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Behaviour Modification & Behaviour Therapy

Paper 1 – Lessons 1,2, 4 and 3

BMO 216- Behaviour Modification

Doctorate in Psychotherapy

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Lesson 1 - Behaviour Modification and Skinner' Concept of Operant Conditioning

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Lesson 1- Behaviour Modification and Skinner's Concept of Operant Conditioning

Preamble

The course, Behaviour Modification, had 10 lessons that covered concepts and explanations in relation to behaviour modification, behaviour therapy, applied behaviour analysis and conversion therapy. The ten lessons comprised of ten questions, which are translated into titles. Three papers were written. Paper 1 covered four lessons 1, 2, and 4 on behaviour modification and lesson 3 on behaviour therapy. Paper 2 covered three lessons 5,6 and 7 on applied behaviour analysis. Paper 3 covered lessons 8,9 and 10 on conversion therapy.

It is also important to point out that each lesson relating to the concept of behaviour modification and applied behaviour analysis and to some extent conversion therapy requires a definition or explanation. These definitions and explanations are stated in those instances but in a different format or based on phases, where applicable.

Introduction

The systematic study of how environmental consequences shape human actions is rooted deeply in the psychological perspective of behaviourism. One area that has been of impact and significance is behaviour modification. Based on its principles and applications, behavioural modification falls under the area of behaviourism. Edward Thorndike's foundational observations in 1911 were significantly expanded by early empirical researchers like Joseph Wolpe, John Watson, and B.F. Skinner (in his work on operant conditioning).

Contemporary scholars, notably Martin and Pear (2024), conceptualize behaviour modification as the systematic application of learning principles to improve both overt and covert daily functioning. Behaviour modification operates under strict empirical rigor, heavily prioritizing measurable outcomes, environmental stimuli adjustment, and high professional accountability. This paper outlines the core characteristics of behaviour modification. It analyses the mechanics of operant conditioning, contrasting the applications and types of reinforcement and punishment. Further, it evaluates the effectiveness of various continuous and intermittent reinforcement schedules.

Definition and Characteristics of Behaviour Modification

The term behaviour modification is related to the work of Edward Thorndike in 1911. In his article, *Provisional Laws of Acquired Behaviour or Learning*, Thorndike referred to the term, “modifying behaviour.” The term was also used in early research done by Joseph Wolpe and Group in the 1940s and 1950s. Additionally, it has been regularly used in reference to techniques that came from empirical research, and later techniques that gave rise to increased adaptive behaviour through reinforcement and reduced maladaptive behaviour through punishment (Behavior Modifications 1 & 2, 2014.).

Behaviourism posited by Watson (1913) focused on the study of observable and measurable behaviour. It states that most behaviours are learned, for example as it relates to operant and respondent conditioning. It is believed that three main research set the foundation for behaviourism. Ivan Pavlov (1927) showed the process of respondent (classical) conditioning and its effect on learning. John Watson’s Little Albert’s study showed that an infant learned fear of a white rat

through respondent conditioning. Edward Thorndike studied how “satisfying or annoying” consequences (now called reinforcement and punishment) affect learning (Craighead & Nemeroff, 2004).

Behaviour modification is a psychotherapeutic and systematic intervention that uses learning principles. These include operant conditioning, classical conditioning, and observational learning to change, reduce, or eliminate maladaptive behaviours or teach prosocial alternatives. It focuses primarily on observable actions rather than internal thoughts or feelings, relying on mechanisms like positive reinforcement, negative reinforcement, and punishment (Martin & Pear, 2024). Researchers have sought to demonstrate that learning is important to modifying or changing an individual’s behaviour.

According to Martin & Pear (2024) behaviour modification relates to the systematic application of learning principles and techniques to assess and improve the overt and covert behaviours in an individual’s daily functioning. Martin and Pear (2024) identified seven main characteristics associated with behaviour modification, which are stated as follows:

(1) Strong emphasis on defining problems in respect of behaviour with a form of measure, as well as, using changes in the behavioural measure of the problem as the best indicator of the extent to which the problem is resolved.
(2) Treatment procedures and techniques are methods of adjusting an individual’s present environment so that they can operate more effectively. Physical variables that make up an individual’s environment are called stimuli. They are the people, objects, and events that are in an individual’s immediate surroundings that may impact behaviour.

(3) The methods and rationales are specific. This helps behaviour modifiers to read descriptions of procedures used by their colleagues, replicate them, and obtain similar results. Additionally, it makes it easier to teach behaviour modification procedures.

(4) Techniques of behaviour modification are frequently applied by individuals in their daily lives. Based on the techniques applicable, parents, teachers, coaches, and others can apply behaviour modification to help individuals in everyday experiences.

(5) Techniques are from basic and applied research in the science of learning.

(6) Focus is on scientific demonstration that a particular intervention or treatment was responsible for a particular behaviour change.

(7) Emphasis is on high value accountability for everyone involved in behaviour modification programs.

Skinner's Operant Conditioning

Thorndike and Pavlov were main researchers in the theory of learning, but Skinner (1930, 1953). relied on their work and expanded studies, which resulted in the establishment of the theory of operant conditioning. Scott (n.d.) stated that operant conditioning is a learning process whereby consequences which follows responses determine if the behaviour is repeated. Behaviour is repeated where there is reinforcement but will not likely be repeated with punishment. Operant conditioning may be described as a process whereby the frequency or strength of an operant response (voluntary) is modified by the consequence of that behaviour. It has to do with emitted or voluntary responses (not elicited responses) that occur at some point

without any environmental influences (Operant Behaviour, Corey-Slechla & Weiss, 2007).

Reinforcement

Two main techniques that emerged from operant conditioning and are widely used in the theory of behaviourism, reinforcement and punishment. Reinforcement is the presentation of a stimulus that is contingent upon a response that results in an increase in the future frequency of that response. Reinforcers can be positive or negative. A positive reinforcer strengthens a response and increases the probability of the presentation of that response in the future. For example, paying someone for work done in extra time. In negative reinforcement a response is strengthened by taking away a stimulus. For example, the removal of a noise or an electric shock. A more extended example of positive and negative reinforcement is provided below:

An Example of Positive and Negative Reinforcement

A challenging issue that I have come across in clinical settings of counselling is a parent getting a child to clean their room. I looked at this as it relates to the application of reinforcement.

Positive Reinforcement

- Concept: Adding a pleasant stimulus to increase the likelihood that a behaviour will happen again.
- Room Cleaning: The parent rewards the child with points leading to a token, rewarding a sticker, extra screen time, or praise every time the child cleans their room.

- Outcome: The child cleans their room more often to earn the reward.

Negative Reinforcement

- Concept: Removing an unpleasant or aversive stimulus to increase the likelihood that a behaviour will happen again.
- Room Cleaning: The parent constantly nags the child about the messy room. The child cleans the room to get rid of the nagging, and it stopped.
- Outcome: The child cleans their room to make the annoying nagging go away.

Reinforcers can be primary (unlearned) or secondary (conditioned or learned), (Corey-Slechla & Weiss, 2007). A primary reinforcer is a stimulus that satisfies basic physiological or biological needs (like food or water). It operates unconditionally without prior training. A secondary reinforcer is an initially neutral stimulus that acquires reinforcing properties because it has been paired or associated with a primary reinforcer (APA n.d). Primary reinforcers are effective without any prior experience or conditioning.

Conditioned reinforcers are stimuli that obtained their reinforcing efficacy through pairing with other established reinforcers after repeated pairing. It subsequently obtains conditioned reinforcing properties of its own and can maintain substantial operant responding by itself. Retention of efficacy requires that the conditioned reinforcer is paired at least occasionally with its primary reinforcer (Corey-Slechla & Weiss, 2007). A comparison is made below to show certain differences between primary and secondary reinforcement.

Comparison of Primary and Secondary Reinforcers:

Category	Primary Reinforcer (Unconditioned)	Secondary Reinforcer (Conditioned)
Origin of Value	Innate & Biological: Operates universally within a species from birth without any prior training (American Psychological Association, n.d.).	Learned & Environmental: Possesses no intrinsic value until it is deliberately paired or linked with a primary reward (Spielman et al., 2020).
Biological Basis	Directly satisfies primitive, physical, or evolutionary survival needs like hunger, thirst, or sleep (American Psychological Association, n.d.).	Carries no inherent biological or physiological value to the organism on its own (Spielman et al., 2020).
Satiation Risk	High: The stimulus quickly loses its reinforcing power once the physical need is met, such as an animal becoming full (Colman, 2015).	Low: The stimulus rarely suffers from rapid satiation, allowing an organism to accumulate it continuously, like money (Colman, 2015).
Core Examples	Food, water, shelter, sleep, and physical warmth (American Psychological Association, n.d.; Spielman et al., 2020).	Money, tokens, praise, letter grades, and gold stickers (American Psychological Association, n.d.; Spielman et al., 2020).

Punishment

According to the APA (n.d) punishment may be defined as physically or psychologically painful, maladaptive behaviour, or undesirable event or circumstance imposed as a penalty on a wrongdoer. Regarding operant conditioning, the process in which the relationship, or contingency, between a response and some stimulus or circumstance results in the response being less probable. Positive punishment can be described as the addition of an adverse consequence. Punishment may be positive or negative. Positive punishment occurs when a stimulus or circumstance is presented because of a response. Negative punishment is taking away favourable consequences to reduce maladaptive behaviour. Negative punishment occurs when some stimulus or circumstance is removed as due to a response. For example, if a response results in a subtraction of money from an accumulating account, and the

response becomes less likely because of this experience, then negative punishment has occurred (APA, n.d).

An Example of Positive and Negative Punishment:

A challenging issue that I have come across in clinical settings is a parent getting a child to clean their room. I looked at this as it relates to the application of punishment as follows:

Positive Punishment

- Concept: Adding an adverse or unpleasant stimulus to decrease an unwanted behaviour.
- Room Cleaning: The parent assigns extra folding chores or scolds the child when they leave the room messy.
- Outcome: The child stops leaving the room messy to avoid getting yelled at or given extra chores.

Negative Punishment

- Concept: Removing a pleasant stimulus to decrease an unwanted behaviour.
- Room Cleaning: The parent takes away the child's favourite toy or video game privileges because the room is dirty.
- Outcome: The child stops leaving the room messy to avoid losing access to their favourite things.

