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BALANCE, COGNITIVE TUNING, STATUS AND
POSITIVITY BIAS IN COMMUNICATION
OF IMPRESSIONS

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Abstract

Experiment 1 (n=120) was a 3x2x2 analysis of variance design, investigating the interaction of the effect of cognitive tuning, balance and sex on polarization of personality impressions. While balance variables influenced polarization it did not mask the different polarization effects of the cognitive tuning sets, transmission and reception. The checking of positive traits outstripped the checking of negative traits by a factor of 2.25. Males polarized more than females.

Experiment 2 (n=40) investigated the interaction of tuning, sex and status. Status and sex effects on polarization were significantly different on transmission tuning only.

BALANCE, COGNITIVE TUNING, STATUS AND
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The starting point for this investigation is Feather's (1964a) "Structural Balance Model of Communication Effects." This model is a symbolic representation of the basic unit of the cognitive structure concerned with communication in dyadic interaction. The model takes the viewpoint of one of the people in the dyad. The model incorporates sentiment relations and composite relations of responsibility and identification between the interactants and the issue of communication. Although the model could be called a "normative" one it does have predictive validity. (Feather and Armstrong 1967).

There are 4 elements in this representation of cognitive structure. A "transmitter" (T) who is the "source" of the communication, a "receiver" (R) who is the target of the communication, an "issue" (I) which is the topic of the communication, and then there is the "communication" (C) itself.

When the psycho-logic of the evaluative relationships between the elements are upset, the dyad is defined as unbalanced. The model assumes (after Heider, 1958) that perceived "imbalance" is psychologically discomforting to the interactant, and it motivates him to change the structure by some behavioural act at the actual interpersonal

level (i.e. the nonrepresentational level), to make the structure balanced (at the representational level). Heider gives the formal definition of balance, although I suspect psychologists use their own intuitive psychology to make predictions within the model. Certainly an intuitive grasp of the psychology involved is necessary for the model to be meaningful. Heider considers only 3-element structures in his definition, but the definition is generalizable to n-element structures simply by considering each directly-connected element, in combinations of three. Heider's definition of balance is that for three-element structures, balance exists when;

"all three of the relations are positive or when two of the relations are negative and one is positive. Imbalance occurs when two of the relations are positive and one is negative. The case of three negative relations is somewhat ambiguous." (Heider, 1958 pp.202-203).

Feather says about his model that all relations for each digraph may be predicted using the principle of structural balance (see above) provided that any 3 relations that involve the 4 elements (T,C,I,R) of the communication structure are given.

This cursory explication of the model has set the stage for the theoretical discussion and the experimental situation. However we must also tack in from another point of view, that of cognitive tuning (or sets). Some definitions are in order. "Cognitive Structure", as used here, refers to the way in which a person organises all his cognition, (thoughts, feelings, attitudes, percepts).

"Structure" refers to the relationships between each and every other cognitive element. "Cognitive Tuning" refers to one particular configuration of cognitive elements that is an immediate consequence of, and is, in fact, the perception of the immediate psychological environment. This process also includes the synchronization of the sensory channels, and their selective attention to cues in the environment. Psychological economy requires that all incoming stimuli do not need to be heeded or processed. Both these concepts, "cognitive tuning" and "cognitive structure", are clearly an inference from what is given in any particular perceptual situation and what is represented and related in an output of information about that situation, by a person.

In 1960, Zajonc postulated two types of cognitive tuning sets activated in anticipation of dealing with information; a set to receive information and a set to transmit information.

Zajonc says this about these particular tuning sets:
"When a person primarily anticipates receiving information he may be expected to activate a cognitive structure capable of admitting the incoming information. Concomitant with the anticipation of receiving information is the anticipation of cognitive change. On the other hand, anticipation of transmitting information should activate structures that may serve as a source of potential messages." (Zajonc, 1960 p.161).

Zajonc using formal definitions of properties of cognitive structure, set out "to examine differences in the properties of cognitive structures activated under receiving and transmission tuning." (p.161, 1960).

In general Zajonc found that cognitive structures activated under transmission tuning were; "more rigid, unified and organized" (polarized either positively or negatively), while those activated under reception tuning were more flexible, and less polarized. (p.166).

Cohen (1961) provided further evidence for the validity of these properties of the tuning sets, and in effect, evidence for the existence of these sets themselves. Cohen used contradictory information to maximise the effect of the different tuning sets. He asked his subjects to read a list of 10 contradictory traits and form an impression of the person they described. Half of the subjects were told they had to tell someone about their impressions (transmission tuning), the other half were told they would listen to someone else giving their impressions of the stimulus person (reception tuning). After reading the list of traits, subjects were asked to write a description of the stimulus person. Cohen found that descriptions written under transmission tuning were more polarized (Cohen used ratings), either positively or negatively. Descriptions written under reception tuning were more "balanced" and "integrated". Under reception tuning subjects seemed to suspend evaluation of the stimulus person.

What accounts for this effect? A functionalist approach seems most adequate in answering this question. As Cohen has pointed out, transmission, "requires a tight and well-bound cognitive package which can be communicated to others." On the other hand, in receiving information it is "economical" to expect possible change in the structuring of cognitions in the relevant area.

It is "economical" in that additional information, especially from a well respected source, may necessitate a change in the gestalt or structure of this area. Attitudes seem to be output, or concomitants of the output, from the gestalt or structure. (output here is equivalent to relating self to the objective referent of the gestalt). Also it is an established finding in the area of attitude change, that attitude change is stressful and requires considerable psychological effort. Putting all this together then, if attitude change is to be expected from a change in gestalt, and if this concomitant is stressful and requires much mental energy expenditure, and if change in gestalt or structure is expected then, in the interests of conserving mental energy it would be expedient to inhibit attitude formation until no more gestalt changes are expected. Extrapolating from this we would expect inhibition of outward communication (forming attitudes) while input communication was in progress, not just because of possible interference effects but from the fact that the costs of short-term attitude formation are too high.

Now, having explicated these two separate areas of theory, we can look to their interaction. The polarization or nonpolarization of impressions under cognitive tuning takes place along an evaluative dimension that is highly positive at one end and highly negative at the other end. In absolute terms, polarization of an impression will make it all positive or all negative, nonpolarization will make an impression neither completely positive nor completely negative. Confirmed predictions from balance theory make it clear that perceived evaluation of the issue of communication by the other person in the dyad

influences either one's attitude towards the issue of communication or one's attitude towards the other person. The essential question is; will this balance effect, mask or cancel the different polarization effects of transmission and reception tuning?

In applying the balance model, it is assumed here, that a persons expectancy to communicate with an unknown other is positively unit-forming and will give rise to perceived reciprocal, positive affect.

It is also assumed that in this dyadic communication situation, there is positive unit-formation between each interactant and the communication because for T, it is his communication, and for R because R is committed to hear it.

Given the above relationships, and one person's perception of the other person's evaluation of I, Feather's extension of the balance model predicts the former's evaluation of I.

In terms of hypotheses then, the balance model would predict: that when R's attitude toward I is known (by T), T will modify his communication so as to make it consonant with R's attitude, and that when T's attitude toward I is known (by R), R will modify his attitude toward I so as to make it consonant with T's communication.

It must be noted that the two hypotheses above are not directly tested in this study. However later hypotheses assume these two hypotheses to be true and their validity provides evidence in support of the hypotheses mentioned here.

Where all the above relationships hold, excepting that the other persons evaluation of I is not known by either interactant, the requirements for prediction by Feather's extension of the balance model, are not met.

(these requirements are mentioned above). However, if we make "extra-balance" assumptions, it is possible to predict that the "uncontrolled other person evaluation of I" (U) situation will resemble the "other person likes I" (L) situation more than the "other person dislikes I" (D) situation. Goffman (1959) derived the principle that people tend to assume good faith in other people's "self-presentations." Zajonc (1968) has reviewed the literature concerning a general bias towards positivity in our representations of the environment. From the above we might infer that, in general, people will assume the good intentions of others until they have reason to believe otherwise. Assuming this to be true, then we would predict that the outcome, in situations where "other person evaluation of I" was not specified (U) would be more like the outcome in situations where the "other person likes I" (L) than the outcome in situations where the "other person dislikes I" (D). Therefore the following hypothesis was derived: that the effects of polarization in "uncontrolled other person evaluation of I" (U) conditions will have greater similarity to the polarization effects of "other person like of I" (L) conditions than to the polarization effects of "other person dislike of I" (D).

Cognitive tuning and balance interaction. While it was expected that the different tuning sets would have their distinctive polarization effects when the "other person evaluation of I" was left uncontrolled, it was expected that this effect would be masked by the induced perception of the "other person" "liking" or "disliking" I. It was also expected that where polarization occurred, the

direction of polarization would be determined by the direction in which the other person was perceived as evaluating I. Also it was expected that the overall polarization effect would be increased (i.e. made relatively more extreme) by the perception of the "other person's" evaluation of I. We can state these expectancies in propositional form by the following hypotheses:

While nonpolarization will occur in the reception set this will be masked when the other persons evaluation of I is polarized.

Polarization of impressions will occur under transmission tuning, in the direction of perceived receiver evaluation of I.

The overall polarization of the transmission condition will be increased by the perception of the other person's evaluation of I.

