body Language</td>
<td>4</td>
<td>1.07</td>
<td>0.37</td>
</tr>
<tr>
<td>Personality by Voice</td>
<td>4</td>
<td>1.33</td>
<td>0.26</td>
</tr>
<tr>
<td>Sex by Body Language</td>
<td>2</td>
<td>2.29</td>
<td>0.10</td>
</tr>
<tr>
<td>Marital Status by Body Language</td>
<td>2</td>
<td>1.65</td>
<td>0.19</td>
</tr>
<tr>
<td>Ethnic Background by Body Language</td>
<td>6</td>
<td>1.01</td>
<td>0.42</td>
</tr>
<tr>
<td>Age by Body Language</td>
<td>6</td>
<td>0.80</td>
<td>0.58</td>
</tr>
<tr>
<td>Religion by Body Language</td>
<td>2</td>
<td>0.04</td>
<td>0.96</td>
</tr>
<tr>
<td>Education by Body Language</td>
<td>8</td>
<td>0.52</td>
<td>0.84</td>
</tr>
<tr>
<td>Sex by Voice</td>
<td>2</td>
<td>0.98</td>
<td>0.62</td>
</tr>
<tr>
<td>Marital Status by Voice</td>
<td>2</td>
<td>0.51</td>
<td>0.61</td>
</tr>
<tr>
<td>Ethnic Background by Voice</td>
<td>6</td>
<td>1.42</td>
<td>0.21</td>
</tr>
<tr>
<td>Age by Voice</td>
<td>6</td>
<td>1.81</td>
<td>0.10</td>
</tr>
<tr>
<td>Religion by Voice</td>
<td>2</td>
<td>0.45</td>
<td>0.64</td>
</tr>
<tr>
<td>Education by Voice</td>
<td>8</td>
<td>0.30</td>
<td>0.97</td>
</tr>
</tbody>
</table>

ERROR # 139

Source: Appendix B

# There is a total of 139 degrees of freedom.

* There is a 95% confidence level that there was a causation variation associated with the variable,
FIGURE 1

BODY LANGUAGE BY VOICE FOR MESSAGE FAVORABILITY

Source: Appendix B

Note: Means are adjusted for sex, marital status, ethnic background, age, religion, education, personality, personality by body language, personality by voice, sex by body language, marital status by body language, ethnic background by body language, age by body language, religion by body language, education by body language, sex by voice, marital status by voice, ethnic background by voice, age by voice, religion by voice, and education by voice.
there are only 13 times in 10,000 that this combination can be attributed to chance alone.

_Perception of Message "Truthfulness"_. Table X, which concerns message truthfulness, likewise indicates similar findings. Again, the one most significant factor affecting perceived truthfulness was a combination of vocalization and kinesics. In this instance, there were only 4 cases out of 10,000 in which the difference could be attributed to chance! This finding is visually depicted in Figure 2.

From the data presented in Figure 2, it is evident that positive vocalization overcomes negative body language or no body language as the probability figures never fell below 2.5. Furthermore, neither positive nor negative body language affects negative voice to much extent. When no verbalizing is heard, however, body language becomes more critical as concerns truthfulness. Both positive and negative body language were found to evidence truthfulness better than the written word alone. From these findings the practical conclusion appears to be clear: if employers wish to get a favorable or unfavorable message to appear truthful, they should confront their employees on a face-to-face basis.
### TABLE X

ANALYSIS OF VARIANCE TABLE OF MESSAGE TRUTHFULNESS BY MESSAGE TYPE, DEMOGRAPHICS, AND PERSONALITY FACTORS

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>F Value</th>
<th>Probability of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Language</td>
<td>2</td>
<td>0.02</td>
<td>0.98</td>
</tr>
<tr>
<td>Voice</td>
<td>2</td>
<td>2.60</td>
<td>0.08</td>
</tr>
<tr>
<td>Body Language by Voice</td>
<td>4</td>
<td>5.83</td>
<td>0.01 **</td>
</tr>
<tr>
<td>Personality by Body Language</td>
<td>4</td>
<td>0.28</td>
<td>0.89</td>
</tr>
<tr>
<td>Personality by Voice</td>
<td>4</td>
<td>1.49</td>
<td>0.21</td>
</tr>
<tr>
<td>Sex by Body Language</td>
<td>2</td>
<td>0.24</td>
<td>0.79</td>
</tr>
<tr>
<td>Marital Status by Body Language</td>
<td>2</td>
<td>1.75</td>
<td>0.18</td>
</tr>
<tr>
<td>Ethnic Background by Body Language</td>
<td>6</td>
<td>0.20</td>
<td>0.97</td>
</tr>
<tr>
<td>Age by Body Language</td>
<td>6</td>
<td>1.17</td>
<td>0.33</td>
</tr>
<tr>
<td>Religion by Body Language</td>
<td>2</td>
<td>0.05</td>
<td>0.95</td>
</tr>
<tr>
<td>Education by Body Language</td>
<td>8</td>
<td>0.53</td>
<td>0.83</td>
</tr>
<tr>
<td>Sex by Voice</td>
<td>2</td>
<td>0.81</td>
<td>0.55</td>
</tr>
<tr>
<td>Marital Status by Voice</td>
<td>2</td>
<td>0.59</td>
<td>0.56</td>
</tr>
<tr>
<td>Ethnic Background by Voice</td>
<td>6</td>
<td>1.48</td>
<td>0.19</td>
</tr>
<tr>
<td>Age by Voice</td>
<td>6</td>
<td>2.62</td>
<td>0.02 *</td>
</tr>
<tr>
<td>Religion by Voice</td>
<td>2</td>
<td>0.33</td>
<td>0.72</td>
</tr>
<tr>
<td>Education by Voice</td>
<td>8</td>
<td>0.58</td>
<td>0.79</td>
</tr>
</tbody>
</table>

ERROR # 139

Source: Appendix B

# There is a total of 139 degrees of freedom.

* There is a 95% confidence level that there was a causation variation associated with the variable.

