
UNIT 3 DOLLARD AND MILLER THEORY OF PERSONALITY

Structure

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3.0 INTRODUCTION

We hope that you must have watched the TV serial “Mahabharat”. In that TV serial after the great war of Kurukshetra was over, Duryodhana, the king of the Kauravas was hiding beside the Dvaipayana Lake. The Pandavas, accompanied by Krishna, sought him out and challenged him for the last duel. Duryodhana opted for a mace fight with his archenemy Bhima. Both Duryodhana and Bhima were of almost equal ability in mace fighting, with Duryodhana having a slight edge over Bhima. The duel started and both were striking to kill. As the battle continued, Bhima started showing signs of fatigue. At that moment Krishna drew Bhima's attention to himself and slapped his own thigh. In mace fighting hitting below the waist is illegal. But with the cue from Krishna, Bhima remembered the promise he had made during the dice game at the court of Hastinapur. In that ill fated game, Draupadi was conquered by the Kauravas. When Duryodhana was hurling insults on her, Bhima had promised that he would break Duryodhana's thigh with a mace. Now, enraged, he hit

Duryodhana on the thigh. Duryodhana fell down vanquished. The Pandavas and Krishna rejoiced, while Duryodhana was left to die a painful death.

If you analyse this well known story from a psychological perspective you would be intrigued by a few questions. What was the motive of fighting? Were the motives same for Bhima and Duryodhana? What happened as the fighters affronted each other? How did they decide their strategies of action? What was the impact of Krishna's behaviour on the motive of Bhima? What were the consequences? You may identify the following elements – a motive or drive, a habitual pattern of responses, a set of stimuli and cues, a range of different modes of responses to those cues and finally the reinforcement in the form of fulfillment of motive for the Pandavas and the opposite for Duryodhana.

In the previous units you have learnt about classical and operant conditioning. It may have occurred to you that complex social situations like this episode from Mahabharata cannot be explained on the basis of conditioning only. While psychoanalytical assumptions can provide an explanation of such motives and actions, they are not scientifically verifiable. Catering to the need of explaining complex social issues, two American psychologists named John Dollard (1900 - 1980) and Neal E. Miller (1909 -2002) worked within the stimulus-response paradigm during the thirties and forties. Both of them were trained in psychoanalysis, and wanted to demystify the tenets of psychoanalysis by demonstrating that many psychoanalytical principles can be explained in behavioural terms and even verified by animal experiments.

3.1 OBJECTIVES

After going through this unit, you should be able to:

- 1 Discuss Dollard and Miller's position within S-R paradigm;
- 1 Compare between the structure and dynamics of personality;
- 1 Discuss Miller's experiment on secondary drives;
- 1 Explain the social behaviour and higher mental processes from the viewpoint of Dollard and Miller;
- 1 Explain the role of culture and socialisation in human behaviour from the viewpoint of Dollard and Miller;
- 1 Discuss Miller's experiment on conflict; and
- 1 Critically analysis the S-R paradigm of behaviour with reference to Dollard and Miller.

3.2 THE STIMULUS RESPONSE PARADIGM

In unit 2 you have read that Skinner emphasised on the association of operants with the reinforcement. In Skinner's approach the stimulus itself was of relatively less importance. Also, the antecedent of behaviour, though included in ABC analysis, was regarded as nothing more than a context of behaviour. What is the nature of stimulus itself and its relevance to the motive of the organism determine the response? This deficit of Skinner's approach has been addressed in the Stimulus response paradigm.

Unlike classical conditioning and operant conditioning, the stimulus-response paradigm of learning cannot be attributed to the work of any single scientist. The contributions were of Dollard and Miller served as a bridge between learning theories

and the cognitive approach. You would learn more the next unit. Dollard and Miller worked upon the premises forwarded by Hull, who emphasised the concepts of 'Drive' and 'Habit'. Hull (1943) postulated that every behaviour is a response to a specific stimulus, and this behaviour is impelled by a drive. If repeatedly the drive is reduced by the organism's response to the stimulus, a 'habit' is formed.

