COGNITIVE COMPLEXITY AND THE STIMULUS PERSON JUDGED: A RE-EXAMINATION OF AFFECTIVE VALENCE AND FREQUENCY OF INTERACTION

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IRENE T. MANN

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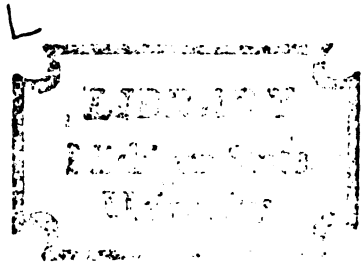

ABSTRACT

COGNITIVE COMPLEXITY AND THE STIMULUS PERSON JUDGED:

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By

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This study re-examined research regarding complexity of response as a function of the stimulus person judged. More specifically, it dealt with the vigilance hypothesis, the frequency of interaction hypothesis and the neutral affect hypothesis, which have made differential predictions regarding complexity of response. The study attempted to show that results supporting the three interpretations were related to the measure of cognitive complexity employed. Accordingly, two different measures of complexity were used and also two sets of role figures, yielding four groups. It was hypothesized that the vigilance effect would occur only when evaluative traits were used in administering the Rep Test measure of complexity; in using nonevaluative traits on the Rep Test and another measure of complexity, H/Hmax, no such vigilance effect would be found. Assumptions regarding the affective valences of the ten role figures conventionally presented in the Rep Test were also examined. Finally, given that the vigilance effect was found to be measure-specific, this study examined supportive evidence for the frequency of interaction hypothesis and the neutral

affect hypothesis. Four groups of 30 participants each were tested. Participants in Groups 1 and 2 responded to Bieri's ten role figures, and the Rep Test and the H/Hmax measure of complexity, respectively, were administered. Participants in Groups 3 and 4 responded to six role descriptions that varied in terms of affective valence and knowledge of the person; the Rep Test and the H/Hmax measure of complexity, respectively, were administered. Results generally supported previous assumptions regarding the affective valence of the ten role figures; other predictions were also confirmed. Results for the Rep Test using evaluative traits supported the vigilance hypothesis. For the Rep Test using nonevaluative traits, no strong pattern of response emerged. Results for the H/Hmax measure of complexity supported the frequency of interaction hypothesis. Well known persons were more highly differentiated. The data indicated no support for the neutral affect interpretation. However, great variability in the strength and direction of relationships between complexity and the variables of main interest, liking and knowledge of the person, for the separate role figures and individual participants was noted; thus, overall trends were quite weak. Results in this area of research depend on the measures used, masking to a great extent variance which is not accounted for by the variables chosen for study. The domain specificity notion was briefly discussed. However, this notion did not fully account for a subsequent analysis which indicated low generality of complexity of response for individual participants and across role figures. A more exact definition of complexity of response in this context needs to be developed.

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By

Irene Theresa Mann

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CHAPTER I

INTRODUCTION

A great deal of human activity is spent in getting to know other persons and thinking about them. The area of person perception or social cognition analyzes such activity.

Research in this area has generally focused on the "processes by which man comes to know and think about other persons, their characteristics, qualities and inner states," [Tagiuri, 1969, p. 429] and more specifically on the characteristics of the perceiver that might affect such processes. One important characteristic of the perceiver is degree of differentiation or the "tendency to make fine distinctions among people and thus to perceive them as different from one another" [Shrauger and Altrocchi, 1964, p. 292]. Bieri [1955] defined differentiation as the number of constructs or attributes constituting a given cognitive structure. The cognitive structure or domain of interest was the interpersonal construct system. The cognitively complex person utilizes a more highly differentiated construct system than a cognitively simple person. It has been shown that cognitively complex persons and cognitively simple persons perform differently when given impression formation tasks [Nidorf and Crockett,1965; Mayo and Crockett, 1964; Shrauger, 1967], in discriminating behavioral stimuli and making judgments [Bieri, Atkins, Leaman, Miller and Tripodi, 1966], and in predicting how others will respond [Shrauger and Altrocchi, 1964].

Complexity has not only received consideration as a personality variable; researchers have also examined complexity of response to various stimuli. Many researchers have focused on complexity of response to stimulus persons differing in affective valence. This work has been approached in the following ways: 1) in person perception, a concern with the differentiation skills of the perceiver, and the perceiver's use of personal constructs; 2) cognitive complexity as a characteristic of cognitive structure and its generality across and within domains; 3) perceptual defense and vigilance applied to the perception of persons; 4) affective arousal and its effect on discrimination of persons. A fifth approach is information theory. Researchers studying cognitive structure have adopted measures of amount of information to assess dimensionality in terms of distinctions yielded by a system of groupings or categories [Scott, 1962, 1969].

The first approach was briefly introduced. In regard to the second approach, generality of cognitive complexity has been the major issue. Crockett [1965] reviewed research offering some support for the following hypotheses: 1) complexity in one domain does not necessarily imply complexity in other domains; 2) persons for whom interpersonal relations are functionally important have more complex systems than individuals for whom interpersonal relations are less important; 3) an individual may show differential complexity with respect to different categories of persons depending on the extent of interaction with them. The latter notion underlies the frequency of interaction hypothesis, which indicates that one is more complex in responding to well known and liked persons since these persons are socially close and more familiar.

Crockett's conclusions contradicted the findings of Miller and Bieri [1965] and Irwin, Tripodi and Bieri [1967], who found that participants responded to negative role figures in a more complex manner. Their studies displayed a concern with perceptual effects and discrimination. The vigilance hypothesis, called upon to explain greater differentiation of negative role figures, was borrowed from notions of perceptual defense and vigilance in the area of perception [Erdelyi, 1974], and applied to person perception, offering a ready-made and perhaps counter-intuitive explanation for obtained results.

Research representing the fourth approach has dealt with affective arousal and how this affects judgments and discriminability of cues [Bieri, 1967]. One view holds that an increase in affective arousal decreases the individual's discrimination of stimuli. This view served as the basis for yet another hypothesis, the neutral affect hypothesis, which makes predictions contrary to both the vigilance hypothesis and the frequency of interaction hypothesis. The neutral affect hypothesis suggests that persons of neutral affect will be perceived in a more complex manner. Liked or disliked persons are more arousing affectively and are less well differentiated or discriminated.

The three hypotheses mentioned, the vigilance hypothesis, the frequency of interaction hypothesis and the neutral affect hypothesis, posit different processes underlying responses to stimulus persons when responses are examined in terms of degree of differentiation or complexity. They also make differential predictions regarding which stimulus persons will be more highly differentiated. In one case,

negative persons will be more highly differentiated, in another case positive persons, and in another, persons of neutral valence. All three hypotheses have found some support. The hypotheses were derived from different approaches, as outlined above. There have also been different approaches to the measurement and definition of complexity in this context.

This problem of defining and measuring complexity is a major concern for the research area. Bieri [1961] pointed out that it is unclear whether cognitive complexity is a differentiation concept exclusively or relates to organizational properties of the cognitive system as well. A factor analysis of several widely used measures of complexity in the interpersonal domain and several related measures by Vannoy [1965], revealed that cognitive complexity is not a unitary trait as measured by the various paper and pencil tests. Vannoy contended that existing measures tap different variables or aspects of complexity; these aspects have not as yet been clearly defined.

Given this state of affairs, one must proceed with extreme caution in this area; an imprecise definition of complexity permits different approaches to its measurement. The Role Construct Repetory Test (RCRT or Rep Test), as outlined by Kelly [1955], and subsequently modified by Tripodi and Bieri [1963] and Bieri, et al. [1966], has been one of the most widely used measures of complexity. In addition to providing a method to assess an individual's cognitive complexity in the interpersonal realm, the Rep Test has been used to measure complexity of response to role figures differing in affective valence.

The work of Scott [1962] represents a slightly different approach to the measurement of complexity than that of the Rep Test. The approach was derived from information theory [Attneave, 1959]. The participant sorts a number of items; an index, based on the dispersion of objects over a set of distinctions yielded by the category system, is then computed. Reich [1969] utilized such a task in assessing complexity of response to persons differing in affective valence.

Results of studies in this area do not overwhelmingly confirm any one of the hypotheses. It is extremely difficult to determine the validity of the processes posited because researchers have not maintained comparability of method and complexity measures. There appears to be some relation between the measure and the results supporting a particular hypothesis, such that certain measures consistently yield certain results. The aim of the present study was to confirm this. To this end, two different measures of complexity were examined, Bieri's Role Construct Repetory Test and information theory's index of relative entropy or H/Hmax. The two measures will be briefly discussed; then research findings relevant to them as dependent measures in examining complexity of response to stimulus persons will be presented.

Two Measures of Complexity

Rep Test

The Rep Test is based on Kelly's theory of personality [1955] which assumed that every person has a number of personal constructs to cognize and perceive others. A construct is defined as a dimension for construing the way in which persons are alike and different.

Examples of bipolar constructs are "considerate-inconsiderate" and "dominant-submissive." The Rep Test taps the individual's system of constructs, and then requires the participant to judge a number of persons on these dimensions. When constructs are provided for the participant it is assumed that they are representative of the person's own constructs [Bieri, et al., 1966]. Tripodi and Bieri [1963] reported that providing constructs yielded results similar to results found when the procedure involved use of the participants' own constructs.

Bieri, et al. [1966] described the scoring of the Rep Test. Participants are presented with a 10 X 10 grid. Each of the ten columns is identified by a certain role figure. Ten rows of bipolar constructs are provided. The participant uses a six-point Likert scale to rate the ten role figures on the first construct, then rates all ten on the second construct, and so on, for a total of 100 ratings. Complexity is measured by comparing each rating in a row with the rating directly below it for the same person and thereon for each rating in the column, yielding 45 comparisons and for the entire grid, 450 comparisons. A score of one is given for exact agreement of ratings on any one person. Thus, the highest possible score is 450, indicating simplicity or minimal differentiation. The role figures commonly used are: Self, Mother, Father, Friend of the Same Sex, Friend of the Opposite Sex, Boss, Person You Dislike, Person You'd Like to Help, Person With Whom You Feel Most Uncomfortable and Person Difficult to Understand.

H/Hmax

This measure of complexity was derived from information theory [Attneave, 1959]. Participants list and group adjectives describing others. The number of adjectives written and the number of categories created are counted. For example, one might write seven adjectives (jealous, stingey, realistic, thoughtful, modest, kind, considerate) and place the first three in one group and the last four in another group. A measure of dispersion, H, of the items over the group combinations is calculated. The ratio, R, or relative entropy is obtained by expressing H in ratio to the maximum H possible with a certain number of categories (i.e., Hmax is obtained when all categories have equal frequencies). The ratio R or H/Hmax varies between 0.00 and +1.00, regardless of the number of categories [Scott, 1962]. As H/Hmax approaches +1.00, complexity of response is greater. H/Hmax corrects for verbal fluency; the measure is most useful when either the number of stimuli or the number of categories varies across participants. If a person creates a large number of categories and distributes the items equally over all categories, there is a high degree of uncertainty and a low degree of structure, hence more ambiguity and greater complexity of response.

H/Hmax is a measure of categorization. It assesses departure from distributional equality and is not concerned with the content of the response; it taps a purely structural property [Scott, 1962]. If items are distributed equally over the categories, the amount of information yielded is low, and it is uncertain, given any one item, which category it belongs in. This uncertainty connotes greater ambiguity

and hence complexity of response. Glixman [1965] used H/Hmax as a measure of the degree of structure in a domain. Scott [1966] spoke of H as a measure of cognitive dimensionality; "the number of groups-worth of information can be represented as the dispersion of the objects over the set of distinctions yielded by the category system" [p. 408].

