Summary 1 We are all survivors of trauma, its why we survive.

At the point our umbilical cord was cut our:

- Sensitivity to pain was at its highest level.
- Energy consumption per kg was four times higher than as an adult.
- Amygdala was the most fully formed part of our brain.
- Personal agency was at a lifetime low.

In the hours, days and months following this event we all experience Original Trauma driven by phenomenally intense episodes of discomfort including hunger, thirst, disgust and other forms of physical pain.



Summary 2 We are all survivors of trauma, its why we survive.

Original Trauma coupled with the capacity of all living organisms with central nervous systems to generate and experience intense discomfort drives behavioural experimentation that delivers the necessary resources for survival following birth.

Our Trauma Based Learning system becomes the foundation for the creation of optimised Legacy Behaviours on which all other behaviours are based for the rest of our lives.



Claims 1

Whether billionaire, beggar or bear, building a rocket or searching for scraps of food all behaviour is driven by the need to avoid reexperiencing the extreme levels of discomfort generated when very young or during subsequent traumatic episodes.

We are all survivors of trauma, without it the vectors that motivate and guide learning would not be present.

All animals with central nervous systems are consciously (humans) and unconsciously (humans and animals) optimising around the lowest level of discomfort possible given our innate learning systems interaction with the internal and external resources we have access to from moment to moment.













Claims 2

The central and sole coordinating goal for all emotions, thoughts, sensations and behaviours is to achieve the lowest level of discomfort available given the resources we have within and external to us from moment to moment.

For most species this is perhaps easier to accept than for humans given the influence of Maslow's Hierarchy where self actualisation is proposed as an important human motivator once more basic needs are met.

Through the lens of Avoidance Theory the pleasure experienced when viewing a piece of art or listening to music is an outcome of discomfort optimisation not self actualisation.













Claims 3

Through the lens of Avoidance Theory comfort and discomfort are not different sides of the same coin. Our capacity to generate and experience discomfort far outweighs our compacity to experience comfort.

Our limited innate capacity to experience some forms of pleasure create an evolutionary bias for all learning systems that are focussed on discomfort optimisation. These innate pleasures are typically associated with reproduction or high energy foods.









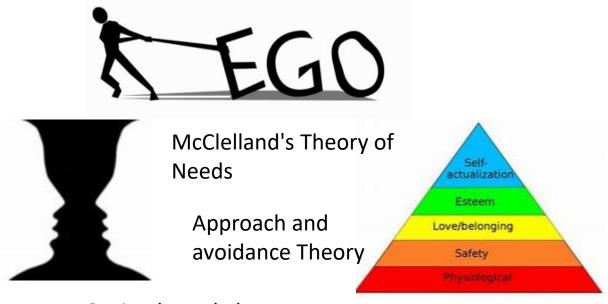




So What? 1

Avoidance Theory offers another perspective for healthcare professionals and their clients to reflect from in terms of the most fundamental influences on our behaviour and those of everyone around us. How that turns into something that is useful will be different for each one of us.

The more our understanding of the human system correlates with how it actually develops and operates the more likely our therapeutic interactions will have the desired outcomes.



Optimal Level Theory

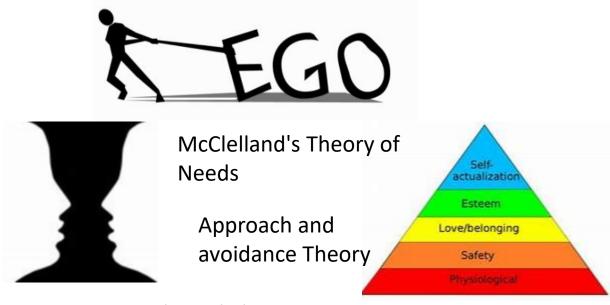
Humanistic Theory



So What? 2

Avoidance Theory is unlikely to change your life but most people find the experience of learning about it fascinating and useful, often in unexpected ways.

The following slides lay the foundations for the existence of Avoidance Theory and then provide examples of how it manifests itself through internal and external neuro biological systems and behaviour.



