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THE EFFECTS OF SALIENCE AND OBJECT PERSON CHARACTERISTICS ON THE COMMUNICATION OF PERSONALITY IMPRESSIONS

by

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ABSTRACT

The present experiment used the impression communication paradigm (ICP) to investigate the effects of salience and object person characteristics on impression communication accuracy. The ICP, as introduced and developed by Boyd (1967) and Perry (1969), involves a judge who encodes his impressions of object persons in the form of a written message, and a decoder who receives identical object person information and uses the message to identify the intended referent. Numerous variables such as message length, context array, and presentation method have been found to affect impression communication accuracy.

Using previous ICP results the following hypotheses were advanced: a) impressions of object persons described with negative personality traits are communicated with fewer errors than impressions of object persons described with positive personality traits; and b) encoders in a high salience condition communicate impressions with fewer errors than encoders in a low salience condition. The object person descriptions were defined as positive or negative by likability ratings which were taken after the descriptions had been equated for imagery and meaningfulness. The salience manipulation consisted of telling half of the encoders that they would later meet the object persons, while the

other half was told that they would not meet the object persons.

The subjects were 70 (30 encoders and 40 decoders) female volunteers from introductory psychology courses who participated for experimental credit. Encoders generated a five-word written message for the impression formed of each of the eight object person descriptions. Each decoder received 60 of the 240 messages and matched a message with one object person's name. The dependent variable was the number of communication errors, that is, the number of incorrect matchings made by the decoders per object person.

An analysis of variance performed on the results showed no significant effects for either the salience factor ($F=0.11, df=1/28, p>.05$) or the information type factor ($F=2.65$, $df=2/56, p>.05$). However, a planned orthogonal t-test yielded a significant result for the information factor ($t=2.27, p<.05$) in that impressions formed from positive information were communicated with fewer errors than impressions formed from negative information. The data were then collapsed and re-analysed according to category errors. In the analysis of variance for the rescored data there was again no significant effect for salience ($F=0.68, df=1/28, p>.05$), but a significant effect for information type ($F=51.10, df=2/56$, $p<.01$) was revealed. Dunn's test statistic showed that the effect for information type was again opposite to the direction hypothesized. Impressions of positive object persons

were communicated with significantly less category errors than impressions of negative object persons ($d=1.24, p<.01$).

These results were discussed within a framework of Norman's attention theory (1969). In Norman's model only those items which are activated by both pertinence and sensory signals have access to long-term memory and thus made available for future use. It is argued that the female subjects weighted information about positive object persons more heavily than information about negative object persons. As the result of increased pertinence, impressions of positive object persons were better remembered and thus facilitated impression communication. The results were also discussed in terms of ICP research.

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CHAPTER I

IMPRESSION COMMUNICATION

The present study investigated the effects of salience and object person characteristics on impression communication accuracy. These manipulations were a direct extension of previous impression communication research which has developed a paradigm to study how different variables affect impression communication accuracy. In this chapter the development of the impression communication paradigm is examined and related to the hypotheses of the present experiment.

Development of the Impression Communication Paradigm

According to Brown (1965), research in person perception has been dominated by two approaches. The process approach, characterized by Asch's classic study (1946), has investigated how judges use different stimuli to formulate a personality impression of an object person. Typically, process approach investigations focus on variables which influence abstraction and inference in impression formation. The second major approach to person perception, the accuracy approach exemplified by Cline and Richards' research (1960), examines the ability of judges to make accurate predictions about the object person's behavior.

The present study focused on a third alternative approach to person perception, impression communication. The impression communication paradigm (ICP), as generated by the research of Boyd (1967) and Perry (1969), is based on the premise that, while impressions are formed and used in behavior prediction, they are also communicated. Impression communication occurs in a wide range of everyday activities, from the informal backyard-fence gossip about a new neighbor to the more exacting professional capacities such as consultations about a new client. A purpose of impression communication in these sundry social situations is to describe a new acquaintance so that another will be able to accurately identify the referent.

Aside from being an everyday occurence, impression communication has likewise been used in person perception research without being recognized as such. When an experimenter presents subjects with a list of adjectives or a short description about a hypothetical person, he has in fact encoded an impression of the object person. If the subjects are required to use this encoded message for a behavior prediction task, the encoding must be accurate enough to give the subjects an understanding of the object person. By including the encoding stage, the ICP not only closely approximates the natural conditions of impression communication, but also is able to examine the factors which affect the encoding stage since subjects, and not the experimenter, generate the messages.

Boyd's and Perry's development of the ICP methodology was a direct extension of models used in previous communication studies. Maclay and Newman (1960) required judges to describe a geometric figure so that another subject could identify the target figure from a set of geometric figures. They found verbal behavior of the judges to vary under different conditions of feedback (i.e. the listener had or had not identified the target figure) and under different conditions of context array (i.e. homogeneous or heterogeneous sets of geometric figures). Lantz (1963), using a similar communication model, had one group of judges label colored chips and a second group match each label with one of the colored chips. Another similar communication system was employed by Hornstein (1967) for studying the communication of emotions. The judges listened to tapes of the same non-verbal vocal content which differed in voice intonation and were required to identify the emotions being conveyed.

Given that a simple communication model could be used to study communication of diverse materials, Boyd and Perry extended the paradigm to handle the communication of impressions. The basic methodology of the ICP is as follows: A group of subjects (encoders) are presented with a series of object persons about whom they form personality impressions. They encode each impression in the form of a written message. These messages are then presented to a different group of subjects (decoders) whose task is to observe the same object person descriptions and then to match each message with its

corresponding original object person. A correct match constitutes an accurate communication of the personality impression.

In these studies different variables were examined to determine their effects on communication accuracy. Maclay and Newman (1960) investigated the effects of feedback and range of alternatives; Lantz (1963) studied the effects of previous exposure; and Hornstein (1967) examined the relation between college roommate compatibility and their communication accuracy. Likewise, a number of variables have been identified which affect the accuracy of impression communication.

Boyd (1969) examined the influence of context array on communication accuracy. He reasoned that, as in the Maclay and Newman study, the nature of the encoding context would influence efficiency of communication. He hypothesized that impressions are encoded more efficiently when encoders have all the object person descriptions at hand, than when they encode impressions of each object person independent of the others. As predicted, the encoders in the context-coding condition were more efficient than those in the no-context-coding condition, suggesting that encoders can more efficiently discriminate between object persons when they are familiar with the complete array.

In past person perception experiments the object persons have been presented by different methods - written

descriptions, videotape, photographs or tape-recordings. Perry and Boyd (1972) compared two methods, written and audio, to determine which contributed to more accurate impression communication. The object persons, taken from Boyd's study (1967), were presented to the encoders either by written descriptions or by a tape-recording of the description, and likewise for the decoders. The results showed that the impressions encoded from the written presentation method were communicated more accurately than those based on the audio presentation method. The explanation of these results was that judges in the written condition could peruse the material more than once and thus consolidate the impressions with their corresponding object persons. The judges in the audio condition, on the other hand, heard the material only once and this lack of repetition may have decreased their accuracy.

The written encoding-written decoding group was found to be significantly more accurate than any of the other groups (written encoding-audio decoding, audio encoding-written decoding, and audio encoding-audio decoding), suggesting that the audio presentation imposes a severe limitation on impression communication accuracy. Even permitting the decoders the use of the more successful written method did not significantly increase accuracy if the encoders received the audio presentation. It seems then that while accuracy is determined by both encoders and decoders, the input of the encoder is by far the more critical of the two.

Restricting the information given to the encoder necessarily limits the decoders's accuracy.

Having found that the written condition was superior to the audio condition in impression communication, Boyd and Perry (1972) hypothesized that the information content of each may differ. Using object persons from Cline and Richards' study (1960) they compared three object person presentation methods: sound videotape, soundtrack only, and written transcript of the soundtrack. Amount of information for each was defined as the number of adjectives encoders checked off on the Gough Adjective Checklist (Gough and Heilbrun, 1965) in accordance with their impressions of two of the five object persons. The results showed that both the written and the VTR methods proved significantly more information than the audio presentation. Relating these results to the Perry and Boyd study, the written descriptions provided judges with more information than did the audio presentation method, and thus they were better able to discriminate between object persons and to communicate their impressions more accurately.

Since the informational characteristics of the object person presentation method affected communication accuracy, it is reasonable to assume that the amount of information the decoders receive by way of the encoded message should likewise affect accuracy. Perry and Boyd (in press) demonstrated this, finding that longer encoded messages on a continuum from one to ten words contributed to fewer errors in communi-

cation. However, although increased information facilitates object person discrimination, Perry (1971) found the optimal level of accuracy to be reached at 10 words for heterogeneous groups (dissimilar age, education and socio-economic levels). Longer messages of 20 and 30 words failed to increase communication accuracy. It seems then that there is an asymtotic level after which increased information fails to facilitate communication, either because encoders begin to use more ambiguous labels, or because decoders are unable to integrate the longer messages.

Perry's data (1971) also indicated an interaction between the group composition and the optimal message length. Ten words was optimal length for heterogeneous groups, and five words was optimal length for homogeneous groups. That is, a group of judges with similar language backgrounds can be more efficient in communicating an impression than is a heterogeneous group in which some judges may use semantic labels that are unfamiliar to the decoders.

Maclay and Newman (1960) suggested that the subjects' drive level as well as context array could affect accuracy in communicating inanimate objects. Since there is a clear similarity between communications about people and communications about inanimate objects (Boyd, 1969; Maclay & Newman, 1960), the effects of subject motivation were accordingly investigated in impression communication. Perry and Boyd (in press) manipulated two levels of motivation within the

ICP framework. Encoders in the high motivation condition were promised a $15. bonus for 100% accuracy, and no such promise was made to encoders in the low motivation condition. There were no significant differences in communication errors between the two motivation conditions. This lack of significance was explained using Rosenberg's evaluation apprehension hypothesis (1969) which maintains that psychological testing by itself generates unexpected effects on subject motivation. Perry and Boyd argued that encoders in both conditions were already highly motivated to do well on a test of their ability to communicate, thus negating any potential differences due to monetary motivation.