Comparison of the Two Measures

The two measures appear to require different types of responses from participants. The Rep Test requires the individual to use construct dimensions to discriminate among persons. H/Hmax has little to do with how construction dimensions are used to discriminate among others. With the H/Hmax measure, once the participant has written adjectives to describe a certain person, the adjectives become the stimuli. Although the individual may have the stimulus person in mind when creating the groupings, it might also be the case that the participant responds solely to the adjectives. The adjectives for each role figure are grouped separately by the participant, so that each role figure serves as a separate domain. This does not serve to assess how well the individual is discriminating or differentiating among others. Although Reich [1969] states that "discrimination in cognitive research typically is regarded as being the process in which the person uses a set of independent dimensions or characteristics to respond to stimuli, responding differently to the different classes but similarly to those stimuli within each class," [p. 107] it is not exactly clear how H/Hmax measures this. Irwin, Tripodi and Bieri [1967]

pointed out that "such a task [written descriptions of persons] makes no assessment of how functionally different the constructs may be inasmuch as the subject is not required to actually use these dimensions to discriminate between individuals," [p. 446] which is what the Rep Test procedure purportedly accomplishes.

The lack of relationship between various measures of complexity leads one to suspect that the measures are not convergent. Miller [1969] found nonsignificant correlations of .009 for males and -.113 for females between Bieri's and Crockett's procedures. Wilkins and Epting [1974] reported a correlation of -.03. Vannoy [1965] reported a correlation of .06 between the Rep Test and number of categories used to group 12 significant persons. The so-called "measures of complexity" appear to tap different aspects of what might be called complexity.

Vigilance-Survival Hypothesis

Miller and Bieri [1965], using the Rep Test, found that participants were less complex in judging persons who were close to them and toward whom they were expected to relate positively (Self, Mother Father, Friend of the Same Sex, Friend of the Opposite Sex) than more socially distant persons toward whom the participant was expected to relate negatively (Persons You Dislike, Person You'd Like to Help, Boss, Person With Whom You Feel Most Uncomfortable, Person Difficult to Understand). A "vigilance" hypothesis was advanced to explain these results, i.e., differentiation serves an adaptive function for anticipating and identifying the behavior of more remote and threatening persons. Differentiation helps to clarify the nature of the threat.

Irwin, Tripodi and Bieri [1967] obtained similar results using the same technique to measure differentiation and two different sets of stimuli. In Study I participants provided names for four liked housemates (same sex), four housemates of neutral valence (same sex), and four disliked housemates (same sex). In Study II participants provided names for eight role categories: closest friend (male and female), person you admire (male and female), person you find hard to like (male and female) and person with whom you feel most uncomfortable (male and female). Positive figures were differentiated significantly less well than negative figures. Also, positive figures were differentiated less well than neutral figures and neutral figures were less well differentiated than negative figures.

Results supporting the vigilance hypothesis were also reported by Miller [1968] and Wilkins, Epting and VanDeRiet [1972]. In both studies the stimuli were the ten role figures presented by Miller and Bieri [1965]. Soucar and DuCette [1971] found greater differentiation of disliked political figures than liked political figures, and Soucar [1970] reported higher complexity scores among high school students for disliked teachers than for liked teachers.

Justification Hypothesis

A justification hypothesis was advanced by Koenig [1971] which makes the same prediction as does the vigilance hypothesis, i.e., negative persons will be more highly differentiated than positive persons. However, the justification hypothesis posits a different underlying mechanism for this effect. According to Koenig, there is "a trait in our culture and perhaps others as well, which stresses being friendly,

and liking other people" [p. 385]. Dislike for someone requires justification; one should be able to provide good reasons for dislike. This implies that negative persons will be more highly differentiated and discriminated, so that, if required, one can justify one's dislike. Since justification for liking is not expected, positive persons would not be as highly differentiated as negative persons.

Soucar and DuCette [1972] demonstrated that differentiation can be manipulated in an experimental session by asking participants to defend their choices of liked and disliked persons. When participants were asked to justify their choice of a liked person, differentiation (as assessed by the Rep Test) of these persons increased. Results were less clearcut when participants were asked to justify their choice of disliked persons, primarily because of problems with the scale used. The authors concluded that complexity may not be influenced by affect per se, but may be influenced by committing oneself to a statement concerning like or dislike; the threat of postdecisional justification increases complexity of response.

Finally, Koenig and Seaman [1974b] examined both the vigilance and justification effects. The authors concluded that they were unrelated, but both contributed to increased complexity of response.

Frequency of Interaction Hypothesis

Contrary to results supporting a vigilance or justification interpretation, Supnick [1964; as reported by Crockett, 1965] found that participants used more constructs to describe persons they liked than to describe persons they disliked and to describe peers than to describe

older persons. She posited a"frequency of interaction" hypothesis to explain the results, i.e., participants differentiated more highly the persons they knew well or liked than less well known or disliked persons because they came into more contact with the former persons and avoided the latter persons. Her results did not necessarily disconfirm the justification of vigilance hypothesis; the method of assessing complexity of response in Supnick's study differed markedly from that of the Rep Test. Participants simply wrote three minute descriptions of the stimulus persons, and the number of constructs used in each description was determined. Thus, it seems reasonable that participants would describe more fully and in greater detail well known or liked persons. Crockett [1965] cited Supnick's study to support his contention that although some generality of complexity exists in the interpersonal realm, characteristics of the stimulus person do affect complexity of responding.

Scott [1962] indicated that knowledge of a domain is a necessary, though not sufficient basis for cognitive differentiation of a domain. One would expect, on the average, some positive correlation between complexity and level of information or knowledge regarding a given domain. Two studies confirmed this. Participants were asked to group nations and answer factual questions regarding the nations. The information tests correlated +.31 and +.37 with H, the measure of complexity. Scott [1969] also reported studies in which participants were exposed to instructions about a domain. Dimensionality scores showed a significant mean increase from beginning to end of the instructional course.

Seferi [1968; as reported by Scott, 1969] found that intimately

known persons were differentiated more highly than casually known person. Intimacy was assumed to correlate with amount of information regarding persons, but this assumption was not directly assessed.

Reich [1969] found some support for the frequency of interaction hypothesis. Participants listed adjectives describing different persons and then grouped the adjectives for each person. The number of adjectives used, the number of categories and H/Hmax were the three dependent measures. Participants wrote more adjectives and created more categories for persons they knew well than for persons they knew only slightly. The most adjectives were written and the most categories created for positive persons, followed by negative and neutral persons.

Lott, Lott, Reed and Crow [1970] examined participants' usage of the 200 most meaningful words from Anderson's list of 555 personality trait words in describing well known persons who were liked, disliked or of neutral valence. The greatest number of words were used to describe liked persons, fewer for disliked persons and fewest for neutral persons. Liked persons were also described by more favorable words than neutral or disliked persons, and disliked persons were described by less favorable words than neutral persons.

In studies supporting the frequency of interaction hypothesis, the method of assessing complexity differed markedly from the Rep Test and involved the rather simple procedure of counting numbers of adjectives, constructs or categories. Such counts were undoubtedly affected by verbal fluency. More importantly, the tendency to use positively evaluated words more fequently and facilely or the Pollyanna

effect [Boucher and Osgood, 1969] probably contributed to higher counts of constructs and adjectives in descriptions of well known and liked persons, assuming that such persons were described in favorable terms. However, when there is a correction for verbal fluency and hence the positivity bias, another effect is noted.

Neutral Affect Hypothesis

Reich [1969] asked participants to respond to six person descriptions: Person You Know Well and Like, Know Well and Dislike, Know Well and Feel Neutral Toward, Know Slightly and Like, Know Slightly and Dislike, and Know Slightly and Feel Neutral Toward. The three dependent measures were number of adjectives used to describe each person, number of categories and H/Hmax. For the first two measures, results supported the frequency of interaction hypothesis. On the last measure, H/Hmax, there was a main effect for Affect. Neutral persons received the highest complexity scores, followed by positive persons and negative persons, respectively. Reich hypothesized that intensity of involvement was the crucial factor; the higher or more intense the involvement, the lower the discrimination of stimuli.

Glixman's [1965] study also lent support to the neutral affect hypothesis. He found that participants differentiated more highly among the attributes of inanimate objects than among the characteristics of war and self. The three domains were ordered from peripheral to personally relevant. Participants were given statements regarding objects, war and self and were asked to group the statements. H/Hmax was then computed. The author found that the largest number of categories was associated with the least significant domain, objects,

and the most unequal distribution of items over the categories used was associated with the most significant domain, self.

Harvey, Reich and Wyer [1968] also obtained results consistent with the view that high involvement results in poorer differentiation than does low involvement. Moreover, they examined the interaction of involvement with the variable concreteness-abstractness. Two groups of participants, concrete and abstract (as assessed by the "This I Believe" test), selected attributes to describe social beliefs and interpersonal relations, and then rated selected social beliefs and interpersonal relations (8 positive, 8 negative, and 8 neutral for each) on the selected attributes. Participants also rated intensity of feeling toward each social belief and interpersonal relation. Concrete subjects achieved higher differentiation than abstract participants when attitudes were of low intensity; abstract participants differentiated equally well regardless of intensity of attitude. Overall, neutral domains were differentiated more highly than either positive or negative domains. Differentiation of neutral domains was unaffected by intensity of attitudes, while positive and negative domains were differentiated more highly when attitudes were low in intensity than when high in intensity. The intensity of ratings of positive and negative domains did not differ significantly but ratings for neutral domains differed significantly from both positive and negative.

Lott, Lott, Reed and Crow [1970] hypothesized that participants would use the greatest number of words from Anderson's list of personality-trait words to describe liked persons., fewer words for disliked

persons and fewest for neutral persons. This hypothesis was based on the assumed cue properties of liked, disliked and neutral persons. It was assumed that liked persons would be maximally attention directing and salient. A disliked person would be less salient than a liked person but more salient than a neutral person because of a vigilant reaction to disliked stimuli. The authors found support for their notions in regard to cue properties. In reconciling their results with results supporting the vigilance effect the authors indicated the perhaps liked persons are perceived as very similar and more trait words can be applied to them, leading to less discrimination among such persons. Disliked persons, as a group, are described with fewer characteristics and hence would be more easily distinguishable from one another. Their findings also suggested that liked persons as a group and disliked persons as a group have in common certain personality traits.

Both Reich [1969] and Glixman [1965] indicated that although participants made a greater number of responses to well known and liked persons, the responses were highly redundant and didn't contain much informational complexity. For the neutral person, the amount of description was reduced, as were the number of independent discriminnations, but actual complexity was high [Reich, 1969].

The Rep Test: Methodological Issues

The present study examined two issues regarding the Rep Test: the affective valences of the role figures and the use of evaluative trait words as bipolar constructs.

