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THE RELATIONSHIP OF LOCUS OF REINFORCEMENT TO CHANGE

IN INITIAL PERCEPTION OF COMMUNICATOR CREDIBILITY

AND TYPE OF DECISION GENERATED

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Presented to the

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and the

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Accepted for the faculty of the College of Graduate Studies of the University of Omaha, in partial fulfillment of the requirements for the degree of Master of Arts.
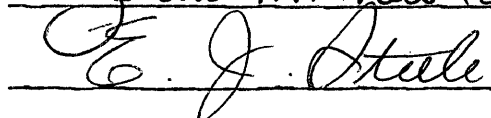
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To Dr. Richard Nicholson I owe much. He has been a constant source of motivation and advice. Any semblance of research sophistication and scholastic proficiency demonstrated by me is a result of my fortunate tenure as his graduate assistant. The research presented in this thesis would not have been possible without the advice and guidance of Dr. Nicholson.

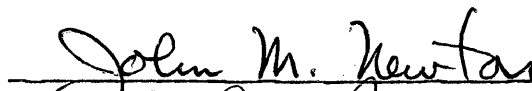Dr. William Jaynes, under whom I had most of my course work, introduced me to statistical analysis and engendered a deep interest in the field of psychology. His classroom presentation and his conceptual clarity are deeply appreciated.

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INTRODUCTION

Hovland, Janis, and Kelley (1953) distinguished between expertness and trustworthiness, two variables most relevant to communicator perception. They defined expertness as the extent to which a communicator is perceived to be a source of valid assertions and trustworthiness as the degree of confidence in the communicator's intent to communicate the assertions he considers most valid. They defined communicator credibility (degree of belief) as incorporating both expertness and trustworthiness but concluded that there was experimental confounding of both variables.

Tong (1964, p. 72) stated that "A systematic study of the attributes of communicator credibility, expertness and trustworthiness, is one of the areas of research which needs further clarification."

Most communication research has dealt with communicator credibility in an audience situation, using a criterion of opinion change. There has been a paucity of dyadic research dealing with the effect of communicator credibility on perception and evaluation of message content and subsequent re-evaluation of the communicator.

Communicator Credibility

Hovland and Mandell (1952) structured the relative impartiality of speakers. They found $\underline{S}$s discriminably rated a trustworthy source who drew the conclusion as communicating a fairer message and presenting

more facts than an untrustworthy source who left the conclusion to the audience. There was no difference in the amount of attitude change. This might have been due to each source being equally expert, though differing in "apparent" trustworthiness.

Hovland and Weiss (1951) a priori categorized their sources on a bipolar credibility scale on the basis of source-content association. They found Ss differentially rated the sources on trustworthiness, fairness of presentation, and justifiability of conclusion. They also found a greater degree of opinion change for the high credibility condition.

Kelman and Hovland (1953) varied credibility by using positive, neutral, and negative sources. Identical content was presented by each source. They found a positive linear relationship between credibility and Ss' ratings of source qualification, fairness, and trustworthiness.

Aronson, Turner, and Carlsmith (1963) a priori categorized their sources on the basis of source-content association. They found that communicator credibility affects the optimal range of message-opinion discrepancy and the amount of source derogation.

Bergin (1962) had Ss rate themselves on items denoting masculinity-feminity. He varied communicator credibility by structuring the apparent realism of the experimental situation. Subjects re-rated themselves, subsequent to evaluation by the high or low source. Bergin found a positive linear relationship between amount of discrepancy and induced rating shifts for high credibility conditions but no significant change for low credibility conditions.

Tong (1964) found that opinion change increases as discrepancy increases and that a highly credible source is more conducive to opinion change. Tong defined expertness as the amount of knowledge the communication source has on the topic concerned and trustworthiness as being a fair and unbiased communicator of the facts. High and low credibility sources were equally expert, but differed in perceived trustworthiness.

Aronson and Golden (1962) a priori categorized their sources on the basis of occupation. They introduced "irrelevant" credibility by using a white and a negro communicator. They found that credibility involves both relevant and irrelevant communicator aspects and that both affect opinion change. The use of communicators a priori scaled on "apparent" expertness may result in different evaluations by E and S.

In the aforementioned studies (Aronson et al., 1963; Bergin, 1962; Hovland and Mandell, 1952; Hovland and Weiss, 1951; and Kelman and Hovland, 1953) trustworthiness and expertness were experimentally confounded. Tong (1964) held expertness constant. In both cases possible interaction between expertness and trustworthiness was not assessed.

Schweitzer and Ginsberg (1966) factor analytically tested the model of Hovland et al. (1953). They found that definitions of trustworthiness and expertness did not encompass characteristics incorporated by these terms; credibility involved more than trustworthiness and expertness; and low credibility was evaluated differently from high credibility. There is need for operationalizing communicator characteristics.

Source-Content Interaction

Tompkins and Samovar (1964) used three scales loading on the evaluative dimension of Osgood's Semantic Differential. They defined credibility as the degree of reliability attributed to the speaker as a source of information on the topic (Medicare). High, medium, and low speakers were differentially rated both before and after a communication. Significant positive attitude changes, for both speaker and topic, were found for all credibility conditions.

Tannenbaum (1956) had $\underline{S}$s rate three sources and three concepts. He used six scales loading heavily on the evaluative dimension of Osgood's Semantic Differential. The $\underline{S}$s' scores were then trichotomized, yielding both favorable, neutral, and unfavorable sources and concepts. The communication was three stories each assigned three degrees of polarity. Tannenbaum found $\underline{S}$s' shifts in attitude toward the source and content involved interaction of both.

Nicholson (1966) used a modification of a "paper and pencil" simulation designed originally to study individual decision-making behavior (Nicholson, 1961). He assessed degree of change in $\underline{S}$s' perceptions of a communicator. Analysis of $\underline{S}$s' credibility ratings revealed a difference between mean ratings before and after message input for the high source. Mean ratings for the high source decreased and mean ratings for the low source increased, though not significantly. There was a difference both before and after message input between mean ratings for the high and low source. Content analysis of $\underline{S}$s' first decision alternatives indicated that $\underline{S}$s used two frames of reference to evaluate the high and low source. A "technical" (referring to the

environment) was used for the former and a "personal" referring adversely to the source) was used for the latter.

Brown and Nicholson (1966) employed a modified version of the simulation used by Nicholson (1966). The definitions of trustworthiness ($\underline{T}$) and expertness ($\underline{E}$) employed by Hovland et al. (1953) or both sequential arrangements of these definitions, redefined as credibility ($\underline{C}$), were used as anchor statements for four 7-point rating scales. Subjects were instructed to rate six mythical individuals on one quality for the position of production manager. Both qualities and communicators and their interaction were significant ($P \leq .01$). Mean ratings revealed three communicators to be significantly different, irrespective of treatment quality. Each communicator received the same mean rating for both sequences of credibility ($\underline{C}$).

Internal Vs. External Locus of Reinforcement

"Internal versus External Control refers to the degree to which an individual tends to perceive the consequences of his actions as being within (internal) or beyond (external) his control. The externally controlled individual sees relatively little instrumentality in his own behavior and regards himself as the passive recipient of reinforcements dispensed by external forces (chance, fate, impersonal social forces, or powerful others)." (Crowne and Liverant, 1963, p. 548). This generalized expectancy affects behavior in a wide variety of problem-solving situations (Gore and Rotter, 1963) and functions to categorize desirable and undesirable outcomes as within or beyond the individual's personal control and understanding (Liverant and Scodel, 1960). Rotter (1966) states that a behavioral typology is not implied when differentiating

between internally and externally locused individuals.

