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ATTITUDE AS A DETERMINANT OF
DISTORTIONS IN RECALL: A REPLICATION

Thesis for the Degree of M. A.

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This is to certify that the

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ATTITUDE AS A DETERMINANT OF DISTORTIONS IN RECALL
A REPLICATION

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INTRODUCTION

In a history of about three decades, the concept of attitude has done much to integrate a number of the important findings of psychology and sociology.

One of the earliest historical antecedents of the concept of attitude in psychology is in the early work of the Wurzburg laboratory, particularly the experiments of Hulpe on Aufgabe (10, p. 11).

The concept was first strongly emphasized in sociology by Thomas and Znaniecki, who in 1918 held that "every manifestation of conscious life, however simple or complex, can be treated as an attitude" (15, p. 27). While this statement appeared to be a good deal overdrawn to many sociologists (3), a number of investigators were stimulated to examine the usefulness of the concept as an explanation for a wide variety of social behavior. Once the concept became established, F. H. Allport, Thurstone, Bogardus, Likert, Drobe, and others developed procedures for measuring attitudes. At the same time, C. W. and F. H. Allport, Daniel Katz, Bain, Faris, and Lasker did a great deal toward forming a systematic theoretical interpretation of the concept (15, p. 11). Their conclusions in general agree in considering attitudes to be learned or conditioned results of needs, values, and beliefs (15, ch. 2).

In 1935 G. W. Allport wrote:

The concept of attitude is probably the most distinctive and indispensable concept in contemporary American social psychology. No other term appears more frequently in experimental and theoretical literature (2, p. 798).

According to more recent writings, the concept has grown in interest and has continued to maintain its importance up to the present day. Strauss, however, points out that "the concept despite its key importance, is marked by considerably confusion" (16, p. 329). He remarks that a great deal of the misunderstanding that has arisen has come from a tendency to use the concept as a "common sense explanation" rather than as a "general causal explanation".

After reviewing the representative contemporary usages of the term attitude, Sherif and Cantril have concluded that the characteristic of attitudes which is intended most frequently is "a functional state of readiness" of the organism (15, p. 17). We shall adhere to this general meaning in our discussion.

The measurement of attitudes has been of such widespread interest that by the present time, measurement of attitudes toward almost every phase of human activity has been undertaken. Murphy (10) writes that a large part of this interest seems to be based on the hope of finding general attitudes which can be related to general behavior traits. This implies that once such connections have been

established, the task of predicting behavior becomes merely the task of measuring the attitude.

In the past few years a number of general attitude-trait connections of this sort have been isolated, and some of these have been submitted to considerable investigation. Outstanding examples of general attitudes, which appear to have importance in the organizing and directing of behavior, can be seen in Sherif and Cantril's work on ego attitudes (13), and the work of Adorno, Levinson, Frenkel-Brunswik, and others on the attitude of ethnocentrism (1).

Sherif and Cantril have demonstrated that with the possession of certain strong attitudes, there are persistent tendencies toward omission of details from the perceptual field contrasting with the attitude, and tendencies for the perceptual field to actively compromise with the attitude (15). Major conclusions which they have drawn from their findings are that social attitudes play a part in determining what is perceived, and that the amount of this influence is dependent upon two things: the amount of ambiguity present in the situation, and the degree to which accurate perception is a threat to self-esteem (15, p. 47).

The work of Adorno, Frenkel-Brunswik, and Levinson on the attitude of ethnocentrism (1) has developed as part

of a broad program begun to study the dynamics of prejudice toward minorities. This attitude of prejudice was found to be measured with both reliability and validity by a questionnaire scale developed by Levinson (1, p. 102-145). Individuals scoring at various intervals on the Levinson scale were studied by intensive case study methods, and a number of the personality dynamics related to the prejudiced attitude were thus explored. On the basis of these findings, other general personality traits, such as authoritarianism, were found to be closely related to the prejudiced attitude (1).

From these major investigations, two provocative lines of experimental study have been developing. The line represented by Sherif and Dantril's work has shown a great deal of convergence with the findings of experimental perception while the work on ethnocentrism has shown a great deal of convergence with the findings of clinical psychology. The present study is concerned with the findings of an experiment by Mookach (12) which seems to cut across both these lines by giving evidence which appears to show a common factor operating in both repression and perceptual distortion. But before turning to an examination of Mookach's methods and results, we will first briefly review some of the more closely related experimental studies.