Dollard and Miller took off from Hull's postulates and through animal experiments and theorisation, extended the concepts to diverse human behaviour. They recognised the significant role of culture and socialisation in determining the nature of drive, response and drive reduction. Apart from Dollard and Miller, some other famous scientists working within this paradigm were J. F. Brown, L. W. Doob, R. R. Sears, O. H. Mowrer, who collaborated with Dollard and Miller on a number of research articles.

3.3 STRUCTURE VERSUS DYNAMICS OF PERSONALITY: THE MAJOR ELEMENTS

What do you understand by the two terms 'structure of personality' and 'dynamics of personality'? Structure refers to a relatively stable aspect of personality that is expressed repeatedly in different situations. If you say 'P is depressive in disposition', you are talking about structure. Dynamics is the relatively flexible process of development of certain characteristics. If you say 'P had lost her parents early in life, and consequently had a difficult childhood; now 'P' has lost her husband also and is extremely depressed', you are talking about dynamics.

Dollard and Miller were more concerned with dynamics of behaviour, though they did not ignore structure. In Hullian terms, 'habit' is a relatively stable association and thus may represent structure of personality. Drives, stimulus (cue) and reinforcements that lead to development of a habit are elements of the dynamics. Dollard and Miller's approach to personality rests on the understanding of these elements. You would learn about the elements within the S-R paradigm as postulated by Dollard and Miller in the following subsections.

3.3.1 Habit

You may define habit as an association between a stimulus (cue) and the organism's responses to it. Personality structure largely constitutes of habits. Perhaps your mother was a bit over-anxious whenever you had a late night party. This is her habit – a relatively stable bond between your adventure and her negative apprehensions.

3.3.2 Drive

Drive is the energizer of behaviour. It is a stimulus, often internal, which is strong enough to make the individual engage in action. Hunger is the drive that impels your eating behaviour.

However, you must remember that though drive pushes you to action, it does not determine the direction of behaviour. When hungry, you would feel the pang and would be restless, but drive would not tell you what to eat and how to eat. That you can eat a cake and not a piece of stone has been learnt by you through experience. You need other stimuli or cues for that.

Drives may be primary or secondary. Primary drives are linked with physiological processes. Examples are hunger, thirst, sleep, sex etc. Secondary drives are acquired

through experience. Especially for human beings, most of what we do throughout the day is energized by secondary drives. Your passion for music is an acquired or secondary drive.

3.3.3 Cue

A cue is a stimulus that guides the organism to act in a specific mode. Thus cues give direction to our actions. You may say it supplements drive. If you are driven by hunger you would take anything that reduces the drive. If you get a piece of bread, you would chew it. If you get a glass of milk you would drink it. Chewing and drinking behaviours are different. Your choice of behaviour depends on the 'cue' you get – a solid thing on a plate or a liquid thing in a glass.

3.3.4 Reinforcement

After a response has taken place, you may see two possible consequences. It can reduce your drive, or your drive may continue in the same or even greater intensity. If you are thirsty and you drink water, your thirst will be quenched. If you eat a couple of biscuits, you would feel thirstier. So water would be a positive reinforcer, while biscuits would be a punishment. You would learn to drink water and avoid biscuits whenever you feel similar dryness in your throat.

Just like drives, reinforcers can be primary or secondary. Food is a reinforcer to your primary drive of hunger. A sitar recital by Pandit Ravishankar is a reinforcer for your secondary drive of enjoying music.

Self Assessment Questions 1

- 1) Write True (T) or False (F)
 - a) Sex is a secondary drive.
 - b) A habit is an association between a stimulus and the response.
 - c) Drives give direction to our behaviour.
- 2) Who was the major proponent of the concept of habit and drive within the S-R paradigm?

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3.4 MILLER'S EXPERIMENT ON SECONDARY DRIVES

Miller conducted a series of experiments with rats to understand the nature of drive, cue and reinforcement. In his now classic experiment (Miller, 1948) a number of albino rats were placed in a white compartment whose door opened to a black compartment. The rats received an electric shock while placed in the white compartment and learnt to run through the open door to the black one. Subsequently Miller made a different arrangement within the white compartment. The door, previously kept open, was now kept closed and a wheel had to be rotated to open

it. The rats were not given any shock. However, as soon as they were placed in the white compartment, they tried to go to the black one, and even without any shock, learnt to rotate the wheel and to open the door. Their urge to move to the black compartment was so strong that even if after learning wheel rotation, the mechanism was changed and a bar had to be pressed for opening the door, the rats quickly learnt to press the bar.

