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Favorability as influenced by frequency of exposure to black and white college seniors

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FAVORABILITY AS INFLUENCED BY FREQUENCY OF EXPOSURE TO BLACK AND WHITE COLLEGE SENIORS

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Abstract

Zajonc's (1968) "mere exposure" effect was replicated by measuring change in favorability toward black and white college seniors. Following a preexperimental selection of the five most neutral slides for each race by sex category, 40 experimental and 40 control group subjects rated ten black and ten white slides on a pre- and a posttest. The experimental treatment consisted of ten exposure sequences of the 20 slides, whereas the control group performed an inverted alphabet printing task. A repeated measures analysis of variance, conducted on the subjects' favorability ratings for both the pre- and the posttests, supported the hypothesis that a significant attitudinal enhancement will be obtained by white subjects exposed to a slide sequence of blacks and whites. In addition, an analysis of variance on the pretest ratings revealed several significant interactions. An absence of differential demand characteristics for both treatments was indicated by a postexperimental inquiry.

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Introduction

A major task for the applied psychologist is to evaluate the assumption that interpersonal contacts tend to produce improved intergroup interactions and attitudes. International exchange and goodwill programs, organized tours of foreign countries, Olympic games, black media exposure, and integrated housing projects, camp experiences, and organizational climates are thought to be effective as opportunities to increase interracial exposure and tolerance. This study is an attempt to investigate the racial implications of Zajonc's (1968) "mere exposure" hypothesis which specifies that repeated presentations of a stimulus enhances one's attitude toward it.

Zajonc (1968) cites an extensive amount of correlational and experimental evidence supporting his hypothesis. In his review article, Zajonc presents evidence that words with positive affective connotations are used more frequently, in both print and speech, than words with negative affective connotations. By systematically and independently manipulating frequency of usage, Zajonc found that a word's affective connotation improves with its repeated use. He chose scales of the Semantic Differential (Osgood, Suci, & Tannenbaum, 1957) which had high and relatively pure loadings on either the evaluation, potency, or activity factor to find correlations between frequency and value for ad-

jectives. Also exposure of stimuli such as nonsense syllables, Chinese-like characters, and photographs of human faces generates increasingly positive affective reactions as a function of increasing frequency of encounter (see also Johnson, Thomson, and Frincke, 1960; Harrison, 1967).

While Zajonc's formulation has far reaching consequences, it should be noted that it neither denies nor precludes the effects of reinforcement. Stimulus exposure paired with reward will strengthen the organism's approach behavior. Similarly, exposure coupled with a noxious event will strengthen an avoidance reaction. In the absence of reward or punishment, "mere exposure" will result in the enhancement of the organism's attitude toward the given stimulus object.

Zajonc's hypothesis is generally consistent with a recent review article by Amir (1969) which dealt with exposure and race relations and attitudes. Amir found that "favorable" contacts tend to reduce prejudice, whereas "unfavorable" conditions may increase intergroup tension and prejudice. Data collected by Burgess and Sales (1970) imply that repeated exposure of a stimulus in an unpleasant environment will not lead to greater liking of the exposed stimulus. Investigations by Brickman and Redfield (1970) and Perlman and Oskamp (1970) reached similar conclusions after frequent exposures.

A number of naturalistic studies exemplify the effec-

tiveness of modifying behavior through enforced contact. Deutsch and Collins (1951) found that living in an integrated housing project results in more frequent and intimate interpersonal relations between races. Mussen (1950) and Sherif (1961) noted a decrease in prejudice among white campers following contact with blacks. Haggstrom (1963) found that Negroes living in desegregated housing had significantly higher self-esteem and less hostility toward whites than matched households which were segregated.

Some noteworthy studies have been reported which deal with racial tolerance after intergroup contact. In a study of an integrated elementary school, Jansen and Gallagher (1966) concluded that, "it should not be automatically assumed that greater contact with students of another race would increase positive feeling toward that race (p. 225)." They felt, however, that without school integration allowing for greater social contact, change could not be expected at all. White fifth grade children in another integrated school manifested significantly fewer stereotypes about Negroes and showed a greater desire for personal contact with them than did those in an all-white school (Singer, 1964).

Hughes (1946) reported that in the informal work relationship whites and Negroes submerge their conventional stereotypes of each other and work together efficiently.

White department store employees who had worked with Negroes on an equal-status basis were more willing to do so again than those who had not (Harding & Hogrefe, 1952). General Motors and other corporations (personal communication) have extensively engaged in training programs for supervisors aimed at developing racial tolerance, however few systematic attempts have been made to measure this tolerance among supervisors or non-supervisory employees. In one such attempt, Williams, Cormier, Sapp, and Andrews (1971) failed to show a significant increase in biracial interaction behavior between black and white students after using behavior management techniques.

While some studies signify the flexibility that exists in the structure of race relations, there seems to be genuine difficulty in studying integration in real-life settings. Allport (1954) emphasizes the complexity of the problem by enumerating about 30 variables concerned with the effect of contact, including quantitative, social, and role aspects, the social atmosphere surrounding the contact, and areas of contact. Other researchers have agreed with Allport's observations (Sherif & Sherif, 1953; Cook, 1962). In general, Amir (1969) found it rather difficult to forecast whether intergroup contact in school causes a consistent change in attitude, and if so, whether this change is in a desirable or undesirable direction. Maddi (1968) contends that attitudinal enhancement is limited by the meaning of the

stimulus, monotony, and individual differences.

