



**Mini Review**

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# Classical Conditioning: Aversion Therapy



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## Mini Review

Aversive therapy has been used widely as one of the most effective ways of rehabilitating people who have been enslaved by addictive bad habits like gambling and alcohol. Classifying these habits is relative, but in the context of this paper, the habits are presented as ones that the patients want to 'recover' from, having tried all other rehabilitation means to no avail. Classical conditioning is a process of conditioning the body that is derived from the interaction of the natural stimulus that is in the body with the external or environmental stimulus. Through classical conditioning, the body is trained to respond in a particular specific way, and with time, this form of reaction gets so embedded into an individual that it will produce identical response whenever that stimulus is activated Geiser R [1].

This theory was first advanced by classical behaviorist Ivan Pavlov whose main focus of study was in classical conditioning in dogs and how repeated stimulus does affect the central nervous system consequently resulting in a new behavior altogether. In Pavlov's case, he used to ring a bell before feeding his dogs, and this went on up to a time whereby the sound of a bell was enough for his dogs to start salivating. In the first cases, the dogs did not salivate on hearing the bell since they have not associated the bell with food. They could only salivate on seeing the food. With time, they began associating the sound of a bell with food and that is why theory is otherwise referred to as "learning by association". To clearly understand how classical conditioning affects someone's behavior and get to know exactly how it works.

Classical conditioning is attained when one's reflex actions are conditioned by a particular stimulus over a period of time up to a point that the response becomes very predictable and just happens spontaneously within the individual Geoffrey L & Sheryl L [2]. Take the example of a child, he/she will have a conditioned response whereby the child will just act in a particular way (conditioned stimulus) whenever an unconditioned stimulus like opening the fridge gets associated with food and the result will be that there will be an unconditioned response that will be in the form of salivation.

In this theory of classical conditioning, it is similar to operant conditioning whereby the subsequent behavior of a person is dependent on the response to a stimulus and the effect of if the behavior continues or not depends on the response that comes out of the response Plaud J & Eifert G [3]. Just like a child will salivate at the opening of a fridge, a parent who is fond of spanking their children makes them develop fear just at the sight of them or whenever the doorbell is rang. It should however be noted that one can acquire new behavior even in adult age depending on their levels of response to the external stimuli; the only difference is that child is easy to learn since these are their first behaviors in life.

In humans, conditioning behavior is very common, and it has its effects in the cognition of the things that happen in everyday life and if they keep happening on and again, the body adjusts and learns to respond even without the owner's knowledge. A person who has been robbed at a particular time severely learns to fear such time every day and will always try to be at home at dusk if all the experiences happened at that time. Whenever we hear Christmas carols over the radio, a merry making mood unconsciously engulfs the listener even when the person didn't know that it is Christmas time. Through the application of classical conditioning, just the very simple things that happen in day-to-day life without necessarily presenting the precise favorite for the child shape child development. In behavior training, trainers mostly use this theory in reducing fear among the trainers not by introducing the negative stimulus. The opposite can be true if the response that has been associated with an event turns out to be negative consistently.

In the context of this paper, aversive therapy is a form of therapy that uses a stimulus that is aversive/repellent to the body while at the same time presenting an undesirable behavior with the aim of ending that bad behavior Rachman S & Teasdale J [4]. Through the use of this technique, the therapist will create an uncomfortable environment upon a patient while bringing out the bad behavior that the patient intends to get away from. There will be some form of association between the current discomfort on

the patient and the unwanted behavior and the aim of this therapy is to condition the mind to associate this discomfort with the bad habit. It is actually based on creating the 'right circumstance' to reverse the bad habit through discomfort Cardwell M & Flanagan C [5].

Subsequent administration of this therapy tends to make the patient reduce the frequency of that behavior and eventually quits it since the mind all the time will associate pain with the behavior. There are various ways through which the therapists will administer this therapy and mostly they use mild electric shock or use an emetic - this is a substance mostly used on those with alcohol problems to induce vomiting on the patients. In the case of using electric shock, the patient is first checked to ensure that the health status is within the required levels. Someone with some other illnesses wouldn't be a suitable candidate for this therapy since it can trigger other illnesses and make it just worse. Besides the medical condition of the patient, the therapy has had good share of criticism with some saying that it uses an inhuman approach in treating humans and that it should not be recommended.