In regard to the first issue, Wilkins and Epting [1971] tested the notion that five of the traditional Bieri role figures were positive in affective valence and five were negative in affective valence. They factor analyzed the cognitive complexity scores for the ten role figures for 82 participants, hoping to find two distinct factors that would account for a large proportion of the total score variance and support the assumption underlying the dichotomization of the ten role figures in terms of social distance and affective valence. Factor I accounted for only 21.7% of the total score variance and the roles with high loadings on this factor were the "positive" ones and boss and person you'd like to help. Factor 2 accounted for only 5.9% of the total score variance and only two of the "negative" figures loaded highly on this factor. The authors concluded that the role categories could not be divided into two distinct sub-groups on the basis of affective value. This was perhaps the wrong conclusion. The results more accurately indicated that assumed affective valences for the role figures were incorrect: perhaps there were subgroups, but they did not contain the five "positive" and five "negative" role figures as outlined by Miller and Bieri [1965].

Two other studies lend support to this latter notion. Turner and Tripodi [1965] examined the responses of student clinicians to significant others and clients. For significant others (Bieri's 10 role figures), results supported the vigilance hypothesis, while for clients, affective valence had no effect on differentiation. The participants as a group tended to perceive clients more complexly than the ten role figures. The authors explained these results in terms of

a clinician's job requirement to make fine judgments regarding clients regardless of their affective valence. However, more importantly, this study indicated that the particular stimuli presented made a difference in results obtained, depending on the sample of persons being tested.

Rothman [1973] tested therapists, counselors and counselor educators and found no differences in differentiation of positive and negative figures (Bieri's ten role figures). Rothman hypothesized that for therapists, mother and father might be negative in valence rather than positive because a difficult or unhappy childhood might lead one to become a therapist, and boss and person you'd like to help would be more positive in valence than negative. This was partially found to be the case. In the case where person you'd like to help and boss were combined with the other "positive" affect roles, and mother and father were combined with the "negative" affect roles, the vigilance hypothesis was supported.

It appears that for different individuals and different samples of persons, the affective valences of the ten role figures conventionally presented in the Rep Test are perceived differently. In this study, participants were required to designate their degree of liking for each of the role figures in order to test prior assumptions regarding affective valence.

The second issue in regard to the Rep Test concerns the use of evaluative trait words. Boucher and Osgood [1969] argued "that there is a universal human tendency to use positively evaluated words more frequently, diversely, and facilely than evaluatively negative words"

[p. 1]. They called this the Pollyanna effect. The authors provided cross-cultural evidence for this tendency.

Extending the notion, Shepherd [1972] argued that the existence of one desirable characteristic implies the existence of other desirable characteristics while the existence of one undesirable trait does not necessarily imply the existence of other undesirable traits. Therefore, Bieri's procedure for assessing complexity would yield higher scores for "negative" role figures than for "positive" figures. Vannoy [1965] noted that "the tendency to use a 'favorable' response is negatively associated with cognitive complexity as measured by this test [Bieri's procedure]"[p. 387]. The correlation between the number of favorable responses and complexity scores was -.46. Thus, those participants who consistently marked the favorable traits were those participants with scores indicating a less complex response.

Shepherd had participants complete Bieri's gridform, providing five evaluative and five nonevaluative bipolar constructs. The evaluative constructs were bipolar adjectives at opposite extremes in favorability according to Andersons' [1968] list of likeableness ratings of personality-trait words. For the other five pairs of bipolar adjectives the likableness values were similar and close to the neutral point. The 10 X 10 grid for each participant was then divided into four matrices, comprised of ratings for positive role figures on evaluative traits, negative figures on evaluative traits, positive figures on nonevaluative traits and negative figures on nonevaluative traits. Participants were more complex in responding to negative figures than positive figures on evaluative traits, and there was no

difference in complexity scores for positive and negative figures on nonevaluative traits. Thus, the Pollyanna effect may have contributed to scores for negative role figures; however, complexity of response to negative figures on evaluative traits was no greater than that based on nonevaluative traits, indirectly lending some support to a vigilance effect, over and above the Pollyanna effect.

The above has certain implications for the results one might expect in using the Rep Test measure. In the studies cited in support of the vigilance or the justification hypothesis, the measure of complexity was in all cases the Rep Test. And, as noted above, Shepherd [1972] found that when nonevaluative trait words were presented instead of evaluative trait words a vigilance effect was not found. Thus, it was hypothesized that the vigilance or justification effect is a measure-specific one. To test this, results for both evaluative and nonevaluative trait words on the Rep Test were examined.

Aim of the Present Study

Past research has indicated that the vigilance or justification effect occurs when a particular measure of complexity is used, i.e., the Rep Test, when certain evaluative trait words are used, and when certain role figures are assumed to be positive or negative in valence. When another measure of complexity, H/Hmax, is used, results indicate that neutral stimulus persons are responded to in a more complex manner, supporting a neutral affect hypothesis. When quantity of responding in describing stimulus persons is involved then evaluatively positive words seem to be used more frequently and facilely to describe positive persons than evaluatively negative words are used to describe

negative persons, supporting the frequency of interaction hypothesis.

In light of the above, the present study addressed the following issues:

1) Affective valence of role figures

This study re-examined the ten role categories or figures conventionally employed when administering the Rep Test, by allowing participants to freely designate their degree of liking for persons chosen to fit the role descriptions, and to compare these ratings with prior assumptions regarding the affective valence of the role figures. Ratings regarding knowledge of the person, degree of involvement and frequency of interaction provided additional information.

2) Use of evaluative and nonevaluative traits on the Rep Test

For the Rep Test measure of complexity, results for both evaluative and nonevaluative traits were examined. (See Appendix A.) It was expected that for evaluative traits, results would be similar to prior findings. A vigilance or justification effect would be apparent, i.e., negative role figures would be responded to in a more complex manner. For nonevaluative traits it was expected that the affective valence of the role figures would not be strongly related to complexity of response [cf. Shepherd, 1972]. Such results would indicate that the Rep Test yielded results consistent with the vigilance or justification hypothesis because trait words with evaluative connotations were used in a particular way. Thus, negative persons would be responded to in a more complex manner because both positive and negative traits were assigned to them; such would not be the case for positive persons. When nonevaluative traits were presented, however, there was no reason to expect that the vigilance effect would occur.

3) Use of an alternative measure of complexity, H/Hmax

Also, a second measure of complexity was examined. It was expected that results using this measure would not correspond to results obtained when using the Rep Test measure. The number of adjectives written to describe stimulus persons and number of categories created in grouping the adjectives were examined. It was expected that results for these latter two measures would support the frequency of interaction hypothesis, similar to the findings of Crockett [1965] and Reich [1969]. The prediction for H/Hmax was that results for this measure would not support a vigilance interpretation.

Given that support for a vigilance effect was not found using nonevaluative traits on the Rep Test or using number of adjectives, number of categories and H/Hmax as measures of complexity, the results for these measures were examined in terms of support for either the frequency of interaction hypothesis or the neutral affect hypothesis. It was hoped that results for these measures would converge in supporting one or the other of these hypotheses.

4) Generality of responses to two different sets of role figures

Two sets of role figures were examined in conjunction with the two measures of complexity. It was expected that differing role figure designations would not affect complexity of response. Most researchers have used Bieri's ten role figures, but some have not [Irwin, Tripodi and Bieri, 1967; Turner and Tripodi, 1965; Supnick, 1964; Reich, 1969]. Bieri's ten role figures were chosen so that results could be compared with prior findings and so that assumptions regarding the five positive role figures and the five negative role

figures could be tested. The second set of role figures, previously used by Reich in 1969, were such that the two variables of interest, affective valence and knowledge of the stimulus person, were varied systematically in the role figure descriptions and allowed examination of their possible interaction in affecting complexity of response.

Thus, this study examined responses of participants in four different situations. In the first, participants were exposed to Bieri's ten role figures and were given the Rep Test. For a second group, the same ten role figures were presented and participants responded so that it was possible to calculate H/Hmax as a measure of complexity. Participants in a third group responded to six person descriptions: person you know well and like, know well and dislike, know slightly and like, know slightly and dislike, know well and feel neutral toward, know slightly and feel neutral toward, and completed the Rep Test. Finally, a fourth group responded to the same six person descriptions as above in such a way that H/Hmax could be calculated. Participants in each group also marked questions regarding liking, frequency of interaction, involvement and knowledge of the stimulus persons.

In summary, four groups of participants were exposed either to Bieri's ten role figures or Reich's six role figures and responded in terms of the Rep Test or the H/Hmax measure of complexity, as follows:

Group 1: Bieri's ten role figures, Rep Test

Group 2: Bieri's ten role figures, H/Hmax measure of complexity

Group 3: Reich's six role figures, Rep Test

Group 4: Reich's six role figures, H/Hmax measure of complexity

The present study had implications for the following issues and predictions:

1) The confirmation of the assumed affective valences of Bieri's ten role figures. Participants in Groups 1 and 2 were asked to indicate their degree of liking for each of Bieri's role figures.

2) Results supportive of the vigilance effect for the Rep Test using evaluative traits but not for the Rep Test using nonevaluative traits. Participants in Groups 1 and 3 completed the Rep Test, with ten evaluative bipolar trait words and ten nonevaluative bipolar trait words. Group 1 was a replication of Shepherd's [1972] procedure.

3) Results not supportive of the vigilance effect but supportive of either the frequency of interaction hypothesis or the neutral affect hypothesis using another measure of complexity, H/Hmax. Participants in Groups 2 and 4 completed the H/Hmax measure of complexity.

4) No overall difference in supportive evidence for a particular hypothesis using two different sets of role figures. Participants in Groups 1 and 2 responded to Bieri's ten role figures; participants in Groups 3 and 4 responded to Reich's [1969] six person descriptions. Results for Groups 1 and 3 and Groups 2 and 4 were compared to note differences in results due to presentation of different role figures.

CHAPTER II

METHOD

Participants

One hundred twenty-six introductory psychology students, 60 males and 66 females, at Michigan State University served as participants. Participants received either class credit or $1.00 in cash. (Protocols of six female participants were not included in the analysis because of incomplete questionnaires, N=4, or failure to complete the grouping procedure, N=2.)

Materials

Groups 1 and 3 (Rep Test)

The Rep Test booklets consisted of a cover page on which each participant indicated their sex, age, grade point average and year in school, followed by an instruction page. Subsequent pages were headed with a role figure name or description and a set of 20 rating scales anchored by bipolar adjectives. (See Appendix B.) In assembling the booklets, the order of presentation of the role figures was randomized. The scales appeared in the same order for all role figures but evaluative and nonevaluative traits were interspersed. For evaluative traits, the more desirable or favorable trait did not always appear on the same side of the six point Likert type scale. A scale was provided with numbers from one to six. Following the scales, questions appeared regarding liking, frequency of interaction, degree of involvement,

knowledge of the person and relation to the participant. Participants responded to such questions by marking a 1 to 10 scale with 1 indicating high liking, frequency of interaction, involvement and knowledge, and 10 indicating very little liking, frequency of interaction, involvement and knowledge. The question regarding interaction was omitted for Self, Mother, and Father, and the involvement question was not asked regarding the Self. Booklets either contained the role figures: Self, Mother, Father, Friend of the Opposite Sex, Friend of the Same Sex, Boss, Person You Dislike, Person Difficult to Understand, Person You'd Like to Help and Person With Whom You Feel Most Uncomfortable, or the role descriptions: Person You Know Well and Like, Know Well and Dislike, Know Well and Feel Neutral Toward, Know Slightly and Like, Know Slightly and Dislike, Know Slightly and Feel Neutral Toward. Finally, except for Self, Mother, Father, Friend of the Opposite Sex, Friend of the Same Sex and Boss, participants were asked to briefly describe their relationship to the person.