The present study is an attempt to investigate change in racial attitude as a function of exposure. In the laboratory setting, it is possible to create an experimental racial condition, modeling itself after a real-life racial situation. In this way, the effects of exposure may be evaluated while controlling other variables which are present in naturalistic studies of racial contact. The purpose of this experiment is to test the "mere exposure" hypothesis by measuring the change in favorability toward slides of black and white college seniors. Specifically, it is hypothesized that a significant attitudinal enhancement toward blacks as well as whites will be obtained by white subjects who are exposed to an integrated slide sequence of both white and black individuals.

Method

Subjects

The preexperimental subjects were 40 Caucasian undergraduate students, 20 males and 20 females. Forty males and 40 females, all white undergraduates at the University of Nebraska at Omaha, were employed in the exposure experiment entitled "visual participation." Of this group, 20 of each sex were randomly assigned to the experimental group and 20 to the control group. All subjects volunteered in their Introductory Psychology classes to participate in this study.

Slides and Apparatus

Subjects rated their favorability toward 20 college seniors, ten white and ten black, selected from the 1970 Michigan State and University of Arkansas yearbooks. The yearbook pictures were processed into 2 X 2 slides and projected onto a screen by a Kodak Carousel Slide Projector (Model 850). The stimulus exposure and interstimulus intervals were electronically controlled by a slide-tape synchronizer manufactured by Edmund Scientific Company (Stock #41,222) and a Wollensak Stereo Tape Recorder (Model 6200). An 11-point rating scale was used to measure pre- and post- exposure attitudes toward the college graduates pictured on the slides.

Design and Procedure

Experimental design.--The experimental treatment involved pre- and post- measures of subjects' ratings of favorability of the 20 slides selected from a preexperimental procedure according to their neutrality. In the pretest condition, both the experimental and control groups were exposed to each of the 20 slides for two sec, followed by a five sec interstimulus interval during which the subjects rated their favorability toward each slide on a scale from 1 (very unfavorable) to 11 (very favorable). A randomization procedure was used to determine the order in which slides were presented. After the pretest ratings, the experimental group was exposed to each stimulus ten

times for a total of 200 slides. Each slide was presented for a two sec interval. The exposure sequence was arranged such that each slide occurred randomly once every 20 trials. The control group performed an inverted alphabet printing task during the period in which the experimental group received the exposure treatment. In the posttest condition, both the experimental and control groups rated the same individual slides as used in the pretest condition. The slide sequence, interstimulus interval, and exposure duration used for the posttest were exactly the same as those employed in the pretest rating procedure.

Procedure.--A preexperimental study was conducted to select the five most neutral slides for each race by sex category from a pool of 80 slides. The four race by sex categories were white males, white females, black males, and black females. Slide selection was based on two criteria: (1) the degree to which any slide approximated a neutrality score of six on the 11-point favorability scale, and (2) a discrepancy of less than 20 points between male and female raters. The second criterion was employed to minimize any potential sex of rater effect in the subsequent exposure experiment. A series of *t* tests was performed to assess the procedures for selecting the 20 neutral slides for the exposure ex-

periment. Male subjects' favorability ratings from the preexperimental procedure were compared with those of female raters for each slide. All t values were found to be nonsignificant ($p>.05$) for male and female raters on each race by sex of slide category.

Seven groups of approximately 12 subjects each rated slides in the exposure experiment. The experiment was conducted so the experimental and control groups were alternated according to time and setting.

Instructions for the pretest condition for both the experimental and control groups were as follows.

> The purpose of this experiment is to study whether photographs can be used in forming impressions of people. You will view a number of slides of individuals, each presented for a two second interval. After seeing a slide, you will have five seconds to rate that person on an 11-point scale. Make your judgements about each person on the scale from unfavorable to favorable. Your judgements should be made on the basis of how much the person appeals to you or how pleasing he or she seems.
>
> For example, if you feel that he or she is extremely unfavorable or very unappealing to you, mark an X as follows (Experimenter instructs). If you feel that the person is extremely favorable or very pleasing to you, mark an X as follows (Experimenter instructs). If you feel indifferent about a person, mark an X as follows (Experimenter instructs).
>
> If the person is somewhat more favorable than neutral, yet not very favorable, mark an X in a space somewhere between neutral and favorable, depending on the amount of appeal you

> perceive. If the person is somewhat more unfavorable than neutral, yet not very unfavorable, you would mark an X in a space somewhere between neutral and unfavorable.
>
> Be sure to mark an X on the scale for every slide shown. Place your X in the middle of spaces, not on the boundaries (Experimenter instructs).
>
> Do not put more than one X on any one slide scale. It is important that you assign a scale value to each slide based on your first impression of that person. Do not puzzle over any one person. Please be as accurate as possible about your feelings.

The instructions for the experimental treatment were, "Now view these slides without rating them." For the post-test condition, all subjects were told, "Now rate these slides."

Instructions for the control group's interpolated task were as follows.