Cognitive Complexity. As mentioned previously, Zajonc (1960) in his original paper on cognitive tuning found that, "transmitters activate cognitive structures which are more differentiated and more complex than those activated by receivers." (1960 p.166). Zajonc also found that the impressions of transmitters were relatively "more rigid" and polarized than those of receivers. (1960 p.161). On the other hand, there is a body of literature summarized by Crockett suggesting that subjects high in cognitive complexity are more likely than those low in cognitive complexity:

"(a) to use both favourable and unfavourable constructs in their descriptions of acquaintances and (b) to entertain the possibility of unbalanced interpersonal relationships among their associates." (1965

While this generalization is not designed to be situation specific or action specific but rather a trans-situational personality trait, it does seem, on the face of it, a contradiction of Zajonc's findings. However on further reflection there is a difference. In reception tuning relative nonpolarization seems to arrive from a "suspension" in judgement. The functional explanation of the "suspension" of judgement in reception tuning as mentioned earlier, is that attitude formation is inhibited until all information is in to save unnecessary change and hence unnecessary effort. It is clear that the requirements of the reception tuning situation underlying nonpolarization here differs considerably from that which underlies nonpolarization in acquaintance description. The former refers more to a process (i.e. tuning), the latter to a structure. We can however test Zajonc's finding that transmitters activate more differentiated and complex cognitive structures. Thus we hypothesize: that transmitters activate more complex cognitive structures than do receivers.

In a monograph entitled, "The Attitudinal Effects of Mere Exposure", Zajonc (1968) says:

"The strength and pervasiveness of the relationship between word frequency and meaning - the evaluation aspect of meaning in particular - is truly remarkable" (p.2).

Zajonc cites the Thorndike - Lorge count (1944).

"...The word "happiness" occurs 761 times, "unhappiness" occurs only 49 times. "Beauty" is to be found at least 41 times as often as "ugliness" and "wealth" outdoes

"poverty" by a factor of 1.6. We "laugh" 2.4 times as often as we "cry"; we "love" almost 7 times more often than we "hate"; we are "in" at least 5 times more often than we are "out".... (p.2).

"While they are unfaithful in representing reality, word frequencies are extraordinarily accurate in representing real values (p.3).

Zajonc reports a correlation between rated occupational prestige of 24 job names and the log frequency of their usage as subjects, (topics). There is a correlation of .33 between "racial-distance quotients" and the usage of the relevant ethnic labels (p.12). Along the same lines, but in interpersonal relations we might expect that people in general, assume the good intentions of others until they have reason to believe otherwise (Goffman). It will be remembered that this postulate was an assumption made in an earlier theoretical prediction. It was hypothesised then:

that there will be a positive relationship between the favourability of the impression of I and a measure of complexity (differentiation) in the subjects impression of I.

We also might expect from the discussion, particularly from Zajonc's findings, that there will be a checking bias towards positively valued traits. We shall hypothesize: that, overall (across all conditions), there will be a tendency to attribute more favourability than unfavourability to I.

Sex differences. The original hypothesis was stimulated by the knowledge of the finding of extreme female response

in another study conducted at the University of Waikato. The interpretation of these findings led to the hypothesis that females tended to perceive things more in "black and white" (i.e. in discrete categories). This author was interested in the generality of this sex difference and in particular, if it extended to personality impression formation (Hamid, 1968). After formulating the simple hypothesis that females would polarize their impressions of a hypothetical person more than males, and after conducting the experiment, it was discovered there was a considerable body of literature on sex differences in response style. This literature was found to be useful in interpreting the results.

Summary of Hypotheses

H1a: That when R's attitude toward I is known, (T) will modify his communication so as to make it consonant with R's attitude.

H1b: That when T's attitude toward I is known, (R) will modify his attitude toward I so as to make it consonant with T's communication.

i.e. in operational terms;

Subjects in other-person-like-of-I condition will check more positive traits than negative traits.

Subjects in other-person-dislike-of-I condition will check more negative traits than positive traits.

H2: That the effects of polarization in "uncontrolled other person evaluation of I" (U) conditions will have greater similarity to the polarization effects of "other person like of I" (L) conditions than to the polarization effects of "other person dislike of I". (D).

i.e. in operational terms;

That there will be no significant differences between U conditions and L conditions, in the difference between the number of positive and negative traits checked, but that there will be significant differences between U conditions and D conditions in the difference between the number of positive and negative traits.

H3a: That while nonpolarization will occur in the reception set this will be masked when "the other person's" evaluation of I is polarized.

H3b: The masking of nonpolarization will be in the direction of the other person's evaluation of I. i.e. in operational terms;

Considering reception conditions only:

(a) that where the other person's evaluation of I is uncontrolled there will be no significant difference between the number of positive and negative traits checked.

(bi) that where the other person's evaluation of I is positive (L) there will be a significant difference between the number of positive and negative traits checked, in the direction of liking I.

(bii) that where the other person's evaluation of I is negative (D) there will be a significant difference between the number of positive and negative traits checked, in the direction of disliking I.

H4: That polarization of impressions will occur under transmission tuning, in the direction of the other person's evaluation of I.

i.e. in operational terms;

considering transmission conditions only:

negative

favourability

(a) that for all transmission conditions there will be a significant difference between the number of positive and negative traits checked.

(b) that where "other person evaluation of I" is positive there will be significantly more positive traits checked than negative traits checked.

(c) that where "other person evaluation of I" is negative there will be significantly more negative traits checked than positive traits checked.

H5: That the overall (across conditions) polarization of the transmission condition will be increased by the perception of the other persons' evaluation of I.

i.e. in operational terms;

that within transmission conditions there will be greater discrepancy between the number of positive and negative traits checked in controlled "other person evaluation of I" conditions (L) and (D) than in uncontrolled "other person evaluation of I" conditions (U).

H6: That transmitters activate more complex cognitive structures than do receivers.

i.e. in operational terms;

that there will be a significantly greater number of traits checked in transmission conditions than in reception conditions.

H7: That there will be a positive relationship between the favourability of the impression of I and a measure of complexity (differentiation) in the subjects impression of that person.

i.e. in operational terms;

that using the ratio of the number of positive to negative traits checked as the index of favourability or unfavourability

to find the 10 most favourable impressions and the 10 most unfavourable impressions to use as a dichotomy of evaluation, there will be more traits checked in the "favourable" than in the "unfavourable" group.

The prediction should also hold using the "other person liking of I" conditions as the index of favourable impressions, and "other person dislike of I" conditions as the index of unfavourable impressions. This holds, given the validity of Hypotheses 1, 3 and 4.

H8: That, overall (across all conditions), there will be a tendency to attribute more favourability than unfavourability to I.

i.e. in operational terms;

that overall, there will be significantly more positive than negative traits checked.

H9: That females will tend to polarize their impressions more extremely than males.

i.e. in operational terms;

that females will have higher discrepancies between the number of positive traits checked and the number of negative traits checked, than males.

EXPERIMENT I

METHOD

Subjects

The groups of subjects consisted of 60 males and 60 females attending the district high school of a town some ten miles or so from Hamilton. They were drawn mainly from the fourth form, although some fifth formers were included. The age range was approximately 13-16 years.

Procedure

All experimental sessions were conducted in the same small class-room within the school, during regular school hours. There were 12 experimental sessions corresponding to the 12 experimental conditions, there being 10 boys or 10 girls in all conditions. The experimenter (E) introduced himself as an honours student who was conducting a project in fulfilment of his thesis requirements, and that he was interested in peoples impressions of others. It was mentioned that not much was known about impressions of people despite its all-pervasiveness in everyday life. Examples of the importance of establishing knowledge in this area were given and E concluded the introduction by pointing to the impression formation that was undoubtedly going on while he was speaking (i.e. impressions formed about E himself). As in Cohen's introduction, the present procedure was designed to raise subjects motivation to perform the experimental task.

Subjects task

All subjects were told by E, "You are going to hear a list of characteristics that apply to someone your age.

What I want you to do is to listen to these characteristics and get a good idea of what kind of person he/she² is. Don't try to relate these adjectives to each other just let them fill out your picture of this person."

Induction of Cognitive Tuning: Those in the transmission conditions were told: "After you have listened to these characteristics your job will be to communicate to other boys/girls who are taking part in this experiment, all you can about Kevin/Jan. These people who should be here in about 5 minutes (at this stage E looked worriedly at his watch) have done the same thing as you are going to do. Those in reception conditions were told: "After you have listened to these characteristics you will receive the impressions about Kevin/Jan from other boys/girls. These boys/girls have also taken part in this experiment. I want you to meet these people and listen to their impressions of Kevin/Jan."

Those conditions which required the induced perception of positive evaluation of Kevin/Jan by the other person in the communication situation were told: "Actually we have found that they tend to like Kevin/Jan." Those conditions which required the induced perception of negative evaluation of Kevin/Jan by the other person were told: "Actually we have found that they tend to dislike Kevin/Jan."

