

CONFLICT AND FRUSTRATION:  
DOES CONFLICT BETWEEN TWO VALENCES  
PRODUCE FRUSTRATION?

by

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## INTRODUCTION

An organism is in conflict when it must make incompatible responses to stimuli. Since the conflict-provoking situation blocks or interferes with goal-directed behavior, the motivated organism is likely to become frustrated. This frustration may be so disconcerting as to produce fixation (5, 8, 9, 10), physical or psychological withdrawal (2, 15), and seizures (3, 8). Even in its milder forms, conflict may produce sufficient frustration to seriously impair the normal learning process.

### A. A definition of conflict

Lewin (7), using the concept of valences, or fields of force, has defined conflict as follows:

A conflict is to be characterized psychologically as a situation in which opposedly directed, simultaneously acting forces of approximately equal strength work upon the individual. (7, p. 122)

Accordingly, he has described three fundamental types of conflict situations.

1. The individual is drawn by two forces of approximately equal strength, both of which are attractive, i.e., have positive valences. Each condition, however, is spatially independent of the other. We may call this type approach-approach conflict.

2. The individual is confronted with a negative and a positive valence within the same spatial area. Here, both attracting and repelling stimuli of equal strength issue from the same place. We may refer to this variety as approach-avoidance conflict.

3. The individual stands between two equivalent forces, both of which have negative valences. This may be called avoidance-avoidance conflict.

B. Experimental investigations of the effects of conflict upon performance.

Various animal studies in frustration and abnormal fixation have utilized conflict situations as frustration-producers. Maier, Glaser, and Klee (9), using a modified Lashley jumping apparatus, introduced three groups of rats to a learning situation which required them to select the correct one of two windows in order to receive a food reward. For the members of one group the "correct" window coincided with their initial choice. For the second, the correct window was the reverse of the initial choice. The members of the third group were rewarded on half of their trials and punished on the other half no matter what choice they made. After the animals had made 98 per cent of their last 160 trials on a "position" basis, they were required to abandon this type of response for a "discrimination" response. This consisted of selecting a

white card with a black circle in preference to a black card with a white circle, regardless of the window in which it appeared. The negative card was latched so that an animal which struck this card in a jump from the platform received a bump on the nose and fell into a net. Fifty per cent of the time this negative card coincided with the positive window of the initially established position habit.

Apparently some rats had established an abnormal fixation\* rather than a true position habit, since repeated punishment for making the response failed to change their behavior. All animals initially showed some resistance to jumping. However, the animals which fixated increased their resistance considerably. To offset the resistance, compressed air was directed at the animals from the rear of the jumping platform.

These factors constituted a "double approach-avoidance" conflict situation.\*\* The fixating effect of the previously learned position habit acted as an attracting force which was spatially identical with the repelling force of the negative card of the discrimination pattern. Simultaneously,

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\* Maier, Glaser, and Klee speak of abnormal fixation as "non-adaptive forms of behavior (which) have become persistent parts of behavior" (9, p. 521).

\*\* This is a new concept added by Hovland and Sears (4), because they felt that real life situations actually consist of combinations of Lewin's conflict types.

these forces served both to attract and to repel the rat, while the air-blast served as a repelling force from another direction. The rat was faced with the choice of obeying its compulsion and of jumping to a negative window from which it would receive a bump on the nose, or with braving the blast of air.

Masserman, using an approach-avoidance construct, designed studies (13, 14) to relate strength of motivation to strength of abnormal reactions in a frustration situation. He first trained cats to open a box to obtain food. Then he subjected each animal to a blast of air in its face each time it opened the food box. Since the cat received all of its food in this manner it was under strong food motivation. The repelling force of the air-blast acting in opposition to the attracting force of the food, and both emanating from the same place, constituted an approach-avoidance conflict situation. This frustrating situation was responsible for the appearance of various abnormal reactions.

Hovland and Sears (4) conducted a study with human subjects designed to demonstrate Lewin's types of conflict. These investigators constructed a "conflict board" six inches square which was bordered by brass strips one inch wide and one-quarter of an inch thick. A small nick was cut in the inner edge of the brass strip nearest the subject. The subject rested a pencil in this nick at the beginning of

each trial. Stylograph paper was slipped under the strips and over the board to serve as a marking surface. Lights placed in the corners of the frame farthest from the subject served as stimuli.

The subjects were divided into groups to demonstrate each type of conflict.

1. Approach-approach: The subjects in this group were told to rest the point of the pencil on the paper in the nick and to draw a diagonal line as quickly as possible in the direction of the light when it flashed. After ten randomly arranged trials toward each light, both lights were flashed together on the 21st trial.

2. Approach-avoidance: A red and a green light were placed in one corner only of the brass frame, and the subject was told to go toward the flash of the green light and away from the flash of the red light. On the 21st trial the two lights were flashed at the same time. Since both stimuli were spatially contiguous the subject was faced with the dilemma of simultaneously drawing a line toward and away from them.

3. Avoidance-avoidance: The members of this group were treated essentially as were those of Group I except that they were told to go in the direction opposite to that in which the light flashed.

4. Double approach-avoidance: Pairs of red and green lights were placed in each of the two corners and subjects

were told to always go toward a green light and away from a red light regardless of the corner in which the light appeared. Since the procedure followed for Group IV represents a more difficult situation, involving differential responses to four lights rather than to two, eighty trials were permitted before the conflict trial was presented. On the 81st trial a type two conflict was presented to half the subjects (red and green lights flashed on the same side), and a type four conflict was presented to the other half (all four lights flashed simultaneously).