Concerns Regarding Punishment

Skinner was of the belief that both humans and non-humans, positive (and, to a lesser extent, negative) reinforcement has greater influence on behaviour than punishment. This is mainly because punishment does not impact all types of responses. Notwithstanding this, Campbell and Church (1969, as cited in, Gross 2019) were of the view that punishments have stronger influence on behaviour than the incentive effects of reinforcements (at least as far as laboratory animals are concerned). However, punishment produces unpleasant side-effects, in particular, stress, anxiety, withdrawal and aggression.

Experiments have demonstrated that the strength and period of the suppression effect depend on the intensity of the punishment and the degree of deprivation. Nonetheless, the response is still suppressed rather than unlearned. If other ways of obtaining reinforcers are available, punishment has a more powerful suppressive effect on the punished behaviour (Howe, 1980, as cited in, Gross, 2019). Punishment and extinction decrease the frequency of learned responses. A stimulus presented after a response decreases the frequency of that response. For example, scolding a child who draws on a wall. In extinction, the reinforcer for a response is withheld and the frequency of the response eventually declines. For example, withdrawing the attention from a child who throws a tantrum result in a decline in the tantrums (Corey-Slechla & Weiss, 2007).

Schedules of Reinforcement

Schedules of reinforcement are structured timelines used in psychology. They encourage or discourage specific behaviours by using rewards or punishments,

through operant conditioning. This is based on the understanding that behaviours can be modified due to the consequences. Schedules of reinforcement may vary; they can be continuous, in the instance where a behaviour is reinforced when it occurs, or partial, where reinforcement occurs intermittently.

The view is that partial reinforcement, particularly through fixed-ratio and variable-ratio schedules, are more likely to be effective in sustaining behaviours over time. For example, fixed-ratio schedules reward a certain number of responses, such as a child receiving a sticker for getting certain number of correct answers. Variable-ratio schedules, reward behaviours after an unpredictable number of actions. Regarding fixed-interval and variable-interval schedules emphasises timing of rewards, encouraging behaviour by providing reinforcement at set or average time intervals. These schedules help shape voluntary behaviours based on anticipated outcomes (Ruth, 2020). Nonetheless, there are advantages and disadvantages as it relates to as it relates to schedules of reinforcement.

Advantages and Disadvantages of Two Main Types of Reinforcement Schedules are as stated below

Type of Reinforcement Schedule	**Description**	**Advantage**	**Disadvantage**
Continuous	Reinforcement given after each correct response.	Effective - teaching new skills. Allows for quick learning	Difficult to maintain over a long period of time. Constant reinforcement can interrupt the continuation of the behaviour. Satiation may occur.
Intermittent	Reinforcement is only provided for some responses	Maintains behaviour over time. Behaviour is more resistant to extinction.	Not effective for teaching new behaviours/skills.

As shown below, ratio schedules are used when reinforcement is provided after a specific number of correct responses. Interval schedules are when reinforcement is provided after a specific period ((Behavior Modifications 1 & 2, 2014.):

Type of Intermittent Reinforcement Schedule	Description	Advantage	Disadvantage
Fixed Ratio	Reinforcement occurs based on fixed number of correct responses. For example, a child is reinforced after every 3 correct responses	Builds a high response rate because faster responding means gaining access to reinforcement faster.	Irregular responding may occur if reinforcement is stopped.
Variable Ratio	Reinforcement is delivered after an average number of correct responses. For example, for a variable ratio of 3, a teacher might give the learner a high five after he finishes 2 math problems	The strongest basic schedule of intermittent reinforcement. High and steady response rate occurs.	May result decrease in quality of responses because of fast rate.
Fixed Interval	Reinforcement is delivered after a specified amount of time. For example, reinforcement is provided for every 10 minutes a child works on their own	Easy to implement.	Produces slow but accelerating rate of responding that can be inconsistent.
	Reinforcement is provided after an average amount of time. For example, a teacher provides reinforcement when the learner works independently for less than 5 minutes or for	Easy to implement. Constant and stable	

Variable Interval	more than 5 minutes but maintain adequate response at an average of 5 minutes.	rate of responding. Good for maintaining responses/behaviours.	Low to moderate rate of responding.

Connection between Operant Conditioning and Behavioural Modification

The historical trajectory of behavioural science demonstrates a deliberate pivot from laboratory observation to clinical application. Operant conditioning establishes the fundamental mechanics of learning by documenting how environmental consequences determine future action (Skinner, 1953). Through behaviour modification, clinicians systematically structure antecedents and consequences to engineer targeted behavioural adaptations in human populations (Scott et al., 2023). This synthesis bridges pure theory and functional intervention. As noted by Staddon and Cerutti (2003), understanding the underlying schedules of reinforcement is a prerequisite for successfully altering an organism's established behavioural repertoire.

A primary clinical manifestation of operant theory is the token economy, which relies heavily on the delivery of secondary generalized reinforcers. In educational environments, behaviour modification plans utilize continuous positive reinforcement to rapidly establish prosocial skills (Papageorgi, 2021). However, a persistent challenge in applied behaviour analysis is preventing the targeted action from undergoing operant extinction once external rewards cease. In mitigating this risk, practitioners utilize schedule thinning, gradually transitioning an individual from fixed schedules to variable schedules that mirror unpredictable real-world environments (Scott et al., 2023). Consequently, the longevity of a modified behaviour depends

entirely on how effectively the practitioner applies the quantitative laws of operant conditioning (Staddon & Cerutti, 2003).

A Possible Analysis of Applying Operant Conditioning and Behavioural Modification is as follows:

Operant Conditioning Quadrant	Definition	Behaviour Modification Technique	Clinical/Real-World Example
Positive Reinforcement	Adding a desirable stimulus to increase a behaviour.	Token Economies & Shaping	Giving a child points (tokens) for completing math worksheets, later traded for free time.
Negative Reinforcement	Removing an aversive stimulus to increase a behaviour.	Escape/Avoidance Conditioning	Teaching a patient with chronic pain pacing strategies to escape severe physical fatigue.
Positive Punishment	Adding an unpleasant stimulus to decrease a behaviour.	Aversive Conditioning	Spraying a bitter solution on a patient's fingernails to stop chronic, damaging nail-biting.
Negative Punishment	Removing a desirable stimulus to decrease a behaviour.	Response Cost & Time-Out	Deducting tokens or privileges immediately following an episode of aggressive behaviour.

Conclusion

Behaviour modification offers a structured, scientifically validated approach to adapting and shaping human behaviour through the deliberate manipulation of environmental stimuli. It engages the foundational conditioning models behavioural practices and utilize reinforcement and punishment of Skinner as powerful mechanisms to systematically improve behaviours. Reinforcement, whether primary and biological or secondary and learned proves to be a more sustainable and positive long-term behavioural tool than punishment, which often yields adverse side

effects like anxiety or aggression. Ultimately, the successful retention and maintenance of newly acquired habits rely heavily on the strategic implementation of reinforcement schedules.

Continuous reinforcement is ideal for initial skill acquisition. It helps with utilizing intermittent ratio and interval schedules ensuring that modified behaviours remain highly resilient against extinction. This proves that systematic environmental adjustments can foster lasting psychological growth and daily functional improvement. Techniques of reinforcement and punishment may not only be used by counsellors. They are also available to be appropriately used by teachers, parents and others with opportunities to effect change in behaviour, building of new ones and effect healthy routines.

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Lesson 2 - Effectiveness of Behaviour Modification in Job Performance and Its Impact on Parent and Child Characteristics

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Introduction

Behaviour modification is the systematic application of learning principles and techniques designed to assess, shape, and improve both overt and covert human behaviours (Martin & Pear, 2023). Unlike therapies that focus primarily on internal thought processes, behaviour modification relies heavily on the observation and empirical measurement of actions within an individual's environment (Miltenberger, 2024). At its core, this approach utilizes functional behavioural assessments to analyse specific targeted actions, manipulate environmental variables and ultimately reduce or eliminate maladaptive responses (Scott et al., 2023). Behavioural modification can be implemented dynamically by interprofessional teams across multiple settings; behaviour modification serves as a powerful alternative or complement to traditional medical interventions.

Maximizing the effectiveness of behavioural strategies requires interventions that are carefully adjusted to the unique intrinsic traits of the individual. In developmental frameworks, examining specific child characteristics such as personality, physical abilities, strengths, and weaknesses. Central to an individual assessment is the concept of temperament, which encompasses early appearing differences in emotionality, activity, and attention-based effortful control (Rothbart, 2019). This paper explores the foundational principles and multi-setting effectiveness of behaviour modification. It will discuss optimizing workforce productivity, guiding childhood development, life changes and associated stress, consequences. It will also intermittently discuss successful behavioural outcomes depend entirely on the precise mapping of structured environmental contingencies to an individual’s unique psychological characteristics.

Definition of Behavioural Modification

Behaviour modification may be defined as the systematic application of learning principles and techniques, which are used in assessing and improving covert and overt behaviours. Behaviour modification is viewed by Scott et., al (2023) as an intervention that is primarily used to get rid of or decrease maladaptive behaviour in children or adults. Certain therapies focus on changing thought processes that can impact behaviour, for example, cognitive behavioural therapy. Behavioural modification, on the other hand, looks at observation of overt and covert behaviour.

Behaviour modification may be described as having two main areas (1 & 2) of focus. The first area focuses on defining and measuring an individual's behaviour within their environment and involves collecting data (Martin & Pear, 2023). Data collection aims at establishing an accurate criterion (Miltenberger, 2024). The second area has to do with the applicability of assessments and analyses of data. For example, the application of functional analysis, followed by intervention and evaluation (Martin & Pear, 2023).

Functional behavioural assessment, which falls under the broader heading of applied behaviour analysis, is used to garner an understanding of behaviours. An effective method of functional behavioural assessment is the "ABC" approach. This occurs when behaviours are observed in relation to Antecedents (stimuli), Behaviours (action), and Consequences, that is, what happens after the behaviour. An assessment is made to identify if there are any gaps. If so, interventions are applied (Behaviour Modification 1 & 2, 2014). Emphasis is placed on the specific targeted behaviour that needs to be changed.