** There is a 99% confidence level that there was a causation variation associated with the variable.
FIGURE 2

BODY LANGUAGE BY VOICE FOR MESSAGE TRUTHFULNESS

Source: Appendix B

Note: Means are adjusted for sex, marital status, ethnic background, age, religion, education, personality, personality by body language, personality by voice, sex by body language, marital status by body language, ethnic background by body language, age by body language, religion by body language, education by body language, sex by voice, marital status by voice, ethnic background by voice, age by voice, religion by voice, and education by voice.
In attempting to account for the reason why seeing equates with truthfulness, it appeared that kinesics or vocalization by themselves or in conjunction with any other demographic or personality factor did not influence an employee's degree of perceived truthfulness as the probability of $F$ did not rise above .2 on most variables.

Table X does indicate, though somewhat less emphatically, that age plays a meaningful relation if vocalization alone is used. Respondent age affected message perception little whether voice and/or body language were employed except in the group aged 26 to 30. Then, the absence of body language appeared to cause somewhat deviate replies, in that this age group tended to believe as truthful, messages which were written only. (Figure 3). Perhaps it is at this age that employees realize superiors cannot be taken strictly at "face value" but have not yet acquired the sophistication to come up with a workable model which denotes truthfulness by voice or actions alone.

**Perception of Message "Believability".** In Table XI, which treats message believability, vocalization and marital status were important factors as is indicated by the statistically significant figures of .0558 and .0431 respectively. A pictorial display of this fact, shown in Figure 4, indicates
## TABLE XI

**ANALYSIS OF VARIANCE TABLE OF MESSAGE BELIEVABILITY BY MESSAGE TYPE, DEMOGRAPHICS, AND PERSONALITY FACTORS**

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degree of Freedom</th>
<th>F Value</th>
<th>Probability of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Language</td>
<td>2</td>
<td>0.94</td>
<td>0.60</td>
</tr>
<tr>
<td>Voice</td>
<td>2</td>
<td>2.92</td>
<td>0.06 *</td>
</tr>
<tr>
<td>Body Language by Voice</td>
<td>4</td>
<td>1.76</td>
<td>0.14</td>
</tr>
<tr>
<td>Personality by Body Language</td>
<td>4</td>
<td>0.31</td>
<td>0.87</td>
</tr>
<tr>
<td>Personality by Voice</td>
<td>4</td>
<td>1.39</td>
<td>0.24</td>
</tr>
<tr>
<td>Sex by Body Language</td>
<td>2</td>
<td>0.20</td>
<td>0.82</td>
</tr>
<tr>
<td>Marital Status by Body Language</td>
<td>2</td>
<td>1.36</td>
<td>0.26</td>
</tr>
<tr>
<td>Ethnic Background by Body Language</td>
<td>6</td>
<td>0.53</td>
<td>0.79</td>
</tr>
<tr>
<td>Age by Body Language</td>
<td>6</td>
<td>0.62</td>
<td>0.71</td>
</tr>
<tr>
<td>Religion by Body Language</td>
<td>2</td>
<td>1.31</td>
<td>0.27</td>
</tr>
<tr>
<td>Education by Body Language</td>
<td>8</td>
<td>0.80</td>
<td>0.60</td>
</tr>
<tr>
<td>Sex by Voice</td>
<td>2</td>
<td>1.15</td>
<td>0.32</td>
</tr>
<tr>
<td>Marital Status by Voice</td>
<td>2</td>
<td>3.18</td>
<td>0.04 *</td>
</tr>
<tr>
<td>Ethnic Background by Voice</td>
<td>6</td>
<td>1.18</td>
<td>0.32</td>
</tr>
<tr>
<td>Age by Voice</td>
<td>6</td>
<td>1.29</td>
<td>0.26</td>
</tr>
<tr>
<td>Religion by Voice</td>
<td>2</td>
<td>0.84</td>
<td>0.56</td>
</tr>
<tr>
<td>Education by Voice</td>
<td>8</td>
<td>0.82</td>
<td>0.59</td>
</tr>
</tbody>
</table>

ERROR # 139  

Source: Appendix B  

# There is a total of 139 degrees of freedom.  

* There is a 95% confidence level that there was a causation variation associated with the variable.
FIGURE 3

AGE BY VOICE FOR MESSAGE TRUTHFULNESS

Source: Appendix B

Note: Means are adjusted for sex, marital status, ethnic background, age, religion, education, personality, personality by body language, personality by voice, sex by body language, marital status by body language, ethnic background by body language, age by body language, religion by body language, education by body language, sex by voice, marital status by voice, ethnic background by voice, age by voice, religion by voice, and education by voice.
FIGURE 4

VOICE BY MARITAL STATUS FOR MESSAGE BELIEVABILITY

Source: Appendix B

Note: Means are adjusted for sex, marital status, ethnic background, age, religion, education, personality, personality by body language, personality by voice, sex by body language, marital status by body language, ethnic background by body language, age by body language, religion by body language, education by body language, sex by voice, marital status by voice, ethnic background by voice, age by voice, religion by voice, and education by voice.
that when no, or negative vocalization, is used, people never married or divorced have a low believability score as compared to those married or widowed. These unmarried people tend to put full credibility in a message when positive vocalization is applied, however. Perhaps this fact may be attributed to the fact that in a close relationship, like marriage, one discovers that voice alone does not do all of the communicating, and a person learns to seek other communication clues for complete message believability. Other demographic factors such as gender, religious beliefs, age, learning, lineage, and personality did not affect the perception of believability in this experiment.

These findings noted above suggest to employers that employees tend to believe with their ears rather than their eyes, as what was audile in this experiment was most significant for the factor of believability.

