

## Cognitive-Behavioral Therapy Boundless

### *Cognitive Therapy*

Cognitive therapy seeks to help a client overcome difficulties by identifying and changing dysfunctional thought patterns.



1.

fig. 1 shows a group cognitive therapy session

Clinicians use therapy sessions to help clients address and change their negative cognitive biases.

- Cognitive therapy (CT) is one of the therapeutic approaches within the larger group of cognitive behavioral therapies (CBT) and was first expounded by Aaron T. Beck in the 1960s.
- Cognitive-based therapies have gained increasing use in the past several decades, beginning with the cognitive revolution in 1956.
- CT is a psychotherapy quite distinct from other mainstream forms such as psychoanalytic or behavioral psychotherapy: rather than focusing on motivations or instincts, it is based on an information-processing model of human behavior and psychopathology.
- Cognitive distortions, or exaggerated and irrational thoughts, were believed to perpetuate psychological disorders. The process of learning to refute these distortions is called cognitive restructuring.
- Cognitive therapy may consist of testing a client's assumptions and identifying how client's unquestioned thoughts are distorted, unrealistic and unhelpful. Once these thoughts have been challenged, the client's feelings about the subject matter of those thoughts can be more readily changed.
- **Cognition:** Any element of knowledge including attitude, emotion, belief, or behavior.
- **Schema:** A person's worldview; an outline or image universally applicable to a general conception, under which it is likely to be presented to the mind

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- **Cognitive Distortion:** Exaggerated and irrational thoughts, believed to perpetuate psychological disorders.

## EXAMPLES

- An example of how CT works is this: having made a mistake at work, a man may believe, "I'm useless and can't do anything right." Strongly believing this tends to worsen his mood, and he may react by avoiding activities out of fear of failure, which reinforces the original belief of being "useless." Therapy would address the negative and distorted thought patterns and help the client to develop more flexible ways to think and respond to similar situations. If the patient escapes the negative thought patterns and dysfunctional behaviors, the negative feelings may be relieved over time.

Cognitive therapy (CT) is a type of psychotherapy developed by American psychiatrist **Aaron T. Beck**. CT is one of the therapeutic approaches within the larger group of *cognitive behavioral therapies* (CBT) and was first expounded by Beck in the 1960s. In the 1950s scientific interest returned to attention, memory, images, language processing, thinking and consciousness. The "failure" of Behaviourism heralded a new period in the investigation of cognition, known as the Cognitive Revolution. This was characterized by a revival of already existing theories and the rise of new ideas such as various communication theories. These theories emerged mainly from the previously created information theory, giving rise to experiments in signal detection and attention in order to form a theoretical and practical understanding of communication. Cognitive therapy seeks to help the patient overcome difficulties by identifying and changing dysfunctional thinking, behavior, and emotional responses. This involves helping patients develop skills for modifying beliefs, identifying distorted thinking, relating to others in different ways, and changing behaviors. CT is a psychotherapy quite distinct from other mainstream forms such as psychoanalytic or behavioral psychotherapy: rather than focusing on motivations or instincts, it is based on an information-processing model of human behavior and psychopathology. Common features of cognitive therapies include:

1. A collaborative relationship between therapist and patient
2. An emphasis on disturbances in cognitive processes as the key factor in psychological distress
3. A belief that one's own cognitive activity can be accessed, monitored and reported
4. A belief that cognition affects behavior, and that behavior can be therapeutically changed through efforts to change cognition
5. A time-limited, problem focused, psycho-educationally based format that is adapted according to the specifics of distinct disorders (Dobson & Block, 1988).

Beck initially focused on depression and developed a list of "errors" in thinking that he proposed could maintain depression. These *cognitive distortions*, or exaggerated and irrational thoughts, were believed to perpetuate psychological disorders, and included such distortions as *arbitrary inference*, *selective abstraction*, *over-generalization*, *magnification* (of negative thoughts or

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ideas) and *minimization* (of positive thoughts or ideas). Over the years, this list has been expanded by **David Burns** in 1989 to include *all-or-nothing thinking*, *overgeneralization*, *jumping to conclusions*, *should statements*, and *personalization*, among others. *Rumination* is another maladaptive cognitive process in which a person responds to stress by repetitively and passively focusing on the element of distress, its symptoms, its possible causes and/or its consequences.

According to Beck's theory of the etiology of depression, depressed people acquire a negative schema of the world in childhood and adolescence through events such as a loss of a parent, rejection by peers, criticism from teachers or parents, or the depressive attitude of a parent. When the person with such schemas encounters a situation that resembles in some way, even remotely, the conditions in which the original schema was learned, the negative schemas of the person are activated. Beck also included a **negative triad** in his theory. A negative triad is made up of the negative schemas and cognitive biases of the person. A cognitive bias is a view of the world. Depressed people, according to this theory, have views such as "I never do a good job." A negative schema helps give rise to the cognitive bias, and the cognitive bias helps fuel the negative schema. This is the negative triad.

The process of Beck's cognitive therapy can be viewed in hierarchical terms. First, therapy sessions initially focus on the observable behaviors and symptoms that brought the client to treatment. Later sessions then examine the client's *automatic thoughts*, or thoughts that are conscious or pre-conscious and tend to be "thought" rather automatically and unintentionally, and the cognitive processes underlying these automatic thoughts. Finally therapeutic work will focus on identifying and restructuring the *core belief systems* that shape the client's worldview. Therapy may consist of testing a client's assumptions and identifying how client's unquestioned thoughts are distorted, unrealistic and unhelpful. Once these thoughts have been challenged, the client's feelings about the subject matter of those thoughts can be more readily changed. Eliminating negative thoughts and distortions is believed to improve mood and relieve psychological disorders such as depression and anxiety. The process of learning to refute these distortions is called *cognitive restructuring*. Treatment is based on collaboration between patient and therapist, with the aims of changing the client's habitual ways of processing types of information, reducing the client's general bias towards particular thoughts and interpretations, and reevaluating the client's core beliefs regarding the self, the future, and the world.

