UNIT 1 BEHAVIOUR MODIFICATION TECHNIQUES

Structure

1.0 INTRODUCTION

In the last few years some writers have used the term *behaviour modification* to refer to almost any practice that alters human behaviour. But this is not the case. More specifically, behaviour modification is not brainwashing or mind control, and behaviour modifiers do not use psychosurgery or electroshock therapy and only occasionally use drugs as a temporary adjunct to a change procedure. Rather, behaviour modification is structured learning in which new skills and other behaviours are learned, undesired reactions and habits are reduced, and the client becomes more motivated for the desired changes. Behaviour modification is experimentally based. The goal of this unit is to describe basic principles of behaviour so that you can learn how environmental events influence human behaviour and to describe behaviour modification procedures so that you learn the strategies by which human behaviour may be changed. In this unit you will learn about behaviour modification, the principles and procedures used to understand and change human behaviour.

1.1 OBJECTIVES

After completing this unit, you will be able to:

- Define behaviour modification;
- Explain the main characteristics of behaviour modification;
- Discuss the historical development of behaviour modification;
- Elucidate the principles of behaviour modification;
- Explain the and procedures of behaviour modification; and
- Analyse the applications of behaviour modification across various settings.

1.2 BEHAVIOUR MODIFICATION

Behaviour modification is the field of psychology concerned with analysing and modifying human behaviour.

Analysing means identifying the functional relationship between environmental events and a particular behaviour to understand the reasons for behaviour or to determine why a person behaved as he or she did.

Modifying means developing and implementing procedures to help people change their behaviour. It involves altering environmental events so as to influence behaviour.

Behaviour modification procedures are developed by professionals and used to change socially significant behaviours, with the goal of improving some aspect of a person's life.

1.2.1 Characteristics of Behaviour Modification

Following are the characteristics of behaviour modification:

1) **Focus on behaviour:** Behaviour modification procedures are designed to change behaviour, not a personal characteristic or trait. Therefore, behaviour modification deemphasises labelling. For example, behaviour modification is not used to change autism (a label); rather, behaviour modification is used to change problem behaviours exhibited by children with autism. Behavioural excesses and deficits are targets for change with behaviour modification procedures.

   In behaviour modification, the behaviour to be modified is called the *target behaviour*.

   A *behavioural excess* is an undesirable target behaviour the person wants to decrease in frequency, duration, or intensity. Smoking is an example of a behavioural excess.

   A *behavioural deficit* is a desirable target behaviour the person wants to increase in frequency, duration, or intensity. Exercise and studying are possible examples of behavioural deficits.

2) **Procedures based on behavioural principles:** Behaviour modification is the application of basic principles originally derived from experimental research with laboratory animals.

   The scientific study of behaviour is called the *experimental analysis of behaviour*, or behaviour analysis.

   The scientific study of human behaviour is called the experimental analysis of human behaviour, or *applied behaviour analysis*.

   Behaviour modification procedures are based on research in applied behaviour analysis that has been conducted for more than 40 years.

3) **Emphasis on current environmental events:** Behaviour modification involves assessing and modifying the current environmental events that are functionally related to the behaviour.

   Human behaviour is controlled by events in the immediate environment, and the goal of behaviour modification is to identify those events. Once these controlling variables have been identified, they are altered to modify the behaviour.

   Successful behaviour modification procedures alter the functional relationships between the behaviour and the controlling variables in the environment to produce a desired change in the behaviour.

   Sometimes labels are mistakenly identified as the causes of behaviour. For example, a person might say that a child with autism engages in problem behaviours (such as screaming, hitting himself, refusal to follow instructions) because the child is autistic. In other words, the person is suggesting that autism causes the child to engage in the behaviour. However, autism is simply a label that describes the pattern of behaviours the child engages in. The label cannot be the cause of the behaviour because the label does not exist as a physical entity or event. The causes of the behaviour must be found in the environment (including the biology of the child).

4) **Precise description of behaviour modification procedures:** Behaviour modification procedures involve specific changes in environmental events that are functionally related to the behaviour.

   For the procedures to be effective each time they are used, the specific changes in environmental events must occur each time. By describing procedures precisely, researchers and other professionals make it more likely that the procedures will be used correctly each time.

5) **Treatment implemented by people in everyday life:** Behaviour modification procedures are developed by professionals or paraprofessionals trained in behaviour modification. However, behaviour modification procedures often are implemented by people such as teachers, parents, job supervisors, or others to help people change their behaviour. People who implement behaviour modification procedures should do so only after sufficient training. Precise descriptions of procedures and professional supervision make it more likely that parents, teachers, and others will implement procedures correctly.

6) **Measurement of behaviour change:** One of the hallmarks of behaviour modification is its emphasis on measuring the behaviour before and after intervention to document the behaviour change resulting from the behaviour modification procedures.

   In addition, ongoing assessment of the behaviour is done well beyond the point of intervention to determine whether the behaviour change is maintained in the long run. If a supervisor is using behaviour modification procedures to increase work productivity (to increase the number of units assembled each day), he or she would record the workers' behaviours for a period before implementing the procedures. The supervisor would then implement the behaviour modification procedures and continue to record the behaviours. This recording would establish whether the number of units assembled increased. If the workers' behaviours changed after the supervisor's intervention, he or she would continue to record the behaviour for a further period. Such long term observation would demonstrate whether the workers continued to assemble units at the increased rate or whether further intervention was necessary.

7) **De-emphasis on past events as causes of behaviour:** As stated earlier, behaviour modification places emphasis on recent environmental events as the causes of behaviour. However, knowledge of the past also provides useful information about environmental events related to the current behaviour. For example, previous learning experiences have been shown to influence current behaviour. Therefore, understanding these learning experiences can be valuable in analysing current behaviour and choosing behaviour modification procedures. Although information on past events is useful, knowledge of current controlling variables is most relevant to developing effective behaviour modification interventions because those variables, unlike past events, can still be changed.

8) **Rejection of hypothetical underlying causes of behaviour:** Although some fields of psychology, such as Freudian psychoanalytic approaches, might be interested in hypothesised underlying causes of behaviour, such as an unresolved Oedipus complex, behaviour modification rejects such

hypothetical explanations of behaviour. Skinner (1974) has called such explanations "explanatory fictions" because they can never be proved or disproved, and thus are unscientific. These supposed underlying causes can never be measured or manipulated to demonstrate a functional relationship to the behaviour they are intended to explain.

1.2.2 Historical Overview of Behaviour Modification

A number of historical events contributed to the development of behaviour modification. Let's briefly consider some important figures, publications, and organisations in the field.

Major Figures

Following are some of the major figures who were instrumental in developing the scientific principles on which behaviour modification is based.