> This part of the experiment is a study of some aspects of how people perform skills involving motor coordination. During this session you will be asked to print in alphabetical order the letters of the alphabet in an inverted or upside-down arrangement.
>
> You are to concentrate on speed primarily since your score depends on how many letters you print correctly. If you knowingly make a mistake, simply print right over it and continue printing. It might help you to know that certain letters are exactly the same whether printed upside down or rightside up, such as H, I, N, O, S, X, and Z. When I give you the signal, start printing from the right side to the left side of the paper starting on the top line of the paper and printing the alphabet upside down and in alphabetical order. When you

> complete one line, continue with the next line until you complete the page. Each time you complete the alphabet simply start printing the alphabet again from that point on the page. Continue in this manner until I ask you to stop. Do you have any questions?

After the posttest, all subjects were asked to respond to a questionnaire designed to measure the demand characteristics of the experiment. Orne (1962) employed the term "demand characteristics" to refer to the tendency of participants to play the role of a "good subject" and to attempt to validate the experimenter's hypothesis as they see it. The experimental group subjects were initially asked, "Describe what you think the experimenter was trying to accomplish by showing you the same 20 slides over and over again." The control group subjects were posed the question, "Describe what you think the experimenter was trying to accomplish by asking you to print in alphabetical order the letters of the alphabet in an inverted or upside-down arrangement." All subjects were then questionned, "What do you think was the purpose of this experiment?"

Results

The ratings of favorability for the five slides which composed each race by sex category were summed for both the pre- and the posttests. Two separate repeated measures analyses of variance were performed on the totaled favor-

ability scores. The first was a 2 (Treatment) X 2 (Sex of Rater) X 2 (Race of Slide) X 2 (Sex of Slide) analysis on the pretest ratings. The analysis was performed to indicate any initial differences in the manner in which male and female slides of both races are rated by males and females in both the experimental and control conditions. Second, a 2 (Treatment) X 2 (Sex of Rater) X 2 (Test) X 2 (Race of Slide) X 2 (Sex of Slide) repeated measures analysis was conducted on the subjects' favorability ratings for both the pre- and the posttests to examine possible differences in exposure related to sex of subject and race and sex of slide. The results of these analyses are presented below.

Pretest Analysis

Sex of Slide.--The main effect of sex of slide yielded an $F=38.83$ ($df=1/76$, $p<.01$). The mean favorability ratings for female slides were 34.01 and those for male slides were 31.15. Accordingly, female slides were rated more favorably than male slides on the pretest. However, as presented below, sex of slide was found to interact in a statistically reliable manner with both sex of rater and race of slide.

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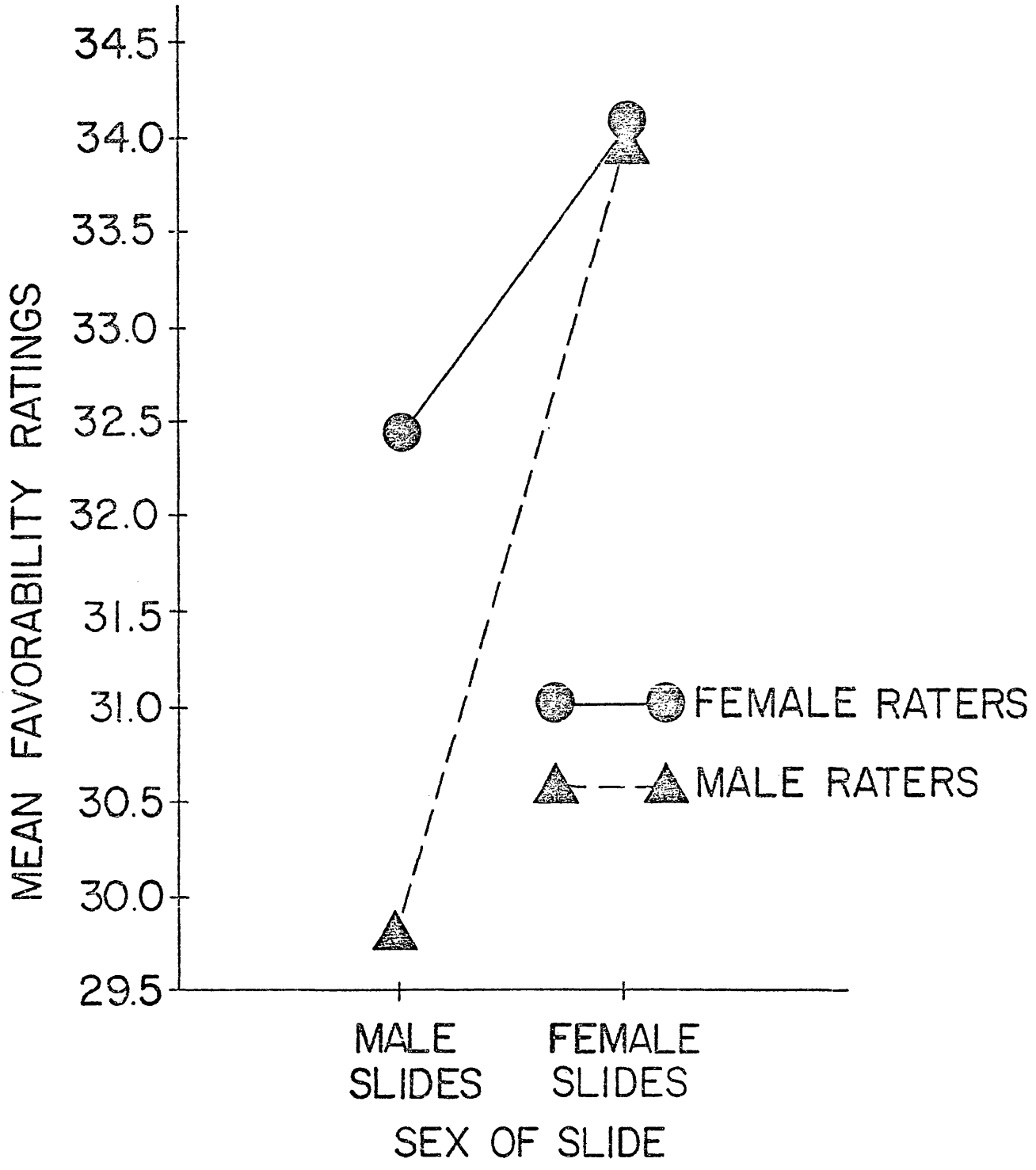