Perception of Message "Reputability". Table XII, dealing with whether the message was reputable, shows most differences appear when both kinesics and voice are employed as is indicated by a probability of $F$ figure of .0247. Expanded in Figure 5, this finding indicates that with negative vocalization, neither positive nor negative body language improves how reputable an employee perceives his
TABLE XII

ANALYSIS OF VARIANCE TABLE OF MESSAGE REPUTABILITY
BY MESSAGE TYPE, DEMOGRAPHICS, AND PERSONALITY FACTORS

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>F Value</th>
<th>Probability of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Language</td>
<td>2</td>
<td>0.11</td>
<td>0.90</td>
</tr>
<tr>
<td>Voice</td>
<td>2</td>
<td>2.79</td>
<td>0.06</td>
</tr>
<tr>
<td>Body Language by Voice</td>
<td>4</td>
<td>2.88</td>
<td>0.02 *</td>
</tr>
<tr>
<td>Personality by Body Language</td>
<td>4</td>
<td>0.34</td>
<td>0.85</td>
</tr>
<tr>
<td>Personality by Voice</td>
<td>4</td>
<td>0.32</td>
<td>0.87</td>
</tr>
<tr>
<td>Sex by Body Language</td>
<td>2</td>
<td>0.09</td>
<td>0.92</td>
</tr>
<tr>
<td>Marital Status by Body Language</td>
<td>2</td>
<td>0.80</td>
<td>0.55</td>
</tr>
<tr>
<td>Ethnic Background by Body Language</td>
<td>6</td>
<td>0.31</td>
<td>0.93</td>
</tr>
<tr>
<td>Age by Body Language</td>
<td>6</td>
<td>0.34</td>
<td>0.91</td>
</tr>
<tr>
<td>Religion by Body Language</td>
<td>2</td>
<td>0.09</td>
<td>0.91</td>
</tr>
<tr>
<td>Education by Body Language</td>
<td>8</td>
<td>0.87</td>
<td>0.54</td>
</tr>
<tr>
<td>Sex by Voice</td>
<td>2</td>
<td>0.45</td>
<td>0.64</td>
</tr>
<tr>
<td>Marital Status by Voice</td>
<td>2</td>
<td>0.01</td>
<td>0.99</td>
</tr>
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<td>Ethnic Background by Voice</td>
<td>6</td>
<td>1.19</td>
<td>0.32</td>
</tr>
<tr>
<td>Age by Voice</td>
<td>6</td>
<td>1.36</td>
<td>0.23</td>
</tr>
<tr>
<td>Religion by Voice</td>
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<td>0.37</td>
<td>0.70</td>
</tr>
<tr>
<td>Education by Voice</td>
<td>8</td>
<td>0.60</td>
<td>0.78</td>
</tr>
</tbody>
</table>

ERROR # 139

Source: Appendix B

# There is a total of 139 degrees of freedom.

* There is a 95% confidence level that there was a causation variation associated with the variable.
FIGURE 5

BODY LANGUAGE BY VOICE FOR MESSAGE REPUTABILITY

Source: Appendix B

Note: Means are adjusted for sex, marital status, ethnic background, age, religion, education, personality, personality by body language, personality by voice, sex by body language, marital status by body language, ethnic background by body language, age by body language, religion by body language, education by body language, sex by voice, marital status by voice, ethnic background by voice, age by voice, religion by voice, and education by voice.
superior's message. In fact, the best way to exude message reputability is apparently through written messages alone. The fact that a message is in print apparently makes it reputable to many employees.

Employers should bear in mind, therefore, that for making employees judge a message as reputable, the best way to penetrate with this factor is to use a written medium, although positive body language can enhance reputability in an employee's mind. Whether or not a message is considered reputable has no apparent bearing on whether or not a person is married, male or female, well-educated or functionally literate, Protestant or Catholic, or comes from any particular racial background. Furthermore, it makes little difference in perceived reputability whether an employee's personality is introspective, extrospective, or anywhere in between.

Perception of Message "Reliability". In Table XIII, which pertains to message reliability, the important factors once again were either voice alone (probability of F figure of .0378) or a kinesic-vocal combination arrangement (.0219). An expansion of this finding on message reliability (Figure 6) indicates that negative vocalization seriously hampers message reliability regardless of the type of body language
TABLE XIII

ANALYSIS OF VARIANCE TABLE OF MESSAGE RELIABILITY
BY MESSAGE TYPE, DEMOGRAPHICS, AND PERSONALITY FACTORS

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>$F$</th>
<th>Probability of $F$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Language</td>
<td>2</td>
<td>0.39</td>
<td>0.68</td>
</tr>
<tr>
<td>Voice</td>
<td>2</td>
<td>3.32</td>
<td>0.04 *</td>
</tr>
<tr>
<td>Body Language by Voice</td>
<td>4</td>
<td>3.30</td>
<td>0.01 *</td>
</tr>
<tr>
<td>Personality by Body Language</td>
<td>4</td>
<td>0.12</td>
<td>0.97</td>
</tr>
<tr>
<td>Personality by Voice</td>
<td>4</td>
<td>0.84</td>
<td>0.51</td>
</tr>
<tr>
<td>Sex by Body Language</td>
<td>2</td>
<td>0.72</td>
<td>0.51</td>
</tr>
<tr>
<td>Marital Status by Body Language</td>
<td>2</td>
<td>1.75</td>
<td>0.18</td>
</tr>
<tr>
<td>Ethnic Background by Body Language</td>
<td>6</td>
<td>0.57</td>
<td>0.76</td>
</tr>
<tr>
<td>Age by Body Language</td>
<td>6</td>
<td>0.28</td>
<td>0.94</td>
</tr>
<tr>
<td>Religion by Body Language</td>
<td>2</td>
<td>0.30</td>
<td>0.74</td>
</tr>
<tr>
<td>Education by Body Language</td>
<td>8</td>
<td>0.72</td>
<td>0.68</td>
</tr>
<tr>
<td>Sex by Voice</td>
<td>2</td>
<td>0.54</td>
<td>0.59</td>
</tr>
<tr>
<td>Marital Status by Voice</td>
<td>2</td>
<td>0.31</td>
<td>0.74</td>
</tr>
<tr>
<td>Ethnic Background by Voice</td>
<td>6</td>
<td>1.02</td>
<td>0.41</td>
</tr>
<tr>
<td>Age by Voice</td>
<td>6</td>
<td>1.22</td>
<td>0.30</td>
</tr>
<tr>
<td>Religion by Voice</td>
<td>2</td>
<td>0.12</td>
<td>0.89</td>
</tr>
<tr>
<td>Education by Voice</td>
<td>8</td>
<td>1.04</td>
<td>0.41</td>
</tr>
</tbody>
</table>