Related to the influence of attitudes on repression is a study of the effect of failure upon recall of tasks by Rosenzweig and Mason (18). They presented each of forty children with simple jigsaw puzzles. Each child was given a time period for the puzzles which allowed him to finish only half of the total number. At the end of each uncompleted puzzle, it was suggested that the subject had failed the task. After the series, the child was asked to recall the names of the puzzles. Although the Zeigarnik effect would favor recall of the uncompleted puzzles, these were remembered less frequently than the completed ones.

Another study with similar findings was an experiment by Levine and Murphy on the learning and forgetting of written material corresponding and conflicting with attitudes (9). They chose groups of five individuals of opposing strong political attitudes, and presented the groups with written passages, one conforming with their group political attitude, and the other antagonistic to it. The materials were presented for five consecutive weeks and measures of both learning and forgetting were obtained. As compared with material conforming with attitudes, they found progressive decreases in learning and increases in forgetting for the material conflicting with attitudes. This difference reached significance, in one group, only for forgetting and this in the later part of the experi-

ment, but was significant both for learning and forgetting throughout the trials of the other group.

A study by Bruner and Goodman (4) demonstrated the influence of value and need upon perception. Two groups of children were chosen from "Rich" and "Poor" economic groups, and were asked to estimate the sizes of coins from one cent to a half dollar with an adjustable spot of light. Their results showed that the estimations of the Poor group consistently exceeded those of the Rich group, both with the coins present and from memory. The discrepancy in the remembered condition was the greatest.

An experiment showing perceptual distortion in conformance with expectation was conducted by Bruner and Postman (5). Subjects were tachistoscopically shown incongruous trick cards with color reversals such as a red six of spades. In a large number of cases, the percept was a compromise. For example, the red six of spades became "either a purple six of spades or a purple six of hearts" (5, p. 314).

Rokeach based his experiment on Freud's hypothesis that the false recollections in slips of the tongue and pen are the results of partial repressions that form a compromise between an ego-threatening impulse and the tendency to perform an alternate socially approved act (6). According to Freud, repression is a quantitative phenomenon

which acts not only upon the repressed impulse itself but also upon all associations with it "in inverse proportion to their remoteness from what was originally repressed" (7). Following this conception it would seem that high subjects would be more inclined to recall material congruent with prejudice than individuals low in prejudice.

Rokeach summarizes his methods and results as follows:

Ten low- and ten high-prejudiced Ss were shown photographs representing equal numbers of male and female whites and Negroes. The following names were equally distributed by race and sex to the faces shown: White, Gray, Greene, Brown, Black, Lynch, Best, Cole, Smith, Jones, Low, and Good. The Ss judged each photograph for friendliness or unfriendliness. Then followed a test for incidental recall.

The high-prejudiced group recalled the names Gray, Greene, and Lynch significantly more often than the low-prejudiced group to both Negro and white faces. The low-prejudiced group recalled the name Jones and gave "No responses" significantly more often than the high-prejudiced group to both Negro and white faces. The frequency of recall of the various names to the Negro and white faces was not significantly different from each other indicating that prejudice against Negroes may be a manifestation of a more pervasive misanthropy (12, p. 488).

In discussing these results, Rokeach pointed out that the greater recall of the names Gray, Greene, and Lynch by the high-prejudiced group, tends to support both the Freudian hypothesis that slip actions are partial regression or compromise formations, and the findings that the perceptual field tends to be distorted in the direction of conformance with a strong attitude. He also reported that the signifi-

cantly greater frequency with which John was recalled by the low group lends itself to two interpretations. On the one hand, it may represent a tendency for the low group to recall names in a manner converse to the compromise and similarity with prejudice of the high group, and produce names that contrast with prejudice. On the other hand, in view of the greater tendency of the low group to give no response, it may be an example of the tendency noted by Frenkel-Brunswick (3), for the low group to be more "tolerant of ambiguity".

PROBLEM.

Rokeach's findings regarding selective recall as a function of attitude and his contention that ethnocentrism may be to some extent a manifestation of misanthropy, has possible important implications for social psychology. In the light of this, it was deemed desirable to check his findings by replicating his study.