Fig.1. The relationship of sex of rater to sex of slide for the pretest mean favorability ratings.

Sex of Rater X Sex of Slide.--Figure 1 illustrates the relationship of sex of rater to sex of slide for the pretest mean favorability ratings. The $F=7.70$ ($df=1/76$, $p<.01$) indicates that there was a larger sex of rater difference for male slides than for female slides. A simple main effects analysis revealed that males rated female slides significantly more favorably than male slides ($F=38.43$, $df=1/76$, $p<.01$). Females also rated female slides significantly more favorably than male slides ($F=5.97$, $df=1/76$, $p<.05$).

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Sex of Rater X Race of Slide.--The interaction of sex of rater and race of slide yielded a significant $F=5.45$ ($df=1/76$, $p<.05$). Figure 2 presents the relationship of sex of rater to race of slide for the pretest mean favorability ratings. Inspection of the Figure indicates larger differences due to sex of rater for black slides than for white slides. However, a simple main effects analysis revealed an absence of further statistically reliable differences.

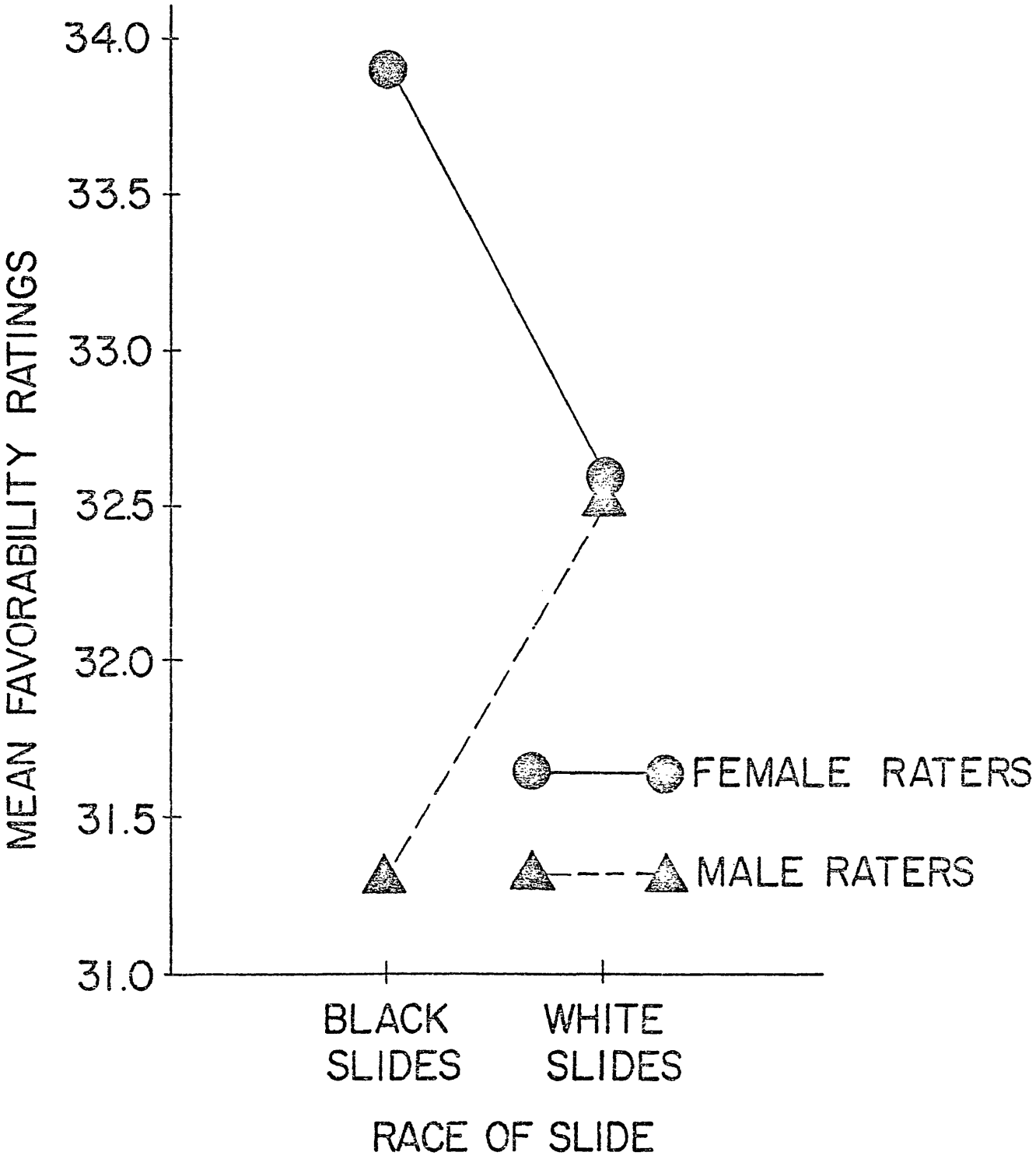

Fig. 2. The relationship of sex of rater to race of slide for the pretest mean favorability ratings.