Problem

An internally locused individual perceives causality to be dependent upon his interaction with the environment. He is an active participant. An externally locused individual perceives the environment to be complex, unpredictable, and predetermined. He is a passive participant (Rotter, Seeman, and Liverant, 1962). Do individuals who perceive causality within an internal or external frame of reference project these references upon others? If so, then the positive and/or negative reinforcements accruing to others are perceived by Internals as a function of the others and by Externals as a function of the environment.

Rotter et al. (1962), within the context of skill versus chance behavioral modes, suggest the utility of a decision-making game to determine different approaches to a solution. The investigator incorporated the results of Brown and Nicholson (1966) and Nicholson (1966) in conjunction with the concept of locus of reinforcement (Rotter et al., 1962) to study change in initial perception of a communicator and categorization of individual decision-making behavior.

Simulation

The simulation is a two-person game with S serving as the superior and the person described on the rating sheet serving as the subordinate. The S's task is to familiarize himself with the situation, rate his subordinate, process the information sequence, re-rate his subordinate in light of the information, and select the "best" course

of action from those he generated (Nicholson, 1966).

The two subordinates reporting the information were rated high and low among six communicators (Brown and Nicholson, 1966). Message input items were selected from 30 items in the original game (Nicholson, 1961). Items were selected to include both relevant and irrelevant information. Sequence among the ten items was randomly determined. Each item was then numbered and ordered.

The $\underline{S}$s are instructed to assume the role of general manager and are presented with their responsibilities. The only communicative link between the $\underline{S}$ and the production department is the production manager or communicator. The $\underline{S}$, therefore, must evaluate the communicator in isolation and in conjunction with the message sequence.

The one pertinent informational unit, presented to the $\underline{S}$s, connotes a negative situation. "You have just received the monthly sales report which indicates that sales are down 30% from last month." It is assumed that $\underline{S}$s should attribute this negative reinforcement to the prime source of information and individual responsible, i.e., the production manager. This rationale leads to incorporation of locus of reinforcement. It is hypothesized that Internals should view the communicator and Externals should view the situational variables as respective causative factors.

The $\underline{S}$s employed to operationally scale the communicators (Brown and Nicholson, 1966) were from the same population as those employed in the present investigation. After message input, $\underline{S}$s' perceptions of the communicators should be contingent upon where $\underline{S}$s posit causative factors, e.g., the man or the situation. If posited in the former, $\underline{S}$s' perceptions

of the communicator should change. If posited in the latter, $\underline{S}$s' perceptions of the communicator should not change.

Hypotheses

Hypothesis 1.

Internally locused individuals generate first decision alternatives within a "personal" frame of reference (Definitions).

Hypothesis 2.

Internally locused individuals significantly change communicator ratings after message input.

Hypothesis 3.

Externally locused individuals generate first decision alternatives within an "environmental" frame of reference (Definitions).

Hypothesis 4.

Externally locused individuals do not significantly change communicator ratings after message input.

Definitions

High communicator (John K.)   -- presented in Appendix C.

Low communicator (William W.)   -- presented in Appendix C.

Trustworthiness ($\underline{T}$)   -- presented in Appendix C.

Expertness ($\underline{E}$)   -- presented in Appendix C.

Credibility ($\underline{C}$), both sequences $\underline{T}$-$\underline{E}$ and $\underline{E}$-$\underline{T}$, presented in Appendix C.

Personal   -- All decisions using the <u>Production Manager</u> (John K. or William W.) as the main referent.

Environmental-- All decisions using anything <u>other</u> than the Production Manager as the main referent.

Internal   -- Subjects scoring 7 or below on the Social Reaction Inventory (<u>SRI</u>).

Intermediate -- Subjects scoring 8, 9, or 10 on the Social Reaction Inventory (<u>SRI</u>).

External   -- Subjects scoring 11 or above on the Social Reaction Inventory (<u>SRI</u>).

METHOD

Subjects

Subjects were 213 male University of Omaha undergraduates re-
cruited from introductory psychology classes. Subjects were assigned to
times contingent upon their preferences and a list of available times
presented by E. The group sizes ranged from 3 to 35 Ss with most
groups approximating 20 Ss.

Pre-experimental Measure

The Social Reaction Inventory (SRI) (Rotter, Liverant, and
Crowne, 1962) consists of 23 expectancy statements which compositely
measure the degree to which an individual perceives positive and/or
negative events as related to his behavior or under his personal control
(Rotter et al., 1962). Reliability, discriminant and construct validity,
and normative data for the SRI, or I-E scale are summarized in Rotter
(1966). The SRI is presented in Appendix A. All reference to Rotter
et al. (1962) designates Rotter, Seeman, and Liverant (1962).

Experimental Design

Subjects were pre-measured on the SRI and the distribution was
trichotomized. The mean, median, mode, and standard deviation were 8.91,
8.65, 10, and 3.73 respectively. Trichotomization, rather than dichoto-
mization at the median (Rotter, 1966), was assumed to yield a more sensi-
tive measure of the distribution extremes. Subjects scoring 7 and below,

8 to 10, and 11 and above, were classified as Internals, (n = 79)

Intermediates, (n = 69) and Externals (n = 65) respectively. Within

SRI categories, Ss were randomly assigned to treatment levels. Those

Ss assigned to high and low credibility (C) were randomly assigned to

both sequences of C. This procedure was necessitated by the scarcity

of available Ss. The experimental design and cell ns are presented in

Appendix B.

Procedure

Subjects were provided with a packet containing (a) instructions;

(b) the general situation and organizational chart; (c) a rating sheet

containing specific instructions defining the criterion for rating,

a description of his subordinate, and a rating form; (d) a programmed

series of ten 3 x 5 cards containing information; (e) a duplicate rating

sheet; and (f) a decision page (Appendix C).

The E was at the front of the classroom and Ss were seated.

The E, out loud, and Ss, in silence, read the instructions (Appendix C).

Both rating sheets, before and after message input, were collected by E

upon completion. The terminal phase was S's selection of his best

decision. A stop watch was used by E to control time for each phase of

the simulation (Appendix C, Instructions).

All groups were under control of the investigator. No information

was given other than that specified in the instructions. At the con-

clusion of the experimental session, Ss were told to see E the following

week if they had any questions.

Dependent Variables

To measure perception of the subordinate both before and after message input, Ss were requested to rate the subordinate twice. This measure was quantified by assigning numbers to each scale position ranging from one (extreme negative) to seven (extreme positive). The number of the scale position selected by S was taken as his rating of the communicator.

To determine categorization of decisions, Ss were requested to rank-order their alternatives. The first ranked decisions were subjected-to content analysis by seven graduate psychology students (Berelson, 1952). The criterion for inter-rater reliability was agreement, among five of seven judges, on the categorization of each decision (Appendix D).

RESULTS

Analysis of Variance

The dependent variable of the experiment was $\underline{S}$s' ratings for communicators before and after message input. A $3 \times 2 \times 3 \times 2$ unweighted means factorial analysis of variance with repeated measures was employed to evaluate these data (summarized in Table 1). Homogeneity of within and between treatment variances was tested with Hartley's F_{max} statistic (Winer, 1962). The observed F_{max} was 6.461 (within) and 7.182 (between). In both instances, acceptance of the hypothesis of homogeneity was questionable (F_{max} .99 (18, 17) $\simeq$ 7). The model was assumed appropriate in that $\underline{F}$ tests are robust with respect to slight departures from homogeneity (Winer, 1962).

Homogeneity of the variance--covariance matrices (Appendix E) and compound symmetry were tested with the $\underline{\chi}^2_1$ and $\underline{\chi}^2_2$ statistic respectively. The observed $\underline{\chi}^2$ was 38.71 for the former and 19.71 for the latter. The hypothesis of homogeneity was accepted ($\underline{\chi}^2$ .999 (51) = 79.76) and that of compound symmetry was rejected ($\underline{\chi}^2$ .999 (1) = 10.83). No adjustment was necessary in that the usual and the conservative $\underline{F}$ test are equal when the repeated factor has one $\underline{df}$ (Winer, 1962).

