

B. F. SKINNER

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Skinner has made notable contributions to the theory of personality particularly in the area of personality development. Skinner seems to be critical about the contributions of theory to scientific development. He is not totally anti-theory as some of his critics have labelled him. He sees his own contribution and principles as being derived from precise experimentation. Even though he asked in one of his papers whether Theories of Learning are necessary, (Skinner, 1950), he later showed the need for theory in some areas, hence the discussion of Skinner's theory of personality seems to be in order.

Lifehistory

Skinner was born in 1904 and he was raised in a small town called Susquehanna in Pennsylvania, United States of America. When he was young, he liked building things such as rafts, bows and arrows, model airplanes and motion machine. His undergraduate major was English. He initially had the ambition of becoming a writer. Even though Skinner did not realize his ambition in creative writing, his interest in literature was demonstrated by some of his writing in this area.

His involvement with psychology started at Havard. He received his Ph.D. degree in 1931. Skinner later established himself as an Experimental Psychologist at the University of Minnesota from 1936 to early forties. He was also attached to Indiana University briefly before returning to Havard. Skinner received many awards and honours while some of his publications include the following:

1.	The Behaviour of Organisms	(1938)
2.	Science and Behaviour	(1953)
3.	Verbal Behaviour	(1957)
4.	The Technology of Teaching	(1968)
5.	Contingencies of Reinforcement	(19.69)
6.	Beyond Freedom and Dignity	(1971)
7.	About Behaviourism	(1974)
8.	Particulars of my life	(197.6)

Some of the people who had influence on Skinner, are Ivan Pavlov, Russel, Poincare, Bridgman, Loeb and Crozier. Presently, Skinner is at the University of Pennsylvania, in Philadelphia.

HIS CONCEPT OF HUMAN NATURE

The way a theorist conceives human nature influences how that particular theorist describes the general characteristics of mankind and it also influences the way the theorist explores the innate characteristics of man. From the view of human nature we can deduce the "why and how" of behaviour of man.

Skinner argues that a great deal of behaviour occurs without an observer being able to determine the stimuli that predispose it. Skinnerian system emphasizes the importance of operant behaviour (equivalent of voluntary behaviour) which makes up most of the everyday activity of organisms, animal and human. Skinner sees man as a store of possible actions whose actualized profile is finally controlled by the history of different outcomes that followed close (contiguous) upon each of those actions. The effects of our prior action in the view of Skinner are very significant in our current behavioural postures. Organisms according to him are also greatly influenced by the consequences produced by their own behaviour. The quality of the consequence in turn influences further action. Since the consequence arises in the outer environment, Skinner sees the environment as being very important in most of the changes that occur in the way a person behaves. He has emphasized that all the factors that determine behaviour lies in the environment. He sees a parallel between hereditary and environmental bases of behaviour but has de-emphasized the practical importance of biological variability. To sum it up, a given act is believed to be followed by an experience that is a consequence of the act.

What the individual sees has a consequence that alters behaviour. Skinner also sees that environment is operating on a contingency basis where the individual has the ability to associate his consequences that are experienced. Through built-in (genetic) tendency, consequences are believed to be sorted into "good" or "bad" classes which are generally associated with survival, the "good" classes supporting survival and growth. He argued further that the organism's sensitivity to reinforcement itself has a genetic basis, having evolved because of the survival advantages of being able to learn about important events in the environment.

 $Carpenter (1974) \, summarized \, the \, notions \, held \, by \, Skinner \, on \, behaviour \, as \, follows:$

- 1. There exist a set of systematic and functional relationship between the behaviour of an organism and the environment;
- 2. The discovery of these relationships is necessary before a useful science of behaviour can be developed;
- 3. Psychological data should represent events about which independent observers can agree;
- It is necessary and even misleading to speculate on what is heppening beneath the skin in order to explain behaviour, unless the psychologist is equipped to make the necessary observations to test the truthfulness of his guesses;
- 5. A science of behaviour ought to be developed inductively, by first observing behaviour and then identifying the relationships between patterns of responses and environmental conditions;
- 6. Organisms belonging to different species share some basic similarities, therefore the most generic principles of behaviour apply to all species;

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7. A relevant science of human behaviour generates a technology that is useful for dealing with a wide variety of practical problems;

- 8. The organism is capable of multiple forms of action in most situations as his physical structure allows for a wide range of positive behaviour;
- 9. Overt behaviour of the person has some impact upon the environment, the impact varies with the kind and strength of the response.

