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PREFERENCE FOR IMMEDIATE VERSUS DELAYED

SHOCK IN REPRESSORS AND SENSITIZERS

A Thesis

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ABSTRACT OF THESIS

This study was designed to test the hypothesis that an individual's score on the Repression-Sensitization scale is related to his preferences in an unavoidable shock situation. Sixty males, selected at random from the upper, middle and lower thirds of the distribution of Repression-Sensitization scores derived from the larger population of introductory psychology students, were required, on each of 10 trials, to make a choice between immediate high or moderate delayed shock. The results failed to show a significant relationship between preferences and repression-sensitization. On the basis of diverging preferences on the final choices it was concluded that this study should be replicated using additional trials and other procedural changes.

A second purpose of this study was to examine the hypothesis that Ss who prefer immediate shock may spend less time in making their decision than Ss who prefer delayed shock. The results failed to confirm this hypothesis. It was proposed that Ss may have made their decision in the intertrial interval.

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CHAPTER I

INTRODUCTION

Recent research has shown that there is a tendency, when faced with an unavoidable situation, to prefer immediate rather than delayed punishment. This preference, found when subjects (Ss) are forced to choose between immediate and delayed shock, has been demonstrated under a number of different conditions. It has been found with increasing shock intensities (Hare, 1966c), random and fixed delay intervals (D'Amato & Gumenik, 1960; Cook & Barnes, 1964), varying probabilities of shock occurrence and with self-administered shock (Hare, Krebs, Creighton, & Petrusic, 1966). It is assumed that Ss prefer immediate shock because it is less aversive than delayed shock. Hare (1966b) has suggested that delayed punishment is more aversive because it is accompanied by the arousal of fear in the interval prior to its onset. The aroused fear summates with the pain of shock to make the delayed punishment situation more aversive. Ss respond accordingly to this greater aversiveness by choosing immediate shock.

However, it appears that some Ss do not find delayed shock to be more aversive, as a small number of Ss have been found to consistently prefer delayed shock. In the first published study with human Ss, D'Amato and Gumenik (1960) found considerable differences in preference for immediate versus randomly delayed shock. They presented their experiment as a study of guessing behaviour, instructing Ss to select which of two levers was the correct one to press on each of 90 trials. On the final 30 trials, immediate and randomly delayed shock were associated with the levers. By comparing the percentage of responses made to each lever on the last 30 trials with the percentages made on the previous trials, the authors were able to determine which type of shock S preferred. Although

13 of 20 Ss showed an increasing preference for immediate shock, 6 Ss showed an increasing preference for randomly delayed shock. Also, at the end of the shock trials, Ss were asked which type of shock they found to be most unpleasant. Some Ss stated that randomly delayed shock was extremely more aversive, others stated that it was only slightly more aversive, and 2 Ss stated that immediate shock was more aversive. Although randomly delayed shock was, in general, found to be more aversive than immediate shock, the authors state in passing, that the magnitude of the individual differences exhibited by their Ss warrants further investigation in relation to personality dimensions.

Individual differences were also found in a study (Cook & Barnes, 1964) which used short, fixed delay intervals of 0 to 8 seconds with both high and low shock. Under the high shock condition, these differences were very pronounced as 11 Ss always chose immediate shock and 4 Ss always chose delayed shock. However, these differences did not appear with Ss under low shock. Although the authors did not attempt to explain this finding, they did suggest that variables such as type of punishment, sex, age, and personality traits need to be investigated in order to determine their possible effects in an unavoidable shock situation.

Although individual differences in preferences were found under high shock, in a recent study this phenomenon disappeared with an increase in shock intensity. Hare (1966c) investigated preferences using several fixed delays and with the shock increasing from a very low intensity on the first trial to one which was painful on the thirtieth trial. Eleven Ss continually chose immediate shock while the choices of the remaining 9 Ss were initially distributed over the various delays. However, the

latter Ss also tended to choose immediate shock as the intensity increased. It appears that these Ss were initially merely sampling the various delays before developing a definite preference. Whatever produced noticeable individual differences in the Cook and Barnes study, appears not to have operated in this investigation.

In a related study, Hare and his colleagues (Hare et al., 1966) found a suggestion of individual differences in preferences for self-administered shock. Their Ss were required to press a lever within a 15-second interval. The shock was administered as soon as the lever was depressed. The authors felt that this procedure would be a more sensitive measure of preference behaviour as it allowed S to determine exactly the time of the shock onset. The results showed that most Ss administered shock to themselves very quickly. In fact, some Ss responded so quickly that their latencies represented reaction times to the buzzer. However, a few Ss responded somewhat more slowly, indicating that they were more hesitant to receive the shock. The authors state that these results are analogous to other studies which have found that while the majority of Ss prefer to be shocked immediately, a few Ss prefer the shock to be delayed.

Badia, McBane, Suter, and Lewis (1966) have recently reported three studies in which they investigated preference for immediate versus delayed shock with and without a warning signal. The first two of their studies are relevant to the problem of individual differences. In the first study, Ss were given 40 free-choice trials in which they were required to press either of two switches associated with immediate and delayed shock. They were not informed of the type of shock associated with each

switch. At the end of the first 20 trials 7 Ss had responded more frequently to the immediate side and 3 more frequently to the delayed side. Ten Ss had not as yet developed a preference. On the last 20 trials, the number of Ss preferring immediate shock had increased to 12 and the number preferring delayed shock had increased to 6. Therefore, after 40 trials the number of Ss preferring delayed shock was still quite noticeable. The authors made no reference to personality variables in attempting to account for this finding. Instead they proposed that several Ss may have adopted certain response strategies. These Ss may have varied their choices hoping to minimize the intensity or reduce the number of shocks. As a result, their responses were not a true measure of their preference.