A significant ($P \leq$ .01) difference was found between $\underline{S}$s' ratings for the high ($\overline{X}$ = 5.418) and low communicator ($\overline{X}$ = 2.798). Communicator ratings made before ($\overline{X}$ = 4.193) differed significantly ($P \leq$ .05) from those made after message input ($\overline{X}$ = 3.962).

Table 1

Summary of Analysis of Variance of Mean Communicator Ratings

Source	df	MS	F	Significance Level
Between subjects	212			
A	2	.078	< 1	N.S.
B	1	687.445	396.153	P ≤ .01
C	2	1.412	< 1	N.S.
AB	2	6.387	3.681	P ≤ .05
AC	4	2.090	1.204	N.S.
BC	2	3.077	1.773	N.S.
ABC	4	3.415	1.968	N.S.
Subjects within groups	195	1.735		
Within subjects	213			
D	1	7.124	6.243	P ≤ .05
AD	2	1.598	1.400	N.S.
BD	1	81.044	71.023	P ≤ .01
CD	2	.751	< 1	N.S.
ABD	2	1.934	1.695	N.S.
ACD	4	2.346	2.056	N.S.
BCD	2	.911	< 1	N.S.
ABCD	4	2.696	2.363	N.S.
D x Subjects within groups	195	1.141		

Note:

A--Locus of Reinforcement   C--Quality

B--Communicator   D--Message Input

Inspection of Figure 1 shows there was a significant (P ≤ .01) interaction between the communicator and message input factors. This interaction was evaluated by means of an analysis of simple effects (Table 2). The simple main effects of communicator at both levels of message input and message input at both levels of communicator were significant (P ≤ .01). Figure 1 also reveals that after message input there was a significant decrease in mean ratings for the high communicator ($\bar{X}$ = 5.971, $\bar{X}$ = 4.865) and a significant increase in mean ratings for the low communicator ($\bar{X}$ = 2.495, $\bar{X}$ = 3.101).

As can be seen from Figure 2, there was a significant (P ≤ .05) interaction between the communicator and locus of reinforcement factors. This interaction was evaluated by means of an analysis of simple effects (Table 3). The simple main effect of communicator at all levels of locus of reinforcement was significant (P ≤ .01). However, there were no significant differences between loci of reinforcement at both levels of communicator.

In summary, observed variability in mean communicator ratings was attributed to the communicator and message input factors.

An analysis of variance was performed on Ss' ratings for both sequences of credibility (Appendix G). There were no significant sequence differences.

MEAN COMMUNICATOR RATINGS

●----● AFTER MESSAGE INPUT
▲——▲ BEFORE MESSAGE INPUT

7

6

5

4

3

2

1

0

HIGH   LOW
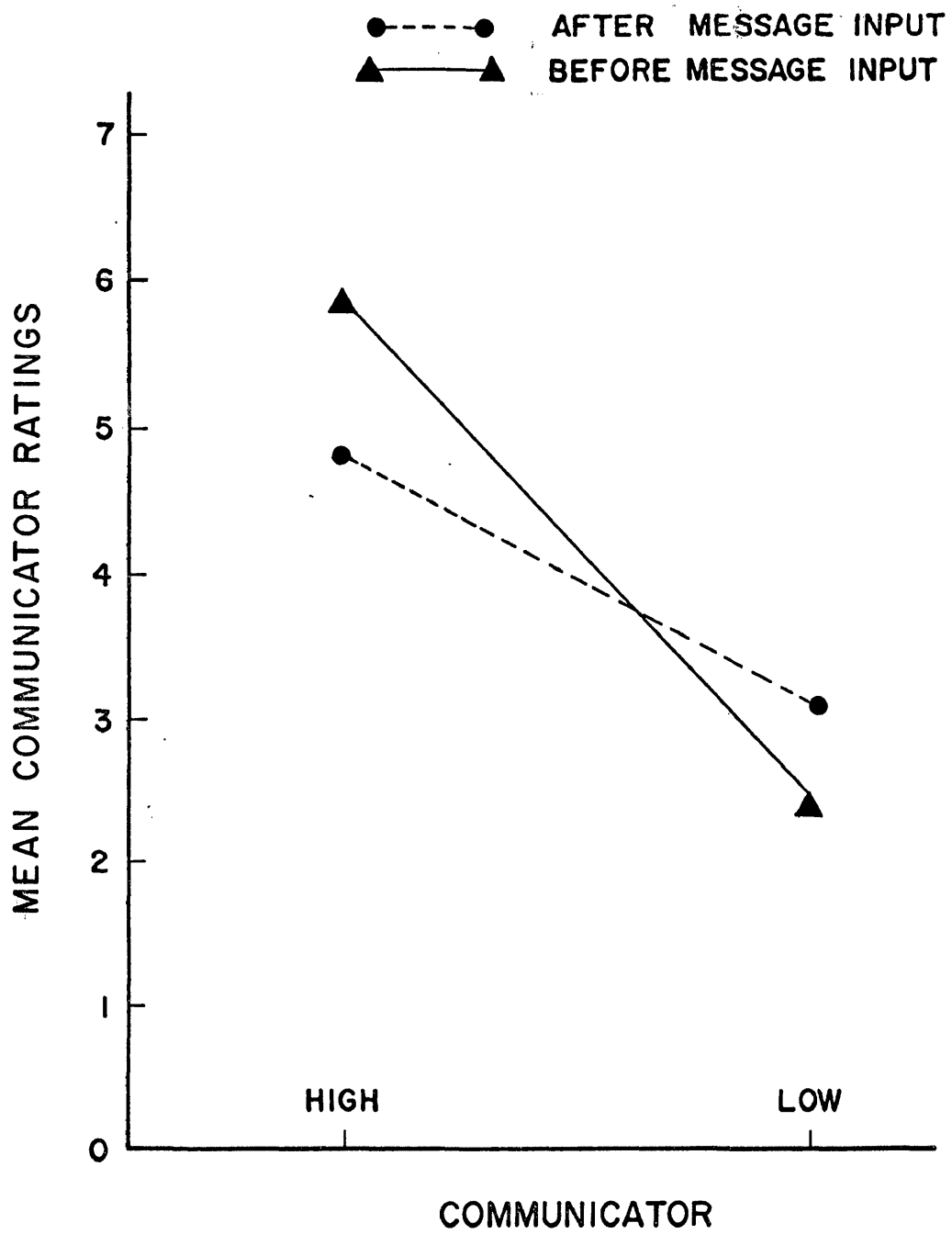
COMMUNICATOR

FIGURE I. COMMUNICATOR BY MESSAGE INPUT INTERACTION.