Ivan P. Pavlov (1849–1936) Pavlov conducted experiments that uncovered the basic processes of respondent conditioning. He demonstrated that a reflex (salivation in response to food) could be conditioned to a neutral stimulus. In his experiments, Pavlov presented the neutral stimulus (the sound of a metronome) at the same time that he presented food to a dog. Later, the dog salivated in response to the sound of the metronome alone. Pavlov called this a *conditioned reflex* (Pavlov, 1927).

Edward L. Thorndike (1874–1949) Thorndike's major contribution was the description of the *law of effect*. The law of effect states that a behaviour that produces a favourable effect on the environment is more likely to be repeated in the future. In Thorndike's famous experiment, he put a cat in a cage and set food outside the cage where the cat could see it. To open the cage door, the cat had to hit a lever with its paw. Thorndike showed that the cat learned to hit the lever and open the cage door. Each time it was put into the cage, the cat hit the lever more quickly because that behaviour—hitting the lever—produced a favourable effect on the environment: It allowed the cat to reach the food (Thorndike, 1911).

John B. Watson (1878–1958) In the article "Psychology as the Behaviourist Views It," published in 1913, Watson asserted that observable behaviour was the proper subject matter of psychology, and that all behaviours were controlled by environmental events. In particular, Watson described a stimulus response psychology in which environmental events (stimuli) elicited responses. Watson started the movement in psychology called *behaviourism* (Watson, 1913, 1924).

B. F. Skinner (1904–1990). Skinner expanded the field of behaviourism originally described by Watson. Skinner explained the distinction between respondent conditioning (the conditioned reflexes described by Pavlov and Watson) and operant conditioning, in which the consequence of behaviour controls the future occurrence of the behaviour (as in Thorndike's law of effect). Skinner's research elaborated the basic principles of operant behaviour. In addition to his laboratory research demonstrating basic behavioural principles, Skinner wrote a number of books in which he applied the principles of behaviour analysis to human behaviour. Skinner's work is the foundation of behaviour modification.

Early Behaviour Modification Researchers

After Skinner laid out the principles of operant conditioning, researchers continued to study operant behaviour in the laboratory. In addition, in the 1950s,

researchers began demonstrating behavioural principles and evaluating behaviour modification procedures with people. These early researchers studied the behaviour of children, adults, patients with mental illness and individuals with mental retardation. Since the beginning of behaviour modification research with humans in the 1950s, thousands of studies have established the effectiveness of behaviour modification principles and procedures.

Major Publications and Events

A number of books heavily influenced the development of the behaviour modification field. In addition, scientific journals such as SEAB, Society for the Experimental Analysis of Behaviour; JEAB, Journal of the Experimental Analysis of Behaviour; AABT, Association for Advancement of Behaviour Therapy; JABA, Journal of Applied Behaviour Analysis were developed to publish research in behaviour analysis and behaviour modification, and professional organisations started to support research and professional activity in behaviour analysis and behaviour modification.

1.2.3 Observing and Recording Behaviour

One fundamental aspect of behaviour modification is measuring the behaviour that is targeted for change. Measurement of the target behaviour (or behaviours) in behaviour modification is called behavioural assessment. Behavioural assessment is important for a number of reasons.

Measuring the behaviour before treatment provides information that can help determine whether treatment is necessary.

Behavioural assessment provide information that helps in selecting the best treatment.

Measuring the target behaviour before and after treatment allows determining whether the behaviour changed after the treatment.

There are different methods for behavioural assessment.

1.3 RESPONDENT CONDITIONING AND COUNTERCONDITIONING

1.3.1 Respondent Conditioning

Someone smiling at us produces a pleasant feeling. Pictures of good food may literally cause our mouths to water. In one type of fetishism a man is sexually aroused by the sight of a woman's shoe. A woman with an automobile phobia may become anxious when she sees a car. Why should these stimuli (smiles, pictures of food, women's shoes, and automobiles) elicit these particular responses (a pleased feeling, salivation, sexual arousal, anxiety)? It is not instinctual that these stimuli elicit these responses; hence it probably is learned.

Perhaps one reason a smile now elicits a pleased feeling is that in a person's learning history the stimulus of a smile was associated with other stimuli, such as affection, which produced a pleasant feeling. The stimulus of the image of the food was associated with the stimulus of the taste of the food, with the taste eliciting salivation. Eventually the image of the food came to elicit salivation. Similarly, the sight of a woman's shoe may have been paired with sexually

arousing stimuli such as from masturbation. The image of an automobile may have been paired with an anxiety producing stimulus such as seeing a close relative die in an automobile accident. The learned associations may have been gradually built up over time, as in the case of the smile and affection, or may have followed a single dramatic learning experience, as in the case of the automobile accident.

This type of learning is called *respondent conditioning,* the learning model in which one stimulus, as the result of being paired with a second stimulus, comes to elicit a response it did not elicit just previously. Usually this new response is similar to the response previously elicited only by the second stimulus. In this model the first stimulus is called the *conditioned stimulus* (CS) and the response it comes to elicit is called the *conditioned response* (CR), while the second stimulus is called the *unconditioned stimulus* (UCS) and the response it already elicited is called the *unconditioned response* (UCR). For example take the case of a child who is gradually developing a dislike for school (CS) because the teacher emphasises the use of corporal punishment (UCS), which makes the child anxious and fearful (UCR). This will be the first step for the children to develop school phobias.

Through association of the CS and UCS, the CS comes to provide information about the occurrence of the UCS. The more probable it is the UCS will follow the CS, the stronger the respondent conditioning and the more probable it is the CR will follow the CS. After the CR begins to occur, it may be rewarded or punished, which affects its occurrence. In this sense the CR is often a response the person makes to prepare for the UCS. Respondent conditioning is often called *classical conditioning* and sometimes *Pavlovian conditioning.*

In human behaviour most of the things that are rewarding (e.g., attention, approval, money, good grades) or punishing (e.g., Ostracism, criticism) acquired their affect through respondent conditioning and are called *conditioned reinforcement* and *conditioned punishment.* In respondent conditioning there are two ways of dealing with undesired behaviours: (i) extinction and (ii) counterconditioning.

1.3.2 Extinction

Respondent conditioning is accomplished by establishing a contingency (relationship) between the CS and the UCS

The CS predicts to a certain degree the onset of the UCS.

If we terminate this contingency so that the CS is not associated with the UCS, eventually the CS will no longer elicit the CR.

This process is called *extinction.*

1.3.3 Spontaneous Recovery

If a small child is scratched (UCS) by a cat (CS) and hurt (UCR), then the child may develop a fear (CR) of cats. If the child now onwards encounters cats without anything bad happening, then the fear may extinguish. Sometimes following extinction, the CR may gain in strength over time. This is called spontaneous recovery. However, in practical situations, this is usually minimal; and with further extinction the CR will no longer reappear.