All subjects were then told: "This is not a test of memory or intelligence, and so forth, so don't memorize the list of characteristics. Try to get a general picture of what sort of individual Kevin/Jan is, so that; transmission the other person will be able to understand fully your impressions of him/her,

reception you will be able to understand fully the impressions about Kevin/Jan of the other people. Alright, here are the characteristics." At this point E switched the tape recorder on and a male voice recited the following characteristics in a monotone at 2 second intervals.

very friendly
 extremely generous
 ruthless
 extremely dependable
 overly conceited
 very kind
 scheming
 very cold
 highly loyal
 insincere

After switching the tape recorder off, E went to the door and looked out (to where subjects could not see and where these "other people" would presumably arrive) and while shutting the door, E looked at his watch and then returned to the front of the room. E then said: "It appears these other people haven't arrived - but it doesn't matter yet because there is a little booklet to fill out first." E handed out the booklets and then while subjects filled these in, acted out anxious anticipation of the arrival of these "other people". When everyone had answered their booklets, when the bell for the next period of instruction had rung, (each experimental session coincided with one normal period of instruction) and the "other people still hadn't

arrived, E apologised and said that these people still hadn't come but added (with a note of optimism) that he didn't think it would affect what they had done. Then with a final atmosphere of drama E said this: "There is just one very important thing I must ask of you before you go - it's very important - in fact vital - it is not to tell your friends what has gone on in here just now - not even the fact these other people didn't arrive - or the fact that I went over to the door and looked out to see if they were here. If people ask, just say you had to fill out forms about this person whose characteristics you heard on the tape (enough to satisfy but not enough to give the show away for the asker, and a stock armatarium, a tool, for subjects to rebut inquisitors). This is an extremely important request. If you don't heed it, you will have wasted my time, your time and the schools time. The reason is that I'll be doing the same thing with others in the school and if they know anything about it prior to doing it, it will affect their results. It just takes one of you to be overheard in conversation and it ruins it for everybody. O.K. will you help me in this? (Yes) good." While E was thanking the subjects, subjects were rushing off late to their next lesson.

Rationale

There were several reasons why this later embellishment of the deception was necessary, all relating to the nature of the testing situation. "The other people who were about to arrive" (the others) were necessary because E did not want subjects to believe that "the others"

were pupils in the same school. E's interpretation of the polarization effect in transmission tuning involves an evaluation of self concern in the face to face transmission of information. If "the others" were perceived as fellow pupils of the same school, it was felt that this might detract from the conditions conducive to polarization.

The reason for not debriefing each batch of subjects after their experimental session, and for the dramatic plea for secrecy at the conclusion of each session also relates to the nature of the school situation. Because of time and expense involved, administrative difficulties, and the enormous problem of E standardization, all experimental sessions could not be conducted simultaneously, and in fact extended over 2 days plus one period of the third day. For most part of the day, a school operates as a closed institution. With such characteristics as single authority, tight scheduling of activities, treatment of people as groups rather than as individuals, rationalization of enforced activities under a single rational plan, the school, for the few hours of the day in which it exists, becomes a "total institution". An added feature of such total institutions is the proliferation of an informal social communication network. It was this network E was concerned about, and in particular, the possible feed back through the informal social communication network of the uniformity of the "accidental contingencies" occurring in experimental sessions, the possible deduction from this to infer the deception and so on to the

contamination of potential subjects. Had the deception extended over any appreciable amount of time, the valencies for not discussing this area of subjective uncertainty would have diminished and the deception would have come unstuck.³ As it was it did not come unstuck and it is likely this can be attributed to the success of the plea for secrecy and the length of time over which the experimental sessions continued.

After all experimental sessions had been completed, a cyclostyled debriefing sheet explaining the experiment was distributed among all subjects and a more extensive account was given to teachers.

Description of the measuring instrument

The measuring instrument used in both studies consisted of a quarto-sized booklet. The coversheet was entitled "Impression Formation Data Booklet." Below this was an injunction to the subject not to communicate with his neighbour and spaces for the following demographic variables: name, sex, course (of instruction), and experimental group designation (e.g. group No.3). On page 2 was the title "Adjective Check List" and below, "place a small tick (✓) beside all those adjectives that you think apply to the person you have formed an impression about. (see over the page) e.g. If the adjective "fat" applied, you would put a small tick beside it on the line provided thus: "fat .✓.."

On the following page appeared the 75 most positive and 75 most negative items in the Gough Heilbrun, Adjective Check List. They were arranged in alphabetical order and there were 5 deletions as these adjectives

were considered culturally inappropriate.

Page 4 contained 5 items. 1, was a question checking up on the success of the cognitive tuning induction, and was cribbed from Cohen's 1961 study. Question 2 was also taken from Cohen and was included merely to verify his findings concerning desire for more information, Question 3 was a check on the perception of the other person's evaluation of the subject of communication.

Item 4 required the subject to rate his satisfaction in performing the experimental task on a 7-point scale from "satisfied" to "dissatisfied." Item 5 was open ended and intended for catharsis by the subject and contained the simple directive, "any comments?".

Derivation of the Stimulus Trait List: Cohen used both a high contradiction and a low contradiction list of traits, obtaining greater polarization effects with the high contradiction condition. It was decided that a high contradiction list of traits would be used but that Cohen's "high contradiction" list might not be appropriate to a New Zealand sample as previous work with trait labels in New Zealand has suggested (Hamid 1967). Thus a 7-point Social Desirability Rating Scale of traits including those of Cohen's high contradiction list, was administered to introductory psychology students. It was found that Cohen's list compared very favourably in extremity, with the most extreme traits. What is more Cohen's high contradiction list was not distorted in any direction, that is, the sum of the

mean ratings of the positive traits served to cancel out the sum of the mean ratings of the negative traits. The rating scale for the 30 traits had an overall test - retest correlation of .679 $n=10$. (Spearman Rank Order Correlation Coefficient). However, it was realised that while it is consistent to attribute to one person, traits inconsistent in terms of social desirability, it is not consistent to attribute to one person, logically inconsistent traits. For example, a person can be both intelligent and ruthless but he cannot be both warm-hearted and cold-hearted - at least in naive personality theory. It was felt that logical contradiction might facilitate the polarizing effect in transmission. In an impromptu survey, Cohen's "high contradiction" list was compared with a comparable list containing the most extreme traits in terms of social desirability, for their logical contradiction. Cohen's list was rated significantly more "logically contradictory" than the other list ($\chi^2 = 20.0$ $p < .001$ using the score for the other trait list as E). Considering this and the favourable comparability of the two lists on social desirability, it was decided, in the interests of preserving the conditions supposedly facilitative of polarization, to use Cohen's original "high contradiction" list in this study.

Statistical Analysis

While Zajonc and Cohen used parametric statistics to test the significance of their findings (and hence have assumed the normality of the distribution of their index of polarization), it was decided not to

make this assumption. It is quite possible that organization of cognitive structures along the evaluative dimension is normally distributed. However the findings of Zajonc himself, and his review of the literature mentioned earlier (1968) on the frequency of terms with favourable connotation in communicative and non-communicative behaviour would suggest it wasn't normally distributed. Another reason for not assuming normality is the nature of the index used to estimate polarization which differs from that of Zajonc and Cohen. While Zajonc used card sorting and Cohen used paragraph ratings, I have used an Adjective Check List. The bias of answering sets when using simple response items has been well documented (L.J. Cronbach).

Inspection of the data revealed that there was not enough internal homogeneity to warrant the use of an analysis of variance model, so, a χ^2 one-sample test was used to assess the significance of differences. The .05 level was selected as the region of rejection.

RESULTS

The Post Experimental Questions

Question 1 failed in its intent, although it was taken directly from Cohen's study. Its failure to check on the success of the cognitive tuning inductions was attributed to the lack of the sophistication of the subjects (compared with Cohen's sample of College students) and the possible ambiguity of the question in the light of the complexity of the experimental situation. However, even if the question did adequately measure the subjects perception of this part of the experimental situation and the results indicated that subjects did not perceive the relevant experimental variables, it would not necessarily reflect on the success of the manipulation. If intake of the information necessary to perform the experimental task was received at a less than self-conscious level, the subject would probably not be able to verbalize the cognitive set with which he carried out his experimental task. Question 2 was also taken directly from Cohen's study and was designed to attempt to replicate Cohen's general finding that subjects in reception tuning desired more information than those in transmission tuning, and to see if the other-person's-evaluation-I (Kevin/Jan) affected this result. No significant difference was found between the different manipulations of the variables, sex, tuning, or other-person's-evaluation-of-I. Question 3, checking on success of perceived other-person's evaluation-of-I however, was successful. (Refer to Table 1). A χ^2 one sample test using the mean checking response

for that category as the "expected" value was used to test differences. The "like" category was checked significantly more than average by the other-person-likes-I condition subjects and significantly less than average by the other-person-dislikes-I condition subjects, and not significantly different from a chance outcome by uncontrolled other-person-evaluation-of-I condition subjects.

The "dislike" category was checked significantly more than average by subjects in the other-person-dislikes-I condition, significantly less than average by subjects in the other-person-likes-I condition, and not significantly different from a chance outcome by uncontrolled other-person-evaluation-of-I. The "neither like nor dislike" category produced no significant differences across evaluation conditions. We can, therefore, accept the validity of the induced perception of the other-person-evaluation-of-I where this was controlled. Question 4 required a checking response on a 7-point scale of satisfaction in performing the experimental task. No significant differences between experimental conditions were found on rating of satisfaction.

Main Findings

It will be remembered that polarization was operationally defined as the absolute discrepancy between the number of positive and negative traits checked on the Adjective Check List. The overall results are summarized in Table 2.

TABLE 1
 χ^2 VALUES FOR DIFFERENCES IN
 OTHER-PERSON-EVALUATION-OF-I CONDITIONS
 FOR CATEGORY CHECKING IN
 QUESTION 3

Response Category	<u>Other-person-evaluation-of-I</u>		
	Uncontrolled	Like	Dislike
Like	0.04	5.69 *	6.50 *
Dislike	1.96	4.75 *	13.39 **
Neither	1.47	0.53	0.24

** p < .001 (one-tailed)

d.f. = 2

* p < .01 (one-tailed)

TABLE 2
 MEAN POLARIZATION FOR INTERACTION
 BETWEEN COGNITIVE TUNING, SEX, AND
 OTHER-PERSON-EVALUATION-OF-I.

