

INFERENTIAL RELATIONSHIPS AND PROBABILITIES OF OCCURRENCE
IN INTERPERSONAL PERCEPTION

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ABSTRACT

Among the judgmental processes involved in forming extended impressions of others are the "predispositions" to make trait inference judgments, i.e., judgments based on trait inferential relationships, and stereotypic judgments, i.e., judgments made consistent with the norm. The purpose of the present study was to examine the effects of the direction of the inferential relationship between the known characteristics and the judged characteristics of the target person, the probability of occurrence of the predicted behavior, and the typicality or normality of the target information on the tendency to make trait inference judgments, and on judgmental certainty.

Three groups of fifty subjects each received target information in the form of personality statements which two hypothetical target persons had supposedly answered true. The normality or frequency with which the behavior represented by these information statements occurred in the general population was varied between groups, one group receiving highly typical information, one moderately typical, and one highly atypical. The subjects predicted the target persons' responses to other personality statements, also indicating the degree of certainty of their judgments. These response statements were positively or negatively inferentially related to the target information and represented characteristics having either a high, moderate, or low probability of occurrence within a related population.

Main effects of direction of inferential relationship and response

statement probability of occurrence were evidenced. In addition, these variables interacted in a manner which supported a conflict-no conflict interpretation. Judges experienced conflict when inferential and probability cues indicated opposite predictions, making fewer trait inference judgments, and being less certain in these situations than in situations where both variables indicated a like prediction.

Judges made more trait inference judgments and were more certain of their predictions when atypical rather than moderately or highly typical information was presented. In addition, target normality interacted complexly with the probability of occurrence of the response statements when trait inference judgments were considered. These findings were interpreted and future research discussed.

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TABLE OF CONTENTS

	PAGE
ABSTRACT	ii
ACKNOWLEDGMENT	iv
TABLE OF CONTENTS	v
LIST OF FIGURES	vii
LIST OF TABLES	viii
CHAPTER I - STATEMENT OF THE PROBLEM	1
Purpose of the Study	1
CHAPTER II - REVIEW OF THE LITERATURE	3
Trait Inferential Relationships and the Trait Inference Judgment	3
Normality of the Target Information	8
CHAPTER III - DESIGN OF THE STUDY AND PREDICTIONS	11
CHAPTER IV - METHOD	13
Experimental Materials	13
Target Information	13
Prediction Stimuli	14
Questionnaire Booklets	19
Administrative Procedure	20
Subjects	20
CHAPTER V - RESULTS AND DISCUSSION	21
"Same" Scale Accuracy Scores	21
Number of Trait Inference Judgments	21

TABLE OF CONTENTS (Cont'd)

	PAGE
Judgmental Certainty	28
CHAPTER VI - SUMMARY AND CONCLUSIONS	33
Direction of Inferential Relationship vs. Probabilities of Endorsement.	33
Normality of the Target Information	34
CHAPTER VII - SUGGESTIONS FOR FUTURE RESEARCH	35
Inferential Relationships vs. Probabilities of Endorsement.	35
Normality of the Target Information	35
Directional Aspects of the Target Information	37
REFERENCES	38
APPENDICES	40
Appendix A - Analyses of Variance Tables	40
Appendix B - Scale Values on Dimension I of the Statement Inferential Network Mapped by Lay and Jackson (1968) for both Male and Female Judges	45
Appendix C - Experimental Materials	47

LIST OF FIGURES

FIGURE		PAGE
1	Direction of inferential relationship by response statement endorsement frequency interaction for trait inference judgments	25
2	Target normality by response statement endorsement frequency interaction for trait inference judgments	27
3	Direction of inferential relationship by response statement endorsement frequency interaction for judgmental certainty	31

LIST OF TABLES

TABLE		PAGE
1	PRF scales from which information and positive and negative response statements were selected	16
2	Mean "same" scale accuracy scores under conditions of high, moderate, and low target information	22
3	Mean number of trait inference judgments within the experimental scales under conditions of high, moderate, and low target information	24
4	Mean "same" scale certainty ratings under conditions of high, moderate, and low target information	29
5	Mean judgmental certainty ratings within the experimental scales under conditions of high, moderate, and low target information	30

CHAPTER I

STATEMENT OF THE PROBLEM

In dealing analytically with interpersonal perceptions one must contend with the fact that each individual has expectancies of certain traits "going together" in others. The nature of day to day interactions deems such perceiver processes indispensable. Seldom, if ever, is a social situation so structured as to offer maximal cues on which judgments of the personality of others may be based. Rather, the perceiver must base the majority of his judgments on limited information. From certain known characteristics, the perceiver infers the presence of other traits which are inferentially related. Recent work in the area of inferential relationships has indicated that the traits assigned to a target person vary considerably with the degree and the direction of the inferential relationship between the known characteristics and the judged characteristics of the target person. Predictions of the personality of others may also be expected to vary with the probability of occurrence of the judged behavior within a related population. In addition, when manipulated as an information variable, the extent to which a trait is seen to occur within the population may be related to various impression formation processes.

Purpose of the Present Study

The purpose of the present study was to investigate the effects of (1) the direction of the trait inferential relationship between the

known characteristics of the target person and the judged characteristics, (2) the probability of occurrence of the predicted behavior and (3) the normality of the target information on the tendency to make trait inference judgments in the perception of the personality of others, and on judgmental certainty.

CHAPTER II

REVIEW OF THE LITERATURE

The tendency of the perceiver to form overall impressions on the basis of limited information is widely accepted in the area of person perception (Asch, 1946; Bruner & Tagiuri, 1954; Hays, 1958; Lay, 1968). The basis of such behavior lies in the fact that individuals have certain expectancies of personality trait covariations. Given limited information, the individual relies on these expectancies to form extended impressions of others. Although this tendency to rely on perceived trait covariations was initially considered a confounding factor in the study of interpersonal perceptions (Newcomb, 1931), current researchers recognize the viability of this aspect of the impression formation process and are making concerted attempts to more fully understand it. Recognized avenues of research have attempted to determine the nature of expected trait covariations held by individuals and the conditions under which they are used.

Trait Inferential Relationships and the Trait Inference Judgment

The perceiver's impressions as to which traits or attributes covary may be referred to as trait inferential relationships. If, when making a judgment, an individual relies on these relationships, he may be said to be making a trait inference judgment. Lay (1968) pointed out the importance of distinguishing between trait inferential relationships and trait inference judgments if one is to fully understand, not only the preformed impressions which an individual holds, but also the

conditions and situations under which these expectancies are manifested. Several investigators (Cronbach, 1955; Koltuv, 1962) have failed to make this distinction. Rather, they have attempted to examine an individual's implicit personality theory by intercorrelating his trait ratings of specific others. These covariations were then assumed to reflect the relationships among traits implicit to the perceiver. An alternative more direct approach involves simply asking judges whether or not they expect certain traits to be associated. For example, an individual may be asked to indicate the likelihood that a person who is "domineering" is also "sociable." This latter approach has been referred to as the "direct" approach; the former as the "indirect" (Lay, 1968). Use of the indirect approach obviates the important distinction between trait inferential relationships and trait inference judgments. In addition, the direct approach is more "pure" since trait rating covariations are subject, to a greater extent, to extraneous perceiver predispositions or judgmental processes beyond the trait inference judgment.