Optimal Level Theory

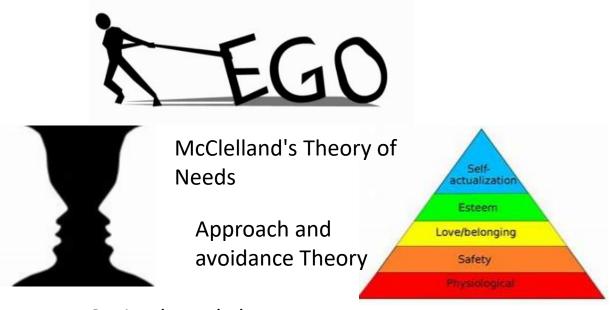
Humanistic Theory



Background 1

My original goal when I started my research and development in 2014 was focussed on creating a tool, now called the Rainbow Map, that enabled my clients to integrate their whole physiological and psychological system into the work we were doing together without complex language or concepts.

Following publication of the first Rainbow Map article in the BACP's Therapy Today magazine in Dec 2019 psychotherapists and counsellors from across the world have integrated the tool and related concepts into their work with thousands of clients in ways that I never dreamt of.



Optimal Level Theory

Humanistic Theory



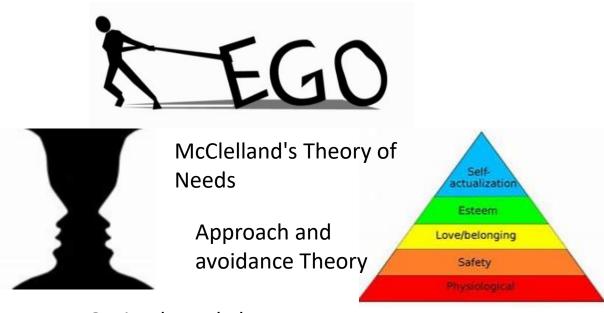
Background 2

Feedback and questions coming in from psychotherapists and counsellors stimulated me to wonder if the theory base I had developed might be suggesting an alternative way to understand human motivation, which I now call Avoidance Theory.

Avoidance Theory differs from most other motivation theories that are largely based on behavioural observation, analysis and categorisation such as Maslow's Hierarchy.

The following slides use the instantaneous transition of physiology when the umbilical cord is cut to demonstrate how Avoidance Theory can be used to describe the fundamental motivation for all behaviour.

It is likely that Avoidance Theory also applies to non placental animals.



Optimal Level Theory

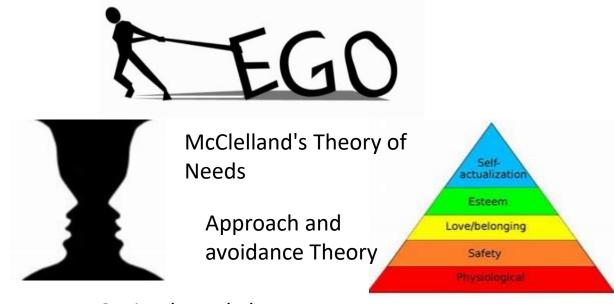
Humanistic Theory



Background 3

While Avoidance Theory is perhaps more readily falsifiable than other motivation theories, Maslow's observation in his original 1943 paper also applies to this work:

"The present theory then must be considered to be a suggested program or framework for future research and must stand or fall, not so much on facts available, or evidence presented, as upon researches to be, researches suggested perhaps, by the questions raised in this paper."



Optimal Level Theory

Humanistic Theory

Vroom's Expectancy
Theory



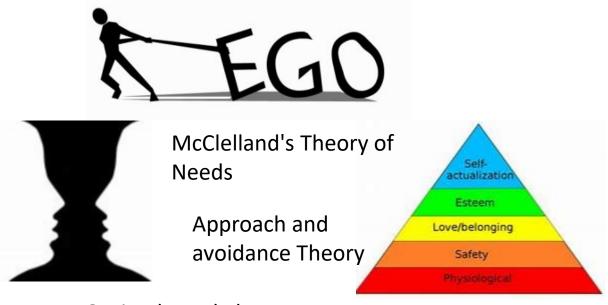
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Background 4

The falsification of Avoidance Theory has already started which is covered in later slides.