Hovland and Sears report four basic types of resolution of conflict in their experimental situations. They are: (a) a single response, in which the subject apparently is uninfluenced by the conflict situation, since he draws a line directly to one of the two lights; (b) a double response, in which the subject draws a line first to one side and then to the other; (c) a compromise reaction, in which the subject makes an altogether new response by drawing a line up the center of the board, between the two stimuli; and (d) blocking, in which the subject makes no movement, although muscular tension is often noted. The compromise and blocking responses are related as they represent withdrawal from the field. By introducing a new response the subject has evaded the limitations instituted by the experimenter and has withdrawn just as clearly as if he had run away from a conflicting environment in real life.

Hovland and Sears state that blocking, which is one of the most striking types of conflict resolution, is approximately five times greater for two avoidance responses than for two approach responses. Further, the frequency of blockage is maximum when the strengths of competing responses are equal.

The expectation that the conflict situation would recur did not greatly influence the mode of conflict resolution, nor did it influence the degree of consistency of the response. This was evident in those cases where a repetition of the experiment elicited a similar response from a subject. Finally, the type of resolution varied with the individual; one subject generally resorted to compromise, another to a double response, and so forth.

## STATEMENT OF THE PROBLEM

Maier and his students (9) have produced frustration in rats through the use of a conflict situation (see page 2), in which the animal was forced to react to one of several incompatible stimuli which were of approximately equal strength. Hovland and Sears (4), working with human subjects, have conducted a study (see page 4) to demonstrate conflict in approach and avoidance situations, as well as in combinations thereof. These investigators concluded that frustration is produced both by approach and by avoidance conflict, but that approach situations evoke less conflict than avoidance situations.

While the above studies adequately demonstrate motor conflict they cannot, by the very nature of the procedure followed, demonstrate the debilitating effect of conflict and frustration upon higher mental processes.

It is the purpose of the present study to test the assertions of the Hovland and Sears experiment on higher processes. By requiring the subjects to establish a discrimination habit, it should be possible to test for (1) the presence of conflict and (2) the relative amounts of conflict in approach and avoidance situations. If conflict exists in these situations, the frustration produced should hamper the establishment of the discrimination

habit. A group which has been exposed to a conflict situation should establish the habit less readily than should a group which has not been exposed to conflict. Similarly, if avoidance conflict situations are more frustrating than approach situations, the group which has been exposed to the conditions of an avoidance situation should establish the discrimination habit less readily than should the group which has been exposed to the conditions of an approach situation.

## APPARATUS

A wooden screen, 25 inches high and 42 inches long, was mounted in an upright position of a table. Three holes were cut in the screen (see Fig. 1), for a one-way observation window (ABCD), and for two doors of equal size (EFGH and E'F'G'H'). The observation window consisted of a rectangular tube, seventeen inches long, which narrowed on the side of the experimenter. Both ends of the tube were covered by window screen.

The two doors were hinged on their lower sides and opened toward the subject by pulling a wooden knob which was fastened to the upper front border of the door. A second handle, which was similarly placed on the back of each door, permitted the experimenter to close the doors when necessary.

Cut in the center of each of the doors was a five and one-half inch square exposure window (efgh and e'f'g'h') which was backed by a six inch square door. These smaller doors were equipped with spring hinges on their lower edges to hold them closed.

On the subject's side, above each of the larger doors, was a standard size electric light socket, containing a 20-watt red bulb (I and I'). The lights were connected, by separate wires, to toggle switches (see Fig. 2) on the experimenter's side of the screen. This enabled him to flash