Focusing on the concept of trait inferential relationships, investigators have examined the properties of such relationships (Bruner, Shapiro, & Tagiuri, 1958); the trait context in which inferential relationships are made (Shapiro & Tagiuri, 1958); perceiver differences in trait inferential relationships (Steiner, 1954); matrices of intercorrelations based on familiar and unfamiliar persons (Koltuv, 1962); and the generality of intercorrelations over target groups (Secord &

Berscheid, 1963).

More recently, Lay (1968) manipulated the degree of inferential relationship between the known characteristics and the judged characteristics of the target person in an attempt to determine the effect of this variable on the tendency to make trait inference judgments in the perception of the personality of others. Using a multidimensional successive intervals technique, Lay and Jackson (1968) had previously "mapped" the inferential relationships between various personality traits obtained from judgments of the likelihood of joint occurrence of pairs of personality trait adjectives, and of the joint endorsement of corresponding pairs of statements selected from the Personality Research Form (PRF-Jackson, 1967) to represent the traits in question. On any obtained dimension, statements with high loadings were psychologically interpreted as being highly inferentially related, while a statement with a high loading and another with a low loading were interpreted as being lowly inferentially related. The use and interpretation of the multidimensional successive intervals technique in this context is more fully discussed by Jackson (1962), and Lay (1968). In Lay's (1968) study, target information was presented in the form of personality statements to which the target person had supposedly answered true. Judges were asked to predict the responses of several targets to a number of personality statements which were either highly or lowly inferentially related to the target information. Judges made more trait inference judgments (i.e., judgments in the direction of the inferential relation-

ship), were more certain, and more willing to make a judgment on high inferential than on low inferential statements. The direction of the inferential relationship between the target and response statements also varied. Traits located at the same pole of a particular dimension were psychologically interpreted as being positively inferentially related, those at opposite poles negatively inferentially related. A positive inferential relationship is indicated where the presence of one trait may be inferred from the knowledge of another; a negative inferential relationship where the absence of one trait may be inferred from another. Based on a secondary analysis of the data, the author tentatively suggested that negative inferences may be more difficult to make than positive ones, judges appearing to make fewer trait inference judgments, to be less certain and less willing to make a prediction on statements negatively inferentially related to the target information than on statements positively inferentially related. Considering these findings, Weidman (1968) manipulated degree and direction of inferential relationship and presented subjects with a task similar to that used by Lay. As before, subjects made more trait inference judgments, were more certain of their predictions, and were more willing to make a prediction when the degree of inferential relationship between the target information and the personality characteristics about which judgments were made was high rather than low. In addition, judges were more certain and more willing to make a prediction when the inferential relationship between target and response statements was positive rather than negative. Lay and Burdick (1968) also manipulated degree and direction of inferential

relationship. The task employed by these authors was essentially similar to that used by Lay (1968), the only exception being that judges predicted the target person's responses on a number of trait adjectives using a nine-point scale ranging from "extremely uncharacteristic" to "extremely characteristic." When the inferential relationship between target and response statements was high judges made more extreme ratings in the inferential direction and were also more certain of their judgments than when the inferential relationship was low. In addition, ratings were more extreme in the inferential direction and judges were more certain of their predictions when the inferential relationship was positive rather than negative.

A second purpose of the Lay (1968) study was to explore the effect of the probability of occurrence of the judged behavior, defined in terms of response statement endorsement frequency. Endorsement frequency statistics refer to the proportion of people in a population who responded "true" to a personality statement under self instructions (i.e., when asked if a particular statement applied to themselves). These values indicate the normality or typicality of the behavior represented by a statement. It is not improbable that statements of extreme endorsement frequency could lead to a specific prediction on the basis of stereotypic or assimilative projection judgments. It seems feasible therefore, that in situations where the direction of the inferential relationship indicates one prediction (e.g., a negative inferential relationship calling for a "false" prediction) and the response statement endorsement

frequency an opposite prediction (e.g., a high endorsement frequency calling for a "true" prediction), conflict may be experienced by the judges. On the other hand, these factors may lead to a like prediction (e.g., positive inferential relationship, high endorsement frequency). This hypothesis received indirect tentative support in the Lay (1968) study, judges making fewer predictions in the inferential direction, being less judgmentally certain and less willing to make a prediction in the former hypothesized conflict situation. Although not assessed by Lay (1968), a similar conflict situation should result when the inferential relationship between target and response statements is positive (calling for a prediction of "true"), and the endorsement frequency of the response statements is low (calling for a "false" prediction).

The present study examined, in part, the effects of direction of inferential relationship and response statement endorsement frequency on the tendency to make trait inference judgements and on judgmental certainty, extending the Lay (1968) study with the inclusion of the positive inferential, low endorsement frequency condition outlined above.

Normality of the Target Information

Various aspects of the target information have been examined with respect to their effects on judgmental behavior. For the most part, these studies have focused on amounts of information. Both Bruner (1951) and Koltuv (1962) have suggested that perceiver biases or predispositions

are manifested more readily under conditions where information about the stimulus object is minimal or ambiguous. For example, experimental evidence of the predominance of both the "leniency effect" (Tagiuri, 1968) and stereotyping (Gage, 1955) under such conditions of limited information is available.

Also focusing on the effect of amount of information, Weidman (1968) has suggested that the increased probability of outcome provided by additional, although redundant, target information may make the task of drawing inferences considerably easier. For example, when a subject receives additional information which increases the extent to which a person is seen as possessing the trait "orderly," the task of predicting other traits related to "orderliness" may thus be facilitated. In Weidman's (1968) study, judges were more certain and more willing to make a prediction when additional redundant target information was presented, but this variable had no effect on the number of inferential judgments made. A more likely method of increasing the extent to which a target person is seen as possessing a particular trait would involve simply varying the typicality-atypicality of the target information. Analogously, and consistent with information theory, Jones and Davis (1964) proposed that the judged degree of correspondence between related attributes increases as an individual's standing on the target attribute is seen as greater than that of the average person. Thus, the atypical target person endorsing statements of low endorsement frequency may be seen as possessing the attribute to a greater extent than a person endorsing statements of high endorsement frequency drawn from the same

domain. Consequently, inferential judgments may be more numerous when low endorsement frequency, atypical target information is presented than when high endorsement frequency, typical information is presented.

The effect of target normality on the tendency to make trait inference judgments, and on judgmental certainty has previously been examined by Lay and Burdick (1968). The authors noted that ratings on trait adjectives corresponding to the target information statements were more extreme when the target information was of moderate endorsement frequency than when it was highly typical or highly atypical. In addition, target normality interacted complexly with both the degree and the direction of the inferential relationships in question.

The present study examined more fully the effect of normality of the target information on the tendency to make trait inference judgments and on judgmental certainty.

CHAPTER III

DESIGN OF THE STUDY AND PREDICTIONS

The present study involved a 3 x 3 x 2 factorial design. The independent variables were, (1) normality of the target information, defined in terms of the endorsement frequency of the target statements (2) direction of the inferential relationship between the known characteristics of the target person and the judged characteristics and (3) endorsement frequency of the response statements. All judges were asked to predict the responses of either high, moderate, or low normality targets to personality statements which were positively or negatively inferentially related to the target information and of either high, moderate, or low frequency of endorsement. In addition, judges were asked to predict the target's responses to statements which were selected from the "same" scale as the target information statements. The dependent variables examined were (1) the tendency to make trait inference judgments (i.e., the number of predictions made in the inferential direction) (2) judgmental certainty and (3) with "same" scale statements only, the number of predictions made in the content direction.

