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A Comparison of Communication Between Friends and Strangers Under Oral and Written Conditions

Raymond F. Venzke

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A COMPARISON OF COMMUNICATION BETWEEN FRIENDS AND STRANGERS
UNDER ORAL AND WRITTEN CONDITIONS

by
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Bachelor of Arts, Wartburg College 1955

A Thesis

Submitted to the Graduate Faculty

of the

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for the degree of

Master of Arts

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1974

This Thesis submitted by Raymond F. Venzke in partial fulfillment of the requirements for the Degree of Master of Arts from the University of North Dakota is hereby approved by the Faculty Advisory Committee under whom the work has been done.

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Title A Comparison of Communication Between Friends and Strangers
Under Oral and Written Conditions

Department Psychology

Degree Masters of Arts

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ABSTRACT

The primary goal of the communication process is to have the addressee understand the communicator's expressed thoughts or ideas. Three factors which have been shown to be important are: the relationship between the communicator and addressee (Ferguson, 1949), the amount of feedback (Leavitt and Mueller, 1951), and the communication channels used (Duncan, 1969).

The present study attempted to determine if friends communicate more effectively than strangers and if oral communication in a condition permitting nonverbal communication and feedback was more effective than written communication.

Five sets of ten pictures of males were given to each subject. One friend was designated the communicator. Her task was to select one picture of a male from each set and describe him to her friend and a stranger who served as addressees. Their task was to select the picture of the male described by the communicator in order to score a correct response. They were to give two responses for each description. The measures used were the number of correct responses and the time used to make the first response.

An analysis of variance was used to assess relationship and channel effects, no significant differences or effects were found.

The Mann-Whitney U Test was used to compare the amount of

time used for an incorrect or correct response. The written-correct condition z score was found to be significant indicating friends under this condition were faster in choosing the correct picture. Also the oral-incorrect condition z score was significant indicating friends under this condition were faster in choosing the incorrect picture.

CHAPTER I

INTRODUCTION

The American Heritage Dictionary (1969) defines communication as "the exchange of thought, messages, or the like, as by speech, signals, or writing". While this definition itself is relatively simple it describes a very complicated process, "the exchange of thoughts, messages, or the like".

One way to describe this process is to state that communication takes place when Person A has a thought or an idea which he wants to transmit to or exchange with Person B. He encodes this thought into a message which he sends through his available communication channels to Person B, who must receive the message and then decode it correctly in order to understand Person A's thought. The goal of this process is for Person B to understand Person A's thought. It is this goal of having someone else understand one's thought or idea that is primary in every communication process. Yet this goal often proves to be a very elusive one. The failure to reach this goal not only produces frustration but often other serious consequences as well, as can be attested by one's personal experience and through the study of history. Thus much research has been conducted in order to understand the communication process itself - the encoding, transmitting, and decoding as well as the factors that influence the understanding of the message

that is transmitted or exchanged. Three factors have been demonstrated by previous research to be related to attaining the goal of the communication process i.e. the understanding of Person A's thought by Person B. They are the relationship of Person A to Person B, the amount of feedback available, and the communication channel selected.

An early study by Ferguson (1949) provided impetus for others to study the importance of acquaintanceship in the communication process. In that study he found that the better acquainted the field representatives became with their managers the more accurate and reliable their ratings (i.e. their understanding) of the manager became.

The importance of feedback was demonstrated by Leavitt and Mueller (1951) who conducted a study in which the experimenter described various geometric designs under different feedback conditions. Their results indicated that the more feedback between communicator and addressee the more accurate was the decoding of the experimenter's description.

The third factor, the communication channel used, is closely related to the matter of feedback. Communication channels are the various ways the communicator transmits his encoded messages. Two basic channels are the verbal channel and the nonverbal channel. The verbal channel includes primarily the words and the sentences in which these words are found. This thesis is an example of the use of the verbal channel. The nonverbal channel has a number of modalities which can be used with or without the verbal channel. Duncan (1969) listed the following nonverbal communication modalities:

- a. body motion or kinesic behavior: gestures, and other

body movements including facial expressions, eye movements , and posture.

- b. paralanguage: voice quality, speech nonfluencies and such nonlanguage sounds as laughing, yawning, or grunting.
- c. proxemics: the use of social and personal space and man's perception of it.
- d. olfaction
- e. skin sensitivity to touch and temperature.
- f. use of artifacts such as dress and cosmetics.

Mehrabian and Reed (1968) state that when all of the communication behaviors of the communicator are made available to the addressee the accuracy of decoding the communication is increased. Also the communicator's accuracy in encoding his message increases when he is able to use all of the communication channels typically employed by a communicator for that kind of communication.

This study will be concerned with these three factors in a specific communication task. The primary question to be investigated deals with the acquaintanceship factor, i.e. do friends communicate more accurately than strangers? In addition, two secondary questions were investigated. Is nonverbal feedback an important factor in the accuracy of this communication? Does the addition of nonverbal channels of communication to the verbal enhance the accuracy of the communication?