In order to prevent Ss from adopting a "gaming orientation" the second study used a forced choice procedure. Ss were initially instructed to choose immediate shock for 10 trials and variably delayed shock for 10 trials. Ss were then asked which type of shock they would prefer on the next 10 trials. However, these trials were not administered. Individual differences were practically nonexistent as 19 of 20 Ss stated they would prefer immediate shock. This finding definitely supports their hypothesis that the individual differences found in the first study were the result of Ss trying to minimize or evade the shocks.

However, in a more recent study, Badia, Suter, and Lewis (1967) found large individual differences using the above forced-choice procedure. In this study an immediate-delayed shock arrangement was not used. Instead, they investigated the preference for variably delayed shock with and without a warning signal. However, Badia et al. (1966) imply that shock preceded by a warning signal is very similar to immediate

shock as in both situations, uncertainty is at a minimum. Since Ss know exactly when it is going to occur, shock preceded by a warning signal should be less aversive than shock without a warning. Two groups were used in this study. One group received shock on every trial, while the second group was shocked for either choice on only 25 per cent of the trials. Under the 100 per cent shock condition, 22 Ss stated a preference for the warning signal and 18 Ss preferred no warning. Under the 25 per cent shock condition, 27 Ss stated a preference for the warning signal and 13 preferred no warning. Thus, individual differences were noticeable. Those Ss who preferred no warning stated that the warning signal made them tense and anxious. In addition, several Ss stated that they could think of other things without the warning.

In spite of strong indications that personality variables may be related to shock preference, the only direct available evidence to support this hypothesis is a study (Hare, 1966b) which investigated psychopathic behaviour in an unavoidable shock situation. Hare (1965) has proposed a conflict analysis of psychopathic behaviour which is based on Miller's approach-avoidance theory. Briefly, Hare states that the psychopath has a steeper and lower than normal gradient of avoidance because of his lower level of anxiety and also because he does not fear punishment that is relatively remote in time. Evidence for this hypothesis is offered in a study (Hare, 1965) in which it was found that Ss who scored high on the psychopathic scale of the MMPI exhibited less autonomic activity to impending shock than did Ss who scored low on the scale. The former group also reacted somewhat later and more slowly to the impending shock. Hare (1966c) proposes that for the psychopath, the

aversive aspects of punishment do not become apparent until the punishment is close in time. However the psychopath still avoids immediate discomfort. He hypothesized that because psychopaths avoid immediate discomfort and are unconcerned about future discomfort, they should show less preference for immediate shock than nonpsychopathic Ss in an unavoidable shock situation. The results confirmed his hypothesis as psychopathic Ss preferred delayed shock 45 per cent of the time while nonpsychopaths preferred delayed shock only 17.7 per cent of the time.

It is apparent that the results of most of the above studies indicate the presence of individual differences in shock preferences. This phenomenon has occurred under a wide variety of experimental procedures and therefore cannot be attributed to methodology alone. Indeed, the examination of relevant personality variables is suggested.

Theory

Few investigators have requested Ss to state a reason for their preference of either immediate or delayed shock. However, examination of the available data suggests plausible determinants of the differential preferences. Hare (1966b) reports that most Ss stated that waiting for delayed shock produced a considerable amount of apprehension and that they wanted "to get it over with as soon as possible". D'Amato and Gumenik (1960) also report that Ss who preferred immediate shock stated that the aversiveness of the delay interval was the deciding factor.

Data bearing on the question of preference for delayed shock is practically nonexistent. D'Amato and Gumenik report that a few Ss who chose delayed shock stated that immediate shock was more aversive than delayed shock. However, they did not elaborate on their reasons for this

preference. Badia et al. (1967) report several interesting reasons why Ss preferred delayed shock without a warning signal rather than with a warning signal. It will be recalled that delayed shock preceded by a warning is similar to immediate shock, in that in both cases uncertainty of the time of shock onset is at a minimum. However, these authors found that a large number of Ss preferred not to know when the shock was going to occur. Some of these Ss stated that the warning signal made them tense and anxious, some stated that they could think of other things without the warning, and others claimed it was like getting shocked twice.

Thus it appears that differences in preferences may be related to differences in S's susceptibility to anxiety aroused by the shock and/or the delay interval. In addition, these differences may be related to the S's characteristic mode of handling this anxiety. Ss who prefer immediate shock appear to be more susceptible to the anxiety of the delay interval than to the shock itself. As a result they control or avoid this anxiety by approaching and experiencing the threat immediately. Ss who prefer delayed shock, on the other hand, appear to find the actual shock more aversive than the anxiety of the delay interval. While these Ss may prefer to avoid the shock for as long as possible, they may also be able to control in some manner, the anxiety elicited by the delay interval. Thus an examination of the reasons given by Ss for their preferences suggests that some Ss prefer to approach the shock while other Ss prefer to avoid the shock for as long as possible.

This approach-avoidance analysis is suggestive of Byrne's (1964) recent conceptualization of the personality dimension of repression-sensitization. This dimension is defined as a continuum of anxiety-

reducing defense mechanisms. At the sensitizing end of the continuum are those responses which reduce anxiety by approaching and controlling the stimulus. At the repression end of the continuum are those responses which involve avoidance of the anxiety-arousing stimulus.

This conceptualization was derived from perceptual defense studies. In these studies threatening stimuli such as taboo words are usually presented tachistoscopically. The visual duration thresholds have been found to differ significantly for repressors and sensitizers. For example, Byrne reports an unpublished study by Tempone (1962) which found repressors to require slower speeds of presentation for the perception of threatening stimuli than for the perception of neutral stimuli. This is consistent with the notion that repressors avoid recognition of the anxiety-producing stimuli for as long as possible. Tempone also found that sensitizers perceived the threatening stimuli at faster speeds of presentation than for neutral stimuli. According to Byrne, sensitizers are characterized as being impulsive in the face of threat and unable to tolerate anxiety. Their preferred adaptive response is to become vigilant, approach the threat and dispense with it immediately.