1.3.4 Procedure for Producing Extinction

There are basically two ways of carrying out extinction:

i) gradual and

ii) not gradual.

The gradual approach consists of moving through a sequence of steps, called a *hierarchy,* toward the object or situation that elicits the strongest CR.

The alternative is to bypass most of these intermediate steps and confront the final situation right away.

(Actually these are not two different approaches, but two points on a continuum of how many steps there are until approaching the final situation.)

For example, if a child had a fear of water at the beach, a gradual approach would involve slowly approaching the water, perhaps first playing on the beach 20 feet away from the water, then playing 10 feet away, then at the edge of the water, then putting feet in the water, and so forth.

The non-gradual alternative may be to put or carry the child into the water until the fear extinguishes.

A variation of the non gradual approach involves bombarding the person with the anxiety producing stimuli and / or keeping the person in the anxiety situation without escape. This approach is called *flooding.*

Although extinction is applicable to any respondently conditioned response, it is most used with anxieties and fears. People are continually confronted with situations that elicit some anxiety, such as standing up to the boss, making a presentation before a class, or talking about something personal. If the person can approach and be in the anxiety situation without anything unpleasant happening, then some of the anxiety should extinguish.

1.3.5 Counter Conditioning

Counterconditioning is the reduction of undesired elicited responses by respondently conditioning incompatible responses to the eliciting situations. The first step is to determine the situations that elicit the undesired responses, as for example the sight of spiders may cause excessive anxiety in some people.

The second step is to determine or establish ways to elicit a response incompatible with and dominant to the undesired response, such as some forms of relaxation may be to the spider anxiety.

Finally, the incompatible response is respondently conditioned to the stimuli eliciting the undesired response, as stimuli producing relaxation may be paired with stimuli related to spiders. This counterconditioning is continued until the undesired response that is fear of spiders has been adequately reduced, usually until it no longer occurs.

Counterconditioning is often used to reduce unwanted emotional reactions such as anxiety, anger, or jealousy. Most clinical cases have an anxiety component that needs to be handled in some way. *Desensitisation* is the counterconditioning of anxiety with relaxation.

In other situations, the undesired response is a rewarding, approach response, as occurs in some aspects of alcoholism, drug-addiction, and over-eating. The sight of a bar may elicit a craving for a drink or the taste of one cigarette may lead to smoking another.

In these cases, counterconditioning may involve conditioning in an unpleasant or aversive response to the stimulus situations eliciting the approach response. This is called *aversive counterconditioning*.

It is important in counterconditioning that the incompatible response be dominant to the undesired response. Sometimes this is not a problem. For example, in aversive counterconditioning the aversiveness of electric shock or imagining unpleasant scenes may be dominant to the pleasing effects of having a second piece of cake. However, response dominance is often an issue.

The way to ensure the incompatible response is dominant, is through the use of a hierarchy, similar to the gradual approach of respondent extinction. For example in the case of a person with a fear of spiders, our counterconditioning using relaxation would begin with items low on the hierarchy (such as the word "spider"), work up the hierarchy through intermediate items (such as a picture of a spider), on to items at the top of the hierarchy (such as touching a live spider). The assumption is that the effects of the counterconditioning generalise (carry over to similar stimuli) up the hierarchy, thereby gradually reducing the strength of the undesired response elicited by the various situations.

In the example of the spider anxiety, it may be that at the beginning of treatment the anxiety elicited by a picture of a spider or touching a live spider is dominant to any relaxation we can produce.

But our relaxation is dominant to the anxiety elicited by the word "spider"; so we begin our counterconditioning there.

Now as we countercondition out the anxiety to the word "spider" it is assumed the counterconditioning carries up the hierarchy and reduces somewhat the anxiety to the picture and the live spider.

By the time we get to the picture, our relaxation is dominant to any remaining anxiety, which we can now countercondition out.

And this counterconditioning generalises up the remainder of the hierarchy.

Thus if we choose a hierarchy of related items, have a sufficient number of items in our hierarchy, and do not move through the hierarchy too fast, we can insure that the incompatible response is dominant to the undesired response and Counterconditioning will move in the desired way. This is the approach we take while carrying out systematic desensitisation.

1.4 OPERANT CONDITIONING

This section is concerned with learning and motivational changes based on events that follow behaviour and generally are a result of the behaviour. A worker receives his salary following completion of a certain number of hours of work. A student receives a particular grade on a test as a result of achieving a certain test score. A child is reprimanded for using certain words. In these cases there is some

relationship, called a *contingency,* between the person's behaviour (working a number of hours, achieving a test score, using certain words) and some resultant or *contingent* event (salary, grade, reprimand).

Operant conditioning

This is also called instrumental conditioning. It is the learning model based on the effects on behaviour of contingent events and the learning of the nature of the contingency.

If the contingent event makes it *more* probable that the person will behave in a similar way when in a similar situation, the event is called a *reinforcer.*

1.4.1 Reinforcement and Punishment

Occasionally, when Bobby was put to bed before he wanted, he would cry. His parents dealt with this by reading him a story to quiet him down.

Bobby cried more often when put to bed. In this situation, the parents' reading him a story was reinforcement for Bobby's crying.

On the other hand, if the contingent event makes the behaviour *less* probable, then the event is called a *punisher.*

For a while, Sushila did all her banking at the neighbourhood bank. However, because of poor service there, she gradually shifted most of her business to another bank. Here the poor service is a punishment for using the neighbourhood bank.

Following the behaviour, the contingent event may come on or increase *(positive),* or the contingent event may go off or decrease *(negative).* This produces four combinations:

i) positive reinforcement,

ii) negative reinforcement,

iii) positive punishment, and

iv) negative punishment.

i) Positive reinforcement is an increase in the probability of a behaviour due to an increase in the contingent event. Jane, a new manager in a company, began praising workers for submitting their reports on time. In a couple of weeks, this reinforcement by praise greatly increased on-time reports. Positive reinforcement, when appropriately used, is one of the most powerful of all behaviour change tools.

ii) Negative *reinforcement* is an increase in the probability of behaviour due to a decrease in the contingent event. A person learns to use his relaxation skills to offset anxiety, with the decrease in anxiety being a negative reinforcer. Thus negative reinforcement is based on the decrease of something undesired such as pain or anxiety. Negative reinforcement is not punishment; reinforcement is an increase in the probability of behaviour, while punishment is a decrease.

