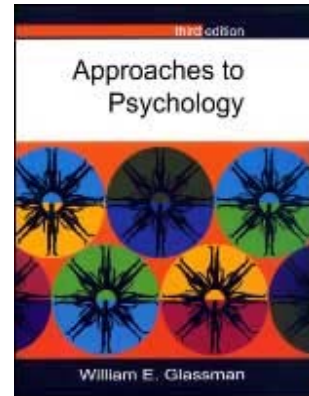


THE BEHAVIOURIST APPROACH



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The Origins of Behaviourism

Behaviourism traces its roots to the early part of the 20th century, a time when many psychologists emphasised self-analysis of mental processes (**introspection**) or the **psychoanalytic theory** of Sigmund Freud. In contrast, researchers like Ivan Pavlov and John B. Watson began to develop a framework which emphasised observable processes (environmental **stimuli** and behavioural **responses**). The result was a new approach, behaviourism, which grew in popularity for some fifty years, becoming the dominant framework for experimental research. While its restrictions (including ignoring mental processes) ultimately led many psychologists to turn to other approaches, it is nonetheless still influential today.

Resources

[An Historical Outline of Behaviourism](#)

An illustrated essay by R. W. Kentridge of Lehrstuhl für Genetik und Neurobiologie, Würzburg, Germany.

[Behaviorism: The Early Years](#)

An historical overview by Robert Wozniak of Bryn Mawr College.

[Classic Readings on Behaviourism](#)

Classic articles, from the Internet archive developed by Christopher D. Green, York University, Canada.

Classical Conditioning

Pavlov's classic experiment, in which a dog was trained to salivate at the ringing of a bell, is so well known that cartoonists have frequently used it in humour intended for general audiences. Yet classical conditioning is easily underestimated by those who haven't considered it closely. For example, classical conditioning plays a role in why our stomachs rumble when we skip lunch, and why familiar medicines can change in effectiveness with repeated usage. The following sources can help you gain a deeper understanding of this deceptively complex process.

Resources

[Biography of Pavlov](#)

Official biography from the Nobel Prize site. (Pavlov won the prize in Physiology/Medicine in 1904.)

[History of Classical Conditioning](#)

A brief introduction to classical conditioning, with examples, by Steve Booth-Butterfield, West Virginia University.

[Simulation of Classical Conditioning](#)

Animation of process of classical conditioning, using example of Pavlov's dog, by Professor John Hay of the University of Wisconsin at Milwaukee.

[Pavlov's Dog](#)

Another, simpler, simulation of classical conditioning; from the Nobel Prize site.

Operant Conditioning

A classic cartoon shows two rats in a "Skinner box", a cage with a lever connected to a food dispenser. While a researcher looms overhead, clipboard in hand, one rat comments to the other, "Boy, have I got this guy trained: every time I press the lever, he gives me a piece of cheese!"

Of course, operant researchers would reject this description, and also the notion that mental processes have any role in understanding behaviour. Instead, operant theory draws on the seemingly simple notion that we respond to the consequences of our actions, and that voluntary behaviour can be understood in terms of its prior consequences (**history of reinforcement**). Like the basic principles of classical conditioning, this fundamental framework can be applied in a wide variety of situations, from a misbehaving child to the efficiency of workers in a shipping company. The

following resources will help you to explore operant principles in more detail. (Something to think about as you browse: why do you surf the Web? Does what you encounter **reinforce** you to continue browsing?)

Resources

Operant Conditioning

A set of lecture notes on basic concepts in operant conditioning, along with some illustrations. Developed by Dr. Bob Kentridge, Durham University, UK.

Positive Reinforcement: A Self-Instructional Exercise

An exercise in which the concept of positive reinforcement is defined and illustrated in six example / non-example pairs. Developed by Dr. Lyle Grant at Athabasca University, Alberta. The examples stress that the same behaviour (such as smiling) can serve as a positive reinforcer in some situations but not in others.

Operant Conditioning in Skinner's Own Words

One-minute Real Audio clip, from 1986 APA address; from Society for Experimental Analysis of Behaviour.

Operant Principles in Animal Training

Multi-page site describing how behaviourist principles are used to train sea mammals at Sea World.

The B. F. Skinner Foundation

Web site for charitable foundation created by Skinner; includes background material, along with some publications and an example of programmed instruction.

Applying the Concepts: Using Self-Modification to Change Behaviour

The theories and research of the Behaviourist Approach gave rise to therapies designed to change behaviour by using learning principles. Many of these therapies have been remarkably successful for several people who have specific behaviours or habits that they want to alter. Research has found that once you understand the principles of learning, you may even be able to modify your own behaviour. Here's how it's done:

STEP ONE: IDENTIFY A PROBLEM BEHAVIOUR

The first step in habit change is to identify a behaviour that you wish to alter. Decide on the one most important problem which you would like to change. Now check to see that

your problem is specific. If you are having trouble stating your problem in this form, you might try making a list of concrete examples. So, rather than saying, "I procrastinate", try rephrasing it as "I put off studying for a test until the day before". Rather than saying, "I'm physically out of shape", try restating the problem as "I avoid going to the gym" or "I drive my car instead of walking two blocks." If the problem you selected is too general, look for a more concrete form to describe it.