Cognitive Tuning	Sex	<u>Other-person-evaluation-of-I</u>		
		Uncontrolled	Like	Dislike
Transmission	Male	79.45	94.50	68.70
	Female	83.15	69.80	45.25
Reception	Male	68.90	75.55	52.60
	Female	57.90	58.45	32.00

Note. - N for each cell = 10

Hypothesis 1 predicted that subjects in other-person-like-of-I conditions would check more positive traits, while subjects in other-person-dislike-of-I conditions would check more negative traits.

A χ^2 One Sample Test was used to ascertain the significance of the differences represented in Table 3, using the mean of the two values in each condition as the expected value in both cases. A one-tailed test of significance indicated that for both positive and negative trait checking the observed differences are significant at beyond the .001 level of significance. The fact that these differences are still significant beyond the .001 level when a two-tailed test is used, attests to the highly significant nature of these findings.

Hypothesis 2 predicted that there would be no significant differences in polarization between the uncontrolled other-person-evaluation-of-I (U) conditions and the other-person-positive-evaluation-of-I (L) conditions, but that there would be a significant difference in polarization between the uncontrolled other-person-negative-evaluation-of-I (D) conditions. Reference to Table 2 indicates the mean polarization scores for each evaluation condition, across all other variables: U=72.85; L=74.58; D=49.64. A χ^2 One Sample Test was used to test the significance of the relevant differences. As was predicted there was no significant difference in polarization between U and L conditions ($\chi^2 = 0.040$ n.s.). There was however a significant difference with D conditions as

TABLE 3

The number of positive and negative traits checked in L and D conditions

	<u>L</u>	<u>D</u>	
Positive traits checked	815	603	$\chi^2 = 15.85 *$
Negative traits checked	287	452	$\chi^2 = 18.22 *$

Note d.f. = 1 *p < .001

also predicted ($\chi^2 = 10.85$, $p < .001$ d.f. = 1).

Hypotheses 3 and 4. In their original formulation hypotheses 3 and 4 were operationalised in absolute terms, e.g. Hypothesis 3 stated that "...nonpolarization will occur in the reception set..."; Hypothesis 4 stated that "...polarization of impressions will occur under transmission, in the direction of the other-person's-evaluation-of-I...". It was expected that the overall mean of polarization scores would be close to zero, although on the positive side. Hypothesis 8 indicates we did expect there to be a bias towards the positive attributes, but not so overwhelmingly as it turned out. There was relatively little negative polarization (although it did occur). The negative other-person-evaluation-of-I had the effect of merely depressing (on the whole) positive polarization. Bearing this in mind then, we can examine the direction of the predicted differences. Hypotheses 3 and 4 predicted a differential effect on polarization by the induction of the two different cognitive tuning sets, transmission and reception, where the other-person-evaluation-of-I was left uncontrolled (U). By reference to Figures 1 and 2 we can see that the direction of the difference is in the predicted direction. Using the mean of the opposite condition as the expected value, the χ^2 One Sample Test of significance rejects the null hypothesis that the two scores are from the same population. ($\chi^2 = 4.19$ d.f., $p < .01$ one tailed test). Reference to Figure 2 illustrates the similarity of the difference in polarization between transmission and reception, for both sexes. A higher degree of polarization in the transmission condition than in

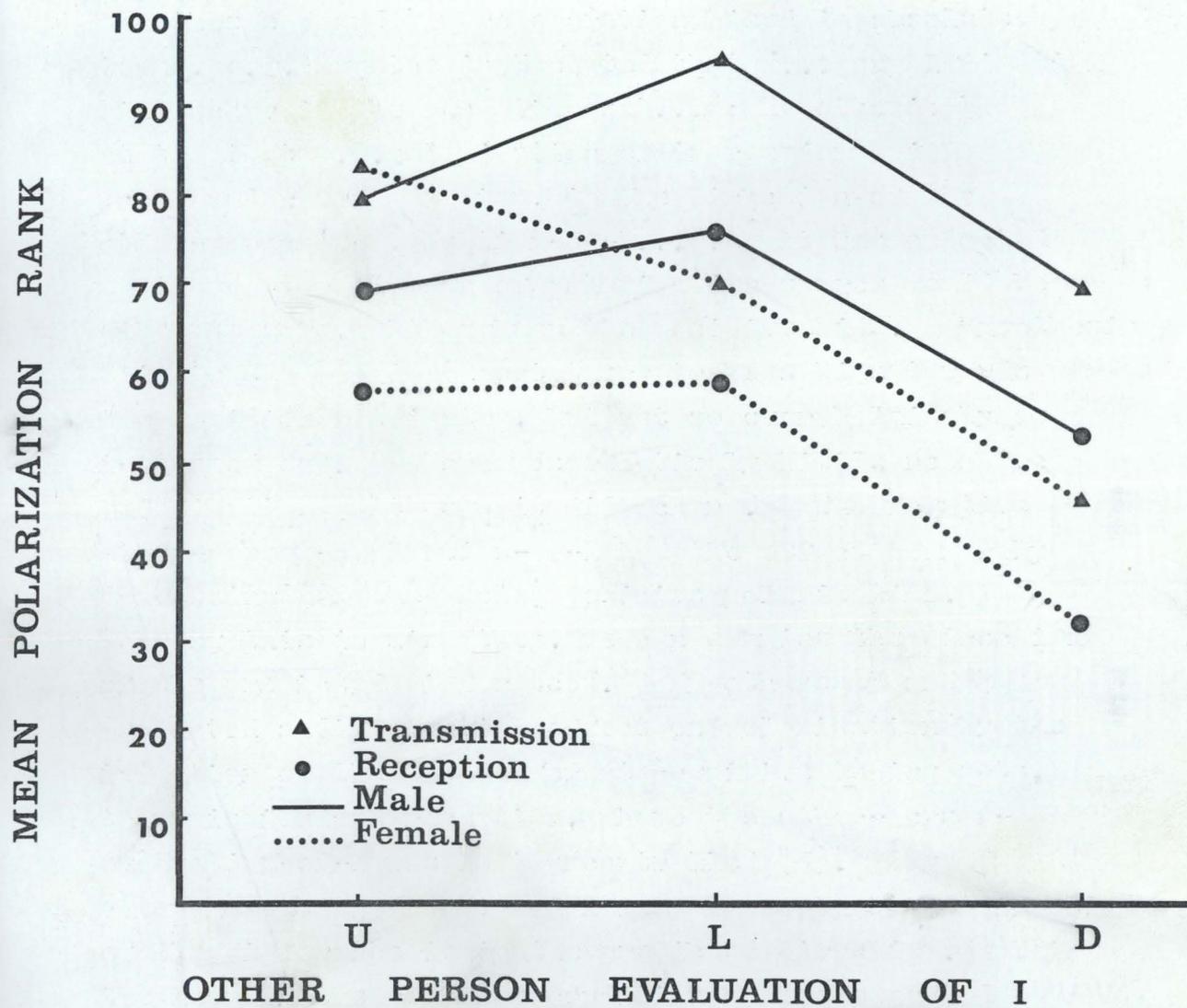


FIG. 1. Mean polarization as a function of cognitive tuning, x, and other-person-evaluation-of-I.