Up to this time the characteristics of the object persons have not been directly investigated using the ICP. However, indirect evidence suggests that impressions of some object persons are communicated consistently better than others. In a number of the above cited ICP studies the same object persons were used: a psychology student, an English student, a map-model maker, a newspaper writer and a policeman. Comparing the mean errors of communicating personality judgements of these different object persons across three experiments, Perry (1971) found that the mean error scores for the newspaper writer ranged from 1.67 to 2.20, while for the psycholoby student the mean error scores varied between 6.47 and 7.17 with a maximum error score being 10.0. Aside from demonstrating the reliability of the ICP,

these data also suggest that certain characteristics of the newspaper writer lent themselves to more accurate communication. In post-experimental questioning subjects expressed dislike for the newspaper writer, describing him as "arrogant," "authoritarian," and "opinionated." Perry and Boyd (1972) have suggested that the negative personality characteristics facilitated communication accuracy by attracting the judges' attention.

In sum then, a number of variables have been examined as to their effects upon impression communication accuracy. The present experiment was undertaken to explore further the effects of salience (low information salience or high information salience), and object person characteristics (positive, negative or neutral) on impression communication accuracy. Thus, the object persons were presented to the judges (both encoders and decoders) by means of written descriptions in order to afford the maximum amount of information and still maintain control over the content. Following Boyd's lead (1969) the present experiment used in-context coding and required that the judges read through all the object person descriptions before forming impressions in order to increase encoding efficiency. Since the judges possessed characteristics similar to Perry and Boyd's homogeneous group (e.g. age, and educational level) the message length was set at five words.

Motivation, while not successfully manipulated in the Perry and Boyd study (in press), was included in the present study in the form of information salience. Although

money certainly is a motivating force, it was reasoned that perhaps a manipulation which is closer to everyday impression communication circumstances (meeting the object persons) would have a more pronounced effect on accuracy in the ICP. If all encoders are motivated to do well by evaluation apprehension perhaps telling one group that they will be evaluated in front of the object persons will significantly increase apprehension and thus motivation.

As previously noted in the Perry and Boyd study (1972) the input of the encoder appears to be the more critical factor affecting communication accuracy, so the present salience manipulations were induced at the encoding level. The encoders in the high salience condition were told that they would have to meet the object persons and be able to identify each by name while working with them on a cooperation-competition task. The encoders in the low salience condition were told that they would not meet the object persons.

As discussed above, previous ICP studies have suggested that the negative characteristics of the newspaper writer facilitated impression communication by attracting the judges' attention. The present experiment proposed a direct test of this suggestion by using object persons who were extremely likable, extremely dislikable, or mixed.

By using the findings of previous ICP studies the present investigation maximized the chances for accurate impression communication. This was done in order to insure that error rates would be determined by the object person

characteristics and salience manipulations rather than by the other variable which have been found to influence impression communication accuracy (message length, context array, presentation method, etc.). It could be argued that maximizing the chances for accurate communications would leave no room for any improvement due to high salience or negative object person information. However, it was reasoned that the task was difficult enough to provide substantial error rates and thus room for improvement.

Summary

The major hypotheses of the present study were twofold:

a) impressions of object persons described with negative personality-traits are communicated with fewer errors than impressions of object persons described with positive personality traits; and b) encoders in a high salience condition communicate impressions with fewer errors than encoders in a low salience condition. The object person descriptions were defined as positive or negative by likability rating. In the high salience condition encoders were told that they would have to meet the object persons and work with them on a cooperation-competition task. In the low salience condition encoders were told that they would not meet the object persons. The dependent measure was the number of communication errors, that is, the number of incorrect matchings made by the decoders. An additive effect was expected between the two

factors such that the difference between positive and negative information in the low salience condition would be even more pronounced in the high salience condition.

CHAPTER II

STANDARDIZATION OF PERSONALITY TRAIT WORDS

The object person characteristic investigated in the present ICP study was likability. To insure that object person descriptions varied only along the dimension of likability it was necessary to control for other factors which affect learning and retention. In this chapter the reasons for control and the standardization procedures are discussed. Although the approach used in this chapter was directly related to the area of verbal learning, the results were applicable to social psychology in general as well as to the present ICP experiment.

INTRODUCTION

The area of verbal learning has long been involved with the diverse attributes of verbal materials, be they nonsense syllables or words. The present study found it necessary to take these attributes into account and in this section the reasons for doing so are discussed. Varying dimensions of verbal characteristics which have been scaled include: tangibility, frequency, activity, rated association, familiarity, pronunciability, dictionary meaning, likableness, concreteness, specificity, meaningfulness,

pleasantness, imagery, orthographic distinctiveness, and word relatedness. Inasmuch as many studies have indicated reasonably high correlations among many of these measures, factor analytic studies have been conducted to reduce the number of word attributes to clearly independent measures. A study by Frincke (1968) indicated that most measures reflect one of two factors: meaningfulness-familiarity, or concreteness-imagery. In the present experiment the personality-trait words used in the object person descriptions were equated for imagery and meaningfulness, because verbal learning studies have shown that the imagery and meaningfulness of verbal stimuli affect how well they are learned and remembered. Removing the confounding effects of these two factors allowed a closer examination of positivity and negativity of object persons.

Although the area of verbal learning has long recognized the potential of word characteristics, social psychology has failed to incorporate these findings into its research. For example, research in impression formation typically presents a list of adjectives and requires subjects to incorporate them into an impression. Asch's classic study (1946) showed that the words "warm" and "cold", when included individually in otherwise identical lists of adjectives, produced markedly different impressions. Other bi-polar traits such as "polite" and "blunt" did not have the same impact on the final impression. Asch concluded that some words are more "central"

in organizing an impression than are other "peripheral" traits.

From a verbal learning point of view it is reasonable to assume that the characteristics of the central words differ from those of the peripheral words, a hypothesis which is readily testable. Rather than just identify which words are central and which are peripheral as Asch did, the verbal learning approach could also suggest why the words differ in their impact on impressions. That is, perhaps the central words are more meaningful or more concrete and therefore better remembered.

Operationalizing Asch's rather vague terminology, Wishner (1960) found that a trait is central for those traits which are correlated with it, and peripheral for those traits uncorrelated with it. Taking this explanation one step further, it could be expected that a highly meaningful trait (i.e. one with many associations) has a greater probability of being correlated with the other traits in a description. Thus, a trait with a high m value is more likely to be a central trait.

Wishner's indication of the utility of verbal learning results for social psychology has failed to be heeded. While adjectives used in impression formation studies are sometimes standardized for likableness, other word characteristics are not controlled. In the present study two word characteristics, imagery and meaningfulness, were controlled. A brief review of verbal learning experiments follows to

demonstrate how these two variables affect performance in different learning paradigms.

An early study on imagery by Stoke (1929) examined free-recall learning of three types of words - abstract nouns, concrete nouns, and onomatopes, presented to three groups of subjects - fifth graders, sixth graders, and college students. The recall of the concrete (i.e. high imagery) words was significantly higher than for either abstract (i.e. low imagery) words or onomatopes over all the groups. Using a recognition task, Gorman (1961) showed that concrete words were significantly more easily recognized than abstract words. Likewise in paired-associate learning, Paivio (1963) demonstrated that concrete nouns paired with adjectives were recalled better than abstract nouns paired with adjectives, and that the distinction was even more pronounced when the noun was used as the stimulus word (i.e. noun-adjective rather than adjective-noun pairs). A host of recent studies have confirmed the general finding that high imagery words are learned better than low imagery words in other experimental procedures: short-term memory (Paivio and Smythe, 1971), associative speed (Yuille, and Paivio, 1967), perceptual selectivity and recognition speed (Spreen, Borkowski, and Benton, 1967), and physiological indices of arousal (Paivio and Simpson, 1966).

That adjectives vary along the imagery dimension has been shown by Philipchalk and Begg (1970). Their results

showed that high-imagery nouns and high-imagery adjectives strongly facilitated associative recall of nonsense syllables. Moreover, the effects of noun and adjective imagery were approximately equal, given that the same nonsense syllable was paired with a noun and with an adjective.

The above sample of experiments emphasizes that words are remembered better if they have a high imagery value, a fact which must be taken into consideration in impression-formation studies. For ratings of adjectives on imagery, one may expect to find different ratings when different noun referents are used. That is, the imagery rating for "warm person" may be different from those for "warm weather," "warm bed," "warm milk," etc. So for standardization purposes in the present rating of personality-trait imagery, the subjects were told to rate each word as it applies to human beings in order to keep the referent constant across subjects.

The methods of defining imagery have varied from study to study, ranging from experimenter's subjective choice to group scaling procedures. The procedure used by Gorman (1961) consisted of two judges classifying words as either cpmcrete or abstract using dictionary definitions. As noted by Paivio (1968), the value of rating scales depends on the degree to which stimulus items can be differentiated. Gorman's restriction of using a two-point scale limited the usefulness of the results. Likewise, the dictionary definition of a word may be unfamiliar to the subjects, thus making it irrelevant

to the subjects' ratings of a word's imagery value. The present study followed Paivio's lead (1968) in using a seven-point scale to determine the standard degree of imagery for each word.