Functional analysis of the antecedents and consequences of the problem behaviour(s) must be identified. The specific behaviours targeted would become the focus of change. Then, certain variables can be manipulated by reinforcers and punishments to change problem behaviours. The goal is to eliminate or reduce maladaptive behaviour. Then, the progress and outcome of the intervention are evaluated (Scott et. Al, 2023).

Reinforcers or punishments are used to change behaviours, which may also result in extinction. According to APA (n.d.) in the context of operant conditioning, extinction is a procedure whereby reinforcement is discontinued, so the reinforcing stimulus is no longer presented. Additionally, the outcome may also be a decline in the rate of the formerly reinforced response.

Behaviour Modification – Effectiveness

Behaviour modification can accomplish goals in therapy that are not achieved by solely using medications. The impact has the possibility of having long-lasting effects on the individuals whose behaviours have changed in a healthy manner. Behaviour modification is flexible and a plan can be a team effort, implemented with an individual or by a team of individuals that includes the mental health nurse, psychologist, social workers, primary care provider, parent, teacher, or childcare provider. The plan may also be implemented in multiple settings, such as school and home (rewards for turning in homework assignments to the teacher, and rewards for cleaning your room by the parent). Interprofessional collaboration has been shown to improve health care quality and outcomes for patients, clients, families, and caregivers, (Scott et al., 2023).

Based on certain studies done to assess behaviour modification in relation to job performance the following outcomes were noted:

1. A longitudinal study was done by JMIR (2026) to evaluate the impact of structured,

   digitally delivered behavioural interventions on employee workplace productivity.

   The main findings showed that consistent engagement with behavioural modification platforms led to a highly statistically significant decrease in occupational functional impairments. Employees who actively completed behaviour-shaping exercises demonstrated drastic improvements in on-the-job focus, objective decision-making capacity, and general task performance. This study confirmed that longer-term, sustained engagement with behavioural health frameworks is mandatory; short or sporadic behavioural prompts do not give rise to lasting improvements in job performance.
2. Behavioural Organization Development and Pay-for-Performance Systems (2023). This mixed-methods research analysed how behavioural modification interventions, specifically structured incentive compensation and "Pay Systems" (PS), modify work-related actions to drive organizational results.

   The main findings showed that a transparent, behaviour-contingent reward system directly modifies the daily work-related behaviour of employees. A direct link of specific performance milestones to behavioural adjustments showed an increase in employee development velocity, which acted as a

major mediator for heightened corporate performance. This showed that poorly designed or non-contingent reward structures result in immediate demotivation, as against highly specified behaviour-to-reward mapping drastically increases output quality (Moin et al., (2023).

3. Hybrid Behavioural Development Interventions (2026). This study utilized a large sample longitudinal design to evaluate employee job performance metrics before and after undergoing a hybrid behavioural training and adaptation intervention.

   The main findings showed that a pair-sample -test evaluations confirmed deep, statistically significant performance differences following the behavioural intervention. Comparison with a control group of external hires who did not receive the systematic behavioural modification coaching, the intervention group vastly outperformed them in core task efficiencies. The study showed, among other things, that structured internal behavioural adaptation programs provide high scalability and inclusive workforce optimization, particularly when addressing complex skills gaps (Impact of Hybrid Employee Development, 2026).

4. Behaviour and Performance Evaluations by the Kirkpatrick Model (2025). The study tested behaviour modification outcomes by routing them through the lens of the Theory of Planned behaviour (TPB) and Goal-Setting Theory (GST). The main findings showed that by applying precise behavioural interventions that targets elevating specific skill proficiencies, researchers recorded definitive metric shifts. Post-intervention evaluations demonstrated that "skill sufficiency" behaviours moved positively from a baseline mean of 2.7 up to 3.6 on performance scale metrics. This shift

directly correlated with an uptick in client retention and overall work quality (Unveiling Training Effectiveness, 2025).

Child Characteristics

According to Thomas (n.d.) examining characteristics of children is one way to determine their response to various discipline strategies. These characteristics include personality, temperament, physical abilities, talents, skills, strengths and weaknesses (Thomas, n.d.). Based on information reviewed, assessment of a child's personality, temperament and abilities can help in recognising strengths, skills, weaknesses and talents. Specifically, psychological and educational assessments may also determine psychopathology and learning impairment. However, focus will be placed on temperament and personality; as well as considering strengths and weaknesses (Rothbart, 2019).

Temperament refers to individual differences that can be seen early in life, shaping our reaction to events in the social and physical environment, and the environment's reaction to us. Temperament includes the child's dispositions toward emotionality, activity and orienting, along with their attention based effortful control (Rothbart, 2019). A child's experiences may be shaped by their temperament. These are important to the development of coping skills, understanding of the meaning of things that happen, competence and motivation.

Temperament develops during the first few months of life. Parents can directly observe the child. They may observe individual differences in orienting, distress proneness, positive affect, approach, fear, sadness and frustration in an infant. At

about six months of age, when presented with objects, some infants may respond quicker than others in reaching and touching them (Rothbart, 2019).

In the first year and onwards of the infant's life, parents may observe individual differences in fearful inhibition to novel or intense stimuli. Fearful inhibition may impact approach tendencies, in that, some infants who initially had a quicker reaction to new objects or people may now approach more slowly, or not at all. Fearful inhibition relates to children who are naturally anxious or shy and tend to stay that way as they grow. This trait directly impacts how they experience moral emotions like empathy, guilt, and shame (Rothbart, 2019).

There is also the issue of effort control that impact a child's response. The brain network underlying effort control is called the executive attention network. While executive attention develops, so does the ability to maintain focused attention for longer periods of time. Consistent attention and ability to refrain from touching something that is prohibited in infancy significantly predict effortful control at 22 months. Effortful control helps a child to regulate their behaviour, delayed gratification and voluntary attention. It impacts children's social compliance and affects the development of empathy and guilt or shame. Studies have also found that effects of parenting are determined by the temperament and genotype of the child, with negative emotionality and surgency/sensation seeking in both positive and negative directions (Rothbart, 2019).

Temperament and Psychopathology

Temperament has also been linked to the development of psychopathology. Temperament may increase responses to stressful events or buffer their risk. It has

been found that there is a relationship between temperamental fearful inhibition and later anxiety, negative affectivity and depression. Extraversion or surgency and low effortful control have been linked to the development of borderline personality disorder, substance abuse and other externalizing behaviour. This kind of knowledge can help adults to realise that children's behaviour and emotions are not solely the result of social learning (Rothbart, 2019).

It is important to note that children differ from an early age in their reactivity and self-regulation and may follow different pathways to developmental outcomes. This shows that differences among developing children do not mean that there are good children or bad children. Every child act based on their traits, and we can embrace the differences rather than condemning the child for not fulfilling personal expectations. However, training in attention control can make a difference and has been proven to be beneficial for children with ADHD (Rothbart, 2019).

The American Academy of Paediatrics (2024) provides a perspective on temperament by describing it as an innate characteristic which is inborn. A child's temperament is impacted by their experiences and interactions with other people. The environment and their health may also influence a child's temperament. Observing a child's temperament can help a parent to understand and appreciate their uniqueness. This may also assist the parent to avoid misunderstandings and conflicts. The AAP (2024) described characteristics of temperament as follows:

1. Distractibility- this relates to ways whereby a child can easily shift focus from a task due to happenings in his environment.

2. Activity level - this relates to the level of physical activity, motion, restlessness or fidgety behaviour that a child demonstrated in regular activities (and which also may affect sleep).
3. "Rhythmicity" or regularity has to do with the presence or absence of a regular pattern for basic physical functions including appetite, sleep and bowel habits.
4. Sensory threshold relates to stimulation for a child to react. Some children may respond to the slightest stimulation whereas others required some amount of intensity.
5. Approach and withdrawal shows how a child first responds to a new stimulus (rapid and bold or slow and restricted). For example, in relation to people, situations, places, foods, changes in routines or other transitions.
6. Adaptability is the way a child adjusts to change or a new situation, and how they can modify their response.
7. Intensity relates to the energy level that a child uses to respond in positive or negative circumstances.
8. Attention span has to do with a child's ability to concentrate or focus on a task, whether there is distraction.
9. Mood relates to the way a child's negative or positive words and behaviour shown.

Personality

Regarding personality, the American Psychology Association (n.d.) defines personality as a lasting configuration of characteristics and behaviour that comprise

an individual's unique adjustment to life, including major traits, interests, drives, values, self-concept, abilities, and emotional patterns. Personality is generally seen as a complex, dynamic integration or totality shaped by many forces. These include hereditary and constitutional tendencies; physical maturation; early training; identification with significant individuals and groups; culturally conditioned values and roles; and critical experiences and relationships.

Based on studies reported by Ringwald et al., (2026), childhood temperament traits predict adult personality. Temperament can be described as biologically based individual differences in reactivity and self-regulation that are present early in life and relatively sustained over time. Several developmental theories assumed that basic temperament traits present at infancy set the stage for personality to be developed. Therefore, personality develops from what may be referred to as the "building blocks" of temperament through elaboration and differentiation.

Elaboration entails processes that move genetic predispositions to stable phenotypic patterns of thoughts, feelings, and behaviours. This occurs by mechanisms such as classical and operant conditioning, selection, and manipulation. For example, elaboration could be seen when a child who has high sensitivity to noise and extreme fear of strangers may select into quiet environments and refuses to engage socially with their peers. This may lead them to have a shy personality in adolescence (Ringwald et al., 2026).

Differentiation, known as the orthogenetic principle, posited by Heinz Werner (1940, as cited in Ringwald et al., 2026), involves processes that make traits more complex as people develop new abilities and interests and have increase control over their environmental contexts. For example, a reward-seeking child who gets involved in

team sports, becoming competitive, assertive, and taking on leadership roles among their peers. With elaboration and differentiation, biological and environmental forces give rise to consistency and change in how traits are expressed (Ringwald et al., 2026).

Certain Categories of Strengths and Weaknesses in Children

Studies in developmental psychology and positive youth development categorizes child competencies and vulnerabilities into specific areas.

(I) Cognitive & Intellectual

Strengths may include the ability to quickly process information, advanced memory recall, spatial reasoning, and a strong intrinsic attitude towards learning. Weaknesses or vulnerabilities may include attention and focus deficits, processing delays, and specific executive functioning difficulties like poor planning or time management (Deci & Ryan, 2000).