Negative reinforcement is the basis of *escape conditioning,* learning to escape an aversive situation and being reinforced by the decrease in aversion. Sachin

may learn to leave a neighbour's house when the neighbour gets drunk and obnoxious. Escape conditioning may lead to *avoidance conditioning* in which the person learns to avoid the aversive situation. Sachin may learn to avoid going to his drinking neighbour's house. Many politicians avoid important political issues in which no matter what position they take a moderate number of people will get mad and perhaps later vote against them. Votes and money are two strong reinforcers accounting for much political behaviour.

Positive punishment is a decrease in the probability of behaviour due to an increase in the contingent event. This is what most people mean when they use the word "punishment." If every time Ali tells his algebra teacher he is having trouble keeping up with the class he is then given extra remedial Work, then the extra work may act as a punisher resulting in a decrease in asking for help.

Negative punishment is a decrease in the probability of behaviour due to a decrease in the contingent event. This corresponds to a decrease in something desirable following some behaviour. If every time a person stutters, he briefly turns off a movie he is watching and if this results in a decrease in stuttering, then the offset of the movie is a negative punisher for stuttering.

1.5 OPERANT CONDITIONING PROCEDURES

Now we turn to behaviour change strategies that are based on operant Conditioning. This includes altering the stimulus situations in which behaviours occur *(stimulus control),* getting desirable behaviours to occur and reinforcing them, extinguishing and/or punishing undesired behaviours and reducing the reinforcing effects of events that support undesired behaviours.

1.5.1 Stimulus Control

Operant behaviours do not occur in a vacuum; they occur more in some Situations than others and are triggered by external and internal cues. That is, for all operant behaviours there are stimuli, called *discriminative stimuli* (SD), which tend to cue the response. Discriminative stimuli do not elicit the behaviour, as the CS elicits the CR, but rather set the occasion for the behaviour, making it more or less probable the behaviour will occur. Thus we can often alter operant behaviour by altering discriminative stimuli.

Approach 1: One approach is to remove discriminative stimuli that cue undesired behaviours. As part of a program to reduce smoking we might remove those stimuli that increase the tendency to smoke, such as ashtrays on the table. When trying to lose weight we might change the route from work to home so it does not pass the pastry shop.

Approach 2: A second stimulus control approach, called *narrowing,* involves restricting behaviours to a limited set of stimuli. A person who overeats probably is eating in many situations. This results in many discriminative stimuli (e.g., reading, watching TV, having a drink, socialising) cuing the tendency to eat. To cut back on this, we might restrict the eating to one place and certain times. Or in reducing smoking, we might restrict smoking to when the client is sitting in a particular chair in the basement.

Eliminating cues and narrowing are often combined. For example, in improving study habits an important component is establishing good study areas. If a student sits on the sofa when studying, eating, listening to music, and interacting with friends, then the sofa will cue thoughts, feelings, and behaviour tendencies that may be incompatible with studying. It is preferable to set up an area in which nothing takes place except studying (perhaps a desk in a corner), get out of the area when doing things like daydreaming, and remove from the area stimuli (e.g., pictures, food) that cue behaviours incompatible with studying. Similarly, treatment of insomnia might involve only going to bed when sleepy; leaving the bed when not falling asleep; and not reading, eating, or watching TV when in bed.

Approach 3: A third stimulus control approach involves introducing stimuli that tend to inhibit the undesired behaviour and/or cue behaviours incompatible with the undesired behaviour. A person trying to lose weight might put signs and pictures on the refrigerator door. Or a person who has quit smoking may tell all his friends he has quit. Then the presence of one of his friends may be a stimulus to not smoke.

Because a person's behaviour gets tied into the stimuli and patterns of his daily life, it is often desirable to alter as many of these cues as possible. This *stimulus change* may involve a wide range of things such as rearranging furniture, buying new clothes, painting a wall, eating meals at different times, or joining a new club. Stimulus change is useful in situations such as part of marriage counseling or when a client is ready to significantly alter his life-style.

Similarly, removing a person from his usual life situation until the change program is accomplished is often useful, particularly if coupled with stimulus change of the environment the client returns to.

Stimulus control deals with the antecedent side of operant behaviour; the following sections deal with the consequence side.

1.5.2 Increasing Desirable Behaviours

The most common operant approach consists of reinforcing desirable behaviours. And this should generally be a component of all operant programs, even when the emphasis is on some other approach, such as extinction.

Reinforcement

An important point is that we must identify what actually is reinforcing to the person, not what we expect should be reinforcing to him. A good approach to determine reinforcers is to ask the person what is reinforcing. Similarly, events we may consider not to be reinforcing in fact are. A common example is the teacher who yells at a student as an intended punishment, when really the teacher may be reinforcing the student with attention and/or causing the student to receive social reinforcement from his peers for getting the teacher mad.

Sometimes something will not be reinforcing to the client unless he has had some moderately recent experience with it. Talking on the telephone to a relative may not be reinforcing to a mental patient who has not used the telephone for years. Playing a game may not be reinforcing to an elementary student who is unfamiliar with the game. In these cases, it is often desirable to prime the client

by giving him some free experience with the reinforcer before the operant contingencies are established. This procedure is called *reinforcer sampling* (Ayllon & Azrin, 1968a).

Praise is a common and powerful reinforcer. When appropriately used, it has made dramatic changes in a variety of settings, including elementary classrooms and businesses. Money is another powerful reinforcer already affecting much of our behaviour. Reinforcers for students may include longer recess, opportunity to be the teacher's aide, field trips, dances, or time in a special reward area filled with different things to do. Behaviour modification in business settings and related organisations is also applicable. Potential reinforcers in these settings include recognition and praise, bonuses, equipment and supplies, additional staff, added privileges, participation in decision making, option for overtime, and days and hours off.

A variation of reinforcement is *self-reinforcement,* reinforcement People give themselves. This may be a form of covert verbal reinforcement (e.g., "That was good work.") or a more tangible reinforcer such as buying yourself some treat. Self-reinforcement is often an important part of self control processes in which people reinforce themselves for desired behaviours.

1.5.3 Strategies for Initiating Behaviours

To reinforce desirable behaviour the behaviour must first occur. If a catatonic has not said anything for five years, it would not be an effective approach to wait for him to say something to reinforce his talking. Thus an important part of the operant approach is to use ways to help initiate the behaviours to be reinforced. There are many ways to do this, including shaping, modeling, fading, punishment, and guidance.

Shaping

Shaping, also called *successive approximation,* is the reinforcing of behaviours that gradually approximate the desired behaviour. The key to shaping is the use of successive approximations that are small enough steps so that there is an easy transition from one step to the next. If one is cultivating the ability to meditate for long periods of time, it may not be desirable to start trying to meditate for an hour. An alternative would be to begin at ten minutes and add one minute every other day, gradually shaping meditation for longer periods of time.

Shaping involves starting where the client is; taking small enough steps so the client's behaviour smoothly changes, providing reinforcement and support for the changes, and catching mistakes or problems early because of the small steps. Practitioners often also need to use shaping when trying to change the philosophy or programs of the agency or organisation where they work.