Groups 2 and 4 (H/Hmax Measure)

Materials for Groups 2 and 4 included cards on which had been printed the role figure names or descriptions, 3 X 5 blank slips of paper and paper clips. There was also a sheet on which participants indicated their sex, age, GPA, year in school; other sheets contained questions regarding liking, frequency of interaction, degree of involvement and knowledge of the person and a request for a brief description of the person chosen to fit the role figure, when appropriate. (See Appendix C.)

Procedure

Participants were randomly assigned to one of four groups. All participants were tested individually in separate cubicles. Participants assigned to Groups 1 and 3 were asked to fill out a booklet. The experimenter gave verbal instructions that participants were to flip through the booklet and familiarize themselves with the role figures, to be sure they could think of a different person to fit each description. Participants were encouraged to ask questions, if any, in working through the booklet. The experimenter left the cubicle while participants worked. When the participant finished, the experimenter debriefed the participant and answered questions.

Participants assigned to Groups 2 and 4 were seated at a table in a cubicle with the role figure names or descriptions on cards spread out in a row before them. The experimenter shuffled the cards before testing each participant. The participant was asked to note the descriptions and think of a person they knew to fill each description and indicate that person's name or initials on a slip of paper placed beneath the role figure designation. Participants were then asked to think of one word adjectives, as many as could be thought of, to describe each person and to write each adjective on a separate slip of paper and pile the slips beneath the appropriate role figure designation. The experimenter left the cubicle while the participant worked. When the participant finished, the experimenter returned and asked the participant to return to each pile of words in turn and group the words that seemed to go together, to label these groupings and clip the words in the group and the label together. (See Appendix C for the instructions given. Some participants found the instructions very

difficult to comprehend; the experimenter repeated and varied them so that the participant reached an understanding of what was required.) Again, the participant was left alone to complete this task. The experimenter then gave the participant a sheet for each role figure with questions regarding liking, interaction, involvement and knowledge of the person and relation to the participant, when appropriate. Finally, the experimenter debriefed the participant and answered questions.

Data Preparation

Groups 1 and 3 (Rep Test)

For Groups 1 and 3 the experimenter converted participants' ratings to a gridform for scoring purposes. (See Appendix B.) Scoring was according to Bieri, et al. [1966]. Evaluative and nonevaluative traits were treated separately and a complexity score for each role figure was computed. A high numerical score indicated highly redundant ratings, hence a less complex or simple response. The above deviated from the usual procedure; participants are usually presented with a gridform to complete and are asked to consider each bipolar construct for all role figures, consider the second bipolar construct, and so on. However, the obvious advantage of the procedure here was that it was less confusing for the participant to consider one role figure at a time, and there was no reason to believe that such a change affected results. Irwin, Tripodi and Bieri [1967] randomly paired role figures and constructs, a procedure which apparently did not affect their results.

Groups 2 and 4 (H/Hmax Measure)

For Groups 2 and 4 the number of adjectives and number of categories for each role figure were counted. These numbers were then used

in the calculation of H/Hmax. The formula for H was:

$$H = \log_2 n - \frac{1}{n} \Sigma\, n_i - \log_2 n_i$$

where n was the total number of adjectives and n_i was the frequency in the ith category. Hmax was obtained by computing H when all categories had equal frequencies. The ratio of H to Hmax was then computed.

Data Analysis

Groups 1 and 2 (Bieri's Ten Role Figures)

The analysis was correlational in nature. Correlations were computed based on all ratings and complexity scores for all role figures and for all participants. In addition, a stepwise multiple regression analysis was also performed, with the complexity score(s) as the criterion variable(s) and the other variables (liking, interaction, involvement, knowledge) as predictor variables. However, in these analyses, the number of cases was 300, with each of 30 participants contributing ten ratings and/or complexity scores each. This would tend to inflate the correlations and mask the true strength of the relationships. Thus, although the above analyses were examined, they provided only tentative information.

Correlations among the ratings of liking, interaction, involvement and knowledge and complexity scores for each role figure were computed and examined. Also examined were the correlations among the variables for each single participant; for example, the strength of the relationship between liking and complexity over responses to the ten role figures for an individual participant was assessed.

For Group 1, ratings were made on a 1 to 10 scale with 1 indicating

high liking, knowledge, etc., and 10 indicating low liking, knowledge, etc. The higher the numerical value of the complexity score on the Rep Test, the simpler or less complex the response. Thus, a strong negative correlation would indicate a relationship between dislike and greater complexity of response such that disliked or less well known persons were being more highly differentiated. A positive correlation would indicate that disliked persons were not being well differentiated, that participants tended to be more complex in responding to positive role figures.

For Group 2, however, a strong negative correlation between any of the ratings and number of adjectives, number of categories or H/Hmax would indicate greater quantity of responding or a more complex response to liked or well known persons.

Groups 3 and 4 (Reich's Six Role Figures)

Data from Groups 3 and 4 were analyzed by a 2 (sex of participants) X 2 (knowledge of the role figure) X 3 (affective valence of the role figure) analysis of variance with repeated measures on the last two factors. For Group 3, a separate ANOVA was computed for complexity scores on evaluative traits and complexity scores on nonevaluative traits. For Group 4, three ANOVAs were calculated for three dependent measures: number of adjectives, number of categories, and H/Hmax.

In addition, overall correlations among all variables and the correlations among the variables for each role figure were computed on the data from Groups 3 and 4.

CHAPTER III

RESULTS

Group 1

Participants in Group 1 responded to Bieri's ten role figures. Complexity scores came from the Rep Test, using evaluative and nonevaluative traits.

Positive and Negative Role Figures

The mean liking rating for all role figures was 3.40, indicating either a tendency for participants to use the lower end of the 10 point scale, or that the majority of role figures were rated as more positive than negative by participants. Boss, Person You Dislike, Person Difficult to Understand and Person With Whom You Feel Most Uncomfortable were rated more negatively (mean liking ratings for these role figures were all greater than 3.40, indicating greater dislike) than the remaining six role figures. The overall mean knowledge rating was 3.63, and the same pattern as above emerged, i.e., Boss, Person You Dislike, etc. were rated as less well known than the other role figures. Mean interaction and involvement ratings followed similar patterns.

The mean complexity scores on evaluative traits for these same four role figures were lower than for the remaining six role figures, indicating a more complex response to the role figures rated most negatively and least well known. As indicated previously, the lower the numerical score, the more complex the response. On nonevaluative

traits, the mean complexity scores for each role figure did not follow this pattern; no meaningful pattern emerged. Mean ratings for liking, interaction, involvement and knowledge and mean complexity scores on evaluative and nonevaluative traits for each role figure and overall are presented in Table 1.

Overall Analysis

Overall correlations computed on Group 1 data indicated that liking and involvement ratings were negatively correlated with complexity scores on evaluative traits ($r = -.276$ and $r = -.109$, respectively). (See Appendix H.) These negative correlations indicated a tendency to respond in a more complex manner to role figures designated as less well liked and less involving. A stepwise regression analysis showed the liking variable as contributing the most to variability in complexity scores (7%); the other three variables accounted for an additional 3%. (See Table 2.)

Knowledge ratings and complexity scores on nonevaluative traits showed a low positive relationship ($r = .112$). This positive correlation implied that well known role figures tended to be responded to in a more complex manner. The regression analysis in this case showed the knowledge variable as accounting for only 1% of the variance; the other variables contributed another 1%. (See Table 2.) Complexity scores on evaluative traits and on nonevaluative traits were not highly correlated.

The correlations among the ratings of liking, interaction, involvement and knowledge for each role figure were positive. The overall correlations were all positive and significant. The two strongest

Table 1

Mean Ratings and Scores for Group 1 Role Figures

	Liking	Inter-action	Involve-ment	Knowledge	Complexity-Eval. Traits	Complexity-Noneval. Traits
Self	2.23			2.40	22.27	10.23
Mother	1.83		1.97	2.07	17.43	9.53
Father	1.80		2.37	2.53	18.57	9.97
Friend of the Same Sex	1.90	2.07	2.77	2.43	19.13	10.10
Friend of the Opposite Sex	1.87	3.10	2.93	2.93	20.03	10.97
Boss	4.40	4.83	6.70	5.90	15.87	10.57
Person You Dislike	8.03	6.30	7.77	4.83	14.10	8.77
Person Difficult to Understand	3.97	4.77	5.00	4.97	12.17	10.97
Person You'd Like to Help	2.97	3.90	3.90	3.03	16.03	9.83
Person You Feel Uncomf. With	4.97	4.93	6.27	5.23	14.43	11.80
Overall Means	3.40	4.27	4.41	3.63	17.00	10.27

Table 2

Stepwise Regression Analysis for Group 1

	Simple r	R Square	R Square Change	F to Enter	Significance	Beta
Complexity-Evaluative Traits						
1. Liking	-.276*	.076	.076	17.110	.000	-.423
2. Interaction	-.041	.094	.018	4.217	.041	.117
3. Involvement	-.109	.099	.005	1.045	.308	.151
4. Knowledge	-.096	.101	.002	.532	.467	-.062
Complexity-Nonevaluative Traits						
1. Knowledge	.112	.013	.013	2.636	.106	.111
2. Liking	-.004	.016	.004	.768	.382	-.106
3. Interaction	.082	.019	.003	.656	.419	.065
4. Involvement	.061	.019	.000	.028	.868	.022

* $p < .05$, two-tailed test

relationships were between liking and involvement ratings, r = .729, and interaction and involvement ratings, r = .736. (See Appendix H.)

Complexity on Evaluative Traits

The relationship between liking and complexity was not consistent for all of the role figures (see Table 3). For four of the role figures, Friend of the Same Sex, Friend of the Opposite Sex, Person You Dislike, and Person Difficult to Understand, there was essentially no relationship; for the other role figures there were negative correlations between liking and complexity. Self (r_s = -.454) and Mother (r_s = -.362) displayed the strongest relationships. The negative relationship indicated that participants were less complex in responding to liked persons and were more complex in reponding to disliked persons. The average of these correlations (using an r to z transformation; [McNemar, 1962]) was -.166, a significant negative relationship. In examining the correlations for individual participants, most were negative; about 16% were positive. (See Appendix D for these correlations.)

The relationship between knowledge ratings and complexity scores was weak. For five of the role figures the relationship was essentially zero; for the other five role figures the correlations were nonsignificant and positive. The average correlation was essentially zero. For the individual participants' correlations, the majority were nonsignificant and negative, but approximately 25% were positive, indicating a fair amount of individual variability in this regard. Tentatively, it appeared that while for individual participants the response to less well known persons was more complex, for certain individuals

the relationship was reversed, and persons known slightly were less well differentiated than well known persons.

Complexity on Nonevaluative Traits

The relationship between liking and complexity was not consistent for all of the role figures (see Table 3). For two role figures the relationship was zero; for the remaining role figures equal numbers showed positive and negative correlations. The stronger relations, however, were positive, indicating more complex responses to liked persons. The average of these correlations was essentially zero. The correlations for individual participants were both positive and negative, although the negative correlations outnumbered the positive (see Appendix D). Again, this suggested a trend opposite to that trend suggested by the correlations for some of the role figures.