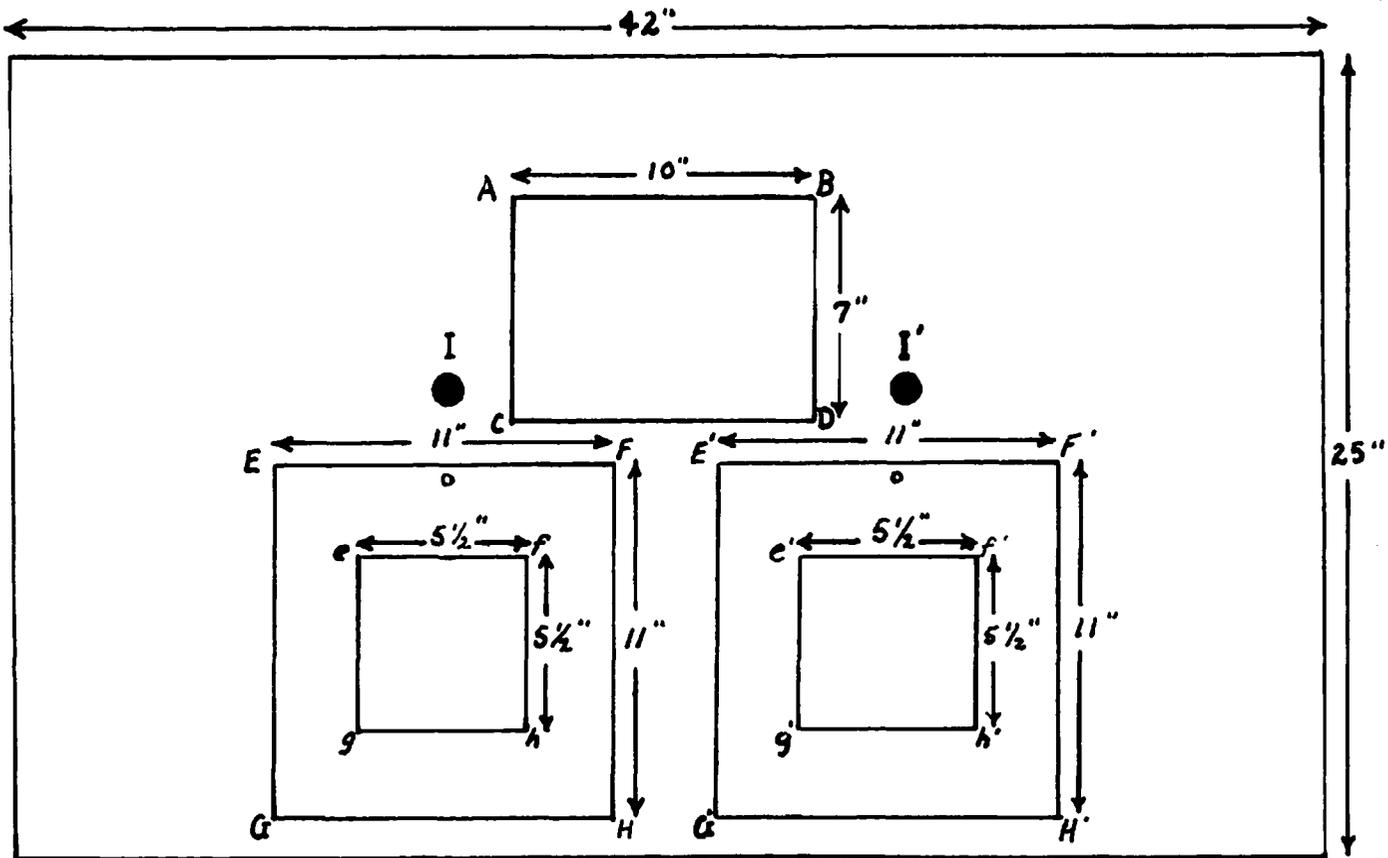


Figure 1

Apparatus

ABCD is the one-way screen, e'f'g'h' and e'f'g'h' are the doors in which the stimulus cards are exposed. I and I' are the lights.

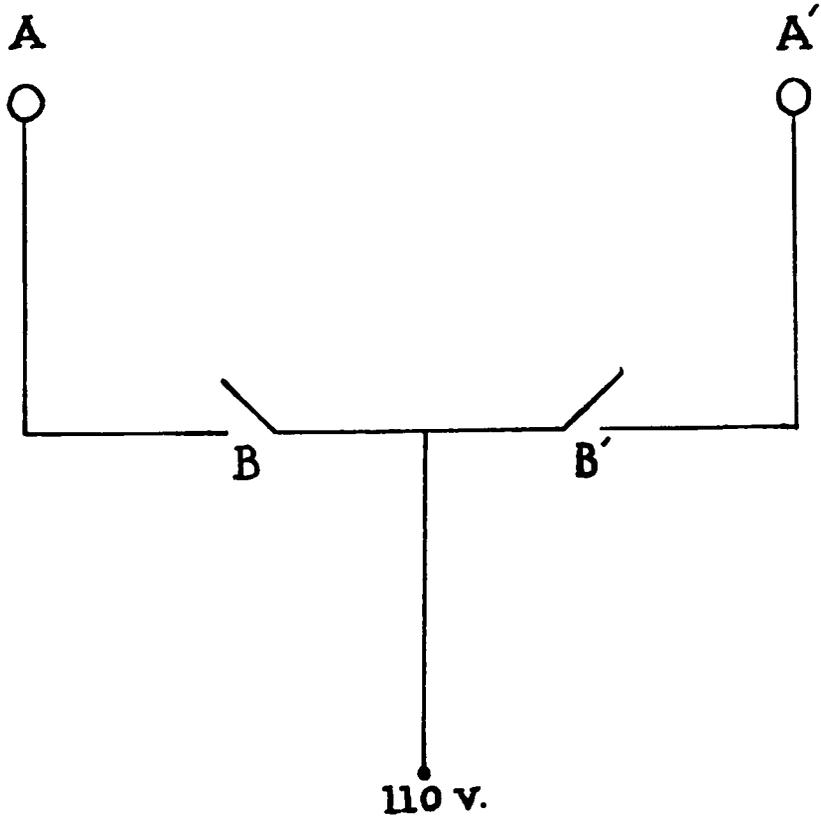


Figure 2

Wiring Diagram of Apparatus

A and A' represent the lights  
B and B' are toggle switches

each light independently of the other. The lights drew voltage from a 110-volt outlet in the wall.

Two identical sets of 27 six-inch square stimulus cards were used. There were three forms (circle, triangle, and square); three sizes (areas corresponding to those of circles one, two, and three inches in diameter); and three achromatic brightnesses (white, gray, and black). The black and gray figures were on white grounds, and the white figures were on black grounds.

## PROCEDURE

The 56 college-student subjects who were used in this study were obtained from three upper-division psychology courses at the University of Arizona. They were divided into five groups, each of which was composed of male and female subjects. With the exception of this sex distinction, selection was made on the basis of chance. The subjects were first given the Bernreuter Personality Inventory scale (1) and were asked to fill out a schedule of the hours during which they could conveniently serve as subjects in the experiment. Later each subject was called in separately and participated in the experimental portion of the study. The members of Groups A, C, D, and E were seated before the apparatus and given the following instructions:

"This is a discrimination learning situation, which means that there is a pattern running through-out. Each choice, then, does not, as in trial and error learning, have to be learned as a separate unit.

"I am going to put cards into each of these two windows (pointing), and you are to select one or the other of them. You are to indicate your choice by opening the corresponding door and closing it again (demonstrating). Notice that there is a light above each door. If your choice is correct the light above the door selected will remain unlighted. However, if your choice is wrong, the light will go on."

In addition to receiving the above instructions, the members of Group B were told that the solution lay in the cards

themselves and not in any arrangement of the cards in the windows.\*

All subjects were put into a discrimination learning situation (Pattern I) and required to establish the habit of selecting the black figure in preference to a white or a gray figure (TABLE I). Each time the subject made an incorrect selection, by opening the door with a white or a gray figure in it, the light above that door was turned on and left on until the door was closed. The criterion for the establishment of Pattern I was 15 consecutively correct choices.