CHAPTER II

REVIEW OF LITERATURE

The Relationship Attribute of Communicator and Addressee

A number of studies have demonstrated that one of the major factors influencing the understanding of an exchanged communication is the relationship between the persons exchanging the message. Many of these studies have also sought to determine what the important factors are in a relationship that leads to a clearer understanding.

An early study by Ferguson (1949) indicated the importance of the acquaintanceship factor in improving the understanding of the messages between two persons. In this study he used, as an indication of understanding between managers and their traveling field representatives, the accuracy and reliability of the rating of the managers by the field representatives. He found that the better acquainted the field representatives were with the managers the more accurate and reliable the ratings became.

A few years later Newcomb (1953) became interested in the relationship between interpersonal attraction and the effectiveness of communication. Adapting Heider's (1946) notion of balance he postulated a "strain toward symmetry" which leads two persons (A and B) to develop similar attitudes toward an object (X). Newcomb argues that the relationship between A and B is affected by the object X and also that A's orientation toward X is influenced by B. According to Newcomb the

act of communication is viewed as the transmission of information from A, the communicator, to B the addressee, concerning X, the referent. He states that it is the "strain toward symmetry" which influences the communication between A and B so as to make their attitudes towards X more similar. In a study conducted during 1954 Newcomb (1956) found that students who were attracted to each other, while living with each other and thus had communicated more with each other, had a tendency to agree on many matters including the way they perceived themselves and their attractions for other group members.

Triandis (1960a) expanding on Newcomb's ideas (1953, 1956, 1958) suggested that the communication between A and B would be more effective the greater their cognitive and attitude similarity. He stated:

to the extent that A and B are cognitively similar (orient toward significant aspects of their environment in similar ways) and there is an opportunity for communication, communication should be effective, the relationship between A and B should be rewarding, and the interaction should lead to increased liking of A for B and B for A. Increased liking should result in higher rates of interaction between A and B and this in turn should produce greater cognitive similarity.

Triandis (1960b) conducted a study to demonstrate this. In it he found that on a Q sort task the greater the deviation between the profiles of encoders and decoders the more difficult it was for the decoders to decode the encoders profiles correctly.

The importance of cognitive similarity in communication was further demonstrated by Runkel (1966) and Johnson and Gross (1968). Runkel took measure of students and teachers attitudes at the beginning of a school year and found that students who were cognitively similar to the teachers received higher course grades. He hypothesized that

this was due to the greater effectiveness of communication between the cognitively similar than between the cognitively dissimilar teachers and students. Johnson and Gross (1968) cite Runkel's definition of communication as a kind of guessing game and demonstrated that the scores of two people playing an experimental analogue of the "game" were dependent upon the similarity or overlap in their respective "cognitive maps" of the selection.

The importance of similarity in social status of Person A and Person B in the understanding of an expressed message was demonstrated by Harms (1961) who obtained measures of a listener's comprehension of speeches delivered by speakers from three different status groups. He found that when the speaker was from the same socio-economic group as the listener there was greater comprehension and accuracy. Alkire et al (1968) also found that status differences affect the type of information conveyed by the sender as well as the level of accuracy obtained by the receivers.

In their studies of persuasive communication Mills and Arnanson (1965) and Mills and Jellison (1968) found that the communicator was more persuasive when the audience felt he was attractive, and when they thought he held similar views. When the audience felt the speaker was similar to them they tended to agree with him.

In 1960 Triandis (1960a) stated effective communication between strangers will also be related to their cognitive similarity. This has been supported by Byrne (1961), Byrne and Nelson (1965), and Byrne and Clere (1966) who have indicated that attraction between strangers is a function of the similar attitudes expressed by them.

McLaughlin (1970) feels that if the degree of similarity between two persons can be increased there should be a corresponding increase in the attraction of one person toward the other thus facilitating communication between them.

The above studies indicate that factors such as acquaintanceship, interpersonal attraction, cognitive and attitude similarity, social status and personal attractiveness affect both the relationship between two persons and the understanding of their exchanged communications. Furthermore, it can be concluded that the closer the relationship or friendship between the two persons the more effective their communication should be. Thus it would appear that a pair of friends would better understand each others message than a pair of strangers.

The Channel Attributes

The attributes of the communicator and addressee are only two of the five independent factors which influence communication accuracy according to Mehrabian and Reed (1968). In this review article they list in addition the channel attributes, the communication attributes, and the referent attributes. The channel attributes they listed are the number of channels available, the modification of the communication in transmission, and the amount of feedback. As communication attributes they felt that the simplicity, redundancy, organization, and objectivity of communication were important. As referent attributes they stated that both the ambiguity and complexity of the referent influenced the accuracy of communication.

One of the first studies to point up the importance of the channel attributes was a study by Leavitt and Mueller (1951) in which

they had a subject describe a geometric design on a card under different feedback situations. They found that the more feedback allowed the more the accuracy increased in the reproduced designs. They stated feedback from both A and B can increase the certainty of B that he is getting the intended information and the certainty of A that he is getting it across.

Four feedback conditions were used by Faules (1967) who found a tendency in his results toward the following order of most effective conditions: 1. all cues; 2. auditory cues only; 3. written cues only; 4. visual cues only.