Table 2

Summary of Analysis of Simple Effects of Communicator by

Message Input

Source	df	M.S.	F	Significance Level
B at D_1	1	620.281	543.581	$P \leq .01$
B at D_2	1	148.207	129.881	$P \leq .01$
D at B_1	1	68.113	59.691	$P \leq .01$
D at B_2	1	20.055	17.575	$P \leq .01$
D × Subjects within groups	195	1.141		

Note:

B--Communicator   D--Message Input

B_1--High Communicator D_1--Before Message Input

B_2--Low Communicator D_2--After Message Input
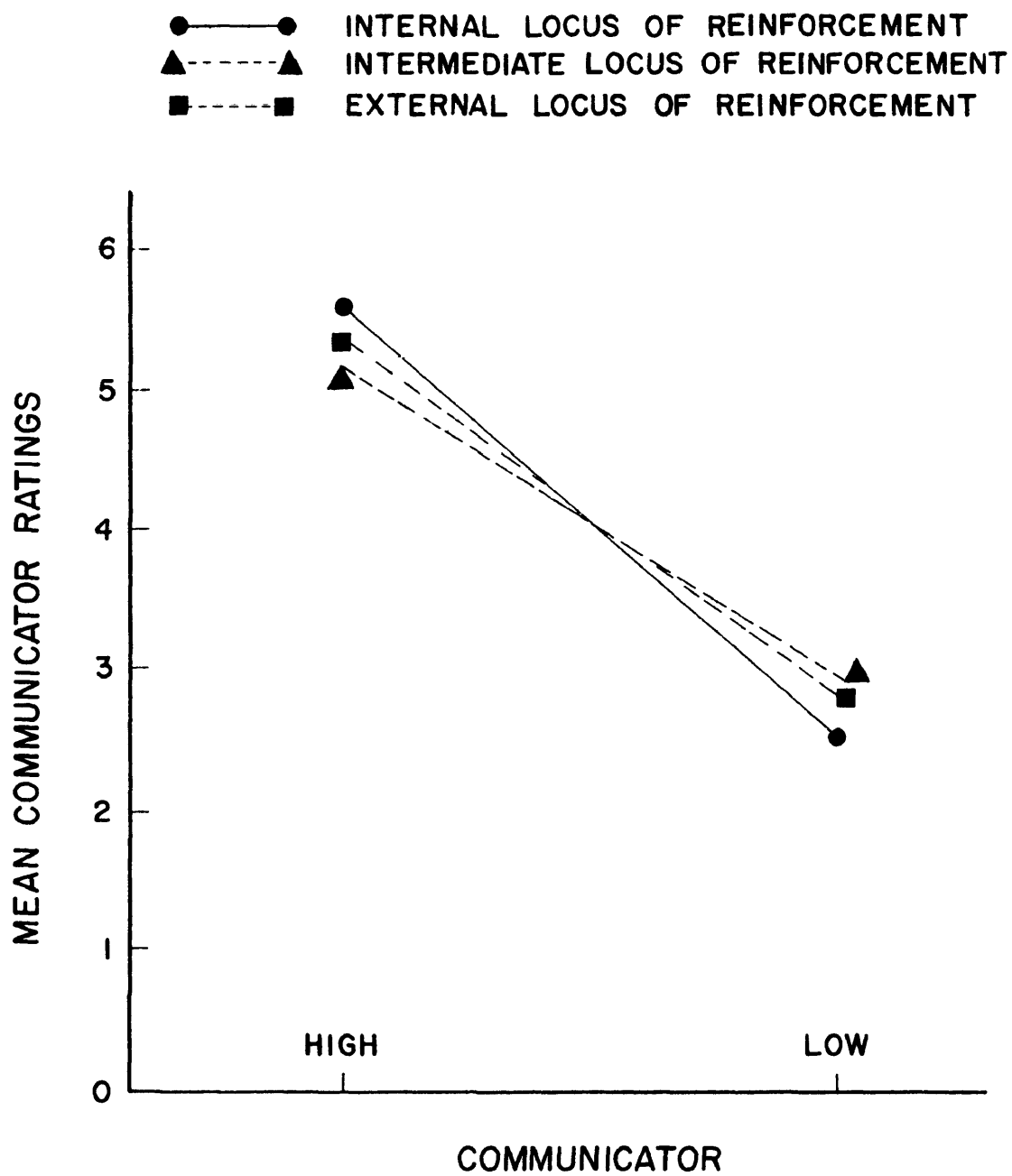
FIGURE 2. LOCUS OF REINFORCEMENT BY COMMUNICATOR INTERACTION.

Table 3

Summary of Analysis of Simple Effects of Communicator

by Locus of Reinforcement

Source	df	M.S.	D	Significance Level
A at B_1	2	2.612	1.505	N.S.
A at B_2	2	3.854	2.221	N.S.
B at A_1	1	322.796	186.017	P $\leqslant$ .01
B at A_2	1	171.664	98.924	P $\leqslant$ .01
B at A_3	1	205.760	118.573	P $\leqslant$ .01
Subjects within groups	195	1.735		

Note:

A--Locus of Reinforcement   B--Communicator

A_1--Internal Locus of Reinforcement B_1--High Communicator

A_2--Intermediate Locus of Reinforcement B_2--Low Communicator

A_3--External Locus of Reinforcement

Orthogonal Comparison

The investigator hypothesized that after message input internally locused individuals significantly change communicator ratings, whereas externally locused individuals do not. These hypotheses were tested by orthogonal comparisons (Winer, 1962).

Inspection of Table 4 reveals that after message input Internals and Externals changed communicator ratings. In addition, ratings for the high communicator decreased and those for the low communicator increased, regardless of locus of reinforcement.

Table 4

Orthogonal Comparisons for Changes in

Mean Communicator Ratings after Message Input

Source	Mean Sub-group Difference (Before - After)	F	Significance Level
A_1 for B_1	.625	6.846	$P \leq .01$
A_1 for B_2	-.590	5.945	$P \leq .05$
A_2 for B_1	1.433	27.011	$P \leq .01$
A_2 for B_2	-.743	8.463	$P \leq .01$

Note:

A_1--Internal Locus of Reinforcement B_1--High Communicator

A_2--External Locus of Reinforcement B_2--Low Communicator

Content Analysis

The investigator hypothesized that: internally locused indi-

viduals generate first decision alternatives within a personal frame of

reference; and externally locused individuals generate first decision

alternatives within an environmental frame of reference.

These hypotheses were tested by χ^2 analysis of frequency of first

ranked decisions assigned to personal and environmental categories

(Siegel, 1956). Due to an oversight by $\underline{E}$, some $\underline{S}$'s decisions appeared

ambiguous in content, i.e., both personal and environmental. Correction

for this was made by employing an ambiguous or "discard" category. In

addition, categories were assigned polarities to determine the relation-

ship of decision polarity to locus of reinforcement and/or communicators

(Appendix D).

The only interpretable polarity, in terms of frequency of deci-

sions assigned and inter-rater reliability, was personal positive and

personal negative. The other polarities were excluded from the analysis.

No relationship was found between internality--externality and

decision generation. Chi square analysis of categories by communicators

indicated more environmental and personal decisions were made for the

high and low communicator respectively. ($\chi^2_{obs.} = 8.81$, $P \leq .01$).

No relation was found between internality--externality and

personal polarity. However, more negative personal decisions were made

for the low communicator ($\chi^2_{obs.} = 3.84$, $P \leq .05$). Categorization of

first ranked decisions is summarized in Appendix F.

DISCUSSION

Internally and Externally locused individuals changed initial subordinate perceptions and generated decisions equally about the subordinate and the situation. If the investigator's assumption was tenable, Internals and Externals would have viewed the subordinate and the situational variables respectively as causes for the sales decrement. No relation was found between individuals' attributions of own reinforcement accrual and those of other reinforcement accrual.

The communicators were perceived differently both before and after message input. This seemed to attest to their "realness". Within high and low conditions, Ss perceived communicators to be comparably trustworthy, expert, and credible. In addition, no difference was found between mean ratings for both credibility sequences. Mean ratings for the subordinates exhibit a marked convergence toward the midpoint (4) of the scale (Figure 3). Interpretation of this "regression" of subordinate ratings as a result of message input or as a game artifact is ambiguous, since no control group without message input was used. In either case, the same result was found by Nicholson (1966).