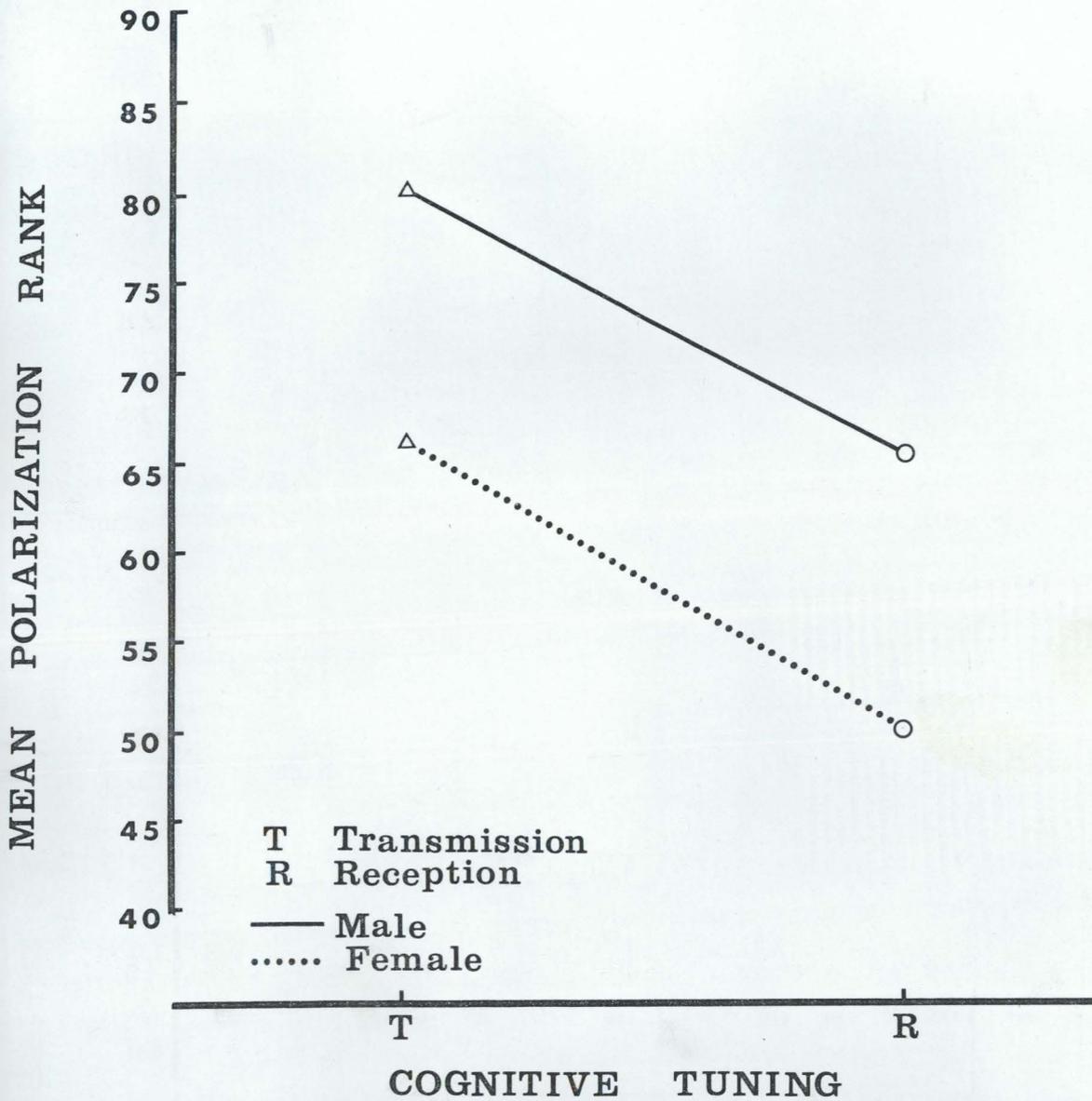


Fig. 2. The overall polarization effect of transmission and reception tuning for males and females

the reception condition was borne out across all other-person-evaluation conditions. In no case, across evaluation conditions, is the transmission polarization smaller than the comparable (for sex) reception polarization. This is quite remarkable considering the considerable fluctuation of polarization across the different evaluation conditions.

Hypotheses 3 and 4 also made predictions concerning the direction of the differences caused by the different other-person-evaluation-of-I conditions. By referring to Figure 1 it is possible to observe that in all cases the mean polarization ranks in the like-other-person-evaluation-of-I exceed the mean polarization ranks in the "dislike" condition, as predicted. Using the comparable opposite evaluation score as the expected (E) value we get the following values for χ^2 One Sample Test.

Male Transmission	$\chi^2 = 9.69$	d.f.=1.,	$p < .001$
Male Reception	$\chi^2 = 10.01$	d.f.=1.,	$p < .001$
Female Transmission	$\chi^2 = 13.32$	d.f.=1.,	$p < .001$
Female Reception	$\chi^2 = 21.86$	d.f.=1.,	$p < .001$

(all tests here one-tailed. $p < .001$ when two-tailed test).

Also in three of the four cases the mean polarization ranks in the "like" condition exceed those in the "uncontrolled" evaluation condition, as predicted (refer to Fig.1). Again, using the comparable opposite evaluation score as the expected value we get the following value for χ^2 One Sample Test.

Male Transmission	$\chi^2 = 2.40$	d.f.=1.,	$p < .01$
Male Reception	$\chi^2 = 0.59$	d.f.=1.,	n.s.
Female Transmission	$\chi^2 = 2.56$	d.f.=1.,	$p < .01$
Female Reception	$\chi^2 = 0.04$	d.f.=1.,	n.s.

(all tests here one-tailed).

Clearly, Female transmission is aberrant compared with the other conditions. It is evident from Figure 1 that the mean polarization ranks for the negative evaluation conditions are smaller than the comparable scores in the uncontrolled evaluation conditions. This was also in the predicted direction. Using the same procedure as previously, the following χ^2 values were computed.

Male Transmission	$\chi^2 = 1.69$	d.f.=1.,	$p < .01$
Male Reception	$\chi^2 = 5.05$	d.f.=1.,	$p < .025$
Female Transmission	$\chi^2 = 31.74$	d.f.=1.,	$p < .001$
Female Reception	$\chi^2 = 24.33$	d.f.=1.,	$p < .001$

(all tests one-tailed $p < .001$ when two-tailed test).

By reference to Figure 2, it is possible to observe the overall effects of other-person-evaluation-of-I.

We get the following χ^2 values for the differences.

Uncontrolled/Like	$\chi^2 = 0.0401$	d.f.=1.,	n.s.
Uncontrolled/Dislike	$\chi^2 = 10.85$	d.f.=1.,	$p < .001$
Like/Dislike	$\chi^2 = 12.53$	d.f.=1.,	$p < .001$

(all tests one-tailed $p < .001$ when two-tailed test).

Hypothesis 5 predicted that the overall (across conditions) polarization of the transmission condition will be increased by the perception of other-person's-evaluation-of-I. This hypothesis, like hypotheses 3 and 4, suffers from the fact that the mean overall polarization was not located near zero. This hypothesis was tested by computing the deviation of the mean ranks for each evaluation condition, from the total transmission mean rank; combining the "like" and "dislike" deviations into a "controlled evaluation" mean; and then comparing this mean with the mean for uncontrolled evaluation. It was found, according to this operation, that the

controlled evaluation conditions polarized more extremely than uncontrolled evaluation conditions as predicted. Using the opposite mean as the expected value a ² One Sample Test proved that this difference was highly significant.

$$\left(\chi^2 = 11.12 \quad \text{d.f.}=1., \quad p < .001, \text{ one-tailed} \right)$$

$$\left(p < .001, \text{ two-tailed test} \right)$$

We may conclude that perceived other-person-evaluation-of-I tends to increase polarization in transmission. Hypothesis 6 predicted that transmitters would activate more complex cognitive structures than would receivers. It will be remembered, that differentiation (number of traits checked) was taken to be the criterion of complexity. It was found that transmitters checked significantly more traits than receivers as predicted.

$$\left(\chi^2 = 120.35 \quad \text{d.f.}=1., \quad p < .001, \text{ one-tailed} \right)$$

$$\left(p < .001, \text{ two-tailed} \right)$$

We may conclude then that transmitters activate more complex structures than do receivers.

Hypothesis 7 predicted that there would be a positive relationship between the favourability of the impression of I and a measure of complexity (differentiation) in subjects impression of that person. It will be remembered that it was decided to use the 10 most favourable and the 10 most unfavourable impression for a dichotomy to test the above prediction. A χ^2 One Sample Test using the opposite category value as E, indicated that the obtained difference was not significant.

$$\left(\chi^2 = 1.04 \quad \text{d.f.}=1., \quad \text{n.s. } \alpha = 0.05 \right)$$

The alternative operationalization of this hypothesis, taking all impressions formed under L conditions as "favourable" and all impressions formed under D conditions

as "unfavourable", was also unfruitful.

Hypothesis 8 states that overall (across all conditions) there will be a tendency to attribute more favourability than unfavourability to I. There is no need to test statistically for the difference between the number of positive and negative traits checked. The checking of positively valued traits outstripped the checking of negatively valued traits by a factor of 2.25. In only one of the conditions (a "dislike" condition) did the total number of negative traits checked exceed that of positive traits.

Hypothesis 9 predicted that females would tend to polarize their impressions more extremely than males. At first glance (see Figure 2) it seems that the prediction is not only disconfirmed but contradicted, a difference in the opposite direction. A χ^2 One Sample Test, using the other-sex score as the expected value reveals that this difference is not significant.

($\chi^2 = 3.97$ d.f.=1., n.s.)

However closer examination reveals something more complex, (see Figure 1). In the uncontrolled evaluation condition, the mean polarization rank for females is 83.15 compared with 79.45 for males, a difference that is not significant. ($\chi^2 = 0.17$ d.f.=1). In female transmission, controlling other-person-evaluation-of-I reduces polarization considerably. Female reception however, resembles more closely the profiles of male reception and to a lesser extent, male transmission. It seems that sex differences in polarization under reception tuning are mainly quantitative, the profiles resembling each other across the different other-person-evaluation-of-I conditions. However, under transmission tuning, there is little resemblance in profiles of male polarization and female

polarization.

It appears from Figure 1 that controlled other-person-evaluation-of-I serves to decrease the polarization differences of transmission and reception tuning for females while the opposite effect is observed for males.

($\chi^2 = 4.44$ d.f.=1., $p < .05$ two-tailed).
However when other-person-evaluation-of-I is not controlled, females show greater transmission-reception differences in polarization than males.

($\chi^2 = 15.29$ d.f.=1., $p < .001$ two-tailed).

Status and Cognitive Tuning

Cohen (1961) stressed caution in generalising from his results that suggested transmission tuning led to greater polarization of impressions than reception tuning. He says:-

"The proposition that transmission tuning leads to greater polarization might not hold true if it involved the expectation that the individual would have to transmit information to respected or well informed persons....."

Experiment 2 attempts to investigate this caveat.