DeVito (1967) offers an explanation for auditory cues being more effective than written. He pointed out that oral language contains more finite verbs and less nouns of abstraction than written language.

Duncan's (1969) work with nonverbal channels also helps explain the greater effectiveness of auditory over written cues. In an auditory situation there are paralanguage nonverbal cues given, such as voice quality and tone, and such nonlanguage sounds as laughing, yawning or grunting. A study by Wickman (1970) also found that the best cooperation between two persons was obtained when seeing and hearing channels were both used, and with the hearing channel better than the seeing channel when only one was used.

Argyle et al (1970) wrote "human social interaction consists not only of verbal exchanges, but also of nonverbal signals such as facial expressions, gestures, eye movements and tone of voice". Their study (1970) showed that nonverbal cues produced better results than verbal cues. It is apparent then that the more communication channels used the more effective the communication will be.

Other Relevant Factors

A number of studies indicate that there are other factors which also enter in to success or failure of a communication. Studies by Cooper and Jahoda (1947) and Donohew (1966) indicate that a person's prejudices affect his understanding of a communication through the distortion of the message to fit the prejudices.

It was stated by Festinger (1957) that when a person is exposed to new information leading to increased dissonance, the person will misinterpret and misperceive the new information in order to avoid an increase in dissonance.

Hovland et al (1957) wrote that when we are listening to a communication which is in close agreement to our opinion we tend to decode the message in a way which makes it seem even closer to our position. In contrast, however, if the communication is divergent we make it even more divergent.

Miller et al (1951) found that communication accuracy diminished with the number of alternatives to decode as well as with the complexity of the referent.

Four sources of distraction were listed by Goffman (1957):

1. the communicators external state,
2. the addressees possible annoying or distracting mannerisms,
3. the form of the interaction itself,
4. events outside of the interaction such as extraordinary noise, the physical conditions under which communication takes place, etc.

Abrams (1966) demonstrated that the comprehension of a communication depends not as much on the organization of the communication itself as it does upon the ability of the listener to structure the

communication for himself. A possible explanation for misunderstanding of communication between friends was offered by Taft (1966). He said knowing a person well may lead to so much information about him that the listener gives too much weight to some data and far too little to other more relevant data. Duncan (1969) found in his studies of source of variance in nonverbal interaction that subject perceptions were influenced by expectations and/or by situational characteristics and/or by the subjects personality type. Two other studies that have bearing of this research project are the study by Boyd (1969) who found communicating about impressions of people to be a natural and ubiquitous process, and the study by Lott et al (1970) which indicated a subject would use more words to describe a liked person than a disliked or neutral person.

Problem and Hypotheses

Past research, especially the work of Newcomb (1953, 1956, 1958), Triandis (1960a, 1960b), Johnson and Gross (1968), Byrne (1961), Byrne and Clere (1966), McLaughlin (1970) indicates that between two persons (A and B) similarity, interpersonal attraction and effective communication are positively correlated. Triandis (1960a) stated this clearly when he wrote "to the extent that A and B are cognitively similar and there is opportunity for communication, communication should be effective, the relationship between A and B should be rewarding, and the interaction should lead to increased liking of A for B and B for A".

Since persons who are similar and are attracted to each other tend to become friends it would seem apparent that two individuals who claim to be friends should communicate more effectively than a pair of

strangers. But is this necessarily the case? The work of Cooper and Jahoda (1947), Donohew (1966), Festinger (1957) and Hovland (1957) indicate that the addressee's own position will affect his understanding of the communicated message. Taft (1966) also stated that knowing a person well may give so much information to the addressee that he will give more importance to some irrelevant data and too little importance to some relevant data.

Thus, while much of previous research tends to indicate that a pair of friends will communicate more effectively than a pair of strangers, this conclusion can not be drawn with certainty. The central question of this experiment is: do friends understand a message that is communicated between them more clearly than a pair of strangers?

A second area of concern is the importance of communication channels. Leavitt and Mueller (1951) and Faules (1967) work with the importance of feedback; Wickman's (1970) study demonstrating the increased effectiveness of communication with the increased number of communication channels; and Duncan (1969) and Argyles (1970) work with nonverbal communication would seem to indicate that the communicated message would be more readily understood when more channels are used, especially the nonverbal channels, and when there is opportunity for feedback, even if only nonverbal.

This experiment will also deal with two secondary questions. Does the use of several channels, particularly nonverbal channels, increase the effectiveness of communication between friends more than between strangers? Does nonverbal feedback also improve the communication between friends more than between strangers?

The following tentative hypotheses guided the present study:

Hypothesis I. Friends will understand a communicated message more accurately than strangers.

Hypothesis II. The use of additional communication channels besides words alone will improve the effectiveness of the communicated message.

Hypothesis III. A condition which allows nonverbal feedback will provide better communication than a condition in which there is no feedback.

CHAPTER III

METHODOLOGY

Subjects and Overview of Procedure

The female subjects used in this present study were composed of twenty pairs of "close" friends and twenty strangers. The pairs of "close" friends were selected by having one member of the pair bring to the experiment someone they considered a friend and whom they felt knew them quite well. All subjects with the exception of a few in the "friend" category were enrolled in Educational Psychology at the University of North Dakota. Research credit was given to students who participated in the experiment.