On the basis of previous findings, it was expected that a positive as compared to a negative inferential relationship between the target information and the judged personality statements would result in (1) a greater tendency to make trait inference judgments and (2) greater judgmental certainty. In addition, more trait inference judgments and greater judgmental certainty were anticipated in situations where both the direc-

tion of the inferential relationship and the endorsement frequency of the response statement indicated a like prediction than in situations where these two factors were in conflict.

Judges were expected to make a greater number of trait inference judgments and to be more judgmentally certain in predicting the responses of the atypical than the typical target person. Similarly, with "same" scale statements, the number of predictions in the content direction and judgmental certainty were expected to be greater for the atypical target than for the typical.

CHAPTER IV

METHOD

Experimental Materials¹

Target Information. Target information was presented in the form of true keyed personality statements that the target person had answered true. For a given subject there were two target persons to be judged, both designated as male. Two statements were presented per target person. Information statements were selected from two scales of the PRF (Cognitive Structure and Play), one scale per target. The Cognitive Structure scale had a large positive projection on Dimension I of the statement inferential network "mapped" by Lay and Jackson (1968). The Play scale had a large negative projection on Dimension I. This dimension for both male and female judges is reproduced in Appendix B. There were six target persons in all. Information statements for Targets A, B, and C were drawn from the Cognitive Structure scale and for Targets D, E, and F from the Play scale. The information statements were of high, moderate, or low frequency of endorsement. Statements selected for Targets A and D had high endorsement proportions, ranging from .79 to .99, for Targets B and E, moderate endorsement proportions ranging from .44 to .60, and for Targets C and F low proportions ranging from .11 to .25. The two targets presented to any one judge responded in the same direction to statements with similar endorsement proportions. Thus, Target A always appeared

¹A copy of all experimental materials is presented in Appendix C.

with Target D, Target B with Target E and Target C with Target F. All statements were true keyed and neutral in desirability. Endorsement frequency and desirability statistics were drawn from data gathered in the development of the PRF and made available by D. N. Jackson. The latter values were based on item-desirability scale score biserial correlations.

Prediction Stimuli. The prediction stimuli consisted of thirty-six personality statements. The direction of inferential relationship within these statements was varied, although all statements were high inferential. These statements were drawn from five scales of the PRF, three located at one pole and two at the opposite pole on Dimension I of the statement inferential network referred to above. All five scales had large projections on this dimension. Thus, the inferential relationship between these scales and the scales from which the target information statements were selected was high, and either positive or negative. Statements drawn from scales located at the same pole of dimension as the information scales were positively inferentially related, and statements drawn from the opposite pole were negatively inferentially related. For example, since Cognitive Structure and Order had minus values on Dimension I, and Impulsivity a plus value, the inferential relationship between the Cognitive Structure information and the Order response statements was positive and between the Cognitive Structure and the Impulsivity response statements negative. The scales from which these high inferential, positive or negative, response statements were selected

are presented in Table 1. Endorsement frequency was also systematically varied within these statements. One third of the twelve statements selected from the Impulsivity and Harmavoidance scales had high endorsement proportions (.76 to .99), one third moderate endorsement proportions (.45 to .58), and one third low proportions (.14 to .26). Similarly, statements from the Order, Endurance, and Social Recognition scales were selected so that four statements had high endorsement proportions (.76 to .99), four moderate endorsement proportions (.41 to .58), and four low proportions (.18 to .22). In addition, six response statements were drawn from the "same" scale as the information statements. That is, with Targets A, B, and C, these statements were selected from the Cognitive Structure scale, and with Targets D, E, and F, from the Play scale. "Same" scale statements were of moderate endorsement proportions (.41 to .59). All statements selected, except those from the Harmavoidance scale, were true keyed in the PRF. All statements were neutral in desirability.

Summed over targets, this selection resulted in six scales of eight statements each: positive inferential, high endorsement frequency; positive inferential, moderate endorsement frequency; positive inferential, low endorsement frequency; negative inferential, high endorsement frequency; negative inferential, moderate endorsement frequency; negative inferential, low endorsement frequency. A "same" scale of twelve statements was also included. One example response statement from each of the seven scales is presented below. In addition, an example of the target

TABLE 1

PRF Scales from which Information and Positive and Negative

Response Statements were selected

<u>Target</u>	<u>Information Statements</u>	<u>Response Statements</u>	
		<u>Positive Inferential</u>	<u>Negative Inferential</u>
A, B, C	Cognitive Structure	Order	Harmavoidance ^a
		Endurance	Impulsivity
		Social Recognition	
D, E, F	Play	Harmavoidance ^a	Order
		Impulsivity	Endurance
			Social Recognition

^aFalse-keyed statements were used.

information is provided. Given that the target person answered true to the information statements, the judges were asked to predict how he had answered the response statements. Endorsement proportions and the scales from which the statements were drawn are shown in parentheses, but did not appear in the original questionnaire.

Information statements - Person A (Male) - High Normality

1. When I talk to a doctor I want him to
give me a detailed explanation of any
illness I have. (Cognitive Structure, .81) (T) F
2. I don't enjoy confused conversations
where people are unsure of what they
mean to say. (Cognitive Structure, .77) (T) F

Response Statements

High positive inferential, high endorsement proportion

I don't mind doing all the work myself if it is necessary to complete what I have begun. (Endurance, .92)

High positive inferential, moderate endorsement proportion

If I remove an object from a shelf I always replace it when I have finished with it. (Order, .42)

High positive inferential, low endorsement proportion

I follow carefully the standards set by others so as not to appear out of line. (Social Recognition, .22)

High negative inferential, high endorsement proportion

I find that I sometimes forget to look before I leap.
(Impulsivity, .83)

High negative inferential, moderate endorsement proportion

I would enjoy exploring an old deserted house at night.

(Harmavoidance, .50)

High negative inferential, low endorsement proportion

I almost always accept a dare. (Harmavoidance, .14)

"Same" scale

It upsets me to get into a situation without knowing what

I can expect from it. (Cognitive Structure, .52)

It should be noted, as shown in Table 1, that positive inferential response statements (high, moderate, or low frequency of endorsement) with Targets A, B, and C became negative inferential statements with Targets D, E, and F. Thus, all statements which were inferentially keyed true with Targets A, B, and C were inferentially keyed false with Targets D, E, and F. Similarly, all statements which were inferentially keyed true with Targets D, E, and F were inferentially keyed false with Targets A, B, and C. Statements which were content keyed true for Targets A, B, and C (i.e., "same" scale statements) were inferentially keyed false for targets D, E, and F. In like manner, statements content keyed true for Targets D, E, and F were inferentially keyed false for Targets A, B, and C. For example, since Target A, B, and C information included Cognitive Structure statements, response statements drawn from this scale were content keyed true. In addition, since Order was positively inferentially related to the target information, response statements selected from this scale were inferentially keyed true. Conversely,

the inferential relationship between Target D, E, and F information (Play) and the Cognitive Structure and Order scales was negative. Thus, with Targets D, E, and F, the response statements selected from these latter scales were inferentially keyed false. To avoid a disproportionate number of inferentially false keyed over true keyed response statements, statements which were content keyed true ("same" scale) for Targets A, B, and C were omitted in the response list for Targets D, E, and F, and were replaced by six "same" scale statements content keyed true for Targets D, E, and F. Thus, the number of statements which were inferentially keyed true or false within each of the six experimental scales was eight.