Some psychologists are in disagreement with some of the postulates of Skinner on behaviour. Some of these criticisms will be discussed later in this chapter. Nevertheless it must be emphasized at this point that Skinner seems to support the inductive development of the science of behaviour from his conviction that inductive generalizations have a more substantial basis than purely hypothetical postulates. Also, deductive systems that begin with speculative principles in the view of Skinner tend to be cumbersome resulting in loss of attention to available facts.

Sikinner's inference of human behaviour from rats behaviour seems to rest on his conviction that rats and human share certain psychological tendencies just as they share physiological similarities. Skinner's idea of not speculating beneath the skin in order to explain behaviour tends to ignore the growing awareness of the role of the body and mind in understanding and controlling behaviour. Skinner's argument is that in functional analysis of behaviour, there is no necessity to talk about mechanism operating within the organism, as behaviour could be explained and controlled purely by manipulating the environment. Skinner agrees that a person does not always exhibit the same behaviour in the same degree when in constant situation but to him, this variability in behaviour does not necessarily suggest an internal energizing force.

Skinner stressed that behaviour is lawful, that is certain events stand in lawful relations to other events; a sort of orderliness in behaviour. What a man does is the result of specifiable conditions and we can anticipate and to some extent determine an individual's actions, once these conditions have been discovered. Skinner further asserted that an individual's behaviour is a product of, and can be understood purely in terms of the objective world. Thus, behaviour can be studied by considering how it is related to antecedent events. Skinner has also taken some behaviouristic positions regarding the analysis of some psychological terms (from which we can analyze his nature of man) such as self, awareness, will power, self control, freedom and attitude to mention a few.

For instance, the hypothesis on attitudes and attitude change in social psychology is derived in large part from Skinner's behaviouristic analysis of private experience. This line of analysis forms the basis of self-attribution theory, one of the theories of attitude change that a person's attitudes correspond to his self perceptions. Bem (1972) in self perception theory states that:

Individuals come to "know" their own attitudes, emotions and other internal states particularly by inferring them from observations of their own overt behaviour and/or circumstances in which this behaviour occurs.

Skinner's idea of freedom is seen as two forms of action, escape and avoidance. This tendency to escape and avoid noxious conditions is assumed to be built into

the genes, a part of the evolutionary heritage. Thus, when an individual does something to escape a harmful or unpleasant situation, Skinner sees the individual as performing an act of freedom. A person who is ill for instance is likely to take medication to rid-himself of the discomfort. The act of taking the medication is seen her as an effort to free oneself from the discomfort. An individual not satisfied with his salary may look elsewhere for another job. These examples seems to illustrate the escape form of freedom. Avoidance behaviour on the other hand amounts to doing something to prevent contact with an undersirable stimulus. A child when frightened by a bigger elder brother runs to mummy or daddy to avoid being beaten. An individual services his car regularly to avoid a serious breakdown in future. Avoidance behaviour thus serves to maintain freedom while the escape behaviour produces freedom. Skinner is of the opinion that traditional ideas of freedom cannot successfully deal with the problems of today such as population, pollution, threat of nuclear war and crime. He thus suggested a definition of freedom that will be in line with the facts on human behaviour.

THEORETICAL STANCE ON PERSONALITY

Skinner views personality as a collection of behaviour patterns established by the interaction between the person and his environment. Thus personality development from Skinner's perspective is the development of these behaviour patterns. A person is seen to be made of multiple selves. The self which he displays at home, at church or at other social conditions. The self that manifests at any given time, depends on the conditions that surround it. A key concept in Skinnerian psychology is the principle of reinforcement. His position is often called Operant reinforcement theory. According to Skinner, we can predict, control and explain behaviour by seeing how the principle of reinforcement has worked to account for the present day behaviour of an individual as result of the reinforcement of previous responses. He argued further that the terms normally used to describe personality traits have meaning only because they are ultimately reduceable to the description of a range of specific responses that tend to be associated together in a certain type of situation. Thus, to determine if an individual is socially dominant, the Skinnerian principle will:-

- 1) observe the interaction and conversation of the individual with others;
- collect the responses of the individual to specific items in different social situations;
- 3) arrive at an over-all rating of the individual based on his observations.

Skinner's position is most relevant to personality development as his position is more concerned with behavioural change, learning and modification of behaviour. His focus is operant, that is, emitted responses rather than ellicited responses (respondent). Skinner is more concerned with modifiable behaviour with little interest in those characteristics that seem to be relatively enduring. Operant behaviourism of Skinner contains a number of principles and concepts and those relevant to personality development will be highlighted.