3.4.1 Implications of Miller's Experiment

Miller interprets the rat's behaviour at the second phase of the experiment as an evidence of secondary drive. The electric shock generated in the rats a primary drive of avoiding pain. The experimental arrangement however developed in them a secondary drive – that of fear of the white compartment. In the second condition, the placing of the rats within the white compartment itself (which was earlier a neutral stimulus) generated in them a secondary fear drive. This drive impelled them to learn to rotate the wheel, or press the bar although the shock was not given. Miller calls this fear drive secondary as it is not associated with the original drive of escape from pain, but is a derivative of it. The learning to rotate the wheel to open the door is known as *Instrumental Learning*, as it is instrumental to the drive reduction.

In unit 1 and 2 the concepts of generalisation and discrimination in Pavlov's and Skinner's theories have been discussed. Dollard and Miller also emphasised the generalisation and discrimination take place in relation to stimulus response bond. For example, if the rat develops a secondary drive of fear for a red compartment, it may develop fear of an orange coloured compartment as well. Similarly, if a rat that has developed a secondary fear reaction to a red compartment is given a reward of food from an orange compartment, it will learn to discriminate successfully between the two.

Dollard and Miller also emphasised the fact that apart from learning to respond in a certain way, we also learn *not to respond* under certain circumstances. We learn to suppress the immediate response tendencies because of the negative value of certain stimuli. This is of immense importance in development of human social behaviour, as you would shortly come to know.

3.5 EXPLANATION OF SOCIAL BEHAVIOUR OF HUMAN BEINGS AND HIGHER MENTAL PROCESSES USING THE S-R PARADIGM

Dollard and Miller's special credit lies in their attempt to explain human behaviour in complex social situation in terms of stimulus response paradigm. Coming back to the case of Bhima and Duryodhana, we can try to analyse in Dollard and Miller's terms, the habit, drive, cue and reinforcement.

The habits were almost same for Duryodhana and Bhima – aggression, arrogance, responding to challenge and egoism. But the drives were different for the two characters. For Bhima, it was a fight for officially establishing the victory of the Pandavas – the final way to ruling the kingdom. Thus it was more of a secondary drive. For Duryodhana it was a kill or die situation. His drive was survival – a primary one, and perhaps, establishing his superiority was a secondary one. As the duel started, both Bhima and Duryodhana were trying to win. They were manoeuvring every move according to the demand of the situation. Both were keenly observing the movement of the other and responding to the other's movement by being

defensive, or initiating a new offence. Each movement was a stimulus or cue to the other's response. The course of fight, where Bhima was slowly but steadily losing ground, was interrupted by a different cue from Krishna – the slapping of the thigh. Indeed, Krishna strategically changed the cue and aroused a different drive in Bhima by this cue. It changed the mindset of Bhima – the drive now became revenge fuelled by the memory of a past pain, of the frustration of not being able to save his wife from public humiliation. His aggressive vigour increased, and violating the rule of fair fighting, he defeated Duryodhana through unjust means. What were the reinforcements? Of course, it was the positive feedback of joyous feeling and enhanced esteem for Bhima. For Duryodhana, it was the opposite - extreme pain, degradation and loss of hope.

3.5.1 Language and Culture

It was indeed a cue to a complex memory – a *symbolic behaviour*. In other words, you may call it a non-verbal gesture with a very significant 'meaning'. You may as well call it a *language* to communicate a certain idea to the fighting man. In our everyday social interaction, and even in 'talking to ourselves', language is the single greatest resource. Dollard and Miller (1950) suggested that words and gestures may also serve as secondary reinforcers. When you get angry because somebody has spoken in a demeaning way about your family, you are actually responding not to any physical harm, but to the symbolic value of the words spoken. Here words are the secondary reinforcers to generate the same response as the actual physical harm directed toward your loved ones. We know how certain gestures also elicit our responses – take 'V' for victory sign with fingers as an example.