At the conclusion of the 15 criterion trials the experiment shifted, for Groups A, B, C, and D, directly into Pattern II. The subjects were not warned of any change in procedure. In this portion of the experiment Groups A and B were given twenty-six trials during which 50 per cent of the card-pairs presented to them consisted of identical black figures, either of which was correct. The members of Group C were given an equal number of trials during which 50 per cent of their card-pairs consisted of identical gray

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\* These supplementary instructions were added because the behavior of many subjects in Group A seemed to indicate that they had shifted from a discrimination habit (on the basis of brightness) to a position habit when identical black figures were presented. These subjects showed a tendency to make all subsequent responses to two identical black stimuli on the basis of the initial one, since this response was never punished.

TABLE I

Analysis of Procedure Followed by Each Group

Group	Pattern I (brightness discrimination)	Pattern II (26 trials)			Pattern III (size discrimination)
		50% conflict; 50% brightness discrimination of Pattern I type	100% brightness discrimination of Pattern I type		
		Approach conflict	Avoidance conflict	No conflict	
A	X	X			X
B	X	X			X
C	X		X		X
D	X			X	X
E	X				X

or white figures, either of which was wrong. For all of these groups the remaining thirteen trials in Pattern II consisted of discrimination trials like those of Pattern I.\* Group D, which served as one control group, received 26 additional discrimination trials of the same type as Pattern I.

Immediately following Pattern II, the experiment shifted to Pattern III (again with no warning to the subject). Here, the larger of two figures was made consistently correct, and the subject could avoid punishment by making this discrimination. The criterion for successful completion of the task was 15 consecutively correct choices. After the criterion was reached the subject was asked the basis of his selection, and supplementary trials were presented, if necessary, to establish the correct generalization.

The six members of Group E were exposed to the same experimental procedure as were the other four groups, except that Pattern II was omitted.\*\*

The pairs used and their order of presentation were identical for Patterns I and III. The 27 stimulus cards were presented in two different sequences of 36 pairs each, which were used alternately. For example, the first three

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\* The pairs used for these trials were identical for all three groups.

\*\* Group E was formed because it was suspected that the presentation of 26 additional brightness discrimination trials to Group D might produce a habit fixation. That is, the subject might fail to notice anything about the card except the brightness relationship.

pairs of the first sequence were as follows: (1) a medium-sized white square and a small black circle, (2) a large gray square and a medium-sized black circle, and (3) a small black square and a medium-sized white triangle. Each pair, therefore, in order to conform to both patterns, had to have one, but only one, black figure and had to have components of different sizes.

The pattern of presentation of the card-pairs was arranged in a manner designed to control other variables. For example, (1) the correct card was placed, an equal number of times, in both right and left exposure windows and (2) the card on the subject's right was always put in first.

Since hesitation to respond serves as an indication of conflict, it seemed desirable to record each subject's rate of response. Toward this end, the experimenter first practiced introducing cards into the exposure windows and then removing them until the time required to do so became relatively constant. During the experiment, proper, he recorded the time necessary to complete successive series of ten trials. In this manner, it was possible to measure periods of excessive delay in a subject's response to the conflict trials of Pattern II.

Subsequent to the completion of the Bernreuter Personality Inventory each subject was given approximately an hour and one-half in which to complete the experiment. If, at the end of this time, he had not successfully established

Pattern I, he was released from further experimentation.\* However, if he had successfully completed Patterns I and II, but had still not solved Pattern III at the end of this period, he was asked to return at another time for an additional hour session. Experimental periods were held every other day, whenever possible. There were never more than three days between sessions. At the beginning of the second and subsequent sessions the subject was told that the experiment would continue where it had been stopped at the end of the previous session. If, at the completion of 200 unsuccessful trials on Pattern III, the subject had failed to obtain the solution, he was released from further experimentation.

During the course of the experiment the experimenter entered into all conversation initiated by the subject, but answered all questions pertaining to the study by assuring the subject that they would be answered at the conclusion of the experiment.\*\* The experimenter recorded these questions and all other verbal observations made by the subject. He, also, noted unusual facial expression, and other overt types

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\* This happened in only one case, a male subject who was unable to solve Pattern I within 180 trials.

\*\* When the subject obtained the correct solution, he was told the purpose of the study, and his questions concerning it were answered. All unsuccessful subjects were told that they had been exposed to an insolvable problem, and, hence, their failure was no reflection on their ability. Upon his release each subject was asked not to discuss the experiment with anyone.

of physical expression in an effort to detect the presence of conflict and resulting frustration.

## RESULTS

A. The establishment of discrimination responses

The values in TABLE II show the number of trials required for each subject to learn the first pattern. In each case the fifteen criterion trials are included. The average values for the five groups are also listed.

The "t" test was employed to determine whether the differences in performance between the various groups on the first pattern can be attributed to chance. Comparisons were made of the difference in means only between Groups A and C and Groups A and E, because these differences are the largest. For Groups A and E the "t" value is 2.356. Therefore, only 3.38 per cent of the time the wide difference between their means would be due to chance and thereby be indicative of random sampling.\* The "t" value derived from a comparison of the means of Groups A and C is 1.482. Consequently, 15.87 per cent of the time the differences between these means may be due to chance. The "t" value for Groups A and C (and, therefore, for an intercomparison between the other groups whose means are even closer together) is below the level of significance, indicating that these groups are

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\* Since we cannot be sure that these two groups are of approximately equal ability we have refrained from drawing conclusions from a comparison of them.