Along with imagery, the present experiment controlled for the meaningfulness of personality-trait words because meaningfulness has also been shown to affect the learning and retention of stimulus verbal materials. As early as 1885, Ebbinghaus, comparing his memory for nonsense syllables with his memory for verses of "Don Juan," found that he remembered a larger percentage of the more meaningful materials. Glaze (1928), expanding on Ebbinghaus's use of nonsense syllables, found that different syllables were capable of evoking a different number of associations, that is, nonsense syllables were not all "nonsense," but had different degrees of meaningfulness. Early studies by Davis (1930) and Sauer (1930) both demonstrated that serial learning of words was significantly easier than serial learning of nonsense syllables partly because the words were more meaningful. More recent demonstrations of how high item meaningfulness facilitates serial learning include studies by Schulz and Kasschau (1966), and Gladis and Abbey (1969). Using a free-recall task with words differing in meaningfulness, McGeoch (1930) found that the mean number of correct responses increased as a function of increasing item meaningfulness. In paired-associate learning, numberous studies (Kimble and Dufort, 1955; Mandler and Huttenlocher, 1956; Noble, Stockwell and Pryer, 1957; Cieutat,

Stockwell and Noble, 1958; Kothurkar, 1963) have found similar results showing that higher item meaningfulness facilitated paired-associate learning.

As with the definitions of imagery, numberous methods for defining meaningfulness have been used. The first systematic definition of meaningfulness was by Glaze (1928) in studying 2000 nonsense syllables. Nonsense syllables were presented to the subject one at a time, and he was to indicate whether or not it elicited some kind of association. The association (meaningfulness) value of each syllable was obtained by computing the percentage of subjects who indicated that a given syllable provided an association. Krueger's procedure (1934) was basically the same as Glaze's, except that subjects first wrote the syllable and then noted any ideas the syllable brought to mind, the association value being defined as identical to Glaze's. In Hull's procedure (1933), subjects were instructed to learn a list of nonsense syllables. The subjects were not directed to try to think of associations, but were to report if any associations did occur. Hull's meaningfulness measure was the number of associations reported for each syllable.

More recent measures of meaningfulness have been developed, including one by Archer (1960). The subjects viewed a nonsense syllable for four seconds and then responded to the following questions: "Is it a word?" "Does it sound like a word?" "Does it remind me of a word?" "Can I use it in a sen-

tence?" The meaningfulness value of each item was defined as the percentage of subjects who made at least one affirmative answer to the questions. Using still another measure of meaningfulness, Victory and Asher (1966) had subjects make a tally mark in a booklet for each association they made to a stimulus word within a 10-second interval, the definition of meaningfulness being the average number of tally marks for a given word. Taylor and Kimble (1967) defined meaningfulness as the percentage of subjects responding with an association to the stimulus word in less than 2.5 seconds.

Rating scales have also been used to define meaningfulness. Noble (1957) rated nonsense syllables for meaningfulness on a five-point scale according to the number of associations, ranging from "none" to "very many". Anderson (1968) used a five-point rating scale ranging from "I have almost no idea of the meaning of this word," to "I have a very clear and definite understanding of the meaning of this word" for measuring the meaningfulness of 555 personality—trait words.

In the present experiment meaningfulness was defined by Noble's production method (1952), that is, how many associated words the subject can write down in 30 seconds. The choice of Noble's method rather than one of the other associations methods cited above was arbitrary, but having used Paivio's definition of imagery, the present study followed his lead and likewise used Noble's production method.

Noble theorized that meaningfulness is a relation between a stimulus and a response. Meaningfulness increases as a simple linear function of the number of stimulus-multiple response conections which a subject has acquired given his own particular past history. Transforming this theory into behavior, an index of meaningfulness is given by the average number of written associations in response to a key word that are made within a given amount of time. In his original proposal, Noble suggested editing subjects' responses so that irrelevant responses (e.g.: responses which are related to other responses, but not to the key word) be eliminated. However, more recently Noble (1963) suggested that failing to follow the editing criteria has little effect on the scale's precision. A correlation between edited and unedited meaningfulness values was found to be .96 (Rochlyn, Hessert and Braun, 1957). So the present study used Noble's production technique without editing. In passing, it may be suggested that finding an editing judge who is equally well versed in all the areas from which responses were drawn (e.g.: sports, politics, TV characters, literature, personal acquaintances, etc.) would have been close to impossible.

In the present experiment subjects rated a list of words along the dimensions of imagery and meaningfulness. The list of words was constructed from Anderson's data (1968) which gave likableness and meaningfulness ratings of 555 personality-trait words. The words chosen were the 50 most likable and meaningful words, and the 50 most disliked and

meaningful words. Although these words had already been scaled by Anderson for meaningfulness, the present experiment took another rating of meaningfulness for two reasons. The first reason was that while the selected words were all found to be highly meaningful by Anderson in a set of both high and low meaningful words, differences in meaningfulness may be found among the high meaningful words, given a set of all high meaningful words.

The second reason for taking a second measure of meaningfulness was more concerned with how Anderson defined meaningfulness. The extremes of his rating scale were labeled "I have almost no idea of the meaning of this word" and "I have a very clear and definite understanding of the meaning of this word," suggesting that Anderson was measuring meaning (i.e., whether or not the subject know the definition of the word) rather than meaningfulness (i.e., the number of associations the subjects connect to the word). As pointed out by Noble (1963), his definition of meaningfulness, as well as the other association definitions outlined above, emphasizes the connative rather than the denotative properties of meaning. That is to say, a word can have meaning for the subject in that he knows the definition, but the word may not be highly meaningful in that it is not associated with many other words. Conversely, Noble (1957) and others have shown that certain nonsense syllables, which have no denotative definition, can be highly meaningful or connotative. The dispute here is not

so much with Anderson's use of a rating scale instead of the production method, for Noble's rating scale (1957) had a correlation of .92 (Noble, 1963) with the production method. But the contention made here is that Anderson's labeling of the rating scale caused it to measure something entirely different from the usual association definition of meaningfulness. Since most of the studies cited above showing a relationship between meaningfulness and learning have used the association definition, the present study needed to likewise use the association method in order to equate the stimulus words for meaningfulness. Having used words rated as highly meaningful on Anderson's scale in the present experiment simply meant that the subjects would probably know the denotative definition of each word.

METHOD

Imagery and Meaningfulness

Subjects. The subjects were 220 volunteers from introductory psychology courses who received experimental credit for participating. Of these, 100 subjects, 50 males and 50 females, rated words on the imagery dimension, and the remaining 120 subjects, 60 males and 60 females, rated the words for meaningfulness.

Materials and procedure. The list of stimulus words was constructed from the personality-trait words compiled by Anderson (1968). The 50 most meaningful words from both the most likable (positive) and the least likable (negative) extremes of scale were used. The resulting list of 100 words was used for both the imagery and meaningfulness ratings. Stimulus materials constructed for the imagery ratings consisted of booklets of 10 pages each, with five words per page. The combination and order of the 10 pages was varied in each booklet to balance for order effects. Opposite each word was a seven-point numerical scale ranging from "Low Imagery" to "High Imagery."

Instructions were included on the front of each booklet and were essentially those used by Paivio, Yuille and Madigan (1968), reading as follows:

Words differ in their capacity to arouse mental images of things or events. Some words arouse a sensory experience, such as a mental picture or sound, very quickly and easily, whereas others may do so only with difficulty (i.e., after a long delay) or not at all.

The purpose of this experiment is to rate a list of words as to the ease or difficulty with which they arouse mental images. Any word which in your estimation arouses a mental image (i.e., a mental picture, or sound or other sensory experience) very quickly and easily should be given a "high imagery" rating. Any word that arouses a mental image with difficulty or not at all should be given a "low imager" rating.

Think of the words "apple" or "fact." Apple would probably arouse an image relatively easily and so would be rated as high imagery. Fact would probably do so with difficulty and would be rated as low imagery. Since words tend to make you think of other words as associates, e.g. knife-fork, it is important that you note only the ease of getting a mental image of an object or an event to the word. Your ratings will be made on a seven-point scale, where "one" (1) is the low imagery end of the scale, and "seven" (7) is the high imagery end of the scale.

Make your rating by putting a circle around the number from 1 to 7 that best indicates your judgement of the ease or difficulty with which the word arouses imagery. The words that arouse mental images most readily for you should be given a rating of 7. Words that arouse images with the greatest difficulty or not at all should be rated 1. Words that are intermediate in ease or difficulty of imagery, of course, shoudl be rated appropriately between the two extremes. Feel free to use the entire range of numbers, from 1 to 7; at the same time don't be concerned about how often you use a particular number as long as it is your true judgement. Work fairly quickly but do not be careless in your ratings. You are to rate these words as they apply to human beings. Below are four examples. Indicate the ease of getting an image by circling the appropriate number.

The subjects rated the four examples ("hairy," "ferocious," "fond," "anal") on the scales provided. These instructions were read aloud by the Experimenter and any questions were answered before the subjects went

on to rate the 50 words. The testing sessions were conducted in the same classroom with between 15 and 24 subjects per session.

The procedure for obtaining measures of meaninfulness was essentially the production method used by Noble (1952). The total of 100 personality-trait words were randomly arranged into booklets of 50 words each. One word appeared on each page, repeated 15 times. The cover of each booklet consisted of instructions which were read aloud by the Experimenter. The instructions were as follows:

> This is a test to see how many words you can think of and write down in 30 seconds. You will be given a key word and you are to write down as many other words which the key word brings to mind as you can. These other words which you write down may be things, places, ideas, events, or whatever you happen to think of when you see the key word. You may use slang or hyphenated words.
>
> For example, think of the key word "kingly." Some words or phrases it might bring to mind are: "queenly, ruler, majestic, King Cole, imperial, kingfish." Here are two practice words. Write down whatever you think of when you see these key words. (Subjects then responded to the key words "hairy" and "ferocious.") No one is expected to fill in all the spaces on the page, but write as many words as you can which each key word calls to mind. Be sure to think back to the key word after each word you write down, because the test is to see how many words the key word makes you think of. A good way to do this is to repeat each key word over and over to yourself as you write. Be sure that each word you write down is related to the key word. You will respond to 50 different words, having 30 seconds to respond to each. There is a 10 second rest period between each word. During this rest period you are to look up. I will tell you when to begin and when to stop for each key word. You will find the key word written down the left-hand side of the page. Fill in the space next to the key word with a word it brings to mind. Remember that the words you write down must be related to the key word. Do not turn the page

until I say go.

The subjects were tested in groups of between 15 - 24 in the same classroom.

