FACTORS INFLUENCING COMMUNICATION STYLE, ITS CREDIBILITY AND IMPACT

TR-4

Rudi Klauss            Bernard Bass
Syracuse University    SUNY - Binghamton

John J. DeMarco
Syracuse University

This research was sponsored by the Organization Effectiveness Research Programs, Office of Naval Research, under Contract No. N0001476-C-0912.

Approved for public release: distribution unlimited.

Reproduction in whole or in part is permitted for any purpose of the United States Government.

November, 1977
Factors Influencing Communication Style, its Credibility and Impact.

Bernard Bass, Rudi Klauss, John J. DeMarco

Maxwell Training and Development Programs
Syracuse University 404 Maxwell Hall
Syracuse, New York 13210

Organizational Effectiveness Research Programs
Department of the Navy, Office of Naval Research
Arlington, VA 22217

Approved for public release; distribution unlimited.

Communication, Communication Model, Interpersonal Communication, Role Clarity, Credibility, Communication Style, Focal Manager, Communications Factors

The potential impact of distance (organizational, physical, social, and personal) and contact possibilities (as constrained by organization, department, and workgroup size) are examined in relation to a communication model linking focal person communication style, credibility and consequences for colleagues. Also considered is the potential impact of such factors on the tendency to use a particular medium of communication (written, face-to-face, group meeting, telephone) and subject of communication (immediate job/task).

Security classification of this page (When Data Entered) UNCLASSIFIED
A factor analysis of items pertaining to the potential to interact reveals seven relatively clear factors. When incorporated into a path analytical examination of a communication model, two factors (formal communication - use of written versus face-to-face medium; familiarity due to frequency of contact) emerge as contributing components to the model.
ABSTRACT

The potential impact of distance (organizational, physical, social and personal) and contact possibilities (as constrained by organization, department and workgroup size) are examined in relation to a communication model linking focal person communication style, credibility and consequences for colleagues. Also considered is the potential impact of such factors on the tendency to use a particular medium of communication (written, face to face, group meeting, telephone) and subject of communication (immediate job/task related, other organizational related, or personal/social).

A factor analysis of items pertaining to the potential to interact reveals seven relatively clear factors. When incorporated into a path analytical examination of a communication model, two factors (formal communication - use of written versus face-to-face medium; familiarity due to frequency of contact) emerge as contributing components to the model.
FACTORS INFLUENCING COMMUNICATION STYLE
ITS CREDIBILITY AND IMPACT

Bernard M. Bass
State University of New York at Binghamton

Rudi Klauss
Syracuse University

John J. DeMarco
Syracuse University

Preceding reports (Klauss, 1977 a; 1977 b; Klauss, Bass & DeMarco, 1977) have verified the reliability, validity, and linkages among 13 scales for assessing individual differences in styles of communications and credibility. As trimmed by path analyses, the two-stage model for determining the satisfaction of colleagues with their focal person suggests that colleagues are satisfied with a focal person judged by them to be trustworthy and informative. In turn, for a focal person to be judged by colleagues as trustworthy depends on he or she being seen as "open and two-way", a careful listener and informal in style. To be judged informative depends on being seen as a careful transmitter and as frank and brief. Corresponding patterns relate style and credibility to role clarity and the effectiveness of relations between focal person and colleagues.

The present report backs up one more step and asks how the communication style, credibility and impact of a focal person on his or her colleagues are affected by other factors influencing the potential for interaction, such as the distance between them physically, organizationally, personally, socially and sociologically (See Figure 1). Moreover, we shall try to see here whether the linkages are direct or indirect. For example, the physical distance between focal persons and their colleagues may directly impact on the style of communication. Or, physical distance may affect the tendency to use one medium of communication rather than another, say the telephone rather than face-to-face communication. This greater use of the telephone in turn may impact, say, on the extent the focal person is judged to be a careful listener,
and hence, trustworthy. Again, organizational rather than physical distance may result in more written rather than verbal interchanges reducing the likelihood of being judged as frank, and hence, informative.

Bass (1960) reviewed what was known then about the general tendencies to interact as a function of physical, psychological and social distance among individuals. Singled out for attention in predicting the likelihood that two individuals would interact were: group size, geographical proximity, social proximity, contact opportunity, intimacy and familiarity, mutuality of esteem and attraction, and homogeneity in abilities and attitudes. The tendency to interact, "interaction potential," was seen by Bass to affect the effectiveness of working relations between individuals. Monge and Kirste (1975) extended the examination of proximity as a time-and-space opportunity, again showing its positive association with the potential to interact and satisfaction with the interaction.

While these above variables are conceptually related, they are nevertheless empirically distinct. In the present study we consider a number of these variables and have organized them for purposes of examination into two sets: variables relating to notions of distance (physical, organizational, personal, and social); variables relating to the potential for contact (contact possibilities) as influenced by the number of people in a focal person's work surroundings. Of particular interest is the extent to which these variables relate to the medium of communication used, the content of such interchange, and, in turn, the medium and content impact on communication style, its credibility and its consequences.
METHOD

A total of 577 civilian employees of the Naval Materiel Command completed an anonymous survey describing their own location in the organization. The survey covered the style, credibility and impact of a selected focal person's communications on them. The rate of return of the questionnaires was over 80%. A variety of physical and non-physical measures of distance between focal person and colleagues were extracted. Other measures dealt with how often the communications between focal person and colleagues employed different media and were about different kinds of content.