TABLE II

Number of Trials Required  
for Subjects to Solve Patterns I and III\*

Subjects	Group A		Group B		Group C		Group D		Group E	
	I	III								
1	16	29	26	46	27	41	33	152	63	18
2	17	210	16	29	29	35	27	29	76	58
3	16	55	32	90	31	38	15	140	15	67
4	17	22	15	94	15	43	28	33	19	130
5	22	40	17	48	16	67	24	42	27	29
6	27	22	18	222	22	48	17	30	15	50
7	16	124	16	76	16	31	46	50		
8	20	74	20	183	16	38	23	22		
9	19	44	15	38	65	79	30	44		
10	16	29	18	26	16	118	16	130		
11	15	28	19	110	15	36	16	20		
12	24	108	35	22	27	23	15	165		
13	17	24	24	200						
Average*	18.6	62.2	20.8	91.1	24.6	49.7	24.2	71.4	35.8	58.7

\* Criterion trials are included.

essentially equivalent.

TABLE II, also, shows the number of trials necessary for the members of each group to establish the discrimination response of Pattern III. When the groups are combined and their scores plotted on a histogram (see Fig. 3), the results indicate a deviation from a normal curve. The skewness which is evident in the curve may be attributed to the use of the number of trials required to learn, as a criterion of learning. There is also some indication of bimodality. While no cases fall within the interval 80-89, there are concentrations of scores both below and above it. It should be remembered that the grouping of the cases within interval 150/ represents a wide range which actually includes the scores of three individuals who did not learn the pattern after as many as 200 trials. There is reasonable doubt, however, that bimodality actually exists, when one plots the curve in reciprocals of the number of trials required to learn. The chi-square value for the deviation of the curve from normality is only 11.801, with six degrees of freedom. The level of significance is 7.03 per cent, which is high enough to indicate that the curve actually may be normal. However, since this percentage is not of sufficient magnitude to exclude the consideration of bimodality as a factor present in the study, and since past studies have yielded bimodal distributions (8, 9, 10, 11, 12), the data have been subjected to investigation from a bimodal point of view.

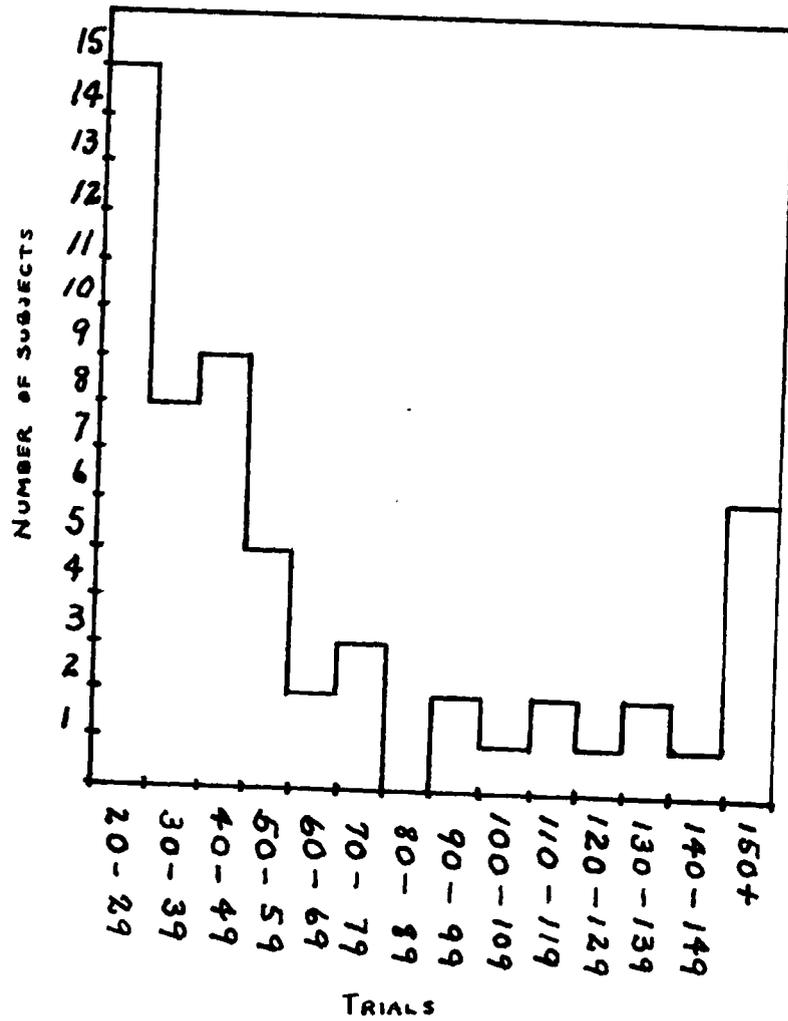


Figure 3

Distribution of the Number of Trials  
Required to Establish Pattern III.

\* Criterion Trials Included.

For convenience, all subjects who required fewer than 80 trials to learn will be termed normal-learners. Those who required more than 89 trials to learn will be referred to as slow-learners. According to this interpretation there are 41 normal-learners and 15 slow-learners (TABLE II). There are three slow-learners in Group A, six in Group B, one in Group C, four in Group D, and one in Group E. When the chi-square test of independence is used to determine whether these differences are significant (TABLE III) only the difference between Groups B and C, with a chi-square of 4.427, level of significance of 3.88 per cent, appears to be so.