## ***Examining Beck's Cognitive Therapy for Depression***

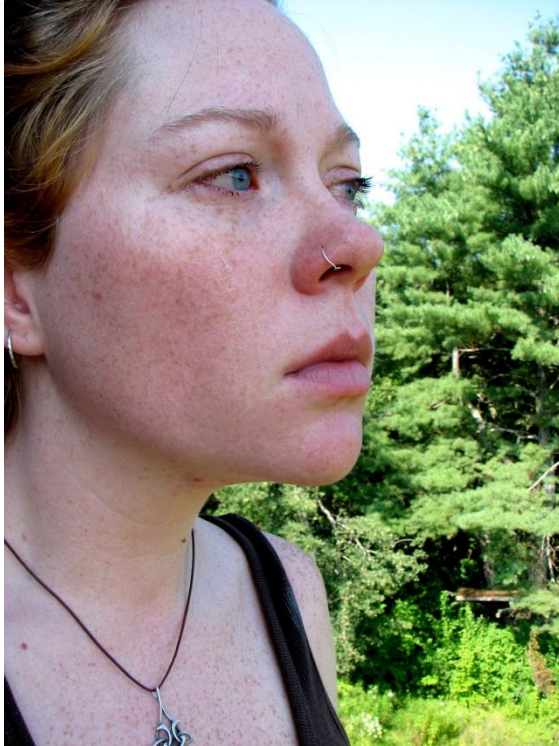
Aaron Beck is widely regarded as the father of cognitive therapy, and his theories are widely used to treat depression.

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2.

fig. 2 The way we view life, life events, and life circumstances can dramatically affect our mood. Thinking negatively about life can contribute to depression and anxiety and decrease one's ability to overcome the negativity.

- Beck developed cognitive therapy in the early 1960s as a psychiatrist at the University of Pennsylvania.
- Breaking from psychoanalytic theory, Beck began to view depressed patients as suffering from negative automatic thoughts that distorted their views of themselves and reality.
- His cognitive therapy for depression focuses on helping patients find more rational ways of viewing their lives and not jumping to the worst possible conclusions about themselves, others, or their futures (catastrophizing).
- **Cognitive Bias:** pattern of deviation in judgment that occurs in particular situations, leading to perceptual distortion, inaccurate judgment, illogical interpretation, or what is broadly called irrationality.
- **Schema:** A person's worldview; an outline or image universally applicable to a general conception, under which it is likely to be presented to the mind

## EXAMPLES

- A depressed person who loses his job exhibits a cognitive bias when he thinks "I lost my job because I'm worthless." Using Beck's model of cognitive behavioral therapy, a clinician

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would help the patient find a more rational way of viewing the situation, perhaps encouraging the patient to think of the situation as an opportunity to find another job where his skills are more put to use.

**Aaron T. Beck**, an American psychiatrist and professor, is widely regarded as the father of **cognitive therapy**, and his pioneering theories are widely used in the treatment of clinical depression. Beck developed cognitive therapy in the early 1960s as a psychiatrist at the University of Pennsylvania. He had previously studied and practiced psychoanalysis. A researcher and scientist at heart, Beck designed and carried out a number of experiments to test psychoanalytic concepts of depression. Fully expecting research would validate these fundamental precepts (such as retroflected hostility, need to suffer, and seeking of failure), he was surprised to find the opposite. This research led him to begin to look for other ways of conceptualizing depression.

## Theory

Beck noticed through his analysis of his patient's dreams that there were consistent themes of loss, rejection, and abandonment, and that these negative themes permeated the client's everyday thoughts as well. Working with depressed patients, he found that they experienced streams of negative thoughts that seemed to pop up spontaneously. He termed these cognitions “**automatic thoughts**,” and discovered that their content fell into three categories: negative ideas about themselves, the world and the future. Beck explains people accept these thoughts as valid and don't take time to reflect. Beck began to view depressed patients as suffering from negative automatic thoughts that distorted their views of themselves and reality (Figure 0).

Beck theorized that different disorders are associated with different types of distorted thinking; however distorted thinking has a negative effect on our behavior no matter what type of disorder. Frequent negative automatic thoughts reveal a person's **core beliefs** or schemas, which he believes are formed over lifelong experiences; we “feel” these beliefs to be true.

Beck also included a **negative triad** in his theory, which is made up of the negative schemas and cognitive biases of the person. Depressed people, according to this theory, have views such as “I never do a good job.” A negative schema helps give rise to the cognitive bias, and the cognitive bias helps fuel the negative schema, creating a negative triad. Cognitive biases can include *arbitrary inference*, *selective abstraction*, *overgeneralization*, *magnification and minimization*. These cognitive biases are quick to make negative, generalized and personal inferences of the self, thus fueling the negative schema.