Measures of Distance

Organizational Distance. This measure was operationalized as the number of levels in the organization separating the focal person's position from that of the responding colleague. Thirty-five percent of the colleagues were at the same level as the focal person they described. In 49% of the cases, the focal person was the immediate superior or immediate subordinate of the colleague. In 16% of the cases, the focal person was higher up or lower down than the colleague. Of the 577 cases, 16 were described as "out of the organization" and were omitted from this analysis of organizational distance.

Physical Distance. The colleague respondents' estimate of distance between their desk or work space and that of their focal person provided the measure of physical distance. Sixty-six per cent of colleagues were close — within 100 feet of the focal person; 17% were over 100 feet, but on the same floor; 11% were on different floors, but the same building; and 6% were in different buildings.

Personal Distance. This was measured by the respondents to three questions. The first question asked about familiarity. "How well do you know the focal
person?" Responses were as follows: 1. A little (5%); 2. Some (28%); 3. Considerable (48%); 4. Very much (19%) and 5. Completely (1%).

The second question asked about length of acquaintance of the focal person? Responses were as follows: 1. Under 6 months (9%); 2. 6 months to a year (11%); 3. 1-2 years (25%) and 4. Over 2 years (56%).

The third question asked: "How often do you interact with the focal person during a typical week?" Responses were as follows: 1. Once in a while (10%); 2. Sometimes (17%); 3. Fairly many times (24%); 4. Very frequently (32%) and 5. Continually (18%). (The alternatives were based on Bass, Cascio, and O'Connor's (1974) magnitude estimation scales of intensity and extensivity.)

Personal distance between focal person and colleagues were deemed greater with less familiarity, acquaintanceship and frequency of contact between them.

Social distance. Communication patterns were also thought to be affected by the "social distance" between focal person and colleague, i.e., their difference in age, sex, and years of education. Analysis of age difference indicated that 32% of colleagues were the same age as the focal person they described, 30% were a year apart, 19% were two years apart; 9% were 3 years apart, while the remaining 9% were 4 to 7 years apart. (This small range of differences in age reduced the likelihood that much effect would be observed.)

In looking at sex differences, 79% of colleagues were the same sex as the focal person they described, while 21% were of the opposite sex.

As with age difference, educational difference between most colleagues and focal persons was not large. The median difference was 1.2 years. Only 10% were four to nine years apart.

* Percentages may not add to one hundred due to rounding.
Measures of Contact Possibilities

Four measures of the size of collectivities in which the focal person was located in time and space were obtained: 1) The size of his or her department; 2) The size of his or her workgroup; 3) The number of persons reporting directly to the focal person; and 4) mobility -- the number of promotions, transfers and demotions during the past four years of the focal person. We deemed these four measures as indicative of the contact possibilities of the individual focal person. At a given point in time the more contact possibilities of a focal person, the less likely he or she would be to contact a designated colleague. (If I have "connections" with 15 people, I can contact a specific one of them more easily and frequently than if I have "connections" with 150 people.)

The median departmental size of focal persons was 30.0. The median workgroup size was 8.2. The frequencies for the number of persons directly reporting to a focal person were distributed as follows: 0: 33%; 1-5: 47%; 6-10: 12%; 11-15: 4%; 16-20: 1%; more than 20: 3%.

As for mobility, thirty-three percent of the 577 respondents had not changed positions at all in four years; 36% had experienced one change; 17%, two changes; 12%, three changes; and 1%, four changes in position.

Medium

Which medium was used to communicate was obtained by asking colleagues to indicate what percentages of the total 100% of communications they received from their focal person were in a particular mode. For the 515 respondents, mean usage was as follows: 14%, written; 55%, face-to-face alone; 22%, in a group; and 6% by telephone.
Subject

What the subjects of the communications were obtained by asking colleagues to indicate the percentages of the total 100% received from their focal person which dealt with each of three topics: job, organizational; personal/social. Mean distribution was as follows: 65%, immediate job/task related; 14%, other organizational related; 19%, personal or social.

Communication Style, Credibility and Consequences

These 13 scores were derived from colleagues' ratings of 63 items of behavior about a focal person. Table 1 lists the variables, their means, coefficient alpha reliabilities and convergent validities for the sample of 577 Navy civilian professionals. (1 = Low; 9 = High)

For more details concerning these 13 variables, see (Klauss, 1976 a, b).

RESULTS

Interrelations Among Measures of Distance, Contact, Medium and Subject

Table 2 shows the intercorrelations among the 19 variables considered. Those significant at the 1 percent level of confidence are in italics (r = .11). The relatively few non-artifactual correlations of consequence will be discussed in the context of a factor analysis.

Factor Analysis

Table 3 shows the varimax rotated factor structure of these variables. In performing this analysis one of the four media (% group) was omitted in order to eliminate artifactual negative relations that derive from a forced addition to 100% for the four variables. Similarly, since the three subjects of communication added to 100%, the two non-job related variables (% organizational and % personal/social were omitted from the factor analysis.
The Factors

Seven reasonably clear factors emerged for this sample. It should be clear that the factor structure is one which may be specific to this sample and organization. Different configurations may appear in other organizations. Only empirical study can tell. When all factors with eigenvalues above 1.0 were accepted, they accounted for 63.5 percent of the variance common to the 16 variables of the correlation matrix. Over 25 iterations were required in achieving solution of the varimax rotation. The factors and the percent of the common variance (shown in parenthesis) they accounted for were as follows:

I. Distant Communications (12.3%)
   .86 % Telephone
   .74 % Physical distance

   This was a fairly obvious after-the-fact fallout. This dimension measures the extent colleagues communicate more often by telephone with their focal person and work further apart in physical distance.