The communication was given under two conditions, oral and written. Ten of the friend-stranger triads were assigned randomly to each condition. In each condition the subject who brought a friend was designated as the communicator. It was the communicator's task to select a picture of a male from a set of pictures and describe him. In the written condition the communicator wrote her description which was later presented to the addressees. In the oral condition this description was given orally simultaneously to both the friend and stranger. The addressees were given the task of selecting from their set of pictures the male described by the communicator. For each description they were to make two responses. The first response was to be given as quickly as possible. This response was timed. The second response

was not timed and was to be made when they were certain they knew which picture contained the male described or when the communicator finished her description. A correct response was scored whenever the addressees chosen picture matched the one described by the communicator.

Selection of the Communication Task

Six sets of pictures of persons taken from current news magazines were prepared. Each set was composed of ten pictures placed on an 8½" x 14" white sheet of paper. There was one practice set composed of pictures of females. The five test sets were composed of pictures of males. An attempt was made to select pictures of males so that each test set contained pictures of males with similar facial expressions.

Each member of a triad composed of a pair of friends and a stranger was given identical sets of the stimuli. One friend was selected to choose one picture and describe the person in such a way that her friend would be able to choose which was the person being described. The stranger received the same description and also attempted to select the picture of the person being described.

The communication was presented under two conditions. In the first condition the friend wrote a description of the chosen picture. These written descriptions were then typed and identical copies were given to the second friend and to the stranger to use in making their choices. In the second condition all three persons were seated around a table and one of the friends gave an oral description of the person she had chosen. There were two restrictions placed upon the descriptions to be given. (1) No actual detail of the picture could be given such as the man smoking a pipe or the man with a plaid shirt. (2) No

private language words that would only be known by the friend were to be used.

The Communication Experiment

Under the written condition one of the friends was asked to appear alone. When she arrived she was given the six sets of pictures face down along with a pencil and paper. The following instructions were given.

In a few minutes I will ask you to turn over the top sheet. On it you will find ten pictures of persons. I would like you to choose one of the persons pictured and write a description of that person so that your friend will be able to choose the same picture. Do not refer to any specific detail of the picture and do not use any special words which only your friend would understand. Your description of the person can be as long or as short as you desire just as long as you feel you have described the person well enough for your friend to know which picture you have chosen. Now turn over the first sheet and write your description of the person you have chosen. Remember you want your friend to choose the same picture. Are there any questions? Make certain you write down the set number and also the letters of the picture chosen above your description.

After the first description was written the experimenter examined them to make certain the subject understood the task. When it was clear the subject understood the task she was instructed to proceed in the same fashion with the five test sets of pictures.

After all ten subjects in the written condition had finished the task, their written descriptions were typed on 4" x 6" cards with the omission of the letter of the picture chosen which had been recorded elsewhere. Then the subject's friend and a stranger were asked to appear. They were given six identical sets of pictures, a stop watch, and a 4" x 6" card on which to record their choices along with the six typed descriptions. They received the following instructions.

A friend has chosen a picture of a person and has written a description. Your task will be to choose the picture of the person she has described. On the card given you, write your name and then number from one to six. After each number draw three short lines. On the first line you will record the length of time for the first guess. On the second line you will record the letter of your first guess and on the third line your second guess. The first guess is to be made as rapidly as possible while the second guess is to be your most accurate guess. Remember your first guess is to be made as soon as you are relatively certain which person is being described. Don't forget to record the exact time. For the second guess you may take as long as you wish until you are certain of the person being described. Now turn over the first sheet and your first description.

After the practice set an opportunity was given to answer any questions and then the subjects were asked to proceed with the test sets.

In the oral-visual condition all three members of the triad were asked to appear together. The friend selected to give the descriptions received her instructions privately and they were practically identical to the instructions given to the friend in the written condition. After her return to the experimental room the second friend and stranger were given cards and stop watch and received identical instructions as in the written condition.

Table 1 indicates the experimental conditions used. Ten sets of triads composed of a pair of friends and a stranger were used in each of the two conditions.

TABLE 1

TABLE OF EXPERIMENTAL CONDITIONS

| | Friends | Strangers |
|----------------------------|---------|-----------|
| Written Description | 10 | 10 |
| Oral-visual Description | 10 | 10 |

CHAPTER IV

RESULTS

Treatment of the Data

It will be recalled that each pair of friends and strangers were given five test stimuli of pictures of males. While the experimenter attempted to make each succeeding test stimulus more difficult by selecting pictures that were more similar for the later stimuli, the results, as shown in Table 2, indicate what appears to be a practice effect as the total number of correct responses increased for each succeeding stimulus except for stimulus number four.