In dyadic interaction it is to be expected that status will be an important determinant of how the interaction will be executed. From a functional viewpoint, that of maintaining status differences, it must be clear to both interactants, each others reinforcement pattern, the pattern being culturally prescribed for a given status position. It is the dynamics of dyadic interaction that serve to maintain or change a given status relationship. The interpersonal interaction within the dyad can be conceived of as communication, at a less than explicit level, and seemingly irrelevant to the instrumental purpose for which the interaction was initiated. Although the details are expected to vary from one dyad to another depending on status, content of communication, and the idiosyncracies of the interactants, there seems to be an "accounting" process of how the interaction is going. It seems that, depending on the actual balance in the account and the culturally expected balance according to status differences, the interactants will present "self-images" (Goffman) designed to move the balance

to the culturally expected ratio, and so maintain the status quo. While much of the information needed for this accounting process will be gained from "proxemic" (E.T. Hall, The Silent Language and Proxemics 1965 - for review see Current Anthropology), dress (Hamid, 1969) and gestural cues, it is expected that, both interactants but particularly the low status interactant, will also see himself being evaluated in the light of what he says in the instrumental communication. It was expected that different status relationships in the dyad will invoke different tuning or organizing sets in the cognitive structures of the interactants. It was also expected that these different status tuning sets would interact in some unpredicted way with the sets of transmission and reception tuning. Experiment 2 was designed to test these two last propositions. It must be noted that in operationalization of the high status conditions, two possible sources of status evaluation concern were confounded. It is likely that a "Professor of Psychology" (high status) would not only be perceived as having high social status in general societal terms, but also as having peculiar competence in judging people. Both of these attributes, it was expected would facilitate self evaluation concern. In summary then, the following hypotheses were subjected to empirical test.

H10: That in a dyadic situation, the expectancy of communication (transmission and reception) with a high status other person will induce a suspension of evaluation (i.e. less polarization) that will not be found when the other person is perceived as having equal or lower status.

i.e. operational terms.

subjects in high status other person conditions will show less discrepancy in the number of positive traits checked and the number of negative traits checked than subjects in low status other person conditions.

H11: That status tuning will interact with transmission tuning in a different way from interaction with reception tuning.

i.e. in operational terms.

there will be significant differences between the interaction of status tuning and transmission tuning and status tuning and reception tuning.

EXPERIMENT II

METHOD

Subjects

Students in the vicinity of the University of Waikato Library at the time of each experimental session were recruited to take part in an "interesting experiment in impression formation". No students enrolled in a psychology course were included, for two reasons - possible familiarity with the "Professor of Psychology" and possible sophistication in participating in psychology experiments. Both these reasons relate to the author's interpretation of the polarization effect, that is, self-evaluation concern. There were 8 groups of 5 subjects for all conditions. Each condition (or cell) was at the intersection of one of the three possible alternatives for each variable controlled, that is, sex (male or female), tuning (transmission or reception), other person status (Professor of Psychology, high, fellow student, low).⁴

The Setting

Three small adjacent rooms in a building containing lecturers offices were involved. The room mainly used, except for the Human Relations Area File, some chairs, a desk and a table, was otherwise unoccupied. The adjacent room in one direction was the Professor's of Psychology study, the adjacent room in the other direction a lecturer's study which was borrowed for the testing.

Procedure

Having recruited subjects, this same sexed group of 5 were led from the library to the experimental building. If the group of subjects was in one of the

high status other person conditions, they were shown the door of the Professor's of Psychology study (which incidently had the appropriate title on the door i.e. "Professor of Psychology", and were told that they would have to go through this door later, so they were to remember where it was. If the group of subjects were in one of the low status other person conditions they were shown the door of the other study and likewise told that they would have to go through it later, so to remember where it was. All groups of subjects were then led into the room between the two studies mentioned above for the main induction. When all subjects were seated E introduced himself and said that a number of people in the Psychology Department were conducting an investigation into impression formation. Otherwise the introduction was the same as in Experiment I. This change was made so as to make it appear to subjects that they really would be going in to see others and that it was not just a ruse, as in fact it was.

All subjects were told: "You are going to hear a list of characteristics that apply to a fellow student. What I want you to do is listen to these characteristics and get a good idea of what kind of person he/she (depending on whether the group was male or female) is. Don't try to relate these adjectives to each other, just let them fill out your picture of this person.

Induction of Tuning and other person status

Those subjects in the high status other person conditions were told: "After you have done this you are to go next door that way (E pointed in the direction of the Professor's study) where the Professor of Psychology is waiting...."; subjects in transmission were told, "to hear your impression of Kevin/Jan"; subjects in reception were told, "to give you his impression of Kevin/Jan". Those subjects in the low status other person conditions were told: "After you have done this you are to go next door that way (E pointed in the direction of the other study) where this student is waiting...."; subjects in transmission were told, "to hear your impression about Kevin/Jan"; subjects in reception were told, "to give you his impression of Kevin/Jan", as in the high status other person conditions. If subjects were not clear as to the instructions particularly which student was which, the instructions were repeated until all were satisfied. "Right, here are the characteristics". E switched on the tape-recorder, which recited the contradictory traits. The same tape as used in Experiment I was used here. When the ten traits had been recited, E switched the tape-recorder off and said, "Now just before you individually go next door there is a little booklet I would like you to fill out first". At this point booklets (that had previously been kept out of sight) were distributed and filled in by subjects.

While subjects were filling in the booklets, E went to the appropriate study for that condition and carried out a conversation with a stooge, which could be heard through the wall by the subjects. The conversation was brief and concerned the co-ordination of the supposed next part of the experiment, that is, the communication with the other person. This was done to reinforce the reality of the next part of the experiment to subjects. The following communication was directed to the subject first to finish his/her booklet; "Have you finished? - (word or gesture of assent by subject) - good, would you like to come through first". E led this subject, after leaving the room and shutting the door, not to the relevant study, but further down the passage, where E briefly informed subject of the deception. The subject was told that in actual fact he/she was not going through to meet the student or the Professor of Psychology, depending on the condition, but that subjects were made to believe that they were going to do this because this experiment involved the study of the distorting effect of expectations. The subject was told that he/she had been brought out to maintain the deception for the others while they were still filling out their booklets. When the others were finished, he/she would be called back and the whole experiment would be explained to them. When everyone had finished and all the booklets had been collected, the first subject finished, was called back into the room for the group debriefing and explanation.

An interesting observation was noticed during the debriefing of the deception, both for the first subject finished and the group as a whole. Those subjects in both the high status other person and transmission conditions interaction showed distinct behavioural manifestations of tension release after being told of the deception, whereas subjects in other conditions did not show this kind of reaction but rather, simple surprise. The behavioural manifestations of tension release included sighs, increased diffuse motor activity such as moving around on their chairs and then assuming a more relaxed pose in their chairs and also laughing. The behavioural manifestations of surprise were smiles and looking at each other, although this latter indication might be interpreted as tension release.

All groups were asked whether any subjects "saw through" the deception and none answered in the affirmative. As in the earlier experiment a plea for secrecy was emphasized in the same manner and subjects were thanked for their co-operation. The measuring instrument was the same as used in Experiment I.

Stimulus Trait List: - as mentioned previously this was the same as that used in Experiment I - in fact the same recording was used.

Statistical Analysis: - as in Experiment I a χ^2 One Sample Test was used for the same reasons as mentioned in Experiment I.

RESULTS

The Post Experimental Questions

As in Experiment I, Question 1 failed to check on the success of cognitive tuning induction. In Experiment I this was attributed to the lack of sophistication of the subjects and possible ambiguity in the question. In this case the subjects were University students so that lack of subject sophistication can possibly be ruled out and the ambiguity of the question must be emphasized. That the question does reflect the success of the manipulation can be ruled out because of the kind of difference in the measurement of the dependent variable found between conditions. Question 2, as in Experiment I, but in contrast to Cohen's findings, no significant differences between transmission and reception were found in desire for more information. However, subjects in low status other person conditions desired more information than high status other person conditions.

$$(\chi^2 = 5.3 \quad p < .05)$$

As in Experiment I no significant differences were found between conditions on the 7-point rating scale of satisfaction in performing the task.

Main Findings

The overall results are summarized in Table 4.