## Treatment

Beck began helping patients identify and evaluate these thoughts and found that by doing so, patients were able to think more realistically, which led them to feel better emotionally and behave more functionally. Successful interventions educate a person to understand and become aware of their distorted thinking and how to challenge its effects. In his work he seeks to help

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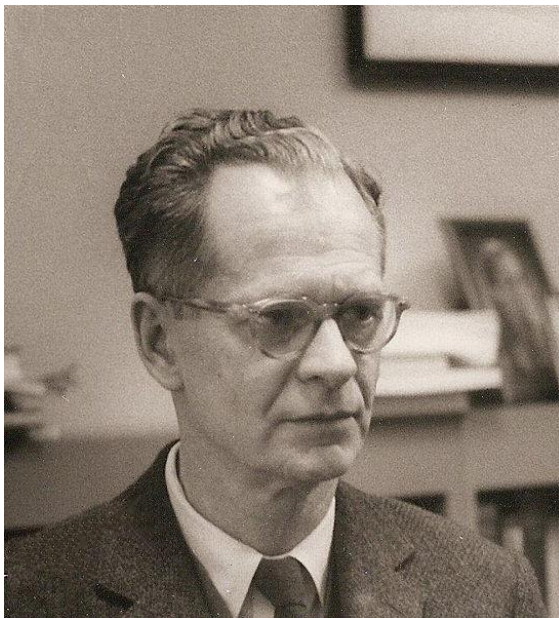
clients change their negative feelings about themselves and their futures through such techniques as *gentle questioning*, *positive self-talk*, and *stress inoculation training* (helping people to think positively even in the face of stress). His cognitive therapy explicitly involves the patient in collaboration with the therapist and makes the patient his or her own authority.

His cognitive therapy for depression focuses on helping patients to find more rational ways of viewing their lives and not jumping to the worst possible outcome about themselves, others, or their futures (catastrophizing). Eliminating cognitive distortions and negative thoughts is said to improve mood and discourage maladies such as depression and chronic anxiety. The process of learning to refute these distortions is called "cognitive restructuring." Positive self-talk helps to counteract negative self-defeating thoughts and other negative thoughts that help sustain a depressed state.

Beck developed several self-report measures of depression and anxiety, including Beck Depression Inventory (BDI), Beck Hopelessness Scale, Beck Scale for Suicidal Ideation (BSS), Beck Anxiety Inventory (BAI), and Beck Youth Inventories.

## ***Behavioral Therapy***

Behavior therapy is an approach to psychotherapy that aims to reinforce desired behaviors, while eliminating undesired behaviors.



3.

fig. 3 shows B.F. Skinner

The therapeutic techniques used in behavioral therapy are based on the principles of operant conditioning developed by B.F. Skinner.

- Behavior therapy is seen as having three distinct points of origin: South Africa (Wolpe's), The United States (Skinner), and the United Kingdom (Rachman and Eysenck).
- Behavior therapy focuses on behaviors, not the thoughts and feelings that might be causing them; it is not concerned with the psychoanalytic state of the subject.
- Behavior therapies are based upon the premises of operant and respondent conditioning.
- Systematic desensitization and exposure therapy are two common techniques used in behavior therapy.
- In the second half of the 20th century, many therapists coupled behavior therapy with the cognitive therapy of Aaron Beck and Albert Ellis, to form cognitive-behavioral therapy (CBT).
- Third Generation Behavior Therapies later moved away from cognitivism and back toward various forms of behaviorism, and include such therapies as Acceptance and Commitment Therapy (ACT) and Dialectical Behavioral Therapy (DBT).
- **Operant Conditioning:** A technique of behavior modification, developed by B.F. Skinner, that utilizes positive and negative reinforcement and positive and negative punishment to alter behavior.
- **Respondent Conditioning:** Also called classical conditioning; it is a form of learning in which one stimulus (the conditioned stimulus or CS) comes to signal the occurrence of a second stimulus (the unconditioned stimulus or US). The US is usually a biologically significant stimulus, such as food or pain which elicits a response from the start; this is called the unconditioned response or UR. The CS usually produces no particular response at first but after conditioning, it elicits the conditioned response or CR. It was originally thought that the conditioned stimulus would become associated with, and eventually elicits, the unconditioned response.
- **Learning Theory:** A learning theory is a conceptual framework that describes how information is absorbed, processed, and retained during learning. Behaviorism, cognitivism, and constructivism are the three main categories of learning theory.

## EXAMPLES

- An example of positive reinforcement is when a father gives candy to his daughter when she picks up her toys. If the frequency of picking up the toys increases or stays the same, the candy is a positive reinforcer.

Behavioral therapy, also known as behavior modification, is an approach to psychotherapy based on the learning theory. Behavioral therapy aims to treat psychopathology through techniques designed to reinforce desired behaviors, while eliminating undesired behaviors. In its broadest sense the methods focus on behaviors, not the thoughts and feelings that might be causing them; it is not concerned with the psychoanalytic state of the subject.

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Edward Thorndike first used the term "behavior modification" in 1911, and in his article *Provisional Laws of Acquired Behavior or Learning* he makes frequent use of the term "modifying behavior". The first occurrence of the term "behavior therapy" was most likely in a 1953 research project by B.F. Skinner, Ogden Lindsley, Nathan H. Azrin, and Harry C. Solomon. Other early pioneers in behavior therapy include Joseph Wolpe and Hans Eysenck. In general, behavior therapy is seen as having three distinct points of origin: South Africa (Wolpe's group), The United States (Skinner), and the United Kingdom (Rachman and Eysenck).

By nature, behavioral therapies are:

- empirical (driven by data)
- contextual (focused on the environment and context)
- functional (interested in the ultimate effect or consequence of a behavior)
- probabilistic (viewing behavior as statistically predictable)
- monistic (treating the person as a whole, rather than seeing the mind and body as separate)
- relational (analyzing bidirectional interactions)

Behavior therapy breaks down into two disciplines: a more narrowly defined sense of **behavior therapy** and **behavior modification**. However these distinctions are not absolute, and some crossover occurs in practice. *Behavior therapy* generally treats psychopathology with **respondent conditioning** (also known as classical conditioning, developed by Pavlov), while **behavior modification** makes use of **operant conditioning** (developed by B.F. Skinner). **Systematic desensitization** is a kind of behavior therapy in which a client is taught relaxation skills and then gradually learns to use them to react toward and overcome situations in an established hierarchy of fears. Similarly, **exposure therapy** involves the exposure to the feared object or context without any danger in order to help clients overcome their anxiety. A closely related therapy used widely in the treatment of obsessive-compulsive disorder is **exposure and response prevention**.