TABLE 2

TOTAL NUMBER OF CORRECT RESPONSES FOR EACH STIMULUS

| Condition | Stimulus | | | | |
|-------------------|-----------|-----------|-----------|-----------|-----------|
| | I | II | III | IV | V |
| Oral-Friends | 7 | 10 | 10 | 10 | 17 |
| Oral-Strangers | 9 | 12 | 11 | 7 | 12 |
| Written-Friends | 12 | 5 | 10 | 11 | 10 |
| Written-Strangers | 6 | 10 | 13 | 8 | 10 |
| Total | <u>34</u> | <u>37</u> | <u>44</u> | <u>36</u> | <u>49</u> |

Two measures were used to measure the effectiveness of the communication. The first was simply the number of correct responses. A

correct response was made whenever the addressee chose the same picture the communicator was describing. The addressee had two opportunities (trials) to select the correct picture. The same picture could be chosen in each trial. The second measure was the amount of time used in the first trial to respond whether correctly or incorrectly.

It will also be remembered that pictures were described under two channel conditions: the first condition used only one channel with no feedback. This was the written description. The second condition was an oral description which used the nonverbal as well as verbal channels and allowed for nonverbal feedback.

Results of the Number Correct Measure

While much of the previous research had indicated that two persons who were friends would understand each other more clearly than strangers, this was not supported by this experiment. No significant differences were found among any of the four treatment groups.

The total possible number of correct responses for each treatment group was 100. The percentage correct for each group was as follows: oral - friend 54%, oral - stranger 51%, written - friend 48%, written - stranger 47%.

The means and standard deviations of each of the four treatment groups are found in Table 3, while Table 4 contains the summary of the analysis of variance of the number of correct responses for the four treatment groups. This further substantiates that there were no significant effects for channel or relationship.

TABLE 3

MEANS AND STANDARD DEVIATIONS OF CORRECT RESPONSES BY FRIENDS AND STRANGERS IN THE ORAL AND WRITTEN COMMUNICATION GROUPS

| | Form of Communication | | | |
|-----------|---------------------------------|----------|---------------------------------|----------|
| | Written | | Oral | |
| | Level of Acquaintance Friend | Stranger | Level of Acquaintance Friend | Stranger |
| n | 10 | 10 | 10 | 10 |
| \bar{X} | 4.8 | 4.7 | 5.4 | 5.1 |
| SD | 2.78 | 2.19 | 1.80 | 2.12 |

TABLE 4

SUMMARY OF ANALYSIS OF VARIANCE FOR THE TREATMENT GROUP SCORES

| Source | Sum of Squares | D.F. | M.S. | F | P |
|---------------------------------------|----------------|------|------|-----|----|
| Channel (Written vs. oral) | 2.5 | 1 | 2.5 | .38 | NS |
| Relationship (Friend vs. Stranger) | .4 | 1 | .4 | .06 | NS |
| Channel x Relationship | .1 | 1 | .1 | .02 | NS |
| Error | 235 | 36 | 6.53 | | |

Results of the Comparison of the Two Trials

With two trials there were four possible combinations for each stimulus. The subject could get both wrong (00) or both right (11) or she could get the first right and second wrong (10) or the first wrong and the second right (01). Table 5 indicates how similar each of the four groups were in each combination.

TABLE 5

THE NUMBER OF RESPONSE COMBINATIONS IN EACH OF THE FOUR
EXPERIMENTAL CONDITIONS

| | Form of Communication | | | |
|----|-----------------------|----------|-----------------------|----------|
| | Written | | Oral | |
| | Level of Acquaintance | | Level of Acquaintance | |
| | Friend | Stranger | Friend | Stranger |
| 00 | 22 | 21 | 17 | 20 |
| 10 | 1 | 4 | 5 | 3 |
| 01 | 7 | 7 | 7 | 6 |
| 11 | 20 | 18 | 21 | 21 |

Table 6 presents the mean number of correct responses for each trial and for each treatment group.

TABLE 6

MEANS AND STANDARD DEVIATIONS OF SCORES FOR EACH TRIAL IN THE FOUR
EXPERIMENTAL CONDITIONS

| | Form of Communication | | | | | | | |
|-----------|-----------------------|-------|----------|-------|-----------------------|-------|----------|-------|
| | Written | | | | Oral | | | |
| | Level of Acquaintance | | | | Level of Acquaintance | | | |
| | Friend | | Stranger | | Friend | | Stranger | |
| | Trial | Trial | Trial | Trial | Trial | Trial | Trial | Trial |
| | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 |
| n | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| \bar{X} | 2.2 | 2.7 | 2.2 | 2.5 | 2.6 | 2.8 | 2.4 | 2.7 |
| SD | 1.44 | 1.34 | 1.33 | 1.02 | 1.28 | 1.47 | 1.02 | 1.19 |

The summary of the analysis of variance used to check the trial effect is presented in Table 7. This analysis indicates that the trial effect was significant. This would indicate that the subjects in each

of the four groups scored significantly higher on the second trial than on the first.