Working in conjunction with Roger Olive (11), two sets of hypotheses based on Rokeach's findings were developed. One set of hypotheses presently being investigated by Olive, is concerned with predicting changes in recall as a function of ego defense. The second set of hypotheses, which is the concern of the present study, is an attempt to determine to what extent Rokeach's previous findings will stand up in a further study conducted under essentially similar conditions.

I. Rokeach found that high prejudiced subjects recalled names suggestive of hostility to both Negro and white faces to a greater extent than subjects low in prejudice. Rokeach took this finding as indicative of a greater misanthropy in the former group. In line with this, we hypothesize that:

Ia. There should be an inverse relationship between degree of prejudice expressed in ratings for

friendliness of both Negro and white photos.

Moreover, no differences in rating for friendliness should occur within prejudice groups between the Negro and white photos.

Ib. No differences are expected in frequency of recall of various emotionally-loaded names or neutral names between Negro and white photos for groups differing in degree of prejudice.

II. Since the distortions in recall of names were found to be functions of the prejudice variable in Hoekach's experiment, the general hypothesis that such distortions might be proportional to degree of prejudice seemed worthy of investigation. It was then hypothesized in line with earlier findings that:

IIa. In general, the greater the degree of prejudice the greater the anticipated frequency of recall of the following names, indicative of recall by similarity or compromise: Lynch, Black, Brown, Greene, and Gray.

IIb. Conversely, the less the prejudice the greater the anticipated frequency of recall of the following names, indicative of recall by contrast or of tolerance of ambiguity: White, Best, Smith and other neutral names.

THE EXPERIMENT

Materials

The materials consisted of two sets of thirty-two photographs, a tilted rack for the photographs, and record blanks.

The two sets of photographs were identical except that Set I had names printed beneath the photos while Set II had no names. The pictures were cardboard-backed 3½ x 4½ enlargements of front-face views of individuals showing head and neck, obtained from police files.

The thirty-two photos were composed of eight female and eight male Negroes, and eight female and eight male whites. Ages were judged to range from twenty to fifty years of age. After randomly assigning common first names to reduce the cue value of the surnames, one of the eight surnames -- Best, White, Gray, Greene, Brown, Black, Lynch, and Smith -- was assigned to one of the eight individuals in each of the above four race and sex groupings. A complete list of the names is found in Table 1.

The rack was a tilted platform of plywood designed to give maximum visibility to the pictures. The record form was an 8½ x 11 mimeographed sheet with a five-point

TABLE I

NAME OF THE 32 PERSONS SHOWN IN SET I OF THE PHOTOS

<u>Male Negroes</u>	<u>Male Whites</u>
John Greene	Fred Greene
Fred Gray	William Gray
Charles Lynch	Robert Lynch
Ralph Black	James Black
Peter Brown	Frank Brown
Robert White	Charles White
Frank Best	John Best
William Smith	Walter Smith
<u>Female Negroes</u>	<u>Female Whites</u>
Betty Greene	Ann Greene
Mary Gray	Edith Gray
Dorothy Lynch	Mary Lynch
Edith Black	Barbara Black
Shirley Brown	Helen Brown
Ann White	Jean White
Helen Best	Joan Best
Joan Smith	Dorothy Smith

scale of friendliness at the top, and thirty-two spaces for recording responses to the photographs, an example of which appears in Appendix A.

. Subjects

After administration of Levinson's ten-item Ethnocentrism Scale (1, p. 102-142) to approximately 250 college sophomore and junior students, three groups of thirty subjects each, half male and half female, were selected. These we shall call respectively "Highs," "Middles," and "Lows." The Highs were the thirty students obtaining the highest scale ratings for ethnocentrism, the Middles were those scoring most centrally between the Highs and Lows, and the Lows were those having lowest scale ratings.

To guard against connection with the later experiment the E Scales were given in classrooms by instructors. Also only data from subjects who reported no fore-knowledge of the test on Question 1 (see p. 15) or association of the Scale with the experiment were used.

Procedure

The subjects were tested individually.

At the beginning of the experiment E provided himself with four blank mimeographed record forms like those shown in Appendix A, and Sets I and II of the photographs.

Part I. After establishing rapport, E began as follows: "I am going to show you some pictures. I want you to look at each one carefully, and write down the names of the persons shown here in these spaces. After you have done that, rate the pictures for friendliness along the five-point scale you see at the top of the page. For example, if you think the person is very friendly, write down number 1 here; if you think the person is somewhat friendly, write number 2; if you think he is neither friendly nor unfriendly, write down number 3; if you think he is somewhat unfriendly, number 4; and if you think he is very unfriendly, put down number 5. Do you have any questions before we begin?" Set I of the photographs was then presented in a prearranged random order. For all four presentations of pictures, E began by placing the cards face down in front of himself, and then setting them one by one on the rack so that they were clearly visible to the subject.