Within situational limits, sources initially evaluated on specified characteristics were perceived differently after message input as an interactive function of source, situation and/or message, and recipient. Dyadic simulation, as used in the present investigation, seems to be feasible and practical for communication studies. This
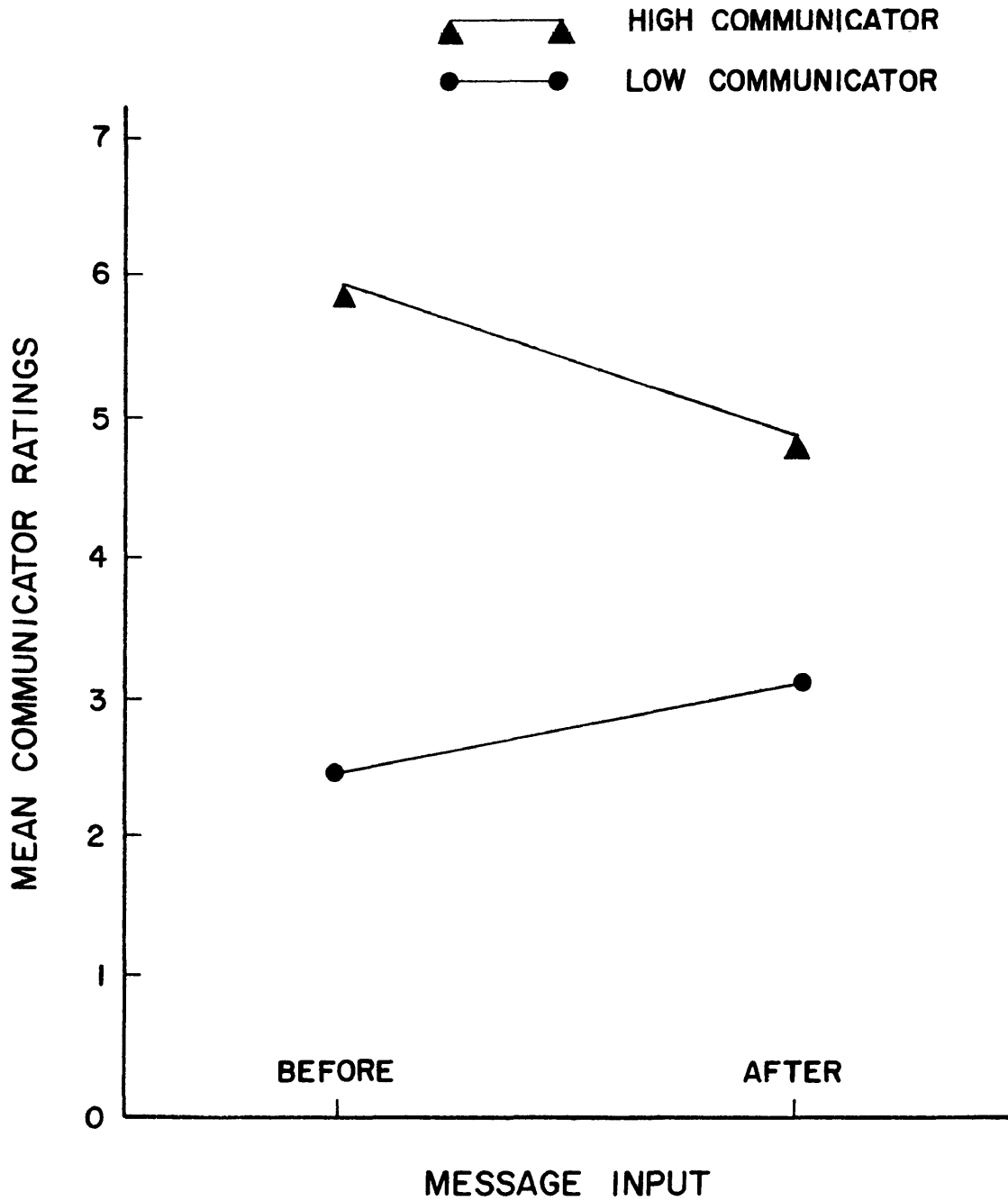
FIGURE 3. REGRESSION IN MEAN COMMUNICATOR RATINGS AFTER MESSAGE INPUT.

procedure results in more rigorous control of the source-message-recipient relationship. Operationally defined characteristics, empirically scaled communicators, and situational similarity appear necessary for future replication and integration of studies of source-content interaction. Further investigation of the complex nature of communicator credibility, with particular attention to possible source-recipient behavioral correlates, appears warranted.

SUMMARY

A sample of 213 male introductory psychology students were pre-measured on the Social Reaction Inventory. The distribution was then trichotomized. Internals (n = 79), Intermediates (n = 69), and Externals (n = 65) were randomly assigned to conditions. Subjects were presented with a decision-making game and a description of a subordinate, previously rated high or low among a group of six communicators. Subjects rated the subordinate on operational definitions of trustworthiness, expertness, or credibility both before and after a fixed message input. In addition, Ss designated a preferred alternative for resolution of the sales decrement.

The question examined was whether or not individuals project their loci of reinforcement upon others. The investigator assumed that the negative sales situation would be attributed either to the communicator or to the situation, dependent upon locus of reinforcement.

No relation was found between individual's attributions of own reinforcement accrual and those of other reinforcement accrual.

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APPENDIX A

SOCIAL REACTION INVENTORY

APPENDIX A

SOCIAL REACTION INVENTORY

This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one)which you more strongly believe to be the case as far as you're concerned. Be sure to select the one you actually believe to be more true than the one you think you should choose or the one you would like to be true. This is a measure of personal belief; obviously there are no right or wrong answers.

Your answers to the items on this inventory are to be recorded on a separate answer sheet which is loosely inserted in the booklet. Remove THIS ANSWER SHEET NOW. Print your name and any other information requested by the examiner on the answer sheet, then finish reading these directions. Do not open the booklet until you are told to do so.

Please answer these items carefully but do not spend too much time on any one item. Be sure to find an answer for every choice. Find the number of the item on the answer sheet and black-in the space under the number 1 or 2 which you choose as the statement most true.

In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one you more strongly believe to be the case as far as you're concerned. Also try to respond to each item independently when making your choice; do

not be influenced by your previous choices.

<div align="center">

REMEMBER

</div>

Select that alternative which you **personally** believe to be

more true.

I more strongly believe that:

 *1. a. Children get into trouble because their parents punish them too much.

   b. The trouble with most children nowadays is that their parents are too easy with them.

 2. a. Many of the unhappy things in people's lives are partly due to bad luck.**

   b. People's misfortunes result from the mistakes they make.

 3. a. One of the major reasons why we have wars is because people don't take enough interest in politics.

   b. There will always be wars, no matter how hard people try to prevent them.**

 4. a. In the long run people get the respect they deserve in this world.

   b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.**

 5. a. The idea that teachers are unfair to students is nonsense.

   b. Most students don't realize the extent to which their grades are influenced by accidental happenings.**

 6. a. Without the right breaks one cannot be an effective leader.**

   b. Capable people who fail to become leaders have not taken advantage of their opportunities.

 7. a. No matter how hard you try some people just don't like you.**

   b. People who can't get others to like them don't understand how to get along with others.

 *8. a. Heredity plays the major role in determining one's personality.

   b. It is one's experiences in life which determine what he is like.

9. a. I have often found that what is going to happen will happen.**

    b. Trusting to fate has never turned out as well for me as
        making a decision to take a definite course of action.

10. a. In the case of the well prepared student there is rarely if
        ever such a thing as an unfair test.

    b. Many times exam questions tend to be so unrelated to course
        work, that studying is useless.**

11. a. Becoming a success is a matter of hard work, luck has little
        to do with it.

    b. Getting a good job depends mainly on being in the right place
        at the right time.**

I more strongly believe that:

12. a. The average citizen can have an influence in government
        decisions.

    b. This world is run by the few people in power, and there is
        not much the little guy can do about it.**

13. a. When I make plans, I am almost certain that I can make them
        work.

    b. It is not always wise to plan too far ahead because many
        things turn out to be a matter of good or bad fortune anyhow.**

*14. a. There are certain people who are just no good.

    b. There is some good in everybody.