ERROR # 139

Source: Appendix B

* There is a 95% confidence level that there was a causation variation associated with the variable.
FIGURE 6

BODY LANGUAGE BY VOICE FOR MESSAGE RELIABILITY

Source: Appendix B

Note: Means are adjusted for sex, marital status, ethnic background, age, religion, education, personality, personality by body language, personality by voice, sex by body language, marital status by body language, ethnic background by body language, age by body language, religion by body language, education by body language, sex by voice, marital status by voice, ethnic background by voice, age by voice, religion by voice, and education by voice.
which is employed, when communicating reliability. In fact, using negative vocalization with positive body language received the lowest possible reliability rating. Perhaps the incongruency in body language and voice was sufficient in itself to place a severe strain on perception of reliability.

Kinesics combined with positive verbalization garnered high reliability ratings. The reliability content these employees evidenced was not guided by their lifespan, degree of literacy, conjugal state, gender, nationality, or place of worship. The type of personality these people had did not affect their discrimination of whether or not a message could be called reputable, either.

**Perception of Message "Pleasantness".** Whether or not the message was perceived as pleasant is shown in Table XIV. As might well be expected by now, both kinesics and voice are very significant when measuring this variable. There were but 31 cases in 10,000 that this finding could be due to chance alone. Apparently, body language really makes a significant contribution to whether or not an employees think a message is pleasant. (Figure 7).

If management is so inclined, unpleasant messages can be given a "sugar coating" by use of positive gesticulation. More than any other gauge of message perception, body language had an absolutely positive correlation with how
TABLE XIV

ANALYSIS OF VARIANCE TABLE OF MESSAGE PLEASANTNESS
BY MESSAGE TYPE, DEMOGRAPHICS, AND PERSONALITY FACTORS

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>F Value</th>
<th>Probability of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Language</td>
<td>2</td>
<td>2.08</td>
<td>0.13</td>
</tr>
<tr>
<td>Voice</td>
<td>2</td>
<td>1.12</td>
<td>0.33</td>
</tr>
<tr>
<td>Body Language by Voice</td>
<td>4</td>
<td>4.28</td>
<td>0.01 **</td>
</tr>
<tr>
<td>Personality by Body Language</td>
<td>4</td>
<td>0.60</td>
<td>0.66</td>
</tr>
<tr>
<td>Personality by Voice</td>
<td>4</td>
<td>0.11</td>
<td>0.97</td>
</tr>
<tr>
<td>Sex by Body Language</td>
<td>2</td>
<td>0.28</td>
<td>0.76</td>
</tr>
<tr>
<td>Marital Status by Body Language</td>
<td>2</td>
<td>1.23</td>
<td>0.30</td>
</tr>
<tr>
<td>Ethnic Background by Body Language</td>
<td>6</td>
<td>0.41</td>
<td>0.87</td>
</tr>
<tr>
<td>Age by Body Language</td>
<td>6</td>
<td>0.71</td>
<td>0.64</td>
</tr>
<tr>
<td>Religion by Body Language</td>
<td>2</td>
<td>0.04</td>
<td>0.97</td>
</tr>
<tr>
<td>Education by Body Language</td>
<td>8</td>
<td>1.73</td>
<td>0.10</td>
</tr>
<tr>
<td>Sex by Voice</td>
<td>2</td>
<td>0.98</td>
<td>0.62</td>
</tr>
<tr>
<td>Marital Status by Voice</td>
<td>2</td>
<td>0.75</td>
<td>0.52</td>
</tr>
<tr>
<td>Ethnic Background by Voice</td>
<td>6</td>
<td>1.27</td>
<td>0.27</td>
</tr>
<tr>
<td>Age by Voice</td>
<td>6</td>
<td>1.05</td>
<td>0.40</td>
</tr>
<tr>
<td>Religion by Voice</td>
<td>2</td>
<td>0.06</td>
<td>0.94</td>
</tr>
<tr>
<td>Education by Voice</td>
<td>8</td>
<td>1.91</td>
<td>0.06</td>
</tr>
</tbody>
</table>

ERROR #                                           139

Source: Appendix B

# There is a total of 139 degrees of freedom.

** There is a 99% confidence level that there was a causation variation associated with the variable.
FIGURE 7

BODY LANGUAGE BY VOICE FOR MESSAGE PLEASANTNESS

Source: Appendix B

Note: Means are adjusted for sex, marital status, ethnic background, age, religion, education, personality, personality by body language, personality by voice, sex by body language, marital status by body language, ethnic background by body language, age by body language, religion by body language, education by body language, sex by voice, marital status by voice, ethnic background by voice, age by voice, religion by voice, and education by voice.
a message was perceived as concerns pleasantness. This fact seemed to hold true in all cases. Ambiverts, introverts, and extroverts were all equally likely to determine a message was pleasant. Moreover, whether or not a message was thought pleasant could not be attributed to a person's sex, age, marital status, ethnic background, religion, or education.

**Perception of Message "Informability".** In deciding whether or not a message source was informed (Table XV), the employment of vocalization alone (probability of F figure of .0404) or more significantly a combination of voice and body language (.0055) affected perception, as the latter finding shows only 55 in 10,000 chances of error. Moreover, Figure 8 indicates positive kinesics absolutely cannot overcome negative vocalization as far as whether or not informability is concerned, as is indicated by a negative informability perception of -.0803 (the only negative figure in the entire study). But employees are still inclined to feel that a source, for the most part, is more informed when body language is used in addition to voice. Hence, employers should be aware that to appear informed to their subordinates, their voice must exude confidence.