The speed of presentation was dictated by S. It was never more than ten seconds per card, and showed little variation from subject to subject.

After completion of the presentation, E immediately removed the response sheet and supplied a fresh one.

Part II. Set II of the pictures was composed of the same 32 photographs prearranged in a random order

different from that of Set 1. Instructions for Part II were: "I am going to show you the same pictures again and this time the names are missing. Your task is to try to remember the names of each of the persons shown. If you aren't sure of the name, take a guess. We've found that usually the first guess is the most accurate. Now are there any questions before we begin?" The first time any S exceeded fifteen seconds in responding to the pictures, L reminded him: "Remember, your first guess is the most accurate. After these instructions, very few subjects took more than fifteen seconds to respond to any of the pictures. The subjects were encouraged to leave no blanks. Only seven subjects found it impossible to respond to particular pictures and less than twenty omissions appear in the entire 5,760 responses of the data. When the thirty-two pictures had been shown, the blank was again removed and replaced with another.

At the end of the interview, the subject was asked the following questions:

1. What did you hear about the experiment before participating in it?
2. What do you think the experiment was about?

Before leaving S was cautioned not to mention the experiment to any of his classmates.

RESULTS

Preliminary considerations. The differences between the groups in recall of the names do not appear to be due to any differences in ability to learn the names. The highs recalled 15.5 of the Negro and 17.5 per cent of the white faces correctly. The middles recalled respectively 15.5 and 15.0 per cent, and the lows 15.0 and 15.5 per cent correctly. Since there were eight different names appearing with the faces with equal frequency, correct recall due to chance was expected approximately once in eight times or 12.5 per cent of the time. To indicate the presence of a learning factor which would seriously bias the results, correct recall would have had to occur considerably more frequently than this.

Hypothesis 1a predicted that ratings of relative friendliness of the photos would be inverse to the degree of prejudice possessed by the judges, and that there would be no differences within the High, Middle, or Low groups in judgments between the Negro and white photos. This hypothesis was tested by first finding the means for each subject of the sixteen friendliness judgments to the Negro photos, and the sixteen friendliness judgments to the white photos.

TABLE II

ANALYSIS OF VARIANCE OF THE MEAN UNFRIENDLINESS SCORES FOR
THE HIGH, MIDDLE, AND LOW GROUPS
AND NEGRO VS. WHITE PHOTOS

Source of variation	df	F	p
Between:			
High, Middle, and Low groups	2	.70	NS
Between:			
Negro vs. white photos	1	12.26	<.01
Interaction	3	.01	NS

TABLE III

MEANS OF THE FRIENDLINESS RATINGS GIVEN BY HIGH, MIDDLE, AND LOW
GROUPS TO NEGRO AND WHITE PHOTOS,*
AND T RATIOS BETWEEN THE MEANS OF THE NEGRO AND WHITE PHOTOS

	Negro	White	df	t	p
High	2.9	3.2	59	2.76	<.01
Middle	2.8	3.1	59	2.62	<.05
Low	2.8	3.0	59	1.34	NS

* The values represent group means of ratings along the five-point scale:

1, very friendly; 2, friendly; 3, neither friendly nor unfriendly; 4, unfriendly; and 5, very unfriendly.

Then the differences for this data between High, Middle, and Low groups and between Negro and white photos were investigated by analysis of variance.

Turning to the results of the analysis of variance presented in Table II, we find that the F of .70 found between the High, Middle, and Low groups does not reach significance, but the F of 12.16 occurring between the Negro and white photos is significant beyond the 1 per cent level. The interaction between these two variables is not significant. The finding that there is a significant difference in recall between Negro and white photographs is sufficient to reject hypothesis Ia. Apparently the three groups respond differentially to Negro and white photos, contrary to Hokech's findings and interpretations.