In addition, over the last nine months a succession of highly experienced psychotherapists, counsellors and psychologists have been tasked with presenting all the reasons and criticisms they could to challenge the validity of this theory of human motivation.

This version of Avoidance Theory has come through that process.



Optimal Level Theory

Humanistic Theory

Vroom's Expectancy Theory



The Umbilical

To aid clarity this presentation focuses on development following birth with a special focus on life immediately after the umbilical cord is cut.

It is easier to connect the basic elements of Avoidance Theory (AT) by referring to a stage of life that we can actually see, unlike life in the womb.

The cutting of the umbilical cord marks a significant change in the physical form a human takes much like the incredible transitions of physical form we see in nature: caterpillar, chrysalis, butterfly. However compared to the butterfly the change placental animals experience in their transition from womb to world is far quicker and more dramatic.





Prior to birth

A human prior to birth is made up of the body, placenta and umbilical cord. These monitor, react and optimise all systems crucial to life, automatically all of the time while in the womb.

For example sodium, potassium, urea, glucose, calcium and oxygen levels in the blood are automatically optimised from moment to moment.

The separation of the placenta and umbilical cord from the body means that that automatic system is instantaneously disrupted and an alternative system must take its place very rapidly to prevent the body (new-born) dying along with the placenta and umbilical cord.





At Birth 1

At the point the umbilical cord is cut the newborn's:

- Pain threshold is at its lowest lifetime level.
- Continuous energy consumption is at its highest level of 100 Cal/kg (adult 25 Cal/kg).
- Amygdala is the most fully formed part of the brain.

Continuous energy consumption per kg for the new-born is at a lifetime high because:

- Brain to body mass is at its highest. The brain is the most energy intensive organ.
- Energy intensive cell division and growth is at its highest per kg 24/7.
- Heat loss is at its highest due to the ratio of skin area to body mass.



At Birth 2

At the point the umbilical cord is cut the newborn's system could be compared to a car which is about to drive down a steep and vertiginous winding alpine pass with:

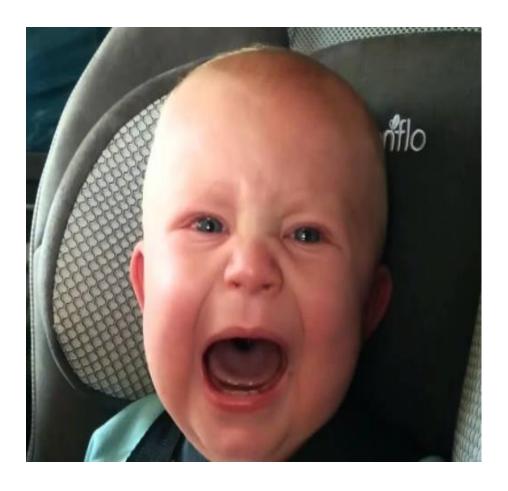
- A 1000 hp engine
- The brake pedal and steering wheel yet to be connected
- A 100% on or 100% off accelerator (unrestrained amygdala)
- A tiny fuel tank that needs to be filled frequently due to the cars extremely high energy consumption.



At Birth 3

The neurological and physical experience for most people in that car hurtling down that alpine pass would include:

- Extreme psychological discomfort.
- Rapid experimentation to discover ways (behaviours/traits) to reduce discomfort and increase survival chances in the moment such as covering eyes, release of bodily fluids, head and body trying to curl up.....



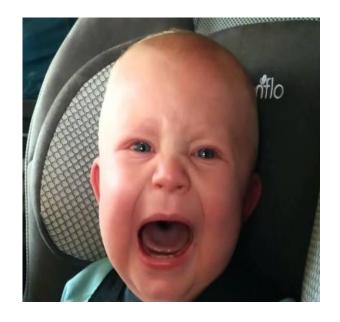
At Birth 4

Afterwards the potential to re-experience that discomfort would cause most people to:

- Avoid getting into the <u>same</u> situation again.
- Avoid getting into a <u>similar</u> situation again.