This differential adaptation to threatening stimuli has been found to be quite pervasive in that it is identifiable in projective (Ullman, 1958), learning (Ericksen & Kueth, 1952) and memory (Lazarus & Longo, 1953) tasks. In each of these studies evidence has been found to support the approach-avoidance conceptualization of repression-sensitization. That is, repressors have been found to inhibit their responses to projective tests, to have difficulty recalling threatening material, and to have less insight than sensitizers as to why they avoid giving pre-

viously punished responses. In contrast, sensitizers are willing to give emotional responses to projective tests, are able to recall threatening material as easily as neutral material, and also have more insight than repressors as to why it is necessary to avoid giving punished responses.

Although the generality of the approach-avoidance conceptualization has been supported, it is problematic whether it is applicable to individual differences in an unavoidable shock situation. In this situation, the nature of the threat and the mode of the required response are obviously different from the perceptual and verbal situations from which Bryne's conceptualization arose. However, Bryne seems to disregard the situational aspect as is evidenced in the following hypothesis:

"If the content of the stimulus material and/or the accompanying instructions were sufficiently threatening, differences in repression-sensitization would lead to differences in response".
(p. 186)

This hypothesis would, of course, only hold if the threatening situation was structured so as to allow the defense mechanisms to operate. Ericksen (1963) states that defense mechanisms are learned techniques and therefore it is to be expected that in the learning process, S also learns the types of situations or stimuli against which they are likely to be effective. For example, both types of defenses would be ineffective against a charging tiger. Thus the choice of anxiety stimuli and the context in which they are presented must be so selected as to permit the defence to be effective and not in conflict with the S's need to behave in a reasonable manner. Ericksen stresses this with the following statement:

"...it must be remembered that defenses are subtle devices, not to be revealed or studied by sledgehammer methods." (p. 43)

For this reason it is felt that the shock arrangement used by other investigators is inadequate.

Previous studies have associated the same shock intensity with both the immediate and delayed punishment conditions. Under this arrangement, delayed shock is said to be more aversive than immediate shock. Hare (1966c) states this is because the aversive properties of the delay interval summate with those of the delayed shock alone. This investigation will attempt to equate the aversiveness of the two conditions by pairing a higher intensity of shock with the immediate punishment than with the delayed punishment. With this arrangement the preferred alternative is not obvious and preferences may reflect prior adjustive habits to a conflictual situation.

If repressors and sensitizers continue to employ their respective adaptive responses to threat, then the following predictions are possible. Sensitizers, because they characteristically employ vigilance and general approach behaviour, should prefer immediate shock. Although the delayed shock will be of smaller intensity, sensitizers should find any delay extremely aversive. On the other hand, repressors, because they characteristically deny the existence of anxiety and because they avoid attending to anxiety-provoking cues, should not prefer to be shocked immediately. Instead they may prefer to delay the shock for as long as possible.

Although these predictions may hold, it is possible to conceptualize the behaviour of repressors and sensitizers in another manner. The foregoing prediction is based in part on the assumption that sensitizers are more anxiety prone than repressors. This is reflected in the sensitizers approach behaviour to avoid anxiety. On the other hand, repress-

ors are supposedly able to deny, even to themselves, that there is a threat or that they are anxious. However, recent evidence suggests that this may not be the case. Lomont (1966) has hypothesized that repressors are more susceptible to threatening stimuli than are sensitizers. That is, although they deny the existence of anxiety on a self-report measure, repressors are actually anxious when confronted with threatening stimuli. Although repressors may not perceive the threatening stimuli in perceptual defense studies, Lomont feels that this indicates nothing as to whether they experience less anxiety than sensitizers. On the other hand, he feels that repressors are more anxious and to support this, he cites the clinical observation that repressors, in discussing threatening topics in therapy sessions, have been found to become more upset than sensitizers.

To test this hypothesis, Lomont administered the Repression-Sensitization scale along with a self-report measure of anxiety and a word-association test to 35 neuropsychiatric patients. He predicted that Ss scoring low on the Repression-Sensitization scale (repressors) would also score low on the self-report measure of anxiety. He also predicted that repressors would show more signs of emotional disturbance than sensitizers on the word-association test because such a task forces S to respond to the threatening stimuli and does not permit any avoidance of the threat. The results supported both of his predictions.

Lomont's hypothesis has also been supported at the physiological level. Hare (1966a) found that repressors, although denying that they were anxious, exhibit greater autonomic disturbance than sensitizers while waiting for unavoidable shock. A recent study by Lazarus and

Alfert (1964) may also be offered as supporting Lomont's hypothesis. These investigators presented Ss with a threatening movie during which measurements of skin conductance and heart rate were made. After the movie Ss were required to complete several psychological tests including the Repression-Sensitization scale. It was found that Ss high in disposition to deny threat (repressors) denied that the movie was disturbing to a greater degree than low deniers (sensitizers) although the repressors showed greater autonomic evidence of anxiety.

If it is assumed, on the basis of the above evidence, that repressors are more anxious than sensitizers in the face of threat, then one is led to the following predictions. Sensitizers, because they are able to tolerate anxiety-eliciting situations, should not find the delay interval to be aversive. As a result, they should prefer delayed shock simply because it is of a smaller intensity. In contrast, if repressors are overly anxious in the face of threatening stimuli, they may not be willing to tolerate the delay and hence may prefer immediate shock. It should be pointed out that these predictions are in direct contrast to those made earlier on the basis of Bryne's approach-avoidance model.