The relationship between complexity and knowledge was only slightly more consistent. For five of the role figures the correlation between knowledge ratings and complexity scores was positive, indicating more complexity in responding to better known role figures. The average correlation, however, was still essentially zero. For individual participants, both a positive and negative relationship between the two variables appeared to be operating, indicating, again, individual variability in response.

The relationship between the two complexity scores (one on evaluative traits, the other on nonevaluative traits) was nonsignificant for each of the role figures. For Mother, Friend of the Opposite Sex and Person You Dislike, the correlation between the two scores was low and negative; for the other role figures the correlation was zero or

positive. The correlations for individual participants were both positive and negative.

Conclusion

Thus, for complexity on evaluative traits, a vigilant or justification effect appeared to occur; participants seemed to be responding to negative role figures in a more complex manner. However, for individual role figures and individual participants such a relationship often was not apparent. For complexity on nonevaluative traits, relationships were not at all clear cut. However, the trend appeared to be opposite to the trend in results for complexity scores on evaluative traits. For nonevaluative traits, the tendency to be more complex in responding to well liked and well known role figures was very weak and tentative at best, again hiding a great deal of variability both for the role figures and for individual participants. Complexity scores on evaluative and nonevaluative traits were not related.

Group 2

Participants in Group 2 responded to Bieri's ten role figures. Number of adjectives, number of categories and H/Hmax scores were examined.

Positive and Negative Role Figures

Mean liking ratings for the role figures showed a pattern similar to that for Group 1: Boss, Person You Dislike, Person Difficult to Understand and Person With Whom You Feel Most Uncomfortable were rated more negatively than the other role figures. In general, although the pattern was not as consistent as it was for Group 1, participants also

Table 3

Correlations Among Ratings and Complexity Scores

for Group 1 Role Figures

	Liking & Com.-Eval.	Know. & Com.-Eval.	Liking & Com.-Noneval.	Know. & Com.-Noneval.	Com.-Eval. & Com.-Noneval.
Self	-.453*	-.093	-.108	-.087	.203
Mother	-.362*	-.225	-.021	.239	-.132
Father	-.200	.176	-.101	.051	.027
Friend of Same Sex	-.050	.204	.444*	.107	.243
Friend of Opposite Sex	.059	.189	-.277	-.306	-.242
Boss	-.301	.024	.031	-.179	.198
Person You Dislike	.042	-.031	.312	.341	-.184
Person Difficult to Understand	.036	.295	.311	.359	.078
Person You'd Like to Help	-.280	-.078	.216	.103	.251
Person You Feel Uncomf. With	-.101	.084	-.350	.083	.170
Average Correlations	-.166*	.056	.049	.074	.062

* $p < .05$, two-tailed test
N = 30

gave these role figures low ratings in terms of interaction, involvement and knowledge. Boss, Person You Dislike and Person With Whom You Feel Most Uncomfortable were the role figures with the lowest means for number of adjectives, number of categories and the H/Hmax scores. The latter indicated that participants were somewhat more complex in responding to positive and well-known role figures. (See Table 4 for the mean ratings.)

Overall Analysis

For this group a negative correlation signified that as complexity increased there was increased liking, or the converse. Number of adjectives correlated negatively and significantly with ratings of liking, interaction, involvement and knowledge. Participants wrote more adjectives for persons they liked, interacted frequently with, were involved with and knew well. The same pattern of correlations held for number of categories and H/Hmax scores. A stepwise multiple regression analysis showed that for number of adjectives, the interaction variable explained 7% of the variance while the other three variables contributed only another 2%. For the number of categories, the interaction variable acounted for 4% of the variance and the remaining variables contributed 2%. In regard to H/Hmax, involvement contributed 5% of the variance; the other variables accounted for an additional 1%. (See Table 5.)

The correlations among the ratings of liking, interaction, involvement, and knowledge for each of the role figures were positive. The overall correlations among the ratings were all positive and significant, with the strongest relationships between liking and involvement ($r = .709$)

Table 4

Mean Ratings and Scores for Group 2 Role Figures

	Liking	Inter-action	Involve-ment	Know-ledge	Number of Adjectives	Number of Categories	H/Hmax
Self	2.50			2.67	7.50	2.40	.739
Mother	1.63		2.13	2.30	7.10	2.13	.750
Father	1.77		2.80	3.20	6.80	2.23	.757
Friend of Same Sex	2.17	3.07	3.10	2.77	6.47	2.07	.670
Friend of Opposite Sex	1.63	2.87	3.03	2.60	7.90	2.53	.819
Boss	4.53	5.37	7.17	7.00	5.07	1.67	.426
Person You Dislike	7.93	7.07	8.47	5.93	5.77	1.80	.521
Person Difficult to Understand	3.67	4.27	4.40	5.57	6.13	2.20	.674
Person You'd Like to Help	2.43	4.63	4.43	3.67	6.20	2.20	.696
Person You Feel Uncomf. With	5.00	6.53	7.33	6.10	5.37	1.73	.578
Overall Means	3.33	4.83	4.76	4.18	6.43	2.10	.663

Table 5

Stepwise Regression Analysis for Group 2

	Simple r	R Square	R Square Change	F to Enter	Significance	Beta
Number of Adjectives						
1. Interaction	-.279*	.078	.078	17.51	.000	-.234
2. Knowledge	-.254*	.094	.016	3.71	.055	-.159
3. Involvement	-.234*	.095	.000	.17	.678	.095
4. Liking	-.199*	.097	.002	.48	.488	-.066
Number of Categories						
1. Interaction	-.220*	.048	.048	10.58	.001	-.155
2. Liking	-.205*	.060	.012	2.58	.110	-.121
3. Knowledge	-.178*	.062	.002	.34	.559	-.057
4. Involvement	-.207*	.062	.000	.06	.801	.034
H/Hmax						
1. Involvement	-.229*	.053	.053	11.55	.001	-.096
2. Liking	-.209*	.057	.004	.94	.333	-.097
3. Interaction	-.204*	.059	.002	.53	.468	-.076
4. Knowledge	-.161*	.059	.000	.01	.916	-.009

* $p < .05$, two-tailed test

and interaction and involvement (r = .764), as in Group 1. (See Appendix H.)

Number of Adjectives and Number of Categories

See Appendix E for a discussion and presentation of data for number of adjectives and number of categories.

H/Hmax

The relationship between H/Hmax and liking ratings was not consistent for all of the role figures; for three role figures, Person You Dislike, Person Difficult to Understand and Person You Would Like to Help, the correlation was essentially zero; for two role figures, Self and Boss, the relationship was positive, and for the remainder a negative relationship between H/Hmax and liking was indicated. The latter negative relationship suggested that the greater the liking, the higher was H/Hmax, and the greater the complexity of response. The average of these correlations was essentially zero. For individual participants, the correlation between the two variables was negative in approximately 80% of the cases.

Knowledge ratings and H/Hmax were negatively correlated for four of the role figures and positively correlated for three others. The negative correlations seemed to be slightly stronger than the positive correlations. For about 60% of the participants, the correlation between knowledge ratings and H/Hmax scores was negative. Those participants who indicated greater knowledge of the stimulus person responded more complexly than those indicating lesser knowledge.

Thus, data for Group 2 indicated that liked and well known persons

Table 6

Correlations Among Ratings and Complexity Score

for Group 2 Role Figures

	Liking & H/Hmax	Know. & H/Hmax
Self	.109	.292
Mother	-.435*	-.364*
Father	-.304	-.257
Friend of Same Sex	-.276	-.096
Friend of Opposite Sex	-.213	-.257
Boss	.397*	.048
Person You Dislike	-.034	.080
Person Difficult to Understand	.054	.183
Person You'd Like to Help	-.075	.199
Person You Feel Uncomf. With	-.168	-.134
Average Correlations	-.098	-.032

* $p < .05$, two-tailed test
N = 30

were responded to in a more complex way than disliked and less well known persons, supporting a frequency of interaction interpretation.

Group 3

Participants in Group 3 responded to six role figures: Person You Know Well and Like, Know Well and Dislike, Know Well and Feel Neutral Toward, Know Slightly and Like, Know Slightly and Dislike, Know Slightly and Feel Neutral Toward. Complexity scores came from the Rep Test, using evaluative and nonevaluative traits.

Manipulation Check

Mean ratings on liking, interaction, involvement and knowledge of each of the role figures served as a check. For liking and knowledge, mean ratings followed the pattern indicated by the role figure descriptions to a satisfactory extent. Interaction and involvement ratings were less clearcut. (See Appendix F.)

Evaluative Traits

An analysis of variance performed on complexity scores on evaluative traits as the dependent measure showed a significant main effect for Affect ($F(2/56) = 17.115$, $p < .0005$). Participants were significantly more complex in responding to disliked persons ($M = 13.02$) and neutral persons ($M = 15.38$) than in responding to liked persons ($M = 19.18$), as shown by a Newman-Keuls test with $p < .01$. The former two means did not differ significantly from each other. There was also a significant Sex X Affect interaction ($F(2/56) = 3.201$, $p < .05$). Females were significantly more complex than males in responding to the neutral role figures. For males, the means for liked and neutral persons did

not differ significantly from each other; females were significantly more complex in responding to the neutral figures than to the liked role figures. (See Table 7 for cell means.)

Table 7

Group 3

Means and Standard Deviations of Complexity Scores
Evaluative Traits

Participants	Liked Role Figures	Disliked Role Figures	Neutral Role Figures	
Male	M 18.97 SD 6.15	M 12.93 SD 5.56	M 17.40 SD 7.78	16.43
Female	M 20.77 SD 6.49	M 13.10 SD 7.13	M 13.37 SD 4.90	15.74
	19.87	13.02	15.38	

Nonevaluative Traits

The analysis of variance for complexity scores on nonevaluative traits resulted in no significant interactions or main effects. However, the main effect for Affect approached significance ($p < .10$). Inspection of means showed that the trend was toward greater differentiation of disliked persons, followed by liked and neutral persons. (See Table 8.)

Group 4

Participants in Group 4 responded to six role figures. Number of adjectives, number of categories and H/Hmax scores were the dependent measures.

Table 8

Group 3

Means and Standard Deviations of Complexity Scores - Nonevaluative Traits

Role Figures	Liked	Disliked	Neutral	
Known Well	M 10.03 SD 3.79	M 9.67 SD 2.87	M 10.53 SD 4.44	10.08
Known Slightly	M 11.17 SD 6.65	M 8.73 SD 3.37	M 11.50 SD 5.04	10.47
	10.60	9.20	11.02	

Manipulation Check

Mean ratings for liking and knowledge were consistent with the role figure descriptions. (See Appendix G.)

Number of Adjectives and Number of Categories

A discussion and presentation of the data for number of adjectives and number of categories as dependent measures appear in Appendix G.

H/Hmax

There was a significant main effect for Knowledge ($F(1/28) = 16.633$, $p < .01$). Participants were more complex in responding to well known persons ($M = .76$) than to persons known slightly ($M = .55$). (See Table 9.)

Groups 3 and 4 Correlations

The pattern of correlations among the ratings and complexity scores for the role figures in Groups 3 and 4 (shown in Appendices

Table 9

Group 4

Means and Standard Deviations of H/Hmax Scores

Role Figures	Liked	Disliked	Neutral	
Known Well	M .792 SD .333	M .804 SD .295	M .685 SD .424	.760
Known Slightly	M .513 SD .467	M .593 SD .437	M .560 SD .467	.555
	.653	.698	.623	

F and G) showed much variability, a pattern similar to the pattern found for the role figures in Groups 1 and 2. This indicated that the relationship between complexity of response and liking or knowledge ratings was not consistent for all of the role figures.