TABLE 7
SUMMARY OF ANALYSIS OF VARIANCE OF TRIAL EFFECTS

| Source | Sum of Squares | D.F. | Mean Squares | F | P |
|------------------------------------|----------------|------|--------------|------|-------|
| Between Subjects | 119 | 39 | | | |
| Channel | 1.25 | 1 | 1.25 | .38 | NS |
| Relationship | .20 | 1 | .20 | .06 | NS |
| Channel X Relationship | .05 | 1 | .05 | .02 | NS |
| Subjects within Group | 117.50 | 36 | 3.26 | | |
| Within Subjects | 19 | 40 | | | |
| Trials | 2.45 | 1 | 2.45 | 5.44 | P<.05 |
| Channel X Trials | .20 | 1 | .20 | .44 | NS |
| Relationship X Trials | .05 | 1 | .05 | .11 | NS |
| Channel X Relationship X Trials | .20 | 1 | .20 | .44 | NS |
| Trials X Subject within Group | 16.10 | 36 | .45 | | |

Results of the Time Measure

It will be recalled that the friend and stranger who were to choose the picture being described were asked to make their first response as quickly as they had an idea which picture was being described and to then record the amount of time used. These first responses constituted the first trial and indicated the time used to achieve either a correct or incorrect response.

The relationship between a correct or incorrect response and the length of time was investigated through the use of the biserial correlation coefficient. These coefficients can be found in Table 8.

TABLE 8

BISERIAL COEFFICIENTS OF RELATIONSHIP BETWEEN LENGTH OF TIME USED
AND CORRECT OR INCORRECT RESPONSES

| Condition | Friend | Stranger |
|-----------|-------------|-------------|
| Oral | $r_b = .19$ | $r_b = .33$ |
| Written | $r_b = .58$ | $r_b = .07$ |

The correlation coefficient for the written-friend condition indicates a relatively strong relationship between the length of time used and an incorrect or correct response. This would indicate that there is a relatively strong tendency for a correct response to be made in less time than an incorrect response in this condition. This same tendency, but to a lesser degree, appears in the oral-stranger condition. The oral-friend and written-stranger coefficient indicates virtually no relationship between length of time used to make the first guess and its correctness or incorrectness.

The Mann-Whitney U Test was also used to test the significance of the time used in each of the four experimental conditions. The results are summarized in Tables 9 and 10. Two significant results were found. In the written condition friends were significantly faster in choosing the correct picture. While in the oral condition friends were significantly quicker in choosing a picture which produced an incorrect response. There were no significant differences in oral-correct or written-correct conditions.

TABLE 9

RANKINGS OF TIME IN SECONDS FOR MAKING CORRECT AND INCORRECT
RESPONSES BY SUBJECTS IN WRITTEN EXPERIMENTAL CONDITION

| Correctness of Response | | | |
|----------------------------------|-------------|------------------------------------|-------------|
| Correct Level of Acquaintance | | Incorrect Level of Acquaintance | |
| Friend | Stranger | Friend | Stranger |
| Time / Rank | Time / Rank | Time / Rank | Time / Rank |
| 30 (42.5) | 30 (42.5) | 35 (57) | 31 (55) |
| 19 (37.5) | 28 (41) | 32 (56) | 25 (51) |
| 19 (37.5) | 20 (39.5) | 30 (54) | 25 (51) |
| 18 (36) | 20 (39.5) | 27 (53) | 22 (48) |
| 16 (33.5) | 17 (34.5) | 25 (51) | 20 (45) |
| 12 (23.5) | 17 (34.5) | 24 (49) | 20 (45) |
| 12 (23.5) | 16 (33.5) | 20 (45) | 20 (45) |
| 9 (16.5) | 15 (29.5) | 20 (45) | 18 (41) |
| 9 (16.5) | 15 (29.5) | 18 (41) | 17 (37) |
| 8 (14) | 15 (29.5) | 18 (41) | 17 (37) |
| 7 (12.5) | 15 (29.5) | 17 (37) | 17 (37) |
| 6 (9.5) | 14 (27) | 17 (37) | 16 (32.5) |
| 6 (9.5) | 13 (26) | 16 (32.5) | 15 (27.5) |
| 6 (9.5) | 12 (23.5) | 16 (32.5) | 15 (27.5) |
| 5 (6) | 12 (23.5) | 16 (32.5) | 15 (27.5) |
| 5 (6) | 11 (20.5) | 15 (27.5) | 15 (27.5) |
| 5 (6) | 11 (20.5) | 14 (24) | 15 (27.5) |
| 4 (3) | 10 (19) | 13 (22.5) | 13 (22.5) |
| 4 (3) | 9 (16.5) | 12 (20) | 12 (20) |
| 4 (3) | 9 (16.5) | 11 (17.5) | 12 (20) |
| 1 (1) | 7 (12.5) | 11 (17.5) | 10 (14.5) |
| | 6 (9.5) | 10 (14.5) | 9 (9.5) |
| | | 10 (14.5) | 9 (9.5) |
| | | 10 (14.5) | 9 (9.5) |
| | | 9 (9.5) | 9 (9.5) |
| | | 9 (9.5) | 8 (6) |
| | | 7 (4.5) | 7 (4.5) |
| | | 5 (2) | 5 (2) |
| | | 5 (2) | |

 $R_1 = 350$ $R_2 = 573$ $R_2 = 863.5$ $R_1 = 789.5$ $U = 343; z = 2.73; p = .003$ $U = 428.5; z = .36; p = .36$