Modeling

Modeling, involves a change in a person's behaviour as a result of observing the behaviour of another person, the model. Thus a way of initiating a behaviour, particularly with a child, is to have the person observe someone doing the desired behaviour and encourage imitation of the behaviour. A client who is learning how to interview for a job may first watch the practitioner model appropriate behaviours in a simulated job interview. Or a teacher who praises one student for good behaviour may find other students imitating this behaviour.

Modeling and shaping combine together well. For example, in *model-reinforcement counseling* the client listens to a tape recording of a counseling interview in which another person is reinforced by a counselor for making a certain class of statements. Then the client is reinforced for making these types of statements. This approach has been used to increase information seeking of high school students engaged in career planning (Krumboltz & Schroeder, 1965) and deliberation and deciding about majors by college students (Wachowiak, 1972).

Fading

Fading involves taking a behaviour that occurs in one situation and getting it to occur in a second situation by gradually changing the first situation into the second. A small child might be relaxed and cooperative at home, but frightened and withdrawn if suddenly put into a strange classroom. This fear can be circumvented if the child is gradually introduced to situations that approximate the classroom. Fading is particularly important when a client learns new behaviours in a restricted environment, such as a clinic, hospital, or half-way house. Taking a person out of such a setting and putting him directly back into his home environment may result in a loss in many of his new behaviours and skills. It is preferable to gradually fade from the therapeutic environment to the home environment. Shaping involves approximations on the response side, while fading involves approximations on the stimulus side.

Punishment

Punishment of one behaviour suppresses that behaviour and results in other behaviours occurring. Perhaps one of these other behaviours is a desirable behaviour that can be reinforced. This is not a particularly efficient or desirable approach in most cases.

Guidance

Guidance consists of physically aiding the person to make some response. Thus as part of contact desensitisation or flooding, the client may be guided to touch a feared object. Guidance may be used to help a client learn a manual skill or help a child who is learning to talk how to form his lips to make specific sounds.

1.5.4 Variables of Reinforcement

Several variables affect the effectiveness of reinforcement. The three most important are amount of reinforcement, delay of reinforcement, and schedule of reinforcement.

Amount of r*einforcement*

This refers to both the quality and quantity of reinforcement. Within limits, and with many exceptions, as the amount of reinforcement is increased, the effect of the reinforcement increases.

Delay of reinforcement

This refers to the amount of time between the person's behaviour and the reinforcement for that behaviour. As a general rule, you get the best results if the reinforcement occurs right after the behaviour. Praising a child for sharing with a friend is generally most effective if the praise occurs right after the sharing

than if it is mentioned later in the day. As the delay of reinforcement increases, the effectiveness of the reinforcement decreases.

Schedule of reinforcement

This refers to the pattern by which reinforcers are related to responses. The primary distinction between schedules of reinforcement is based on whether every correct response is reinforced (continuous reinforcement) or whether only some correct responses are reinforced (intermittent reinforcement). Learning is faster with continuous reinforcement than with intermittent reinforcement, but time to extinction is longer with intermittent reinforcement. Therefore, it is often strategic first to teach the behaviour under continuous reinforcement and then gradually switch to intermittent reinforcement to maintain it.

1.5.5 Facilitating Generalisation and Maintenance

Often an operant program will be established in a specific setting, such as a clinic, hospital, or classroom. Yet we usually want the behaviours and skills supported and acquired in this setting to carry over and be maintained in other settings. The behaviours usually will generalise, to some degree, from our specific setting to other settings; but it is usually desirable to facilitate this carry over.

Fading, discussed earlier, is one way of accomplishing this. Other ways to facilitate generalisation and maintenance of behaviours include the following:

Phase the client off the behaviour change reinforcements onto more “natural” forms of reinforcement.

Thus we start with a specific set of reinforcers and contingencies, as with patients in a hospital or children in a classroom, and gradually switch to the types of reinforcers that should support the behaviours in the everyday environment, as for example the reinforcers such as social approval and self-reinforcement.

A related approach involves gradually exposing the clients to the types of reinforcement contingencies that occur in the natural social environment. This is accomplished by switching from continuous schedules of reinforcement to intermittent schedules and by gradually helping the clients learn to function under long delays of reinforcement.

Finally, we may wish to reprogram the other environments or enlist the help of others to support the newly acquired behaviours. For example, a school counselor and a teacher may set up a program in one classroom that helps a child learn social skills that improve his ability to get along with his peers and experience less conflict in the classroom. To facilitate these skills occurring in settings other than this one classroom, the counselor may talk with the child’s parents and his other teachers about ways to support these new behaviours in various settings.

1.5.6 Criticisms

There are many criticisms against programs that use reinforcement, particularly when used in classrooms. For many critics it seems inappropriate to be reinforcing people for something they should be doing; to some critics, this smacks of bribery.

Another common criticism is that people will come to expect rewards for everything they do and will not work otherwise. This may foster greed or teach the person to be bad in order to be rewarded for being good.

Another criticism is based on the fact that some mixed data exist suggesting that in some situations the use of extrinsic reinforcement may reduce intrinsic motivation (Levine & Fasnacht, 1974). That is, reinforcing people for doing something may reduce their motivation to do it when not being reinforced. If children enjoy playing certain games and then we begin reinforcing them for playing the games, when we remove the reinforcement their interest in the games may be less than it was prior to reinforcement.

1.6 CONTINGENCY CONTRACTING

A variation of operant procedures is *contingency contracting,*

This is a program in which the operant contingencies are well specified and clearly understood by everyone involved. These contingencies, reinforcements and punishments that can be expected for different behaviours, are formalised into a contract which is often written. Sometimes the contract is imposed on people; but often the best approach is to negotiate, as much as possible, with all people involved about the nature of the contract. Thus the role of the behaviour modifier is often consultant and negotiator about contracting.

Contingency contracting is powerful in classroom situations. The teacher sets up a contract, perhaps with the help of the counselor, specifying what is expected of the students, academically and non academically, and what reinforcements they may expect for behaving these ways.

Thus the students may be required to bring specified supplies, abide by a list of well specified classroom rules, and turn in their homework completed to a specified degree.

1.6.1 Reinforcement for Contingency

Reinforcements may include opportunity to spend a certain amount of time in a reward area or opportunity to work on a special project.

Ideally the teacher has negotiated all aspects of the contract with the students and all students fully understand the contract.