This study also proposes to compare the response-latencies of those Ss who prefer immediate shock and those Ss who prefer delayed shock. Cook and Barnes (1964) investigated whether reaction times varied as a function of choice of delay and strength of shock. Although they did not find a significant relationship, they report that a few Ss had long latencies and that these Ss preferred delayed shock. Hare (1966c) in a post hoc analysis, investigated what he calls the "short latency-preference for immediate shock hypothesis". This hypothesis is based on the observ-

ation that the majority of Ss who choose immediate shock do so "in order to get it over with as soon as possible". Thus he suggested that these Ss may respond faster than Ss who prefer delayed shock. To test this hypothesis he compared the latencies of 11 Ss who chose immediate shock on almost every trial with the latencies of 9 Ss who rarely chose it. The latencies of the former group were shorter although the difference was not significant. In addition to examining the relationship between response-latencies and preferences, this study is designed to examine the latencies of repressors, sensitizers, and neutrals. Although no specific hypothesis will be made, the extent to which these groups differ in how quickly they respond to threat will be examined.

Statement of the problem

A number of studies (D'Amato & Gumenik, 1960; Cook & Barnes, 1964) have found that not all Ss prefer immediate shock in an unavoidable shock situation. Although this tendency has not been marked in all studies, there has been a consistent preference in some Ss for delayed shock. To account for this finding, several investigators have proposed that preferences may be determined by personality variables.

Examination of Ss' behaviour and verbal reports in prior studies suggested that these differential preferences can be explained by Ss' characteristic manner of handling anxiety. That is, Ss preferring immediate shock seem to prefer to approach the threat in order to control the situation and thus avoid the anxiety aroused by the delay interval. In contrast, Ss preferring delayed shock seem to prefer to avoid immediate confrontation with the shock. In addition, they seem to be able to control the anxiety associated with the delay interval.

This approach-avoidance conceptualization of shock preferences suggests that the individual differences may be accounted for by the personality dimension of repression-sensitization. According to Bryne's (1964) formulation, sensitizers tend to approach to control a threatening stimulus; whereas repressors tend to avoid or deny the threat's existence. In addition, sensitizers are viewed as highly anxious in the face of threat while repressors are able to control their anxiety. From this analysis, it is proposed that given a choice between an immediate shock of high intensity and a moderate shock which is delayed for 8 seconds, repressors will prefer delayed shock and sensitizers the immediate shock.

The reverse of this prediction is possible on the basis of a recent study by Lomont (1966). He has proposed that repressors are actually more anxious in the face of threat. Accordingly, repressors may prefer immediate shock even though it is of a higher intensity as they may not be willing to tolerate the anxiety aroused by the anticipation of delayed shock. On the other hand, sensitizers are considered less anxious in such situations because they have always actively dealt with threat in the past. As a result, sensitizers may prefer delayed shock simply because it is of less intensity. Thus these predictions are in direct contrast to those derived earlier. It is expected that the present study will provide some support for one of these hypotheses relating shock preferences to repression-sensitization.

This study also proposes to investigate the relationship between response latencies and preference for immediate or delayed shock. Hare (1966c) has proposed that Ss who choose immediate shock may respond

faster than those who choose delayed shock. This study is designed to test this hypothesis. In addition, the response latencies of Ss differing along the repression-sensitization continuum are to be compared.

CHAPTER II

METHOD

Subjects

Sixty male students from the Introductory Psychology course at the University of Manitoba were selected from a pool of 267 such students who had previously been administered the revised Repression-Sensitization Scale (Byrne, Barry, & Nelson, 1963). The original pool was divided into 3 equal groups of 89 Ss each. Twenty Ss were randomly selected from each group, with Ss who scored between 1-27 defined as repressors, Ss with scores from 28-42 as neutrals, and Ss with scores between 43-90 as sensitizers. Ss were informed of the use of electric shock when contacted for participation.

Apparatus

The apparatus consisted of a wooden panel with 2 push-button micro-switches spaced 6 inches on each side of a centered red neon light. A black square, centered on a flexible white plastic rectangle, was placed over each switch. A cross was drawn on the table below the panel so as to be centered 12 inches from each switch. Two black squares were drawn on the table, one on either side of the wooden panel. A Standard Timer was used to record the interval between the onset of the neon light and S's response to the micro-switch. Two Hunter Klock Timers were used to control the delay intervals. The electric shock was administered via a pair of electrodes attached to the little finger of S's non-preferred hand. EKG electrode paste was used to ensure proper contact and to minimize individual differences in the effective shock intensity. A 491-V shock generator was employed.

Procedure

All Ss were tested individually. In order to determine the required shock levels, the S's subjective estimate of shock intensity was obtained by the administration of a series of shocks prior to the experimental trials. S was required to evaluate each shock on a 7-point rating scale ranging from "cannot feel it at all" to "just painful". The shock series began at .50 ma. and increased in .25 ma. steps for subsequent shocks until S had rated two successive shocks at the pain threshold level. In order to minimize adaptation, a minimum of 40 seconds elapsed between successive shocks. The shock level at which the second successive threshold rating occurred was used to define the high shock condition for that S. A pilot study revealed that the moderate shock level could be determined by using a shock intensity which was 40 per cent less than the level used for the high shock condition. Ss generally rated this shock as "aversive" but not "painful".

The task was introduced to the Ss by means of a tape recorder.

The following instructions were adapted from Badia et al. (1966):

"The purpose of this experiment is to determine your preference for shock under 2 conditions: high shock which occurs immediately or moderate delayed shock. Please place the fingertips of your preferred hand on the cross on the table. Place your non-preferred hand on the appropriate square on the table and leave this hand there for the remainder of the experiment. You see on the panel before you 2 black squares, centered on a white plastic rectangle. The rectangle on your left (right) is associated with high-immediate shock and the rectangle on your right (left) is associated with moderate delayed shock. Each time the red light between the rectangles comes on you are to depress one of the 2 switches by lightly pressing the black square with the forefinger of your preferred hand and releasing it immediately. Return your preferred hand to the cross and leave it there until the red light comes on again. Upon pressing the switch you will receive a shock through the electrodes attached to your finger. If you press the switch on your left (right) you will immediately

receive a brief shock of high intensity. If you press the switch on your right (left) you will receive a shock of moderate intensity after a few seconds of delay. The total number of trials is fixed and your responses will in no way affect how many shocks you will receive. Are there any questions?