TABLE 10

RANKINGS OF TIME IN SECONDS FOR MAKING CORRECT AND INCORRECT
RESPONSES BY SUBJECTS IN ORAL EXPERIMENTAL CONDITION

| Correctness of Response | | | |
|----------------------------------|-------------|------------------------------------|---------------|
| Correct Level of Acquaintance | | Incorrect Level of Acquaintance | |
| Friend | Stranger | Friend | Stranger |
| Time / Rank | Time / Rank | Time / Rank | Time / Rank |
| 37 (49) | 45 (50) | 35 (46) | 50 (50) |
| 33 (46.5) | 34 (48) | 33 (44.5) | 37 (48.5) |
| 30 (44) | 33 (46.5) | 27 (40) | 37 (48.5) |
| 28 (43) | 32 (45) | 26 (38) | 36 (47) |
| 26 (42) | 22 (40.5) | 25 (37) | 33 (44.5) |
| 21 (38.5) | 22 (40.5) | 22 (34) | 30 (43) |
| 19 (37) | 21 (38.5) | 19 (29.5) | 28 (42) |
| 18 (36) | 16 (33) | 18 (27.5) | 27 (40) |
| 17 (34.5) | 15 (29.5) | 18 (27.5) | 27 (40) |
| 17 (34.5) | 15 (29.5) | 17 (25) | 23 (36) |
| 15 (29.5) | 15 (29.5) | 16 (21.5) | 22 (34) |
| 15 (29.5) | 14 (25) | 16 (21.5) | 22 (34) |
| 15 (29.5) | 14 (25) | 16 (21.5) | 20 (31.5) |
| 12 (21) | 14 (25) | 16 (21.5) | 20 (31.5) |
| 10 (18.5) | 13 (22.5) | 15 (18.5) | 19 (29.5) |
| 10 (18.5) | 13 (22.5) | 13 (15.5) | 17 (25) |
| 9 (14) | 10 (18.5) | 12 (13.5) | 17 (25) |
| 9 (14) | 10 (18.5) | 12 (13.5) | 15 (18.5) |
| 8 (11) | 9 (14) | 11 (12) | 14 (17) |
| 7 (9.5) | 9 (14) | 8 (8.5) | 13 (15.5) |
| 6 (6.5) | 9 (14) | 6 (5) | 10 (10.5) |
| 6 (6.5) | 7 (9.5) | 6 (5) | 10 (10.5) |
| 5 (3.5) | 6 (6.5) | 5 (2) | 8 (8.5) |
| 5 (3.5) | 6 (6.5) | 4 (1) | 6 (5) |
| 3 (2) | | | 6 (5) |
| 1 (1) | | | 6 (5) |
| $R_1 = 623$ | $R_2 = 652$ | $R_1 = 529.5$ | $R_2 = 745.5$ |

$U = 352; z = .78; p = .22$

$U = 394; z = 1.60; p = .05$

CHAPTER V

DISCUSSION

The failure of the results to support the hypotheses that a pair of friends will understand each other more clearly and that the oral channel condition would produce more correct responses because of the availability of nonverbal channels for communication and feedback may be explained by the work of Taft (1966) and Duncan (1969).

Taft pointed out that when a listener knows the speaker well as in the case of friends, the listener has so much prior information about the speaker that he will attach too much importance to certain statements, and too little to other statements of the speaker. Duncan found that a subjects perception of nonverbal messages was influenced by his expectations and by the situational characteristics.

One of the major situational characteristics of this experiment was the element of a competitive game. This was especially true for oral channel condition. The pair of friends seemed to want to do better than the strangers. Thus it would seem natural that friends would make use of their prior knowledge of each other to make their choices. The communicator would tend to use this knowledge to choose the picture she expected her friend to think she would choose. The listening friend would tend to use her prior knowledge of her friend to choose the picture she thought the communicator would choose. This was indicated also by a number of extemporaneous comments made by the listening

friend at the conclusion of the session when the correct pictures were made known. The following two statements serve as an example: "I thought you would choose the man with the pipe because I know you like pipe smokers", "I thought you would have chosen the one that looks like your dad".

It is possible then that the expectations of the friends based on their prior knowledge of each other and the game-like characteristic of the task combined to contaminate the clarity of the message being exchanged by the friends. In future experiments this expectation factor needs to be controlled for. One possible solution would be to have a condition in which the choices were selected based on expectations alone prior to any exchange of communication about the pictures.

As could be expected the second trial in which time was not a factor produced significantly more correct responses. Often the subject made the last choice after the communicator had finished describing the chosen picture thus providing more information on which the second choice could be made.

The factor of the time used to make the first response was significantly different between friends and strangers in two conditions, the oral-incorrect and the written-correct. The significant indication that friends in the oral condition chose an incorrect picture faster than strangers would seem to support the suggestion that friends were often making their guess based on their expectations rather than listening to and understanding the description. The significant difference between friend and stranger in the correct-written condition would indicate that friends would understand a written message correctly

sooner than strangers. This would appear to contradict the work of Faules (1967) and DeVito (1967) which indicated that auditory cues and messages produce more effective communication than written cues and messages. However, in the present experiment there were fewer game-like characteristics under the written channel condition than in the oral channel condition. The spirit of competition was reduced in the written condition simply because the communicator friend-stranger was not present, thus there was less contamination of the message likely under the written condition enabling the friend to understand the written message quicker and to make a correct choice quicker than the stranger.