This is because it does not rely so much on the human intellect like counseling to convince someone to drop a particular bad habit, rather it tries to forcefully condition the mind to train and drop the habit through introduction of an aversive stimulus Eysenck M [6]. It has very high dropout rates for patients as the experiences are not very pleasant and only those who have had really strong will have successfully undergone this therapy. It has the highest rates of dropout. Before it is administered, the patient has to sign an agreement based on the information and certify that he/she has read and fully understood what it is all about. While administering electric shock on a patient, the patient is asked to choose what level of shock he feels is sufficiently unpleasant so as to create the right environment for introducing the unwanted habit. This can be in the form of a video being played of people taking beer or gambling which in this case represents the habit to be dropped.

To administer the shock, there is a small electrical device that is powered by batteries whose electrodes are attached round the wrist of the patient then it is switched on. As the patient feels this discomfort of the shock, the therapist will play PowerPoint slides of people gambling or images of the accessories that are used in gambling. It should be noted that the images that are to be shown at this time are the ones which have been chosen by the patient as he/she believes that they are the ones which will have a lot of impact on the mind and it will be able to connect with them much faster than any other images. It has to be done in a way that the patient is enabled to create the connection and also it should be ensured that the discomfort caused by the electric shock is not too much to an extent that the patient loses focus.

The first rounds of therapy are introduced at the doctor's premises so that the patient can get to understand how it works and also be able to get the rationale behind the whole process

Andrew C [7]. Afterwards, the patient takes home the electric device to administer same therapy at home, at this time; the frequency is slowly and slowly reduced. The first week can involve daily sessions, and then afterwards they reduce to skipping like two days. With time, the sessions become like once a week, month, and eventually the patient stops the habit altogether. There is a similar therapy for alcoholism, and this is especially effective if the patient has had a series of other rehabilitation efforts that have not been successful. As mentioned above, this involves use of an emetic, which causes temporary sickness on the patient, and the patient begins to vomit. The administration of this starts like the one of electric shock by the patient having to undergo medical examination to determine if he/she is fit for the therapy.

Again, this needs close attention therefore the patient may be 'hospitalized' for some time like a week for observation. In this therapy, a small dose of an emetic is given to the patient, then after a short while, uncontrolled vomiting starts. It is at this time that the therapist will give the patient a shot of the alcohol in question, advising the patient not to swallow so that the taste can be registered in the mind Vondracek F & Corneal S [8]. It should be noted that the use of an emetic as in this therapy should be complimented with other forms of therapy like counseling now that the mind has begun to associate alcohol with vomiting.

After successive administration of this therapy, the patient will begin to lose interest in alcohol, and there are very high chances that in the first days, even the sight of alcohol will induce vomiting even after the therapy. Aversive therapy does not end with the discharge of the patient or the time when the patient stops the self-administration of the electric shock at home. There is a follow up process whereby the patient, even after stopping the bad habit is required to keep a log of their habits and the therapist should be able to interpret this log periodically so as to detect any signs of the patient relapsing to the old habits Benjamin S & Kaplan [9]. It is very easy to go back to an old habit, and every effort should be put in ensuring that the patient is fully conditioned as this will involve a change in lifestyle, thinking, perception, and all these are related to classic conditioning.

The reason for me writing this paper on this particular subject was to shed some light on the possibility of using aversive therapy to treat Bruxism and Temporomandibular Joint Disorders (TMD). Bruxism is basically the grinding of the teeth and this is usually accompanied by the clenching of the jaw which in turn causes TMD. It is an oral parafunctional process that occurs in most people during the course of their lives. In the majority of cases, bruxism is moderate enough not to be a health issue; however, 25% of humans suffer from significant bruxism that will turn into a symptom. While bruxism may be a day or night time activity, it is nocturnal bruxism which implicates the majority of health problems. Bruxism is a very common type of sleep disorder; and it affects 10-50% of the population depending on the particular study sited SaveYourSmile.com [10].

There have been successful applications in the use of aversion therapy to treat Alcoholism and electric shock therapy to forcefully conduce the mind to condition a response, which in this case would be to use of a mild electric shock therapy device placed inside the mouth in the form of an oral molded brace to treat bruxism. It is evident from the above examples that the therapy of classic conditioning is mainly about embedding a concept in the mind and doing repeatedly up to a time that the mind begins to create a relationship between the aversive stimulus with the undesired behavior and begins to do less and less of the bad habit. Just like in the case of Pavlov's dogs, the mind will always associate the behavior with the aversive stimulus one went through and it always remains an unpleasant memory to remember, Garfird L & Bergin E [11]. It is at this point that one is conditioned to desist from a particular bad behavior and it just happens without knowledge. Reversing a classically conditioned mind is not easy since besides the memories that the patient remains with after the therapy, the resultant outcome; like vomiting whenever one sees alcohol or in the example of mildly shocking one's jaw would remain the major force that acts as a deterrent to that behavior [12-13].

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