Consider the contingencies operative in many classrooms below the college level. To cite an example let us say that teachers have a certain amount of material they wish to cover and work they wish completed. For the students the contingent event for completing some work is more work. Hence the students learn to work well below capacity, the teachers push for more to be done, and a certain amount of antagonism develops between teachers and students. Now with contingency contracting the teacher presents the work that needs to be done and asks the students what reinforcements they would like for completing the work and what sort of classroom rules can be established to facilitate this program. This results in the students and teacher working together to establish a mutually satisfactory contract.

Such an approach generally results in a decrease in behaviour problems, an increase in the students liking the classroom setting, and the students doing the work much faster than would be expected.

Most teachers, particularly with younger children, spend most of their time being policemen.

Contingency contracting provides a behaviour management system that frees the teachers to do more teaching.

1.6.2 Consistency in Contingency Contracting

Consistency is a critical aspect of most behaviour change programs, while inconsistency can generate many problems. If a parent or teacher is consistent in dealing with a child, the child can easily learn what contingencies are operative and feels comfortable understanding how part of the world works. Inconsistency, on the other hand, may produce uncertainty, anxiety, tantrums, psychosomatic illness, learned helplessness, and related problems. Children and others also engage in *rule-testing*, the intentional breaking of a rule to determine if the contingency is in effect. If the system is consistent, there will be some rule-testing. If inconsistent, there will be much rule testing. Although consistency is perhaps most important with children, it is also important with others. For example, inconsistency in a business setting may result in a drop in morale, feelings of favoritism, feeling powerless to control events, and not knowing what to expect.

A major strength of contingency contracting is that it teaches and requires people to be consistent. If one person fulfills his part of the contract, the other person must fulfill his part.

All operant conditioning involves reciprocity, a mutual interchange of contingent events, usually reinforcements. For example, in the classroom the teacher reinforces the students for various accomplishments and in turn is reinforced by these accomplishments. Contingency contracting is a way of establishing a level of reciprocity that is most satisfying for the various people involved. Thus it has proved a useful tool in marriage counseling and families in general.

1.6.3 Token Economies

In some contingency contracting programs the client is reinforced with *tokens* (e.g., poker chips, stars or marks on a chart, punch holes in a special card) that can later be exchanged for a choice of reinforcers.

Contingency contracting programs using tokens are called *token economies.* There are now a large number of such programs in a wide variety of settings. The tokens a person earns by completing his part of the contract are eventually exchanged for a choice of reinforcers from a *reinforcement menu.*

By having a large number of items and privileges on this menu the tokens are reinforcing for most of the people most of the time, even though people will buy different things at different times. This reduces problems of a person satiating on any particular reinforcer or continually trying to determine what is currently reinforcing to any person.

Strength of token systems is that they deal with the issue of delay of reinforcement discussed earlier.

The tokens are often easily dispensed and can be given fairly immediately after the desired behaviour. For example, a teacher may walk around a classroom putting checks on each student's small clipboard for appropriate behaviour and accomplishment. These checks are immediately reinforcing, even though they will not be cashed in until later.

They can also be dispensed without greatly disrupting the student's work.

Token systems are often used in home situations. A child may earn tokens every day, which maintains his behaviour, even though his purchased reinforcement does not come until the weekend. Or the child may use some of his tokens for small daily rewards (e.g., staying up an extra half hour) and save others over a period of time for a larger reward (e.g., a new toy).

1.7 DECREASING UNDESIRED BEHAVIOURS

Operant reinforcement strategies are some of the most powerful behaviour change approaches available. Contingency contracting and token economies are ways of formalising these approaches and thus often making them more effective. Now we turn to operant approaches for decreasing undesired behaviours. But remember that in most situations in which you are decreasing one behaviour, you should be reinforcing and increasing another so that desired behaviours are encouraged and the person continues receiving reinforcement.

1.7.1 Extinction

Establishing a contingency between a behaviour and a contingent event is operant conditioning; terminating this contingency is operant *extinction.* Reinforcing a behaviour increases the probability of that behaviour; withholding the reinforcement decreases the probability. A patient in a mental hospital may learn to emit psychotic talk because it gets him extra attention from the staff and other patients. Not reinforcing this type of talk may cause it to extinguish and thus occur less.

However, a person does not learn a simple behaviour to a stimulus, but rather learns a whole hierarchy of behaviours. The behaviour on the top of the hierarchy is the most probable to occur, the second behaviour the next most probable, and on down. The position on the hierarchy and the distance between items on the hierarchy are functions of how many times the behaviours have been reinforced.

If the top behaviour is extinguished, then the second behaviour will occur. And if this behaviour is considered undesirable, it will have to be extinguished.

Thus the problem with the extinction procedure is that considerable time may be spent going through the entire hierarchy or until a desirable behaviour is reached. For this reason the extinction procedure is generally inefficient unless the hierarchy is small, as with many problems with children. It is generally better to emphasise reinforcing a desired behaviour in place of the undesired behaviour.

Another problem is that it may be difficult or undesirable not to attend to some behaviours, such as destructive or disruptive behaviours. Extinction may also have emotional side effects such as frustration, anger, or confusion. These side effects are minimised if we are simultaneously reinforcing alternative behaviours.

1.7.2 Punishment

The most common approach people use to reduce undesired behaviours, particularly in others, is punishment. This consists in applying a contingent event to a behaviour that results in a decrease in the probability of the behaviour. As mentioned earlier, there are two types of punishment, (i) positive punishment and (ii) and negative punishment.

Positive punishment

Positive punishment is a contingent event whose onset or increase, results in a decrease in the probability of the behaviour it is contingent upon. If each time Raghu starts eating his mother's house plants that she shows disapproval and if this disapproval reduces the probability of Raghu eating the plants in the future, then the disapproval is positive punishment. Disapproval, criticism, pain, and fines are common forms of punishment.

As a behaviour change procedure punishment has many disadvantages and possible bad side effects: Punishing an undesirable behaviour does not necessarily result in desirable behaviours.

Punishing a child in a classroom for throwing things during self work time does not necessarily result in the child shifting to working alone.

Perhaps self work behaviours are not in the child's repertoire.

1.7.3 Reactions to Punishment

Punishment may condition in reactions such as fear, anxiety, or hate to the people who administer the punishment or the situations in which it occurs.

Thus children may fear their parents, students may dislike school, criminals may resent society, and workers may not fully cooperate with their foreman.

Related to this is that the person may learn to escape or avoid these people or situations, resulting in such possibilities as a school phobia or an increase in absenteeism from work.

Attempted punishment of an escape or avoidance response may rather increase the strength of the avoidance.

Punishing a child with a fear of the dark for not going into the basement at night alone may actually increase the fear.

The punished person may spend some time making up excuses and passing the blame to others.

The punishing agents may act as models for aggressive behaviour.

Children may model after their parents and learn to hit people when mad.

Workers may model their supervisors and become overcritical of the errors of their subordinates.

Finally, punished people may become generally less flexible and adaptable in their behaviours.