It is through language and its value as secondary reinforcers that you can claim yourself as a rational being. The very logic you use is expressed through symbols. Language is the vehicle of your emotions also. Thus culture strives on the secondary reinforcement value of our language. In turn, it is the culture itself which, through an elaborate learning procedure create a large array of secondary reinforcers and make our life a rich and complex one.

In the previous section you have learnt that we practice not to respond to certain stimuli. What culture or socialisation really teaches you is a kind of discrimination among stimuli. You may respond freely to some stimuli. But socialisation means that you must respond in a symbolic way to most stimuli, and also inhibit your spontaneous response tendencies for many. For example, a child can run and embrace her mother. But at school he/she soon learns to express his/her positive feelings to the teacher not by embracing hi/her, but by smiling and greeting. He/she also learns to suppress his/her anger against his/her teachers, although he/she may express it in controlled ways with his/her peers. Thus the mother, the teacher and the peers need to be discriminated, a function carried out skill fully through the process of socialisation.

3.5.2 Principles of Development of the Human Child

The above discussion emphasizes that socialisation is of singular importance in the life of an individual. Indeed, this is not a premise of S-R paradigm only. Each and every observer of human behaviour emphasises the role of child rearing techniques and stages of development..

Dollard and Miller (1950) provided an account of how the 'infant' gradually acquires a number of secondary reinforcements through feeding schedules, toilet training and other socialisation processes. Thus Dollard and Miller agree with psychoanalysis

that there are certain critical periods of development. The different stimuli acquire meaning through this process, and the child learns to respond to some stimuli in a particular way, and also learns not to respond for others. In this context, Dollard and Miller (1941) recognised the role of *imitation* in human development. For example, a young girl sees her elder brother finishing his breakfast cleanly and hears her mother praise him. She imitates this behaviour and receives praise. So the elder sibling becomes a model to be followed for the young girl, who starts imitating him in other respects also. In S-R paradigm, imitation is also known as *matched dependent behaviour*. You will learn in the next Unit how cognitive theorists like Albert Bandura rendered a very significant place to imitation and modelling for human behaviour modification.

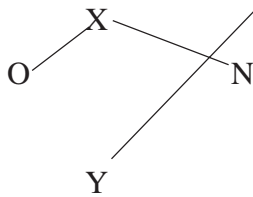
You need to know in this context how Dollard and Miller explained the defences that are crucial in Freudian notion of development. *Repression*, for Dollard and Miller is learning not to think about certain things. Obviously they conceptualised repression as one point on a continuum from slight difficulty to remember certain things to complete forgetting. *Displacement* has also been given considerable emphasis by Dollard and Miller. You may have heard of Miller's famous Bobo-doll experiment where he showed experimental generation of displacement (Miller, 1939). Rats were trained to hit another rat to get food. It was observed that if, after training, a Bobo doll was kept in the cage instead of a second rat, the hitting was directed against the doll. Thus Miller explained displacement also in terms of secondary drive and reinforcement, where the doll acquired a symbolic value as cue to aggression.

Self Assessment Questions 2

- 1) Tick the correct answer.
 - a) In Miller's experiment the secondary drive was the
(i) white compartment (ii) fear of the electric shock (iii) running (iv) fear of the white compartment.
 - b) Miller's Bobo doll experiment gave an explanation of (i) secondary drive (ii) displacement (iii) repression and (iv) habit.
 - c) If a pigeon learns to pull up a cover to get the grains kept under it, this may be called (i) instrumental learning (ii) operant learning (iii) cognitive learning (iv) habit formation.
- 2) Write True (T) or False (F).
 - a) Dollard and Miller suggested that socialisation is responsible for developing secondary drives in human infants. ()
 - b) Imitation cannot be explained in terms of S-R paradigm. ()
 - c) Words may serve as secondary drives. ()

3.6 CONFLICT

Conflict refers to contradictory response tendencies elicited by one or more than one stimuli. If you want to eat the cake and have it too, you are in a conflict, because after you satisfy your impulse to eat, you cannot have it! Conflict, in behavioural terms may be of four types: Approach-Approach conflict, Approach-avoidance conflict, Avoidance -Avoidance conflict and Double Approach Avoidance conflict.