The delay intervals used were 0 and 8 seconds. Each S was given 10 trials with a minimum of 40 seconds between successive shocks. The shock duration was .250 seconds. The effect of possible position preference was controlled by having immediate shock associated with the left push-button for one-half of the Ss and with the right switch for the other half.

CHAPTER III

RESULTS

The extent of the individual differences reported in previous preference studies has been relatively small. To increase this effect as required by the present design, an effort was made to equate the alternatives presented to the S. A choice situation was arranged in which Ss could choose, on each of 10 trials, either immediate high shock or moderate delayed shock. With this procedure large individual differences in preference behaviour were obtained. Specifically, 25 Ss chose immediate shock more often, 29 Ss chose delayed shock more often, and 6 Ss gave an equal number of both responses.

It has been proposed that these individual differences would be related to the personality dimension of repression-sensitization. Specifically it was hypothesized that repressors and sensitizers would differ in the frequency with which they chose immediate or delayed shock. It was expected that Ss who obtained an intermediate score (neutrals) would fall between these two groups. Table 1 shows the total number and percentage of choices of immediate and delayed shock made by repressors, sensitizers, and neutrals. Repressors chose immediate shock 41 per cent of the time, while neutrals and sensitizers chose immediate shock 52.5 and 51.5 per cent of the time respectively.

The number of times each S chose immediate shock was computed to determine his preference-for-immediate shock score. A one-way analysis of variance (Hays, 1963) was performed on these scores for the three groups and the summary of this analysis is presented in Table 2. The between-group effect failed to attain significance at the .05 level. The hypothesis of differential preferences by repressors and sensitizers, therefore, has to be rejected.

TABLE 1

Total Number and Percentage of Choices of Immediate (0 secs.) and Delayed (8 secs.) Shock for Each Group

	Group					
	Repressors		Neutrals		Sensitizers	
	Imm. Del.		Imm. Del.		Imm. Del.	
Total	82	118	105	95	103	97
Percentage	41	59	52.5	47.5	51.5	48.5

TABLE 2

Summary of the Analysis of Variance Between Repressors, Neutrals, and Sensitizers

Source	SS	df	MS	F
Between	17.10	2	8.55	<1
Error	<u>534.55</u>	<u>57</u>	9.38	
Total	551.65	59		

There was some suggestion in the data that the failure to obtain significant differences in preferences was due to the fact that preferences were not established until after the first five trials. This is illustrated in Figure 1, where the number of Ss within each group choosing immediate shock on each trial is presented graphically. Examination of the first five trials suggested that initially, Ss were merely sampling both punishment conditions. However on each of the last five trials more sensitizers than repressors chose immediate shock, and on the tenth trial, this difference was significant ($\chi^2 = 4.00$, $df = 1$) at the .05 level. This significant difference together with the seemingly diverging preferences over the last few trials suggested that a trend in one or both of these groups may have been developing across trials. However, application of the Cochran Q test (Seigal, 1956) to Ss' preferences for immediate shock on each trial failed to show any significant trend across all 10 trials. The largest obtained chi square was for sensitizers ($\chi^2 = 10.18$). However, this was far short of the value ($\chi^2 = 16.92$, $df = 9$) required for significance at the .05 level.

The extent to which individual Ss within each group adopted particular preferences was not revealed in the above analyses. In other words, mean preferences may have concealed differences which could be reflected only in the individual data. For this reason, Ss were classified according to their frequency of immediate shock choices on the first five and last five trials. As shown in Figure 2, Ss were approximately normally distributed on the first five trials for all three groups. However on the last five trials the distributions for sensitizers and neutrals were surprisingly similar to each other but very dissimilar from