II. Formal Communications (10.9%)
   .86 % Written
   .17 Organizational distance
   -.57 % Face to face alone

   This factor measures the tendency to write memos rather than meet face-to-face. It is slightly associated with organizational, but not physical distance.

   One telephones focal persons who are at the same organizational level, but physically distant; one sends memos to persons at different organizational levels.

III. Familiarity due to Length of Acquaintanceship (10.1%)
   .66 Length of acquaintance
   .54 Familiarity
   -.20 Mobility

   Familiarity is due to one of two separate and distinct reasons: length of acquaintanceship or frequency of contact. Factor III measures what is due to length of acquaintanceship. Factor VI measures how much is due to
frequency of contact. Mobile focal persons were somewhat less likely, as might be expected, to have long acquaintanceships with colleagues.

IV. **Social Distance** (8.9%)

| .52 | Sex difference |
| .47 | Education difference |
| .40 | Age difference |
| .19 | Number of persons reporting |
| .18 | Organizational distance |

Despite the small extent of the sex, education and age differences between focal persons and colleagues, the three differences clustered together in this sample. The resultant factor, IV, measured the combined effect of the three differences. One can readily imagine the typical high factor score generated by a younger, less educated female colleague lower in the organization describing an older, more educated male focal person. Colleague-focal person distance would also be likely to be higher. In addition, most probably, the older, better educated male would be at a higher organizational level.

V. **Contact Potential** (7.7%)

| .64 | Mobility |
| .43 | Work group size |
| .24 | Number of persons reporting |
| .22 | Organizational distance |

This factor measures the extent focal persons have an organizational space-time pattern containing a large number of persons. It measures whether they have moved around a lot in the organization during the past few years, currently are in a large organization, and have many persons reporting to them. Each of these variables leads to less potential to contact a specific colleague since the focal person high in mobility, workgroup size and numbers reporting to him or her has so many more colleagues which may be contacted, that his likelihood of contacting any one of them is lower. And consistent with this, there is less likely to be contact when the focal person and colleague are more apart in organizational level.
Actual frequency of contact did not load on this factor, surprisingly, so we have here only an unrelated potential of the focal person to contact a designated colleague.

VI. Familiarity due to Frequency of Interaction (7.0%)

\[
\begin{array}{ll}
0.68 & \text{Frequency of interaction} \\
0.55 & \text{Familiarity}
\end{array}
\]

This factor has already been discussed when we looked at Factor III.

VII. % Formal Subject (6.7%)

\[
\begin{array}{ll}
0.61 & \% \text{Job-related} \\
0.33 & \% \text{Written} \\
0.29 & \text{Organizational distance}
\end{array}
\]

This factor measures the extent communications between focal person and colleagues are formal; i.e., they are about the job, not personal, social or organizational; they are in writing, not face-to-face or in groups. Such formality is more likely where focal persons and colleagues are apart in organizational level.

Given the results presented, we conclude that while it is uncommon to depend on the telephone in this sample, one does so as a matter of physical distance. It becomes most likely for colleagues and focal persons who are physically separated. Such physical distance also tends to reduce face-to-face communication, increases to some extent with the organizational distance between colleagues and focal person.

In this sample, the same colleague-focal person pairs who differ in age are also likely to differ in sex and education and this again is not likely if the pair is apart organizationally.

Colleagues reported themselves to be familiar with focal persons for one of two completely independent reasons: they either had frequent contact with focal persons during the work week or they had been acquainted with the focal person for a long time. Familiarity due to frequent contact was slightly less
likely if the focal person was physically distant from the colleague. Familiarity due to such long-term acquaintanceship was less likely if the focal person was highly mobile.

The highly mobile focal person was also more likely to be in a larger work-group, have more persons reporting to him and be organizationally at a distance from the colleague, all counting to reduce the contact possibilities or interaction potential between focal person and colleague.

Job-related communications were more likely to be written or face-to-face rather than be telephone and more common between organizationally distant focal persons and colleagues.

In addition to these above patterns which emerged from the factor analysis, correlations of the seven factors with the 13 variables in the communication model were also calculated. In performing the correlational analysis, scale scores were initially calculated for each factor by weighting specific items included in a scale by their factor loadings for that scale. Particular items utilized for each scale are underlined in Table 3. The results of this analysis along with correlations of individual items with the 13 communication model variables are reported in Tables 4, 5 and 6.

As can be seen from an examination of these tables, the correlation coefficients were generally low and nonsignificant for individual items as well as for factor scores. Among the seven derived factors, however, two factors (familiarity due to length of acquaintanceship, and familiarity due to interaction frequency) did consistently yield significant (through relatively low) coefficients. Thus, familiarity due to length of acquaintanceship was significantly related to the three credibility dimensions (Table 5) and to satisfaction with focal person and effectiveness of relations (Table 6). The same (but slightly stronger) set of relationships held for familiarity due to interaction frequency, except that this factor score was also significantly related to open, two way communication (Table 4).
Path Analysis

In addition to the above analyses, a path analysis was also performed, utilizing the factors derived from the factor analysis reported in Table 3.

The basic model examined is that which was proposed earlier in this report. In effect, we wanted to look at how the seven empirical factors we obtained related to the basic communication model underlying our research.