In this figure you can see two points - 'X' and 'Y'. They intersect at the point 'N'. Suppose you are the organism and you are placed slightly nearer to X, which means the valence of X is a bit higher than Y for you. If both X and Y are pleasant and elicit approach responses, what will you do? Probably you will go straight for X without hesitation and be satisfied with it, as Y has relatively less attraction to you because of its distance from O. However, if you are placed just in the middle at N, you may experience approach-approach conflict – should you take the 'gulab jamoon' or the 'ice cream'? Usually this is a mild form of conflict and once you decide for the gulab jamoon, you are happy with it.

What happens if both X and Y are unpleasant and elicit avoidance? Since X is more repellent to you owing to your position, you would go away from X and come up to the intersection N. As you cross this point N, the avoidance force of Y becomes stronger. You tend to go away from it till you cross the intersection again and go nearer to X. Thus in your attempt to avoid both, you would run from one to the other. Of course it is assumed that you have no way out. This is avoidance - avoidance conflict.

In approach avoidance conflict there are not two points like X and Y. There is only one point - X, which generates both approach and avoidance tendencies. Consider how you feel when you are tempted by your friend with a dish of your favourite sea food. You remember how you suffered from nasty spells of stomach ache after you savoured sea food a month ago.

Miller (1944) along with his associates studied behaviour of albino rats in conflict of approach and avoidance tendencies. They trained the rats in semi starved condition to run an alley to get food from a place where a light was on. Then they trained the same animals under satiated condition to avoid the same place by giving electric shock as soon as they reached there. The intensity of the shock varied for different groups of rats. Then the rats were released at the start of the alley under different levels of starving and their behaviour was observed.

For each rat the point with a light represented a conflict as this point was associated with hunger reduction and pain avoidance. Just like your dish of sea food, it represented both approach and avoidance. It was found that the rats went to a certain extent toward the goal and at one point near the goal stopped. It was further observed that when hunger was strong and the intensity of shock during training was less the rats came closer to the goal point rather than when the shock was strong or hunger less. This means that whether you would succumb to the temptation or not depends on how much you like the food and how strong the stomach ache was.

Double approach avoidance conflict is an extension of the same where both X and Y points are present and both represent approach and avoidance. This is the toughest of the choices.

3.7 PSYCHOPATHOLOGY AND TREATMENT

You may now have an educated guess as to how Dollard and Miller would explain psychopathology. Often, the faulty or unwarranted acquisition of secondary drives

like fear responses to neutral stimuli may cause expression of symptoms. Anxiety disorders may be explained as a kind of erroneous development of secondary drives. A phobia may be the result of secondary fear drive to an innocuous stimulus. At other times, psychopathology is an expression of unresolved conflict. For example a strong double approach avoidance conflict may lead to a feeling of being trapped in an insoluble condition, and since break from the situation is not possible, the organism may break from reality orientation itself, thus manifesting psychotic features.

In this context, you also need to learn about the *frustration aggression hypothesis* forwarded by Dollard et al. (1939). They stated that when a goal directed behaviour is thwarted, frustration ensues. This in turn leads to aggression. Later on they modified their notion to state that frustration leads to arousal, but aggression takes place only if the individual has learnt that aggression might be successful for drive reduction in such cases. Other reactions to frustration are also possible. However, in a number of disorders where aggression in a pathological form is the main symptom, the role of frustration needs to be understood.

So far as treatment is concerned, the problematic acquisition of secondary drive must be taken care of (Dollard and Miller, 1950). You may try to make this drive extinct and facilitate a new learning. When conflict is the major source of problem, you may try to change the parameters within the conflict situation by either shifting the relative valence of the conflicting issues, or providing a realistic way out of the limited situation by opening up new action possibilities. In case of pathological aggression, the frustrated drive may be taken care of either by fulfilment, or by modifying its nature through new learning.