The order of the information and response statements within each target, and the order in which the two target persons were judged was randomly determined, although constant over judges.

Questionnaire Booklets. Three target information booklets, I, II, and III, representing the three levels of target normality were prepared. The prediction stimuli (i.e., the thirty-six personality statements) were constant over response questionnaires with the exception of the twelve "same" scale statements. Of these, as mentioned, six were constant over Targets A, B, and C, but were replaced with six new statements constant over Targets D, E, and F. The subjects were instructed to form an impression of the target person given that this person had answered true to each of the information statements. Their task was to predict how the target person had answered the response statements (i.e., true or false). In addition, the subjects indicated the degree of certainty of

their predictions, using a nine point scale which ranged from "extremely uncertain" to "extremely certain." The dependent variables examined in these questionnaires were: (1) the tendency to make trait inference judgments, i.e., the number of predictions made in the inferential direction, and (2) judgmental certainty.

Administrative Procedure

Each of the three information booklets was administered to two groups of about twenty-five subjects each, approximately equated for sex. The information booklet which any particular group received was randomly determined. Instructions were printed on the first page of each booklet. Instructions were read by the experimenter prior to each testing session and subjects were encouraged to ask questions whenever necessary.

Subjects

Subjects were University students enrolled in an introductory psychology course. The total number was 150, 25 males and 25 females judging each target normality level. A greater number of subjects than indicated completed the questionnaires ($N = 162$). In order to obtain an equal number per cell, however, subjects included in the present study were randomly selected from the larger sample.

CHAPTER V

RESULTS AND DISCUSSION

"Same" Scale Accuracy Scores

"Same" scale accuracy scores were obtained by scoring the judges true-false predictions on "same" scale statements in the content direction. For example, with Targets A, B, and C, this score was derived from predictions on the Cognitive Structure response statements. The mean scores under conditions of high, moderate, and low target normality are presented in Table 2 (maximum score per cell was 12). For the average subject, predictions on at least 11 of the "same" scale statements were accurate, indicating that the target information was correctly received by the judges. Contrary to the Lay and Burdick (1968) findings, "same" scale accuracy scores were not affected by the normality of the target information. However, these authors required subjects to make ratings on trait adjectives rather than dichotomous predictions on personality statements. These factors may, in part, account for the discrepancy in results.

Number of Trait Inference Judgments

Prediction statements were inferentially keyed true or false, and the number of responses made in the inferential direction was determined for each of the six experimental scales (i.e., positive inferential, high endorsement frequency; positive inferential, moderate endorsement frequency; positive inferential, low endorsement frequency; negative inferential, high endorsement frequency; negative inferential, moderate endorse-

TABLE 2
Mean "Same" Scale Accuracy Scores Under Conditions
of High, Moderate, and Low Target Information

<u>Target Normality</u>		
<u>High</u>	<u>Moderate</u>	<u>Low</u>
11.6	11.4	11.3

ment frequency; negative inferential, low endorsement frequency). Mean scores are presented in Table 3. The main effect of direction of inferential relationship was significant ($F = 153.2$, $df = 1, 147$, $p < .001$)², as was the response statement endorsement frequency main effect ($F = 55.2$, $df = 2, 294$, $p < .001$). In addition, as expected, these variables interacted ($F = 131.5$, $df = 2, 294$, $p < .001$) as illustrated in Figure 1. With positive inferential statements, consistently fewer responses were made in the inferential direction as the endorsement frequency of the statements decreased. On the other hand, when the direction of the inferential relationship was negative the reverse was true. That is, the number of inferential responses increased consistently as the endorsement frequency of the response statements decreased.

This interaction suggested a conflict-no conflict hypothesis similar to that postulated by Lay (1968). Conflict appeared to occur in situations when the direction of the inferential relationship and the endorsement frequency of the response statement provided incongruous cues for prediction, (e.g., on positive inferential, low endorsement frequency statements, and on negative inferential, high endorsement frequency statements). At the same time of course, with positive inferential, high endorsement frequency statements and with negative inferential, low endorsement frequency statements, these two factors yielded a like prediction. Thus, trait inference judgments were more numerous in the latter situation than in the former conflict situation. Note also,

²All analysis of variance tables appear in Appendix A.

TABLE 3

Mean Number of Trait Inference Judgments Within the Experimental Scales Under
Conditions of High, Moderate, and Low Target Information

<u>Response Statement Endorsement Frequency</u>	<u>High Target Normality</u>		<u>Moderate Target Normality</u>		<u>Low Target Normality</u>		<u>Total</u>
	<u>Positive</u>	<u>Negative</u>	<u>Positive</u>	<u>Negative</u>	<u>Positive</u>	<u>Negative</u>	
High	7.5	5.3	7.6	5.6	7.7	5.9	6.6
Moderate	7.3	6.6	7.5	6.5	7.6	6.8	7.1
Low	6.6	6.8	7.2	7.3	7.6	7.1	7.1
Total	7.1	6.2	7.4	6.5	7.5	6.8	