Present Fig. 3 about here

Race of Slide X Sex of Slide.--The F value for the race by sex of slide interaction was a significant 17.57 (df=1/76, $p<.01$). Figure 3 graphically illustrates the relationship of race by sex of slide for the pretest mean favorability ratings and indicates the presence of a smaller sex effect for black slides than for white slides. A simple main effects analysis revealed no significant sex effect for black slides. However, a significant sex difference was found for white slides ($F=53.30$, df=1/76, $p<.01$) with females rated more favorably than males. These results suggest that subjects in the present study tended to judge Negro slides solely on a racial basis; the sex of the blacks did not enter into the subjects' ratings of favorability. On the other hand, when subjects viewed white slides, their favorability ratings varied with the sex of the person presented in the slide.

Treatment X Sex of Rater X Race of Slide.--The triple-order interaction of treatment by sex of rater by race of slide yielded an $F=6.94$ (df=1/76, $p<.05$). For the experimental group, larger sex of rater differences were present for Negro slides than for white slides. Conversely, for the control group, larger sex of rater differences were found for white slides than for black slides. The significance probably represents a type I error since subjects

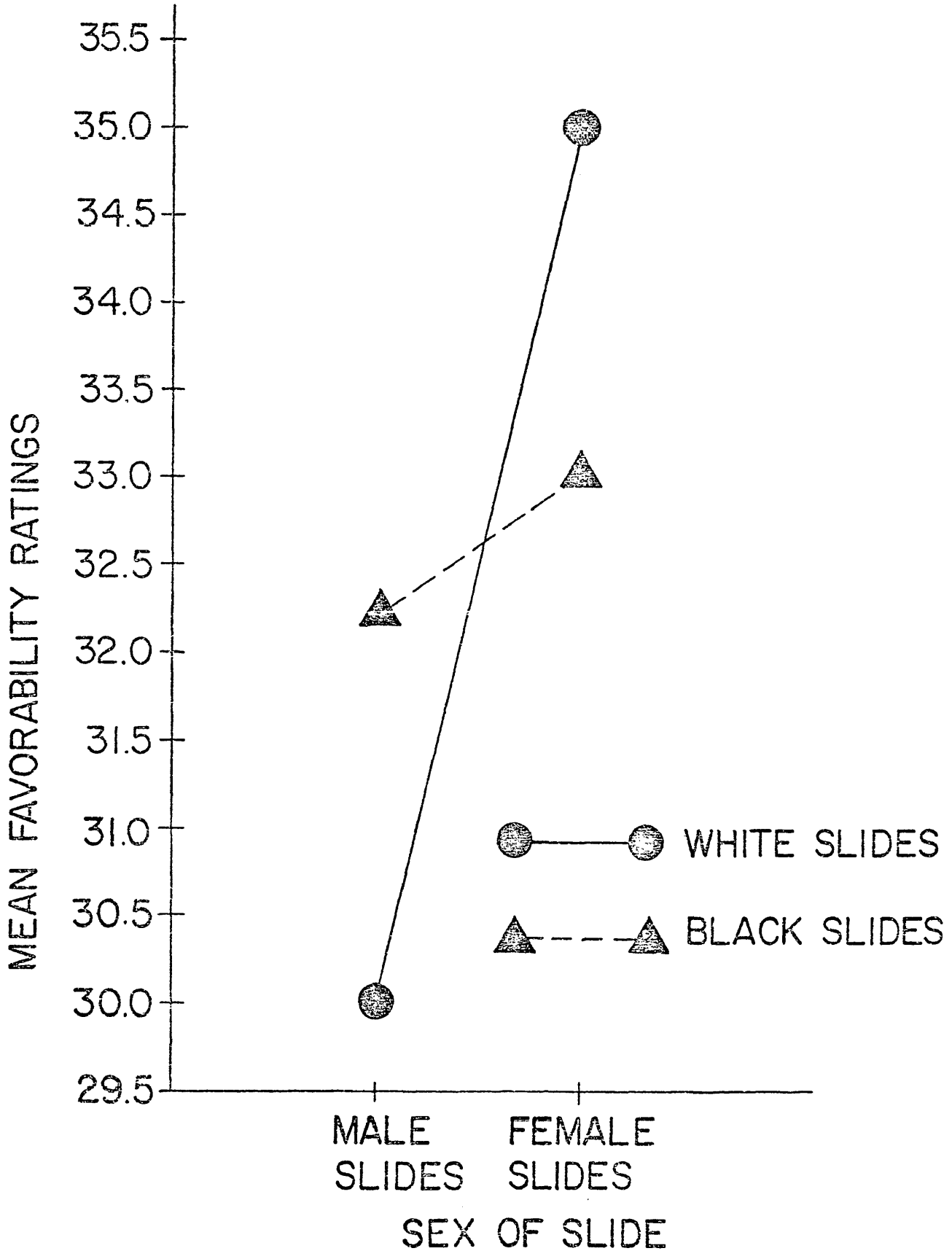

Fig 3. The relationship of race of slide to sex of slide for the pretest mean favorability ratings.

were randomly assigned to treatment groups. Rosnow and Suls (1970) noted an increase in the probability of type I errors when the subjects, like the volunteers employed in this study, are willing to participate in a before-after attitude change experiment. In any case, since no significant interaction involving the same factors was found in the exposure analysis, as cited below, the differences indicated in the pretest analysis do not constitute a potential source of bias in evaluating the exposure effect.