Likability

Having taken measures of imagery and meaningfulness, the personality-trait words were combined into descriptions, and these descriptions were rated for likability. Anderson had already rated these words singly for likableness, but a repetition was needed for trait combinations because as noted by Anderson (1965) combining traits is not a simple additive process. The object person descriptions consisted of a list of five positive or negative personality traits, and were presented using the Asch technique.

The accuracy approach to person perception, on the other hand, is typically more concerned with presenting object persons as "real" people. Methods used to present object persons reflect the need for realism including films, photographs, drawings and tape recordings (Perry and Boyd, 1972). An obvious problem inherent in some of these presentation methods is that of controlling the amount and type of information subjects use. For example with a film presentation, the subject can focus on a number of cues: the object person's facial characteristics, clothing, posture, gestures, what he says or how he says it, the room, the reactions of the interviewer,

the social setting, etc. The accuracy approach does not need to control for subjects attending to different cues or weighing some cues as more relevant because the task is typically one of behavior prediction or emotion recognition. While the present experiment needed to present object persons as real people, there was also a need for controlling the information subjects used so that the object persons would vary only on the dimension of likability. For this reason the Asch-type lists of adjectives were used as descriptions.

To control for the different effects of various occupational labelings, all of the object persons were described as students. Boyd (1967) demonstrated that adding the label "alcoholic" to object person descriptions resulted in significantly lower ratings than the same descriptions unlabeled. Dealing more directly with the communication of impressions, Perry (1971) obtained indirect evidence that object persons identified by name and by profession (student, newspaper writer, map-model maker, policeman) were communicated better than the same object persons identified by name alone. Although describing object persons with different occupations seems to aid discrimination and thus facilitate communication, the present object persons were to be discriminated only in terms of positive and negative characteristics, thus all of the object persons were given the same occupational label.

Labeling all the object persons as students was also in keeping with Anderson's (1968) listing of personality-traits which was selected for appropriateness in describing college students. Also, the object persons were all males in order to control for a sex variable interaction with the description. For example, a female described as "egotistical, hostile, and hot-tempered" could be rated as less likable than a male described the same way due to sex stereotypes.

Subjects. The subjects were 50 female volunteers from introductory psychology courses who received experimental credit for participating.

Materials and procedure. Using the data obtained on the imagery and meaningfulness measures, a set of 21 pairs of positive and negative personality-trait words was constructed such that the words of each pair were equivalent along the dimensions of imagery and meaningfulness. Equivalence was defined as no significant differences when t-tests were done on the imagery ratings and on the meaningfulness ratings of the positive-negative word pair. From these equated pairings, eight positive and eight negative object person descriptions were generated, each description consisting of five positive and five negative personality-trait words. Six mixed descriptions were also used, consisting of either three positive and two negative, or three negative and

two positive traits. Restrictions put on the grouping of the five words were: no more than two words were repeated in a description, and that pair did not appear more than twice in all the descriptions. While these restrictions were arbitrary, they were intended to keep repetition and description overlap to a minimum.

The object person descriptions were presented to the subjects in the form of a booklet with the order of presentation being varied among the booklets. On each page of the booklet was a five-word description along with an eleven-point likability scale. The instructions were as follows:

> In this experiment you will rate a number of descriptions as to how much you like or dislike the person being described. The descriptions refer to students who recently took part in a series of group discussions. You will find five adjectives describing each person. These show how the other group members and the group leader (a social psychologist) rated each other at the end of the discussion series.
>
> Your task is to read each description and then rate how much you like or dislike the person being described. Your rating is made on an eleven-point scale, ranging from -5 (extremely dislikable) to +5 (extremely likable). Feel free to use the entire range of numbers, but make sure that the rating you give is your own true judgement of how much you would like or dislike such a person. Use all five adjectives when making your judgement, giving equal weight to each, because the five adjectives are how the rest of the group rated the person. You will find the rating scale for each person next to the description. Show your rating of the person by circling the appropriate number on the scale from -5 to +5.

All subjects rated each of the 22 descriptions. Testing was done in a classroom with 10 to 15 subjects per session.

RESULTS

Imagery and Meaningfulness

The mean ratings for imagery (I) and meaningfulness (m), along with the standard deviations are given in Appendix A. The overall mean of the I ratings for the 100 personality-trait words on a seven point scale was 4.48 with a standard deviation of 1.78. The overall mean of the m associations was 4.82 with a standard deviation of 1.86. The correlation coefficient was computed for I and m, yielding $r = 0.59 (p<.01)$. Spearman's rank order coefficient was used to compare the present m values with the m values reported by Anderson (1968), yielding $r_s = -0.16 (p>.10)$.

The 42 personality-trait words chosen to form the object person descriptions came from the middle range of both the I and m measures, and are starred in the Appendix A listing. Pairs of positive and negative traits were formed such that the I and m measures of the positive word were not significantly different from the I and m measures of the negative word ($p>.05$). These 21 equivalent pairs are given in Table 1. Using these pairs, 22 descriptions were constructed with five

(INSERT TABLE 1 ABOUT HERE)

positive, five negative, or either three positive and two

Table 1

Pairs of Positive and Negative Trait Words
Equated for I and m

	I	m		I	m
polite	4.82	4.70	ambitious	4.33	4.94
irritating	4.86	4.47	quarrelsome	4.33	4.68
sincere	4.40	4.70	considerate	4.37	4.61
careless	4.42	4.69	liar	4.34	4.57
truthful	3.50	4.35	cooperative	4.30	4.31
untruthful	3.37	4.24	obnoxious	4.35	4.41
narrow-minded	3.53	3.88	honest	4.36	4.84
tolerant	3.61	3.84	impolite	4.31	4.61
trustful	3.71	4.52	observant	3.92	4.48
malicious	3.63	4.70	self-centered	4.39	4.18
prompt	3.70	4.35	capable	3.71	4.28
discourteous	3.76	4.58	unreliable	3.87	3.81
uninteresting	3.86	4.68	generous	4.67	4.77
forgiving	3.98	4.57	selfish	4.69	4.91
punctual	4.09	4.85	well-mannered	4.57	4.79
unpleasant	4.19	4.71	irritable	4.69	4.44
understanding	4.23	5.03	sensible	3.71	4.23
unkind	4.24	4.95	egotistical	3.76	3.82
imaginative	4.07	5.45	efficient	4.73	4.84
dishonest	4.12	5.15	conceited	4.71	4.40
dependable	4.18	4.32			
disagreeable	4.30	4.16			

negative, or three negative and two positive personality trait words.

Likability Ratings

The mean likability rating for each of the 22 object person descriptions on an eleven-point scale is given in Table 2.

(INSERT TABLE 2 ABOUT HERE)

The descriptions of the object persons are given in Appendix B. The three most disliked object persons were Daniel, Edward, and Arthur with means of -4.74, -4.66, and -4.64, respectively. Their positive counterparts, matched for I and m, were: Charles (+4.46), James (+4.10), and Harold (+3.90), who ranked first, second and fifth in likability. There were no significant differences between mean likability ratings for the positive object persons or for the negative object persons. Being at the extremes of likability, and being matched for I and m values, these six object persons were selected for the ICP. In addition, two object persons, Gary and Andrew, who scored at the extremes of the mixed category, were also included in the ICP roster of object persons.

Table 2

The Mean Likability Ratings for Object Person Descriptions in Decreasing Order of Likableness

Positive Object Persons	
Charles	+4.16
James	+4.10
Douglas	+4.04
Philip	+3.92
Harold	+3.90
Robert	+3.68
Albert	+3.46
Steven	+3.38
Mixed Object Persons	
Gary	+0.68
Thomas	-0.18
Kirk	-0.34
Richard	-0.64
Raymond	-2.00
Andrew	-2.28
Negative Object Persons	
Michael	-4.24
Timothy	-4.28
Gregory	-4.30
Larry	-4.38
John	-4.52
Arthur	-4.64
Edward	-4.66
Daniel	-4.74

DISCUSSION

Imagery and Meaningfulness

The list of 100 personality-trait words was measured for imagery (I) and meaningfulness (m) because numerous verbal learning studies have indicated that both of these factors affect how well an item is learned and remembered. Thus, it was necessary to control for these factors to insure that the descriptions used in the impression communication study would vary only in terms of likability.

As previously mentioned, Anderson (1968) had already taken measures of trait m. A Spearman's rank order coefficient was used to compare Anderson's m values with those found in the present study, and was computed to be $r_s = -0.16$. There are two explanations for such low correlation. First of all, Anderson rated 555 traits and the present study used 100 of these which were high in Anderson's m values. Given that the subjects in Anderson's study had a set of both high and low m words, different m values might be expected for the present study since the subjects had a set of only high m words. This explanation alone, however, could not explain the singularly low correlation. Aside from set differences, the second explanation for the discrep-

ancy is that Anderson's measure of m was not measuring m at all. In the verbal learning experiments which demonstrate that m values affect how well an item is remembered, m is defined as an association value. Anderson's definition of m on the other hand, was measuring the subjects' knowledge of the denotative meaning of the words. His five-point scale rating, ranging from "I have almost no idea of the meaning of this word" to "I have a very clear and definite understanding of the meaning of this word," was not measuring m along its usual associational dimension. A low correlation then could be expected between Anderson's and the present experiment's m values because the two studies were measuring two entirely different word characteristics.

The correlation between the I and m values found in the present study ($r = .59$) is comparable to the usual I-m correlation values (e.g.: .72, Paivio, 1968). Although the correlation of .59 is significant ($p < .001$) it is not as high as Paivio's correlation ($Z = 2.36$). The procedures used to obtain I and m values were exactly the same as those used by Paivio, which suggests that the lower correlation was perhaps due to the nature of verbal stimuli. Paivio's verbal stimuli consisted of 925 nouns, and indeed most studies on the correlation between I and m have used nouns, while the present study used 100 adjectives.