In Table III a further investigation of the sources of the significant variance found between the Negro and white photos, shows that the differences in friendliness ratings are significant at 1 per cent level for the High group ($t = 2.76$) and at the 5 per cent level for the Middle group ($t = 1.62$). The t for the low group (1.54) did not reach the level of significance. This finding, that the High and Middle group tend to judge Negro and white photos with greater differences than the Low group is in accordance with present-day theorizing concerning the selective aspects of attitude and provides further evidence against hypothesis Ia.

TABLE IV

FREQUENCY OF RECALL OF VARIOUS NAMES BY HIGH, MIDDLE, AND LOW GROUPS TO NEGRO AND WHITE PHOTOS
AND CHI SQUARE VALUES TESTING SIGNIFICANCE OF DIFFERENCES BETWEEN RECALL TO NEGRO AND WHITE PHOTOS

Names	HIGH GROUP			MIDDLE GROUP			LOW GROUP		
	N	W	Chi ²	p	N	W	Chi ²	p	Chi ²
Lynch	74	91	2.66	NS	91	72	3.35	NS	58 72 2.07 NS
Black	45	34	1.23	NS	63	45	.64	NS	66 61 .27 NS
Brown	77	57	4.14	<.05	59	57	.04	NS	74 58 2.68 NS
Greene	112	61	23.51	<.01	96	97	.01	NS	97 78 3.25 NS
Gray	29	34	.46	NS	18	19	.03	NS	29 27 .08 NS
White	49	60	1.44	NS	57	59	.04	NS	55 50 .30 NS
Best	30	56	9.58	<.01	37	41	1.63	NS	46 48 .05 NS
Neutral names	64	87	5.11	<.05	59	90	9.35	<.01	55 86 10.62 <.01
Total	480	480			480	480			480 480
recalls	Total Chi ² = 33.67				Total Chi ² = 10.66				Total Chi ² = 14.00
	p < .01				p NS				p NS

TABLE V

CHI SQUARE ANALYSIS OF OVER-ALL DIFFERENCES IN
FREQUENCY OF RECALL OF NAMES

Source	Chi square	df	p
Total Chi square	80.37	35	<.01
A. High-Middle -Low	26.22	14	<.05
B. Negro vs. white	38.97	7	<.01
Interaction A B	15.18	14	NS

We will turn now to consider the data obtained on the frequency of recall of the various names. Table IV shows the frequency of recall of the various names given to the Negro and white photos by the three prejudice groups. In Table V we present the Chi square analyses of the results shown in Table IV. This table shows that for the data as a whole, there are significant differences in recall beyond the 1 per cent level. This indicates that a further breakdown of our analysis is justified. Differences in recall due to the prejudice variable are significant at the 5 per cent level. Differences in recall due to Negro vs. white photos are significant beyond the 1 per cent level. The interaction between race and prejudice variables was found to be insignificant, indicating that the differences in recall produced by the two variables are relatively independent of each other.

The finding that significant differences in recall exist between Negro and white photos is sufficient to reject the Misanthropy hypothesis Ib at the 1 per cent level. It indicates that the various prejudice groups respond differentially to the Negro and white photos, which necessitates a separate testing of our other hypotheses for ^{both} Negro and white photos. Continuing with our investigation of differences between Negro and white photos, Table IV shows that a considerable difference exists among the three prejudice groups

TABLE VI

DIFFERENCES IN RECALL OF NAMES BETWEEN
PREJUDICE GROUPS FOR NEGRO AND WHITE PHOTOS

Names	NEGRO PHOTOS				WHITE PHOTOS			
	High	Middle	Low	Chi ² p	High	Middle	Low	Chi ² p
Lynch	74	91	58	8.67 <.05	91	72	72	3.67 NS
Black	45	63	66	5.06 near .05	34	45	61	8.85 <.02
Brown	77	59	74	3.11 NS	57	57	58	.04 NS
Greene	112	96	97	2.01 NS	61	97	78	9.86 <.01
Gray	39	18	29	3.36 NS	34	19	27	4.47 NS
White	49	57	55	.73 NS	60	59	50	1.22 NS
Best	30	37	46	3.71 NS	56	41	48	2.59 NS
Neutral names	64	59	55	.78 NS	87	90	86	.11 NS
Total recalls	480	480	480		480	480	480	
Total Chi ² = 23.94 p <.05					Total Chi ² = 27.06 p <.05			

with respect to their recall of names attached to Negro and white photos. The Highs produced a total Chi square of recall difference between Negro and white photos significant beyond the 1 per cent level (Chi square = 35.67). The Highs recalled the names Greene and Brown significantly more often to Negro photos than to white photos. They recalled the name Best and Neutral names significantly less often. For the Middle and Low groups the Chi square values testing for differences in recall to Negro and white photos, did not reach a satisfactory level of significance for the data as a whole. However, it is interesting to note that as was the case with the High group, both the Middle and Low groups recalled significantly more Neutral names to the white photos than to the Negro photos. After examining all significant evidence concerning both Hypothesis 1a and 1b, we conclude that the evidence tends to reject Hokeach's Misanthropy hypothesis beyond the 1 per cent level of confidence.