Overall Comparison

Comparison of Groups 1 and 3 in terms of their respective overall correlations (see Appendix L), showed that none of the correlations differed significantly from each other. For Groups 2 and 4, one of the comparisons showed a significant difference. For Group 4 the correlation between liking and H/Hmax was .068, while for Group 2 the correlation between liking and H/Hmax was -.209. The two correlations differed significantly ($p < .05$).

CHAPTER IV

DISCUSSION

Interpretation

1) Results from Groups 1 and 2 (in both cases Bieri's ten role figures were presented to participants) indicated that the role figures previously assumed by researchers to be positive or negative in affective valence seemed to have similar valences for the participants. In ranking the role figures in terms of their mean liking ratings, Mother, Father, Self, Friend of the Opposite Sex and Friend of the Same Sex were the five most positively rated role figures while Boss, Person you Dislike, Person You would Like to Help, Person Difficult to Understand and Person With Whom You Feel Most Uncomfortable were the five least positively rated role figures, thus offering some support for prior assumptions with a college sample. However, although the latter five role figures were rated less positively than the former, they were by no means rated negatively. Except for Person You Dislike, which received the highest ratings of dislike (8.03 and 7.93), the other four "negative" role figures were actually rated more neutrally than negatively. Such a pattern might indicate a response bias on the part of the participants to use more often the positive end of the ten point scales. Or it might indicate that only one of the role figures was actually negative in valence for the participants. The only conclusion permissible is that in terms of rankings, the role figures fell into the positive and negative subsets assumed in prior

research.

2) The results for Group 1 (Bieri's ten role figures and the Rep Test) indicated that a vigilance or justification effect did occur when evaluative traits were used in administering the Rep Test, as predicted. The prediction was based on Shepherd's observation [1972] that the tendency to use positively evaluated words more readily than negatively evaluated words (the Pollyanna effect) operates in completing the Rep Test. Positively evaluated words would be assigned to positive persons, producing redundancy in response and yielding a low differentiation score, while both positively and negatively evaluated words would be assigned to negative role figures, producing higher differentiation scores for the negative persons.

When nonevaluative traits were used, a vigilance effect did not appear, and in fact a very weak relationship between knowledge and complexity and liking and complexity emerged, opposite to that of the vigilance effect, i.e., participants tended to be more complex in responding to role figures they rated as liking and knowing well than to role figures they rated as disliking and knowing only slightly.

Thus, in comparing results for evaluative and nonevaluative traits on the Rep Test, it was obvious that, as Shepherd [1972] reported, results were markedly different. Only in using evaluative traits was the vigilance effect supported. Shepherd's nonevaluative traits and the additional nonevaluative traits used in this study were from the middle range in favorability on Anderson's list of personality-trait words. In rating persons of positive or negative valence on these nonevaluative traits, the participant would not find words ordinarily applied to positive or negative persons. This was demonstrated by Lott,

Lott, Reed and Crow [1970]. The tendency to use certain words to describe liked persons and certain words to describe disliked persons would be thwarted. Participants confronted words that perhaps they applied to neither liked or disliked persons and hence may have answered in a random manner or made inferences regarding traits they ordinarily did not apply to the persons they were rating. If participants were answering randomly, one would expect lower numerical scores or greater complexity of response; this was supported by the the data. The mean complexity score for nonevaluative traits was much lower than the mean complexity score for evaluative traits in Group 1.

Results for Group 3 (Reich's six role descriptions and the Rep Test) offered partial confirmation for Group 1 results. For complexity on evaluative traits, there was a main effect for Affect; negative (and neutral) role figures were differentiated to a greater extent than liked role figures, again supporting the vigilance or justification hypothesis. The analysis for nonevaluative traits however, indicated only weak support for such an effect.

3) Results for Group 2 (Bieri's ten role figures and the H/Hmax measure of complexity) showed a relationship similar to that found in Group 1 for nonevaluative traits, i.e., as liking and knowledge of the person increased, complexity of response also increased. This did not support a vigilance or justification interpretation. The relationships were weak; the overall regression analysis showed a very low percentage of variance accounted for by the variables and the direction and strength of the relationships for individual role figures and individual participants varied to a great extent. Although relationships were weak, they

tended to support a frequency of interaction interpretation.

For H/Hmax, Reich obtained a main effect for Affect; Group 4 data showed a main effect for the Knowledge variable in this study. Thus, whereas Reich found support for the neutral affect hypothesis using H/Hmax (neutral persons were more highly differentiated than either positive or negative persons), this study found support for the frequency of interaction hypothesis using H/Hmax. Clearly the Knowledge variable was important. For number of adjectives and number of categories, the Knowledge by Affect interaction indicated that Person Known Well and Liked and Person Known Well and Disliked received significantly greater numbers of adjectives and categories than the Neutral role figures or the Known Slightly role figures. The data for H/Hmax showed a similar pattern (although the interaction was not significant). Thus, this study found no support for Reich's contention that the greater the involvement, the less the discrimination of stimuli. The opposite was found; the greater the involvement, the greater was the discrimination of stimuli. Indeed, in Group 2 (Bieri's ten role figures and the H/Hmax measure of complexity), Involvement was an important variable (indicated by the overall regression analysis), and the relationship was such that as involvement increased, complexity of response also tended to increase. This study found support for the frequency of interaction hypothesis for both complexity of response and quantity of responding.

4) In comparing overall correlations for Groups 2 and 4, it was found that the relation between liking and H/Hmax was essentially zero for Group 4 while for Group 2 the liking variable correlated significantly with H/Hmax such that as complexity of response increased, ratings of

liking increased, or the converse. In Group 4, the analysis of variance produced a main effect for the Knowledge variable. However, eta^2 was only .06. For Group 2's overall regression analysis, the Knowledge variable entered the equation only on the last step (Involvement was the first variable to enter the equation accounting, however, for only 5% of the variance). The only difference between Groups 2 and 4 were the role figures presented. For each of the Group 4 role figures, participants briefly described their relation to the person they had thought of. An examination of these descriptions revealed that in nearly all cases peers were selected to fit the role descriptions. Bieri's ten role figures included older persons (such as Mother, Father, Boss). Supnick [1964; as reported by Crockett, 1965] found that participants used more constructs to describe peers than to describe older persons. A tentative explanation might be that in responding to peers, knowledge was the more important variable in influencing complexity of resonse, while in responding to both older and younger persons, the involvement variable was more important. Perhaps relationships with peers are similar in affective experience but differ quantitatively (i.e., in how often the person is seen and how well the person is known) while for older persons the role expectations and behaviors required result in stronger and qualitatively different affective relationships. Such an interpretation awaits further testing. However, the overall conclusion is that the presentation of two different sets of role figures did not markedly affect results, as predicted.

Finally, the Sex X Affect interaction for complexity scores on evaluative traits in Group 3 was somewhat similar to the tendency

reported by Irwin, Tripodi and Bieri [1967], that "females compared to males tended to differentiate more among neutral and negative figures, the latter sex difference being statistically significant" [p. 446]. In this study, females differentiated neutral role figures to a significantly greater extent than did males. However, for negative role figures, males and females did not differ significantly in complexity of response. The latter differs from the results of Irwin, Tripodi and Bieri [1967].

Shepherd [1972] also reported a Sex X Valence interaction; females were less complex in responding to positive role figures but more complex in responding to negative role figures than were males. Irwin, et al., suggested that females have a greater need to depend upon others, and hence a greater ability to differentiate among potentially threatening figures. However, this effect might well be due to the Pollyanna effect being greater for females than males (consistent with Warr, [1969]; as reported by Shepherd [1972]). Females would tend to rate positive figures uniformly favorably and negative figures less uniformly favorably than males. Lott, Lott, Reed and Crow [1970] found for one of the samples they tested that females tended to describe their acquaintances with adjectives from Anderson's list of personality-trait words which were slightly higher in likableness value than did males. These explanations are not appropriate for the results of the present study; although female participants in Group 3 responded more complexly to neutral role figures than did the males, they did not respond in a more complex way to negative role figures.

Other reported sex differences in complexity of response have been highly inconsistent. Supnick [1964; as reported by Crockett, 1965]

found a main effect for Sex; females used more constructs to describe persons than did males. Soucar [1970] and Koenig and Seaman [1974a] found main effects for Sex; males were more complex in their responding than were females. Other studies [Soucar and DuCette, 1971; Miller, 1968; Shepherd, 1972] reported no sex differences. Glixman [1965] found that females exhibited greater complexity of response than men; females used a greater number of categories than did males, contributing to higher H scores. However, for H/Hmax, there was no effect for sex.

The Sex X Affect interaction found in the present study does not correspond exactly to any reported result in prior research. No main effect or interaction for Sex was found in Group 4. Thus, there does not appear to be any ready explanation for the interaction found here.

Thus, the predictions originally made in this study were generally upheld by the data. However, the data also showed that the overall relationships or trends masked a great deal of individual participant variability and variability in responding to the role figures. One might ask whether the role figures each constituted a separate domain for participants. In such a case one would not expect generality of complexity scores across these domains. To assess this, in a subsequent analysis, the role figures were ranked according to their respective complexity scores for each of the 30 participants in Groups 1 and 2; Kendall's coefficient of concordance was then computed on these 30 sets of rankings. For Group 1, the coefficient for complexity scores on evaluative traits was .171 ($p < .01$) and for nonevaluative traits, .065 (n.s.). For Group 2 H/Hmax scores, the coefficient was .099

($p < .01$). These low coefficients support the notion of low consistency of response to the different role figures. The notion of the role figures constituting separate domains appears to be a plausible one.

This study did not consider the complexity of the individual participants in the interpersonal realm. Were the more complex participants consistently more complex in their responding and were simple participants consistently simple in their responding? A subsequent analysis performed on the data for Groups 1 and 2 entailed ranking the 30 participants according to their complexity scores for each of the ten role figures and then computing Kendall's coefficient of concordance on these ten sets of rankings. The coefficients were, in Group 1, .139 (n.s.) for the complexity scores on evaluative traits, and .172 ($p < .01$) on complexity scores for nonevaluative traits. For Group 2, the coefficient for H/Hmax scores was .272 ($p < .01$). These coefficients are quite low. Supnick [1964; as reported by Crockett, 1965] reported a coefficient of .604 for her fourteen participants; participants were ranked according to the number of interpersonal constructs they used in describing eight stimulus persons. One might argue that generality of complexity scores would be expected to be stronger for Supnick's data than for this data, since verbal fluency probably contributed to the scores in Supnick's data, and a very fluent participant would probably be fluent in all of his/her descriptions. However, the low generality of complexity for individual participants and across role figures here, seems to indicate low generality of any sort and may indicate randomness in the data. It calls into question the measures of complexity, the motivation of participants, the sample of persons tested, etc. In comparing mean number of adjectives, number

of categories and H/Hmax scores reported by Reich [1969] with the means from Group 4, one finds that in all cases the means were much lower for this study. Perhaps this lesser range of response affected overall results; perhaps it is indicative of the motivation of the persons tested, given that the H/Hmax task depends to a great extent on how much time and effort the participant is willing to spend in its completion.