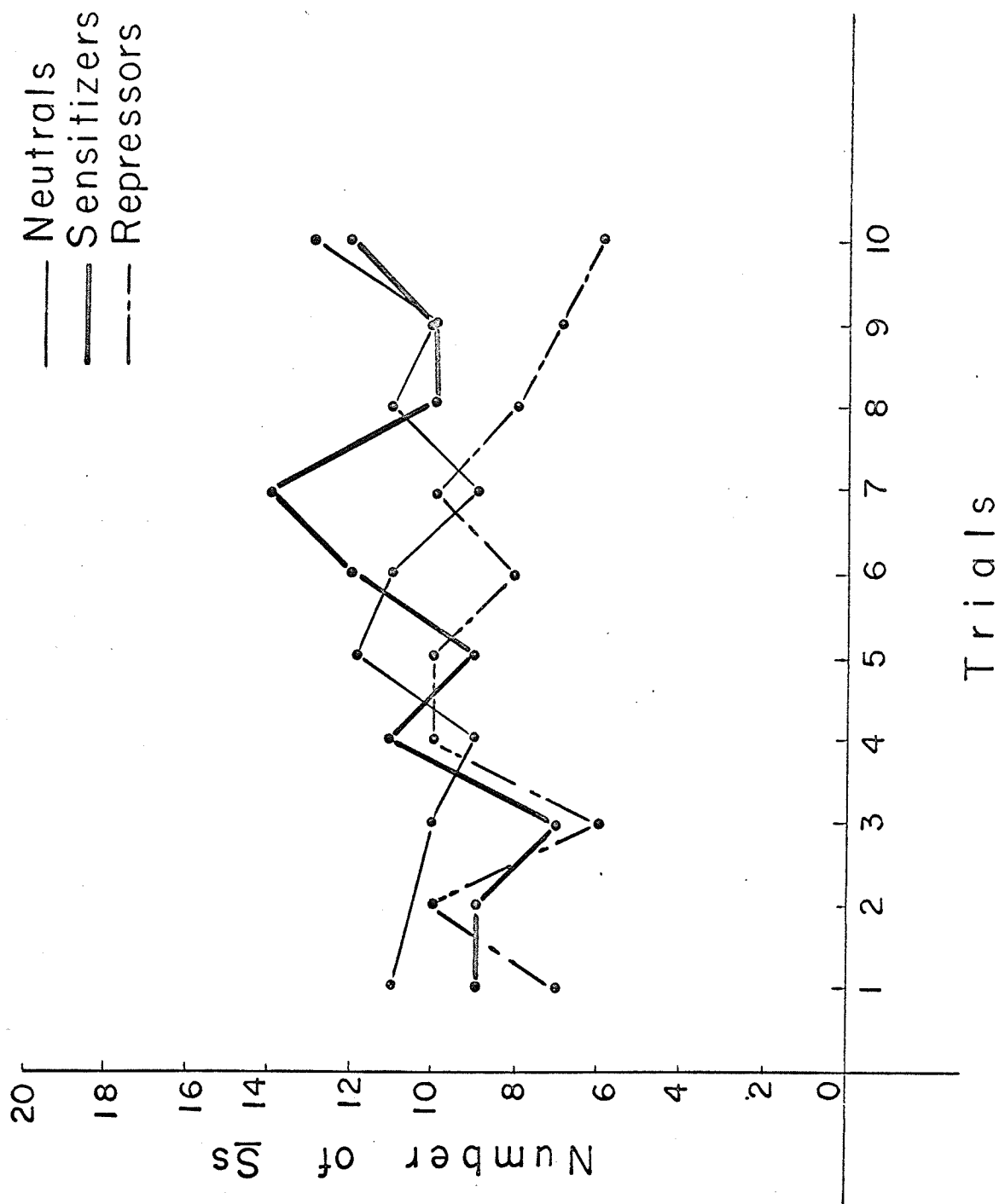


Fig.1 Number of repressors, neutrals, and sensitizers choosing immediate shock on successive trials.

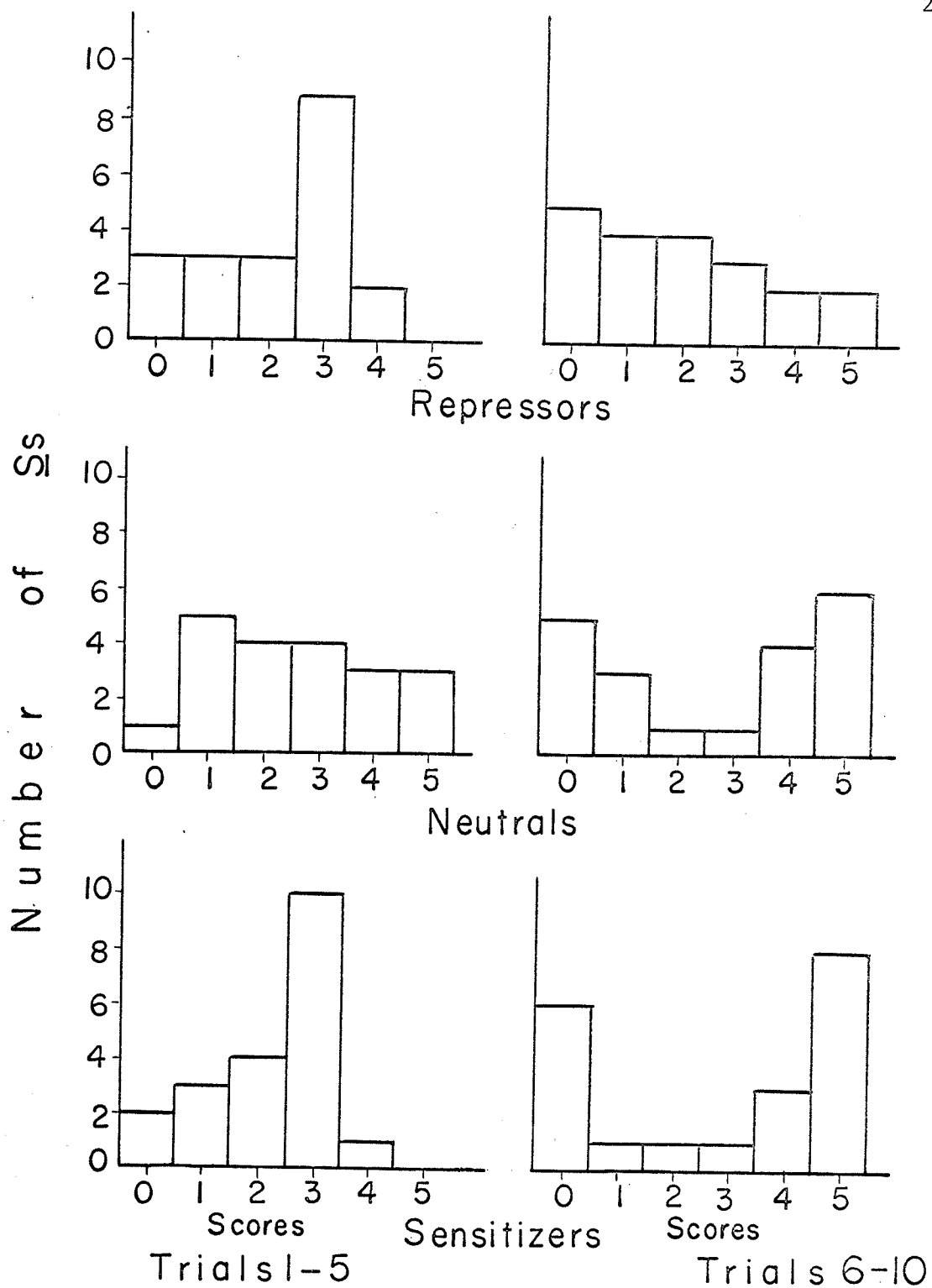


Fig.2 Distribution of immediate-shock-preference scores for repressors, sensitizers, and neutrals on early and late trials.

repressors. The distribution for repressors indicated a trend toward fewer immediate choices on later trials. For neutrals and sensitizers there was evidence of a bimodal distribution of preferences. Thus instead of developing a definite preference for one shock condition, these latter groups appeared to have divided into those Ss who consistently preferred immediate shock and those who consistently preferred delayed shock. This was especially noticeable with sensitizers.