15. a. In my case getting what I want has little or nothing to do
        with luck.**

    b. Many times we might just as well decide what to do by flipping
        a coin.

16. a. Who gets to be the boss often depends on who was lucky enough
        to be in the right place first.**

    b. Getting people to do the right thing depends upon ability,
        luck has little or nothing to do with it.

17. a. As far as world affairs are concerned, most of us are the
        victims of forces we can neither understand, nor control.**

    b. By taking an active part in political and social affairs
        the people can control world events.

*19. a. One should always be willing to admit his mistakes.

      b. It is usually best to cover up one's mistakes.

20. a. It is hard to know whether or not a person really likes you.**

      b. How many friends you have depends upon how nice a person you are.

21. a. In the long run the bad things that happen to us are balanced by the good ones.**

      b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

22. a. With enough effort we can wipe out political corruption.

      b. It is difficult for people to have much control over the things politicians do in office.**

I more strongly believe that:

23. a. Sometimes I can't understand how teachers arrive at the grades they give.**

      b. There is a direct connection between how hard I study and the grades I get.

*24. a. A good leader expects people to decide for themselves what they should do.

      b. A good leader makes it clear to everybody what their jobs are.

25. a. Many times I feel that I have little influence over the things that happen to me.**

      b. It is impossible for me to believe that chance or luck plays an important role in my life.

26. a. People are lonely because they don't try to be friendly.

      b. There's not much use in trying too hard to please people. If they like you, they like you.**

*27. a. There is too much emphasis on athletics in high school.

      b. Team sports are an excellent way to build character.

28. a. What happens to me is my own doing.

    b. Sometimes I feel that I don't have enough control over the direction my life is taking.**

29. a. Most of the time I can't understand why politicians behave the way they do.**

    b. In the long run the people are responsible for bad government on a national as well as on a local level.

---

* Filler items.

** Externally keyed responses.

APPENDIX B

EXPERIMENTAL DESIGN AND CELL $\underline{n}$

APPENDIX B

EXPERIMENTAL DESIGN AND

CELL $\underline{n}$ [a]

	Internal High	Internal Low	Intermediate High	Intermediate Low	External High	External Low
Before Trustworthiness After	11	13	12	11	9	11
Before Expertness After	17	12	12	10	9	12
Before Trustworthiness - Expertness After	7	7	5	9	6	6
Before Expertness- Trustworthiness After	5	7	5	5	6	6

---

[a] For purposes of analysis the corresponding cells for both sequences of credibility were collapsed, e.g., under Internal High 7 + 5 = 12.

APPENDIX C

INSTRUCTIONAL PACKET

APPENDIX C

INSTRUCTIONAL PACKET

INSTRUCTIONS

For approximately the next forty minutes, we are going to be in-volved in an operational game. You may have heard this term, or perhaps you have heard such games called <u>business games</u>. These games are not toys, but are simulations of the real world. The game we are going to work with is a simple decision-making game. Our specific purpose in today's game is to investigate the role of communcations in decision-making.

You will be provided with all the materials for play. The materials are grouped into four categories:

1. A general situation and organizational chart.

2. A rating sheet containing (a) a specific instruction,

    (b) a description of a person who will serve as a

    reporter of information, (c) a rating form,

3. A series of numbered 3x5 cards which contain informa-

    tion which will assist you in making a decision and

4. A decision page.

I will explain how these items are to be used in the game. I will show you the items. Please do not disturb them for the moment.

First, the general situation and organizational chart serve to orient you to the task at hand. You will assume the role of the General Manager. Your task is to evaluate the situation, receive information, and make the decision which seems to be the best one under the circum-stances.

Next, notice the rating sheet. Assume that the person described and named on the paper will serve as your subordinate in this game. If you will glance at the organizational chart, you can see that you have a Sales Manager and a Production Manager who report directly to you. Unfortunately, the Sales Manager was killed in an auto accident yesterday. You have asked the Secretary to temporarily supervise sales, and she will not be available to you. Consequently, your only source of information is your Production Manager. He is the man who is described on the rating sheet. On the rating sheet are a set of specific instructions. Keeping in mind the general instructions just read you and the specific instructions on your rating sheet, read the description of this person and rate this man by placing an "X" in the slot which you feel is appropriate. At the top of the rating sheet please print your name.

Notice the pack of 3x5 cards. These contain items of information. These cards contain "reports" which are given to you by your Production Manager. The cards are arranged in a definite sequence. It is important that the sequence not be altered. You are to receive them in ascending order, e.g., #1, then #2, then #3, etc. You will be allowed a certain amount of time to study each card. During each time period, study only that card which I indicate. Do not look at any other 3x5 cards. Do not make notes at this time. When you have gone through the stack of cards, you will be allowed 5 minutes to restudy the cards in any way you choose and you may make any notes you wish. Then you will be asked to write your decisions on the page titled Decision. You will be allowed 5 minutes in which to do this.

Write your decision alternatives on the Decision Page. Rank-order your alternatives as follows:

Assign the number one to the alternative which you think
is best; the course of action which you, as general manager, would
be most likely to follow. Rank the second best alternative as
number two, and so on, ranking each alternative. You decide the
total number of alternative courses of action which you think
are feasible in this situation.

You will receive additional instructions from me during the game.
I must emphasize the importance of following my instructions throughout
the game. Please work as individuals. The materials your neighbor has
may differ from yours.

Before we start are there any questions? Remember please to
await my instructions.

Time Allocation

1.	Study General Situation	- 3 min.
2.	Study sheet of paper and rate	- 3 min.
3.	Turn in first ratings	- 1 min.
4.	Information Cards	- 45 sec. each, 7.5 min.
5.	Restudy Cards	- 5 min.
6.	Rerate person	- 3 min.
7.	Turn in second ratings	- 1 min.
8.	Decision	- 5 min.

At the end of the game:

Please print your name in the upper right-hand corner of the
Decision Sheet.

Check to insure that you have rank-ordered your decision alterna-
tives. Remember, the number 1 indicates the course of action which you
feel is best under the circumstances. Number 2 the next best, etc.

A GENERAL SITUATION AND ORGANIZATIONAL CHART

The Situation

You will assume the role of General Manager of the Wonderful Widget Company. The firm was founded in 1920 as a partnership, and was incorporated in 1942.

The "Widget" is a common kitchen item which sells at a retail price of $2.98. The company manufactures the "Widget" and distributes it in North Dakota, South Dakota, Nebraska, Colorado, and Kansas.

The basic design of the "Widget" has not changed since 1940. Since its appearance on the market, the "Widget" was manufactured in one chrome-plated model. Last year the chrome-plating was replaced with various colors of enamel.