Behavior therapy can be used in couples relationships, chronic pain, stress-related behavior problems, anorexia, chronic distress, substance abuse, depression, anxiety, and obesity. While many behavior therapists remain staunchly committed to the basic approaches of operant and respondent conditioning, in the second half of the 20<sup>th</sup> century, many therapists coupled behavior therapy with the cognitive therapy of Aaron Beck and Albert Ellis, to form **cognitive-behavioral therapy (CBT)**. In some areas the cognitive component was helpful, but in other areas it did not enhance the treatment, which led to the pursuit of **Third Generation Behavior Therapies**. This movement has been called *clinical behavior analysis* because it represents a movement away from cognitivism and back toward radical behaviorism and other forms of behaviorism, such as functional analysis. This area includes Acceptance and Commitment Therapy (ACT), Cognitive Behavioral Analysis System of Psychotherapy (CBASP), behavioral activation (BA), Kohlenberg and Tsai's Functional Analytic Psychotherapy, integrative behavioral couples therapy, and dialectical behavioral therapy.

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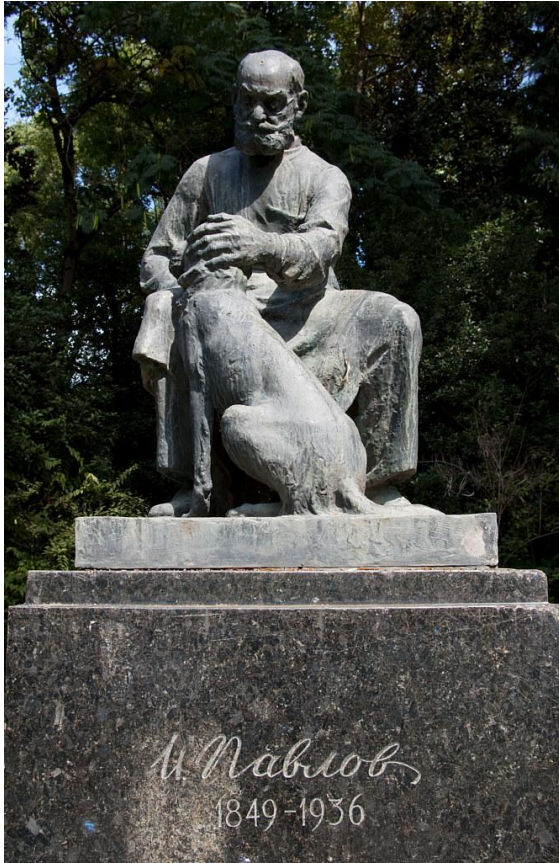


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## *Using Classical Conditioning in Therapy*

Therapies associated with classical conditioning include aversion therapy, systematic desensitization, and exposure therapy.



4.

fig. 4 shows a statue of Ivan Pavlov and One of His Dogs

Classical conditioning therapeutic techniques are based on the research of I.P. Pavlov.

- The process underlying classical conditioning is one in which a stimulus is conditioned to be associated with, and eventually elicits, a particular response.
- The main players in classical conditioning are the conditioned stimulus (CS), the unconditioned stimulus (US), and the conditioned response (CR).
- In Pavlov's classic experiments, he presented dogs with a ringing bell (CS) followed by food (US). The food (US) elicited salivation (UR), and after repeated bell-food pairings, the bell also caused the dogs to salivate (CR).
- Aversion therapy attempts to associate an unpleasant CR, such as nausea, with stimuli associated with unwanted behavior, such as the smell of alcohol.

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- Systematic desensitization attempts to eliminate an unwanted CR, such as anxiety, by gradually exposing the patient to associated CS's (e.g. angry words) in a relaxing situation.
- Flooding, also referred to as exposure therapy or extinction, attempts to eliminate an unwanted CR through massive exposure of the associated CS.
- **Operant Conditioning:** A technique of behavior modification, developed by B.F. Skinner, that utilizes positive and negative reinforcement and positive and negative punishment to alter behavior.

## EXAMPLES

- In exposure therapy, a therapist may have a patient who is deathly afraid of heights step on a small stool first, then onto a small ladder, then look out the first floor window of a building, and so on to alter the conditioned fear response.

Classical conditioning (also known as *Pavlovian conditioning* or *respondent conditioning*) is a form of learning in which one stimulus (the conditioned stimulus or CS) comes to signal the occurrence of a second stimulus (the unconditioned stimulus or US). The US is usually a biologically significant stimulus such as food or pain that elicits a response from the start; this is called the unconditioned response or UR. The CS usually produces no particular response at first, but after conditioning it elicits the conditioned response or CR. It was originally thought that the process underlying classical conditioning was one where the conditioned stimulus becomes associated with, and eventually elicits, the unconditioned response.

Classical conditioning differs from operant or instrumental conditioning, in which behavior emitted by the subject is strengthened or weakened by its consequences (i.e. reward or punishment). Conditioning is usually done by pairing the two stimuli, as in I. P. Pavlov's classic experiments Figure 0. Pavlov presented dogs with a ringing bell (CS) followed by food (US). The food (US) elicited salivation (UR), and after repeated bell-food pairings, the bell also caused the dogs to salivate (CR).