Although differences in preferences did not exist it is conceivable that repressors and sensitizers may have differentially responded to the threat of the experiment in some other manner. In particular, Ss in one group could have perceived the initial shock administrations to be threatening. As a result they could have reacted defensively before the experiment proper began by reporting a low pain threshold. Such a strategy would minimize the anxiety associated with the punishment conditions and thus make unnecessary the development of a definite preference. However, this appeared not to have occurred as all groups had exactly the same mean pain threshold of 1.88 ma.

In addition to preference behaviour, Ss were compared in terms of their response latencies. It has been proposed that Ss who prefer immediate shock may respond faster than Ss who prefer delayed shock. To test this hypothesis, all Ss were divided into two groups; those who predominately preferred immediate shock and those who predominately preferred delayed shock. Ss who showed no definite preference were omitted from this analysis. A t test performed on the mean latencies of the 25 Ss who preferred immediate shock and the 29 Ss who preferred delayed shock did not attain significance ($t < 1$, $p > .05$, $df = 52$). Thus no

support was found for the "short latency-preference for immediate shock hypothesis".

The latencies of repressors, sensitizers, and neutrals were also compared by means of an analysis of variance (Winer, 1962). This analysis revealed that these groups did not differ in their latencies ($F < 1$, $df = 2$) at the .05 level. However, there was a significant decrease ($F = 6.75$, $df = 9$, $p < .05$) in the latencies across trials. This suggests that as the experiment progressed, Ss may have made their choices in the intertrial interval.

CHAPTER IV

DISCUSSION

The results failed to demonstrate that differences in preferences were related to the personality dimension of repression-sensitization. It had been assumed that Ss who were highly anxious in the face of threat would be overly susceptible to the anxiety-eliciting stimuli of the delay interval. This assumption led to the proposition that these Ss would prefer immediate shock over delayed shock even if the former was of a higher intensity. In contrast, Ss who were less anxious in threatening situations or who were able to control their anxiety had been expected to prefer delayed shock. Since two opposing theoretical formulations have been made regarding the manner in which extremes on the repression-sensitization continuum handle anxiety, a non-directional hypothesis regarding the expected differences in preferences was proposed. These results, however, failed to confirm this hypothesis and support the notion that differences in shock preference are correlated with the personality dimension of repression-sensitization.

In addition, the results failed to show a relationship between response-latencies and shock preferences. It had been expected that Ss preferring immediate shock may respond faster than Ss preferring delayed shock. However no support was found for this hypothesis. Similarly no differences were found between the latencies of repressors, sensitizers and neutrals.

Although there were no overall differences between the preferences of repressors and sensitizers, inspection of the data suggested a tendency for their preferences to diverge. After several initial trials of trying out the alternatives, repressors appeared to be developing a

preference for delayed shock, while neutrals and sensitizers appeared to be developing a preference for immediate shock. In fact, these diverging preferences resulted in a significant difference being detected between repressors and sensitizers on the last trial. However, a test for trends failed to reach significance for any one of these groups and one finds no statistical support for the notion that preferences were developing across trials. Possibly with additional trials, one or more of these trends may have developed still further and as a result led to an overall significant difference between the preferences of repressors and sensitizers. Any anticipated trends, however, may be restricted to repressors, as examination of the individual data revealed a within-group split or bimodal distribution for neutrals and sensitizers. That is, most Ss in these two groups appeared to have developed a stable preference for one shock condition or the other.

Although the large individual differences in preferences within the sensitizer and neutral groups may have been a chance observation, it does suggest that the relationship between personality variables and shock preferences may be of a more complex nature than that which can be accounted for by the dichotomy of repression-sensitization. Some very speculative support for such a hypothesis is provided by several studies in the area of interpersonal perception (Altrocchi, Shrauger, & McLeod, 1964; McDonald, 1967). These studies have been concerned with the relationship between various ego defence mechanisms and the expression of hostile impulses. Of interest here, is another personality pattern in which approach defenses are employed. These individuals are called expressors. Altrocchi et al. define expressors as people who respond

directly to stimulation with little anxiety or guilt. In addition to using approach mechanisms, expressors have also been found by McDonald to score at the sensitizer extreme of the MMPI repression-sensitization scale. If one considers the definition offered by Altrocchi, et al. for sensitizers, a major distinction between these groups becomes readily apparent. Sensitizers are defined as people who tend to be alert to potential threat and respond with manifest anxiety. Thus, only sensitizers tend to respond to threat with anxiety. In the present study, possibly the group classified as sensitizers could have been subclassified into expressors and sensitizers. The sensitizers being more anxious could have been those who exhibited a preference for immediate shock. However, as expressors do not become excessively anxious in the face of threat, they could have been those Ss who exhibited a preference for delayed shock.

Irrespective of the complexity of the personality continuum, the nonsignificant results may have been due to the inapplicability of repression-sensitization to this experimental situation. As indicated previously, Bryne's approach-avoidance model was developed out of differential responses to "threat" in perceptual defense studies. In these studies, Ss were usually presented with threatening stimuli such as taboo words and how readily they perceived these words in relation to neutral words defined their perceptual defensiveness as approach or avoidance tendencies. The present task obviously does not involve this kind of threat or this kind of response. It may be that knowing S's response to a "perceptual threat" does not allow one to predict his response in a behavioural threatening situation. The present results

suggest that the context in which the threat is presented may be of prime importance in determining how S will react.

