

THE EFFECTS OF FEAR AROUSAL AND SUPPRESSION OF FEAR UPON SOCIAL PERCEPTION

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THE PRESENT paper is concerned with some factors influencing the presence and extent of "projection" in social perception. The term "projection," of psychoanalytic origin, has accumulated diverse connotations (4, 5) and has acquired considerable explanatory power at the cost of precise analysis of the phenomena which it presumably explains. Thus, the paranoid who is defending against persecutory agents, the miser who perceives his neighbors as equally avaricious, and the fearful child whose world is full of danger and threat are all said to be "projecting."

The present experiment is delimited to the study of one of the psychological processes underlying the various forms of projection; namely, the influence of affect upon perception. Our basic proposition is as follows: when a particular affective state is aroused, there is a tendency for the affect to become connected to contemporaneous percepts and ideation. One might describe this process as the infusion of cognition with affect, a process very similar to Heinz Werner's concept of "physiognomic" perception (6). Freud (3) has also described a process of this kind and Bellak (1), in his theoretical analysis of apperceptive distortion, refers to the role of the mood of the perceiver.

Infusion is conceived of as a basic, primitive organismic process that is especially characteristic of infants and young children. It is assumed that the infusion tendency persists to some degree in adults although greatly modified by learning. One has to learn not to project, as it were; that is, learn to discriminate between one's own feelings and those of other objects in the environment. Repression that tends to reduce the effects of higher-order learning (2) should result in greater projection or infusion. If a subject is unaware of or denies his feelings, then he is unable to employ an important cue to which he has previously learned to make discriminating responses.

These considerations lead to the following specific hypotheses:

1. Under conditions of fear arousal, a subject perceives (judges) a stimulus person as sig-

nificantly more fearful and anxious than under neutral affective conditions.

2. Under conditions of fear arousal, subjects encouraged to suppress recognition of their emotional reactions perceive a stimulus person as significantly more fearful and anxious than subjects encouraged to acknowledge their emotional reactions.

METHOD

Subjects

Sixty male volunteers from introductory psychology classes at a large metropolitan university participated as subjects. The Ss were randomly assigned to one of the following experimental treatment groups: Control (C), Fear-Expression (FE) and Fear-Suppression (FS).

Administration of Film and Fear Stimulus

The Ss were seen individually. Each S was told that the experiment dealt with the effects of distraction upon the accuracy of one's judgment of other people. They were informed that a film of a young man's performance on a number of different tasks would be shown to them, and that after presentation of the film, they would be required to judge the personality of this man. Following these instructions, electrodes were attached to the left ankle of Ss in the Fear groups. Electric shocks, administered in the guise of distracting stimuli, were employed to induce fear. The strength of electric shock administered to each S was determined by gradually varying the intensity of the shock until S reported that the shock was painful. The film was then presented, and eight shocks were administered at varying intervals while the Ss witnessed the film. At the same time, they were required to remove a set of pins from the O'Connor Finger Dexterity Board, a task that could be readily accomplished with only occasional glances at the board. A similar procedure was used for the Control group with the important exception that shock was omitted.¹

Manipulation of Fear Expression and Fear Suppression

The instructions intended to encourage expression of fear or suppression and denial of fear were given

¹In order to determine whether the pin removal task had any effect upon the Ss' reactions to the film, half the Ss in the Control group were not given this task to perform. The means and variances of the subsequent judgments of the two Control subgroups were practically identical, and consequently the subgroups were combined in analyzing the results.

prior to the showing of the film. The Ss in the Fear-Expression (FE) group were told: "Many people are disturbed by the shock. In order to perform most efficiently, the best thing to do is to be aware of and admit your feelings. If you freely express your feelings, your judgments will be more accurate." The Ss in the Fear-Suppression (FS) group were given contrasting instructions as follows: "Many people are disturbed by the shock. In order to perform most efficiently, the best thing to do is keep your mind off your emotional reactions and not think about them. Try to forget about your feelings and concentrate on the task; by so doing, your judgments will be more accurate."

Measurement of Experimental Effects

Subsequent to witnessing the film, Ss were administered a questionnaire regarding the personality characteristics of the stimulus person.² Five alternative choices were offered for each item in the questionnaire. The following four indices reflecting the evaluation of different personality attributes of the stimulus person were derived from the questionnaire responses:

Indirect Fear Judgment score. This index, based on 24 items, reflects the degree to which the stimulus person was judged as fearful or anxious in situations other than that depicted in the film. Sample questions: "How much tension do you think he usually works under?"; "How often do you think his sleep is fitful and disturbed?"; "In comparison to most people, how much does physical pain upset him?"