In performing this analysis, paths were eliminated where path coefficients were less than .15. The results of this analysis are presented in Figure 2.

Two of the seven factors included in the analysis were retained, applying the criterion mentioned above. Formal communication (use of written versus face-to-face medium) was directly linked to role clarity (beta = .15). The second variable, familiarity due to frequency of contact (how frequently colleague and focal person interact on a weekly basis, how well colleague knows the person), was linked to open and two way communication (beta = .16).

Both of these linkages are intuitively logical. The first link fits well with the dictum if you want to promote role clarity, "put it in writing." The second link suggests that the tendency for two way communication is directly promoted by increasing contacts between focal persons and colleagues.

What is perhaps more important in terms of our original orientation, however, is the fact that subsequent research can remain simpler because none of the other five factors were retained in the path diagram in the path diagram. This result suggests preliminarily that these factors are not particularly central to furthering our understanding of the operation of the variables included in our original communication model. On the other hand, the possibility remains that while theoretically and empirically measurable, the measures of the factors utilized in this study were not sufficiently sensitive to capture the essence of the constructs we were attempting to assess. For example, sex, age and education
were generally close among our focal persons and colleagues. Physical distances were small as a whole. We did not at all capture information pertaining to barriers that may lie between (which may range from solid walls to open uninterrupted space) focal persons and colleagues.

Before abandoning these variables, therefore, more sensitive measures might be considered and tested. Such a perspective seems especially appropriate since the research to date as cited earlier in the work of Bass (1960) and Monge and Kirste (1975) clearly suggests the potential value of examining the relationships of these constructs to interpersonal communication within organizations.
TABLE 1

Colleagues' Ratings of Focal Persons' Communication Style, Credibility and the Consequences (N = 578)

<table>
<thead>
<tr>
<th>Rating of Focal Person By Colleague</th>
<th>Mean</th>
<th>Coefficient Alpha</th>
<th>Convergent Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Communication Style</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open-and-Two Way</td>
<td>5.66</td>
<td>.86</td>
<td>.42</td>
</tr>
<tr>
<td>Careful Listener</td>
<td>6.91</td>
<td>.93</td>
<td>.65</td>
</tr>
<tr>
<td>Informal</td>
<td>6.54</td>
<td>.90</td>
<td>.47</td>
</tr>
<tr>
<td>Careful Transmitter</td>
<td>6.03</td>
<td>.91</td>
<td>.44</td>
</tr>
<tr>
<td>Trank</td>
<td>6.27</td>
<td>.88</td>
<td>.50</td>
</tr>
<tr>
<td>Brief and Concise</td>
<td>7.04</td>
<td>.94</td>
<td>.55</td>
</tr>
<tr>
<td><strong>Credibility</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trustworthy</td>
<td>7.01</td>
<td>.92</td>
<td>.49</td>
</tr>
<tr>
<td>Informative</td>
<td>7.05</td>
<td>.93</td>
<td>.57</td>
</tr>
<tr>
<td>Dynamic</td>
<td>6.82</td>
<td>.88</td>
<td>.59</td>
</tr>
<tr>
<td><strong>Consequences</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role Clarity (of colleague)</td>
<td>7.08</td>
<td>.94</td>
<td>.35</td>
</tr>
<tr>
<td>Effectiveness of Relations with FP</td>
<td>4.76</td>
<td>.81</td>
<td>.45</td>
</tr>
<tr>
<td>Job/Role Satisfaction of Colleague</td>
<td>5.27</td>
<td>.87</td>
<td>.30</td>
</tr>
<tr>
<td>Satisfaction with Focal Person</td>
<td>6.02</td>
<td>.98</td>
<td>.47</td>
</tr>
</tbody>
</table>
# TABLE 2

**INTERCORRELATIONS AMONG MEASURES OF DISTANCE BETWEEN FOCAL PERSONS AND COLLEAGUES, CONTACT POSSIBILITIES, MEDIUM OF COMMUNICATIONS USED, AND SUBJECT (N=577 COLLEAGUES)**

<table>
<thead>
<tr>
<th>Measures of Distance</th>
<th>Personal Prox.</th>
<th>Social Dist.</th>
<th>Contact Poss.</th>
<th>Medium</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Org. (1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td>(6)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dps</td>
<td>Wgs</td>
<td>NPR</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>24</td>
<td>-04</td>
<td>-22</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>04</td>
<td>-04</td>
<td>-03</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>01</td>
<td>00</td>
<td>00</td>
</tr>
</tbody>
</table>

**Personal Proximity**

- Organizational
- Physical

<table>
<thead>
<tr>
<th>Social Distance</th>
<th>Social Distance</th>
<th>Social Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Familiarity</td>
<td>Acquaintanceship</td>
<td>Frequency Interaction</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contact Possibilities</th>
<th>Contact Possibilities</th>
<th>Contact Possibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department Size</td>
<td>Workgroup Size</td>
<td>No. Persons Reporting</td>
</tr>
<tr>
<td>Mobility</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Medium</th>
<th>Medium</th>
<th>Medium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written</td>
<td>Face-to-Face</td>
<td>Group</td>
</tr>
<tr>
<td>Telephone</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subject</th>
<th>Subject</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job</td>
<td>Organizational</td>
<td>Personal/Social</td>
</tr>
</tbody>
</table>

With 575 df, p < .01 when r = .11 (in italics); decimals omitted
TABLE 3
VARIMAX ROTATED FACTOR MATRIX