(II) Character & Temperance (Internal Strengths)

Core strengths include kindness, curiosity, zest, perseverance, and emotional self-regulation. Weaknesses or vulnerabilities include a demonstration of high impulsivity, poor emotional regulation, and difficulties adapting to transitions or routine changes (Shoshani, 2019).

(III) Interpersonal, Physical & Creative

Strengths may include high empathy, conflict resolution, advanced gross/fine motor coordination, and artistic expression. Weaknesses and vulnerabilities may include social anxiety, aggression, fine motor delays affecting handwriting, or gross motor coordination challenges (Vygotsky, 1978).

Certain Ways to Identify Traits

Regarding temperament, parents can make note of temperament in the patterns of the child's behaviour and emotions in relation to various situations. Several questions may be asked. How does the child react as it relates to new situations? How does a child react to frustration? How does a child demonstrate behavioural and emotional control? What can the parent do to normalise a child who is upset? (Rothbart, 2019).

Natural Observation by Parents

Parents naturally collect qualitative data by observing their children across multiple daily setting such as the way they play, how they relate with peers and structured family activities. Parents may identify strengths by observing how a child engage in activities. The way a child shows intense focus, experiences high energy, and loses track of time can provide an indication of core strength. Weaknesses may be shown during routines activities. These may include avoidance of specific tasks (e.g., throwing tantrums during reading assignments) or frequent peer conflicts (Waters, 2015).

Other Methods

(I) Strategic Questioning & Psychometric Tools

During formal evaluations, parents complete validated inventories to systematically map out traits. These include The Preschool Strengths Inventory (PSI) / CSI-EC is a validated parent-report measure designed to evaluate 24-character strengths in young children. Another is the Behaviour Assessment System for Children (BASC-3) & ABAS-3, which is a comprehensive parent screening tools used to evaluate behavioural

strengths as well as developmental or executive functioning delays (Owens et al., 2025).

(II) Other Behavioural and Emotional Asset Mapping

Clinical and educational spaces heavily rely on objective rating scales over casual observation to measure behaviours against standardized age norms. Behavioural and Emotional Rating Scale (BERS-2) is a widely researched instrument used by parents, teachers, and clinicians to score a child across five areas: interpersonal strength, family involvement, intrapersonal strength, school functioning, and affective strength (Wagner et al., 2021).

(III) The CANS Checklist represents emerging research highlighted whereby clinical teams explores the Child Autism and Neurodevelopment Strengths (CANS) Checklist. This co-designed system extracts caregiver narratives to capture multi-dimensional child strengths (such as intense passion, deep focus, and cognitive resilience) alongside traditional behavioural vulnerabilities.

(IV) Cognitive and Adaptive Functioning

When identifying vulnerabilities, standardized neurodevelopmental and adaptive diagnostic tools distinguish between general adjustments and underlying developmental conditions (Simpson et al., 2025).

(V) Neurodivergent-Affirming Assessments

Recent shifts in developmental psychology stress the vital importance of "neurodivergent-affirming" tools to ensure that diagnostic assessments do not focus exclusively on deficits (Simpson et al., 2025).

Behaviour Modification as Treatment for Children

Behaviour modification is frequently included in treatment plans when a child is diagnosed with attention-deficit hyperactivity disorder (ADHD), oppositional defiant disorder, conduct disorder, intermittent explosive disorder, or other externalizing disorders (as opposed to internalizing disorders like major depression). Behaviour therapy is not restricted to externalizing behaviour disorders but many times it is key part of the treatment plan when the presenting problem is behaviour related. Applied behavioural analysis (ABA) is one of the therapeutic techniques mainly used in behaviour modification. It has been viewed as very effective in persons diagnosed with autism spectrum disorders and other similar developmental disorders (Scott et., al).

Additionally, behaviour modification forms part of Parent-Child Interaction Therapy (PCIT). This therapy teaches specific skills to the parents, which they can use to improve physical and verbal exchanges with their children. PCIT is an evidence-based intervention, which helps to protect a child from abuse andneglect. It helps children who show disruptive behaviour and have experienced trauma as well as those on the autism spectrum. Evidence has shown that implementing PCIT resulted in decreased child's risk of antisocial and criminal behaviour later in life (Scott et., al).

Regarding the issue of discipline, a UNICEF Multiple Cluster survey was conducted to test associations between aggressive and non-aggressive discipline behaviours and outcomes (aggression, distraction and prosocial peer relations) of children under 5 years in low-income and middle-income countries (LMICs). Analyses were restricted to households with children under 5 years, leaving a sample of 229 465 respondents across 60 LMICs. Data were analysed using Bayesian multilevel logistic

regression. The findings showed that verbal reasoning (80%) and shouting (66%) were the most used parental discipline behaviours towards young children. Psychological and physical aggression were associated with higher child aggression and distraction (Ward et al., 2023).

Conclusions drawn was that Psychological and physical aggression were disadvantageous for children's socioemotional development across countries. Verbal reasoning was associated with positive child socioemotional development. Psychological aggression or physical aggression does not benefit a child's socioemotional development in any country. Based on the conclusion more emphasis should be committed to reducing parental use of psychological and physical aggression across cultural contexts (Ward et al., 2023).

Parental Characteristics

Parenting is a way of supporting and promoting a child's physical, emotional, mental, and social development. The quality of instructions, animation, cognitive stimulation, physical care, parent-child synchrony, sensitivity, and positive responsiveness are dimensions of parenting, (Lanjekar & Joshi, 2022). Parenting is impacted by parents' characteristics. This includes age, gender identity, personality, developmental history, beliefs, knowledge about parenting and child development, and mental and physical health. Parents' developmental histories, or their experiences as children, can also affect their parenting strategies (Lang & Diener, 2020).

Parents may learn parenting practices from their own parents. Fathers whose own parents provided monitoring, consistent and age-appropriate discipline, and warmth are more likely to provide this constructive parenting to their own children. Patterns of

negative parenting and ineffective discipline also appear from one generation to the next. However, parents who are dissatisfied with their primary caregivers' approach may be more likely to change their parenting methods when they have children (Lang & Diener, 2020).

According to Jami et al. (2021), the application of genetically informative designs is crucial to disentangle the role of genetic and environmental factors (as well as gene–environment correlation) underlying these observations. This is due to the fact that parents provide not only the rearing environment but also transmit 50% of their genes to their offspring. A systematic literature review was conducted in relation to genetically informative studies that investigated associations between parental characteristics and offspring mental health and related outcomes. This provided credible evidence of genetic transmission of depression, criminal behaviour, educational attainment, and substance use. These results showed that studies which do not use genetically informative designs are likely to misinterpret the mechanisms underlying parent–offspring associations.

Additionally, several parental characteristics, including parental psychiatric traits and parenting behaviours, were connected to offspring internalising problems, externalising problems, educational attainment, substance use, and personality through environmental pathways (Jami et al., 2021), In totality, genetically informative designs to study intergenerational transmission prove valuable for the understanding of individual differences in offspring mental health and related outcomes, and mechanisms of transmission within families. Observed associations between parental factors and offspring outcomes are often interpreted as direct environmental influences. The fact is that parents provide both the rearing

environment and genes to their children. Hence, observed parent–offspring associations may be wholly or partially explained by genetic factors shared between the parent and child (Jami et al., 2021),

Woolston (2023) referred to studies done by Joshua Jackson and Amanda Wright, that examined the way parents' personalities; namely, boisterous or reserved, agreeable or cranky, concerned or care-free can shape the lives of their children, for better or worse. The studies found that parent personalities have a significant impact on a child's life, even after taking the child's personality into account. A child's personality matters but parents have a special and important impact on them.

A longitudinal study by Prinzie (2012) on what is referred to as the "Big Five" personality transmission showed that a parent's specific personality profile deeply impacts how a child develops emotionally and socially:

- Conscientiousness & Agreeableness: Parents who score high in these traits tend to raise healthier children. They provide stable, highly structured environments and warm, supportive interactions.
- Openness: Imaginative and creative parents generally foster children who remain highly active in hobbies, leisure activities, and critical thinking.
- Neuroticism: Parents who struggle with high anxiety or emotional instability frequently have children who score lower on overall health metrics earn lower school grades.
- Extraversion: Highly outgoing parents often have children who engage heavily in social settings, though large-scale longitudinal tracking shows they can sometimes struggle with academic focus, leading to lower grades.

Lanjekar & Joshi (2022) outlined certain parenting style and characteristics, and the resulting child characteristics as follows:

Parenting Style	Driven by Parent Characteristics	Resulting Child Characteristics
Authoritative	High agreeableness, emotional stability, and empathy.	**High self-esteem**, self-regulation, happiness, and academic success.
Authoritarian	High need for control, rigid beliefs, or low agreeableness.	**Obedient but anxious**, lower self-reliance, and prone to internalizing stress.
Permissive	Overly anxious about conflict or highly conflict-avoidant.	**Poor self-regulation**, lower happiness levels, and higher risk of behavioural issues.
Neglectful/Uninvolved	Chronic stress, untreated mental health issues, or severe detachment.	**Low self-control**, poor relationship skills, and higher rates of delinquency.

Consequences

Consequences are explained in psychology primarily through behavioural theory, which shows how rewards and punishments shape future actions (Skinner, 1953). The theory of operant conditioning explains how people learn behaviours based on what happens immediately after they do something. This is referred to as consequences of behaviour, Consequence which entails positive reinforcement, negative reinforcement and punishment.

Reinforcement is a consequence that makes a behaviour more likely to happen again. Positive reinforcement adds a helpful or pleasant reward. Negative reinforcement removes an unpleasant or painful condition. Punishment is a consequence that makes a behaviour less likely to happen again. Positive punishment adds an unpleasant outcome to stop an action. Negative punishment removes a pleasant item or privilege. Extinction occurs when a behaviour stops

because it no longer gets any consequence or reward at all. This fades the action over time (Skinner 1953).

According to Kazdin (2013), a behaviour starts with an antecedent, that is the event or situation that occurs prior to the behaviour. In the case of a child, an antecedent could be an instruction to clean up their room. A compliant or non-compliant behaviour would follow. The behaviour that follows will determine the consequence. Kazdin (2013) is of the view that the application of an antecedent can impact the behaviour.