STEP TWO: SELECT SPECIFIC TARGET BEHAVIOURS

Now that you have identified a specific problem which you would like to address, the next step is to state the goal. Like the problem, the target behaviour should also be specific. Decide on what behaviours you would have to change in order for you to attain your goal. For example, if your goal is to lose 10 pounds, the behaviours you may need to employ to reach this goal are exercising more and eating less or different foods. In addition to being specific, the target behaviour should also be realistic. Thus, if you haven't exercised much and your goal is to do 100 sit-ups per day, it is probably unrealistic (and unhealthy!) to set a goal of being able to do that many sit-ups by the third week of the programme. If your goal is to stop procrastinating and study more consistently, you may be tempted to aim immediately for 8 hours of studying, 7 days a week. But this schedule may be such a drastic change from your present behaviour that you may risk burning yourself out within a few days, and then dropping the whole programme because you feel that you have "failed". It's important to ensure that you do not set yourself up for a failure by making the goal too strenuous at the beginning of the programme. So check to make sure that your target behaviour and the time-frame to achieve it are realistic. If they are not, try breaking your goal into smaller steps – the steps can never be too small, but they can be too big.

STEP THREE: COLLECTING BASELINE DATA

Often, although we have identified a problem behaviour, we aren't really aware of how often we do it or if it is more likely to occur in some circumstances than others. This type of information is called baseline data. For example, if your problem behaviour is smoking, are you aware of how many cigarettes you smoke each day or if you smoke more at certain times or places or with certain people? In order to effectively change behaviour, we need to be cognisant of what we are doing now. For a week or two before you begin a behaviour change plan, keep track of the occurrence, the antecedents and the consequences of your behaviour. For example, "Monday afternoon, felt anxious about a test, smoked two cigarettes, felt more relaxed. Monday evening, had a drink with a friend, smoked three cigarettes, felt relaxed", etc. In this example, we might conclude that feeling tense and drinking with a friend are stimuli that cue smoking behaviour (i.e. discriminative stimuli), and the behaviour is reinforced by a feeling of relaxation. In some cases, we alter our behaviour simply by being aware of it. Thus, you may stop your nail biting habit while collecting baseline data just because you have become conscious of this habit. If you achieve your change in this way, keep collecting the data to make sure that you don't revert to the old behaviour.

STEP FOUR: PLAN YOUR PROGRAMME

When you have collected sufficient baseline data to identify the discriminative and consequent stimuli, the next step is to plan your programme. To be maximally effective, your programme should do the following:

1. Control discriminative stimuli. This might be accomplished by eliminating, avoiding, or reducing the incidence of these stimuli. For example, if you bite your nails every time you watch television, you might want to avoid watching television for a while.
2. Develop small, realistic steps for accomplishing your goal. You should already have done this in Step Two.
3. Provide a schedule of frequent reinforcement. Your programme should emphasise positive reinforcement and minimise punishment. A structured way to do this is to create a contract in which you specify what reinforcer(s) you will receive for particular accomplishments. So for the first week of a smoking reduction programme, the contract may read "For each day I smoke 25 or fewer cigarettes, I will allow myself 60 minutes of TV watching. If I smoke 26-30 cigarettes, I will allow myself 30 minutes of TV. If I smoke more than 30 cigarettes, I will not watch any TV but will spend the evening studying. Further, if at the end of the week I have smoked 25 or fewer cigarettes on at least 5 days, I will have dinner at a restaurant of my choice." Notice that the contract includes both short-term and long-term rewards,
4. Consider using imagery of being successful at achieving your goal. If the problem involves a skill deficit, imagine the situation in which you wish to improve your skills and mentally practice how you can and will be effective in that setting. So, if you twirl your hair compulsively in social situations, mentally rehearse social situations: plan what you will say, how you will hold your hands, etc. until you feel comfortable, and visualise yourself using your hands to gesture gently, but staying away from your hair.
5. If social skills are a part of your goal, seek models who are more proficient with the target behaviour. Remember not to use a model whose skill level is significantly above yours. The best models are similar to ourselves and a couple of skill levels better on the target behaviour.

STEP FIVE: CARRYING OUT THE PROGRAMME

Now that you have collected baseline data and all the planning has been accomplished, it is time to execute your programme. As you carry out your programme, you may find that you have to make some adjustments. You may have identified new discriminative stimuli, found that the steps you have outlined are unrealistic, or realised that the reinforcers you have selected are not sufficient or are not delivered with enough frequency to change the undesirable behaviour. However, give your programme some time to work- at least a week or two. The behaviour you wish to change has probably been around for some time; don't expect it to disappear overnight.

STEP SIX: TERMINATING YOUR PROGRAMME

At last you have accomplished your goal. Now you only need to do one more thing – develop a plan for ending your programme. Since you have likely modified your behaviour through planned rather than natural consequences, you need to phase out the planned consequences. A good approach is to gradually move from continuous

reinforcement to partial reinforcement since this lessens the probability of extinction of your new behaviour. There are several ways to accomplish this. One interesting and effective way is for each day that you accomplish your goal behaviour, pick a card from a deck of playing cards. If the card is 8 or above, give yourself the designated reinforcer; if the card is 7 or below, do not reinforce yourself. In this way you are rewarded on the average of about every two times you accomplish your goal. Then change the system to a reward only if the card is a Jack or above, then Queen or above, etc. Make these changes slowly – again, the steps cannot be too small, but they can be too big. You're done! Congratulations!

Reference

Martin, G. L., & Pear, J. (2002). *Behavior Modification: What It Is and How to Do It*, 7th ed. New York: Prentice-Hall.

Online Journals and Resources Related to Behaviourism

Journal of Applied Behavior Analysis

Online archive of selected articles from the *Journal of Applied Behavioural Analysis*, one of the major journals devoted to behaviourist research.

Journal of Experimental Analysis of Behavior

Online archive of selected articles from the *Journal of Experimental Analysis of Behavior*, one of the major journals devoted to behaviourist research.

Behaviourism Web Links

An annotated alphabetical list of sites related to behaviourism.

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