TABLE III

The Chi-Square Values for Differences in Means  
and the Significance of the Difference between  
Various Groups

Groups	A	B	C	D	E
A		1.525 22.06%	1.009 30.21%	.326 58.40%	.158 69.35%
B			4.427 3.88%	.427 51.82%	1.533 21.92%
C				2.273 14.06%	.275 61.73%
D					.559 46.64%
E					

B. Bernreuter Personality Inventory comparisons:

Presented in TABLE IV is a comparison between the Bernreuter Personality Inventory\* scores of the slow- and

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\* The six scales available for the Bernreuter Personality Inventory are described as follows:

"B1-N. A measure of neurotic tendency. Persons scoring high on this scale tend to be emotionally unstable. Those scoring above the 98 percentile would probably benefit from psychiatric or medical advice. Those scoring low tend to be very well balanced emotionally.

B2-S. A measure of self-sufficiency. Persons scoring high on this scale prefer to be alone, rarely ask for sympathy or encouragement, and tend to ignore the advice of others. Those scoring low dislike solitude and often seek advice and encouragement.

B3-I. A measure of introversion-extroversion. Persons scoring high on this scale tend to be introverted; that is, they are imaginative and tend to live within themselves. Scores above the 98 percentile bear the same significance as do similar scores on the B1-N scale. Those scoring low are extroverted; that is, they rarely worry, seldom suffer emotional upsets, and rarely substitute day dreaming for action.

B4-D. A measure of dominance-submission. Persons scoring high on this scale tend to dominate others in face-to-face situations. Those scoring low tend to be submissive.

F1-C. A measure of confidence in oneself. Persons scoring high on this scale tend to be hamperingly self-conscious and to have feelings of inferiority; those scoring above the 98 percentile would probably benefit from psychiatric or medical advice. Those scoring low tend to be wholesomely self-confident and to be very well adjusted to their environment.

F2-S. A measure of sociability. Persons scoring high on this scale tend to be non-social, solitary, or independent. Those scoring low tend to be sociable and gregarious."

TABLE IV

A Comparison of Bernreuter Personality Inventory  
 Scores of the Slow- with the Normal-learners

Trait	M1*	M2**	Percentile Difference	Fisher "t" Men	Per cent Level of Significance Men	Fisher "t" Women	Per cent Level of Significance Women	Combined F <sup>2</sup> d. f. 4	Per cent Level of Significance Combined
B1-N	28.5	31.8	3.3	.591	55.53	.416	68.24	1.941	74.65
B2-S	64.0	55.5	8.5	.080	93.33	1.382	18.65	3.497	48.16
B3-I	23.9	27.2	3.9	.799	42.56	.373	71.34	2.384	66.75
B4-D	69.4	61.2	8.2	.480	63.19	1.759	9.59	5.607	22.91
F1-C	32.9	37.8	4.9	.738	46.19	.974	34.49	3.674	45.83
F2-S	53.5	47.8	7.7	.202	34.01	1.031	31.71	2.645	62.25

\*M1 The mean percentile score for the slow-learners.

\*\*M2 The mean percentile score for the normal-learners.

normal-learners of all groups combined. For the readers' convenience the mean values are presented in percentiles. However, the "t" scores to determine the significance of the difference have been calculated using the raw scores, because of the non-normal distribution of the percentile scores. The sexes were considered separately in order to conform with the necessity for homogeneity of the sample imposed by the use of the Fisher "t". Probability values for the two sexes were combined by changing the percentile probability values into chi-square values and adding.

For each trait the per cent levels of significance are too high to indicate any difference between slow- and normal-learners.

### C. Trends indicated in behavior protocols

Behavior protocols, while not complete enough to be subjected to statistical analysis, indicate trends which may be attributed to conflict and types of conflict resolution. General indications of frustration, such as the drumming of fingers, tapping of feet, grimacing, and outbursts of temper, seemed to occur in conjunction with repeated failure.

Long latencies between the presentation of stimuli and the response frequently appeared during a series of failures.\* It was not unusual during these periods for latencies to increase by as much as 50 per cent. These periods of hesitation were often accompanied by displays of vicarious trial and error. Here, subjects would shift their eyes from one card to the other and even reach, first for one door, then the other, as if unable to decide which to select.

Physical withdrawal was also noted in a few cases. Subjects B6, B8, and D1, who were unable to solve the problem during their first visit, allegedly forgot to keep appointments for subsequent visits and had to be rescheduled.

Subjects A5, B5, and B8 resorted to compromise during the first conflict trial of Pattern II. They opened both doors at once. Further, several subjects, who were confronted

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\* This was true not only for failure during conflict trials, but for failure during the presentation of Patterns I and III.

with approach conflict situations, asked if they might select both cards. Others, who were subjected to avoidance situations, asked whether they had to select either card.

## DISCUSSION AND CONCLUSIONS

Two views may be advanced to explain the discrepancy between the results of this study and those of the Hovland and Sears experiment. The first of these views deals with the masking effect which one frustrating situation may have upon another. When conflict is produced during the presentation of Pattern II, it may temporarily interfere with a solution of Pattern III. However, the failure to solve Pattern III may, also, produce frustration, which reinforces the conflict-produced frustration and is, itself, reinforced as long as the subject fails to solve the problem. Under such circumstances we are unable to tell when the conflict has been resolved, since frustration is still operating. Failure to solve Pattern III may be the result of factors other than conflict. Yet, when we use the number of trials required to establish Pattern III as an indicator of frustration, we group these causes together, ostensibly as a single one. This would seem to be the case in Group D, which, as a control group, would be expected to require fewer trials to solve the problem than any of the conflict groups. Our results indicate, however, that there are four slow-learners

in Group D. We suggest that habit fixation\* interferes with an early solution of Pattern III and thereby permits frustration to develop as a result of failure.

A second possible explanation for the differences between the results of this study and that of Hovland and Sears depends on whether the sample describes a normal distribution or a bimodal one. If bimodality is present then the fact that Group B has six times as many slow-learners as Group C reverses Hovland's and Sears' conclusions that avoidance conflict is five times as great as approach conflict.