We turn now to a consideration of differences in recall between the three prejudice groups. Table IV shows the differences in frequency of recall of specific names for High, Middle, and Low groups to the Negro and white photos separately. For the data as a whole, the Chi square values show differences significant at the 5 per cent level between prejudice groups for both Negro and white photos (Chi squares = 25.94 and 27.06, respectively).

As for Hypothesis 11a predicting greater recall of the names Lynch, Black, Brown, Greene, and Gray, Table VI shows that only the names Lynch and Black reached a satisfactory level of significance for the Negro photos. Of these names, Lynch reached the 5 per cent level and was recalled most frequently by the Middle group. Black approached the 5 per cent level, and was recalled most frequently by the Lows. Both of these results run counter to our predictions in Hypothesis 11a. The only names concerning Hypothesis 11a to be recalled with significant differences for the white photos were the names Black, and Greene, which reached the 2 per cent and 1 per cent levels respectively. Black, as for the Negro photos, was recalled most frequently by the Lows. Greene was recalled most frequently by the Middles. Both of these results give evidence against Hypothesis 11a.

None of the results shown in Table VI reached significance for Hypothesis 11b, namely that the names White, Best, and Neutral names tend to be recalled most frequently by those low in prejudice. The name Best, which showed the greatest differences between prejudice groups to both Negro and white photos, was given most frequently to the Negro photos by the Lows, and most frequently to the white photos by the Highs. The trend was toward support of the hypothesis for Negro photos, and toward rejection for the white photos.

The general hypothesis suggesting that differences in recall are proportionally related to prejudice implies that the middle group will tend to recall names with a frequency falling between those of the high and low groups. This relationship was found to hold only for the name Black, and occurred to this name for both Negro and white photos at the 5 per cent level. The other instance of names with significantly different frequencies of recall for prejudice groups, Lynch for Negro, and Greene for white photos, did not show this relationship. Thus, we find but slim support for hypothesis IIA and IIB, which predicted that recall of names would occur in conformance with prejudice.

DISCUSSION

The general hypothesis that differences in attitude tend to produce differences in structurization of the perceptual field (1, 4, 6, 9, 12, 13, 14) was upheld in the present study. Differences in attitude between groups were found to produce significant differences in recall of names to Negro and white photos.

Our results concerning misanthropy show that both Hypothesis Ia, predicting that friendliness judgments would be functions of misanthropy, and Hypothesis Ib, predicting that recall of names would be functions of misanthropy, were rejected beyond the 1 per cent level by both the analysis of variance of friendliness judgments and the Chi square analysis of frequencies of recall of the names. Additional evidence against misanthropy was given by individual analyses of group differences (Tables ~~IV~~^{III and}) between photos for the three prejudice groups. Friendliness judgments were found to be significant between the photos of the High and Middle groups, and the differences between photos in recall of names were found to be significant for the Highs only. Although these analyses show no significant differences between Negro and white photos for the Low group, the Neutral names show significant differences between

photos for this group beyond the 1 per cent level. Thus we find that Hypothesis Ia has been rejected for the High and Middle groups, and Hypothesis Ib has been rejected for every group.

The rejection of Hypothesis Ib seems to be contradictory to Rokeach's findings in an earlier study. One of our findings noted in Table IV suggested at least a partial explanation of why this has occurred. In Table IV it was seen that the Highs were the only group which showed a significant total Chi square for recall of all the names between the Negro and white faces. This difference for the High group was significant considerably beyond the 1 per cent level. The fact that differences in recall to the Negro and white photos given by both the Low and Middle groups were not significant suggests that there is a range of prejudice extending well into the high end of the prejudice continuum, which does not respond to differences between Negro and white photos with any consistency. It appears possible that at least some of Rokeach's high-prejudiced subjects might have fallen within this range, and thus failed to produce any significant group differences in recall between the photos.