The following slides show how the interaction of our innate learning systems, in existence when our umbilical cord is cut, and our phenomenal capacity to generate and experience discomfort keeps us alive in the hours, days and months after birth.

Avoidance Theory shows how that interaction continues to exert a powerful influence on our behavioural development for the rest of our lives.





At Birth 5

At the point the umbilical cord is cut the newborn's system has to replace the umbilical / placenta role to:

- Meet the high continuous Cal/Kg energy demand.
- Optimise all systems such as blood glucose level all of the time.

We are born with basic innate reflexes/modules such as sucking and grasping. These alone are not sufficient to replace what is lost at the point the placenta is cut.



At Birth 6

Replacing the role of the umbilical and placenta is made even more challenging as at the point of separation the new-born has the lowest level of personal agency at any point in its life. It has no:

- Ability to utilise language.
- Capacity to signal in a purposeful way.
- Understanding of its own current needs or to predict upcoming needs.
- Knowledge of what external resources are available or how to access them.
- Concept of self or other.



Following Birth: Staying Alive

The challenge of surviving with minimal agency faced by all new-borns once the umbilical cord is cut is met through their innate capacity to generate and experience discomfort which drives the activation and interaction of two innate learning systems common to all animals:

- Trauma Based Learning System (TBLS)
- Trial Success and Reward learning system (TSRLS)



Trauma Based Learning System TBLS 1

The TBLS is first activated when genetically defined pain thresholds (hunger, thirst, sound, light, heat, cold, touch) are reached. Discomfort is experienced.

Genetically defined pain thresholds are different for each individual other than identical twins.

We start interacting with the environment differently. Even identical twins as they do not occupy the same space.

The external and internal environment is different for each one of us including identical twins.



Trauma Based Learning System TBLS 2

When first activated by extreme discomfort (Original Trauma) the TBLS creates a Trigger Package* that consists of:

Neural Routers*

Neural Filters *

*Virtual Systems

Billions of cells and trillions of connections mean sophisticated neurological virtual systems develop using the brain's hardware and operating system depending on how those systems interact with each other and the internal and external environment.

Virtual System Analogy: A brand and model of smart phone will have the same hardware and operating system but the way the owner interacts with the environment will mean different apps will be downloaded making each smart phone unique to the owner.



Trauma Based Learning System TBLS 3

Each Trigger Package is connected to a neural filter.

Neural Filters sit in the flow or neurological information within the body.

The Trigger Package starts to open when neural filters begin to clog with information that starts to match what was present when the package was first created or subsequently modified.



Trauma Based Learning System TBLS 4

As the package starts to open the Neural Router causes the neurological and physiological system to increasingly regenerate the discomfort experienced when the package was first created or subsequently modified.

Neural Routers: The act of crying is a highly coordinated set of actions that include lungs, facial muscles, vocal cords etc hence the need for neural routers to bring it all together to generate and communicate discomfort very rapidly.



Trauma Based Learning System TBLS 5

The TBLS is not the same as motor memory. It generates very rapid whole body and brain learning with a survival orientation. Its an ancient learning system intended to equip non sentient animals (our ancestors) with a suite of powerful and automatic survival traits influenced by and interacting with the environment. The TBLS can generate new traits and old traits can be modified.



Trauma Based Learning System TBLS 6

Trigger packages have the following key features:

- Start to open when neural filters begin to clog with information that starts to match what was present when it was first created or subsequently modified.
- Generate discomfort that can often be too soon and too strong given the actual level of threat: PTSD.
- Can only be modified when partially or fully open and not when closed.
- Are extremely enduring for years and often for life.

A crucial reason why Trigger Packages have these characteristics is that animals can mistakenly identify threat and escape many times but only die once.