Skinnerian principle suggests that any act or chain of acts is established in the repertory of an organism's behaviour only by some form of reinforcement, either

positive or negative. This is to say that any pattern of behaviour that occur frequently must automatically have been reinforced.

Reinforcement: is any procedure which changes operant strength, that is anything that tends to increase the frequency of an act when it follows closely on the act itself.

Reward may be seen as a form of reinforcement.

Skinner maintains that behaviour can be shaped through successive approximations. This is a selective reinforcement of responses approximating final performance with concurrent extinction of others. It is a kind of gradual shaping of behaviour that occurs through reinforcing slight improvements until the desired pattern is achieved. Shaping (successive approximations) can occur gradually by reinforcing small improvements and witholding reward for undersirable digressive behaviour.

When a response is rewarded only in the presence of a key stimulus and is not rewarded when that key stimulus is absent, the organisms learns to perform the response only when that stimulus is present. The key stimulus in Skinnerian psychology is called discriminant stimulus and the process itself is called operant discrimination.

A red traffic light at a junction serves as a discriminant stimulus for applying the brake, the reinforcement is the avoidance of accident.

Another concept in operant reinforcement theory is the occurrence of a reward that is related to how an act is performed, that is differential reinforcement. Differential reinforcement is used to account for the development of special skins such as games like foot ball. Very slight changes in performance spell the difference between reward or no reward at all. Scoring a goal even when a player is faced with an empty net involves kicking the ball appropriately so that the ball is not shot over the bar or outside the goal post. A wrong kick may mean no goal being scored. Skill learning requires considerable practice, the learner needs to master the sequence of responses that produces maximum success.

Findings in the areas of schedules of reinforcement have provided empirical basis for predicting the acquisition and extinction of learned responses. The classification of the types of schedules has made possible generalizations to a wide variety of situations and subjects. When there is a one — to — one relation between the occurrence of a key response and a rewarding result, the schedule is referred to as continuous reinforcement. The schedule of reinforcement may also be intermittent. An intermittent schedule of reward requires a fixed number of responses before reinforcement is delivered. The ratio can be gradually increased until a large amount of work preceeds each reward. Intermittent reinforcement has a variety of forms. When a single reward is given for a fixed number of responses, this is called fixed ratio schedule. The psychological implication of this form of intermittent schedule of reward is that is increases the organism's persistence, the tendency to emit a high rate of response over long periods of time. If pay is contigent on the amount of work done, workers will tend to perform with considerable speed and accuracy, Carpenter (1974).

An intermittent schedule, where reward is given at intervals which are not predictable is called variable ratio schedule. This schedule on the average takes into account a number of responses per reward.

Continuous reinforcement seems to be important in acquisition of new

behaviour. The intermittent schedules are necessary for building response strength. The intermittent schedules ellicit a higher and consistent rate of responding, over a lengthy period of no reward, this brings about much greater response strength compared to continuous reinforcement. Psychologically, response strength is a basic ingredient of such personality traits as perseverance, courage, frustration, tolerance, consistency, honesty, loyalty and trustworthiness.

Intermittent schedules tend to increase frustration tolerance, perseverance and patience and tend to lower impulsiveness.

Let us assume that workers in an institution or an establishment initially draw their salaries on the 30th of every month. The salary if paid consistently the first week of the following month may ellicit a number of behaviours in the workers. They may show loyalty to the establishment and persevere for the additional week introduced without any reduction in job out-put all things being equal. Various frustration levels experienced (if any) could be observed. The courage to persevere or become tolerant may also be observed. Thus the establishment can still count on the consistency of action of the workers in difficult financial periods that may warrant delay in payments. In serious economic situations when workers have not been paid for a couple of months, such workers still come to work because of the faith in the institution or establishment that they will be paid one day. It is not unlikely however that some workers will become frustrated in the process if the interval is too long.

Skinner's contigency of behaviour refers to the environmental conditions that control behaviour. Reward for instance can only occur if an act preceeds it. Thus a contigency of reinforcement is a sequence of events in which some key act is necessary before the reward can be experienced. According to Skinner, contigencies are necessary in making reliable descriptive accounts of human or animal behaviour.