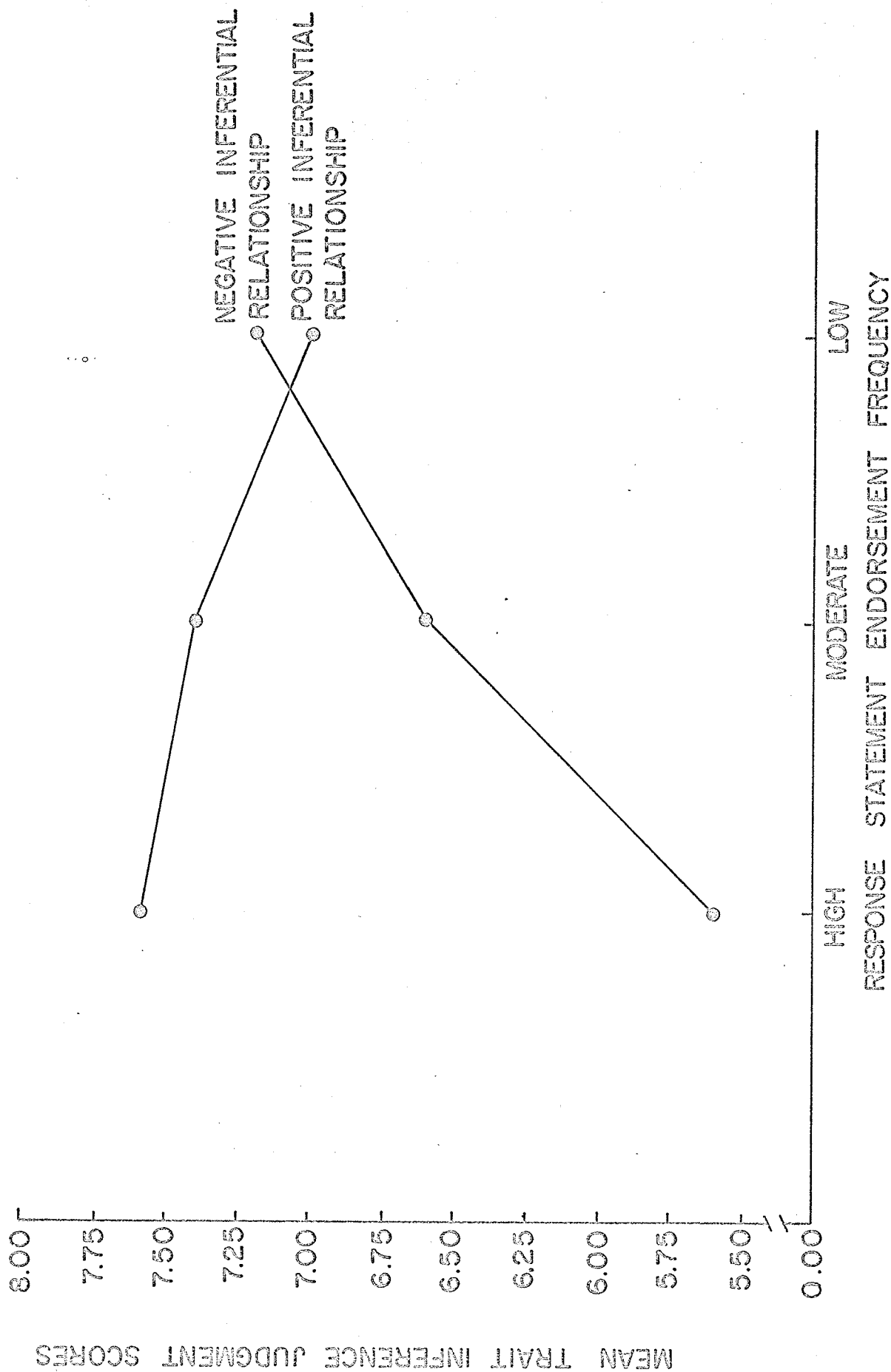


FIG. 1 DIRECTION OF INFERENCE RELATIONSHIP BY RESPONSE STATEMENT ENDORSEMENT FREQUENCY INTERACTION FOR TRAIT INFERENCE JUDGMENTS

with response statements of moderate endorsement frequency in which inferential cues alone were operative, that more trait inference judgments were recorded under positive inferential than under negative inferential conditions, supporting the suggestion that negative inferences are more difficult to make than positive (Lay, 1968; Weidman, 1968). Of major importance here, however, is the fact that, in addition to the Lay (1968) findings, the conflict-no conflict interpretation was readily supported with positive inferential statements infrequently endorsed by others.

The main effect of target normality was significant ($F = 6.7$, $df = 2$, 147 , $p < .01$). As predicted, more trait inference judgments were made under conditions of low than of high target normality. Atypical information may have increased the extent to which the target person was seen to possess the particular attribute, making the task of drawing inferences to highly related traits considerably less difficult. Target normality also interacted significantly with response statement endorsement frequency ($F = 3.3$, $df = 4$, 294 , $p < .01$). This interaction is presented graphically in Figure 2. The drop in trait inference judgments when moving from moderate to low endorsement frequency response statements under conditions of high target normality is noted immediately. Apparently, the perceived differences between typical and atypical targets increased when judgments about the typical targets' responses to atypical response statements were made. Still perplexing and somewhat inconsistent, however, is the fact that the highly typical target was apparently perceived to endorse atypical response statements.

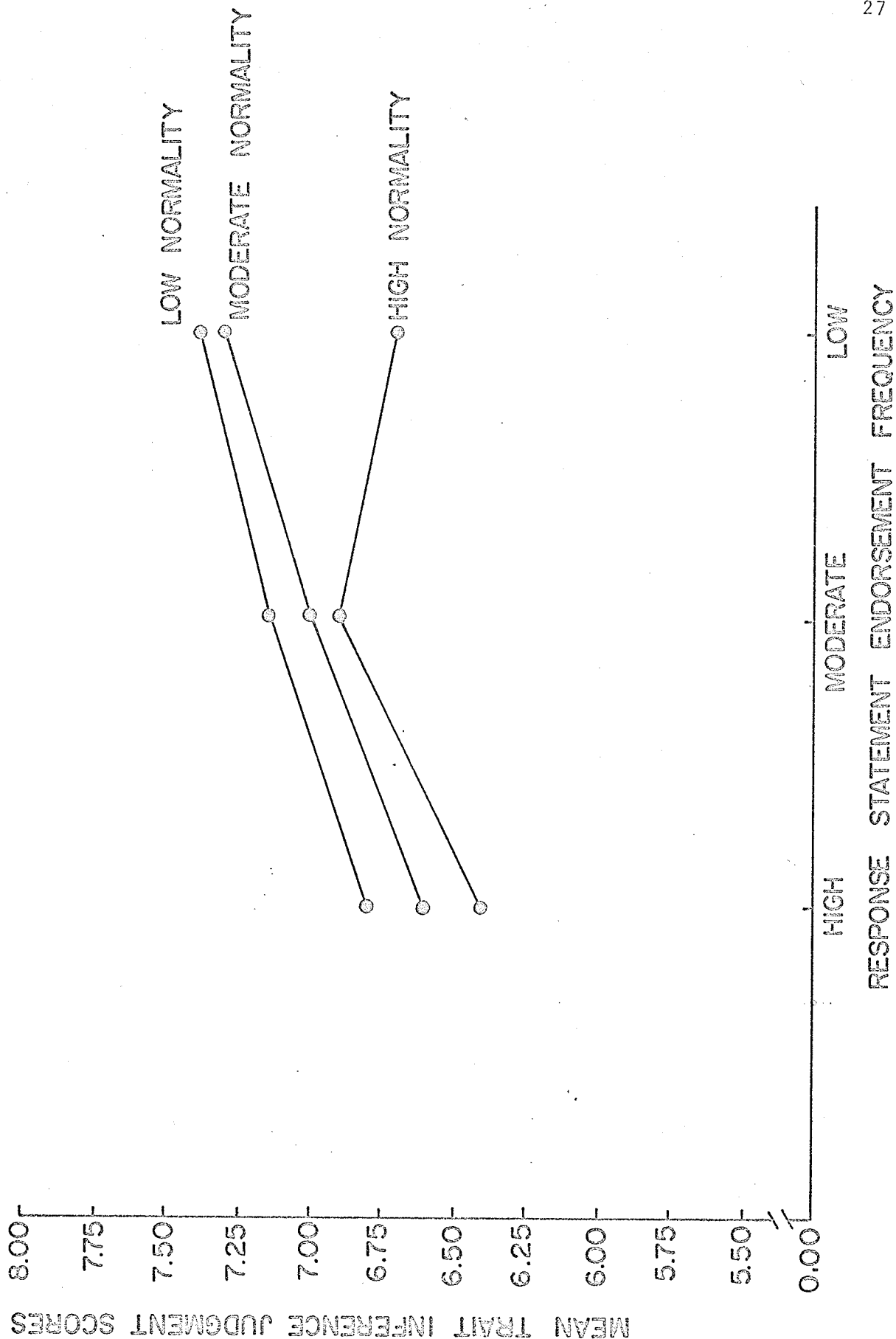


FIG. 2 TARGET NORMALITY BY RESPONSE STATEMENT ENDORSEMENT FREQUENCY
INTERACTION FOR TRAIT INFERENCE JUDGMENTS

to a greater extent than typical statements. Processes uninterpretable in terms of the inferential relationship and trait inference judgment framework were apparently operative.