However, there is reasonable doubt that the distribution is bimodal. If it is normal, and statistics indicate that it may well be, then we are not dealing with two distinct groups (slow- and normal-learners) which differ qualitatively from one another.

Hence, the break between intervals 80-89 may be an artifact resulting from the use of a relatively small sample. After all, if only one case had fallen within this interval we would probably have been less prone to divide our groups here.\*\*

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\* Habit fixation is a term used in connection with over-learning and should not be confused with "abnormal fixation" as Maier, Glaser, and Klee define it. In habit fixation the subject persists in the performance of a task because it has become well established.

\*\* If we construct a histogram on the basis of five unit intervals, additional breaks appear during interval 60-64, and the intervals 95-104, in addition to several at the higher end of the scale. If, for the sake of argument, we select the intervals from 95-104 as those by which to separate slow- from

There is no evidence from the Bernreuter results to support a break in continuity of process.

If normality exists, rather than bimodality, we must conclude (1) that the behavior of frustrated individuals is not qualitatively different from that of non-frustrated individuals; (2) that conflict is not present at all; (3) that conflict is not present in a large enough proportion of the subjects to measure it by our criterion; and (4) that conflict does not, in this situation, result in frustration.

The first conclusion, that the behavior of frustrated and non-frustrated individuals does not differ qualitatively, appears to be invalid since a number of investigations (8, 9, 10, 11, 12) present statistical evidence to support a qualitative distinction between the behavior of frustrated and non-frustrated individuals.

The second alternative, that conflict is not present at all, also seems unjustified, from observations made by the experimenter. These observations indicate that various characteristics of conflict and types of conflict resolution were present in the performance of most subjects but were not

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normal-learners, we find only four slow-learners in Group B. A test for significance made on the basis of a break at the 95-104 intervals yields no significant difference between any of the five groups. This would seem to indicate that there are actually no differences between groups and that the ability to find a solution to Pattern III is the result of events occurring during this pattern rather than those occurring during the conflict trials.

consistent enough to be amenable to statistical analysis.

The third conclusion, that conflict is not great enough to be measured by our criterion, has been tentatively accepted on the basis of the protocols noted above (see page 30).

The final alternative, that conflict, in this situation, does not result in frustration, cannot be eliminated or substantiated, since we have been unable to separate conflict-produced frustration from frustration produced by other means.

## SUGGESTIONS FOR FUTURE INVESTIGATION

Unquestionably, it is not enough to say that conflict was produced, but without sufficient consistency to permit its effects to be measured. In the following paragraphs we would like to set forth a few tentative explanations for our failure to produce a conflict situation whose effects were amenable to measurement.

Maier has said, "Rats differ widely in what situations they perceive as equivalent" (8, p. 6). Klee states that "it is not the actual...nature of the problem, but how the organism perceives the problem, which is the important factor in the development of abnormal behavior from the psychological point of view" (6, p. 7). Our general agreement with this thesis has led us to supplement the instructions which were given to Group B. It is difficult to say just how important this change was. There was a large but insignificant difference between the numbers of slow-learners in Groups A and B. If this difference is real it must be explained by differences in instructions, since the treatment of these groups was alike in all other respects.

Differences in initial motivation, i. e., how wholeheartedly the subject applied himself to the problem, may very well account for the apparent lack of frustrated subjects in Group C,

as opposed to those in Groups A and B. For example, several subjects in Group C have reported that after their initial failures on the conflict trials of Pattern II, they realized that they were being subjected to an insolvable problem and made subsequent responses merely because they were expected to do so.

Even if conflict has been produced in Pattern II, we have no way of telling, in Pattern III, where its effects disappear and where frustration produced by failure to solve Pattern III takes over. Group E was designed to eliminate the possibility that habit fixation interferes with a change in set when a new problem is presented. By dropping Pattern II, we reduced from 41 to 15 the number of responses made on the basis of brightness discrimination.\* It should be recalled that we eliminated consideration of Group E because of the fact that the average number of trials required to establish Pattern I was statistically greater for this group than for any other. We cannot, of course, be certain what would have happened had more cases been run and had this group been equivalent to the other groups. However, if there were as many slow-learners in this group as in the others, we would be forced to say

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\* Actually, Pattern II for this group should have consisted of thirteen additional brightness discrimination trials, in order to make this group equivalent to the conflict groups.

either that the 15 criterion trials produced habit fixation or that learning Pattern I impeded the establishment of Pattern III. Perhaps the subjects' main goal was one of finishing the experiment as quickly as possible, and the time required to complete the experiment frustrated them. There is no reason for feeling that a size discrimination should be essentially more difficult to establish than a brightness discrimination. Only one subject,\* out of all subjects employed in the study, would be regarded as a slow-learner on the basis of the number of trials required to establish this habit.

In conclusion, then, let us say that subsequent experimentation along these lines should endeavor to study the problem from several angles, thereby attempting to force the subjects to face the actual problem and to face it squarely.

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\* This subject was eliminated from consideration when he failed to establish Pattern I in 180 trials.

## SUMMARY

In an experiment employing human subjects and designed to study types of conflict and the manner in which they are resolved, Hovland and Sears (4) were able to demonstrate several kinds of conflict resolution. Notable among these types were compromise, blocking, and the simultaneous response to both of two conflicting stimuli. Moreover, these investigators found the effects of avoidance conflict to be approximately five times as great as the effects of approach conflict. The present study attempted to check these results on higher mental processes.