In the absence of any study which has correlated I and m for adjectives a tentative explanation for the lower correlation may be advanced. When subjects rate nouns for I and m the referent is necessarily constant, that is the referent is each noun itself. When the stimuli are adjectives, on the other hand, the referent may be different for each subject. Since the traits were to be used to describe object persons in the present study, subjects were instructed to make I ratings of the words as they apply to human beings, thus keeping the referent constant across subjects. But in the m ratings subjects were not instructed to give associations which apply only to human beings because such a restriction would obviously be in conflict with Noble's definition of m. It is conceivable then that in limiting the I referent to "human being" but not "milk," "weather," etc. while the m referent varies freely the usual high balance found between I and m for nouns may be upset. The very nature of an adjective is to modify a noun, so perhaps one cannot expect a high correlation between I and m values for adjectives when the noun referents differ.

While the measures of I and m were taken for standardization purposes, the results are applicable to impression formation in general. As previously noted, impression formation studies typically fail to control

for varying degrees of I and m in personality-trait words. Asch's study (1946) demonstrating differences between "central" and "peripheral" traits was a major break-through for social psychology, however, his results are less than astonishing from a verbal learning point of view. Verbal learning advocates would investigate the characteristics of the central traits. The data obtained in the present study are relevant to this point. Asch found "warm" and "cold" to be central in that their substitution in an otherwise identical list resulted in significantly different overall impressions, while the more peripheral traits "polite" and "blunt" failed to have the same impact. In the present m measurement made on 100 personality-trait words it is of interest to note that "warm" and "cold" ranked first and second with mean m values of 7.66 and 7.43, while "polite" ranked fifty-third with a mean m value of 4.70. The trait "blunt " was not included in the present list, but the grammatical antonym of "polite," "impolite," was rated for m and it ranked fifty—ninth with a mean m value of 4.61. While the limited overlap between Asch's list of traits and that used in the present study necessarily precludes a definitive conclusion, the available comparisons are highly suggestive. If the m value indeed determines the impact that a particular trait has on an overall impression, then it is incumbent upon impression

formation studies to take the m factor into account. The measurement of m values is straightforward, and much less cumbersome than Asch's centrality method. And since the personality-impression task is growing in popularity, it is hoped that the present list of I and m values will prove helpful in future investigations.

Likability

In order to obtain object persons who were either extremely likable or extremely dislikable for the impression communication study likability ratings were taken for 22 object person descriptions. As would be expected, likability ratings for descriptions formed with five highly likable traits were found to be positive, and were negative for descriptions of five highly dislikable traits. While the main purpose of the likability ratings was to standardize object person descriptions, the results can be interpreted as an indication of the negativity bias in impression formation in that negative information seemed to have been more heavily weighted than positive information.

Give that the subjects had a neutral point of "0" on an eleven-point likability scale, a negativity bias appears to have been operating. The negative object persons were rated significantly further from the neutral point ($t=5.15, p<.0005$) than were the positive

object persons (see Table 2 for these ratings). Likewise, the mixed object persons described with three negative and two positive traits were rated significantly further from the neutral point than were the mixed object persons described with three positive and two negative traits ($t=2.35, p<.05$).

The negativity bias in impression formation has been evident in other studies. Anderson (1965) found the same phenomenon as the present study in that the mean likability ratings of negative descriptions were further from the neutral point of 50 on an open-ended scale than were ratings of positive descriptions. Investigating the negativity bias from a different angle, Feldman (1966) had subjects rate each of 25 adjectives separately with the context "he is (adjective) man," and then in two-adjective combinations with the same standard context. Comparing the ratings given when the adjectives were used singly with the ratings of paired adjectives, Feldman obtained estimates of each adjective's "modifying capacity," defined as the extent to which each adjective pulls toward itself the evaluation of the pairs in which it appears. The results showed that negative adjectives had more "pull" in determining the rating of two-adjective combinations, the correlation between evaluation and modifying capacity being -.69. Feldman discussed the greater impact of negative adjectives in

terms of their greater surprisingness, and obtained a correlation of -.68 between ratings of surprisingness and the evaluative ratings. Also the correlation between evaluation rating and the common logarithm of Thorndike and Lorge's summary index of word frequency (1944) was found to be -.24.

In a similar study by Rokeach (1968) subjects rated concepts separately and then in combinations of two. For example, subjects rated the concepts "athlete," "dishonest," and "dishonest athlete." Eight of the nine combinations involving a negative concept with a positive concept produced overall evaluations which were substantially more negative than would have been predicted by a single averaging of the values of the separate concepts.

Using the same technique, Birnbaum (1972) had subjects make moral evaluations of pairs of behavior items which had previously been judged separately (Parducci, 1968). An example of a pair of items is: "stealing a towel from a hotel, and spreading rumors that an acquaintance is a sexual pervert." Birnbaun found that the worse deed had a greater impact on the overall evaluation of the pair with a significant interaction indicating that the impact of the first scale value decreased as the second scale value became more negative.

Why is it that in the present study, as in the above cited studies, the negative information had a greater effect on evaluations than did positive information? Feldman (1966) argued that negative items are more surprising, but Kinder (referenced in Kanouse and Hanson, 1972) noted that an internal analysis of Feldman's data which partialed surprisingness out of the correlation between evaluation and modifying capacity only reduced the correlation from -.69 to -.52. Zajonc (1968) attributed the greater impact of negative information to infrequency of usage. However, Kinder likewise partialed log frequency out of Feldman's correlation and the correlation still remained high (-.60). Furthermore, a study by Abelson and Kanouse (1966) held content (thereby including surprisingness, infrequency and other item attributes) constant, and still found a negativity bias in deductive inferences.

It may be concluded therefore that surprisingness, infrequency, and other content attributes do not account for the impact which negative information has on an overall evaluation. Kanouse and Hanson (1972) argued that negative information simply carries more weight than positive information because it stands in contrast to a predominantly positive world. Reviewing findings from areas of impression formation and risk-taking, they concluded that, while the negativity bias

can be affected by situational factors, it has become a pervasive cultural phenomenon. The results of the present study, that negatively described object persons were more disliked than positively described object persons were liked, suggest that the subjects used had a definite negativity bias, a suggestion which is further expanded upon in the discussion of the ICP results.

CHAPTER III

THE EFFECTS OF SALIENCE AND OBJECT PERSON CHARACTERISTICS ON THE COMMUNICATION OF IMPRESSIONS

Having equated the object person descriptions for imagery, meaningfulness, and varied likableness, the ICP study was undertaken to determine the effects of salience and object person likability on impression communication accuracy. In this chapter the ICP study is presented beginning with a discussion of theoretical formulations relevant to the present hypotheses. Both the information type and salience factors are examined in light of attention and information-processing theories. Likewise, power theory is applied to the salience manipulation. Finally, a conflicting prediction from attribution theory was examined and evaluated.

INTRODUCTION

As early as 1890 William James recognized the importance of attention in human functioning:

> Millions of items of the outward order are present to my senses which never properly enter my experience. Why? Because they have no interest for me. My experience is what I agree to attend to. Only those items which I notice shape my mind--without selective interest, experience is an utter chaos. (p. 402)

Different theories have dealt with the problem of which

of the "millions of items" are processed and stored for later retrieval. One of the most influential information-processing theories was Broadbent's "filter model" (1958). According to this theory, information is processed through a filter so that only part of the stimulation impinging on the organism at a given time gets through. Those items which pass through the filter enter long-term memory and are available for future retrieval. Normally, the filter selects necessary or relevant information for the task at hand, with the exception that the filter has a permanent bias in favor of channels which have not recently been active. Also, certain physical properties of the competing stimuli increase the probability of entering the filter, those properties being: physical intensity, biological importance, and novelty. While Broadbent developed his theory from audition experiments the filter theory could predict that certain aspects of the object person descriptions are passed through the filter. The judges' task at hand was to remeber which characteristics belong to which object person. But if this amount of information overloads the system, only certain stimuli get through, those being the more biologically important and novel. Some evidence suggests that negative information is more biologically important and this is discussed later.

While Broadbent's filter theory integrated the learning theories into a model of information processing,

it failed to account for psychological properties of the stimulus. As pointed out by Deutsch and Deutsch (1963), stimuli may be selected for their psychological properties, as well as for their physical properties. One's name, for example, has psychological importance, and it will be attended to more than other incoming stimui of the same intensity.

Recently, Norman (1968) developed an information-processing theory which integrated both the physical and the psychological properties. In Norman's model, every stimulus has a physiological analogue or representation in short-term memory storage which must be activated in order for a stimulus to enter long-term memory. Two factors, pertinence and sensory signals, serve to activate the stored representation, both of these factors being necessary in order to direct attention to the representation. Pertinence refers to the psychological aspects of the stimulus and is determined by the individual's expectations and linguistic system. Sensory signals refer to the actual physical features of the stimuli impinging upon sensory perception. Thus, both physical and psychological aspects of the stimulus are required before an item passes into long-term memory.

The salience manipulations used in the present experiment can be interpreted in terms of Norman's attention model. The pertinence factor restricts abstraction

of cues to only those that are important to the individual at a given time. The two salience conditions manipulated the degree of pertinence for the subjects. The subjects in the high salience condition expected to meet the object persons and also probably had clear expectations of how a positive object person (e.g., "prompt, understanding, punctual, forgiving and imaginative") and a negative object person (e.g., "careless, unpleasant, obnoxious, selfish, and irritable,") would act. For encoders in the high salience condition with pertinence present, there should be a greater likelihood of the information passing into long-term memory and thus facilitating their impression encoding accuracy. For the low salience group, pertinence may not have been present because they do not expect to meet the object persons, thus lowering the chances of information passing into the long-term memory and lowering encoding accuracy. The reason for the high salience manipulation then was to arouse pertinence which would insure object person information of reaching long-term memory.