Judgmental Certainty

The judgmental certainty ratings were assigned a value from one to nine, with the largest value representing extreme certainty. Mean judgmental certainty ratings under conditions of high, moderate, and low target information were determined for the "same" scale and for each of the six experimental scales. Mean ratings on "same" scale statements, presented in Table 4, did not vary due to the normality of the target information. Mean ratings within the experimental scales under conditions of high, moderate, and low normality information are presented in Table 5. Judges expressed greater certainty on statements positively rather than negatively related to the target information ($F = 127.7$, $df = 1, 147$, $p < .001$), and on statements of low rather than high endorsement frequency ($F = 17.7$, $df = 2, 294$, $p < .001$). In addition, as predicted, the inferential direction by response statement endorsement frequency interaction was significant ($F = 65.1$, $df = 2, 294$, $p < .001$), and is presented graphically in Figure 3. The conflict-no conflict hypothesis, previously inferred from the pattern of inferential judgments, is further substantiated by the judges apparent expression of conflict as reflected in their certainty scores. Judges expressed less certainty on response statements of high endorsement frequency in the negative inferential case than they did on statements of low endorsement frequency

TABLE 4
Mean "Same" Scale Certainty Ratings Under
Conditions of High, Moderate, and
Low Target Information

<u>Target Normality</u>		
<u>High</u>	<u>Moderate</u>	<u>Low</u>
6.9	6.8	7.1

TABLE 5

Mean Judgmental Certainty Ratings Within the Experimental Scales Under
Conditions of High, Moderate, and Low Target Information

<u>Response Statement Endorsement Frequency</u>	<u>High Target Normality</u>		<u>Moderate Target Normality</u>		<u>Low Target Normality</u>		<u>Total</u>
	<u>Positive</u>	<u>Negative</u>	<u>Positive</u>	<u>Negative</u>	<u>Positive</u>	<u>Negative</u>	
High	6.5	5.1	6.5	5.4	6.7	5.8	6.0
Moderate	6.1	4.9	6.4	5.2	6.6	5.7	5.8
Low	5.9	5.5	6.2	5.9	6.5	6.4	6.7
Total	6.2	5.2	6.4	5.5	6.6	5.9	

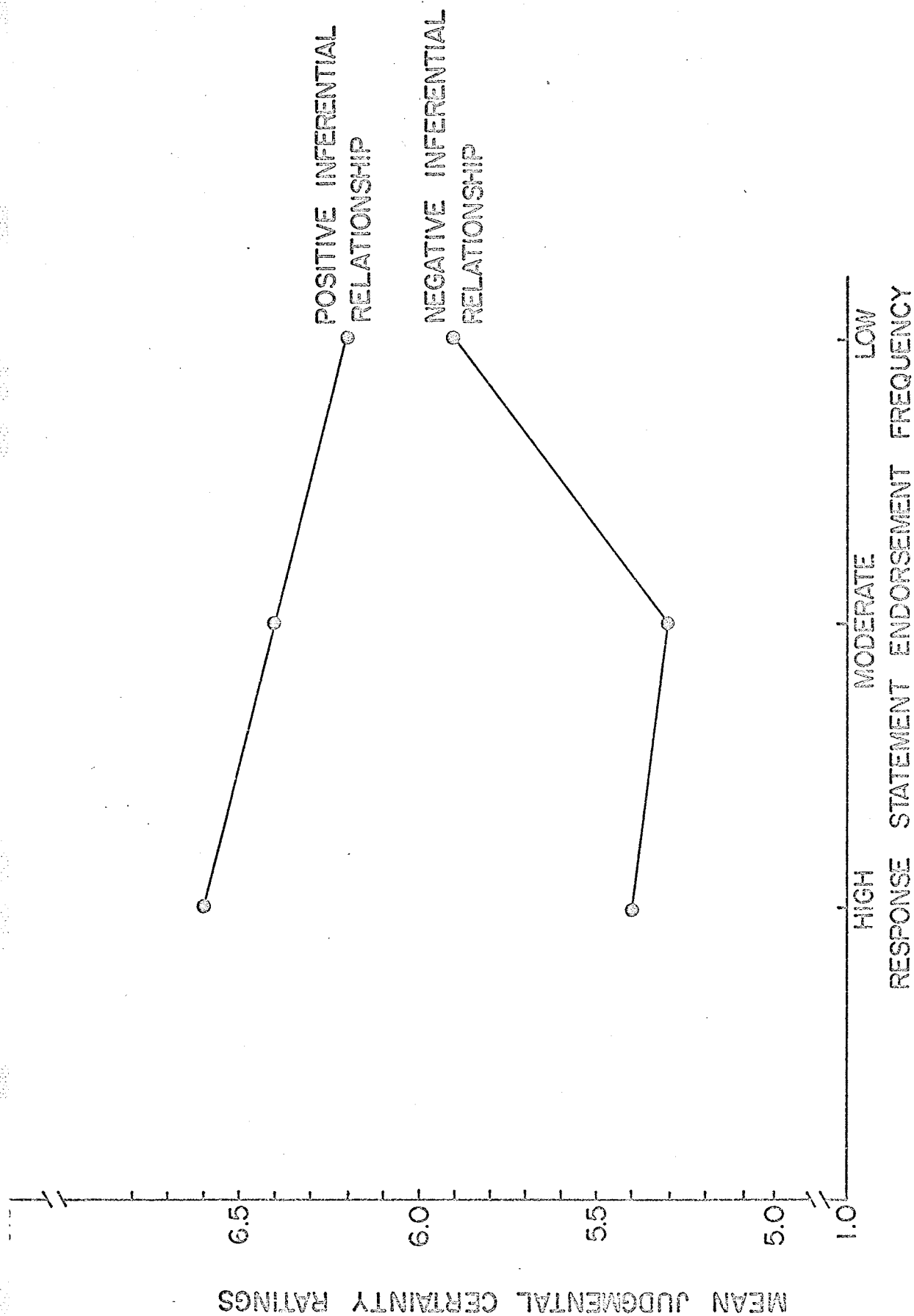


FIG. 3 DIRECTION OF INFERENTIAL RELATIONSHIP BY RESPONSE STATEMENT ENDORSEMENT FREQUENCY INTERACTION FOR JUDGMENTAL CERTAINTY - NINE POINT SCALE

under identical inferential conditions. On the other hand, when the inferential relationship was positive, the reverse was true. Judges expressed greater certainty on statements of high endorsement frequency than on statements of low frequency.

Consistent with expectations, the main effect of target information normality was significant with judges exhibiting greater certainty under conditions of low information than under conditions of moderate or high information ($F = 5.61$, $df = 2, 147$, $p < .01$). The effects of the more informative atypical information apparently pervade other aspects of the inference process, increasing not only the number of inferential predictions, but also the certainty with which such predictions are made. Although the target normality by response statement endorsement frequency interaction did not reach an appropriate level of significance ($F = 2.0$, $df = 4, 294$, $p < .10$), examination of these results suggested that they closely parallel those obtained for trait inference judgments.