<table>
<thead>
<tr>
<th>Measures of Distance</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
<th>( \chi^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dist.</td>
<td>Form</td>
<td>Fam.</td>
<td>Soc.</td>
<td>Cont.</td>
<td>Fam.</td>
<td>Form</td>
<td></td>
</tr>
<tr>
<td>(1) Organizational</td>
<td>-04</td>
<td>17</td>
<td>05</td>
<td>18</td>
<td>22</td>
<td>-01</td>
<td>29</td>
<td>21</td>
</tr>
<tr>
<td>(2) Physical</td>
<td>74*</td>
<td>08</td>
<td>09</td>
<td>04</td>
<td>03</td>
<td>-13</td>
<td>01</td>
<td>58</td>
</tr>
</tbody>
</table>

**Personal Proximity**

|                      |     |     |     |     |     |     |     |          |
| (3) Familiarity      | 02  | -02 | 54  | -09 | -04 | 55  | -11 | 62       |
| (4) Acquaintanceship | 03  | 03  | 66  | -06 | 00  | -01 | -08 | 44       |
| (5) Frequency Interaction | -07 | -02 | 02  | 04  | 05  | 68  | 10  | 49       |

**Social Distance**

|                      |     |     |     |     |     |     |     |          |
| (6) Age Difference   | 04  | 00  | 07  | 40  | 00  | 02  | 05  | 17       |
| (7) Sex Difference   | 00  | 03  | -06 | 52  | 02  | 00  | 03  | 28       |
| (8) Education Difference | 00  | 00  | -06 | 47  | 10  | -02 | -05 | 24       |

**Contact Possibilities**

|                      |     |     |     |     |     |     |     |          |
| (9) Department Size  | 12  | -06 | 15  | 12  | 02  | 03  | 03  | 06       |
| (10) Workgroup Size  | 00  | -07 | 14  | 03  | 43  | -07 | 09  | 23       |
| (11) No. Persons Reporting | -06 | -13 | 00  | 19  | 24  | 10  | 00  | 13       |
| (12) Mobility        | 04  | 11  | -20 | 01  | 64  | 09  | 04  | 47       |

**Medium**

|                      |     |     |     |     |     |     |     |          |
| (13) % Written       | -04 | 82  | -03 | -05 | -04 | -06 | 33  | 80       |
| (14) % Face-to-Face  | -26 | -57 | 00  | -04 | 00  | -01 | 18  | 43       |
| (15) % Telephone     | 88  | 09  | -01 | -01 | -04 | 02  | 00  | 75       |

**Subject**

|                      |     |     |     |     |     |     |     |          |
| (16) % Job Related   | 03  | 00  | -12 | -01 | 00  | 06  | 61  | 39       |

With 575 df, \( p < .01 \) when \( r = .11 \) (in italics); decimals omitted

*Factor loadings underlined indicate item and weighting used in constructing scale for path analysis.
Factors Influencing Communication Style...

<table>
<thead>
<tr>
<th>Measures of Distance</th>
<th>(1) Careful Presentation</th>
<th>(2) Two-Way Comm.</th>
<th>(3) Frank Listener</th>
<th>(4) Concise</th>
<th>(5) Informal</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Organizational</td>
<td>17</td>
<td>01</td>
<td>06</td>
<td>09</td>
<td>09</td>
</tr>
<tr>
<td>(2) Physical</td>
<td>02</td>
<td>05</td>
<td>00</td>
<td>07</td>
<td>00</td>
</tr>
</tbody>
</table>

Personal Proximity

| (3) Familiarity      | 09                       | 17                | 04                | 07          | 02          | 13          |
| (4) Acquaintanceship | -09                      | 02                | 01                | 00          | -07         | 02          |
| (5) Frequency Interaction | 00                   | 15                | 06                | -01        | 04          | 04          |

Social Distance

| (6) Age Difference   | 04                       | 05                | 00                | 02          | 04          | 00          |
| (7) Sex Difference   | -05                      | -05               | -02               | -02         | -01         | 03          |
| (8) Educational Difference | 04                       | -12               | -06               | -07        | -01         | -02         |

Contact Possibilities

| (9) Department Size  | 03                       | 06                | -03               | 06          | 00          | 10          |
| (10) Workgroup Size  | 03                       | -02               | 02                | -13         | 00          | 01          |
| (11) No. Persons Reporting | 05                       | -01               | -03               | 11          | 11          | 03          |
| (12) Mobility        | 00                       | -06               | 06                | -04        | 12          | -02         |

Medium

| (13) % Written       | 00                       | -04               | 00                | 01          | 01          | -08         |
| (14) % Face-to-Face  | 03                       | 12                | 02                | 06          | 05          | 07          |
| (15) % Group         | -02                      | -03               | 04                | 00          | -02         | 02          |
| (16) % Telephone     | 03                       | 07                | 02                | 05          | 00          | 00          |

Subject

| (17) % Job           | -03                      | 11                | 04                | 04          | 09          | 01          |
| (18) Organizational  | -03                      | 11                | 03                | 03          | 09          | 01          |
| (19) Personal/Social | -01                      | -05               | -01               | -02        | -06         | 05          |