Self Assessment Questions 3

- 1) Write True (T) or False (F).
 - a) Conflict always entails at least two stimuli. ()
 - b) If I have to choose between two distasteful food items, I may experience approach avoidance conflict. ()
 - c) Dollard and Miller explained psychopathology in terms of unconscious conflict. ()
- 2) What is Frustration aggression hypothesis?
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3.8 CRITICAL EVALUATION OF DOLLARD AND MILLER'S APPROACH TO PERSONALITY

As may be apparent to you, Dollard and Miller's approach is an attempt to incorporate complex human life within the behavioural paradigm. Thus apparently it may be applied more convincingly to human conditions than, for example, Skinnerian approach. However, it has been criticized as over simplistic and shallow. The psychoanalysts strongly criticize the simplification of defences and unconscious processes.

The S-R paradigm in general has been critiqued as lacking a singly unified theory. Miller's discrete experiments are valuable by themselves, but alternate interpretations may be made when generalised to human social situation. The experiments may not be adequate to claim the explanation applicable to all the richness of human life.

However, the main merit of the approach lies in the attempt to bridge the gap between strict behavioural and the cognitive approaches.

3.9 LET US SUM UP

In this Unit, we have learnt about the nature of S-R paradigm and Dollard and Miller's position within this paradigm. We have learnt to analyse with experimental examples the components of behaviour, namely habit, drive, cue and reinforcement. We have gone through the explanation of complex human behaviour by using these concepts. In the course of this learning, we have also come across how Dollard and Miller have tried to integrate psychoanalytical notions in behavioural paradigm. We have learnt about their views on development of the individual within the society and the nuances of it. We have also learnt about different types of conflict. Finally we have studied the explanation of psychopathology and suggested treatment by Dollard and Miller.

3.10 GLOSSARY

Habit	: Within S-R paradigm, habit is an association between a stimulus and a response.
Drive	: Within S-R paradigm, drive is a stimulus that impels or energizes behaviour.
Primary drive	: An innate and internal stimulus that energizes behaviour.
Secondary drive	: A learnt internal stimulus that energizes behaviour.
Cue	: An external stimulus that gives direction to behaviour.
Reinforcement	: An event that follows a stimulus response bond and increases the possibility of occurrence of the response. Within the S-R paradigm reinforcement consists of reduction of drive.
Instrumental learning	: Within S-R paradigm, the learning of responses that is instrumental to bringing about a desirable goal.
Conflict	: Within S-R paradigm, conflict refers to simultaneously present opposing drives.
Types of conflict	: There are four types of conflict. When the organism is equally driven toward two stimuli, it is known as approach-approach conflict. When the organism is equally repelled by two stimuli it is known as avoidance-avoidance conflict. When the organism is simultaneously attracted toward and repelled by a single stimulus, it is known as approach-avoidance conflict. When the organism is simultaneously attracted toward and repelled by two stimuli, it is known as double approach-avoidance conflict.

3.11 UNIT END QUESTIONS

- 1) Discuss the stimulus response approach to behaviour with special reference to Dollard and Miller's point of view.
- 2) Differentiate between primary and secondary drive.
- 3) Define with suitable examples, habit, drive, cue and reinforcement.
- 4) Write a critical note on Dollard and Miller's explanation of psychoanalytical concepts in terms of learning paradigm.
- 5) Describe Miller's experiment of approach - avoidance conflict.

3.12 SUGGESTED READINGS

Hall, C.S., Lindzey, G., Campbell, J. B. (1997) *Theories of Personality*. New York: Wiley.

Pervin, L. A. & John, O. P. (1997) *Personality: Theory and Research*. New York: John Wiley & Sons.

3.13 ANSWERS TO SELF ASSESSMENT QUESTIONS

Self Assessment Questions 1

- 1) a) False b) True c) False
- 2) Clark L. Hull

Self Assessment Questions 2

- 1) a) (iv) b) (ii) c) (i)
- 2) a) True b) False c) True.

Self Assessment Questions 3

- 1) a) False b) False c) False.
- 2) Frustration aggression hypothesis refers to an assumption by John Dollard and Neal Miller. It states that when goal directed behaviour is thwarted, frustration ensues resulting in aggression. Initially they tried to posit aggression as the invariable effect of frustration. Later they modified their premise by recognising other reactions to frustration also.