Classical conditioning is short-term, usually requiring less time with therapists. Therapies using classical conditioning are designed to cause either aversive feelings toward something (to reduce an unwanted behavior) or to reduce unwanted fear and aversion. Some therapies associated with classical conditioning are aversion therapy, systematic desensitization and flooding. Aversion therapy attempts to associate an unpleasant CR, such as nausea, with stimuli associated with unwanted behavior, such as the smell of alcohol.

Systematic desensitization attempts to eliminate an unwanted CR, such as anxiety, by gradually exposing the patient to associated CS's (e.g. angry words) in a relaxing situation. Flooding, also referred to as exposure therapy or extinction, attempts to eliminate an unwanted CR through massive exposure of the associated CS. Such therapies and treatments using classical conditioning differ from those using operant conditioning.

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## *Examining Exposure Based Therapies*

Exposure therapy is behavior therapy that involves the exposure to a feared stimulus without any danger in order to overcome anxiety.



5.

fig. 5 Exposure therapy is often done in a traditional way, (i.e., a client is actually exposed to a feared object). A contemporary way that exposure can also be done is virtually. In this form of exposure, the client wears headgear in which they see an image that is a simulation of what they fear.

- Exposure therapy attempts to pair a feared stimulus with relaxation in order to reduce one's fear, under the belief that one's body cannot experience both fear and relaxation at the same time.
- Numerous studies have demonstrated its effectiveness in the treatment of anxiety disorders, such as PTSD and specific phobias. It may also be effective in preventing the progression from acute stress disorder to post-traumatic stress disorder.
- Mary Cover Jones, Joseph Wolpe, and James G. Taylor were among the early pioneers of using exposure-based approaches in behavioral therapies.
- A common form of exposure therapy is systematic desensitization, in which a client is slowly exposed to the feared stimulus until they habituate to it and no longer feel afraid of it.
- Research into virtual reality exposure therapy has found that it is effective for the treatment of several different types of phobias.
- **Habituation:** the act of habituating, or accustoming; the state of being habituated.
- **Respondent Conditioning:** Also called classical conditioning; it is a form of learning in which one stimulus (the conditioned stimulus or CS) comes to signal the occurrence of a second stimulus (the unconditioned stimulus or US). The US is usually a biologically

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significant stimulus, such as food or pain, that elicits a response from the start; this is called the unconditioned response or UR. The CS usually produces no particular response at first but after conditioning, it elicits the conditioned response or CR. It was originally thought that the conditioned stimulus would become associated with, and eventually elicits, the unconditioned response.

- **Exposure and Response Prevention:** A method of exposure therapy used for OCD and phobias; it differs from classical exposure therapy for phobia in that the resolution to refrain from the escape response is to be maintained at all times and not just during specific practice sessions.

## EXAMPLES

- Bottom of Form Exposure therapy is a technique in behavior therapy that involves the exposure to the feared object or context without any danger in order to overcome anxiety. Behaviorists indicate that, physiologically, one's body cannot experience both fear and relaxation; therefore, they use exposure therapy to attempt to pair the feared stimulus with relaxation in order to reduce one's fear. Numerous studies have demonstrated its effectiveness in the treatment of anxiety disorders such as PTSD and specific phobias; it may also be effective in preventing the progression from acute stress disorder to post-traumatic stress disorder.

## Development of Exposure Based Therapies

The use of exposure as a mode of therapy began in the 1950s during the behavior therapy movement, a time when the psychoanalytic view dominated Western psychology and behavioral therapists first emerged. Psychologists and psychiatrists first used exposure as a mode of therapy to reduce pathological fears, such as phobias and anxiety-related problems.

**Mary Cover Jones** (1897-1987), dubbed "the mother of behavior therapy", conducted a study at the Institute of Educational Research, Columbia University Teacher's College, involving a 3-year-old named Peter. Jones treated Peter's fear of a white rabbit by "direct conditioning," in which a pleasant stimulus (food) was associated with the rabbit. As the rabbit was gradually brought closer to him in the presence of his favorite food, Peter grew more tolerant and was able to touch it without fear.

Another early behavioral psychologist was **Joseph Wolpe** (1915-1997). In Wolpe's search for a more effective way to treat anxiety, he developed different *reciprocal inhibition techniques*, utilizing assertiveness training. Reciprocal inhibition can be defined as anxiety being inhibited by a feeling or response that is not compatible with the feeling of anxiety. After his experiments with laboratory cats, he applied reciprocal inhibition to his clients in the form of *assertiveness training*. The idea behind assertiveness training was that you could not be angry or aggressive while simultaneously anxious. Assertiveness training proved especially useful for clients who

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had anxiety about social situations; however it did not appear to be applicable to other kinds of phobias.

Wolpe sought consultation with other behavioral psychologists similar in methodology. **James G. Taylor** (1897-1973), working in the psychology department of the University of Cape Town in South Africa, was among the psychologists Wolpe sought discussion with. Although most of his work went unpublished, Taylor was the first recorded psychologist to use an exposure therapy treatment for anxiety, including methods of situational exposure with response prevention—a common exposure therapy technique still being utilized.

## Techniques

Exposure therapy is based on the principles of respondent conditioning often termed *Pavlovian extinction*. The exposure therapist identifies the cognitions, emotions and physiological arousal that accompany a fear-inducing stimulus, and attempts to break the pattern of escape that strengthens the fear response, through measured exposure to progressively stronger stimuli until habituation is reached. The technique involves the creation of a program of steadily escalating steps or challenges (a hierarchy), which can be explicit ("static") or implicit ("dynamic"), that work towards a final goal representing a "non-phobic" response. The patient then voluntarily moves through the steps, with a means of terminating each step which is under voluntary control.