As with the previous six message gauges tested, whether an employee perceived a message source as being
### TABLE XV

ANALYSIS OF VARIANCE TABLE OF MESSAGE INFORMABILITY BY MESSAGE TYPE, DEMOGRAPHICS, AND PERSONALITY FACTORS

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>F</th>
<th>Probability of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Language</td>
<td>2</td>
<td>0.67</td>
<td>0.52</td>
</tr>
<tr>
<td>Voice</td>
<td>2</td>
<td>3.25</td>
<td>0.04 *</td>
</tr>
<tr>
<td>Body Language by Voice</td>
<td>4</td>
<td>3.87</td>
<td>0.01 **</td>
</tr>
<tr>
<td>Personality by Body Language</td>
<td>4</td>
<td>0.20</td>
<td>0.94</td>
</tr>
<tr>
<td>Personality by Voice</td>
<td>4</td>
<td>0.61</td>
<td>0.66</td>
</tr>
<tr>
<td>Sex by Body Language</td>
<td>2</td>
<td>0.10</td>
<td>0.90</td>
</tr>
<tr>
<td>Marital Status by Body Language</td>
<td>2</td>
<td>1.90</td>
<td>0.15</td>
</tr>
<tr>
<td>Ethnic Background by Body Language</td>
<td>6</td>
<td>1.45</td>
<td>0.20</td>
</tr>
<tr>
<td>Age by Body Language</td>
<td>6</td>
<td>0.55</td>
<td>0.77</td>
</tr>
<tr>
<td>Religion by Body Language</td>
<td>2</td>
<td>1.19</td>
<td>0.31</td>
</tr>
<tr>
<td>Education by Body Language</td>
<td>8</td>
<td>0.76</td>
<td>0.64</td>
</tr>
<tr>
<td>Sex by Voice</td>
<td>2</td>
<td>0.05</td>
<td>0.95</td>
</tr>
<tr>
<td>Marital Status by Voice</td>
<td>2</td>
<td>0.42</td>
<td>0.66</td>
</tr>
<tr>
<td>Ethnic Background by Voice</td>
<td>6</td>
<td>1.05</td>
<td>0.40</td>
</tr>
<tr>
<td>Age by Voice</td>
<td>6</td>
<td>1.23</td>
<td>0.30</td>
</tr>
<tr>
<td>Religion by Voice</td>
<td>2</td>
<td>0.33</td>
<td>0.73</td>
</tr>
<tr>
<td>Education by Voice</td>
<td>8</td>
<td>0.55</td>
<td>0.82</td>
</tr>
</tbody>
</table>

ERROR # 139

Source: Appendix B

# There is a total of 139 degrees of freedom.

* There is a 95% confidence level that there was a causation variation associated with the variable.

** There is a 99% confidence level that there was a causation variation associated with the variable.
FIGURE 8

BODY LANGUAGE BY VOICE FOR MESSAGE INFORMABILITY

Source: Appendix B

Note: Means are adjusted for sex, marital status, ethnic background, age, religion, education, personality, personality by body language, personality by voice, sex by body language, marital status by body language, ethnic background by body language, age by body language, religion by body language, education by body language, sex by voice, marital status by voice, ethnic background by voice, age by voice, religion by voice, and education by voice,
informed seemed independent of personality type. Additionally, the subject's age, education, ethnic background, religion, and sex did not influence how he regarded a message on reliability.

III. SUMMARY OF FINDINGS

Chapter III, dealing with how different types of communication affect message perception, decisively evidences that the communication medium chosen—(whether written, oral, or visual) does substantially influence how a message is perceived. In comparing the results of the experiment answers, the overall findings indicated that there is a high degree of similarity in how messages are perceived by employees regardless of demographic characteristics or personality factors. The variability seems to be found primarily in message medium chosen. Specifically:

1. When using positive vocalization, the effect of body language does not have very much effect on message perception;

2. When using negative vocalization, positive kinesics will increase message positiveness as concerns believability, reliability, reputability, informability, pleasantness, truthfulness, and favorability;
3. When using positive kinesics, a negative vocalization can be somewhat overcome;

4. When using negative body language, message perception is adversely affected;

5. Any body language—negative or positive—increases message acceptability, whether used with positive or negative vocalization. When no vocalization is used at all, messages are often perceived unfavorably.

Therefore, it might be stated that the effect of vocalization or body language is dependant on the presence of the other variable.
CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary. Communications of all types are of paramount importance for one to achieve one's goals and purposes. While kinesics (a form of intended or unintended communication) has been studied from the viewpoints of physiology, anatomy, medicine, psychology, therapy, health, sociology, anthropology, and speech, surprisingly, no studies could be located which related body language to a field that is constantly involved in communications—business administration. As managers spend the greatest portion of their day engaged in communications, it appears kinesics cannot be ignored lest a distorted message be received.

This study has concentrated on whether, and how, body language modifies message perception in a superior-subordinate context. Specifically, the null hypotheses considered were:

1. There is no difference in response to messages whether negative or positive body language is used;

2. There is no difference in response to messages whether or not kinesics is congruent with verbal message content;
3. The effect of body language on message perception is constant regardless of personality type or demographic characteristics.

The method employed in developing this study was to use a video-tape experiment to test whether, and to what degree, different forms of messages would affect an employee's message perception. This experiment consisted of first, administering a demographic questionnaire, personality factor test, and experimental message to a large number of employees partitioned into nine random groups from eight different companies, chosen with the cooperation of Dow Chemical Company. The employee groups were divided as follows:

- Group A - Saw positive kinesics; heard positive vocalization
- Group B - Saw negative kinesics; heard positive vocalization
- Group C - Saw negative kinesics; heard negative vocalization
- Group D - Saw positive kinesics; heard negative vocalization
- Group E - Heard positive vocalization; saw nothing
- Group F - Heard negative vocalization; saw nothing
- Group G - Saw positive kinesics; heard nothing
- Group H - Saw negative kinesics; heard nothing
- Group I - Read the message (neither saw nor heard the message)

A neutral message content was used for every group in order to reduce bias as much as possible.
The purpose of the demographic characteristic questionnaire used in the experiment was to determine whether or not the effect of body language on message perception was affected by a person's age, sex, education, ethnic background, religion, or marital status. The intent of employing the personality test was to discover if there is any difference in response to messages according to whether an employee is an extrovert, ambivert, or introvert type of personality. The above factors had to be isolated and analyzed before it could be stated whether any variances in message perception discovered were due to demographic characteristics, personality factors, or a combination of both; or in fact, if these variations were due to the different kinesic messages used in the experiment.

