THE ROLE OF VOLITION IN HUMAN CONDITIONING

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Introduction and literature

The importance and application of Behaviour Therapy is well established in the treatment of learning disorders. However, the principles of Behaviour Therapy are borrowed from animal experiments based on learning theory which were originally and mainly patterned after animals experiments. The reasons for this preponderance of animal experiments over human experiments are obvious. Animal experiments are cheaper, faster and most importantly they are most practical because it is easier to control the subjects, the conditions or environment and the experimental procedures in animal experiments than in human experiments. Also animal experiments involve fewer ethical and moral questions. There are now a number of human experiments which are being conducted; in fact it has even been held that each controlled therapy session is an experiment.

However, the question has often been mentioned as to whether animal learning and human learning can be equated? Watson (1920) was the first to show that human beings can be conditioned in the same manner as animals.

Some experiments have taken the position that 'set' is always present in conditioning and that verbal instructions are just one way of producing sets.

Motivation affects performance, but there are arguments over the extent to which it affects the learning of habits or cognitive structures. The goals of the learner almost surely affect both learning and performance. An important aspect of motivation long neglected in learning theories is the relation of the given circumstances to the more persistent goals of the individual (Seward, 1952).

Often Set, Motivation and Readiness have been mentioned in the literature. However, the connotations in which these terms have been used are varied. Physical and Physiological maturity has been referred to as readiness, hunger for 'set' drives resulting from deprivation have often been attended as motivation.

However, Behaviour Therapy has run into some difficulty to explain these positions. In this context the point of interest to us is Stuttering. Several behaviour therapy techniques have been tried with stuttering and no technique has yet been satisfactory. Eysenck, (1965) has reported that Behaviour Therapy failed with a few stutterers and states that stuttering and conduct disorder have not responded well to Behaviour Therapy techniques in use. Wolpe *et al.,* report

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that a stammerer aged 13 years did not respond to desensitization being unable to obtain vivid visual images (1961). Earlier Wolpe (1958) found a 14 year old stammerer relapsed under stress after showing considerable improvement in the first few months of treatment. Relaxation and Breathing exercises had been used in this case. Lazarus (1963) found that panic states, anxiety states and stammering yielded the least satisfactory results. Only 20 per cent or one out of five stutterers showed improvement.

So the present paper reports a pilot study to check the importance of a Volitional Positive Set (VPS) or willingness to learn as a factor in 'success' of a learning experiment. The study is designed to verify the hypothesis that 'the subject's volition has no effect on conditioning'.

Methodology

. Two undergraduate speech and hearing students with good vocabularies in English were selected as subjects. The subjects were instructed to come out continuously with different words spontaneously for a duration of 15 minutes in each session. It is well known that nouns are the most frequently occurring words under such choice. So they were subjected to verbal conditioning of noun responses with two different instructions. Care was taken to keep the subjects unaware of the purpose of the study.

The total number of sessions were three. The first session was base rate. The second and third sessions of 15 minutes each were spaced into three intervals of 5 minutes each. The latter two sessions were arranged as 5 minutes base rate, 5 minutes stimulus and 5 minutes base rate again. The verbal stimulus 'no' was the stimulus for verbal conditioning of nouns.

The instruction for the base rate session and the first five minute? of the second and third experimental sessions was to come out continuously with different words spontaneously. At the end of first five minutes of the second session the instruction (A) read was 'during the remainder of the session you will sometimes hear the word "no". As you are aware the word "no" refers to dissatisfaction or disapproval'. At the end of the first five minutes of the third session the instruction (B) read was 'during the remainder of the session you will sometimes hear the word "no". Just ignore it. We are trying to condition you and don't be conditioned'. Through 9uch an external stimulus as the instruction read an attempt was made to make the subject respond accordingly.

The verbal stimuli 'no' was presented contingently by the experimenter. All the proceedings of the three sessions were tape recorded and the word out put was counted for each five minutes. The number of nouns occurring in each session was recorded.

Results and Discussion

Table 1 and 2 provide the figures about the total word out put, noun out put and per centage of occurrence of nouns in each five minutes of the three sessions.