TECHNIQUES OF ENQUIRY

Skinner proposed a formulation of behaviour which arose out of observations of animal performance. He invented the bar-pressing activity of the rat in box usually called the Skinner box where most of his important concepts of behaviour control was examined and revealed. This experimental base was then extended to other animals (pigeons) and humans of all ages. The extention was further carried to varying situations and behaviours. Skinner has propounded a particular analysis of verbal behaviour although criticized by others such as Chomsky. Skinner rejects the psycho dynamic theories of personality which assumes that a person possesses a set of personality traits, motives and basic conflicts that are enduring and persistent over time. (Hilgard and Bower, 1975). According to Skinner, behaviour is to be accounted for in terms of the present stimulus complex and the past training of the person with respect to similar situations. Skinner believes in the intensive study of individual subjects so that undermined influences in experimentation can be eliminated. Inquiry should thus be directed to the control of behaviour in individual subject. The use of large group of animals in an experiment, according to Skinner is an admission of failure. The focus should be on simple behavioural events that can be modified with appropriate environmental manipulation. The

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experiment also has to proceed in an orderly condition. The behaviour to be observed or changed is identified first. A base-line against which changes that will occur as a manipulation of the independent variable is also determined. Progress of change is followed with the manipulation of the appropriate environmental conditions. Others, have also effectively utilized Skinner's principle.

Operant conditioning techniques have also been applied in a mental hospital setting. Ayllon and Azrin (1965, 1968) have used the "token economy" to manipulate in a socially desirable manner the behaviour chronic psychotics judged to be unresponsive to conventional methods of therapy. The procedure utilized is as follows:-

- general response such as feeding oneself satisfactorily or carrying out a work assignment was first identified;
- Token was then presented when the desired response identified earlier was exhibited.

The tokens used included cigarettes, cosmetics, clothing, attending a movie, social interaction and enjoying privacy. They observed that when any of the behaviours, became associated with the conditioned reinforcement (token economy) the response could be maintained at a high rate but the response immediately fell when the reinforcement was removed. Rate of response could however be restored by the restoration of the reinforcement contingency. They therefore concluded that reinforcement procedure was effective in maintaining desired performance.

The token economy has also been used in the school setting. Tokens can be awarded for proper classroom behaviours or to encourage learning. Behaviours such as remaining seated, paying attention, completing assignments can be rewarded with token while answering questions promptly and accurately can in addition be rewarded with praise, smile or clapping of hands which are social reinforcers.

Tokens may later on be exchanged for whatever reinforces a particular child.

Lovas and his colleagues (1966) also employed operant principles to teach language to autistic children. His approach was based on the concepts of shaping, reinforcement, generalization and discrimination. Lovas employed punishment to eliminate self manipulative behaviours while extinction procedures were utilized to eliminate other undersirable but less dangerous behaviours. The procedure utilized in the approach is as follows:-

- 1) The child is rewarded with tangible token for any vocalization;
- 2) The vocalizations were then shaped into a word e.g. desk;
- 3) After the child has learnt several words by this method, discrimination training is then employed to teach the child to produce each word (desk box etc) in the presence of the appropriate stimulus object;
- 4) The child is then taught by different teachers in order to promote the generalization of language habits to other individuals.

Another area where operant reinforcement technique has been utilized is in the training of animals for entertainment purposes and scientific goals. The technique has been utilized to assess the effects of drugs on behaviour while it has also been extensively applied in education through the development of teaching machines and programmed learning materials.

COMMENTARY AND THE RELEVANCE OF SKINNER'S THEORY FOR THE NIGERIAN SOCIETY

One of the criticisms against Skinner is that his study of behaviour is too simplistic to represent the full complexity of human behaviour. His approach, searches for simple elements of behaviour with the conviction that the whole is no more than the sum of its parts. Skinner assumes that many response elements are built into larger units and complexity develops from simultaneous operation of many variables. Since Skinner can only base his expectations of future behaviour on the laws of behaviour that already have been formulated, Hall and Lindzey (1975) remarked that Skinner is likely to have difficulty in predicting behaviour that occurs in situations involving combination of novel stimuli or new configuration of familiar stimuli.

Skinner is sometimes labelled as anti-theory, or that he has little appreciation for the nature and role of theory in the building of science. Skinner however pointed to his critics that parts of his book the behaviour of organisms (1938) were theoretical in a sense, as were six published papers, in the last of which he insisted that:

....... "whether particular experimental psychologists like it or not experimental psychology is properly and inevitably committed to the construction of a theory of behaviour.

A theory is essential to the scientific understanding of behaviour as a subject matter."

Subsequently, I was to discuss such a theory in three other papers and in substantial parts of science and human Behaviour and Verbal Behaviour (Skinner, 1969, VII — VIII).