Message perceptions were tested on the factors of favorability, truthfulness, believability, reputability, reliability, pleasantness, and informability. It was assumed that with several of these message dimensions measured on an ordinal scale the meaning of the message would be accurately located.

Data coding and analysis were performed under the auspices of the L.S.U, Computer Center. Phase I rendered frequency distributions within each group and revealed where
data collapsing was required. Phase II yielded adjusted means, standard deviations, and analysis of variance.

The analysis of the data (Chapter II) indicated that there were differences in message perception for the seven message factors, but that these differences could not be attributed to demographic characteristics or type of personality except in rare instances, and with trivial degrees of probability. Therefore, it could be assumed that any differences exposed were, in fact, due to something else.

Further investigation (Chapter II) revealed that different communication media (written, oral, or visual) did influence how a message was perceived. To allow for closer scrutiny of these sources of variation, graphs were used to magnify the areas of message discrepancy. These analyses yielded several important facts:

1. The effect of kinesics on message perception is not very great when using positive verbalization.

2. Positive body language does increase message believability, favorability, informability, pleasantness, reliability, reputation, and truthfulness if negative vocalization is used; i.e., when employing positive kinesics, negative verbalization can be overcome to a degree.
3. When employing negative kinesics, message perception is adversely affected.

4. Any body language (negative or positive) increases message acceptance. Messages are often interpreted unfavorably when only vocalization is used, whether that vocalization is positive or negative.

Conclusions. The starting point in reaching any conclusions in primary research is the statement of one or more hypotheses. The type hypothesis used is called a null hypothesis. Such a hypothesis is a statement of no difference, and is stated as such so that it can be tested.

It is customary for the researcher to state the level at which the hypotheses will be tested. For this study, .05 (the alpha level) was chosen as the level of significance. When a null hypothesis is rejected at the five percent level, there are five chances in one hundred that there is a chance the null hypothesis will be rejected when it is actually true.

Using the .05 level of significance, all three hypotheses had to be rejected. Hence, by default, (as stated in Chapter I) the working hypothesis had to be accepted, which was:
At least to some degree, kinesics does affect response to messages.

More specifically, it can be stated that although body language does not overcome the more powerful medium of vocalization, kinesics can enhance or distort verbal meaning. The effect of verbalization on kinesics is dependant upon the presence of the other variable. Also, employees feel more inclined to give weight and validity to messages when seeing something in addition to just hearing a message.

Management should bear in mind the following specifics to enhance their effectiveness in getting across desired communications:

1. Almost all people react more favorably to messages when they can employ both vision and sound.
2. Truthfulness is enhanced when a face-to-face method is utilized.
3. For perception of believability, employees tend to give most credence to what they hear rather than what they see.
4. For purposes of reputability, written messages appear to be most effective.
5. Employees tend not to accept as reliable messages which use negative body language. But even more important, when incongruent kinesics and vocalization are employed, message perception as concerns reliability drops drastically.

6. Although other message perceptions may be distorted by the use of body language, the perception of pleasantness has a direct correlation with the use of positive kinesics.

7. While body language alone does not ensure a subordinate will accept a message as informed, it does enhance verbalization.

These findings are not conducive to simple reading by employers. For effective use of these findings, they should be read, discussed, elaborated on, and practiced—perhaps first in role-playing sequences. In larger companies, it may be expedient to hire an expert to teach employers how to overcome negative body language and replace it with positive kinesic habits. Considering the amount of time managers expose themselves in non-verbal communications daily and the misconceptions which result, it would appear that no company is immune to heeding a kinesic audit of its employees.
**Recommendations for Further Study.** The author makes these recommendations for further study:

1. A similar experiment of other occupational groups (teachers, physicians, attorneys, etc.) would help to determine the validity of this industrial study. Many such studies will be necessary if parsimony is to be practiced in learning to use kinesics effectively both in a superior-subordinate context and for effective communications in general.

2. A similar study, isolating each of the body language differences employed in the experiment, would help to determine which are the most important kinesic factors in message perception. Such a study would be invaluable to management academicians and practitioners endeavoring to project their intended message to employees.

3. A "before-and-after" study of employee message perception should be executed to ascertain if measurable results can be obtained when management is taught to use favorable body language.

4. Finally, the same study done with similar industrial institutions would be most helpful in establishing the validity of this study.
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B. PERIODICALS


Gately, O. P. "If You Don't Speak the Language, Play Charades," Harvest Years, 8:16-17, 1968.


Hughes, F. "So You Think You're a Good Judge of Character," The Director, 24:202+, 1972.


C. THESSES


D. UNPUBLISHED ARTICLES, PAPERS, AND SPEECHES


APPENDICES
APPENDIX A

Appendix A is the text of the experiment which was used for all of the groups participating in the study. It was read by Dr. Welford (out of view of camera eye) for the video-tape. Group I, the control group, also read the message for their part in the experiment.
I'm certainly happy that you employees could meet with me today to discuss a matter of interest to all of us.

As you know, for the last two years, both management and employees have expressed concern and dissatisfaction relating to our current group insurance program.

The committee, which has investigated various group programs during the last six months, has recommended that we switch as of June 1 of this year to the Mutual Insurance Company located in Dallas.