Kazdin (2013) provided some insight into issues to be considered when applying consequences. For example, the way a request is made to a child or the type of request is of significance. Shouting an instruction from room to room will unlikely achieve an intended goal. On the contrary, doing task together may have the parent modelling a behaviour to the child, which may result in reinforcement. However, if an antecedent is removed too quickly, there may be difficulty is establishing reinforcement or a change in behaviour, Therefore, there is the need for consistency. Another approach is to use antecedent with high probability requests first then introduced those with low-probability requests. High probability requests are those that the child will eagerly do whereas low probability requests may pose difficulty in response. Thus, the parental approach is critical in applying consequence.

It is also important to note that fearful children are naturally sensitive so harsh discipline backfires. On the other hand, gentle parenting works best to help them internalize right from wrong in promoting conscience. Fearless children lack natural fear are not motivated by the threat of consequences. Instead, they develop a conscience through a strong attachment and positive relationship with their mother

or primary caregiver. Therefore, they benefit more from maternal responsiveness and their own security of attachment patterns in conscience development (Rothbart, 2019).

Life Changes and Associated Stress

Alfred Adler's individual psychology emphasizes that changes specifically in the environment, social, and structural result in shifts within the family and profoundly shape a child's personality, core beliefs, and ultimate "style of life". Adler stated that children are not merely passive recipients of change but are teleological (goal-directed) beings. Their development depends on the way they subjectively interpret and adapt to these changes to find a sense of belonging and significance (Adler Graduate School, 2021; Devlin et al., 2023, as cited in Else, 2025).

An area of change that affected many children relates to birth order. The first child thinks that he has lost his position when a second child is born. The first thinks he has lost his position as the centre of affection. He suffers great tension and begins striving to regain favour. He may show antagonistic, disobedience, attacks on the baby, or even to play the part of a baby to compel his parents to give him attention. The tension may result in somatic symptoms disorder such as headaches, stomach problems and hysterical spasms (Stein, 2005).

Factors present in an individual may result in the possibility of development disorders. Risk factors include biological such as low birth weight, poor prenatal care, substance abuse and prematurity. Environment risk includes poor responsibility or lack of sensitivity by mother to child, low level of language stimulation or poverty.

However, protective factors temper the predictions of psychopathology. (Ollendic & Schoeder 2003).

Parenting provides support and care to a child who is in painful or stressful situations. It also gives the child confidence when in non-distressing or non-stressful conditions. Sensitivity in parenting young children creates an emotional climate for them. Supporting and sensitive parenting give children security and confidence. Sensitive parenting demonstrates affective and behavioural development in children. it is characterized by responsiveness and giving positive encouragement. Problems encountered can be addressed through professional help. The media is also used to increase parenting information and awareness. These approaches assist parenting skills and reduce depression, anxiety, and stress; and help parents enhance the skills of the parent-child relationship (Lanjekar & Joshi (2022)

Conclusion

Behaviour modification serves as an exceptionally robust, empirically verifiable methodology for optimizing human actions and mitigating maladaptive responses across clinical, educational, and organizational environments (Martin & Pear, 2023; Scott et al., 2023). Behaviour modification relies on operant conditioning. Therefore, when overt and covert observations are prioritized through structured functional assessments and the Antecedent-Behaviour-Consequence (ABC) model. This approach manipulates environmental variables directly to complement traditional medical interventions (Miltenberger, 2024). Longitudinal and mixed-methods research confirm that operational success relies entirely on strategic contingency mapping and sustained engagement.

Crucially, the efficacy of behavioural strategies also determines a precise calibration to the bidirectional dynamic between child and parental characteristics. In developmental frameworks, behavioural outcomes are intrinsically moderated by a child's foundational temperament variables. These include distractibility and effortful control, which serve as the biological building blocks of adult personality by elaboration and differentiation (AA 2024; Ringwald et al., 2026; Rothbart, 2019). However, child temperament is continuously shaped by the dimensions of parenting, intergenerational histories, and "Big Five" parental traits. Ultimately, attention should be given to the biological, psychological, and genetic profiles of both the parent and the child. Additionally, a main goal of behaviour modification as it relates to human organism is for behaviour to be modified and operate in a healthy manner that will improve functioning and performance.

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Paper 1, Lesson 4- Behaviour Modification and Social Skills, Addressing Applicable Techniques

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Lesson 4 - Behaviour Modification and Social Skills, Addressing Applicable Techniques

Introduction

Behaviour modification was treated as being consisting of two parts, behavioural modification 1 and 2. This can also be described as phase 1 and phase 2. A behaviour modification programme requires a systematic transition from raw metrics to environmental manipulation. This paper will briefly discuss; the process of behaviour modification into two distinct phases. Phase1invloves baseline data collection, and phase 2: functional assessment, intervention design and implementation.

Discussion will also include behaviour modification as it relates to social skills. Additionally, discussion on intervention would involve the implementation of certain techniques such as behaviour activation, contingency contracts, token economy and shaping. Practitioners may have access to organisations and institutions for training, qualification and monitoring. Therefore, a brief outline of this will be included.

Explanation of Behaviour Modification

Behaviour modification is described as the systematic use of learning principles and techniques to assess and improve an individual's behaviour, which ultimately results in enhancing their daily functioning (Martin & Pear, 2019). Behaviour modification may be categorised into two phases with phase one primarily focusing on data collection and description and phase two on assessments, intervention and evaluation. The phases may be outlined as follows:

Phase 1: Data Collection

The first step in any behaviour modification program is baseline data collection. This phase is strictly objective and descriptive. Before any attempt is made to alter the individual's environment, the target behaviour must be operationally defined in clear, measurable terms outlining:

- The Purpose: According to Cooper et al. (2020), baseline data serves two primary functions: it provides a quantitative description of the current behaviour profile and acts as a predictive tool to evaluate future treatment effects.
- Core Activities: Practitioners record the raw physical dimensions of the behaviour—specifically its frequency (count), duration (time elapsed), and intensity (magnitude).
- Methodologies: Data collection relies on direct observation methods, such as event recording, partial-interval recording, or momentary time sampling (Martin & Pear, 2019). Collecting data without interfering is vital; without a stable baseline pattern, it is scientifically impossible to prove whether a subsequent treatment caused a shift or it is external variables.

Phase 2: Behavioural Assessment and Typology (The Diagnostic Function)

A move from gathering the raw data leads to behavioural assessment. While Phase 1 tracks how much a behaviour occurs, Phase 2 investigates the reason it occurs by identifying its functions and environmental triggers as outlined below:

- The Purpose: The focus is on conducting a Functional Behaviour Assessment (FBA) to isolate the environmental variables controlling the behaviour.

- Core Activities: Analysts use the ABC Model (Antecedent-Behaviour-Consequence) to identify the specific events that immediately precede and follow the target behaviour. ABC Analysis is a systematic approach to understanding behaviour by examining three key components: Antecedent (A): looks at what happens immediately before the behaviour occurs; behaviour (B): The specific behaviour being observed; and Consequence (C): What happens immediately after the behaviour. This method helps to identify functional relationships between environmental events and behaviours (Mohan, 2025).
- Typology Formulation: Through FBA data, the behaviour is classified into its functional types. In behaviour analysis, behaviours typically serve one of four major categories or functions: escape/avoidance, attention-seeking, access to tangibles, or automatic (sensory) reinforcement. According to the U.S. Department of Education's What Works Clearinghouse (2017), linking intervention strategies directly to these assessed functions drastically improves the success rate of the behavioural plan.
- During the implementation, practitioners apply the foundational rules of operant conditioning to systematically alter the subject's environment (Skinner, 1953). These prescriptive treatments typically feature customized reinforcement schedules or antecedent adjustments tailored to the individual (Martin & Pear, 2019). Empirical evidence demonstrates that when these interventions are directly aligned with the functional assessments conducted in the first phase, the probability of successful, long-term behaviour modification increases significantly. This would be based on the objective, that

is, whether there is an elimination or decrease in a desired behaviour, or an increase in a desired behaviour (What Works Clearinghouse, 2017).

Mechanics of Cognitive-Behavioural Social Skills Enhancement

In the context of resolving social deficits, second-generation techniques operate on the premise that social anxiety and poor interpersonal communication are maintained by cognitive distortions rather than a simple lack of baseline behavioural skills (Beck, 1976). For instance, an individual experiencing social isolation might accurately perform a skill (e.g., introducing themselves to a peer) but interpret the peer's neutral expression as an active sign of rejection. According to the cognitive mediation model, this specific cognitive bias triggers immediate feelings of worthlessness, which directly leads to subsequent behavioural withdrawal (Ellis, 1962).

Second-generation therapies resolve this interpersonal loop by combining behavioural homework—such as role-playing and assertiveness training—with systematic cognitive restructuring (Beck, 1976; Rosin, 2018). By identifying and actively challenging automatic assumptions (such as catastrophizing, negative filtering, or mind-reading), clients learn to safely navigate social environments with flexible, reality-based expectations, altering both their internal emotional states and their overt social behaviours (Rosin, 2018).

How Behaviour Modification is used to Modify Certain Behaviours and Address Social Skills

Behaviour modification operates under the fundamental premise that human behaviour is largely learned and can be systematically altered by restructuring

environmental contingencies (Miltenberger, 2016). When addressing social skills deficiencies such as those seen in individuals with autism spectrum disorder, developmental delays, or chronic psychiatric conditions social interactions are systematically broken down into measurable, discrete units. Deficit social traits can lead to severe personal and interpersonal dysfunction, hindering peer relationship development, academic progression, and community integration (Weiss et al., 2023).

Operationalizing social behaviours (e.g., initiating conversation, interpreting non-verbal cues, and sharing items), can replace disruptive or isolating coping mechanisms with prosocial habits. Evaluating or implementing a behaviour modification plan for social skills requires a performance-based training framework utilizing a strict four-tier protocol:

- Instructions: Providing clear, non-jargon verbal researchers frequently utilize an experimental Single-Subject Design (SSD), such as an A-B-A-B withdrawal design or a multiple-baseline design across participants, to track baseline, intervention, and post-intervention phases (Radley et al., 2017). The intervention relies heavily on the Behavioural Skills Training (BST) package, which have written explanations establishing precise behavioural expectations.
- Modelling: Delivering live, video, or peer-led demonstrations of the appropriate social behaviour.
- Rehearsal: Engaging the participant in hands-on roleplaying exercises to practice the targeted social skill in a safe, controlled environment.