Since the 1950s and the behavior therapy movement, several modes of exposure therapy have proliferated, including *systematic desensitization*, *flooding*, *implosive therapy*, *prolonged exposure therapy*, *in vivo exposure therapy*, and *imaginable exposure therapy*. It is also very closely related to *exposure and response prevention*, a method widely used for the treatment of obsessive-compulsive disorder.

According to Wolpe, the key to overcoming fears was “by degrees,” and so he coined the term **systematic desensitization**. He believed that facing your fears did not always result in overcoming them but rather could lead to frustration. In systematic desensitization, the client is exposed to the anxiety-producing stimulus at a low level and, once no anxiety is present, a stronger version of the anxiety-producing stimulus is given. This continues until the individual client no longer feels any anxiety towards the stimulus. Though successful in many cases, systematic desensitization has flaws as well; for instance the client may give misleading hierarchies, have trouble relaxing or not be able to adequately imagine the scenarios.

Virtual reality exposure therapy (VRET) is a method of psychotherapy that uses virtual reality technology to treat patients with anxiety disorder and phobias. Now one of the primary treatments for PTSD, it uses specially programmed computers, visual immersion devices and artificially created environments to give the patient a simulated experience that can be used to diagnose and treat psychological conditions that cause patients difficulty. While therapeutic exposure has a strong evidence base, many clinicians are uncomfortable performing the technique because they do not understand it or are not confident in their own ability to utilize it.

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## Examining Aversive Conditioning

Aversive conditioning seeks to help a client avoid undesirable behaviors by associating these behaviors with a negative outcome.

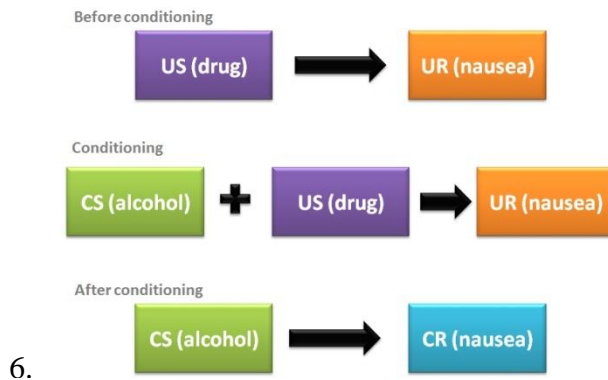


fig. 6 Examining Aversion Therapy

In this example, aversion therapy involves pairing a negative conditioned response to a harmful stimulus, such as alcohol. The unconditioned stimulus (nauseating drug) naturally produces the unconditioned response (nausea), but with repeated pairings, the conditioned stimulus (alcohol) also produces this same effect.

- In psychology, aversives are unpleasant stimuli that induce changes in behavior through negative consequences.
- Unconditioned aversive stimuli naturally result in pain or discomfort and are often associated with biologically harmful or damaging substances or events; conditioned aversive stimuli are repeatedly paired with unconditioned aversive stimuli to create these same results.
- The use of aversives was developed as a less restrictive alternative to practices prevalent in mental institutions at the time, such as shock treatment, hydrotherapy, straitjacketing, and frontal lobotomies.
- Aversives can be used as punishment during applied behavior analysis (ABA) to reduce unwanted behavior, such as self-injury or alcohol use.
- **Aversive Conditioning:** seeks to help a client avoid a harmful or undesirable behavior by helping the client to associate that activity with a negative outcome

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- **Applied Behavior Analysis:** Applied behavior analysis (ABA), formerly known as behavior modification, is a type of behavior analysis that uses the theory of behaviorism to modify human behaviors as part of a learning or treatment process.

## EXAMPLES

- One example of aversive conditioning is applying a foul-tasting substance on a nail biter's fingernails to prevent nail biting

In psychology, **aversives** are unpleasant stimuli that induce changes in behavior through punishment; by applying an aversive immediately following a behavior, the likelihood of the behavior occurring in the future is reduced. Aversives can vary from being slightly unpleasant or irritating (such as a disliked color) to physically damaging. It is not the level of unpleasantness, but rather the effectiveness the unpleasant event has on changing behavior that defines the aversive.

**Unconditioned aversive stimuli** naturally result in pain or discomfort and are often associated with biologically harmful or damaging substances or events. Examples include extreme heat or cold, bitter flavors, electric shock, loud noises, and pain. Aversives can be applied naturally (such as touching a hot stove) or in a contrived manner (such as during torture or behavior modification). A conditioned aversive stimulus is an initially neutral stimulus that becomes aversive after it is repeatedly paired with an unconditioned aversive stimulus. This type of stimulus would include consequences such as verbal warnings, gestures, or even the sight of an individual who is disliked.

**Aversive conditioning** seeks to help a client avoid a harmful or undesirable behavior by helping the client to associate that activity with a negative outcome. Aversives can be used as punishment during **applied behavior analysis** (ABA) with autistic children to reduce unwanted behavior, such as self-injury, that poses a risk of harm greater than that posed by application of the aversive. Aversive stimuli also may be used as negative reinforcement to increase the rate or probability of a behavior by its removal. The use of aversives was developed as a less restrictive alternative to practices prevalent in mental institutions at the time, such as shock treatment, hydrotherapy, straitjacketing, and frontal lobotomies.