Direct Fear Judgment score. This index, based on 4 items, indicates the degree to which the stimulus person was perceived as fearful and anxious in the actual test situation depicted in the film. In making direct fear judgments, the S has more stimulus information available than in making indirect fear judgments. Sample questions: "How worried do you think he was while working on the various tasks?"; "How frequently did he seem to be anxious?"

Indirect Aggression Judgment score. This index, based on 13 items, reflects the degree to which the stimulus person was perceived as a generally aggressive individual. Sample questions: "How frequently do you think he loses his temper?"; "When he gets angry, how often do you think he takes it out on somebody else?"

Negative Personality Judgment score. This index, based on 15 items, reflects the extent to which unfavorable personality characteristics other than anxiety or aggressiveness were attributed to the stimulus person. Sample questions: "How much reliance do you think one can place upon his word?"; "How tolerant is he likely to be of other people's mistakes?"

A further control was introduced during the completion of the questionnaire in that the shock apparatus was detached from half of the Ss in each of the Fear-

Arousal groups while for the remaining half, the shock apparatus was left intact and these Ss were given three shocks during this period. Since this condition did not result in any significant differences in subsequent judgments, these two subgroups are combined in the presentation of the results.

Apparatus

The S was seated at a table situated nine feet from the screen on which the film was projected. The electric shocks were administered by means of a high impedance 60-cycle inductive generator. The film, which lasted approximately 7 minutes, depicted a young man's performance on a card-sorting task, the O'Connor Wiggly-Block Test, and the O'Connor Tweezer Dexterity Test.³ Neither sound track nor film titles were employed. The examiner administering the tests was not shown in the film except for a brief glimpse of his hands when he changed the test materials. The stimulus person, who had had previous practice with the various tasks, was instructed to complete each task as quickly as he could.

RESULTS

The means for all groups on each of the questionnaire subscales are presented in Table 1. The results of an analysis of variance of the Indirect Fear Judgments are given in Table 2. The *F* ratio is significant at less than the .01 level, the FS group having the highest Indirect Fear Judgment scores and the Control group, the lowest. The differences between each of the Fear-Arousal groups and the Control group are significant at the .01 level. The difference between the Fear-Suppression and the Fear-Expression groups, although in the predicted direction, is not statistically significant. However, examination of the individual item scores revealed a substantial difference between the two groups in the extent to which they used the most extreme fear category (alternative 5) in judging the stimulus person. As Table 3 indicates, 60 per cent of the FS group in contrast to 25 per cent of the FE group judged the stimulus person as extremely fearful on at least one of the items. This difference is significant at the .05 level of confidence. Since the differences between the Fear groups and the Control group may be taken as measures of projection, the results, in support of the first hypothesis, indicate that Ss experiencing shock project

² A copy of this questionnaire has been deposited with the American Documentation Institute, Order Document No. 5324 from ADI Auxiliary Publications Project, Photoduplication Service, Library of Congress, Washington 25, D.C. remitting in advance \$1.25 for microfilm or \$1.25 for photocopies. Make checks payable to Chief, Photoduplication Service, Library of Congress.

³ The authors wish to express their gratitude to Dr. William Nicholson who served as the principal character in the film and to the staff of the F. W. Taylor Management Laboratory of the Wharton School, University of Pennsylvania, who gave their time and facilities freely in processing the film.

their fear onto the stimulus person. There is also some support for the second hypothesis; namely, that suppression of fear facilitates the projection process.

Included in the questionnaire were four items comprising the Direct Fear Judgment Index which required *S* to judge how worried or anxious the stimulus person appeared during the test situation depicted in the film. Analysis of these data yielded results in the same direction as the previous findings, but the differences were less striking. The data, based on only a few items, were much more variable than those for Indirect Fear Judgment and, as Table 4 indicates, the *F* ratio obtained is not significant. Comparisons between groups based on each of the four items comprising the Direct Fear Judgment Index revealed no significant differences between the FE and C groups and between the FE and FS groups. However, on one of these items, the difference between the FS and C groups is significant at the .05 level, on two of the items, at the .06 level, and, on the remaining item, the difference is not significant.

The *Ss*' perception of the aggressiveness of the stimulus person was considered in the study because of the possibility of so-called complementary projection and also because the same operations which aroused fear may also have aroused aggression. An analysis of variance of the Indirect Aggression Judgment scores is presented in Table 5. The *F* ratio is significant at the .01 level, the FS group having the highest aggression perception scores and

TABLE 1
COMPARISON OF MEAN SUBSCALE SCORES

Subscale	Group			<i>t</i> FE vs. C	<i>t</i> FS vs. C	<i>t</i> FS vs. FE
	Control (C) (<i>N</i> = 20)	Fear Expres- sion (FE) (<i>N</i> = 20)	Fear Sup- pression (FS) (<i>N</i> = 20)			
Indirect fear (24 items)	55.9	68.9	74.2	2.7**	3.9**	1.1
Direct fear (4 items)	8.5	9.7	11.2	.9	2.1*	1.2
Aggression (13 items)	30.2	34.4	38.1	1.8	3.3**	1.6
Negative Per- sonality ^a (15 items)	47.4	44.6	46.3	—	—	—

^a In the case of the Negative Personality Judgment items, the lower the mean, the more unfavorable the judgment.