TABLE 4
 MEAN POLARIZATION FOR INTERACTION
 BETWEEN COGNITIVE TUNING,
 SEX, AND
 OTHER-PERSON-STATUS

Cognitive Tuning	Sex	<u>Other-person-status</u>	
		High	Low
Transmission	Male	25.10	18.80
	Female	19.60	9.20
Reception	Male	20.70	24.20
	Female	22.10	24.30

Note. - N for each cell = 5

It will be remembered that there were two competing hypotheses, one predicting lower polarization in high status other person conditions than in the low status other person conditions. The other predicted no difference in polarization between different other person status conditions. By referring to Figure 3 we can see that the answer is not a simple one. The greater polarization in high rather than low status other person conditions within transmission tuning is significant.

$$(\chi^2 = 4.33 \quad p < .05)$$

The difference in the opposite direction within reception tuning is not significant however.

$$(\chi^2 = 0.04)$$

It appears that the two competing hypotheses weren't the only ones in the running as they were both disconfirmed. For transmission tuning at least, it seems that a high status other person induces more polarization on the subject than a low status other person. However, a break-down by sex is more illuminating, (see Fig. 3). Here it seems that transmission tuning allows the differences in the variables of sex and other person status their full effect on polarization, while reception tuning is not facilitative of these difference effects on polarization. From Figure 3 it is clear that high other person status induces greater polarization than low other person status, for both sexes, but only in transmission tuning.

$$(\chi^2 = 4.91 \quad p < .05).$$

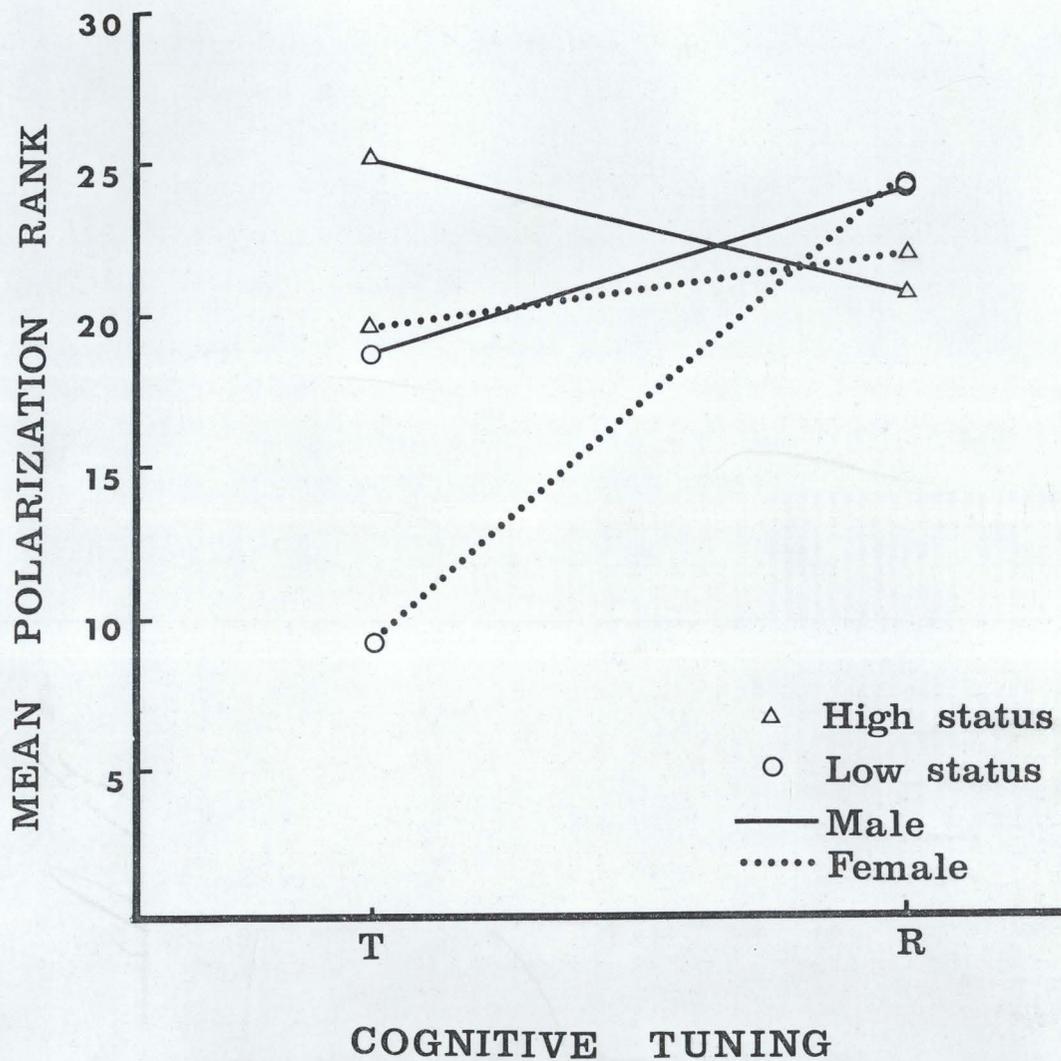


FIG.3. Mean polarization as a function of cognitive tuning, sex, and status.

Within Transmission. For males the higher polarization with high other person status in comparison with low other person status difference is not significant

$$(\chi^2 = 2.11 \quad p < .20 \text{ two-tailed})$$

although it is in the right direction. For females the higher polarization with high other person status in comparison with low other person status difference is highly significant.

$$(\chi^2 = 11.75 \quad p < .001)$$

As is made clear in Figure 3 there are no significant differences in reception tuning. Figure 3 also points up a sex difference in transmission that holds on both high and low other person status. Within high status other person conditions the difference in polarization between males and females is, however, not significant,

$$(\chi^2 = 1.54 \text{ n.s.})$$

although the difference in the same direction within low status other person condition is highly significant.

$$(\chi^2 = 14.63 \quad p < .001 \quad \text{d.f.}=1 \text{ two tailed})$$

Overall Differences. There was no significant difference between the overall polarization score of males and females although the difference was in the same direction as found for Experiment I. However, in transmission, the overall sex difference in this direction is significant.

$$(\chi^2 = 4.94 \quad p < .05 \quad \text{d.f.}=1 \text{ two-tailed})$$

Summary. It seems then, that differences in the other person's status do not affect the formation of impressions when the subject takes a passive role in the communication

process (i.e. when the subject is a receiver). However, when the subject takes an active role in communication (i.e. when the subject is a transmitter) the variable of the other person's status does not affect his impression of the issue of communication. What is more the status of the other person in the dyad has a different effect on the male subjects impressions of the female subjects impressions. At least we can say that females polarize their impressions less than males in transmission, and less than the average degree of polarization in reception tuning.

DISCUSSION

The fact that the differential polarization effect operated consistently across all other-person-evaluation-of-I conditions attests to the potency of the organising function of transmission and reception tuning. (See Figure 1). It is also clear from the same Figure that perceived other-person-evaluation-of-I does influence both transmitters and receivers in the direction predicted by balance, but differently according to sex.

These findings have some definite implications for balance theory. When the balance model is used to describe interpersonal processes, rather than the cognitive structure concerned with interpersonal processes, the tuning effects in communication must be taken into account. We would expect that this qualification would have important consequences where a quantitative approach was taken (Cartwright and Harary, 1956), and where the communication pattern in a given interpersonal situation was asymmetrical. For example,

we would expect that a person who didn't speak much in a group discussion of a particular person, would hold a less evaluatively polarized opinion than a person who spoke a lot. We have here a classical chicken-egg problem - does a person not say much because he doesn't feel strongly about it, or, does he not feel strongly about it because he hasn't said anything about it (and publicly committed himself to a particular viewpoint). Another important implication of this study is the possible distortion effect of our measuring instruments (a problem also found in physics). All our psychological instruments require an output of information from the subject. The subject is required to transmit a response to a request for some specific information. This distortion would not be a serious confounder if it operated consistently for all subjects in all areas of cognition. However, as Figure 2 illustrates, males polarize more than females in transmission of personality impressions. Assuming the generality of this finding, we would expect this sex difference to have important consequences, for quantitative predictions at least, of the balance model.

Reference to Figures 1, 2 and 3 indicates that on the whole, females polarize less than males. Also it seems that in Experiment I, apart from the aberrant female transmission score, sex differences in polarization are mainly quantitative, the profiles resembling each other across the different other-person-evaluation-of-I conditions. It will be remembered that the stimulus trait list that was used in this study was considered

contradictory in terms of both social desirability and meaning. The subsequent polarization scores may be considered in terms of resolution or irresolution of this ambiguity. Alternatively, Lynn (1962), considering socialization, has suggested the following hypotheses: that females would demonstrate greater need for affiliation than males, and that females would be more receptive to the standards of others than males. Whether this study is classified as a cognitive, or a behavioural manipulation of an interpersonal process, seems to favour one explanation over the other. If it is regarded as a cognitive study then the intolerance of ambiguity hypothesis is preferable, but if it is regarded as a behavioural study then it seems that the acquiescence hypothesis is preferable. It is likely that this study confounds the cognitive and behavioural approaches.

In regard to female transmission, the favoured explanation determines which of the three other-person-evaluation-of-I conditions require explaining. If "intolerance of ambiguity" is favoured the U score is explained as follows: assuming that U conditions are more ambivalent for the subject than L and D conditions, assuming transmission tuning makes inconsistency salient, and assuming that females have a lower threshold for intolerance of ambiguity than males, then we would expect that the score representing the interaction of the variables, transmission tuning, female subjects and uncontrolled-other-person-evaluation-of-I would be relatively polarized. If the acquiescence hypothesis is favoured, then the L and D scores are explained as follows: the relative nonpolarization of female transmission, where other-person-evaluation-of-I is known, appears to represent an acquiescence to the opinions of others. These

interpretations are open to empirical test.

The confirmation of hypothesis 2, that U conditions are more like L conditions than D conditions in polarization, coupled with the finding for hypothesis 8, that overall, there was a tendency to attribute more favourability than unfavourability to I, provides evidence to justify the extension of the "positivity bias" to interpersonal relations. However, the explanation of this bias in interpersonal relations is expected to be different from the explanation of the same bias outside the interpersonal area. While it seems that the positivity bias outside the interpersonal area is an expression of the valuation of a given structure, (Zajonc, 1968, p.3) it seems that the positivity bias within the interpersonal area is the concomitant of a particular interpersonal strategy or modus operandum, i.e. the assumption of good faith, until proved wrong in interaction with strangers. It may be that this interpersonal strategy assumes the importance of a universal norm.