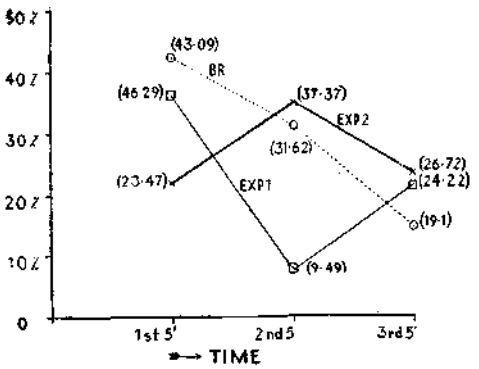

Fig. 1

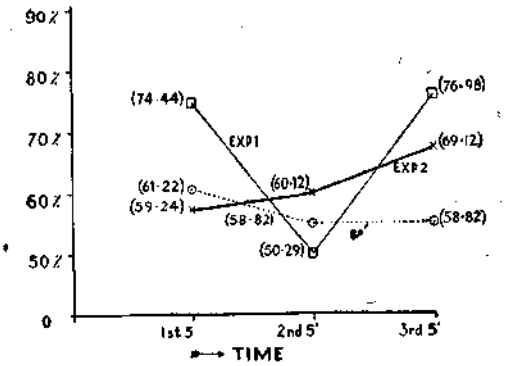

Fig. 2

TABLE 1. ***Subject A***

Conditions		1st 5 mins.	2nd 5 minutes	3rd 5 mins.	Total
Base rate	Total word out put	239	142	89	470
	Nouns	103	45	17	165
		43.09%	31.62%	19.1%	
Experiment-1	Total word out put	216	158	161	535
	Nouns	100	15	40	155
		46.29%	9.49%	24.22%	
Experiment-2	Total word out put	190	209	156	555
	Nouns	45	78	42	
		23.67%	37.37%	26.72%	165

Table l and 2 shows the percentage of occurrence of nouns out of total word out put for Subjects A and G respectively at three different times in each session.

TABLE 2. ***Subject G***

Conditions		1st 5 mins.	2nd 5 mins.	3rd 5 mins.	Total
Base rate	Total word out put	104	85	98	287
	Nouns	77	50	60	187
		61.22%	58.82%	58.22%	
Experiment-1	Total word out put	180	169	139	488
	Nouns	13'	85	107	326
		74.44%	50.29%	76.98%	
Experiment-2	Total word out put	184	163	136	483
	Nouns	109	98	94	301
		59.24%	60.12%	69.12%	

Considering Table 1 of subject A, in the base rate the percentage of occurrence of the nouns has a decreasing trend from 43.08 per cent in the first five minutes to 19.1 per cent in the third five minutes (Fig. 1). In the experiment-1 the first five minutes base rate was 46.29 per cent. During the second five minutes there was a steep fall with the occurrence of nouns reducing to 9.48 per cent when the nouns were contingently stimulated with the verbal stimuli 'no' under the instructions (A) as mentioned earlier. In the third five minutes there was a gradual increase in the occurrence of nouns from 9.48 per cent to 24.22 per cent a period possibly of spontaneous recovery. In experiment-2 the first five minutes base rate was 23.67 per cent a possible continuation of the last five minutes of the second session which was less than that of the first and second sessions. During the second five minutes there was an increase in the percentage of occurrence of nouns when contingently stimulated with the verbal stimuli 'no' under the instruction 'B' 'during the remainder of the session you will hear the word "no". Just ignore it. We are trying to condition you but do not be conditioned'.

In the third five minutes of the session the percentage if nouns was once again decreased, and the results obtained in this session is quite opposite to that of the second session, strongly indicating the effect of volition on conditioning brought about by the external source.

Table 2 of subject G shows that the BR readings of the percentage of occurrence of the nouns are almost constant in all the three intervals as 61.22 per cent, 58.82 per cent and 58.22 per cent respectively (Fig. 2). The instructions read were similar for both the subjects. In the first five minutes of the second session the nouns were 74.4 per cent; when contingently stimulated with 'no' in the second five minutes it decreased to 50.29 per cent and in the third five minutes it once again raised to 76.98 per cent. The explanation given for the subject A holds good for the subject G also. In the third session, first five minutes had 59.29 per cent and second five minutes had 60.12 per cent. The figure confirms that conditioning was not established as it was in the second five minutes of the second session, these two sessions being comparable except for the instructions read at the end of first five minutes. In the third five minutes the occurrence of nouns was 69.12 per cent. With the nature of the data obtained, this increase in the third five minutes of the third session seems to be unexplainable except to state that the increase from the first session to the second session continued. However, these findings agree with those of Table 1 of subject A with respect to the role of volition in human conditioning.

The two subjects of this experiment had Volitional negative set (VNS) as to respond according to the 'Negative set' brought about by the external source namely the instructions 'B'. Thus it is possible for an external source to bring about VNS hindering conditioning. Therefore, conversely if any conditioning technique on which most of our therapies based has to succeed, a Volitional positive set (VPS) has to be established. The absence of VPS may be one

of the factors in the failure of many of our attempts at therapy. While in our study an externally influenced VNS hindered conditioning, it is feasible to assume that VNS could be internally influenced also. This would suggest that therapists should devote some attention to the establishment of VPS. This takes us right back to the stress on motivation. It is planned to study the importance of VPS in conditioning of autonomic activities and to study the effect of VPS or VNS on stronger aversive stimuli. Confirmation of the present findings in those studies also would caution us against equating animal learning and human learning.

Summary

An attempt was made to verify the hypothesis that 'the subject's volition has no effect on conditioning'; in other words to test the role of volition in human conditioning. Two under graduate speech and hearing students with good vocabularies in English were selected as subjects. The task was to come out continuously with any word spontaneously for a period of 15 minutes. Out of this nouns were subjected to verbal conditioning contingently stimulated with the word 'no' with two different instructions in two sessions. Instruction 'A' was similar to instruction in learning experiments. Instruction 'B' led to a 'Volitional negative set'. The obtained data is analysed and discussed. The findings suggest that there is a definite effect of the subjects volition in human conditioning.

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