CHAPTER VI

SUMMARY AND CONCLUSIONS

Direction of Inferential Relationship vs. Probabilities of Endorsement

Results were interpreted in terms of the conflict-no conflict hypothesis (Lay, 1968). Judges appeared to experience conflict on statements which were negatively inferentially related to the target information, but frequently endorsed by others or, alternately, on statements which were positively inferentially related but infrequently endorsed by others. This conflict resulted in a decrease in the tendency to make a prediction in the inferential direction, and a decrease in judgmental certainty. On the other hand, with statements negatively inferentially related to the target information and infrequently endorsed by others, and with statements positively inferentially related and frequently endorsed by others, inferential and endorsement frequency cues provided consistent information, resulting in more trait judgments and greater judgmental certainty. With response statements of moderate endorsement frequency, more trait inference judgments and greater judgmental certainty were recorded in the positive inferential condition than in the negative, supporting the suggestions made by Lay (1968) and Weidman (1968) that negative inferences are more difficult to make than positive. However, substantiation of the conflict-no conflict hypothesis accentuates the conditional nature of any postulations regarding the sole effects of inferential direction or response statement endorsement frequency variables on judgments about the personality of others. The

implication is clear. Concomitant consideration of these variables is imperative if additional investigations are to be meaningful.

Normality of the Target Information

Subjects made more trait inference judgments and were judgmentally more certain when atypical rather than moderately or highly typical information was presented. Target normality was also found to interact inexplicably with response statement endorsement frequency. On the other hand, no relationship between target normality and "same" scale accuracy or corresponding judgmental certainty was found. Apparently, at least in terms of the dichotomous judgment required in the present study, judges as accurately perceived that the target person possessed a particular attribute, and were equally as certain of these perceptions, at each level of target normality. Nevertheless, normality may well have affected the degree to which the attribute was perceived as characteristic of the target, the low normality target being seen to possess the same trait to a greater extent than the highly typical target. This suggested increase in the perceived degree of possession with a decrease in target normality most likely accounted for the greater number of trait inference judgments and corresponding greater judgmental certainty under conditions of low normality.

In conclusion, target normality was apparently an important variable influencing not only the tendency to make trait inference judgments, but also the certainty with which such judgments were made. The present data suggest that perhaps the more atypical the known characteristics of the target, the more likely are personality judgments to be extended beyond these characteristics.

CHAPTER VII

SUGGESTIONS FOR FUTURE RESEARCH

Inferential Relationships vs. Probabilities of Endorsement

Inferential relationships were defined in terms of probabilities of joint endorsement. Endorsement frequency statistics, on the other hand, are based on the probability of occurrence of a single trait. As indicated, probabilities of occurrence and probabilities of joint endorsement may conflict. In attempting to resolve this conflict, judges perhaps rely on one factor to a greater extent than the other. Future research could be directed at examining which of these variables is emphasized. Furthermore, the effects of these strategies on accuracy in person perception requires investigation, particularly in interaction with situational and target variables. For example, it is quite probable that the optimum strategy may vary when dealing with different societies or cultures. Likewise, one variable may allow for greatest accuracy when dealing with middle aged targets, the other when dealing with children. It should also be noted that an individual's method of resolving this type of conflict (i.e., probabilities of occurrence vs. probabilities of joint occurrence) may be related to his personality makeup. For example, it is not unlikely that abnormal subjects resolve conflict differently than normals. Abnormality may thus be related to inaccuracies in perception resulting from reliance on the "wrong" cues in a given situation.

Normality of the Target Information

Atypical information, due to the proposed increased probability

of outcome associated with it, may be intrinsically more informative than moderately or highly typical information. By confronting subjects with a task similar to that used in the present study, but allowing them to choose information from among statements of high, moderate, or low frequency of endorsement, one could more fully determine the credibility of this hypothesis. For example, if subjects were instructed to choose from among such target statements only a given number on the basis of which judgments were to be made, and were further instructed to choose only those statements which they thought were most informative and allowed for the greatest certainty in judgment, they should choose atypical information significantly more often than typical.

The effects of target typicality may also be assessed within a free response framework. For example, judges could be asked to write character descriptions of target persons who had supposedly answered true to three personality statements selected from three unrelated scales--one statement of high, one of moderate, and one of low typicality. It might be expected that more emphasis in the free descriptions would be given the atypical aspect of the target information.

The target normality variable may further be examined in an interpersonal attraction setting. More specifically, judges could be asked to rate the likeability of targets who had responded true to statements characteristic of both judge and target and of either high, moderate, or low typicality. The atypical target will perhaps be perceived as possessing the common attribute to a greater extent than the typical one. Since

similarity is highly related to attraction (Secord & Backman, 1964), the atypical target may thus be rated as more likeable, although there remains the possibility that extreme atypicality could result in decreased attraction.

Directional Aspects of the Target Information

In the present study, information was presented in the form of true keyed personality statements which the target person had supposedly answered true. Future research could examine directional effects of information by presenting statements which the target person had supposedly answered false. This procedure, somewhat analogous to a negative instance in concept formation (Bourne, 1966), may be considerably more difficult than that employed in the present study. Caution would need to be exercised here to ensure that information presented in this manner is initially correctly received by the judges. Pilot work by the author has suggested that judges experience difficulty, incorrectly encoding such negatively expressed behavioral information.

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APPENDIX A

Analyses of Variance Tables

TABLE I
 Analysis of Variance of the Number of Trait Inference Judgments
 made Within the Experimental Scales Under Conditions of
 High, Moderate, and Low Normality Information

<u>Source</u>	<u>df</u>	<u>MS</u>	<u>F</u>
BT S's	150		
Normality of Information (A)	2	14.37	6.67*
S's W	147	2.16	
W S's	750		
Response Statement Endorsement Frequency (B)	2	23.96	55.17**
AB	4	1.44	3.31*
B x S's	294	0.43	
Positive-Negative Infer- ential Relationship (C)	1	169.00	153.18**
AC	2	0.91	0.83
C x S's	147	1.10	
BC	2	93.53	131.51**
ABC	4	0.48	0.68
BC x S's	294	0.71	

* $p < .01$

** $p < .001$

TABLE II
 Analysis of Variance of the Judgmental Certainty Ratings Within
 the Experimental Scales Under Conditions of High,
 Moderate, and Low Normality Information

<u>Source</u>	<u>df</u>	<u>MS</u>	<u>F</u>
BT S's	150		
Normality of Information (A)	2	2,258.00	5.57*
S'S W	147	405.60	
W S's	750		
Response Statement Endorsement Frequency (B)	2	307.50	17.65**
AB	4	35.00	2.01
B x S's	294	17.42	
Positive-Negative Infer- ential Relationship (C)	1	9,966.00	127.69**
AC	2	147.50	1.89
C x S's	147	78.50	
BC	2	1,195.00	65.07**
ABC	4	15.00	0.82
BC x S's	294	18.36	

* $p < .01$

** $p < .001$

TABLE III

Analysis of Variance of Same Scale Accuracy Scores Under Conditions
of High, Moderate, and Low Target Information

<u>Source</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Normality of Target Information (A)	2	1.17	1.78
W S's	147	0.66	

TABLE IV

Analysis of Variance of Same Scale Certainty Ratings Under Conditions
of High, Moderate, and Low Target Information

<u>Source</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Normality of Target Information (A)	2	105.38	0.54
W S's	147	195.08	

APPENDIX B

Scale Values on Dimension I of the Statement
Inferential Network Mapped by Lay and Jackson (1968)
for both Male and Female Judges

Scale Values on Dimension I of the Statement
Inferential Network Mapped by Lay and Jackson (1968)
for both Male and Female Judges

<u>PRF Scale</u>	<u>Scale Values</u>	
	<u>Male Judges</u>	<u>Female Judges</u>
Affiliation	.40	.77
Nurturance	- .51	- .42
Dominance	- .11	- .30
Harmavoidance	1.42	1.83
Play	1.60	1.84
Exhibition	.86	.76
Achievement	- .95	-1.27
Sentience	.65	.83
Autonomy	- .31	- .27
Abasement	.06	- .09
Impulsivity	1.84	1.82
Social Recognition	-1.29	-1.16
Change	.71	1.22
Social Desirability	- .78	- .89
Understanding	- .59	-1.08
Succorance	.01	.10
Order	-1.18	-1.21
Aggression	.63	.56
Cognitive Structure	-1.47	-1.76
Defendence	.02	.02
Endurance	-1.02	-1.31

*False-keyed statement used.