- Feedback & Contingency Management: Providing immediate corrective guidance alongside heavy positive reinforcement (e.g., descriptive praise, token economies) to strengthen and lock in the desired response (Miltenberger & Zerger, 2023).

Expected Results & Discussion

Data gathered through direct observation, standardized Likert scales, and interval charting typically show that structured behaviour modification significantly lowers maladaptive habits and increases prosocial alternatives. For instance, single-case evaluations frequently reveal an immediate change in level and a sharp, accelerating trend in targeted social interactions upon introducing the BST intervention package (Radley et al., 2017). In the discussion, these outcomes are interpreted through the lens of the three-term contingency (antecedent, behaviour, consequence), showing how altering prior cues and subsequent reinforcements reshapes human behaviour (Miltenberger, 2016).

The primary limitation highlighted in behavioural research involves generalization. This ensures the individual can transfer the newly acquired social skills from a controlled laboratory, clinic, or classroom setting into fluid, unpredictable, real-world social environments (Cooper et al., 2020). Future research directions emphasize integrating naturalistic developmental behavioural interventions (NDBIs) to foster long-term skills maintenance. The following is a textual model of an A-B-A-B Single-

Subject Design:

1. Baseline Phase (A1) — Sessions 1 to 5

- Environmental Context: The participant is observed in their natural classroom setting during unstructured free periods without any clinical adjustments or instructions.
- Observed Data Path: Social turn-taking is low, flat, and stable, averaging only 2 to 4 instances per 15-minute observation window.
- Empirical Synthesis: This initial phase confirms the presence of a distinct social skill deficit, providing an empirical floor to evaluate future treatment adjustments (Cooper et al., 2020).

2. BST Intervention Phase (B1) — Sessions 6 to 10

- Environmental Context: The practitioner introduces a structured Behavioural Skills Training (BST) package consisting of explicit rules, visual modelling, guided roleplay, and immediate positive feedback.
- Observed Data Path: An immediate upward shift in data level occurs at Session 6. The frequency of turn-taking trends steadily upward, climbing from 6 instances to a peak of 11 instances by Session 9.
- Empirical Synthesis: The distinct trend shift proves that the performance-based BST framework effectively changes target behaviours in controlled environments (Miltenberger & Zerger, 2023).

3. Withdrawal Phase (A2) — Sessions 11 to 15

- Environmental Context: The clinician deliberately removes the BST package. Prompting, modelling, and reinforcement contingencies are stopped, returning the setting to baseline conditions.
- Observed Data Path: Turn-taking drops immediately, falling back down to a low range of 2 to 5 instances per session.
- Empirical Synthesis: This step is crucial for establishing experimental control. The return to baseline levels demonstrates that the improved social behaviours were directly caused by the intervention rather than outside events or maturation (Miltenberger, 2016).

4. Reintroduction Phase (B2) — Sessions 16 to 20

- Environmental Context: The full BST package and contingency reinforcements are put back into place exactly as they were during the first intervention phase.
- Observed Data Path: Social interactions bounce back immediately, showing a highly stable, elevated rate that ranges between 8 and 12 instances per session.
- Empirical Synthesis: By successfully replicating the positive behavioural trend a second time, the study meets the empirical requirements needed to prove a functional relationship between behaviour modification and social development (Radley et al., 2017; Weiss et al., 2023).

Certain Techniques in Relational Behavioural Change

First Generation Approaches

Behavioural interventions systematically optimize social competencies by transitioning from externally structured contingencies to organic, relational adaptations. First-generation approaches focus on establishing fundamental prosocial behaviours through explicit environmental adjustments. For example, a contingency contract provides an explicit, written blueprint that links targeted actions directly to scheduled reinforcement. This effectively reduces ambiguity and improves task engagement among individuals with social skill deficits (Majeika et al., 2020).

When basic social actions are entirely absent from an individual's behavioural repertoire, shaping allows a clinician to differentially reinforce successive approximations of the target interaction until the complete skill is mastered (Cooper et al., 2020). It is then determined that base skills are formed. Then, a token economy can scale these behaviours across structured group environments by using generalized conditioned reinforcers to increase functional participation and minimize disruptive behaviours (Maggin et al., 2011). However, if these learned actions are disrupted by intense physical anxiety during live interactions, biofeedback trains individuals to use operant principles to consciously regulate their involuntary autonomic nervous system responses (Cooper et al., 2020). This reduces the physiological fight-or-flight response, allowing the individual to remain calm and focused on the social situation.

Third Generation Approaches

Third-generation techniques expand on foundational concepts by shifting the focus from artificial reinforcement to psychological context and natural relationships. In Functional Analytic Psychotherapy (FAP), the live relationship between the therapist and client serves as the primary mechanism for social change. The therapist actively monitors in-session interpersonal problems, known as Clinically Relevant Behaviours (CRBs), and uses genuine interpersonal reinforcement to build deeper, more authentic social skills (Villas-Bôas et al., 2016).

When social deficits stem from severe withdrawal and depression, Behavioural Activation (BA) systematically breaks the cycle of isolation by scheduling structured, value-driven activities that naturally reconnect the client to positive reinforcement in their community (Cuijpers et al., 2026). Finally, on an intimate level, Integrative Behavioural Couple Therapy (IBCT) improves relational functioning by shifting the emphasis from forced behavioural changes to emotional acceptance strategies. By practicing empathic joining and unified detachment, partners learn to view their communication conflicts as external issues rather than personal defects, which protects long-term relationship satisfaction (Roddy et al., 2016).

Organisations Associated with Behavioural Therapy

The prominent organizations responsible for behavioural therapy, behaviour analysis, and their respective certification structures are detailed below:

1. Global & Regional Umbrella Organizations

    While state chapters handle local advocacy, global networks provide the foundational accreditation frameworks.

- World Confederation of Cognitive and Behavioural Therapies (WCCBT): The WCCBT is a global network that advances mental health by coordinating training standards, guidelines, and policy advocacy across its major regional member associations. (Note: WACBS appears to be a slight misnomer for either the *WCCBT* or the *Association for Contextual Behavioral Science (ACBS*).
- Association for Behavior Analysis International (ABAI): The ABAI is the primary international organization dedicated to the growth and development of behavior analysis. Through its Accreditation Board, the ABAI Accredits Academic Programs at bachelor's, master's, and doctoral levels to ensure they meet rigid educational benchmarks required for certification.

2. State & Regional Affiliate Chapters (ABAI)

The ABAI does not directly issue individual clinician certifications; instead, it oversees a network of US State Chapters that manage regional policy, state-level insurance navigation, and local continuing education. Practitioners join these state-level chapters to maintain compliance with localized laws. Examples of these state organizations include:

- California ABA (CalABA)
- New York State ABA (NYSABA)
- Texas ABA (TxABA)
- Florida ABA (FABA)

3. Certification & Credentialing Boards

To legally practice behavioural therapy or behaviour analysis, professionals must obtain credentials from independent certifying bodies, rather than membership organizations.

Board / Organization	Primary Credentials Issued	Global vs. Regional Focus
Behavior Analyst Certification Board (BACB)	BCBA (Board Certified Behavior Analyst) BCaBA (Assistant Level) RBT (Registered Behaviour Technician)	Focuses primarily on the United States and Canada. Eligibility rules dictate that academic coursework must be from an ABAI-verified or accredited sequence.
International Behavior Analysis Organization (IBAO)	IBA (International Behaviour Analyst) IBT (International Behaviour Technician)	Designed specifically for international credentialing outside North America, gaining rapid adoption in Latin America, Europe, and the Middle East.
Qualified Applied Behavior Analysis Credentialing Board (QABA)	QBA (Qualified Behavior Analyst) QASP-S (Qualified Autism Services Practitioner-Supervisor)	Focuses on international certification specifically surrounding autism and related neurodivergent conditions.

4. Certification Pathways

For professionals looking to fulfil the educational mandates established by these boards, options include:

- University Certificate Programs: Institutions like Purdue University Global and George Mason University offer postbaccalaureate and graduate certificates that feature an ABAI-verified course sequence, explicitly preparing students for board exams.
- Accredited Degrees: Completing an explicit master's or doctoral program from institutions found on the ABAI Accredited Programs list guarantees alignment with Pathway 1 criteria for the BACB certification.

Conclusion

The evolution of behaviour modification provides a comprehensive toolkit for addressing social deficiencies and reshaping human interaction. While first-generation techniques establish fundamental prosocial habits through external contingencies and structured reinforcement, third-generation approaches deepen this impact by fostering emotional acceptance and utilizing natural, relational dynamics. Bridging these paradigms, phase two of behaviour modification, the cognitive revolution, introduced vital cognitive restructuring strategies. This allows individuals to challenge the internal maladaptive thoughts that frequently drive interpersonal avoidance. Ultimately, by integrating the generations techniques, modern behaviour modification effectively dismantles complex social deficiencies, empowering clients to transition from basic skill acquisition to authentic, contextually flexible relationships.

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Lessons 3- Historical Evolution, Methodological Assessments and Clinical Interventions of Behaviour Therapy

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Paper 2, Lesson 3- Historical Evolution, Methodological Assessments, and Clinical Interventions of Behaviour Therapy

Introduction

Behaviour therapy is an empirically driven paradigm of psychotherapy It applies the principles of learning, classical conditioning, and operant conditioning to eliminate maladaptive responses and cultivate adaptive behavioural patterns (APA, n.d.). The core assumption of the discipline is that behaviour, regardless of whether it is adaptive or problematic, is acquired, developed, and maintained by systematic, predictable stimulus-and-response laws. This can be objectively studied and modified. Behaviour therapy is historically rooted in comparative laboratory research involving animal models.

Behaviour therapy has transformed through three distinct chronological "waves" or generations (Hofmann & Hayes, 2018). This paper discusses the historical timeline and structural foundations beginning with the first-generation animal models of Edward Thorndike and B.F. Skinner. It traces the field's clinical migration in the 1950s through Joseph Wolpe and Hans Eysenck, its expansion into institutional token economies (Ayllon & Azrin, 1965), and its second-generation cognitive integration under pioneers like Albert Bandura. Finally, this paper examines the contemporary, third-generation shift toward contextual, acceptance-based modalities (ACT and DBT). It highlights the foundational role of the Antecedent-Behaviour-Consequence (ABC) model, behavioural activation, preparedness theory, and the Behavioural Avoidance Test (BAT).