As General Manager, you are responsible for all operations of the business including production, sales, personnel hiring, purchasing, advertising, public relations and training. The Sales Manager and Production Manager report directly to you. The organizational chart shows pertinent data:

ORGANIZATIONAL CHART
of
The Wonderful Widget Company
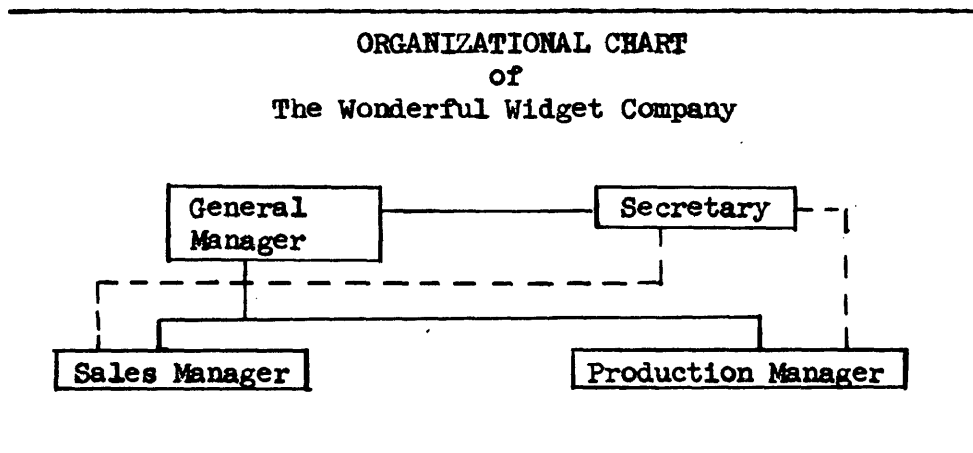
The solid line indicates normal "chain of responsibility" and normal communication routes. The dotted lines indicate an informal communication route.

The general functions of the Production Manager are as follows:

PRODUCTION MANAGER	Raw materials, supply, fabrication, design, packaging, inspection, and shipping.

YOU HAVE JUST RECEIVED THE MONTHLY SALES REPORT WHICH INDICATES THAT SALES ARE DOWN 30% FROM LAST MONTH.

Your Name

_____

_____

SPECIFIC INSTRUCTIONS

You are to evaluate this person on <u>Trustworthiness</u>.

How confident are you that this person will give you the facts? That is, how much could you <u>trust</u> him to communicate the state of affairs in his job?

JOHN K.

John is married, 38 years old, and the father of three children. He holds a Bachelor of Science degree in Business Administration and a Master's degree in Economics. John is aggressive, alert, and very intelligent. He is an excellent organizer and planner. He has held the position of Manager of a large chain store. Several companies have tried to persuade John to work for them, but he has turned down these offers. He is "research-minded," and has a knack for digging out information.

Very Untrust- worthy	Untrust- worthy	Below Average	Average	Above Average	Trust- worthy	Very Trust- worthy

Your Name

_____

_____

SPECIFIC INSTRUCTIONS

You are to evaluate this person on Expertness.

How much of an expert would you say this person is about his job?
That is, would he know what he is talking about?

JOHN K.

John is married, 38 years old, and the father of three
children. He holds a Bachelor of Science degree in
Business Administration and a Master's degree in Economics.
John is aggressive, alert, and very intelligent. He is an
excellent organizer and planner. He has held the position
of Manager of a large chain store. Several companies have
tried to persuade John to work for them, but he has turned
down theseooffers. He is "research-minded," and has a
knack for digging out information.

Very Inexpert	Inexpert	Below Average	Average	Above Average	Expert	Very Expert

Your Name

_____

_____

SPECIFIC INSTRUCTIONS

You are to evaluate this person on Credibility, that is, degree of belief.
CONSIDER THE FOLLOWING:

How confident are you that this person will give you the facts?
That is, how much could you trust him to communicate the state
of affairs in his job?

How much of an expert would you say this person is about his job?
That is, would he know what he is talking about?

JOHN K.

John is married, 38 years old, and the father of three children.
He holds a Bachelor of Science degree in Business Administration
and a Master's degree in Economics. John is aggressive, alert, and
very intelligent. He is an excellent organizer and planner. He
has held the position of Manager of a large chain store. Several
companies have tried to persuade John to work for them, but he
has turned down these offers. He is "research-minded," and has a
knack for digging out information.

Very Incredible	Incredible	Below Average	Average	Above Average	Credible	Very Credible

Your Name

_____

_____

SPECIFIC INSTRUCTIONS

You are to evaluate this person on Credibility, that is, degree of belief. CONSIDER THE FOLLOWING:

How much of an expert would you say this person is about his job? That is, would he know what he is talking about?

How confident are you that this person will give you the facts? That is, how much would you trust him to communicate the state of affairs in his job?

JOHN K.

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Very Incredible	Incredible	Below Average	Average	Above Average	Credible	Very Credible

Your Name

_____

_____

SPECIFIC INSTRUCTIONS

You are to evaluate this person on Trustworthiness.

How confident are you that this person will give you the facts?
That is, how much could you trust him to communicate the state
of affairs in his job?

WILLIAM W.

Bill is single, 40 years old, a high school graduate, and
quite the "ladies" man." He is not very well liked by his
subordinates, or his fellow staff members. He has a tendency
to undermine others, and fails occasionally to support his
subordinates. Recently, his work has been mediocre. Routine
reports from his department are often late. When confronted
with this, he has a tendency to avoid the responsibility for
this and blames others.

Very untrust-worthy	Untrust-worthy	Below Average	Average	Above Average	Trust-worthy	Very Trust-worthy

Your Name

_____

_____

SPECIFIC INSTRUCTIONS

You are to evaluate this person on Expertness.

How much of an expert would you say this person is about his job?
That is, would he know what he is talking about?

WILLIAM W.

Bill is single, 40 years old, a high school graduate, and
quite the "ladies' man." He is not very well liked by his
subordinates, or his fellow staff members. He has a tendency
to undermine others, and fails occasionally to support his
subordinates. Recently, his work has been mediocre. Routine
reports from his department are often late. When confronted
with this, he has a tendency to avaoid the responsibility
for this, and blames others.

Very Inexpert	Inexpert	Below Average	Average	Above Average	Expert	Very Expert

Your Name _____

_____

SPECIFIC INSTRUCTIONS

You are to evaluate this person on Credibility, that is, degree of belief.
CONSIDER THE FOLLOWING:

How confident are you that this person will give you the facts?
That is, how much could you trust him to communicate the state
of affairs in his job?

How much of an expert would you say this person is about his job?
That is, would he know what he is talking about?

WILLIAM W.

Bill is single, 40 years old, a high school graduate, and
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subordinates, or his fellow staff members. He has a ten-
dency to undermine others, and fails occasionally to support
his subordinates. Recently, his work has been mediocre.
Routine reports from his department are often late. When
confronted with this, he has a tendency to avoid the
responsibility for this, and blames others.

Very Incredible	Incredible	Below Average	Average	Above Average	Credible	Very Credible

Your Name

_____

_____

SPECIFIC INSTRUCTIONS

You are to evaluate this person on Credibility, that is, degree of
belief. CONSIDER THE FOLLOWING:

How much of an expert would you say this person is about his job?
That is, would he know what he is talking about?

How confident are you that this person will give you the facts?
That is, how much could you trust him to communicate the state of
affairs in his job?

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the "ladies' man." He is not very well liked by his subordinates,
or his fellow staff members. He has a tendency to undermine others,
and fails occasionally to support his subordinates. Recently,
his work has been mediocre. Routine reports from his department
are often late. When confronted with this, he has a tendency to
avoid the responsibility for this, and blames others.

Very Incredible	Incredible	Below Average	Average	Above Average	Credible	Very Credible

MESSAGE INPUT

1

The Production Department has had the lowest man-hour loss due to sickness, accidents and general absenteeism in the past year. Less complaints are received from the Production Department than from any other department.

2

Last month inspection rejected 200 "Widgets" out of 5,000 produced for this month. This month there were 350 "Widgets" rejected out of 8,500 produced for the month. Rejection percentages range between 3% and 4% per month.

3

The Production Department is one man short in inspection and one man short in shipping, however, deadlines have been met.

4

One salesman was overheard commenting on the quality of the "Widget." He indicated in his comments that he had noticed that the quality of the finish of the "Widget" had deteriorated over the past two months. Two other salesmen who were present said they were having difficulty selling "Widgets" for the same reason.