Increased attention for the high salience group can also be viewed in terms of power theory. Wheeler (1964) reported an experiment in which the subjects met with one of two bogus chairmen in a discussion group. One chairman (high-power) told the subjects in that condition that the grades they receive would "depend on

my mood." The other chairman (low-power) reported that he had no control over the subjects' grades. The dependent measure was the amount of information a subject could report about his chairman after the discussion. The subjects exposed to the high-power chairman recalled significantly more information than those exposed to the low-power chairman. In terms of power-theory, a low-power individual tries to gain power by learning more about the high-power individual. Another power-theory experiment (Festinger and Hutte, 1954) showed that those judges who were unsure of a personal relationship tended to have more accurate knowledge of how others felt about them because they watched more closely and were able to make better use of available cues. The low-power individual seeks more information in order to better his position.

Relating power-theory to the present study, encoders in the high salience condition expected to be dependent on the object persons who had control over their performance on the cooperation-competition task. Being in the low-power position, these encoders should engage in more information-seeking behavior than encoders in the low-salience condition who were not dependent on the object persons. Thus, as a result of greater attention, encoders in the high salience condition should retain more information and should be able to communicate their impressions more accurately.

The other manipulation in the present study centers around the object person characteristics. Applying Norman's attention model once again, the pertinence factor restricts the abstraction of cues to only those that are important to the individual at a given time. In the present study, the available cues about an object person are either five positive, or five negative, or a combination of both kinds of personality-trait words. The question then is whether or not a difference exists between the importance of positive versus negative cues, and if so, in which direction.

A number of studies have suggested that negative cues may be more important than positive cues. Cantril (1957) reported a binocular-rivalry experiment in which Zulu subjects were simultaneously exposed to a picture of an European to one eye, and a picutre of an Indian to the other. The Indian was perceived significantly more often than the European. One explanation of the results is that South Africans of Indian extraction represent a greater economic threat for the Zulus and so are attended to more. Bruner and Postman (1948) had subjects estimate, by the diaphram technique, the size of disks bearing either a neutral design or a negatively-valenced design (swastika). The swastika was judged larger than the disks with a neutral design, suggesting that whatever is important to the subject is likely to "loom larger" in his perception. In another perception

experiment, Wittreich and Radcliffe (1956) demonstrated that under conditions of increasing induced aniseikonic distortion, a threatening figure changed less in subjects' perception than did a non-threatening figure.

Why should negative stimuli be attended to more closely than neutral stimuli? It is reasonable to assume that attending to threatening stimuli functions in a survival capacity. Numerous animal studies have shown that threatening stimuli such as the sight, sound, or smell of a hereditary enemy, orientate the organism's attention to those stimuli. As Stagner and Karwoski (1952) point out: "Those organisms who were not selectively attentive to loud sounds, movements, etc. probably were liquidated" (p. 200). While human mechanisms for attending to socially threatening stimuli may not be innate, these mechanisms certainly may be conditioned. As asserted by Guthrie (1952), the behaviors involved in attending, or not attending, are capable of being conditioned just as are action units. Thus, while the sight of an Indian or a swastika are certainly not innately threatening, subjects have learned to react to these cues as threatening.

In the same way judges in the present experiment have learned that a student described as "careless, unpleasant, obnoxious, selfish, and irritable" is treatening, someone to be avoided or at least prepared for. As a result of the judges' past learning with negative

people, pertinence is aroused and the encoders attend more to the negative characteristics, thus facilitating communications about the negative object persons. And introducing the high salience condition should increase attention even more and further enhance communication accuracy for impressions of negative object persons.

Conflicting Prediction from Attribution Theory

While the foregoing theories argue that negative object persons should be communicated more accurately than positive object persons, attribution theory would predict the opposite. For example, Darley and Berscheid (1967) showed that anticipation of future personal contact increased liking. Likewise, Osgood (1964) states that there is a pervasive attitude that the world is basically a good place. If the encoders engaged in this "wishful thinking" they would form more positive impressions about a negative object person and thus contribute to communication errors. However, in the typical attribution studies, the object person descriptions are generally neutral, inviting attribution of positive traits, while attribution of positive traits to the present entirely negative object persons may be more difficult.

The above examination of relevant theoretical formulations demonstrates that different theories predict different results over the issue of positive

versus negative object person characteristics. The present study views the attention theories as more reliable and thus retains the original hypothesis.

METHOD

Subjects

The Ss were 70 female volunteers from introductory psychology courses who received experimental credit for participating. The Ss were randomly assigned to two groups, 30 encoders and 40 decoders, with the encoding group being further subdivided into 15 low salience encoders and 15 high salience encoders.

In the previous ICP studies both male and female Ss were used. The present study used only female Ss for a number of reasons. Berg and Bass (1961) suggested that college males tend to be more task-orientated, while college females tend to be more interaction-orientated. The use of females then should produce a more pronounced effect on both the positive-negative dimension and the salience manipulation. Exline (1957) found that females were significantly more accurate than males in perceiving interpersonal relations. An explanation of these results is that, since the general position of females in our society is one which affords them less social power than males, it is essential for females to be able to accurately assess the feelings, attitudes, and relationships among others in order to achieve their personal goals. Finally, another

reason for using only female Ss is that some males used in the preliminary standardization ratings were found to be uncooperative and tended to ignore instructions.

Design

A split-plot factorial design was used. Information type (positive, negative, and mixed) was the repeated factor and salience was the nonrepeated factor. There were 15 female Ss in the high-salience group and 15 in the low-salience group.

Materials and Procedure

Eight object person descriptions were selected from a set of 22 five-adjective descriptions on the basis of the likability ratings. The three most disliked negative descriptions and their corresponding positive descriptions matched for imagery and meaningfulness, along with two mixed descriptions were used. These eight object person descriptions are starred in Appendix B.

The descriptions were presented in the form of a typed booklet, the order of presentation being varied among the booklets. Each encoder received the same set of eight object persons, but the instructions differed for the low and high salience groups. Instructions for the low salience encoders were as follows:

> This study is concerned generally with the impression formation process, that is,

how we form impressions of other people. In particular, this experiment examines your ability to communicate accurately your impressions to other people such that they know who is being described.

When we know a person, we have certain impressions about his behavior and beliefs. We often summarize this information and from impressions, describing the person as he appears to us. In this way we can communicate this information, and other people who do not know our acquaintance get to know something from the descriptions we provide. For example, if we were to say that a friend of ours, George, is "enthusiastic and socially orientated," a listener who does not know George could probably pick him out as the most active conversationalist in a group of students. In this case we have encoded our impressions of George into "enthusiastic and socially orientated" and the listener decodes the description by picking him out of the group.

Your task in the first part of this experiment is encoding: You will read descriptions of eight students. These descriptions were composed by a group and their group leader (a social psychologist) describing each member with five adjectives. You are to use these descriptions to form an impression of each of the eight students, consolidating your impression with the name of the student. You will read through the descriptions of all eight students before being asked to write down your impression, so try to remember which impression goes with which student.

(The second part of the experiment is decoding. Another subject will meet the eight students, engage in a cooperation-competition task with them, and using the impressions you formed, she will have to identify each student by name.)

So right now your task will be to read descriptions of the eight students, and encode your impressions about them. You have five minutes to read the eight descriptions, so read with concentration keeping the impression you form of each student distinct.

The Ss were given five minutes to read through the object person descriptions. After five minutes the following instructions were read:

> Close the booklets. Now you will encode your impressions of the eight students you have just read about. Write your impression (type of person, kind of person, etc.) of each of the students in exactly five (5) words such that another person reading your impression would be able to identify each of the eight students (i.e., will know who is being described). Use only adjectives, nouns, or slang. Do not use the same words that were used in the original description. Do not use articles (the, a) or connectives (and, but, what, which). Hyphenated words are counted as one word. Use exactly five (5) words when writing down your impression of each student.

Instructions for the high salience group of encoders were identical except for the bracketed section which was changed to:

> (The second part of the experiment is decoding. You will meet the eight students without being told their names. You will work with them on a cooperation-competition task, and using the impressions formed by another encoder, you will have to identify each student by name.)

The high salience encoders were then likewise instructed to encode their impression of each object person in five words.

The 240 (30 encoders x 8 object persons) written personality impressions generated by the encoders were randomly compiled into booklets of 60 each, with the order of each reversed to prevent order effects. The 40 Ss in the decoding group were presented with the

booklets of the original object person descriptions, and had five minutes to read through the descriptions, remembering how each student, by name, was described. Each decoder then read through the booklet of encoded messages and matched each message with the name of one of the original object persons.

RESULTS

The data were analyzed in terms of communication errors, that is, the number of incorrect matchings of an encoded message with an object person's name. Each impression was decoded by ten different decoders, so error rates could vary between zero and ten.

An analysis of variance for split-plot factorial designs was used to determine the effects of salience and type of enformation (positive, negative, or mixed). The results are given in Table 3. Neither salience ($F=0.11, df=1/28, p>.05$) nor information type ($F=2.56, df=2/56, p>.05$) were found to be significant.

(INSERT TABLE 3 ABOUT HERE)

Kirk (1968, p.73) states that planned comparison tests may be performed on data for which there are no significant F ratios, provided that a significant difference had been predicted. In the present study it was predicted that the type of information would affect communication accuracy. Consequently, a planned comparison t-test was computed on the mean error rates for positive (7.34) and negative (8.08) information, yielding a significant result ($t=2.27$, $p<.05$). The effect of information was contrary to the

Table 3

Analysis of Variance Table for the Effects
Of Information Type and Salience On
Impression Communication Accuracy

Source	SS	df	MS	F
1) Between subjects	34.00	29		
2) A (salience)	0.13	1	0.130	0.107
3) Subjects w/groups	33.87	28	1.210	
4) Within subjects	102.98	60		
5) B (information)	8.45	2	4.225	2.652
6) AB	5.33	2	2.665	1.673
7) B x subjects w/groups	89.20	56	1.593	
8) TOTAL	136.98	89		

predicted direction, in that impression communication was more accurate with positive, rather than negative information. A planned comparison t-test on the effects of salience yielded no significant result, demonstrating that information salience had no effect on the communication of impressions.