No other main effects or interactions were found to be significant in the pretest analysis.

Exposure Analysis

Sex of Slide.--The main effect of sex of slide yielded an $F=55.20$ ($df=1/76$, $p<.01$). The mean favorability ratings of female slides were 34.31 and those of male slides were 30.97. As in the pretest analysis, female slides were rated more favorably than male slides. However, little information, above that provided by the pretest analysis, is presented by the main effect of sex, since it may be confounded by a potential exposure effect present in the posttest measure.

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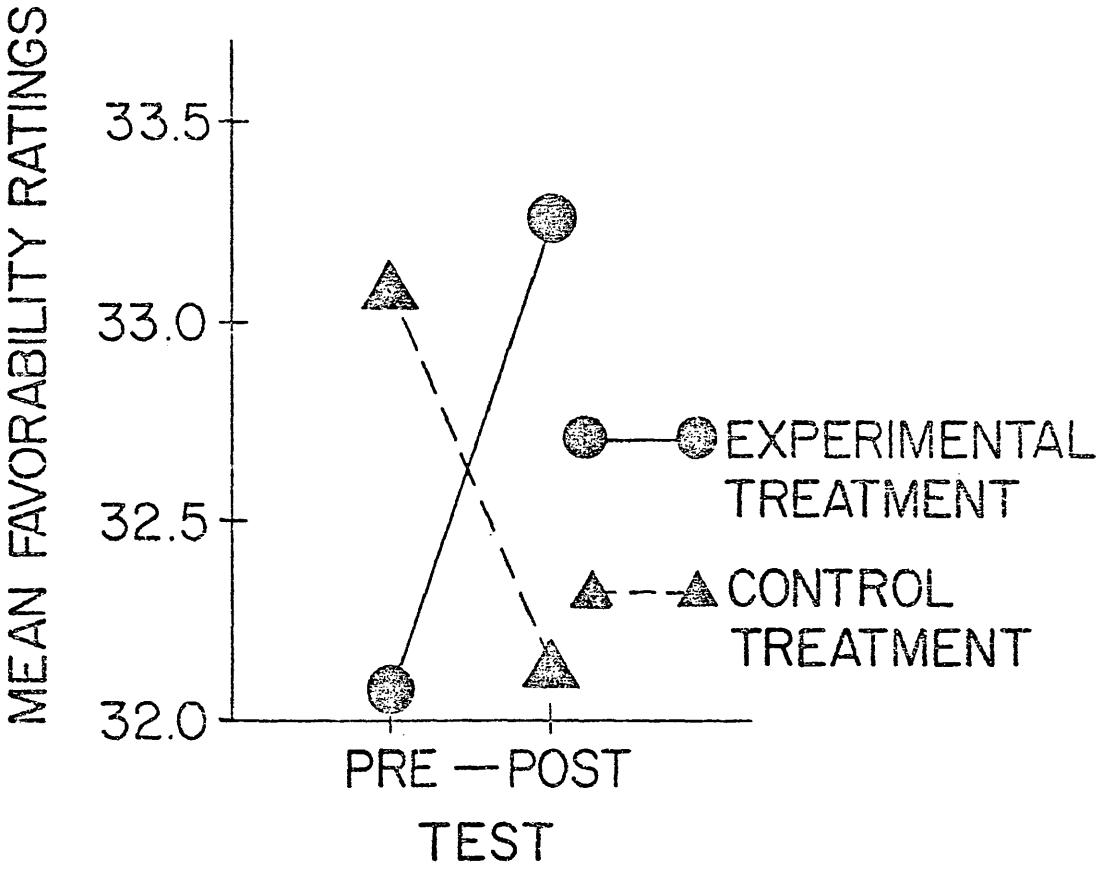

Fig. 4. The relationship of treatment and mean favorability ratings as assessed by the pre-and post tests.

Treatment X Test.--Figure 4 presents the relationship of treatment and mean favorability ratings as assessed by the pre- and posttests. This interaction yielded an F=7.28 (df=1/76) which is significant at less than the .01 level. Inspection of Figure 4 indicates that exposure served to enhance the attitudes of the experimental group, while the interpolated activity of inverted alphabet printing resulted in a slight decrease in favorability ratings from the pre- to posttest for the control group. A simple main effects analysis revealed a significant (F=4.48, df=1/76, p<.05) increase in ratings of favorability from the pre- to the posttests for the experimental group. The difference found between the pre- and posttests for the control group approached significance (F=2.91, df=1/76, p<.10). Apparently, mere exposure to a slide sequence composed of individuals rated during the pretest is a sufficient condition for an enhancement of the experimental group's attitudes on the posttest.