Derived Factors

| (1) % Distant Communication | 03               | 07                | 02                | 07          | -01        | 02          |
| (2) % Formal Communication | 03               | 04                | 01                | 05          | 06          | -04         |
| (3) Familiarity due to length of acquaintanceship | -01               | 10                | 03                | 03          | 04          | 09          |
| (4) Social Distance      | -03               | -07               | -03               | -03        | 00          | 01          |
| (5) Contact Potential    | 04               | -05               | -05               | -06        | 11          | 00          |
| (6) Familiarity due interaction frequency | 05               | 19                | 06                | 03          | 04          | 10          |
| (7) % Formal Subject     | -02               | 10                | 04                | 06          | 08          | 00          |

With 575 df, p < .01 when r = .11 (in italics) decimals omitted
### TABLE 5

RELATIONS BETWEEN MEASURES OF DISTANCE, CONTACT POSSIBILITIES, MEDIUM, SUBJECT, DERIVED FACTORS, AND FOCAL PERSON'S CREDIBILITY

<table>
<thead>
<tr>
<th>Measures of Distance</th>
<th>Trustworthy</th>
<th>Credibility Informative</th>
<th>Dynamic</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Organizational</td>
<td>04</td>
<td>11</td>
<td>09</td>
</tr>
<tr>
<td>(2) Physical</td>
<td>08</td>
<td>01</td>
<td>02</td>
</tr>
<tr>
<td>Personal Proximity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3) Familiarity</td>
<td>21</td>
<td>22</td>
<td>15</td>
</tr>
<tr>
<td>(4) Acquaintanceship</td>
<td>00</td>
<td>09</td>
<td>04</td>
</tr>
<tr>
<td>(5) Frequency Interaction</td>
<td>06</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Social Distance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(6) Age Difference</td>
<td>-02</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>(7) Sex Difference</td>
<td>04</td>
<td>-07</td>
<td>-12</td>
</tr>
<tr>
<td>(8) Educational Difference</td>
<td>00</td>
<td>-08</td>
<td>-06</td>
</tr>
<tr>
<td>Contact Possibilities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(9) Department Size</td>
<td>10</td>
<td>-11</td>
<td>-12</td>
</tr>
<tr>
<td>(10) Workgroup Size</td>
<td>-11</td>
<td>06</td>
<td>00</td>
</tr>
<tr>
<td>(11) No. Persons Reporting</td>
<td>-02</td>
<td>-04</td>
<td>-05</td>
</tr>
<tr>
<td>(12) Mobility</td>
<td>-13</td>
<td>00</td>
<td>06</td>
</tr>
<tr>
<td>Medium</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(13) % Written</td>
<td>-06</td>
<td>00</td>
<td>09</td>
</tr>
<tr>
<td>(14) % Face-to-Face</td>
<td>07</td>
<td>04</td>
<td>-04</td>
</tr>
<tr>
<td>(15) % Group</td>
<td>-04</td>
<td>-04</td>
<td>-01</td>
</tr>
<tr>
<td>(16) % Telephone</td>
<td>05</td>
<td>04</td>
<td>02</td>
</tr>
<tr>
<td>Subject</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(17) % Job Related</td>
<td>01</td>
<td>11</td>
<td>05</td>
</tr>
<tr>
<td>(18) % Organizational</td>
<td>01</td>
<td>10</td>
<td>05</td>
</tr>
<tr>
<td>(19) % Personal/Social</td>
<td>02</td>
<td>-14</td>
<td>-10</td>
</tr>
<tr>
<td>Derived Factors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) % Distant Communication</td>
<td>07</td>
<td>03</td>
<td>03</td>
</tr>
<tr>
<td>(2) % Formal Communication</td>
<td>01</td>
<td>04</td>
<td>07</td>
</tr>
<tr>
<td>(3) Familiarity due to length of acquaintanceship</td>
<td>11</td>
<td>18</td>
<td>11</td>
</tr>
<tr>
<td>(4) Social Distance</td>
<td>02</td>
<td>-08</td>
<td>-09</td>
</tr>
<tr>
<td>(5) Contact Potential</td>
<td>-14</td>
<td>02</td>
<td>02</td>
</tr>
<tr>
<td>(6) Familiarity due interaction frequency</td>
<td>15</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>(7) % Formal Subject</td>
<td>00</td>
<td>10</td>
<td>11</td>
</tr>
</tbody>
</table>

With 575 df, p < .01 when r = .11 (in italics); decimals omitted
# TABLE 6

## RELATIONS BETWEEN MEASURES OF DISTANCE, CONTACT POSSIBILITIES, MEDIUM, SUBJECT, DERIVED FACTORS, AND COLLEAGUE CONSEQUENCES

<table>
<thead>
<tr>
<th>Measures of Distance</th>
<th>Role Clarity</th>
<th>Satis W</th>
<th>Job Satis</th>
<th>Eff. Rel.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Organizational</td>
<td>13</td>
<td>08</td>
<td>11</td>
<td>07</td>
</tr>
<tr>
<td>(2) Physical</td>
<td>07</td>
<td>05</td>
<td>10</td>
<td>01</td>
</tr>
</tbody>
</table>

### Personal Proximity

| (3) Familiarity      | 12           | 34      | 09        | 27        |
| (4) Acquaintanceship | 01           | 05      | 04        | 09        |
| (5) Frequency Interaction | 03       | 12      | 04        | 17        |

### Social Distance

| (6) Age Difference   | 03           | 00      | 00        | 00        |
| (7) Sex Difference   | 00           | -03     | 01        | -05       |
| (8) Educational Difference | 07       | -04     | -04       | -04       |