Chance probabilities were calculated for the probability of some of the decodings being correct by chance alone. The chance probabilities were examined from two different approaches. One approach was from the viewpoint of the encoded impressions, that is, given that each impression was decoded ten times, some of the decodings may have been correct by chance along (see Table 4). The probability of an impression being

(INSERT TABLE 4 ABOUT HERE)

decoded correctly by chance four or more times is .03. Only 61 of the 240 impressions were decoded at this low probability level. However, chance probabilities were also examined from the viewpoint of the decoder. Given that each decoder responded to 60 messages, the chance probability of getting 12 or more correct was .10. Only 11 of the 40 decoders performed below this chance level, suggesting that for most of the decoders, their responses were not determined by chance alone.

The data were analyzed once again in terms of category errors, in that a response was counted as an

Table 4

Probabilities of Obtaining Impression Communications by Chance

∝ Correct	p (∝ correct by chance)
10	.000000 (+)
9	.000000 (+)
8	.000002
7	.000038
6	.000473
5	.003945
4	.023010
3	.092038
2	.241600
1	.375822
0	.263076

error only if the category of the response (positive, negative, or mixed) did not match the category of the correct answer. That is, if the correct answer was one of the three positive object persons, a response of any of the three positive object persons was counted as correct. The same re-scoring procedure was used for the negative and mixed categories as well.

An analysis of variance for the split plot factorial design was used on the re-scored data, the results of which are presented in Table 5. There was

(INSERT TABLE 5 ABOUT HERE)

again no significant effect for the salience manipulation. The type of information produced a significant effect on category errors in impression communication ($F = 51.10$, $p<.01$). Dunn's statistic was used to examine the differences between the mean communication error rates which were 2.62 for positive information, 4.36 for negative information, and 6.70 for mixed information. All of the differences between the three means were found to be significant ($d = 1.24$, $p<.01$). As in the former analysis, the direction of the differences was opposite than predicted, with positive information being communicated better than negative information.

Once again, the probabilities of some impressions being decoded correctly by chance were determined and are given in Table 6. The chance probability of an

Table 5

Analysis of Variance Summary Table for the Effects of Information Type and Salience on Category Errors in Impression Communication

Source:	SS	df	MS	F
1) Between subjects	151.43	29		
2) A (Salience)	3.60	1	3.60	0.682
3) Subjects w/groups	147.83	28	5.28	
4) Within subjects	398.12	60		
5) B (Information)	251.40	2	125.70	51.098*
6) AB	9.11	2	4.56	1.022
7) B x subjects w/groups	137.61	56	2.46	
8) TOTAL	549.55	89		

* $p < .01$

impression being decoded correctly seven or more times

(INSERT TABLE 6 ABOUT HERE)

is .04. Of the 240 impressions, 126 were decoded correctly at least seven times, suggesting that chance was not the determining factor for most of the scores. The chance probability was also determined per decoder. In a set of 60 impressions, a decoder could get 26 correct by chance alone. Only four decoders scored below 26, once again suggesting that performance was above chance level.

Table 6

Probability of Obtaining Impression Communication Category Errors by Chance

Positive and Negative Information:	
α correct	p (α correct)
10	.000055
9	.000917
8	.006874
7	.030552
6	.089110
5	.178220
4	.247528
3	.235741
2	.147338
1	.005457
0	.009095

DISCUSSION

The hypotheses of the present experiment were: (a) personality impressions formed of negative object persons are communicated with fewer errors than impressions formed about positive object persons; and (b) encoders who are told that they will have to meet the object persons communicate impressions with fewer errors than encoders who are told that they will not have to meet the object persons. Neither hypothesis was substantiated with significant results. However, the reverse of the first hypothesis was confirmed in that impressions formed of negative object persons were communicated with significantly more errors than those formed of positive object persons. These unexpected results along with their applicability to ICP research are discussed in this section.

Contrary to the original hypothesis, impression communication was found to be more accurate for positive rather than for negative object person information. The results of previous ICP studies had demonstrated impressions of a "negative" object person (the newspaper writer) were communicated consistently better than impressions of the other object persons. However, the findings of the present study are not irreconcilable with those of the foregoing studies. In the former ICP

studies the set of object persons (English student, psychology student, map-model maker, policeman, and newspaper writer) may have been fairly affable, non-descript except for the "arrogant and opinionated" newspaper writer. The distinctiveness of the newspaper writer could have facilitated impression communication quite apart from his dislikableness. If, for example, the other object persons were all "arrogant" and "opinionated", one who was agreeable and affable would necessarily stand-out and thus facilitate impression communication. Therefore, the more accurate communications of impressions about the newspaper writer could have very well been the result of distinctiveness rather than dislikableness. The present study, varying likableness and holding distinctiveness constant, found that impressions of highly positive object persons were communicated more accurately than impressions of highly negative object persons.

As noted in the previous discussion of the likability ratings, there was a negativity bias operating in that negative information was given more weight than positive information, so why did negative object person descriptions fail to facilitate impression communication? Kanouse and Hanson (1972) viewed the negativity bias in terms of cost or reward orientations: "cost orientation (i.e. negativity bias) is likely to be in-

creased by those situational cues that differentially increase the salience of costs, while reward orientation is likely to be increased by those situational cues that increase the salience of rewards." (p. 59). That is, situational cues determine which orientation (avoid negative consequences, or approach positive consequences) the subject takes. The available situational cues in the impression communication study were: all of the object persons were male, and were described as being positive, negative, or mixed; the female subjects were told that the object persons were students; and half of the encoders were told that they would meet the object persons, while the other half were told that they would not meet the object persons. Going by some of the encoders' verbal responses (e.g., "when do we get to meet these guys--a couple of them sounded really neat," "Could you tell me Charles' last name?", "Can I sign-up to be a subject in the next stage (meeting the object persons)?"), it seems that the importance of the rewards (meeting the positive object persons) was greater than the importance of the costs (tolerating the negative object person). Indeed, while the salience manipulation produced no overall significant effects, it can be noted that a significant difference in accuracy for impressions based on positive and negative information ($t = 3.56$, $p<.01$) appeared in the high

salience group, but not in the low salience group. It is possible then that the situational cues served to increase reward orientation rather than cost orientation. Had different situational cues been provided (e.g., female object persons, or no hope provided for meeting the object persons) perhaps the cost orientation would have surpassed the reward orientation resulting in the opposite effect.

The same argument applies for attention theories which had been used to support the hypothesis that impressions of negative object persons are sommunicated better. The pertinence factor of Norman's attention model was aroused more for the positive information than for the negative information, and so the positive information had a better chance of reaching long-term memory. While it is unreasonable to contend that the female subjects attended more to positive information for survival or evolutionary purposes, it is reasonable to assume that they considered the positive information to be more pertinent, as evidenced by their unsolicited remarks.

As previously noted, attribution theory predicted that negative information is communicated less accurately. The present results are consistent with this prediction. Thus both attribution and attention theories can account for the results. Although the present experiment did not contain information relevant to indicating which theory can best account for the results, the

advantages and disadvantages of both can be pointed out. While attribution theory did provide an accurate prediction concerning affect, it is not as inclusive as attention theory which can integrate other object person characteristics (distinctiveness, novelty, importance, etc.) in the framework of information processing. On the other hand, attention theory requires a close examination of the situational cues and a certain amount of speculation as to what stimuli are more pertinent for the subject.

Norman's pertinence factor was likewise used to support the hypothesis that increased salience would increase impression communication accuracy. The present study found no support for this hypothesis. Rosenberg's (1969) evaluation apprehension hypothesis applies here as it did in the Perry and Boyd (in press) study which manipulated subject motivation by means of monetary reward. In both studies the subjects were told about ICP research in general, that is, how it investigates the ability to communicate impressions. Undoubtedly, this ability is highly regarded in today's culture and so all subjects were motivated to do well, thus negating any overall effect due to monetary motivation or information salience.

However, as noted in the discussion of positive versus negative information, internal analysis revealed a significant difference ($t = 3.56$, $p < .01$) between

positive and negative information in the high salience group which failed to appear in the low salience group. The salience manipulation thus seemed to be operating, but not strongly enough to reach overall statistical significance. It can also be noted that a further investigation by Perry and Buser (1973) in which both encoders and decoders received the salience manipulation, obtained a significant interaction between salience and information type. It seems therefore that the salience manipulation does produce an effect, but only when it is applied to both encoders and decoders.

Although the present manipulation of information salience is tangentially related to the attention process, an earlier study by Perry (1971) directly manipulated attention in the ICP using VTR presentation. The encoders were given different task instructions: Group I was told to attend to the physical features of each object person, Group II was told that the task would be impression communication, and Group III was not told anything about the experiment except that it was investigating social relationships. The encoders in all groups were later required to complete a questionnaire concerning the object persons' physical characteristics, and to encode their impressions. As predicted by Norman's attention model encoders in Group I recalled significantly more items than Group II

and III on the questionnaire, while encoders in Group II were more accurate in the impression communication task. Perry's results demonstrate the applicability of Norman's attention model to the ICP in that pertinence, as manipulated by the instructions, must be aroused for an item to be retained. Thus the instructions aroused pertinence of the physical features for Group I, and impressions for Group II, which resulted in their doing better on their respective tasks.

In the present study it was suumed that the salience manipulation would likewise arouse pertinence. Given that attention can be successfully manipulated in the ICP, the present salience manipulation probably was to subtle to produce a substantial effect. While there seems to have been a slight effect due to the salience manipulation, it was negligible on the overall test of statistical significance.

As stated in the results section the data were reanalyzed according to category errors, that is, a response was counted as correct if it belonged to the same category (positive, negative, or mixed) as the correct response. Once again positive information was shown to have significantly improved communication. There were a number of reasons for reanalysis according to category errors. First, the error rates were unusually high compared to those generally found using the ICP. It

was concluded that the task was too difficult. It appears that description overlap within a category made discrimination among object persons within each category impossible. Also Perry and Boyd (1972) have shown that written descriptions of various types result in poorer communications of impressions than more detailed information as found in personal interviews. The planned t-test comparison however, did indicate a significant difference, and consequently collapsing was used to investigate the data further.