MESSAGE INPUT

5

Some grumbling about heat from the enamel baking oven. A complaint came from two men who formerly worked with the chrome-plating baths. They claim that the oven throws so much heat that production rates suffer throughout the Production Department (all production facilities are in one building).

6

Production costs have increased 4% in the past year in the manufacturing of the "Widget." The wholesale and retail prices of the "Widget" have remained the same.

7

Although we have used the hardest, harmless colored enamels developed in the industry, the company has received complaints from the home consumer stating that oftentimes the enamel chips off the "Widget," making it less attractive. Also, particles of enamel get into the food during preparation.

8

A suggestion has been received from an employee in the department concerning use of the chrome-plating equipment. He suggests that market research be initiated to determine demand for the chrome-plated model. He suggests that if demand still exists for the chrome-plated model, the company should use the old plating equipment and produce both chrome and enamel models.

MESSAGE INPUT

9

The Sales Department is using a sales manual which was written during the Company's first year. Each salesman has a copy of this basic sales manual. He also receives revision sheets from time to time. (The sales manual contains information concerning the Company's sales policies and sales techniques, and illustrations of the "Widget.")

10

The inspectors complain that lighting is not adequate to detect flaws in the "Widget." About one month ago, the president toured the Production Department. Lighting appeared adequate and no complaints were made when he asked about lighting conditions.

DECISION PAGE

APPENDIX D

INSTRUCTIONS FOR CONTENT ANALYSIS

APPENDIX D

INSTRUCTIONS FOR CONTENT ANALYSIS

The 213 statements listed are decisions generated by Ss.

Each S was presented with the following instructions:

> "You will assume the role of the General Manager. Your
> task is to evaluate the situation, receive information,
> and make the decision which seems to be the best one
> under the circumstance.
>
> If you will glance at the organizational chart, you can
> see that you have a Sales Manager and a Production Manager
> who report directly to you. Unfortunately, the Sales
> Manager was killed in an auto accident yesterday. You
> have asked the Secretary to temporarily supervise sales,
> and she will not be available to you. Consequently, your
> only source of information is your Production Manager."

Each S then read a series of information cards, i.e., each card

represented an item of information reported by the Production Manager.

He then generated decisions. The best or first ranked decision

was recorded for each S.

Categorize each decision into only one of the following

categories:

(1) Personal - all decisions using the Production Manager
         (John K. or William W.) as the main referent.

(2) Environmental - all decisions using anything other than the
         Production Manager as the main referent.

(3) Ambiguous - all decisions not classifiable in either the
         Personal or Environmental category, i.e., either
         not evident into which of the first two categories
         they should fall, or classifiable into both
         categories.

In addition, would you assign a plus (+) for positive decisions, a minus (-) for negative decisions, and a zero (0) for neutral decisions, i.e., for each decision within the category to which it was assigned.

			P						E						A		
		+	0	-				+	0	-				+	0	-	

e.g., 215 could be Personal and a negative decision.

		P	
	+	0	-
215.		X	

APPENDIX E

VARIANCE - COVARIANCE MATRICES

APPENDIX E

VARIANCE COVARIANCE MATRICES

ABC$_{111}$

	T1	T2
T1	2.5636	.4000
T2		3.2000

ABC$_{121}$

	T1	T2
T1	.4744	.4808
T2		1.2564

ABC$_{211}$

	T1	T2
T1	.4470	.0682
T2		2.2045

ABC$_{221}$

	T1	T2
T1	1.6182	-.5091
T2		1.6546

ABC$_{311}$

	T1	T2
T1	.2500	.2500
T2		.5000

ABC$_{321}$

	T1	T2
T1	.6182	.3909
T2		2.0546

ABC$_{112}$

	T1	T2
T1	.3090	.2169
T2		1.6397

ABC$_{122}$

	T1	T2
T1	.4242	0.0000
T2		1.2955

ABC$_{212}$

	T1	T2
T1	.5152	.1970
T2		1.3561

ABC$_{222}$

	T1	T2
T1	1.2111	-.8333
T2		1.6111

ABC$_{312}$

	T1	T2
T1	.5000	-.2500
T2		1.7500

ABC$_{322}$

	T1	T2
T1	.9697	.7879
T2		2.0606

ABC$_{113}$

	T1	T2
T1	.8106	.8485
T2		1.3333

ABC$_{123}$

	T1	T2
T1	.2198	.2418
T2		1.4505

ABC$_{213}$

	T1	T2
T1	1.5556	.6667
T2		2.4000

ABC$_{223}$

	T1	T2
T1	2.4176	.3187
T2		2.2473

ABC$_{313}$

	T1	T2
T1	1.4242	.3485
T2		2.4470

ABC$_{323}$

	T1	T2
T1	1.6970	1.4848
T2		2.5152

A1 internal locus of reinforcement
A2 intermediate locus of reinforcement
A3 external locus of reinforcement

B1 high communicator
B2 low communicator

C1 trustworthiness
C2 expertness
C3 credibility

APPENDIX F

CATEGORIZATION OF FIRST RANKED DECISIONS

APPENDIX F

CATEGORIZATION OF FIRST RANKED DECISIONS

FREQUENCY OF FIRST RANKED DECISIONS

WITHIN PERSONAL AND ENVIRONMENTAL CATEGORIES

	Internal		Intermediate		External	
	HC	LC	HC	LC	HC	LC
Personal	5	15	10	11	6	14
Environmental	27	13	21	18	17	16

FREQUENCY OF FIRST RANKED DECISIONS

WITHIN PERSONAL POLARITIES

	Internal		Intermediate		External	
	HC	LC	HC	LC	HC	LC
Positive	2	2	1	1	3	2
Negative	2	9	3	5	0	8

HC--High Communicator

LC--Low Communicator

APPENDIX G

SUMMARY OF ANALYSIS OF VARIANCE OF MEAN RATINGS

for Both Credibility Sequences

APPENDIX G

SUMMARY OF ANALYSIS OF VARIANCE OF MEAN RATINGS

FOR BOTH CREDIBILITY SEQUENCES

Source	df	MS	F	Significance Level
Between subjects	75			
A	2	.051	< 1	N.S.
B	1	5.478	< 1	N.S.
AB	2	13.042	2.112	N.S.
Subjects within groups	70	6.176		
Within subjects	76			
C	1	5.190	4.061	$P \leq .05$
AC	2	1.404	1.098	N.S.
BC	1	.331	< 1	N.S.
ABC	2	.050	< 1	N.S.
C x subjects within groups	70	1.278		

Note:

A -- Locus of Reinforcement

B -- Credibility

C -- Message input

APPENDIX H

CELL $\underline{n}$s AND TOTALS

APPENDIX H

CELL ns AND TOTALS

		Internal		Intermediate		External	
		HC	LC	HC	LC	HC	LC
Trustworthi-ness	D_1	64 n=11	28 n=13	71 n=12	30 n=11	54 n=9	15 n=11
	D_2	55	34	45	40	51	37
Expertness	D_1	103 n=17	28 n=12	70 n=12	31 n=10	54 n=9	32 n=12
	D_2	94	39	61	35	33	44
Credibility	D_1	71 n=12	32 n=14	60 n=10	34 n=14	74 n=12	32 n=12
	D_2	64	38	48	37	55	34

HC   -   High communicator

LC   -   Low communicator

D_1 -   Before message input

D_2 -   After message input

APPENDIX H

CELL $\underline{n}$s AND TOTALS FOR BOTH CREDIBILITY SEQUENCES

		Internal	Intermediate	External
Trustworthiness-Expertness	D_1	57 n=14	45 n=14	53 n=12
	D_2	55	41	48
Expertness-Trustworthiness	D_1'	46 n=12	49 n=10	53 n=12
	D_2	47	44	41

D_1 - Before message input

D_2 - After message input