It is interesting that of the four names shown in Table IV for which differences between the Negro and white photos were found for the High group, the names Brown and Greene were recalled more frequently to Negro photos,

while the name Best and Neutral names were recalled more frequently by the High group to white photos. This suggests that for the High group names given to Negro photos are given in line with a prejudiced attitude, and conversely that names relatively less suggestive of prejudice are more likely to be given to white photos. Although this finding adds further weight against the misanthropy hypothesis, it tends to substantiate the broad premise underlying Hypotheses IIa and IIb, namely, that attitudes tend to produce distortions in recall such that what is recalled is consistent with the attitude.

Turning to our hypotheses regarding recall of names as functions of degree of prejudice, we find ~~that~~ for Hypothesis IIa, predicting greater recall of the names Lynch, Black, Greene, and Gray by the High group, that there is no significant evidence (Table VI) in favor of the hypothesis, and that significant evidence against it occurs for the names Lynch, Black, and Greene. The two of these names which Rokeach found were recalled significantly more often by the Highs, Lynch and Greene, were recalled more frequently in the present study by the Middle group rather than the High group. It should be pointed out that these findings do not necessarily conflict with those of Rokeach, who employed only a high and low group in contrast to the present study wherein High, Middle, and Low groups were used. Our

findings, furthermore, contradict our general Hypothesis II, which predicted that differences in recall are proportional to the degree of attitude manifested. While the name Black was recalled to both Negro and white photos most often by the Highs, next most often by the Middles, and least often by the Lows, the other names, Lynch and Greene, did not follow this pattern.

The absence of any significant findings bearing upon Hypothesis IIb, namely that the names White and Best and Neutral names will be recalled more frequently by those lower in prejudice, is difficult to explain adequately. Perhaps the most cautious explanation is that the relatively Neutral names retained in the present experiment, namely Smith, names other than those presented with the photos, and "no response", were less salient for the characteristic of "neutrality" than the Neutral responses showing significant differences in Rokeach's experiment.

Our findings, in general, regarding differential recall of names produced for Negro and white photos by groups high, middle, and low in prejudice, show that significant recall differences occur, but that they occur considerably differently between the three groups than they did between the high- and low-prejudiced groups in Rokeach's earlier study. While other factors can be seen to partially account for specific points of difference between this and

Rokeach's study, Levinson's suggestion that the middle group tends toward more erratic and conflicting behavior than either the high or low group (1, p. 968) may, in a general way, account for the surprising amount of difference in the findings.

SUMMARY

The present study is a replication of an earlier study by Rokeach in which attitude was investigated as a determinant of distortion in recall.

Three groups of subjects scoring relatively high, middle, and low in prejudice were employed. These subjects were shown photographs of thirty-two faces. Of these, eight were Negro males, eight Negro females, eight white males, and eight white females.

The following names were distributed to these photographs equally by race and sex: Lynch, Black, Brown, Greene, Gray, White, Best, and Smith. The subjects judged each of the photographs on a five-point scale for degree of friendliness. Then the same photographs were shown again, but this time without the names attached, and the subjects were tested for incidental recall of the names.

One hypothesis tested was to the effect that distortions in recall are a function of a general misanthropy factor rather than hostility to specific minority groups. It was found, however, that the subjects in general responded with significantly greater hostility toward Negro photos than toward white photos. Furthermore, it was found that the white photos were in general judged significantly less friendly than the Negro photos. These results

are contrary to Rokeach's findings that high-prejudiced subjects respond with greater hostility than low-prejudiced subjects to white as well as Negro photos. Thus, Rokeach's misanthropy hypothesis is rejected at a significant level of confidence.

A second hypothesis was to the effect that with increases in prejudice there should be increases in the frequency of recall of the names Lynch, Black, Brown, Greene, and Gray. Conversely, with decreases in prejudice there should be increases in the recall of the names White and Best and Neutral names. In general, these expectations were not confirmed.

However, it was found that in general, attitude was an important factor in determining recall. The names Lynch and Greene were recalled with significantly greater frequency by the Middle group than by the High and Low groups, and the name Black was found to be recalled with significantly greater frequency by the Low group than by the High and Middle groups. It was also found that the High group recalled four of the names with significant differences between Negro and white photos whereas the Middle and Low groups showed significant Negro-white differences for only one name.

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