Skinner's position on the acquisition of Verbal behaviour was also criticized. Skinner asserted that speech sounds are emitted and reinforced as are any other bits of behaviour. A child's utterance of milk' is reinforced when the parent complies and provides requested item. Skinner further argued that children's relatively unpattered vocalizations which have been selectively reinforced, gradually assume from that produce appropriate consequences (Skinner 1957).

Noam Chomsky (1959) remarked that if we are to learn language by Skinner's rule we may spend a life time at it and yet not learn its nearest rudiments. Chomsky is of the view that human organism is biologically "programmed" to generate language. The fact that all children literally invent a working set of grammatical rules show according to Chomsky that, such skills are not learned but are generated by processes that are maturational or nativistic.

Since most of the early work of Skinner was carried out on pigeon and rat and the derived principles have been generalized to human, this assumes that every animal of each species including humans can by appropriate control be induced to produce any behaviour pattern. Some psychologists on the other hand believe that there are some behaviour that do not fit into the stimulus — response reinforcement pattern. The belief is that behaviour is more complex than the Skinner box is making one to believe.

Despite the criticisms levied against Skinner's views and principles, the application of his theory in animal training, classrooms, and mental settings is a pointer to the relevance of his principles to different settings.

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Skinner's principle is not only utilized in the Nigeria school setting, it is being applied in the various aspects of social change now going on in the country. Some of the radio Jingles such as "Do not bribe your child to go on an errand", is a warning against the mis-application of reinforcement. Reinforcement follows an act, it does not predeed it. One should always be aware of various reinforcers that are available both tangible and intangible.

The Skinnerian strategy in social change can be carried out as follows:-

- 1) Identify a particular problem to be solved or a particular change which you envisage.
- 2) Breakdown the steps to accomplish the change beginning with those tasks that can easily be achieved.
- 3) Mount an effective broadcast of the doctrine or the desired change envisaged at each level.
- 4) Apply reinforcement to appropriate tasks towards the goal envisaged.
- 5) Proceed to other steps when the initial ones are accomplished.

The War Against Indiscipline being fought in Nigeria at present seems to employ the Skinnerian approach of social change.

Indiscipline has been recognised as the course of many problems and social vices in the country, hence it was identified as an issue to be tackled. One important step in the Skinnerian approach is to set up priorities and to determine a chain of problems in a proper order as to yield the greatest effect early in the application phase. Since it is most effective to begin with a significant problem that could be handled quickly followed by a second success and so on, the War Against Indiscipline has been divided into several phases.

- Phase I, was to bring order into our daily life,
- Phase II, was geared towards positive attitude to work
- Phase III, was to arouse patriotic and nationalistic feelings and sentiments among Nigerians while
- Phase IV, which we are now operating is aimed at fighting corruption and economic saboteurs.

After breaking down the problem into a sort of hierarchy, there must be a change in the way people perceive broadcast must be mounted towards the desired change. The various slots on our television sets suggesting to people to be orderly, to show positive atitude to work, to show patriotism and to avoid corruptions are efforts to change the perception of people.

It is equally important that some procedures are set in motion to show that the new perspectives (i.e. orderliness, positive attitude to work, nationalistic feelings avoidance of corruption) support a technique that produces more rewarding results than the previous system. Since changes occur as a results of changed perspectives, supported by reinforcing methods, people have been recognized and rewarded for displaying traits such as honesty in the society.

In the Skinnerian pattern there is no room for deception and secret manipulation that will make people do things realized as good without their knowledge or consent, but rather the whole plan is brought into the open, people are persuaded that the course is a worthy one and the success is exhibited publicly, (Carpenter 1974).

Even-though threats and punishment can shape patterns of behaviour, the Skinnerian approach favours the use of reinforcement to accomplish the steps identified to reach the goal of social change. More reinforcement approach can also be employed with the Nigerian society to achieve the change, in the War Against Indiscipline being fought. That is, awards to and recognitions of people promoting each phase of W A I will be given prominence if we are to follow the Skinnerian approach.

QUIZES

- 1. What do you understand by the word human nature?
 Enumerate 5 concepts of Skinner with reference to human nature.
- 2. Discuss the position of Skinner in reference to:
 - (a) What constitutes personality
 - (b) How personality develops
- What are the procedures to adopt according to Skinner in the investigation of behaviour?

Distinguish between the following terminologies

- (a) Operant and respondent behaviours;
- (b) Positive and negative reinforcement;
- (c) Tangible and intangible reinforcers;
- (d) Negative reinforcement and punishment;
- (e) Continuous and intermittent reinforcement.
- 4. What are the criticisms usually levied against Skinnerian principles?

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