A major use of aversion therapy is currently for the treatment of addiction to alcohol and other drugs (Figure 0). Aversion therapy works on changing positive emotional associations with the sight, smell and taste of alcohol or other drugs. To try to help a client dependent on alcohol reduce their alcohol consumption, a clinician may add a substance that produces physiological discomfort to their alcoholic drink. Follow-up studies done at six and 12 months on populations matched on 17 baseline variables shows that aversion therapy resulted in significantly better abstinence rates. Research shows that this treatment is effective initially, but that behaviors may resurface after time because one knows that without the therapist's intervention, the harmful activity will not immediately produce discomfort (i.e. the therapist will not always be there to

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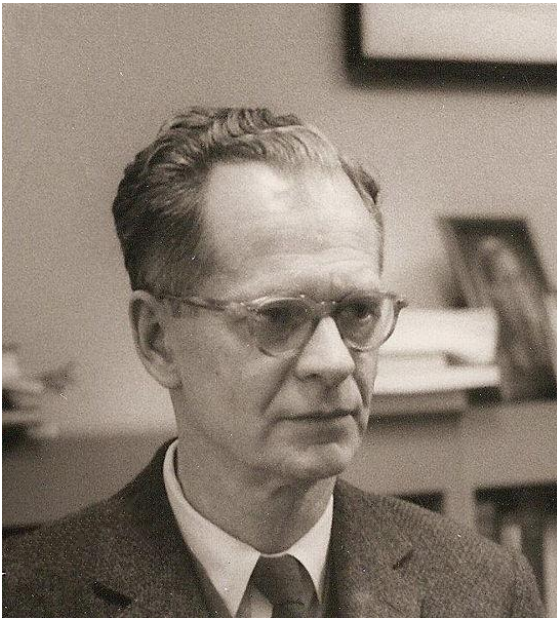


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add a nausea-inducing substance to one's drink). It is also used in the self-help community to treat minor behavioral issues with the aid of an elastic band; the user, or patient, would snap the elastic band on his other wrist while an undesirable thought or behavior presents itself.

## *Using Operant Conditioning in Therapy*

Behavior therapists often use operant conditioning to reinforce positive behaviors and extinguish ineffective, or unhealthy, behaviors.



7.

fig. 7 B.F. Skinner

The therapeutic techniques used in behavioral therapy are based on the principles of operant conditioning developed by B.F. Skinner.

- Operant conditioning is a form of learning in which an individual's behavior is modified by its consequences.
- Behavior therapists believe that behavior modification (behavioral change) can occur when the positive behaviors one wants are reinforced, and the negative behaviors are either not responded to or punished.
- This type of intervention has been useful for people with a variety of mental illnesses including autism and schizophrenia, to produce more socially acceptable behaviors.

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- Applied behavior analysis involves functionally assessing the relationship between behavior and the environment, and using that information to alter behavior.
- In some settings, particularly in some institutional settings, clinicians develop a token economy to help clients engage in acceptable behaviors. Clients receive a token when they display desired behaviors and later trade their amassed tokens for a reward.
- **Applied Behavior Analysis (ABA):** A psychological approach that uses the theory of behaviorism to modify human behaviors as part of a learning or treatment process.
- **Token Economy:** A system of behavior modification based on the principles of operant conditioning; patients are rewarded with tokens (reinforcers) for engaging in desirable activities.
- **Classical Conditioning:** The use of a neutral stimulus, originally paired with one that invokes a response, to generate a conditioned response

**Operant conditioning** (also called instrumental conditioning) is a form of learning in which an individual's behavior is modified by its consequences. It is a form of psychological learning in which an individual modifies the occurrence and form of its own behavior due to the association of the behavior with a stimulus. The behavior may change in form, frequency, or strength. A term coined in 1937 by B.F. Skinner Figure 0, operant conditioning is distinguished from classical conditioning (or respondent conditioning) in that operant conditioning deals with the modification of "voluntary behavior" (or operant behavior). Operant behavior operates on the environment and is maintained by its consequences, while classical conditioning deals with the conditioning of reflexive (reflex) behaviors which are elicited by antecedent conditions. Behaviors conditioned via a classical conditioning procedure are not maintained by consequences.

**Reinforcement** and **punishment**, the core tools of operant conditioning, are either **positive** (delivered following a response) or **negative** (withdrawn following a response). This creates a total of four basic consequences: *positive reinforcement* (where a reward is given), *negative reinforcement* (where a negative stimulus is removed) *positive punishment* (where a punishment is given), and *negative punishment* (where a positive stimulus is removed). A fifth procedure is known as **extinction**, and is caused by the lack of any consequence following a behavior. When a behavior is inconsequential (i.e., producing neither favorable nor unfavorable consequences) it will occur less frequently. When a previously reinforced behavior is no longer reinforced with either positive or negative reinforcement, it leads to a decline in that behavior.

Behavior modification is a technique of altering an individual's behaviors and reactions to stimuli through positive and negative reinforcement of adaptive behavior and/or the extinction of maladaptive behavior through positive and negative punishment. While founded in behaviorism, behavior modification has long been used by psychotherapists, parents, and caretakers of those with special needs who don't necessarily have a behaviorist "philosophy." It involves some of the most basic methods to alter human behavior, through operant conditioning. Classical conditioning can also be a component of behavior modification, but it is generally less

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useful in applied settings because it focuses solely on basic involuntary reactions to stimuli and not on conscious learning associated with a behavior's function or context.