Definition of behaviour therapy

Behaviour therapy has been defined (APA. n.d.) as a form of psychotherapy that applies the principles of learning, operant conditioning, and classical conditioning to get rid of symptoms and modify ineffective or maladaptive patterns of behaviour. The emphasis is on the behaviour, the contingencies and environmental factors that reinforce it, instead of an exploration of the underlying psychological causes of the behaviour.

Several techniques are used in behaviour therapy, such as behaviour rehearsal, biofeedback, modelling, and systematic desensitization. The notion is that behaviour, including its acquisition, development, and maintenance, can be reasonably explained by stimuli- and response-based principles of learning. Behaviour theory attempts to illustrate influences on behaviour, with the aid of controlled studies with laboratory animals. It entails historical approaches to formal theorizing, such as those of Clark L. Hull, operant theory of B. F. skinner, and contemporary approaches to behaviour, (APA, n.d.).

History of Behaviour Therapy

Behaviour therapy falls under the heading of behaviourism, which focused on the study of observable and measurable behaviour and posited that most behaviours are learned. It is believed that three main research set the foundation for behaviourism. Ivan Pavlov (1927) showed the process of respondent (classical) conditioning and its effect on learning. John Watson's Little Albert's study showed that an infant learned fear of a white rat through respondent conditioning. Edward Thorndike studied how

“satisfying or annoying” consequences (now called reinforcement and punishment) affect learning (Craighead & Nemeroff, 2004).

Thorndike’s Study

Thorndike (1905) designed puzzle-boxes for use with cats, which were required to operate a latch that automatically caused the door of the box to spring open. The cats were left without food for a considerable time. When they got out of the puzzle-box, there was a piece of fish waiting for them. This could be seen from inside the puzzle-box (Gross, 2019).

Initially, the cats had difficulty getting out, behaving in a purely random manner. It was by chance that the first escape was made but every time they were returned to the puzzle-box, it took them less time to operate the latch and escape. For example, with one of the boxes, the estimated time for the first escape was 5 minutes, but after 10–20 trials this was reduced to about 5 seconds. Based on this, Thorndike claimed that the learning was essentially random or trial and error. The learning that took place involved a connection between the stimulus (the manipulative components of the box) and the response (the behaviour that allowed the cat to escape). In addition, the stimulus–response connection is stamped in when pleasure is obtained from the act and stamped out when it does not (law of effect), (Gross, 2019).

Thorndike’s law of effect demonstrated the relationship between behaviour and its consequences. Firstly, this includes the belief that behaviour becomes more or less likely based on the effect it has in producing desirable or undesirable consequences. Secondly, rewarded behaviour is likely to recur. Thirdly, behaviour followed by a negative consequence is less likely to recur (Dev & Rathore, n.d.).

Skinner's Study

Skinner's study of operant conditioning was primarily based on Thorndike's law of effect. Skinner viewed organisms as predicting and controlling behaviour. This is done by manipulating the environment resulting in manipulated behaviour. Skinner's term, operant conditioning is described as a learning process whereby the consequences which follows a response determine whether the behaviour is repeated. Reinforcement gives rise to repeated behaviour. However, reinforcement may be positive or negative. Punishment is another consequence of behaviour identified by Skinner. In the application of punishment, behaviour may be decreased or not repeated (Scott, n.d.).

Skinner took the approach to use a form of puzzle-box known as a Skinner box. It was built for a rat or pigeon to do things in, rather than escape from it. The box had a lever (in the case of rats) or illuminated discs (in the case of pigeons), where there was a food tray. The experimenter decides exactly what the relationship shall be between pressing the lever and the delivery of a food pellet, providing total control of the animal's environment. However, the animal had to do the work. Skinner said strengthen in place of Thorndike's 'stamping in' and weaken in place of 'stamping out'. He viewed those Thorndike's terms as too mentalistic, and his own to be more objective and descriptive (Gross, 2019).

Skinner's version of the law of effect suggested that 'behaviour is shaped and maintained by its consequences'. The consequences of operant can be positive reinforcement, negative reinforcement or punishment. Although positive and negative reinforcement strengthen behaviour (causing it to be likely), each works in a different way. Positive reinforcement is about providing something pleasurable (such

as food), whereas negative reinforcement has to do with the removal or avoidance of some ‘aversive’ (literally ‘painful’) circumstance (such as electric shock). Punishment weakens behaviour (making it less likely), through the provision of an aversive stimulus. (Gross, 2019).

Reinforcers may be primary or secondary. Primary reinforcers (such as food, water, sex) are referred to as natural reinforcers (reinforcing in themselves). Secondary reinforcers obtain their reinforcing properties through association with primary reinforcers – that is, we must learn (through classical conditioning) to find them reinforcing. Examples of human secondary (or conditioned) reinforcers are money, cheques and tokens. In a Skinner box, if a click is paired with the presentation of each pellet of food, the rat will eventually find the click on its own reinforcing. The click can then be used as a reinforcer for getting the rat to learn some new response. Negative reinforcement involves escape and avoidance learning which are two main ways whereby negative reinforcement was examined in the laboratory. Escape learning stops an ongoing stimulus that is not pleasurable. For example, rats can learn to press a lever to turn off an electric shock (Gross, 2019)

The Historical Evolution of Behaviour Therapy

The evolution of behaviour therapy is historically categorized into three distinct generations or "waves" (Hofmann & Hayes, 2018). These three generations of behaviour therapy can be outlined as follows:

1. The First Generation was in relation to traditional behaviourism and conditioning (1900s–1960s). The first generation rejected internal introspection, asserting that

behaviour could be objectively measured, modelled, and changed (StatPearls, 2023).

Core Conceptual Frameworks:

- Classical Conditioning: Formulated by Ivan Pavlov, this model demonstrated that autonomic responses could be learned through paired stimulus-response relationships (Hofmann & Hayes, 2018). John B. Watson later applied these principles to humans, famously demonstrating through the *Little Albert* experiment how emotional reactions like fear could be conditioned.
- Operant Conditioning: Pioneered by B.F. Skinner, this theory shifted focus to voluntary behaviours. Skinner (1953) proved that voluntary behaviour is shaped and maintained by its consequences, utilizing positive and negative reinforcement to change the probability of a response.

2. The Second Generation: The Cognitive Revolution (1960s–1980s)

By the 1960s, it became apparent that strict behaviourism failed to account for internal human cognitive processes (Hofmann & Hayes, 2018). This realization integrated cognitive psychology into behavioural frameworks, giving rise to cognitive behavioural therapy (CBT).

Key Pioneers of Cognitive and Emotive Therapy:

- Albert Ellis: Founded Rational Emotive Behaviour Therapy (REBT), which posited that psychological distress stems not from external events, but from irrational beliefs about those events (Hofmann & Hayes, 2018).

- Aaron T. Beck: Formulated Cognitive Therapy. Observing depressed patients, Beck identified brief, negative, and involuntary internal self-talk which he termed "automatic thoughts". By teaching patients to identify, evaluate, and restructure these cognitive distortions, therapists could systematically alleviate emotional suffering (Hofmann & Hayes, 2018).
- Albert Bandura: Contributed Social Learning Theory, introducing observational learning and the concept of self-efficacy, effectively bridging the gap between external conditioning and internal cognition (Hofmann & Hayes, 2018).

3. The Third Generation: Contextual and Acceptance-Based Theories (1990s–Present)

The late 20th century welcomed the "third wave" of behaviour therapy. Rather than focusing purely on changing the literal content of a thought or behaviour, these modern approaches target the client's relationship to their thoughts and emotions using mindfulness and acceptance principles (Hofmann & Hayes, 2018).

Modern Modalities include:

- Acceptance and Commitment Therapy (ACT): Focuses on psychological flexibility, encouraging individuals to accept their thoughts and feelings rather than fighting them, while committing to value-driven actions (Hofmann & Hayes, 2018). This is primarily based on Relational Framed Theory, which explains human language and cognition.
- Dialectical Behaviour Therapy (DBT): Developed by Marsha Linehan, DBT combines behavioural science with mindfulness to balance acceptance and

change (Hofmann & Hayes, 2018). DBT relies heavily on an adaptation of functional analysis called Behavioural Chain Analysis to meticulously deconstruct maladaptive habits moment by moment.

Clinical Emergence and Methodology

The paradigm transitioned into clinical settings by the 1950s (Hofmann & Hayes, 2018). The movement expanded globally across key figures: Joseph Wolpe developed systematic desensitization based on reciprocal inhibition to treat phobias, while Hans Eysenck evaluated behaviour from the perspective of personality traits and environmental interplay (Hofmann & Hayes, 2018).

An attempt to manage and modify behaviour in institutional settings like psychiatric hospitals, led to practitioners operationalising operant conditioning through the development of the token economy (Ayllon & Azrin, 1965). Pioneered in clinical practice by Teodoro Ayllon and Nathan Azrin, a token economy is a highly structured contingency program where patients receive secondary conditioned reinforcers (tokens) as an immediate consequence for specified, adaptive behaviours (Kazdin & Bootzin, 1972). These tokens are later accumulated and exchanged for primary "backup reinforcers," such as preferred goods, privileges, or leisure activities (Ayllon & Azrin, 1965).

Methodological Assessment: The ABC Model

A defining feature of this era was the introduction of functional analysis. First conceptualized by Skinner (1953), functional analysis rejected abstract psychic diagnostics, evaluating instead the functional relationship between an organism's action and its environment. This operationalized behaviour into the ABC Model:

- A (Antecedent) - The environmental triggers or context setting the stage.
- B (Behaviour) - The observable, target action being evaluated.
- C (Consequence) - The environmental reaction serving to reinforce or punish the behaviour.

This experimental analysis was later standardized into clinical practice by Iwata et al. (1994) to directly manipulate environmental variables and confirm behavioural maintenance mechanisms.