* Significant at the .05 level.

** Significant at the .01 level.

TABLE 2
ANALYSIS OF VARIANCE OF THE INDIRECT FEAR
JUDGMENTS

Source	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>
Between groups	3546.55	2	1773.3	8.04**
Within groups	12573.65	57	220.6	

** Significant at the .01 level.

TABLE 3
USE OF EXTREME FEAR CATEGORIES ON INDIRECT
FEAR JUDGMENT SUBSCALE

Group	Made 1 or More Extreme Fear Judgments	Made no Extreme Fear Judgments
Fear suppression (FS)	12	8
Fear expression (FE)	5	15

Note.— $\chi^2 = 5.8$; $p < .05$.

TABLE 4
ANALYSIS OF VARIANCE OF THE DIRECT
FEAR JUDGMENTS

Source	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>
Between groups	70.23	2	35.1	2.09 ($p < .20$ > .10)
Within groups	956.10	57	16.8	

TABLE 5
ANALYSIS OF VARIANCE OF THE AGGRESSION JUDGMENTS

Source	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>
Between groups	633.0	2	3.7	5.76**
Within groups	3144.0	57	55.2	

** Significant at the .01 level.

the C group the lowest. Thus, it appears that aggression as well as fear was projected in this situation.

In view of this finding, one might conjecture that the judgments of the Fear-Arousal groups are largely a reflection of a generalized negative attitude toward the experimenter and the experimental situation. If this were the case, one would expect the shocked *Ss* to be more likely than the C group to attribute negative personality characteristics (other than aggression or fear) to the stimulus person. However, an analysis of variance of the Negative Per-

TABLE 6
ANALYSIS OF VARIANCE OF THE NEGATIVE PERSONALITY
JUDGMENTS

Source	Sum of Squares	df	Mean Square	F
Between groups	44.6	2	22.3	.56
Within groups	2266.8	57	39.8	

sonality Judgment scores presented in Table 6 indicates that differences among the three groups are slight and insignificant. These data indicate then that differences in perception between the experimental groups and the control group are specific to fear and aggression and cannot be attributed to a generalized "halo" effect.

While not directly relevant to the hypotheses under study, the correlation between judgments of fearfulness (Indirect) and judgments of aggressiveness is of some interest. The Pearson r calculated for all groups combined is .68 which is significant at the .01 level. The individual correlations for the C, FE, and FS groups are .65, .43, and .72, respectively, and are also statistically significant. The fact that even in the control group there is a substantial relationship between the tendency to perceive an individual as anxious and the tendency to perceive him as aggressive indicates that the obtained correlations are not solely a result of the experimental operations. An interpretation of this correlation as a reflection of a favorable-unfavorable attitude toward the stimulus person is suggested by the significant negative correlation of $-.51$ obtained in the Control group between the Indirect Fear Judgment scores and the Negative Personality Judgment scores (the lower the score on this scale, the less favorable the judgment).

DISCUSSION

The results, when considered as a whole, lend substantial support to the hypothesis that the arousal of fear results in a tendency to perceive another person as fearful and anxious, at least within the limits of the experimental operations used to arouse fear and to measure its consequences. In evaluating the significance of these experimental results, it is important to note that although all *Ss* were oriented toward making accurate personality judgments of the stimulus figure, relatively few relevant cues

were available for making such judgments. In the case where more relevant cues were present, such as in those instances where *Ss* were asked to report the actual behavior or feelings of the stimulus person in the film situation, the effects of fear arousal, and particularly suppression of fear, are less striking than where indirect anxiety and fear were being judged. It has already been suggested that this difference may be a function of the difference in number of items and, hence, in the reliability of the scales used. The available data do not permit an assessment of the relative roles of statistical reliability and the constraints imposed by the stimulus, but there is sufficient theoretical and empirical basis for expecting greater perceptual distortion, or in this context, greater infusion, with reduction in stimulus information.

Of considerable interest are the results bearing upon the hypothesis that suppression of fear facilitates the tendency to project fear onto other social objects. On the measures of both Indirect Fear Judgment and Direct Fear Judgment, the Fear-Suppression group attributes a greater degree of fear and anxiety to the stimulus person than does the Fear-Expression group. When the two groups are compared with respect to the use of extreme fear categories, the difference between them is statistically reliable. These data, as well as those for Indirect Aggression Judgment, are then consistent with the hypothesis that suppression of affect facilitates projection. However, the effects of this variable are not as clear-cut as the effects of fear arousal, per se, and the results do not unequivocally support this hypothesis.