Trauma Based Learning System TBLS 7

Trigger packages can only be modified when partially or fully open because:

- They are crucial to survival (fight/flight, hide/play dead) so must be enduring and instantaneously available should threat be noticed at any moment after they are first created or modified.
- New survival orientated information may be present in subsequent activations that could increase the chance of survival in future triggering events.

That man might avoid using a cardboard box to escape shark attack and would become uncomfortable at the remotest possibility of it happening again. That would change his behaviour in many ways: Carboard boxes might trigger intense discomfort such as fear.



Trauma Based Learning System TBLS 8

Within months the new-born's TBLS will have created <u>Original</u> Trigger Packages for:

- Hunger
- Thirst
- Disgust (smell, taste)
- Pain (chemical, heat, light, sound, cuts, impact)

The Original Packages are created when we have no ability to resist the capacity of the amygdala to generate the most intense discomfort of our lives. That is recorded in those packages and can be regenerated and reexperienced if they are cracked open. Our behaviours focus on that not happening again.









Trauma Based Learning System TBLS 9

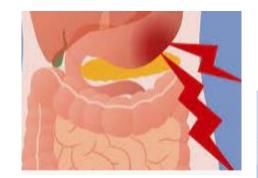
The Original Trigger Packages start to become integrated into one index of discomfort that Bowlby called Attachment.

The early experience of reduced attachment will largely be that of physical discomfort.

As time passes the Original Trigger Packages are reconditioned to include increasingly sophisticated emotional, narrative and cognitive discomfort when we are triggered. Some will also remain unaltered.

This offers an explanation as to why for the rest of our lives emotional discomfort such as anxiety can generate physical discomfort such as stomach cramps when trigger packages start to open and the neural routers connect with original Trigger packages (hunger, thirst, disgust, pain).









Trial Success and Reward Learning System TSRS 1

The Trial Success and Reward learning system is driven to optimise discomfort levels through:

- Internal sensitisation and desensitisation: hormones, hearing etc
- External sensitisation and desensitisation: behaviours

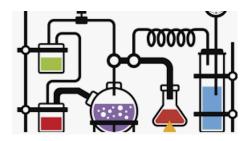
Success is a reduction in overall discomfort.

Sehavior	Fear rating
Think about a spider.	10
Look at a photo of a spider.	25
Look at a real spider in a closed box.	50
Hold the box with the spider.	60
Let a spider crawl on your desk.	70
Let a spider crawl on your shoe.	80
Let a spider crawl on your pants leg.	90
Let a spider crawl on your sleeve.	95
Let a spider crawl on your bare arm.	100

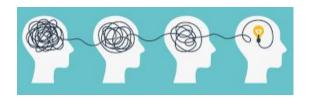
Trial Success and Reward Learning System TSRS 2

- Relatively slow compared to the Trauma Based Learning System.
- Experimental and reactive.
- Generates sophisticated outcomes: behaviours, motor skills, sensitisations such as dissociative identity disorder and perhaps even autism for some.









TBLS & TSRLS Outcomes

An example of the different functions of the two learning systems can be seen in infants around 14 months old who are learning to feed themselves with a spoon.

What do you notice about the distribution of the food around the babies face?



TBLS & TSRLS Outcomes

The TBLS prevents the spoon being jabbed into the eye due to the original trigger package generated when an eye was first jabbed perhaps with a finger even before birth. That package starts to open and generate discomfort each time the spoon nears the retina which ring fences that area of the face from contact with the spoon while the TSRLS generates the sophisticated hand/eye motor coordination to self feed.

The two learning systems result in increasingly successful use of the spoon without risk to the eyes which are crucial to survival. Avoidance of discomfort (hunger, pain, detachment) is the core driver of this early behavioural outcome.

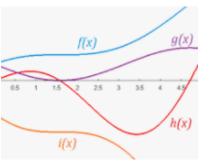


Observations

Once the <u>Original</u> Hunger Trigger Package is created intense discomfort is experienced before the genetically defined starvation blood glucose limit is reached.