The 56 subjects were divided into five groups and were presented with a series of different situations in which each subject was required to select one of two stimulus cards. The experimenter "punished" subjects for selecting the wrong card by turning on a red light. The subjects in all groups were initially required to solve a discrimination problem in which a black and a white figure or a black and a gray figure served as stimuli. Subjects could avoid punishment by selecting the black figure in preference to the white or gray. When the subject had solved this discrimination problem he was presented with a second, intermediate, pattern of 26 trials. For Groups A and B this pattern consisted of thirteen conflict trials in which the subjects were confronted with identical

black figures. These were interspersed with thirteen non-conflict trials like those in the first pattern. For Group C the second pattern consisted of thirteen conflict trials in which subjects were presented with identical gray or white figures. The remaining thirteen trials for this group were identical with the non-conflict trials presented to Groups A and B. During the presentation of the second pattern Group D, a control group, was given twenty-six trials similar to those in the first pattern. Group E was not presented with an intermediate pattern but went directly from the first to a second and final discrimination problem. The members of all groups were required to solve this problem, which was the selection of the larger figure. In all cases changes from one pattern to another were accomplished with no warning to the subjects.

The results indicate that subjects who were placed in an avoidance conflict situation were able to solve the final problem more quickly than were subjects who were placed in an approach conflict situation.

Although there is reasonable doubt that the combined distribution is not normal, one may postulate that the distribution actually describes a bimodal curve. Subjects solved the final problem in less than 80 trials or required more than 89 trials to do so. Bernreuter Personality Inventory (1) scores do not, however, distinguish between "slow-" and "normal-learners" on the basis of differences in

personality.

While evidence of conflict is present in many protocols it is too sparse to be amenable to statistical analysis.

It would appear from the results of this experiment that conflict may be produced in situations requiring the use of higher mental processes. However, the present procedure did not prove to be satisfactory as a means of checking the results obtained by Hovland and Sears.

## APPENDIX

## Bernreuter Personality Inventory Results

(Raw Scores)

## Group A

Subject	Sex	B1-N	B2-S	B3-I	B4-D	F1-C	F2-S
1	M	52	75	41	21	53	95
2	M	-159	29	- 97	88	-150	- 81
3	F	- 94	46	- 57	44	- 62	- 42
4	M	-170	- 38	- 90	131	-106	- 99
5	M	-169	34	-110	101	-128	- 71
6	F	-117	107	- 72	57	-117	60
7	M	- 72	24	- 37	116	- 70	- 2
8	F	-108	41	- 45	70	- 71	12
9	F	-110	- 33	- 66	39	- 38	-113
10	M	-157	90	- 84	96	-128	4
11	M	-122	11	- 69	65	- 46	-105
12	M	- 71	99	- 40	36	- 63	71
13	F	- 85	- 58	- 40	46	- 11	-138

## APPENDIX

## Bernreuter Personality Inventory Results

(Raw Scores)

Group B

Subject	Sex	B1-N	B2-S	B3-I	B4-D	F1-C	F2-S
1	F	- 49	- 33	- 50	- 39	14	-150
2	M	- 63	- 4	- 22	68	- 4	- 94
3	F	-128	64	- 76	76	- 88	- 23
4	F	- 85	58	- 46	79	- 81	11
5	M	-176	23	-105	134	-147	- 55
6	M	-115	57	- 55	167	-126	11
7	M	- 9	- 56	- 8	36	49	- 43
8	M	-182	144	-105	107	-180	54
9	M	-197	42	-113	149	-159	- 41
10	F	- 84	45	- 45	39	- 21	17
11	M	-174	61	- 94	136	-127	- 13
12	F	- 99	- 65	- 60	61	- 31	-126
13	M	- 91	41	- 61	53	- 62	- 12

## APPENDIX

## Bernreuter Personality Inventory Results

(Raw Scores)

## Group C

Subject	Sex	B1-N	B2-S	B3-I	B4-D	F1-C	F2-S
1	M	- 53	32	- 21	48	- 45	31
2	M	-147	106	- 72	30	- 91	- 38
3	F	-155	29	- 96	67	-110	- 69
4	F	- 69	58	- 44	54	- 42	51
5	F	-138	37	- 86	66	-116	- 13
6	M	-155	59	- 80	49	- 97	-105
7	M	- 57	- 67	- 46	53	- 1	- 63
8	M	-110	190	- 49	94	-132	166
9	M	- 18	43	- 10	- 7	- 5	38
10	M	-116	17	- 76	86	- 84	- 49
11	M	-110	- 4	- 80	29	- 59	- 69
12	F	- 47	38	- 36	25	- 33	- 20

## APPENDIX

## Bernreuter Personality Inventory Results

(Raw Scores)

Group D

Subject	Sex	B1-N	B2-S	B3-I	B4-D	F1-C	F2-S
1	M	- 38	- 11	- 26	4	- 8	- 24
2	M	-208	62	-105	182	-182	- 32
3	M	-105	- 33	- 52	48	- 30	-137
4	M	- 86	30	- 48	46	- 50	- 67
5	M	- 57	64	- 30	38	- 14	12
6	M	-183	72	-104	121	-187	- 40
7	M	182	30	71	20	87	79
8	F	-104	25	- 55	58	- 62	- 27
9	F	-158	- 5	-119	76	-121	- 75
10	F	-109	43	- 64	111	- 99	- 4
11	F	- 27	33	- 28	- 26	22	14
12	M	- 53	8	- 44	8	3	- 38

## APPENDIX

## Bernreuter Personality Inventory Results

(Raw Scores)

Group E

Subject	Sex	B1-N	B2-S	B3-I	B4-D	F1-C	F2-S
1	F	-108	23	- 50	93	- 57	- 6
2	M	- 49	- 18	- 8	50	0	- 11
3	F	-193	32	-105	118	-166	- 86
4	M	-187	22	-101	124	-144	- 65
5	M	-163	139	- 87	117	-160	73
6	F	88	-118	51	- 27	160	- 94

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