It must also be noted that the hypothesized explanation of the effects of suppression in terms of avoidance of cues essential for discrimination between the affective experience of the perceiver and the affect of the perceived object, is only one of several that can be offered to account for the experimental findings. Thus, although both experimental groups were reassured that many subjects are disturbed and upset by the experimental conditions, the Suppression group may have felt additional anxiety because of inability to suppress their feelings and thereby conform with the instructions. Also, greater conflict in this group may have contributed to a greater level of tension. Thus, the differences in amount of

projection between the Fear-Suppression and Fear-Expression groups may have been functions of differences in the amount of fear and aggression experienced. Data pertinent to the issue of the mechanism responsible for the effects of suppression could be furnished by experimental research involving positive emotions such as sympathy and joy. However, whatever the mechanism by which suppression and other variables may influence projection, it is important that one first establish the parameters of the projection or infusion process. Thus, the present results indicate that while suppression or "repression" of affect is not essential in order for projection to take place, it enhances the degree of projection present.⁴

It is instructive to examine the differences between the results of this study and those of Murray's classic study of projection (4). Although both studies deal with the effects of fear, we obtained supplementary projection and possible complementary projection while Murray obtained complementary projection only; that is, the children of Murray's study perceived the stimuli as malicious rather than fearful. An obvious explanation of this difference lies in Murray's procedure which involved rating of the pictures only with regard to maliciousness. However, we suggest that even if Murray had obtained judgments of fearfulness, changes in the ratings of fearfulness would have been less marked than changes in the ratings of maliciousness. A critical variable in our view is the relationship between the perceiver and the stimulus person. In Murray's study, the children were asked to judge pictures of adult males. Adults similar to the latter are likely to have had threatening roles in previous situations in which children have experienced fear, and consequently their faces were perceived as malicious. In terms of our theoretical framework, we would predict that if, under

similar experimental conditions, pictures of children were used as stimuli, supplementary projection would be obtained; that is, the perception of the affective state of the stimulus person would directly match the affective state of the perceiver.

These considerations serve to emphasize that the final judgment or perception of a social object is the outcome of a number of interacting variables, one of which is the affective state of the perceiver.

SUMMARY

The present experiment was designed to study the effects of fear arousal and suppression of fear upon social perception. It was hypothesized that individuals subjected to a fear-producing situation would tend to project their feelings upon some social objects, and further, instructions to inhibit emotional reactions would increase the amount of projection.

The Ss were randomly assigned to one of the following experimental treatment groups: Fear Expression, Fear Suppression, and Control. Shock was administered at varying intervals to Ss in both Fear groups while they witnessed a film of a young man's performance of a number of different tasks. Prior to presentation of the film, Ss in the Fear Expression group were encouraged to recognize any feelings they might experience because of the shock. In contrast, Ss in the Fear Suppression group were encouraged to suppress and inhibit their emotional reactions. The Control group also witnessed the film but did not receive any shock. Subsequent to witnessing the film, all Ss completed a questionnaire dealing with the personality characteristics of the individual in the film.

The following results were obtained:

1. The Fear-Suppression and the Fear-Expression groups perceived the stimulus person as a significantly more fearful and also significantly more aggressive individual than did the Control group.
2. The differences between the Fear-Suppression and the Fear-Expression groups were consistently in the predicted direction. The difference between these groups in their mean fear judgment scores was not statistically significant. However, a significantly greater proportion of the Fear-Suppression group in comparison to the Fear-Expression group used

⁴ It is possible to conceive of a circumstance in which "suppression" of affect might lead to the absence of projection. Thus, if the S were completely successful in restricting his responses to those which were incompatible with fear responses, he might not experience any fear at all, and consequently he would not project since the present theory supposes that the response produced affective cues must be part of the stimulus field in order for projection to occur. The concept "denial" is perhaps more descriptive than are "suppression" or "inhibition" of the situation in which a particular affective response is elicited but the S is motivated not to recognize it as such.

extreme fear categories in describing the stimulus person.

3. The experimental differences are more striking for judgments of the fearfulness and anxiety of the stimulus person in situations other than that immediately depicted in the film.

4. The tendency to perceive the stimulus person as a fearful and anxious individual was significantly correlated with the tendency to perceive him as aggressive.

The data indicate that the arousal of fear results in a tendency to project fear onto a stimulus object in the environment. The results are also consistent with the hypothesis that suppression facilitates the tendency to project although, in this latter instance, one is less confident in rejecting the null hypothesis. Several alternative explanations of the effects

of the suppression variable were considered and the role of cognitive variables in the projection process was discussed.

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