If punishment is to be used, it needs to be applied immediately after the behaviour and applied consistently. The earlier in the response chain the punishment occurs the better, for then it may stop or disrupt a sequence of undesired behaviours.

Punishment should generally be coupled with extinction and reinforcing of alternative behaviours. If possible the punishment should be viewed, by all people involved, as part of a contractual agreement rather than a personal attack.

Punishment is often used more for its disruptive effects than suppressive effects. As part of a self control program a person may wear a rubber band around his wrist which he snaps on the underside of his wrist to disrupt unwanted thoughts or feelings. Also just wearing the rubber band then acts as a reminder about his behaviour.

1.7.4 Overcorrection

Alternative form of punishment is *overcorrection*. In *positive practice overcorrection* the client is required to practice correct behaviours each time an episode of the undesired behaviours occurs. For instance, a child marking on the wall might be required to copy a set of patterns with pencil and paper. In the case of an autistic or hyperactive child who is pounding objects or himself, he would be told of his inappropriate behaviour which would be stopped. Then the child would be given verbal instructions, and physical guidance if necessary, for the overcorrection behaviour; in this case a few minutes of instruction for putting hands at sides, then over head, then straight out, and so forth.

In *restitutional overcorrection* or *restitution,* clients must correct the results of their misbehaviour to a better than normal state. A child who marks on the wall may be required to erase the marks and wash the entire wall as well. A child who turns over chairs may be required to set up those chairs and straighten up the rest of the furniture. Screaming may require a period of exceptional quiet.

1.7.5 Negative Punishment

Negative punishment is a contingent event whose offset or decrease results in a decrease in the behaviour it is contingent on. This generally consists of taking away something that is reinforcing from a person when he misbehaves. The procedure of negative punishment generally also results in positive punishment and/or extinction. In behaviour modification there are two major forms of negative punishmen and these are:

i) response cost and

ii) time out.

Response cost

This refers to the withdrawal or loss of a reinforcement contingent on a behaviour. This may be the loss or fine of tokens in a token system, such as a fine for the use of the wrong words. Response cost has been used to suppress a variety of behaviours such as smoking, overeating, stuttering, psychotic talk, aggressiveness, and tardiness. Possible advantages of response cost are that it may have fewer aversive side effects than positive punishment and it leaves the person in the learning situation, which time out does not.

Time out (or time out from reinforcement)

This refers to the punishment procedure in which the punishment is a period of time during which reinforcement is not available. For example, time out has been an effective punishment procedure in classrooms. If a child misbehaves, he may be sent to spend ten minutes in a time out area, perhaps a screened off corner in the back of the classroom. For time out to be effective the area the client is removed from must be reinforcing to him.

The classroom should be a reinforcing place and being in time out may result in a period of time in which the student cannot earn tokens.

Also the time out area should not be reinforcing. In a home, sending a child to his room may not be a good time out, as the room may be filled with reinforcers. Usually just a few minutes in time out are sufficient and it often gives the punished person a chance to cool off.

1.7.6 Stimulus Satiation

So far in this unit we have discussed two major ways of reducing undesired behaviours, extinction and punishment.

A third way is to reduce the reinforcing effects of the events supporting the undesired behaviour. Aversive counterconditioning is a way to do this.

A related approach *is stimulus satiation* in which the client is flooded with the reinforcer repeatedly until it loses much or all of its reinforcing effect. A child who keeps playing with matches might be sat down with a large number of matches to strike and light. This would be continued until lighting matches lost their reinforcing effect. It is not known how or why stimulus satiation works, but it seems to contain components of aversive counterconditioning and respondent extinction of reinforcing effects.

Stimulus satiation has been used in the treatment of smoking by dramatically increasing the number of cigarettes smoked and/or the rate of smoking the cigarettes. This stimulus satiation produced a significant reduction in smoking with 60 percent of the subjects abstinent at six months.

1.8 AREAS OF APPLICATION

Behaviour modification procedures have been used in many areas to help people change a vast array of problematic behaviours.

1.8.1 Developmental Disabilities

More behaviour modification research has been conducted in the field of developmental disabilities than perhaps any other area. People with developmental disabilities often have serious behavioural deficits, and behaviour modification has been used to teach a variety of functional skills to overcome these deficits. In addition, people with developmental disabilities may exhibit serious problem behaviours such as self-injurious behaviours, aggressive behaviours, and destructive behaviours. A wealth of research in behaviour modification demonstrates that these behaviours often can be controlled or eliminated with behavioural interventions (Barrett, 1986; VanHouten & Axelrod, 1993). Behaviour modification procedures also are used widely in staff training and staff management in the field of developmental disabilities (Reid, Parsons, & Green, 1989).

1.8.2 Mental Illness

Behaviour modification has been used with patients with chronic mental illness to modify such behaviours as daily living skills, social behaviour, aggressive behaviour, treatment compliance, psychotic behaviours, and work skills. One particularly important contribution of behaviour modification was the

development of a motivational procedure for institutional patients called a *token economy* (Ayllon & Azrin, 1968). Token economies are still widely used in a variety of treatment settings.

1.8.3 Education

Great strides have been made in the field of education because of behaviour modification research. Researchers have analysed student–teacher interactions in the classroom, improved teaching methods, and developed procedures for reducing problem behaviours in the classroom (Becker & Carnine, 1981; Madsen, Becker, & Thomas, 1968). Behaviour modification procedures have also been used in higher education to improve instructional techniques, and thus improve student learning.

1.8.4 Rehabilitation

Rehabilitation is the process of helping people regain normal function after an injury or trauma, such as a head injury from an accident or brain damage from a stroke. Behaviour modification is used in rehabilitation to promote compliance with rehabilitation routines such as physical therapy, to teach new skills that can replace skills lost through the injury or trauma, to decrease problem behaviours, to help manage chronic pain, and to improve memory performance.

1.8.5 Community Psychology

Within community psychology, behavioural interventions are designed to influence the behaviour of large numbers of people in ways that benefit everybody. Some targets of behavioural community interventions include reducing littering, increasing recycling, reducing energy consumption, reducing unsafe driving, reducing illegal drug use, increasing the use of seat belts, decreasing illegal parking in spaces for the disabled, and reducing speeding.

1.8.6 Clinical Psychology

In clinical psychology, psychological principles and procedures are applied to help people with personal problems. Typically, clinical psychology involves individual or group therapy conducted by a psychologist. Behaviour modification in clinical psychology, often called *behaviour therapy,* has been applied to the treatment of a wide range of human problems.