No other main effects or interactions relating to the exposure condition were found to be statistically reliable.

Analysis of the Demand Characteristics Questionnaire

As previously mentioned, all subjects responded to a questionnaire which focused on the demand characteristics of the experiment. A content analysis was performed on the responses made by both treatment groups to the second question. The response categories of attitude change, first

impressions, and true feelings, including amount remembered, and personal appeal toward the slides were then collapsed across both groups. A Binomial Test comparing the observed response frequencies of the experimental group to those of the control group was assessed to be nonsignificant ($z=.802$, $p>.05$), indicating the absence of differential demand characteristics for both treatments. Consequently, no subjects were discounted from the experimental sample.

Discussion

The results of this study support the hypothesis that a significant attitudinal enhancement toward blacks as well as whites will be obtained by white subjects who are exposed to an integrated slide sequence of both white and black individuals. The present experiment, consequently, replicated Zajonc's "mere exposure" effect. As in Zajonc's monograph, exposure to neutral photographic slides of human faces generated a significant increase in positive affective reactions. In this study, however, unlike Zajonc's an attempt was made to examine intergroup attitudes by having subjects rate black as well as white individuals. A number of other laboratory studies, including those of Johnson, Thomson, and Frincke (1960), Harrison (1967), and Perlman and Oskamp (1970) have also been generally consistent with the "mere exposure" effect.

The exposure effect, as graphically illustrated in

Figure 4, strengthens Zajonc's hypothesis of significant attitude enhancement from the pretest to the posttest judgements. The substantial, but nonsignificant, decrease in the control group's favorability ratings from the pre- to the posttest might be attributed to adaptation level or dissonance theory. Posttest attitudes were more neutral for the control group than for the experimental group. Additional speculation might suggest that the control treatment subjects became bored with their inverted alphabet printing task and consequently less favorable of the posttest slides. It is important to note that no distinct exposure effect was found specifically for race.

Even though the slides employed in this exposure experiment were selected for their neutrality from the preexperimental procedure, several significant interactions were found on the pretest. Perhaps the initial neutrality values were not sufficiently reliable for the differences between the preexperimental and the experimental samples. It is suggested that future studies of this type more rigidly minimize sex of rater differences on each race by sex of slide category, i.e., base the slide selection criterion on a discrepancy significantly less than 20 points between male and female raters.

One of the most interesting findings concerned the fact that a smaller sex of rater difference existed for female slides than for male slides. Overall, subjects

judged female slides more favorably than male slides (see Figure 1). Specifically, males rated slides of their own sex less favorably than slides of the opposite sex, while females preferred slides of their own sex.

Another intriguing finding was the interaction of sex of rater to race of slide for the pretest mean favorability ratings, as illustrated in Figure 2. It appears that when the subjects rated slides of their own race, there was no substantial sex of rater difference. Furthermore, their judgements were intermediate between those for black slides. Females' attitudes toward blacks were more favorable than those of males, which, in turn, were less favorable than those of both males and females judging white slides.

The pretest relationship of race of slide to sex of slide revealed a larger sex effect for white slides than for black slides. Female white slides were judged more favorably than were male white slides. Apparently, when whites judged photographic slides of their own skin color, they formulated a definite sex preference. When subjects judged black slides, however, there was no significant difference in attraction ratings according to sex of slides. Figure 3 exemplifies the lack of a differential sex effect for the black slides. Perhaps because of lack of experience with black people, Caucasian subjects do not have a conceptual category or standard with which they can judge "attractiveness" between black males and females. At a

somewhat deeper conceptual level, the subjects' failure to manifest sex differences when judging black slides may mean that they only see color.

The purpose of the demand characteristics questionnaire, as designed within the second question, was to examine whether subjects differed, according to treatment, in their expectations of the experiment's purpose. The first question simply persuaded subjects to discuss their respective treatment or interpolated task. The fact that both treatment groups perceived the purpose of the study similarly indicated that all subjects were equally influenced by the demand characteristics of this experiment.

Several theoretical views might aid in the explanation of the experimental results and Zajonc's "mere exposure" phenomenon. Osgood (1964) refers to the "Pollyana hypothesis" as the world view which states that there is a universal predilection for structuring the conceptual world as more "good and active" than "bad and passive." We are now living in a world where prejudicial racial attitudes are considered distasteful. The exposure effect is consonant with this tendency to structure our attitudes so they are enhanced by contact with an integrated experience. Perlman and Oskamp (1970) call attention to a <u>perceptual projection</u> theory which posits that most people have positive views of human nature, and that increasing the number of exposures of neutral portrait photographs would

provide a greater opportunity for the subjects to project their positive feelings onto the models portrayed. In a study presently in preparation for publication, Saegert, Swap, and Zajonc (1971) report that people more frequently encountered have greater interpersonal attraction, regardless of the positiveness of the context. The first encounter with a novel stimulus, according to Zajonc (1968), produces a fear reaction. The avoidance reaction to the second encounter will be weaker if no negative consequences are associated with the first one. As the encounters continue, and if no other negative events accompany them, the organism's attitude toward the stimulus will improve.