What was not investigated here is the interesting question of whether communicants in a dyad prefer talking favourably or negatively about a person. Natural observation would suggest greater satisfaction from emphasis in discussion of I's bad points rather than his good points. Theoretically, one might expect the same observations; it seems that there is a social comparison process operating here that involves the "self". (Used in Secord's (1969) sense). One would predict that when interactants and low self-concepts, greater enjoyment would be gained from discussion of I's good points; whereas when the interactants had high

self-concepts greater enjoyment would be gained from discussion of I's unfavourable points. When interactants differed greatly in self-concept the outcome is less clear but one would expect the low self-concept interactant to submit to the higher self-concept interactant's deprecation of I.

Now to consider Experiment II and the effects of status tuning on transmission and reception tuning. It is clear that hypothesis 10 was contradicted (not just disconfirmed), and the finding is more informative because of it. The following assumptions underlay the original prediction: (a) that subjects wished to appear in a favourable light to the other person, especially if the other person had high status. (b) that subjects wished to appear "intelligent" rather than "consistent" (if these two can exclude themselves and considering the experimental situation it is likely) to the other person (especially if the other person was high status and more particularly because the high-status-other-person was a Professor and the subject a student). (c) that subjects would think that the other person would think intelligent people didn't polarize their impressions of people. Of these assumptions "(c)" is perhaps the most dubious, and probably the confounder of the prediction. If the subjects thought it was desirable to appear consistent (in the aim of appearing intelligent to the other person, assuming that students wish to appear intelligent to Professors) then we would expect him to polarize his impression of I, and so predict the actual outcome. However, the question remains open; was it the theory, the operating assumptions or its operationalization that was wrong? There is a fourth possibility

that neither of these are wrong but what is needed is a qualifying statement.

The prediction that status tuning would interact with transmission tuning in a different way from interaction with reception tuning was nevertheless confirmed. It seems that only under transmission tuning are differences in other-person-status salient. Returning to the original theory we find an explanation why. It was stated earlier, in the theoretical discussion leading up to the derivation of the hypotheses, that one of the sources for evaluative information for the interactants, in the dyad, was the others information transmitted in the instrumental communication. That is, a person only gives information about himself away when he is active in the dyad. There is an old adage that "people only know that you are a fool when you open your mouth". In transmission tuning T is expecting to be active in communicating his information, or rather opinion, about I and so give information to R about himself whereas in reception tuning R is expecting to play a passive role in communication and so does not give information to T about himself. Status evaluation concern (anxiety is too strong) is then, activated in transmission but not in reception. This explanation also fits in with the natural observation by E of subject's response to debriefing of the deception. Only those subjects in the transmission, high-status-other-person condition showed obvious signs of tension release.

Cohen's (1961) explanation of the communication sets, along functional lines is highly plausible. However, Experiment II indicates that this is at least, not a

sufficient explanation. It seems that the postulation of a dynamic of self-evaluation concern, might more adequately explain the experimental findings. In addition to the experiments reported here, it is pertinent to mention, that in an earlier study the author conducted, where the writing of a paragraph was taken as transmission, there was no difference in polarization when the receiver's status was manipulated. The failure to elicit differences in relation to differential receiver status was attributed to the subjects anonymity. In other words subjects did not have to identify themselves by putting their names to the booklets, and so as they were not going to be individually identified subjects felt no self-evaluation concern. Providing this explanation of null results in the earlier experiment is correct, we have support for the dynamic of self-evaluation concern as an explanation of differences in the polarization of communicated impressions.

Had we been able to include the variable status in Experiment I, we could have examined the hypothesis that reciprocity will not be so important in unequal status relationships. Actually we have here 2 competing hypotheses. From the balance view-point, if an unequal status dyadic relationship can be translated into a negative unit-formation relation, then we would expect that divergence of relations in regard to I would be less important than in equal status dyadic relationships. This prediction of lessened reciprocity in unequal status relationships is also derivable from the findings of

sociometry, in particular the lack of reciprocity in sociometric choices of "stars" and their choosers. On the other hand we might expect this lack of reciprocity in unequal status relationships to be masked by that great hypothesis leveller, interpersonal etiquette. In other words we might expect a positive unit-formation relation between the two interactants from the simple act of having to communicate and maintain "self-images" throughout the duration of the communication. (Goffman 1956). We might also expect that this reciprocal respect for each other's self-presentations (Goffman 1956) to be facilitative of finding common ground (an area of agreement) so that the communication can be executed with a minimum of psychological discomfort. This all seems reasonable. We might also expect that a feeling of deference experienced by the low status person in the unequal status dyad, might facilitate attitude change in the direction of the attitudes held by the high status person. This prediction rests on the nature of unequal status relationships, but so does a contradictory prediction. That the social distance perceived between the two interactants by the low status person, would inhibit attitude change in the direction of attitudes held by the high status person. Clearly this outcome is implied by the original prediction, i.e. that reciprocity will not be so important in unequal status relationships. Empirical work on these theoretical relationships would prove illuminating.

CONCLUSION and SUMMARY

It is clear that the seemingly powerful variable of evaluation in the balance model of perceived interpersonal interaction does not cancel the seemingly subtle effects of the cognitive tuning sets of transmission and reception in dyadic communication. It does appear however that for status effects to be operative, it requires the low status person to be active in the dyad (transmission tuning). It appears that people tend to be biased towards favourability in evaluating others. This may be just a specific occurrence of a general set held by people to perceive their environments favourably, or, it may be a cultural (perhaps universal) norm of interpersonal etiquette, or, it may be a concomitant of psychological economy in executing dyadic communication with minimum discomfort.

Two important implications of this study were outlined. Where the balance model is applied to actual interpersonal processes, the tuning effects in communication must be taken into account. It seems that this qualification will be most salient where a quantitative approach is taken and where the communication pattern in a given interpersonal situation is asymmetrical. Also this study indicates that a distorting factor which seems to operate when a person expects to transmit evaluative information, does not operate consistently for at least one important demographic variable, sex. Depending on the generality of this finding, the polarization effect of transmission tuning has important implications for psychological measurement.

It seems that the "self-process" (self concept, behaviouristically defined) is an important explanatory tool in a number of the observed effects reported in this study. Goffman's (1959) study on "the presentation of self in everyday life" seems to be too useful to be overlooked by workers in social interaction and communication. Also the usefulness of the functional approach is underscored in this paper.

REFERENCES

- ARMSTRONG, W.D. Unpublished study. University of Waikato, 1969.
- CARTWRIGHT, D. and HARARY, F. Structural balance: a generalization of Heider's theory. Psychological Review, 1956, 63, 277-293.
- COHEN, A. R. Cognitive tuning as a factor affecting impression formation. Journal of Personality, 1961, 29, 235-245.
- CRONBACH, L. J. Response sets and test validity Educational Psychology and Measurement, 1946, 6, 475-494.
- CROCKETT, W. H. Cognitive complexity and impression formation. In B.A. Maher (Ed.), Progress in Experimental Personality Research, Vol.2, 65-68, 1965, Academic Press, New York and London.
- FEATHER, N. T. A structural balance model of communication effects. Psychological Review, 1964, 71(4), 291-313.
- FEATHER, N. T. A structural balance approach to the analysis of communication effect in L. Berkowitz (Ed.), Advances in Experimental Social Psychology, Vol.3, 100-159, 1967, Academic Press, New York and London.
- FEATHER, N. T. and ARMSTRONG, D. J. Effects of variations in source, attitude, receiver attitude, and communication stand on reactions to source and content of communications. Journal of Personality 1967, 35(3), 435-473.
- GOFFMAN, E. The Presentation of Self in Everyday Life, Doubleday and Company, Inc. 1959.

- GOUGH, H. G. and HEILBURN, A. B. The Adjective Check List Manual, 1965, Consulting Psychologists Press.
- HALL, E. T. Proxemics. Current Anthropology, April-June, 1968, 9 (2-3).
- HAMID, P.N. Social distances and stereotypes in characterizing university students. N.Z. Journal of Educational Studies. 2(2), 148-154.
- HAMID, P.N. Implicit Personality Theories. Unpublished M.A. thesis. Victoria University of Wellington, 1969.
- HEIDER, F. The Psychology of Interpersonal Relations. John Wiley and Sons, Inc. 1958.
- LYNN, D. B. Sex-role and parental identification. Child Development, 1962, 33, 555-564.
- SECORD, P. F. Consistency theory and self-referent behaviour. In R.P. Abelson, et.al. (Ed's) Theories of Cognitive Consistency: A Sourcebook. Rand McNally and Company, Chicago, 1968, 349-354.
- SIEGEL, S. Nonparametric Statistics for the Behavioural Sciences. International student edition, McGraw-Hill, 1956.
- ZAJONC, R. B. The process of cognitive tuning in communication. Journal of Abnormal and Social Psychology, 1960, 61, 159-167.
- ZAJONC, R. B. Attitudinal effects of mere exposure. Journal of Personality and Social Psychology Monograph, 9(2), Part II, June, 1968.

FOOTNOTES

- 1 The author is grateful to P.N. Hamid for his advice and suggestions.
- 2 Each single-sexed batch of subjects formed impressions of a person of the same sex, and the persons that the subjects expected to meet were also of the same sex.
- 3 Had the deception come unstuck, an outcome for which E was quite prepared for, E would have continued experimentation with the "as if" instruction.
- 4 It was recognised that both these categories, "Professor of Psychology" and "university student" would both probably rate towards the high end of a social status scale. However, within the university setting, the relative status difference would become most pronounced. All that was required for this study was a perceived difference of status, polarities were not required although their use could well provide interesting results in a later study.