The situational determinants of anxiety have been emphasized in an article by Ender, Hunt, and Rosenstein (1962). They reject the notion that the anxiety responses of a person seen in any given situation will appear also in other situations. They feel that the personologist has not given enough attention to the situational determinants. To alleviate this problem, they devised an inventory which provides a basis for describing Ss in terms of the kinds of situations in which they show anxiety and in terms of the modes of response with which they show it. It might be necessary to make more precise predictions with regard to shock preferences by using this situational approach.

Apart from the possible limitations of the personality dimension of repression-sensitization, the non-significant results may have been due to several procedural effects which so influenced S's response as to make it dependent on irrelevant factors. Although these procedural problems will be discussed separately, it is not likely that their influence on choice behaviour was independently exerted. To begin with, this study used a short fixed delay interval. The delay interval used was only of 8 seconds duration. After a few trials, Ss may have been able to estimate its length and as a result little or no uncertainty would have been associated with the time of the shock onset. Investigators have demonstrated that if the uncertainty is reduced the aversiveness of the delay interval will also be reduced. If the anxiety associated with the delay interval is, as it appears to be, a crucial variable in determining a S's choice of immediate over delayed shock, then variables which alter this anxiety should be carefully controlled in future

studies. For example, uncertainty could be kept at a maximum by using randomly delayed shock with a mean delay of at least 15 seconds.

Another procedural difficulty may have been the result of an adaptation effect which occurred as the experiment progressed. This possibility is supported by several Ss who verbalized that the shock intensity appeared to decrease during the experiment. If Ss did adapt to the shock, the threat associated with this task would have been minimal. As a consequence, S's responses would cease to reflect his preferred way of handling threat. A longer intertrial interval could be used to minimize the possibility of Ss adapting to the shock.

Finally, the punishment alternatives used in this study were different from those used in previous studies as the latter have always associated the same shock intensities with both alternatives. In this study a higher intensity of shock was associated with the immediate punishment condition than with the delayed punishment condition. As a result verbal reports indicated that some Ss chose delayed shock on every trial not because of their ability to control anxiety, but simply because this allowed them to avoid the high shock. A more unpredictable delay interval would have maximized the subjective intensity of the delayed shock and minimized this problem.

By eliminating or minimizing the above procedural problems, it may be possible to demonstrate a relationship between repression-sensitization and preference for immediate or delayed shock. However, failing to find such a relationship, one might study this problem by examining other personality variables suggested by certain personality theories. Eysenck (1959), for example, has developed the encompassing

personality dimensions of extraversion-introversion and neuroticism. With these two variables, it is possible to differentiate Ss in terms of their conditionability and reactivity to anxiety-eliciting stimuli. According to Eysenck, extraverts acquire conditioned responses very slowly while introverts condition very rapidly. Neuroticism refers to the lability or reactivity of the individual's autonomic nervous system. The more labile or reactive the individual, the more likely he is to be susceptible to anxiety-producing stimuli. On the basis of this brief analysis, introverted Ss high on neuroticism may find delayed shock to be extremely aversive while extraverts low on neuroticism may not find delayed shock to be aversive.

The failure of the results to confirm the second hypothesis relating preferences to immediate or delayed shock also may have been due to a procedural detail. Specifically there was a 40 second inter-trial interval which allowed S ample time to make a decision. As a result, the recorded latencies may have simply represented reaction times to the stimulus light. Because this task uses only two alternatives, it is difficult to prevent S from making his decision in the intertrial interval. However, if a variety of conditions (e.g. differing probabilities of shock occurrence) were presented only at the appearance of the stimulus light, then a relationship between shock preference and latencies may be found.

CHAPTER V

SUMMARY AND CONCLUSIONS

Recent studies with unavoidable punishment have found small but consistent individual differences in preferences for immediate versus delayed shock. This finding has led several investigators to propose that personality characteristics of the individual may influence choice behaviour. The present study was undertaken to test the hypothesis that the personality dimension of repression-sensitization is related to shock preferences. On the assumption that Ss who prefer immediate shock handle threat with approach behaviour, and that Ss who prefer delayed shock prefer to avoid the threat, shock preferences were presumed to be related to Bryne's approach-avoidance model of repression-sensitization. It was thus predicted that sensitizers should prefer immediate shock and repressors delayed shock. However a recent formulation by Lomont, which is supported by studies employing physiological measures of anxiety, proposes that repressors are more anxiety prone than sensitizers. This led to the hypothesis that sensitizers may prefer delayed shock and repressors immediate shock. These contradictory hypotheses were examined in the present study.

Twenty Ss scoring high on the revised R-S scale (sensitizers), 20 Ss scoring low (repressors) and 20 Ss with intermediate scores (neutrals) were selected from a pool of Ss who had previously been administered this inventory. Each S was presented, on each of 10 trials, with a choice between immediate high shock or moderate delayed shock.

The results failed to confirm the hypothesis relating preference behaviour to the personality dimension of repression-sensitization. It was proposed that the generality of the concept of differential adjust-

ment to threat need be restricted to certain situations. It was also proposed that, as a result of possible procedural limitations, preferences may have been determined by a number of irrelevant factors. However, it was concluded that, because repressors and sensitizers appeared to be developing definite preferences on the latter trials, this study should be replicated with additional trials and other procedural changes before it is definitely accepted that repression-sensitization is unrelated to shock preferences.

A second purpose of the present study was to examine the relationship between response-latency and preference for immediate or delayed shock. Hare has proposed that Ss who prefer immediate shock may respond faster than Ss who prefer delayed shock. The results failed to confirm this hypothesis. In addition, repressors, sensitizers, and neutrals did not differ in their decision latencies. It was suggested that Ss may have made their decision in the intertrial interval.

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