Implications

This study points to the necessity for examining differences in the measures used to assess complexity. The basic issue involves the definition of complexity or differentiation and how it pertains to person perception. What does it actually mean to differentiate among others or respond to them in a complex way? In a paper and pencil test of complexity the participant responds essentially to a verbal symbol of a person with whom he/she interacts. This seems to be a very different situation than actual face-to-face interaction with others. The definition of complexity is unclear in this context; studies arising from different approaches to its measurement have yielded conflicting results. At this point one cannot adequately examine the variables, such as affective valence or knowledge of the person, that might affect complexity of response when the notion of the latter is so unclear and when the measures available perhaps do not reflect what one might mean by the notion in actual interactions.

Summary

In summary, this study indicated no strong differences in results of two different sets of role figures. Participants were asked to

indicate their degree of liking for each of the ten role figures conventionally used in administering the Rep Test measure of complexity. When ranked, the ten role figures accurately reflected the positive and negative subgroups outlined in prior research.

In addition, this study indicated that results supportive of either the vigilance or justification effect or the frequency of interaction effect could be found depending on the measure of complexity used. On the Rep Test measure, the presentation of evaluative traits affected scores in such a way that a vigilance interpretation was possible. When nonevaluative traits on the Rep Test were presented, results showed no strong relationship between complexity of response and liking or knowledge of the stimulus person. This might have occurred because the nonevaluative traits were not traits ordinarily used to describe persons with strong affective valences. For the H/Hmax measure of complexity, knowledge of the person and degree of involvement were related to complexity of response. Well known persons and persons with whom participants indicated greater involvement were more highly differentiated. Persons wrote a greater number of adjectives to describe well known and well liked stimulus persons, which also supported a frequency of interaction interpretation.

The conclusion drawn from the above results was that the vigilance effect appeared to be a very specific one that was found only when evaluative traits were presented on the Rep Test measure of complexity. When nonevaluative traits were used on the Rep Test and results for another measure of complexity were examined, no such effect was

found. Results generally supported the frequency of interaction hypothesis.

This study also showed that in examining the relationship between complexity and the other variables for each of the role figures and for individual participants in two of the groups there was a great deal of variability in the strength and direction of these relationships, indicating that the chosen variables were not influencing complexity to the same degree, in the same way, for different individuals and in responding to the different role figures. The factors that might account for this great amount of unexplained variance remain unspecified at this time and await further investigation. Finally, the generality of complexity scores for this sample was quite low perhaps indicating that other (unknown) factors were affecting participants' responses in the experimental situation.

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APPENDICES

APPENDIX A

PROVIDED BIPOLAR CONSTRUCTS ON THE REP TEST

APPENDIX A

PROVIDED BIPOLAR CONSTRUCTS ON THE REP TEST

(MEAN LIKABLENESS RATINGS ACCORDING TO ANDERSON, 1968)

(SCALE OF 0-6)

EVALUATIVE TRAITS (Shepherd, 1972)	
Sincere (5.73)	Insincere (.66)
Kind-hearted (5.14)	Mean (.37)
Interesting (5.11)	Dull (1.21)
Friendly (5.19)	Hostile (.91)
Trustworthy (5.39)	Untrustworthy (.65)
Additional traits:	
Open-minded (5.30)	Intolerant (.98)
Reasonable (5.00)	Unreasonable (.97)
Cheerful (5.07)	Ill-tempered (.95)
Thoughtful (5.29)	Thoughtless (.77)
Courteous (4.94)	Rude (.76)

NON-EVALUATIVE TRAITS (Shepherd, 1972)	
Talkative (3.52)	Quiet (3.11)
Methodical (3.25)	Unmethodical (2.62)
Impulsive (3.07)	Cautious (3.34)
Bold (3.36)	Shy (2.91)
Rebellious (2.58)	Conventional (2.60)
Additional traits:	
Outspoken (3.13)	Reserved (3.48)
Opinionated (2.57)	Discriminating (2.83)
Fearless (3.66)	Hesitant (2.90)
Suave (3.35)	Blunt (2.87)
Nonchalant (3.24)	Serious (3.79)

APPENDIX B

SAMPLE PAGES AND SCORING GRIDFORM FOR THE REP TEST--GROUPS 1 AND 3

APPENDIX B

SAMPLE PAGES AND SCORING GRIDFORM FOR THE

REP TEST--GROUPS 1 AND 3

Instructions

At the top of each of the following pages you will find a word or phrase describing or indicating a person in a certain relation to you. You are to think of one person whom you know who is appropriate and place this person's initials in the blank to the right. Then complete the page with that particular person in mind.

You will first find a set of rating scales with an adjective at each end. Look at both adjectives first, and then decide how you would rate that person on a scale of 1 to 6. For example:

Aggressive 1 2 3 4 5 6 Passive

If the person is more aggressive than passive, then circle 1, 2, or 3, depending on the degree of aggressiveness you perceive this person to have. Please do not omit any of the ratings. Answer as well as you can.

Following the rating scales will be a few general questions: they are self-explanatory.

Please check with the experimenter if you have any questions. Of course, all your responses will remain confidential. There is no time limit; work at your own pace.

Thank you for your cooperation and time.

Person You Know Slightly and Feel Neutral Toward _____

Please rate this person:

Sincere	1	2	3	4	5	6	Insincere
Thoughtless	1	2	3	4	5	6	Thoughtful
Suave	1	2	3	4	5	6	Blunt
Courteous	1	2	3	4	5	6	Rude
Dull	1	2	3	4	5	6	Interesting
Open-minded	1	2	3	4	5	6	Intolerant
Friendly	1	2	3	4	5	6	Hostile
Discriminating	1	2	3	4	5	6	Opinionated
Impulsive	1	2	3	4	5	6	Cautious
Mean	1	2	3	4	5	6	Kind-hearted
Cheerful	1	2	3	4	5	6	Ill-tempered
Quiet	1	2	3	4	5	6	Talkative
Bold	1	2	3	4	5	6	Shy
Trustworthy	1	2	3	4	5	6	Untrustworthy
Conventional	1	2	3	4	5	6	Rebellious
Nonchalant	1	2	3	4	5	6	Serious
Unreasonable	1	2	3	4	5	6	Reasonable
Fearless	1	2	3	4	5	6	Hesitant
Methodical	1	2	3	4	5	6	Unmethodical
Reserved	1	2	3	4	5	6	Outspoken

How much do you like this person?

1	2	3	4	5	6	7	8	9	10
like very much									dislike very much

How frequently do you interact with this person?

1	2	3	4	5	6	7	8	9	10
frequently									infrequently

How involved are you with this person?

1	2	3	4	5	6	7	8	9	10
very involved									not involved at all

SAMPLE GRIDFORM FOR SCORING THE REP TEST

	Self	Mother	Father	Friend Opp. Sex.	Friend Same Sex	Boss	Person Disliked	Hard to Understand	Uncomfortable With	Like to Help
Sincere										
Thoughtless										
Courteous										
Dull										
Open-minded										
Friendly										
Mean										
Cheerful										
Trustworthy										
Unreasonable										
Suave										
Discriminating										
Impulsive										
Quiet										
Bold										
Conventional										
Nonchalant										
Fearless										
Methodical										
Reserved										

APPENDIX C

SAMPLE SHEETS AND INSTRUCTIONS--GROUPS 2 AND 4

APPENDIX C

SAMPLE SHEETS--GROUPS 2 AND 4

Father

How much do you like this person?

1	2	3	4	5	6	7	8	9	10
like very much									dislike very much

How well do you think you know this person?

1	2	3	4	5	6	7	8	9	10
very well									not well at all

How involved are you with this person?

1	2	3	4	5	6	7	8	9	10
very involved									not involved at all

Person You'd Like to Help _____

How much do you like this person?

1	2	3	4	5	6	7	8	9	10
like very much									dislike very much

How frequently do you interact with this person?

1	2	3	4	5	6	7	8	9	10
frequently									infrequently

How involved are you with this person?

1	2	3	4	5	6	7	8	9	10
very involved									not involved at all

INSTRUCTIONS FOR PARTICIPANTS IN GROUPS 2 AND 4

Here are descriptions of six (ten) persons. I'd like you to think of six (ten) persons that you know that fit these descriptions. Please tell me the initials of the six (ten) persons you think of.

Now, I'd like you to go back to each of the persons, one at a time and in the order they're arranged here, and list single word adjectives to describe each person, as many as you can think of. Write each adjective on a separate slip of paper. In the end you'll have six (ten) piles of adjectives, one pile for each of the six (ten) persons.

When you have finished, please leave the piles underneath the appropriate card. Then call me and I'll introduce a second task for you. If you need anything, please call me.

Take the stack of words for each of the persons you have described (in the correct order, of course) and look over the set of words you have used in describing each person. Then put together into groups the separate words which seem to go together. You may have as many or as few groups as you like, and you may have as many or as few words in a group as you like, so long as the words in each group belong together for one particular reason. If, after you have throught about the words, a few do not seem to belong with any of the others, you may put those into a group by themselves. Of course, your groupings may change from one person to another.

In brief, then, you are to take the set of words describing a person, look over that set of words, and sort the words into whatever groups you wish. Please do this sorting and grouping separately for each of the six (ten) persons in the same order that you followed in describing them.

For each person, after you have sorted the words into their separate groups, you should identify each group; do this by writing a brief descriptive word or phrase or sentence which describes that group of words, the reason you had for making it a group. Put the label slip with the reason on top of the group of words, then put a paper clip on that group so that the slips do not become separated. Do this labeling for each of the groups of slips for each of the persons you've described.

Are there any questions about what you are to do?

APPENDIX D

CORRELATIONS FOR INDIVIDUAL PARTICIPANTS IN GROUP 1

APPENDIX D

CORRELATIONS FOR INDIVIDUAL PARTICIPANTS IN GROUP 1

Liking & Complexity-Evaluative	Knowledge & Complexity-Evaluative	Liking & Complexity-Noneval.	Knowledge & Complexity-Noneval.	Com.-Eval. & Complexity-Noneval.
-.407	-.277	-.521	-.356	.756*
-.668	-.101	.011	.214	-.066
-.458	-.480	.214	.320	.030
-.143	.218	-.308	-.520	-.483
.153	.106	-.406	.213	.204
-.563	-.114	-.464	-.415	.133
.650	.155	-.185	.200	-.364
-.359	-.229	.299	.456	.461
-.706	-.556*	-.529	-.199	.336
-.502	.421	.155	.151	.131
.456	.011	-.267	-.014	.169
-.405	-.020	-.351	.471	.282
-.396	-.487	.169	.284	.348
-.573	-.371	-.158	.035	.101
-.606	-.302	-.305	.068	.261
-.304	-.267	.245	.208	-.659*
-.576	-.389	.255	-.271	-.101
.468	.408	-.197	-.564	-.236
-.358	-.174	-.453	-.482	-.386
.052	.186	-.516	-.573	-.475
-.584	-.313	.602	-.042	-.418
.330	.115	-.061	-.759*	.064
-.237	-.170	-.224	.116	.512
-.268	-.267	.205	-.353	-.306
-.816*	-.665*	-.312	-.141	.471
-.342	-.216	.436	.362	-.509
-.732*	-.354	.351	.881*	-.436
-.040	-.319	.099	.281	-.539
-.554*	-.499	-.220	.337	.255
-.464	-.373	.311	.465	-.238

* $p < .05$, two-tailed test
N = 10

APPENDIX E

ADDITIONAL DATA FOR GROUP 2

(BIERI'S TEN ROLE FIGURES AND H/Hmax MEASURE)

APPENDIX E

DISCUSSION OF CORRELATIONS AMONG RATINGS AND COMPLEXITY SCORES FOR GROUP 2 ROLE FIGURES

Number of Adjectives. The correlation between liking ratings and number of adjectives written in response to the stimulus person for each of the role figures was negative in all cases except three (Self, Boss and Person with Whom You Feel Most Uncomfortable); in such cases the relationship was essentially zero. For the former role figures, the negative correlation indicated that more adjectives were written in describing well-liked role figures. The correlation between liking and number of adjectives for each individual participant was a negative correlation except for four cases.