Functional analysis is a core defining feature that unites all eras of behaviour therapy. Skinner championed analysing behaviour based on its functional interactions with the environment. He reframed traditional cause-and-effect relationships as observable, modifiable contingencies rather than internal processes. Functional analysis is from the field of behavioural analysis. It is a systematic approach used to explain, predict, and alter behaviour. It works by identifying how a behaviour connects to its triggers (antecedents) and its outcomes (consequences) (Aguirre-Camacho et. al., 2025).

Reliance on functional analysis is an alternative to traditional, top-down psychiatric diagnostics (Hofmann & Hayes, 2018). Therefore, instead of diagnosing a patient using traditional psychiatric labels, Skinner through operant conditioning. The argument is that clinicians must analyse the functional relationship between an organism's behaviour and its immediate environment (Psychology Tools, 2024). Initially, functional analysis was conceptualized through naturalistic observation.

However, the clinical methodology of functional analysis was revolutionized in a landmark 1982 paper by Brian Iwata and colleagues. Iwata standardized the

process. This was done by directly manipulating environmental variables (analogue conditions like demanding tasks or social attention) to experimentally confirm what was maintaining a specific maladaptive behaviour. This established functional analysis as the "gold standard" of behavioural assessment, particularly within applied behaviour analysis (ABA), (Iwata et., al 1994).

A functional relationship means that changing specific environmental conditions (independent variables) causes a reliable, noticeable shift in the behaviour itself (the dependent variable). These analyses generally look at the immediate environment where the behaviour happens. However, clinical and applied practitioners often factor in broader elements like history of learning, genetic factors, and social context to make their findings more accurate. Though experimental settings typically control or leave out these extra variables, they remain highly valuable for assessing behaviour in real-world environments (Aguirre-Camacho et. al., 2025).

Rather than treating a symptom as an abstract manifestation of an underlying psychic defect, functional analysis treats behaviour as an adaptive function governed by environmental contingencies (StatPearls, 2023). Later standardized experimentally by Iwata et al. (1982/1994), this methodology remains foundational across modern iterations of the field. It has adapted from traditional behavioural modification into complex behavioural chain analyses within third-wave frameworks like dialectical behaviour therapy (Hofmann & Hayes, 2018).

An Example of Functional Analysis

The Scenario

Five-year-old Allan throws himself on the floor, kicks, and screams at the grocery store checkout whenever his dad refuses to buy him a candy bar. His dad usually gives in and buys the candy to avoid a public scene.

Step 1: Setting Up Conditions

A behaviour specialist sets up controlled, safe environments to test exactly what is driving Allan's tantrums:

- Tangible Condition: The specialist shows Allan a favourite toy or snack, then puts it out of reach. If Allan throws a tantrum, the toy or snack is immediately handed to him for a few seconds.
- Attention Condition: The specialist sits with Allan but ignores him. If Allan throws a tantrum, the specialist immediately gives him verbal attention (e.g., "Allan, what's wrong? Please calm down").
- Play/Control Condition: Allan has free, continuous access to his favourite toys and undivided attention. No demands are made, and nothing is taken away.

Step 2: Analysing the Data

The data shows a clear pattern. Allan rarely throws a tantrum during the play or attention tests. However, during the tangible test, his tantrums spike the moment an item is withheld. This proves his behaviour is maintained by gaining access to tangible items (getting what he wants).

Step 3: Developing an Intervention

Based on this analysis, the father and specialist change how they respond to Allan's tantrums:

- Withholding the reward: Dad stops giving in. If Allan throws a tantrum for candy, he does not get the candy, ensuring the tantrum no longer works to get him what he wants.
- Functional Communication Training (FCT): Dad teaches Allan how to ask calmly *before* a tantrum starts. They practice at home using a visual chart or clear words like, "Can I have this snack, please?"
- Rewarding Positive Behaviour: When Allan asks calmly, he is praised immediately. If the answer has to be "no" (e.g., before dinner), Dad teaches him to tolerate the delay by offering a small, immediate reward for accepting the "no" without a tantrum (e.g., "We can't have candy now, but you can choose which book we read next").

The Evolution of Behavioural Activation

Whilst functional analysis identify, assesses and evaluates the behaviour interventions such as token economies, contingency management, systematic desensitization are interventions that directly treats a maladaptive behaviour with the aim of reducing or eliminating it. Another form of intervention is behavioural activation. Earlier behavioural models of depression such as those by Charles Ferster and Peter Lewinsohn, posited that depressive behaviour is shaped by a lack of environmental reward. This was temporarily eclipsed by Beck's cognitive models (Dimidjian et al., 2006).

Consequently, behavioural activation (BA), which has to do with the systematic scheduling of positive, reinforcing activities to disrupt patterns of avoidance was initially used merely as a secondary tool to support cognitive restructuring within standard CBT protocols (Dimidjian et al., 2006). However, a landmark component analysis study by Jacobson et al. (1996) altered the history of CBT. The researchers discovered that the purely behavioural component of the treatment (behavioural activation) was just as effective as the complete cognitive therapy package at treating depression, establishing behavioural activation as a powerful, standalone therapeutic model (Dimidjian et al., 2006).

Psychological Problems and the Process of Learning

Behaviour analysts frequently work with children with autism. However, they view the diagnosis as descriptive rather than explanative. Since behaviour analysts work to identify operant contingencies that are maintaining a behaviour, they assess and categorize aberrant behaviour according to its function. Other fields of science, such as microbiology, have long understood the importance of analysing both the structure and function of dynamic entities (Fisher et al., 2011).

Behaviour analysts employ a similar practice by categorizing behaviour in terms of not only its structural characteristics (e.g., hitting oneself constitutes self-injury) but also its function. For example, one child with autism might slap other people because, when he does, others are less likely to approach him with schoolwork to complete. In this case, the function of aggression would be to avoid schoolwork. By contrast, another child with autism might slap other people because, when she does, her caregivers are more likely to give her physical attention in the form of tactile stimulation (e.g., sensory integration). In this case, the function of aggression would be to gain a specific form of caregiver attention (Fisher et al., 2011).

Although the above two cases involve slapping others (an aggressive act), the function of the behaviour differs. Analysing the function of an individual's aberrant behaviour allows us better to predict which treatments will and will not be effective. For example, a time-out from attention would be an effective treatment for self-injurious behaviour maintained by attention, However, it would likely worsen self-injurious behaviours maintained by avoidance or escape from social interaction (Fisher et al., 2011).

The view that people are biologically prepared to learn certain phobias is backed by laboratory evidence. For example, a group of Swedish psychologists attempted to condition people to fear certain stimuli by associating those stimuli with electrical shocks. Findings showed that the research participants developed approximately equal conditioned anxiety reactions to photos of snakes, houses and human faces. Subsequently to this when they were tested without shock, their fear reaction to snakes remained long after their reaction to houses and human faces faded (Bernstein et al, 2018).

A series of investigations with animals has also shown preparedness theory. For example, if a monkey observes that another monkey behaving fearful of a snake, it also develops a strong and persistent fear of snakes. Fear developed through observational learning can be as strong as fear developed through direct experiences. For example, many phobias to experiences at the dentist or doing a blood test can be developed through seeing and hearing the response of others who have direct exposure (Bernstein et al, 2018).

Therefore, learning critical important in the development of fear but the principle of learning is not only that experiences with certain stimuli cause anxiety disorders in

some people and not others. The view is that the impact of people's experiences is heightened or dampened by other factors, which include genetic and biological vulnerability or resilience to stress. Previous experiences with frightening events, expectations and other conditions that arises after trauma. However, learning including what supports the development of anxiety disorder occurs easier among those who are biologically and psychologically prepared for it (Bernstein et al, 2018).

Behavioural Assessment Test

An established assessment in behaviour therapy is the behavioural avoidance test (BAT). It is a structured, observational assessment that measures real-world avoidance, levels of distress, and associated rituals in response to anxiety-provoking situations. It provides objective, behaviour-related metrics across progressively challenging tasks to gauge clinical severity and treatment sensitivity. Clinical researchers frequently utilize the BAT to obtain an objective, real-world assessment of an individual's anxiety and avoidance tendencies. This approach mitigates the limitations of self-report questionnaires (Steketee et al., 1996).

The BAT approach is to expose a participant to an increasingly difficult, stepwise progression of tasks involving a feared stimulus or clinical trigger. Throughout this structured presentation, researchers quantify avoidance by measuring the percentage of the behavioural tasks successfully completed before the individual elects to terminate the test. These physical actions are typically paired with synchronous measures of subjective distress or accompanying safety behaviours to evaluate overall clinical severity and track treatment-induced progress. (Steketee et al., 1996).

Researchers assess avoidance behaviour using the behavioural avoidance test (BAT) which applies real fear-eliciting stimuli. A study was done to validate a BAT in virtual reality, regarding fear and avoidance, and compare different approach behaviours, utilized in BATs. The findings showed that there is large association between the BATs in virtuo (imaginary exposure) and the BATs in vivo (live exposure). Correlations with a psychometric measure of spider phobia revealed large associations. The BAT in virtuo offers a feasible and reliable alternative to traditional BAT procedures and provides valuable insights into the manifestations of avoidance behaviour in a controlled virtual environment (Hildebrand et al., 2026).

Conclusion

The historical trajectory of behaviour therapy underscores a profound scientific evolution, transforming basic laboratory learning principles into flexible, highly precise, and universally applicable clinical interventions. Behaviour therapy anchors psychological treatment in objective observation rather than subjective introspection. The discipline has successfully moved beyond descriptive psychiatric labels to focus entirely on the functional relationships that exist between organisms and their environments. The transition from early Pavlovian and Skinnerian paradigms to contemporary practice illustrates a field that constantly refines its methods. Still, it remains strongly committed to empirical accountability and measurable real-world outcomes.

As shown throughout the text, the standardization of the ABC model and functional analysis by Brian Iwata and colleagues provided a structural alternative to traditional diagnosis. It evaluates the purpose of a behaviour rather than its outward appearance. Furthermore, the field continues to address the complex interaction

between biological evolutionary preparedness and observational learning when treating phobias (Bernstein et al., 2018). Through modern, cutting-edge validations of traditional procedures such as conducting Behavioural Avoidance Tests (BAT) inside virtual reality environments behaviour therapy demonstrates its ongoing ability. This aims to advance technically while retaining the core empirical principles that have defined it for over a century.

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