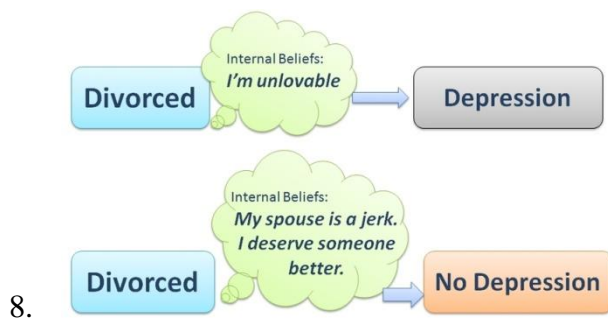
**Applied behavior analysis (ABA)** is a science that involves using modern behavioral learning theory to modify overt behaviors. Behavior analysts reject the use of hypothetical constructs and focus on the observable relationship of behavior to the environment. By functionally assessing the relationship between a targeted behavior and the environment, the methods of ABA can be used to change that behavior. Research in applied behavior analysis ranges from behavioral intervention methods to basic research, which investigates the rules by which humans adapt and maintain behavior.

ABA-based interventions are best known for treating people with developmental disabilities, most notably autism spectrum disorders. Lovaas (1987) found that toddlers with autism who were treated using an operant conditioning approach were able to develop more socially acceptable behaviors and that some of the participants who showed positive gains were able to maintain these gains at a follow-up that occurred when they were in first grade. However, ABA contributes to a full range of areas including: AIDS prevention, conservation of natural resources, education, gerontology, health and exercise, industrial safety, language acquisition, littering, medical procedures, parenting, seat belt use, severe mental disorders, sports, and zoo management and care of animals.

Behavioral plans that use operant conditioning vary. Sometimes something as simple as positive attention is used to reinforce desired behaviors. In some settings, particularly in some institutional settings, clinicians develop a token economy to help clients engage in acceptable behaviors. A token economy is a system of behavior modification based on the systematic positive reinforcement of target behavior. The reinforcers are symbols or tokens that can be exchanged for other reinforcers. Clients receive a token when they display desired behaviors, and later trade their amassed tokens for a reward.

## ***Combining Cognitive and Behavioral Therapies***

Cognitive behavioral therapy is a psychotherapeutic approach that integrates the approaches of behavior therapy and cognitive therapy.



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## fig. 8 Examining How Depression Forms From a Cognitive-Behavioral Perspective

In this illustration, an action (or behavior) leads to a thought, which then results in a positive or negative emotion. In CBT, it is theorized that your emotions occur not because of events but because of your interpretation of the events.

- CBT was primarily developed through an integration of behavior therapy with cognitive psychology research in the late 1970s.
- CBT is regarded as an evidence-based, cost-effective treatment for multiple disorders, including mood, anxiety, personality, eating, substance abuse, tic, and psychotic disorders.
- In CBT, it is theorized that your emotions occur not because of events but because of your interpretation of the events. Treatment is therefore based on addressing and modifying everyday thoughts and behaviors with the aim of positively influencing emotions.
- Therapeutic techniques include keeping a diary of significant events and associated feelings, thoughts, and behaviors; questioning and testing assumptions; replacing irrational thoughts with more realistic or rational ones; and trying out new ways of behaving and reacting.
- **Obsessive-Compulsive Disorder:** A form of anxiety characterized by obsessive thoughts and the compulsive repetition of certain behaviors or actions.
- **Cognitive Therapy:** First expounded by Beck in the 1960s, cognitive therapy seeks to help the patient overcome difficulties by identifying and changing dysfunctional thinking, behavior, and emotional responses.
- **Behavior Therapy:** Developed in the 1940s and 50s, behavior therapy is an approach to psychotherapy that focuses on a set of methods designed to reinforce desired and eliminate undesired behaviors, without concerning itself with the psychoanalytic state of the subject.

### EXAMPLES

- Cognitive behavioral therapy (CBT) is a psychotherapeutic approach that integrates the approaches of behavior therapy and cognitive therapy. It is based on addressing and modifying everyday thoughts and behaviors through a number of goal-oriented, explicit systematic procedures, with the aim of positively influencing emotions. In CBT, it is theorized that your emotions occur not because of events but because of your interpretation of the events.
- CBT was primarily developed through an integration of behavior therapy with cognitive psychology research, first by Donald Meichenbaum and several others with the label of cognitive-behavior modification in the late 1970s. The particular therapeutic techniques vary according to the particular kind of client or issue, but commonly include keeping a diary of significant events and associated feelings, thoughts and behaviors, questioning and testing assumptions, or habits of thoughts that might be unhelpful and

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unrealistic, gradually facing activities that might have been avoided, and trying out new ways of behaving and reacting. CBT focuses on replacing irrational thoughts with more realistic or rational ones, and relaxation and distraction techniques are also commonly included. It is sometimes used with groups of people as well as individuals, and the techniques are also commonly adapted for self-help manuals and software packages.

## Evaluation of Effectiveness

CBT is widely accepted as an evidence-based, cost-effective psychotherapy for many disorders. It is thought to be effective for the treatment of a variety of conditions, including mood, anxiety, personality, eating, substance abuse, tic, and psychotic disorders. Many CBT treatment programs for specific disorders have been evaluated for efficacy; the health-care trend of evidence-based treatment, where specific treatments for symptom-based diagnoses are recommended, has favored CBT over other approaches, such as psychodynamic treatments. In adults, CBT has been shown to have a role in the treatment plans for anxiety disorders, depression, eating disorders, chronic low back pain, personality disorders, psychosis, schizophrenia, substance use disorders, obsessive-compulsive disorder, anxiety associated with fibromyalgia, and post-spinal cord injuries. In children or adolescents, CBT is an effective part of treatment plans for anxiety disorders, body dysmorphic disorder, depression and suicidality, eating disorders and obesity, obsessive-compulsive disorder, and post-traumatic stress disorder, as well as tic disorders, trichotillomania, and other repetitive behavior disorders.

Recent Cochrane reviews have found no evidence that CBT is effective in helping foster care providers manage difficult behavior in the youth under their care, nor was it helpful in treating men who abuse their intimate partners.