APPENDIX C

Experimental Materials

TABLE I

Verbatim Instructions for Information Booklets I, II, and III

DEPARTMENT OF PSYCHOLOGY

University of Manitoba

Instructions

This survey is part of a basic research program in personality and the ability to judge the personality of others. Your task will be to predict how others answer various personality statements.

Personality questionnaires have been administered to other university students, including the persons about whom you will be asked to make your predictions. Information about each person to be judged is presented on the following pages. This information is given in the form of personality statements that the person has answered TRUE (e.g., I truly enjoy myself at social functions. T F). Read the statements. Then, with the knowledge that this person has answered TRUE to these statements, try to form an impression of the person. Your task will be to predict how this person answered other personality statements. These statements are found in the response booklet. If you feel that this person answered a statement TRUE then you would circle the T to the right of the statement; if you feel that this person answered a statement FALSE, then you would circle the F. In addition, for each statement, you are to indicate the degree of certainty of your judgment. Use the nine-point scale shown below as a guide in making your certainty ratings. This scale ranges from extremely uncertain (number 1) through to extremely certain (number 9). Thus, if you are extremely certain of a particular judgment, you would place a 9 in the space to the right of the statement, if you are extremely uncertain of your judgment you would place a 1 in the space provided. Please try to use all 9 categories in making your certainty ratings.

extremely
uncertain

extremely
certain

1 2 3 4 5 6 7 8 9

e.g. Loyalty to my friends is quite important to me T F 7

Remember, for each statement in the response booklet you are to predict whether the person answered the statement TRUE or FALSE, and then indicate the degree of certainty of your judgment.

Make certain that the person indicated on the information sheet

TABLE I (Contd)

(e.g., Person B) corresponds to the person indicated at the top of the page in the response booklet (i.e., Person B). When you have finished making your predictions about the first person, go on to the next person. Please make sure that you have rated both persons.

If at any time you do not understand the instructions, please tell the experimenter. If you have any comments or questions regarding the study, please feel free to write them on the back of the answer sheet. We will be glad to discuss them with you. Thank you for your cooperation.

TABLE II

Information Statements for Conditions of High, Moderate,
and Low Normality Information

Target A - High Normality Information (Cognitive Structure)

1. When I talk to a doctor I want him to give me a detailed explanation of any illness I have.
2. I don't enjoy confused conversations where people are unsure of what they mean to say.

Target D - High Normality Information (Play)

1. I love to tell, and listen to, jokes and funny stories.
2. I enjoy parties, shows, games, anything for fun.

Target B - Moderate Normality Information (Cognitive Structure)

1. When I go on a trip I try to plan a timetable for it before hand.
2. When someone gives me street directions I usually ask several questions and repeat the directions to make sure I have everything clearly in my mind.

Target E - Moderate Normality Information (Play)

1. Once in a while I enjoy acting as if I were tipsy.
2. I spend a good deal of my time just having fun.

Target C - Low Normality Information (Cognitive Structure)

1. I plan my work carefully in advance and follow up the plan exactly.
2. I try to organize for my future so that I can tell what I will be doing at any given time.

Target F - Low Normality Information (Play)

1. Things that would annoy most people seem humorous to me.
2. I joke and talk rather than work whenever possible.

TABLE III

Response Statements

Statements Constant Over all Targets

- | | | | |
|---|---|---|-------|
| 1. I like the feeling of speed. | T | F | _____ |
| 2. I won't leave a project unfinished even if I am very tired. | T | F | _____ |
| 3. Outlining a paper or talk has always struck me as a waste. | T | F | _____ |
| 4. I am willing to work longer at something than are most people. | T | F | _____ |
| 5. If I have brought something home, I always put it away as soon as I enter. | T | F | _____ |
| 6. I very much enjoy being complimented. | T | F | _____ |
| 7. I find that I sometimes forget to look before I leap. | T | F | _____ |
| 8. I often get bored at having to concentrate on one thing at a time. | T | F | _____ |
| 9. I follow closely the standards set by others so as not to appear out of line. | T | F | _____ |
| 10. I spend more time than most people do in making sure my clothes are always ready to wear. | T | F | _____ |
| 11. I have, at times, hurt someone unintentionally because I didn't think before speaking. | T | F | _____ |
| 12. I don't like to leave anything unfinished. | T | F | _____ |
| 13. When writing something I keep my pencils sharpened. | T | F | _____ |
| 14. I would never pass up something that sounded like fun just because it was a little bit hazardous. | T | F | _____ |
| 15. Thrill rides at amusement parks seem a little bit tame to me. | T | F | _____ |

TABLE III (Cont'd)

16. I am very careful to select clothes to wear that are harmonious.	T	F	_____
17. If I remove an object from a shelf I always replace it when I have finished with it.	T	F	_____
18. I would enjoy exploring an old deserted house at night.	T	F	_____
19. One of the things which spurs me on to do my best is the realization that I will be praised for my work.	T	F	_____
20. Life is no fun unless it is lived in a carefree way.	T	F	_____
21. I don't mind doing all the work myself if it is necessary to complete what I have begun.	T	F	_____
22. If the opportunity arose, I would learn to ride a surf board in the ocean.	T	F	_____
23. I have often broken things because of carelessness.	T	F	_____
24. I almost always accept a dare.	T	F	_____

"Same" Scale Statements for Targets A, B, and C.

1. My work is carefully planned and organized before it is begun.	T	F	_____
2. It upsets me to get into a situation without knowing what I can expect from it.	T	F	_____
3. Often when I telephone someone, I think about what I intend to say or make a list of things to discuss.	T	F	_____
4. I would never make something without having a good idea of what the finished product should look like.	T	F	_____
5. I don't like situations that are uncertain.	T	F	_____

TABLE III (Cont'd)

6. I keep very close track of my money and finances so that I will know how much I can spend if anything uncertain comes up.

T F _____

"Same" Scale Statements for Targets D, E, and F

1. If I didn't have to earn a living I would spend most of my time just having fun.

T F _____

2. One of my greatest incentives to work is the prospect of a good time when I am through

T F _____

3. I try to make my work into a game.

T F _____

4. I pride myself on being able to see the funny side of every situation.

T F _____

5. I like to go out on the town as often as I can.

T F _____

6. I enjoy children's games.

T F _____