A statistical artifact is evident in the reanalysis in that it switched the order of the means for information type. In the original analysis positive information was communicated best (7.34 errors), followed by mixed (7.62 errors) and then negative information (8.08 errors). But in the reanalysis the order switched to positive (2.62 errors), negative (4.36 errors) and mixed (6.70 errors). Obviously, reanalyzing the data according to category errors put the mixed category at the disadvantage. The probability of any one response being correct was .38 for the positive and negative categories, but for the mixed category the probability was only .25. Thus the reversal of the negative and mixed means appears to be the result of a statistical artifact in the reanalysis. However, the difference between the negative and mixed means was not significant in the original

analysis ($d = 0.46$, $p>.05$) but in the reanalysis the difference was found to be significant ($d = 2.34$, $p<.01$). Although the present hypothesis did not deal with the status of the mixed positive and negative information in impression communication, the results of a study by Perry and Boyd (in press) were interpreted as showing that inconsistent information is communicated less accurately. They found that the VTR object person presentation method contributed to fewer impression communication errors than did the audio condition for all object persons except the policeman. This exception was explained as the result of inconsistent information for encoders in the VTR condition: the policemen was short, reserved, and smiling, quite inconsistent with the usual policeman stereotype. These inconsistencies were not evident to the audio group and so did not hinder their impression communication. If inconsistent information does decrease communication accuracy, it would have been expected that the mixed object persons of the present study would have been highest in communication errors. There was no significant support for this tentative hypothesis in the original analysis. In the category-errors reanalysis, there were significant differences between positive and mixed, and negative and mixed information, but the significance is questionable since it was confounded by a statistical artifact of

of the reanalysis.

Since the present study was an extension of previous ICP experiments the results are applicable to ICP research in general. The most evident conclusion is that impressions formed of positive information are communicated more accurately than impressions formed of negative information. This effect, however, may be dependent upon situational cues. As contended by Kanouse and Hanson (1972), there is a general prevailing negativity bias but this bias is amenable to situational cues which can differentially increase the reward orientation over the cost orientation. The factors which seemed to have been influencing the present judges' attention and thereby their impression communication accuracy were the cues. As ICP research increases its approximation to the real-life situation of impression communication, it necessarily increases situational cues. These cues must be taken into account in order to afford accurate predictions.

The present salience manipulation was intended to be a close replication of a variable which affects everyday impression communication, that being the expectation of future interaction. This salience manipulation failed to produce any significant main effects. However, there were slight indications of an effect which, coupled with Perry and Buser's data (1973), are

encouraging in the sense that the ICP is capable of investigating variables which are directly relevant to everyday impression communication in a controlled laboratory setting.

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APPENDIX A

Ratings of Imagery and Meaningfulness, and Standard Deviations of Each for 100 Personality Traits Arranged in Order of Decreasing Imagery

Word	Imagery		Meaningfulness	
	X	SD	X	SD
loud-mouthed	6.28	1.24	4.58	1.74
hot-tempered	5.96	1.24	4.95	2.26
cheerful	5.86	1.42	5.67	1.59
happy	5.84	1.66	6.48	2.28
humorous	5.71	1.26	6.21	1.99
cruel	5.70	1.66	5.56	1.92
lazy	5.70	1.65	4.71	1.87
friendly	5.50	1.26	5.91	2.15
cold	5.46	1.54	7.43	2.28
boring	5.43	1.65	4.84	2.15
warm	5.43	1.52	7.66	2.20
talented	5.38	1.81	5.34	2.24
mean	5.36	1.76	5.40	1.73
greedy	5.35	1.50	4.93	2.10
complaining	5.34	1.45	4.48	1.72
neat	5.33	1.59	5.33	1.80
gossipy	5.31	1.63	5.34	1.95
enthusiastic	5.25	1.68	4.78	1.70
kind	5.23	1.70	5.57	1.85
energetic	5.22	1.73	4.93	2.22
phony	5.18	1.84	4.94	1.77
rude	5.16	1.69	4.98	1.88
nosey	5.10	1.82	3.70	1.53
witty	5.08	1.78	5.24	1.55
intelligent	5.05	1.73	5.40	1.62
hostile	5.00	1.93	5.25	1.89
cowardly	4.97	1.86	4.90	2.17
gloomy	4.96	1.64	6.49	2.13
courteous	4.95	1.53	4.97	1.82
unfriendly	4.93	1.56	4.53	1.83
helpful	4.91	1.74	4.82	2.13
jealous	4.89	1.86	4.50	2.23
amusing	4.86	1.84	5.84	1.81
*irritating	4.86	1.63	4.47	1.82
*polite	4.82	1.78	4.70	1.73

Appendix A - continued

Word	Imagery X	Imagery SD	Meaningfulness X	Meaningfulness SD
prejudiced	4.80	1.94	5.32	2.23
boastful	4.73	1.85	4.39	1.56
*efficient	4.73	1.94	4.84	1.92
alert	4.72	1.63	5.32	1.80
*conceited	4.71	2.08	4.40	1.82
creative	4.71	2.07	5.82	1.85
*irritable	4.69	1.76	4.44	1.89
*selfish	4.69	1.70	4.91	0.87
*generous	4.67	2.01	4.77	1.76
*well-mannered	4.57	1.78	4.79	1.69
ill-mannered	4.56	1.72	4.31	1.66
disobedient	4.43	1.92	4.44	2.01
pleasant	4.43	1.73	5.66	1.89
*careless	4.42	1.77	4.69	2.20
*sincere	4.40	1.96	4.70	1.94
*self-centered	4.39	2.12	4.18	1.98
thoughtful	4.39	1.67	5.10	1.79
*considerate	4.37	1.78	4.61	1.73
*honest	4.36	1.87	4.84	2.00
*obnoxious	4.35	2.35	4.41	1.93
*liar	4.34	1.95	4.57	1.58
*ambitious	4.33	1.77	4.94	2.24
patient	4.33	1.78	5.07	2.07
*quarrelsome	4.33	1.79	4.68	1.83
*impolite	4.31	1.90	4.61	2.12
*cooperative	4.30	1.94	4.31	1.84
*disagreeable	4.30	1.84	4.16	2.11
loyal	4.26	2.06	5.42	1.69
*unking	4.24	1.83	4.95	1.95
*understanding	4.23	1.95	5.03	2.05
*unpleasant	4.19	1.85	4.71	1.89
*dependable	4.18	1.90	4.32	1.74
*dishonest	4.12	1.90	5.15	1.53
*punctual	4.69	2.08	4.85	2.23
*imaginative	4.07	2.14	5.45	1.97
clever	4.02	1.84	5.69	1.69
*forgiving	3.98	1.80	4.57	1.78
ungrateful	3.96	1.72	3.45	1.64
*observant	3.92	1.62	4.84	1.66
*unreliable	3.87	1.86	3.81	1.59
*uninteresting	3.86	2.23	4.68	1.91
trustworthy	3.84	1.85	5.02	1.88
unselfish	3.80	1.91	4.52	1.75
*discourteous	3.76	1.84	4.58	1.71

Appendix A - continued

Word	Imagery X	Imagery SD	Meaningfulness X	Meaningfulness SD
*egotistical	3.76	1.83	3.82	1.88
*capable	3.71	1.86	4.28	2.11
*sensible	3.71	1.80	4.23	1.57
*trustful	3.71	1.56	4.52	1.93
*prompt	3.70	2.03	4.35	1.72
*malicious	3.63	1.93	4.70	2.20
*tolerant	3.61	1.85	3.84	1.99
distrustful	3.55	1.83	4.02	1.78
*narrow-minded	3.53	1.89	3.88	1.68
responsible	3.50	1.86	4.40	1.70
*truthful	3.50	1.43	4.35	1.73
unappreciative	3.44	1.86	3.57	1.81
logical	3.40	1.84	4.72	1.78
reliable	3.37	1.85	4.55	1.75
*untruthful	3.37	1.97	4.24	1.57
self-reliant	3.36	1.86	3.82	1.46
insincere	3.27	1.85	4.12	1.85
fault-finding	3.26	1.92	4.18	1.88
untrustworthy	3.26	1.76	4.10	1.97
irresponsible	3.13	1.68	3.65	1.41
broad-minded	3.10	1.74	4.03	1.85

APPENDIX B

Object Person Descriptions

Positive Object Persons:

*Charles:	truthful punctual understanding dependable cooperative	*James:	prompt understanding cooperative generous efficient
Douglas:	sincere punctual cooperative generous well-mannered	Philip:	tolerant imaginative considerate capable well-mannered
*Harold:	polite understanding honest well-mannered sensible	Robert	polite honest observant capable efficient
Albert:	sincere tolerant punctual ambitious sensible	Steven:	tolerant prompt forgiving ambitious efficient

Neutral Object Persons:

*Gary:	tolerant imaginative considerate unreliable irritable	Thomas:	tolerant prompt forgiving quarrelsome conceited
Kirk:	sincere punctual cooperative selfish irritable	Richard:	careless unpleasant obnoxious generous well-mannered

Neutral Object Persons:

Raymond:	narrow-minded discourteous uninteresting ambitious efficient	*Andrew:	narrow-minded dishonest liar capable well-mannered

Negative Object Persons:

Michael:	careless narrow-minded unpleasant quarrelsome egotistical	Timothy:	careless unpleasant obnoxious selfish irritable
Gregory:	narrow-minded discourteous uninteresting quarrelsome conceited	Larry:	narrow-minded dishonest liar unreliable irritable
John:	irritating impolite self-centered unreliable conceited	*Arthur:	irritating unkind impolite irritable egotistical
*Edward:	discourteous unkind obnoxious selfish conceited	*Daniel:	untruthful unpleasant unkind disagreeable obnoxious