You are aware that our present health insurance policy permits a maximum of $14.00 a day to be paid for hospitalization. With the new policy that we have adopted, the amount will be extended to $32.00 a day with no additional premium. No major benefits have been eliminated from the new policy. In addition, should you desire coverage for dread diseases, such as cancer, it will cost only an additional $1.00 per month for family coverage.

Another interesting feature of this new program is that it can cover any family member living under your roof (including married children and elderly parents) and also is convertible to a private policy upon retirement.
A brochure explaining the new policy will be distributed at the end of the meeting today. Should there be any questions concerning this change, please see me, or Mr. Smith in Personnel.

Thank you for your time.
APPENDIX B

Appendix B is a copy of the experiment packet which each participant was given. The results obtained from the analysis of these packets formed the basis for the tables, text, and illustrations of this dissertation.
Dear Participant:

For many years now, communication of messages has been pursued from the perspective of many different areas. As managers spend the largest amount of their time involved in communications, we are constantly striving to find better ways to "get our messages across."

What impression do you have of the message you will get as concerns meaning and believability? Please be as honest as you can in checking off all answers.

Who knows, perhaps a workable model will be discovered. If this is so, a significant contribution to the fields of management and communications will have been made, and you will be partially responsible.

Thank you for your cooperation.

Sincerely yours,

Mary B. Blalock

Mary B. Blalock
PLEASE CHECK THE ONE BLANK IN EACH CATEGORY THAT MOST ACCURATELY DESCRIBES YOU:

<table>
<thead>
<tr>
<th>SEX</th>
<th>OCCUPATION</th>
<th>MARITAL STATUS</th>
<th>ETHNIC BACKGROUND</th>
<th>AGE</th>
<th>RELIGION</th>
<th>EDUCATION COMPLETED</th>
</tr>
</thead>
<tbody>
<tr>
<td>_____ Female</td>
<td>_____ Employee</td>
<td>_____ never married</td>
<td>_____ Afro-American</td>
<td>_____ Under 18 years</td>
<td>_____ Catholic</td>
<td>_____ less than high school</td>
</tr>
<tr>
<td>_____ Male</td>
<td>_____ Student</td>
<td>_____ currently married</td>
<td>_____ Anglo-Saxon</td>
<td>_____ 18 years to 21 years</td>
<td>_____ Jewish</td>
<td>_____ high school diploma</td>
</tr>
<tr>
<td></td>
<td></td>
<td>_____ divorced</td>
<td>_____ French</td>
<td>_____ 22 years to 25 years</td>
<td>_____ Protestant</td>
<td>_____ some college</td>
</tr>
<tr>
<td></td>
<td></td>
<td>_____ widowed</td>
<td>_____ German</td>
<td>_____ 26 years to 30 years</td>
<td></td>
<td>_____ college degree</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>_____ Italian</td>
<td>_____ 31 years to 35 years</td>
<td></td>
<td>_____ some post-graduate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>_____ Oriental</td>
<td>_____ 36 years or older</td>
<td></td>
<td>_____ post-graduate degree</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>_____ Spanish</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>_____ other (specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**PERSONALITY EVALUATION**

**DIRECTIONS:** The purpose of this test is to measure your impression of your own personality. Please mark every scale for every concept—NO OMIT ANY. Never put more than one mark on a single scale.

<table>
<thead>
<tr>
<th>Concept</th>
<th>Scale</th>
<th>Mark</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. RESERVED, detached, critical</td>
<td>1</td>
<td></td>
<td>OUTGOING, warmhearted, easy going</td>
</tr>
<tr>
<td>B. LESS INTELLIGENT, concrete thinker</td>
<td>1</td>
<td></td>
<td>MORE INTELLIGENT, abstract thinker</td>
</tr>
<tr>
<td>C. AFFECTED BY FEELINGS, easily upset</td>
<td>1</td>
<td></td>
<td>EMOTIONALLY STABLE, faces reality</td>
</tr>
<tr>
<td>D. HUMBLE, mild, conforming</td>
<td>1</td>
<td></td>
<td>ASSERTIVE, aggressive, stubborn</td>
</tr>
<tr>
<td>E. SOBER, prudent, serious, taciturn</td>
<td>1</td>
<td></td>
<td>HAPPY-GO-LUCKY, gay, enthusiastic</td>
</tr>
<tr>
<td>F. EXPEDIENT, disregards rules</td>
<td>1</td>
<td></td>
<td>CONSCIENTIOUS, persevering, moralistic</td>
</tr>
<tr>
<td>G. SHY, restrained, timid</td>
<td>1</td>
<td></td>
<td>VENTURESOME, uninhibited, spontaneous</td>
</tr>
<tr>
<td>H. TOUGH-MINDED, realistic, no-nonsense</td>
<td>1</td>
<td></td>
<td>TENDER-MINDED, over-protective, sensitive</td>
</tr>
<tr>
<td>I. TRUSTING, adaptive, no jealousy</td>
<td>1</td>
<td></td>
<td>SUSPICIOUS, hard to fool, opinionated</td>
</tr>
<tr>
<td>J. PRACTICAL, careful, conventional</td>
<td>1</td>
<td></td>
<td>IMAGINATIVE, careless of practicalities</td>
</tr>
<tr>
<td>K. FORTHRIGHT, natural, unpretentious</td>
<td>1</td>
<td></td>
<td>SHREWED, calculating, worldly</td>
</tr>
<tr>
<td>L. SELF-ASSURED, confident, serene</td>
<td>1</td>
<td></td>
<td>APPREHENSIVE, worrying, troubled</td>
</tr>
<tr>
<td>M. CONSERVATIVE, respects old ideas</td>
<td>1</td>
<td></td>
<td>EXPERIMENTING, liberal, free-thinking</td>
</tr>
<tr>
<td>N. GROUP-DEPENDENT, a &quot;joiner&quot;</td>
<td>1</td>
<td></td>
<td>SELF-SUFFICIENT, prefers own decisions</td>
</tr>
<tr>
<td>O. UNDISCIPLINED, follows own urges</td>
<td>1</td>
<td></td>
<td>CONTROLLED, follows self-image</td>
</tr>
<tr>
<td>P. RELAXED, tranquil, unfrustrated</td>
<td>1</td>
<td></td>
<td>TENSE, frustrated, overwrought</td>
</tr>
</tbody>
</table>
(In the original questionnaire packet, this page was blank.)
**PLEASE FILL IN THE FOLLOWING BLANKS CONCERNING THE MESSAGE.**