### Contact Possibilities

| (9) Department Size  | 00           | 00      | 03        | 00        |
| (10) Workgroup Size  | 00           | -05     | -03       | -02       |
| (11) No. Persons Reporting | 03       | 04      | -04       | 00        |
| (12) Mobility        | 09           | 01      | 03        | 02        |

### Medium

| (13) % Written       | 10           | 01      | 09        | 02        |
| (14) % Face-to-Face  | 00           | 02      | -05       | 00        |
| (15) % Group         | -04          | 00      | -02       | 01        |
| (16) % Telephone     | 07           | 03      | 13        | 03        |

### Subject

| (17) % Job Related   | 01           | 03      | 10        | -01       |
| (18) % Organizational| 01           | 03      | 09        | 00        |
| (19) % Personal/Social | 00       | -02     | -13       | -03       |

### Derived Factors

| (1) % Distant Communication | 08 | 04 | 14 | 02 |
| (2) % Formal Communication  | 11 | 03 | 06 | 02 |
| (3) Familiarity due length of acquaintanceship | 07 | 17 | 08 | 21 |
| (4) Social Distance         | 06 | -03 | -01 | -03 |
| (5) Contact Potential       | 07 | -01 | -01 | 00 |
| (6) Familiarity due interaction frequency | 08 | 21 | 08 | 28 |
| (7) % Formal Subject        | 08 | 03 | 12 | 02 |

With 575 df, p < .01 when r = .11 (in italics); decimals omitted
Figure 1

Possible Impact of Factors Influencing Interaction on Original Communication Model

Factors influencing interaction

- Focal person
- Interpersonal Communication Style

- Credibility of focal person
- Colleague role clarity

Colleague consequences
Figure 2

Path Analysis Linking Factors Influencing Interaction to Original Communication Model

Factors Influencing Interaction
- Formal Communication
- Familiarity due to frequency of contact

Interpersonal Communication Style
- Careful Listening
- Open, two way communication
- Frankness
- Informality
- Brevity

Role Clarity (.18)
- Trustworthiness (.53)
- Informativeness (.44)

Role Satisfaction (.25)
- Effectiveness (.53)
- Satisfaction with focal person (.66)
REFERENCES


Klauss, R. Development of the Bass-Klauss impact model of interpersonal communication, ONR Technical Report 1, Contract No. N0001476-C-0912, Syracuse University, Syracuse, N.Y., 1977a

Klauss, R. Measuring the impact on subordinates of managers' interpersonal communication styles and credibility, ONR Technical Report 2, Contract No. N0001476-C-0912, Syracuse University, Syracuse, N.Y., 1977b


Monge, Peter R., & Kirste, Kenneth K. Proximity; location, time, and opportunity to communicate, ONR Technical Report 3, Contact No. N00014-73-A-0476-0001, California State University, San Jose, California, 1975
MASTER DISTRIBUTION LIST

MANDATORY

Office of Naval Research
(Code 452)
800 N. Quincy St.
Arlington, VA 22217

Director
U. S. Naval Research Laboratory
Washington, DC 20390

Defense Documentation Center
Building 5
Cameron Station
Alexandria, VA 22314

Library, Code 2029
U. S. Naval Research Laboratory
Washington, DC 20390

Science & Technology Division
Library of Congress
Washington, DC 20540

ONR FIELD

Commanding Officer
ONR Branch Office
495 Summer St.
Boston, MA 02210

Psychologist
ONR Branch Office
495 Summer St.
Boston, MA 02210

Commanding Officer
ONR Branch Office
536 S. Clark St.
Chicago, IL 60605

Commanding Officer
ONR Branch Office
1030 E. Green St.
Pasadena, CA 91106

Psychologist
ONR Branch Office
1030 E. Green St
Pasadena, CA 91106

Research Psychologist
ONR Branch Office
536S. Clark St.
Chicago, IL 60605

PRINCIPAL INVESTIGATORS

Dr. Earl A. Alluisi
Old Dominion University Res. Foundation
Norfolk, Virginia 23508

Dr. James A. Bayton
Department of Psychology
Howard University
Washington, DC 20001

Dr. H. Russell Bernard
Dept. of Sociology & Anthropology
West Virginia University
Morgantown, West Virginia 26506

Dr. Arthur Blaiwes
Naval Training Equipment Center
Orlando, Florida 32813

Dr. Milton R. Blood
School of Business
Georgia Institute of Technology
Atlanta, Georgia 30332

Dr. David G. Bowers
Institute of Social Research
University of Michigan
Ann Arbor, Michigan 48106

Dr. John J. Collins
Vice President
Essex Corporation
201 N. Fairfax St.
Alexandria, VA 22314

Dr. Fanis Kirkland
University City Science Center
Center for Social Development
3624 Science Center
Philadelphia, Pennsylvania 19104

Dr. C. Brooklyn Derr
Associate Professor, Code 55
Naval Post Graduate School
Monterey, California 93940
MISCELLANEOUS

Air Force

AFOSR/NL
Bldg., 410
Bolling AFB
Washington, DC 20332

Military Assistant for
Human Resources
OAD (E&LS) ODDR&E
Pentagon 3D129
Washington, DC 20301

HQ, USAF
AFMPC/DPMYP
Randolph AFB, TX 78148

Air University Library/LSE 76-443
Maxwell AFB, AL 36112

Marine Corps

Commandant of the Marine Corps
(Code MPI-20)
Washington, DC 20380

Dr. A. L. Slafkosky
Code RD-1
HQ US Marine Corps
Washington, DC 20380

Coast Guard

Chief, Psychological Research Branch
US Coast Guard (G-P-1/62)
400 7th St. SW
Washington, DC 20590