CHAPTER VI

SUMMARY

This study was designed to explore the effectiveness of communication between friends and between strangers under two channel conditions, oral and written. The subjects were female students enrolled at the University of North Dakota. A pair of close friends and a stranger composed each of the ten triads under the two conditions. After a practice set each of the subjects were presented with five sets of stimuli: each containing ten pictures of males. One of the friends was selected to choose a picture and to describe the pictured male. In the written condition the friend wrote the description which was later typed and presented to the friend and the stranger. The only channel used in this condition was the verbal. In the oral condition one of the friends orally described the pictured male she had chosen to her friend and a stranger who were present in the same room. This condition allowed for nonverbal communication and feedback. The listening friend and stranger made two choices for each of the five sets of stimuli. The first was to be made as quickly as possible and was timed, while the second was to be their most certain selection and was not timed.

The number of correct choices was used as a measure of the effectiveness of the communication. An analysis of variance indicated no significant effects for either the channel or relationship conditions.

The failure to obtain a significant difference between conditions was possibly due to the expectations based on the prior knowledge existing between friends and the game-like characteristics of the experiment, particularly in the oral channel condition.

An analysis of variance was used to assess the channel, relationship, and trial effects. Only the trial effect produced significant results ($p < .05$). This would be expected since more information was communicated prior to the second trial.

The Mann-Whitney U Test was used to compare the time used to make a correct or incorrect choice in each of the two channels. The written-correct channel condition z score was significant at a $p = .01$ level indicating that under this condition friends were significantly faster in choosing the correct picture. The z score for the oral-incorrect channel was also significant at the $p = .05$ level which indicates that friends chose the wrong picture quicker than strangers.

Biserial correlation coefficients were used to assess the relationship between length of time used and a correct or incorrect response. The coefficient ($r_b = .58$) under the friend-written condition indicates a relatively strong tendency for a friend to make a correct choice in less time than an incorrect choice.

APPENDIX

Sample of Written Descriptions

104 (1) I would say that the person in this picture is hard to get along with. He appears quite grumpy. I would guess that he is self-opinionated and doesn't like to have his ideas rejected by others. He is probably defending something he said and wants to be sure that he gets his message across correctly. He looks like a man who would be hard to persuade to do something. He is definitely a leader, not a follower. F = 11, S = 00.

104 (2) This is definitely an intellectual, dignified man. He appears very stolid, very knowledgeable, and very handsome. He would probably be a professor. I would guess he is liberal thinking, but acts cautiously. This is the type of man who appears nearly perfect, and could cause someone to have the utmost respect for him. F = 00, S = 11.

104 (3) This is a happy jolly man. He's easy to get along with, probably loves children, and is content at home. He looks like a genuinely kind guy, and would do nearly anything for a friend. He looks like the type who gets along very well with his children, but also has their respect. He may be the type of guy who can be pushed around to a point. He is good natured. F = 01, S = 00.

104 (4) This picture shows a man trying to explain something that means a great deal to him. He is not getting violent, nor is he letting anyone take advantage of him. He is probably describing a certain football play he recently saw on t.v. He is probably one of the advocates of a new idea and is trying to sell it to some company or he is probably trying to use some liberal, new techniques to achieve what

he wants. He is trying to get what he wants and have everyone happy.

F = 11, S = 01.

104 (5) This is a liberal gentleman. He is in touch with the problems and the people behind the problems of today. He is probably in favor of smoking pot, free love, and getting out of Viet Nam immediately. He is opinionated and loves being that way. People listen to his ideas. F = 00, S = 11.

105 (1) This person seems to be in a state of thought. His emotions seem to bear the state of concern. He tries to be pleasant when around people. He has a sense of calmness. This person would not look for pity. This person would not be sympathetic. F = 00, S = 00.

105 (5) This person seems to be real fired up with enthusiasm. He wants to be a leader. He knows with a bit of enthusiasm he will become a leader of a group. His personality seems to be the type that people want. F = 01, S = 00.

106 (1) This man I could easily feel sorry for if I saw him buying popcorn using only pennies. This man is intelligent, but has had a hard time harnessing it. He has had his share of troubles and sorrows. But he is strong and has carried on. His family loves him deeply. His work keeps him very busy. Sometimes he is harsh. (He could have ulcers.) He likes children and animals. Cars don't do much for him. He likes life and believes in God. He is sometimes stern with co-workers, but never with his wife or children. He feels he has been leading a good life and chips are still falling his way.

F = 01, S = 00.

106 (5) This man loves his country, family and way of life.

He is very responsible. He values his friends. When he gets mad he really fumes. He is very creative and uses it in many ways. He would enjoy horseback riding in the mountains. He is usually calm and collected. His co-workers like him very much. He drops his work on his days off. He is pleasant and adaptive to the situation. Sometimes he can be befuddled. He had a good time in college. F = 00, S = 11.

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