1.8.7 Business, Industry and Human Services

The use of behaviour modification in the field of business, industry, and human services is called *organisational behaviour modification* or *organisational behaviour management*. Behaviour modification procedures have been used to improve work performance and job safety and to decrease tardiness, absenteeism, and accidents on the job. In addition, behaviour modification procedures have been used to improve supervisors' performances. The use of behaviour modification in business and industry has resulted in increased productivity and profits for organisations and increased job satisfaction for workers.

1.8.8 Child Management

Numerous applications of behaviour modification to the management of child behaviour exist. Parents and teachers can learn to use behaviour modification

procedures to help children overcome bedwetting, nail-biting, temper tantrums, noncompliance, aggressive behaviours, bad manners, stuttering, and other common problems.

1.8.9 Sports

Behaviour modification is also used widely in the field of sports psychology and are also used to promote health-related behaviours by increasing healthy lifestyle behaviours (such as exercise and proper nutrition) and decreasing unhealthy behaviours (such as smoking, drinking, and overeating).

1.8.10 Medical Problems

Behaviour modification procedures are also used to promote behaviours that have a positive influence on physical or medical problems—such as decreasing frequency and intensity of headaches, lowering blood pressure, and reducing gastrointestinal disturbances —and to increase compliance with medical regimens. Applying behaviour modification to health-related behaviours is called *behavioural medicine* or *health psychology.*

Self Assessment Questions

Multiple choices:

1) "The consequences of behaviour affect their recurrence" is a basic principle of :
   - Respondent conditioning
   - Wolpian conditioning
   - Hullian conditioning
   - Operant conditioning

2) When using desensitisation with a client, first put the client into
   - a heavy state of relaxation
   - a mild tension-arousing scene
   - an intense tension-arousing scene
   - d a scene in which the client can rationally attack the fear

3) Bill, who has a tremendous fear of public speaking, has to take a literature course that requires an oral presentation. Which of the following should be the last tense scene for desensitisation?
   - Bill preparing for his presentation the night before he has to present it
   - Bill registering for the course
   - Bill finding out the course requirements the first day of class
   - Bill talking to his professor about his fears of making the presentation

4) Which statement concerning punishment is NOT correct?
   - Mild punishment is not as effective as the use of positive rewards.
   - Behaviours learned under punishment conditions extinguish quickly.
   - Punishment has longer lasting effects than positive reinforcement.
   - Punishment may result in unforeseen negative emotional consequences.

5) In the extinction process the
   - client is not permitted to behave
   - client is allowed intermittent reinforcement
   - reinforcement is totally eliminated
   - stimulus satiation is an important factor.

6) Having a client repeat a negative behaviour until it becomes aversive is called
   - stimulus satiation
   - drive satiation
   - response satiation
   - reinforcer satiation

7) Behaviour modification programs work best when
   - the individual is not aware of the consequences of his/her behaviour
   - the behaviour selected for modification occur infrequently
   - there are no baseline data
   - none of the above

8) Which of the following is the best example of punishment through satiation to eliminate an undesirable behaviour?
   - Administering an aversive stimulus whenever the client displays an undesirable behaviour
   - Giving the client an overabundance of whatever he or she wants
   - Withdrawing privileges whenever the client's behaviour becomes excessive
   - Allowing the client to do whatever he or she pleases and rewarding him or her only for desirable behaviour.

1.9 LET US SUM UP

Behaviour modification procedures involve analysing and manipulating current environmental events to change behaviour. A behavioural excess or behavioural deficit may be targeted for change with behaviour modification procedures. Behaviour modification procedures are based on behavioural principles derived from scientific research. B. F. Skinner conducted the early scientific research that laid the foundation for behaviour modification.

Behaviour modification procedures often are implemented by people in everyday life. Behaviour is measured before and after the behaviour modification procedures are applied to document the effectiveness of the procedures. Behaviour modification de-emphasises past events and rejects hypothetical underlying causes of behaviour.

Respondent conditioning is the learning model in which a stimulus situation comes to elicit a relatively new response or increase in response because of association with other stimulus situations. Formally, the conditioned stimulus

(CS) comes to elicit the conditioned response (CR) because of the person learning that the CS is associated with (provides information about) the unconditioned stimulus (UCS), which elicits the unconditioned response (UCR).

Respondent conditioning is sometimes used in behaviour modification to establish or strengthen a response, as in the treatment of enuresis. Undesired respondent behaviour is changed by respondent extinction or counterconditioning, both of which may or may not be done gradually with a hierarchy of intermediate steps.

Emphasis of operant conditioning is on changes in the probability of a behaviour in the presence of specific stimuli as a result of events contingent on the behaviour. A reinforcer increases the probability of a behaviour it is contingent on; a punisher decreases the probability.

The contingent event is usually dependent on the behaviour and occurs because of the behaviour. Procedures to get a behaviour to occur to reinforce it include shaping, modeling, fading, punishment, and guidance. Initial learning is usually best when the reinforcer occurs immediately after every example of the correct behaviour (short delay of reinforcement, continuous schedule of reinforcement).

Extinction is the return of the probability of a behaviour toward its initial value (baseline) after the contingent events have been removed. Use of an intermittent schedule of reinforcement increases resistance to extinction.

Punishment as a change procedure should generally be avoided because of undesirable side effects; but it can be used effectively to disrupt or suppress an undesired behaviour while a desired alternative is being strengthened. Positive punishment procedures include administering an aversive event and overcorrection, while negative punishment includes a withdrawal or loss of a reinforcer (response cost) and a period of time during which reinforcers cannot be acquired (time out).

The reinforcing effects of an event can be reduced by aversive counterconditioning or stimulus satiation. Nervous habits can be reduced by negative practice and habit reversal. Contingency contracting is a formalised operant program in which the contingencies are well specified and usually negotiated.

Behaviour modification procedures have been applied successfully to all aspects of human behaviour, including developmental disabilities; mental illness; education and special education; rehabilitation; community psychology; clinical psychology; business, industry, and human services; child management; prevention; sports psychology and health-related behaviours.

1.10 UNIT END QUESTIONS

1) What is the basic definition of human behaviour?

2) Identify eight defining characteristics of behaviour modification?

3) Briefly describe the contributions of Pavlov, Thorndike, Watson, and Skinner to the development of behaviour modification?

4) Discuss in depth the various operant procedures in behaviour modification?

5) Discuss respondent conditioning?

1.11 SUGGESTED READINGS

Baldwin, John and Janice Baldwin. *Behaviour Principles in Everyday Life*. Upper Saddle River, NJ: Prentice-Hall

Martin, Garry and Joseph Pear. *Behaviour Modification: What It Is and How to Do It*. Upper Saddle River, NJ: Prentice-Hall

1.12 ANSWERS TO SELF ASSESSMENT QUESTIONS

Self Assessment Questions

1) d, 2) a, 3). a, 4) c, 5) C, 6) C, 7) d, 8) b