Navy

Chief of Naval Personnel
Assistant for Research Liaison (Pers-Or)
Washington, DC 20370

Bureau of Naval Personnel (Pers 6)
Assistant Chief of Naval Personnel for
Human Resource Management
Washington, DC 20370

Bureau of Naval Personnel (Pers-6a3)
Human Resource Management Financial Office
Washington, DC 20370

CAPT Paul D. Nelson, MSC, USN
Director of Manpower & Facilities (Code 604)
Navy Medical R&D Command
Bethesda, MD 20014

Assistant Officer in Charge
Naval Internal Relations Activity
Pentagon, Room 2E329
Washington, DC 20350

Navy Postgraduate School
Monterey, CA 93940
ATTN: Library (Code 2124)
Professor John Senger  
Operations Research & Administration Sciences  
Naval Postgraduate School  
Monterey, CA  93940

CDR Robert S. Kennedy  
Head, Human Factors Engineering Branch (1242)  
USN Pacific Missile Center  
Pt. Mugu, CA  93042

Training Officer  
Human Resource Management Center  
San Diego, CA  92133 NTC

Scientific Director  
Naval Health Research Center  
San Diego, CA  92152

Navy Personnel R&D Center  
San Diego, CA  92152

Commanding Officer  
Naval Submarine Medical Research Lab.  
Naval Submarine Base New London, Box 900  
Groton, CT  06340

Commanding Officer  
Naval Training Equipment Center  
Technical Library  
Orlando, FL  32813

Naval Aerospace Medical Research Lab.  
Naval Aerospace Medical Center  
Pensacola, FL  32512

Lt. Rebecca G. Vinson, U.S.N.  
Rating Assignment Officer, Pers 5151  
Bureau of Naval Personnel  
Washington, DC  20370

Chief, Naval Technical Training  
NAS Memphis (75)  
Millington, TN  38054  
ATTN: Mr. Tom Warrick, N622

Dr. C. Brooklyn Derr  
Associate Professor, Code 55  
Naval Postgraduate School  
Monterey, CA  93940

Human Resource Management Center  
Box 23,  
FPO New York  09510

Human Resource Management Center, Norfolk  
5621-23 Tidewater Drive  
Norfolk, VA  23511

Human Resource Management Center  
Bldg., 304  
Naval Training Center  
San Diego, CA  92133

Office of Naval Research (Code 200)  
Arlington, VA  22217

ACOS Research & Program Development  
Chief of Naval Education & Training (N-5)  
Naval Air Station  
Pensacola, FL  32508

Human Resource Management Center  
Pearl Harbor  
FPO San Francisco, CA  96601

Human Resource Management School  
Naval Air Station Memphis (96)  
Millington, TN  38054

Capt. Bruce Stone, U.S.N.  
Director, Programs Development Division (Code N-35)  
Chief of Naval Education & Training  
Naval Air Station  
Pensacola, FL  32508

Capt. Charles Baldwin  
Bureau of Naval Personnel  
Pers 65  
Washington, DC  20370

Director, Human Resource Training Department  
Naval Amphibious School  
Little Creek  
Naval Amphibious Base  
Norfolk, VA  23521

Navy Materiel Command  
Employee Development Office (Code SA-65)  
Room 150 Jefferson Plaza, Bldg., #2  
1429 Jeff Davis Highway  
Arlington, VA  20360
Human Resource Management Center
Washington, DC 20370

OTHER

Ms. Elsa A. Porter
Clearinghouse on Productivity & Organizational Effectiveness
U.S. Civil Service Commission
Washington, DC 20415

Dr. Robert B. Tebbs
Eckerd College
Behavioral Science Collegium
St. Petersburg, FL 33733

HumRRO (ATTN: Library)
300 N. Washington St.
Alexandria, VA 22314

Director, Columbus Office
HumRRO Central Division, Suite 23
2601 Cross Country Dr.
Columbus, GA 31906

Office of the Air Attaché
Embassy of Australia
1601 Massachusetts Ave., NW
Washington, DC 20036

Scientific Information Officer
British Embassy
3100 Massachusetts Ave., NW
Washington, DC 20008

Canadian Defense Liaison Staff,
Washington
2450 Massachusetts Ave., NW
Washington, DC 20008

Dr. Lennart Levi, Director
Lab, for Clinical Stress Research, Fack
S-104 01 Stockholm, Sweden

Mr. Luigi Petrullo
2431 N. Edgewood St.
Arlington, VA 22207

Commanding Officer
1 Psychological Research Unit
Chancery House
485 Bourke St.
Melbourne vic 3000
Australia

Head, Research & Analysis Branch
Navy Recruiting Command (Code 434)
4015 Wilson Blvd.
Arlington, VA 20795

Dr. Meredith Crawford
5605 Montgomery St.
Chevy Chase, MD 20015

CDR Donald F. Parker, USN
Management Department
U.S. Naval War College
Newport, RI 02840

Dr. Diane C. Ryan
McBer and Company
137 Newbury St.
Boston, MA 02116

Dr. William S. Maynard
Department of Leadership & Law
U.S. Naval Academy
Annapolis, MD 21402

Dr. Nyron M. Zajkowski
Director Training Analysis and Evaluation Group
Orlando, FL 32813