<table>
<thead>
<tr>
<th>The message appeared to be</th>
<th>Very</th>
<th>Slightly</th>
<th>Average</th>
<th>Slightly</th>
<th>Very</th>
<th>unfavorable</th>
</tr>
</thead>
<tbody>
<tr>
<td>It appears the message was</td>
<td>truthful</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>untruthful</td>
</tr>
<tr>
<td>I felt the message was believable</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>unbelievable</td>
</tr>
<tr>
<td>The message seemed to be reputable</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>disreputable</td>
</tr>
<tr>
<td>After experiencing the message, I would rate it reliable</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>unreliable</td>
</tr>
<tr>
<td>The message apparently was pleasant</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>unpleasant</td>
</tr>
<tr>
<td>The source of the message seemed informed</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
<td>uninformed</td>
</tr>
</tbody>
</table>
APPENDIX C

Appendix C, the video-tape, could not be bound with the text. Therefore, this material is put in the pocket inside the cover boards.

The brand name and type of equipment needed to show this video-tape is listed in Chapter I, pages 16 and 18, and is available to qualified personnel through the library at Louisiana State University. The video-tape may also be obtained by writing to the author at 12991 Highland Road, Baton Rouge, Louisiana. 70810.
APPENDIX D

Appendix D calculates the sample sizes required to be 99\% certain that the standard error of the mean values of the messages was no greater than .1.
Sample-size Requirements

\[ n = \left( \frac{Z \cdot s}{E} \right)^2 \]

Where:
- \( s \) = Standard deviation
- \( s_x \) = Standard error of the mean
- \( E \) = 2.56 \cdot s_x
- \( Z = 2.58 \) = 99% confidence level
- \( n \) = participants needed

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<th>( n )</th>
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<tr>
<td>7</td>
<td>1.53</td>
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</tr>
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</table>

This table indicates the sample size need be no greater than 222 employees for the largest standard deviation obtained and on some questions, the response requirement dropped to 148 participants needed.

As a result of these calculations, the mean interpretation of the messages resulting from this experiment are considered very reliable representations of the employee's message perception; i.e., of all possible samples, there is a 99% confidence level that the point estimate of the mean is within .1 of the true mean.42

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Appendix E is a reduction of the computer print-out listing all answers for all remaining participants after collapsing was performed. These are included in the event a future researcher desires to calculate any additional data from this study.

The coding at the top of the columns can be read as follows:

OBS - observation number (for computer coding purposes only)
ID - original number of participant after collapsing
TYPE - whether student or employee (Note: all were employees)
GROUP - refers to message in which they participated (see Chapter II)
SEX - (1) female, (2) male
MS - marital status (see Chapter II)
ETH - ethnic background (see Chapter II)
AGE - (see Chapter II)
RELIGION - (see Chapter II)
ED - refers to educational level (see Chapter II)
A through P - refers to how they scored themselves on 16 PF (Appendix B)
MSG 1 through MSG 7 - refers to answer they gave concerning message variables (Appendix B)
MEAN - participants mean score on 16 PF
PRSN - refers to type of personality, i.e., introvert, extrovert or ambivert; derived from MEAN above. (Chapter II).

BL and VC - Refers to what the participant saw, heard, and/or read as part of the experiment. GROUP above can be found in Chapter II to give complete explanation of each group.
<p>| | | | | | | | |</p>
<table>
<thead>
<tr>
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</tbody>
</table>
Mary Bordelon Blalock was born the fifth day of February, 1941, in Alexandria, Louisiana, to Curtis Mark and Gertrude Irving Bordelon. She is the second of two children.

In May of 1958, she was graduated from Providence Central High School in Alexandria, and in the fall of 1958, she entered the University of Southwestern Louisiana in Lafayette, Louisiana, and began work leading toward the degree of Bachelor of Science in Business Administration. In August, 1959, she married Paul Joseph Blalock, Jr., and began work at Phillips Petroleum Company in Lafayette. February, 1962, she resumed studies at the University of Southwestern Louisiana, and in May, 1963, received her bachelor's degree in formal exercises.

Immediately following this, she began work at Humble Oil & Refining Company, Lafayette, and was employed there until February, 1964, at which time she removed to the University of Southwestern Louisiana to teach Secretarial Science until August, 1964. She enrolled in the Graduate School of Louisiana State University in September, 1964, and began graduate work toward the degree of Master of Science in the field of Marketing. She received a Master of Science in Marketing, and a Bachelor of Science in Business Education and
Distributive Education in exercises in August, 1967.

She has worked full-time and part-time with Gulf South Research Institute in Baton Rouge, Louisiana, in the field of Economics. She has taught Office Administration at Louisiana State University first as a graduate assistant and later as an Instructor for a total of five years.

At present, she is a candidate for a Doctor of Philosophy degree in Management at Louisiana State University. Currently, she is an Assistant Professor of Business Administration at Southeastern Louisiana University in Hammond, Louisiana, where she has been since 1970. She is also the Co-president of International Business Consultants of Baton Rouge.
EXAMINATION AND THESIS REPORT

Candidate: Mary Bordelon Blalock

Major Field: Management

Title of Thesis: The Use of Kinesics in Establishing and Determining Meaning in Superior-Subordinate Communications

Approved:

Raymond E. Smith
Major Professor and Chairman

James E. Tatum
Dean of the Graduate School

EXAMINING COMMITTEE:

Edmund R. May

Frank D. Ferguson

Eugene C. McCann

Lee Rechordus

Date of Examination:

October 25, 1973