The relation between number of the adjectives and knowledge ratings was a negative one for seven of the role figures, indicating that more adjectives were written as ratings indicated greater knowledge of the stimulus person. For all but five participants the correlation between number of adjectives and knowledge ratings was negative also.

Number of Categories. The data for number of categories showed a pattern very similar to that for number of adjectives.

CORRELATION AMONG RATINGS AND COMPLEXITY SCORES FOR GROUP 2 ROLE FIGURES

	Liking & No. Adj.	Know. & No. Adj.	No. Adj. & H/Hmax	Liking & No. Cat.	Know. & No. Cat.	No. Cat. & H/Hmax
Self	-.046	-.134	.248	-.116	-.025	.611*
Mother	-.270	-.302	.252	-.324	-.437*	.690*
Father	-.348	-.271	.149	-.327	-.258	.683*
Friend of Same Sex	-.159	-.057	.516*	-.072	.117	.725*
Friend of Opposite Sex	-.347	-.445*	.379*	-.402*	-.587*	.405*
Boss	.046	-.164	.375*	.325	.071	.845*
Person You Dislike	-.101	-.302	.453*	.014	.130	.788*
Person Difficult to Understand	-.155	.050	.443*	-.074	.250	.755*
Person You'd Like to Help	-.266	-.030	.445*	-.108	.083	.720*
Person You Feel Uncomf. With	.056	-.355	.460*	.135	-.198	.751*
Average Correlations	-.163*	-.206*	.377*	-.099	-.097	.712*

* $p < .05$, two-tailed test
N = 30

CORRELATIONS FOR INDIVIDUAL PARTICIPANTS IN GROUP 2

Liking & No. of Adj.	Knowledge & No. of Adj.	Liking & H/Hmax	Knowledge & H/Hmax	No. of Adj. & H/Hmax
.667*	-.365	-.453	-.486	-.393
-.116	.114	.099	.232	.128
-.054	-.353	-.118	-.169	-.248
-.096	-.542	-.259	-.547	.709
.763*	-.082	.000	.000	.000
-.460	-.349	-.448	.038	.126
-.582	-.375	-.818*	-.122	.449
-.477	-.703*	.511	.523	-.030
-.229	-.604	.193	-.021	.538
-.215	-.246	.001	.396	.075
-.391	-.067	-.811*	-.359	.560
-.424	-.319	-.744*	-.204	.424
-.016	-.123	-.524	.108	-.027
-.060	-.164	-.452	-.029	.388
-.292	-.819*	.016	-.830*	.781*
-.753*	-.689*	-.150	-.410	.478
-.342	.045	-.567	-.289	.634
-.524	-.701*	-.330	-.724*	.841*
-.776*	-.597*	-.198	-.283	.203
-.825*	-.816*	.392	.299	-.070
-.445	.205	-.197	.238	-.098
-.587*	-.805*	-.156	-.427	.343
-.241	-.767*	-.117	-.320	.700*
-.813*	-.733*	.049	.253	.194
-.336	-.524	.389	.031	.239
-.267	-.426	-.270	-.449	.876*
.161	-.545	-.060	-.133	-.061
-.355	-.389	-.023	.244	.462
-.399	-.457	.129	-.058	.378
.253	-.204	-.270	-.230	.318

* $p < .05$, two-tailed test
N = 10

APPENDIX F

ADDITIONAL DATA FOR GROUP 3

(REICH'S SIX ROLE FIGURES AND REP TEST)

APPENDIX F

MEAN RATINGS FOR GROUP 3 ROLE FIGURES

	Liking	Interaction	Involvement	Knowledge
Know Well & Like	1.5	2.17	2.00	1.63
Know Well & Dislike	8.03	5.90	6.53	3.70
Know Well & Feel Neutral Toward	3.93	4.43	5.33	3.27
Know Slightly & Like	2.73	3.77	5.17	5.13
Know Slightly & Dislike	7.93	7.17	8.37	6.37
Know Slightly & Feel Neutral Toward	4.60	4.90	6.83	6.73
Overall Means	4.79	4.72	5.71	4.47

CORRELATIONS AMONG RATINGS AND COMPLEXITY SCORES FOR GROUP 3 ROLE FIGURES

	Liking & Com.-Eval.	Know. & Com.-Eval.	Liking & Com.-Noneval.	Know. & Com.-Noneval.	Com.-Eval. & Com.-Noneval.
Know Well & Like	-.317	-.062	-.259	.004	.136
Know Well & Dislike	.143	.008	.138	.078	.229
Know Well & Neutral Toward	.009	.140	.007	.364*	.054
Know Slightly & Like	-.066	.153	.270	.133	.242
Know Slightly & Dislike	.095	-.011	.376*	.048	.154
Know Slightly & Neutral Toward	-.474*	-.137	-.151	.058	.430*

* $p < .05$, two-tailed test
N = 30

APPENDIX G

ADDITIONAL DATA FOR GROUP 4

(REICH'S SIX ROLE FIGURES AND H/Hmax MEASURE)

APPENDIX G

MEAN RATINGS FOR GROUP 4 ROLE FIGURES

	Liking	Interaction	Involvement	Knowledge
Know Well & Like	1.33	1.87	2.13	2.03
Know Well & Dislike	8.23	5.50	6.80	3.10
Know Well & Feel Neutral Toward	4.50	4.20	5.40	3.93
Know Slightly & Like	2.53	4.33	5.23	5.53
Know Slightly & Dislike	7.73	7.27	8.60	7.33
Know Slightly & Feel Neutral Toward	4.83	6.30	7.27	6.70
Overall Means	4.85	4.92	5.91	4.79

CORRELATIONS AMONG RATINGS AND COMPLEXITY SCORES FOR GROUP 4 ROLE FIGURES

	Liking & No. Adj.	Know. & No. Adj.	Liking & H/Hmax	Know. & H/Hmax	No. Adj. & H/Hmax	Liking & No. Cat.	Know. & No. Cat.	No. Cat. & H/Hmax
Know Well & Like	-.344	-.516*	.101	-.014	.299	.019	-.102	.651*
Know Well & Dislike	.029	-.316	.131	-.228	.206	.308	-.263	.664*
Know Well & Neutral Toward	-.399*	-.534*	-.288	-.432*	.637*	-.236	-.331	.741*
Know Slightly & Like	-.288	-.042	.322	.121	.285	-.024	.083	.714*
Know Slightly & Dislike	.297	-.167	.346	-.284	.540*	.280	-.134	.797*
Know Slightly & Neutral Toward	.063	-.121	-.101	-.080	.647*	.134	-.192	.827*

* $p < .05$, two-tailed test
N = 30

GROUP 4

DISCUSSION OF NUMBER OF ADJECTIVES AND CATEGORIES

Number of Adjectives. The analysis of variance showed a significant main effect for Knowledge ($F(2/28) = 21.127$, $p < .01$), Affect ($F(2/56) = 9.746$, $p < .01$) and a significant Knowledge X Affect interaction ($F(2/56) = 6.4067$, $p < .01$). Participants wrote significantly more adjectives for well known persons ($M = 6.38$) than for slightly known persons ($M = 4.81$). Significantly fewer adjectives were written for neutral persons ($M = 4.67$) than for liked ($M = 6.38$) or disliked persons ($M = 5.733$). The latter two means did not differ significantly. The means for the Know Slightly role figures were not significantly different from each other, whereas each of the means for the Know Well role figures differed significantly from each of the others [Newman-Keuls, $p < .05$]. The means for the two neutral role figures did not differ significantly from each other nor did they differ significantly from the means for the other Know Slightly role figures.

Number of Categories. There was a significant main effect for Knowledge ($F(1/28) = 28.64$, $p < .01$). Participants created significantly more categories for well known persons ($M = 2.44$) than for slightly known persons ($M = 1.89$). Also significant was a Knowledge X Affect interaction ($F(2/56) = 4.24$, $p < .05$). The means for the Know Slightly role figures did not differ significantly from each other, while for the Know Well role figures, the mean for liked persons

(M = 2.76) differed significantly from the mean for neutral persons (M = 2.10), as shown by a Newman-Keuls test with $p < .01$. The means for the two neutral role figures did not differ significantly from each other and did not differ significantly from the means for the other Know Slightly role figures. (The interaction was very similar to the interaction indicated with the number of adjectives.)

Group 4

Means and Standard Deviations of Number of Adjectives

Role Figures	Liked	Disliked	Neutral	
Known Well	M 7.70 SD 3.67	M 6.37 SD 3.10	M 5.07 SD 2.57	6.38
Known Slightly	M 5.07 SD 3.70	M 5.10 SD 2.95	M 4.27 SD 2.63	4.81
	6.38	5.73	4.67	

Group 4

Means and Standard Deviations of Number of Categories

Role Figures	Liked	Disliked	Neutral	
Known Well	M 2.77 SD 1.10	M 2.47 SD .82	M 2.10 SD .88	2.44
Known Slightly	M 1.87 SD 1.07	M 1.93 SD .87	M 1.87 SD .86	1.89
	2.32	2.20	1.98	

APPENDIX H

OVERALL CORRELATIONS FOR EACH GROUP

APPENDIX H

OVERALL CORRELATIONS FOR EACH GROUP

Group	Liking	Inter.	Invol.	Know.	Com.-Eval.	No.Adj.	No.Cat.
GROUP 1[a]							
Inter	.557*						
Invol.	.729*	.736*					
Know.	.450*	.541*	.616*				
Com.-Eval.	-.276*	-.041	-.109	-.096			
Com.-Noneval.	-.004	.082	.061	.112	.051		
GROUP 2[a]							
Inter.	.506*						
Invol.	.709*	.764*					
Know.	.513*	.523*	.647*				
No. Adj.	-.199	-.279*	-.234*	-.254*			
No. Cat.	-.205*	-.220*	-.207*	-.178*		.598*	
H/Hmax	-.209*	-.203*	-.229*	-.161*		.399*	.701*
GROUP 3[b]							
Inter.	.518*						
Invol.	.598*	.733*					
Know.	.289*	.489*	.587*				
Com.-Eval.	-.360*	-.199*	-.211*	-.063			
Com.-Noneval.	-.066	-.040	-.012	.101	.230*		
GROUP 4[b]							
Inter.	.457*						
Invol.	.584*	.741*					
Know.	.228*	.425*	.553*				
No. Adj.	-.118	-.208*	-.264*	-.366*			
No. Cat.	-.035	-.181*	-.226*	-.313*		.662*	
H/Hmax	.068	-.115	-.142	-.273*		.454*	.743*

*p < .05, two-tailed test.

[a]For correlations involving Interaction, N=210. For correlations involving Involvement, N=270. For all other correlations, N=300.

[b]For all correlations, N=180.