However, other theorists (Jakobovits, 1968; Maddi, 1968) purport that "mere exposure" is only one factor contributing to the affective change in a stimulus. There appears to be a limitation to the laboratory study of race relations. According to Fendrich (1967), attitudes seem to be only partially independent determinants of overt behavior, in that both racial attitudes and overt behavior are determined by perceived reference group support. Hence, there is a crucial need for additional naturalistic studies similar to those reported by Mussen (1950), Deutsch and Collins (1951), and Amir (1969).

The present experiment not only supports Zajonc's "mere exposure" hypothesis, but by employing neutral slide photographs of black as well as white college seniors, it

replicates his empirical study in terms of race relations. If one keeps in mind that "mere exposure" is only one variable inherent in the complex process of intergroup interaction, it can be predicted from the above results that integration of schools, work groups, and housing could result in more favorable racial attitudes. The presence of several significant pretest interactions suggests the need to further examine differences between the sex of rater and sex and race of slide variables. Future research must be concerned with a number of other "mere exposure" parameters, e.g., larger frequencies of exposure durations and interstimulus intervals. What would the results of similar studies be using intergroup interactions instead of photographic slides; Caucasian-appearing blacks; black raters? In addition, further research might assess the applicability of these findings to change attitudes in an up to date, pragmatic setting - perhaps in alleviating police-community frustrations or in motivating people to develop more favorable intergroup attitudes.

References

Allport, G. W. The nature of prejudice. Cambridge, Mass.: Addison-Wesley, 1954.

Amir, Y. Contact hypothesis in ethnic relations. Psychological Bulletin, 1969, 71, 319-342.

Brickman, P., & Redfield, J. Drive and predisposition as factors in the attitudinal effects of mere exposure. Paper presented at the meeting of the American Psychological Association, Miami Beach, September, 1970.

Burgess, T. D. G., II, & Sales, S. M. Attitudinal effects of "mere exposure": A re-evaluation. Unpublished manuscript, Carnegie-Mellon Institute, 1970.

Cook, S. W. The systematic analysis of socially significant events: A strategy for social research. Journal of Social Issues, 1962, 18(2), 66-84.

Deutsch, M., & Collins, M. E. Interracial housing: A psychological evaluation of a social experiment. Minneapolis: University of Minnesota, 1951.

Fendrich, J. M. Perceived reference group support: Racial attitude and overt behavior. Sociological Review, 1967, 32, 960-970.

Haggstrom, W. C. Self-esteem and other characteristics of residentially desegregated Negroes. Dissertation Abstracts, 1963, 23, 3007-3008.

Harding, J., & Hogrefe, R. Attitudes of white department store employees toward Negro coworkers. Journal of Social Issues, 1952, 8(1), 18-28.

Harrison, A. A. Response competition and attitude change as a function of repeated stimulus exposure. Unpublished doctoral dissertation. University of Michigan, 1967.

Hughes, E. C. The knitting of racial groups in industry. American Sociological Review, 1946, 11, 512-519.

Jakobovits, L. A. Effects of mere exposure: A comment. Journal of Personality and Social Psychology Monograph Supplement, 1968, 9(2, part 2), 30-32.

Jansen, V. G., & Gallagher, J. J. The social choices of students in racially integrated classes for the culturally disadvantaged talented. Exceptional Children, 1966, 33, 221-226.

Johnson, R. C., Thomson, C. W., & Frincke, G. Word values, word frequency, and visual duration thresholds. Psychological Review, 1960, 67, 332-342.

Maddi, S. R. Meaning, novelty, and affect: Comments on Zajonc's paper. Journal of Personality and Social Psychology Monograph Supplement, 1968, 9(2, part 2), 28-29.

Mussen, P. H. Some personality and social factors related to changes in children's attitudes toward Negroes. Journal of Abnormal and Social Psychology, 1950, 45, 423-441.

Orne, M. T. On the social psychology of the psychological experiment: With particular reference to demand characteristics and their implications. American Psychologist, 1962, 17, 776-783.

Osgood, C. E. Semantic differential technique in the comparative study of cultures. American Anthropologist, 1964, 66, 171-200.

Osgood, C. E., Suci, G. J., & Tannenbaum, P. H. The measurement of meaning. Urbana: University of Illinois, 1957.

Perlman, D. & Oskamp, S. The effects of picture content and exposure frequency on evaluations of Negroes and whites. Paper presented at the meeting of the American Psychological Association, Miami Beach, September, 1970.

Rosnow, R. L., and Suls, J. M. Reactive effects of pre-testing in attitude research. Journal of Personality and Social Psychology, 1970, 15, 338-343.

Saegert, S., Swap, W., & Zajonc, R. B. Interpersonal attraction as a function of mere exposure. Paper presented at the meeting of the Midwestern Psychological Association, Detroit, May, 1971.

Sherif, M. Intergroup conflict and cooperation: The robbers cave experiment. Norman, Okla.: University of Oklahoma Book Exchange, 1961.

Sherif, M., & Sherif, C. W. Groups in harmony and tension: An integration of studies in intergroup relations. New York: Harper, 1953.

Singer, D. The impact of interracial classroom exposure on the social attitudes of fifth grade children. Unpublished study, 1964.

Williams, R. L., Cormier, W. H., Sapp, G. L., & Andrews, H. B. The utility of behavior management techniques in changing interracial behaviors. Journal of Psychology, 1971, 77, 127-138.

Zajonc, R. B. Attitudinal effects of mere exposure. Journal of Personality and Social Psychology, 1968, 9(2, part 2), 1-27.