This pre-emptive discomfort drives the Trial Success and Reward learning system to experiment to generate neurobiological and behavioural outcomes that arrest the decline in the blood glucose level or desensitise the system if repeated attempts are unsuccessful.

Blood sugar level are rapidly optimised.











Innate Discomfort Reduction

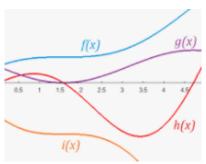
Avoidance theory challenges the perception we have around behaviours that we otherwise might think innate rather than learnt. For example perhaps breast feeding is not driven by innate caring circuitry in the brain.

Stimulation of the mother's nipple causes release of oxytocin that is linked with a reduction in anxiety. This provides the mother with a new discomfort avoidant behaviour right at the moment anxiety levels are likely to be high.

Through the lens of Avoidance Theory the mother and new-born have complimentary discomfort avoidance strategies.











Innate Pleasure Generation

Avoidance Theory shows how behaviours that may appear to be hard wired can be generated through discomfort avoidance be that emotions, thoughts and sensations.

Most higher order animals can also experience innate pleasure generation.

Examples of innate pleasure include sounds of a particular pitch and rhythm, facial symmetry, geometric ratios and sensations such as taste and smell. Typically these are closely associated with facilitating mating activates or access to and consumption of safe and ideally nutritious food.













Innate Pleasure Generation

Innate pleasure generation provides another input to increase the success of the Trial Success and Reward learning system to generate behaviours that avoid discomfort. While you are experience pleasure you are not experiencing discomfort.













Innate Pleasure: The Male Orgasm 1

The capacity for orgasm is a hard wired example of innate pleasure generation whereas the behaviours that generate them are not innate.

For example the act of male masturbation is not innate but the pleasurable sensation associated with touching the penis is. Even without knowledge being shared in peer groups it is not unreasonable to think that the trial success and reward learning system would generate masturbatory behaviours required to generate an orgasm in an efficient and reliable way.













Innate Pleasure: The Male Orgasm 2

The male orgasm in most cases temporarily eliminates all forms of discomfort and automatically coincides with the release of sperm, one of the most closely mapped behaviours to DNA replication.

The male orgasm automatically drives the generation of discomfort avoidant behaviours.













Innate Pleasure: Female Orgasm 1

For the human female the act of copulation has more potential to generate anxiety and disgust than for any other species due to the human capacity for higher levels of cognition.

Human copulation requires the female to permit a foreign object to be inserted into her body and a fluid to be released that has the capacity to cause intense discomfort and even death.













Innate Pleasure: Female Orgasm 2

To overcome the potential for anxiety and disgust that might prevent intercourse innate pleasure generating physiology and systems such as the clitoris have evolved. Also powerful social memes around the female role have been developed and passed down across generations.

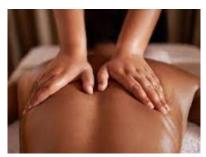
The clitoris generates innate pleasure incentives, the norms generate discomfort if not adhered to.

Societies that practice female genital mutilation are particularly prone to evolving strong cultural memes that trigger intense psychological discomfort, particularly in women, if they avoid fulfilling their societal role as wife and mother.













Innate Pleasure: Female Orgasm 3

It might be thought that evolution would have located the clitoris within the vagina to incentivise penetration for the female. However that would mean penetration would have to have occurred before innate pleasure could be generated. That would risk penetration not happening as pain and disgust avoidance behaviours might dominate making penetration less likely.

Evolving a clitoris that is external to the vagina other than its proximate location above means pleasure can be generated prior to penetration overcoming the potential for fear and disgust and initiating other physiological responses making penetration more likely across a population.













All Human Behaviour is Rational 1

Anorexia is rational when viewed through the lens of Avoidance Theory but irrational when viewed from the perspective of Maslow's Hierarchy in terms of upper third (self actualisation).

The experience of anorexia is very uncomfortable as various trigger packages are open at times generating intense discomfort.

This does not mean all human behaviour is benign, just we are doing the best we can from moment to moment with the resources we have within and external to us.





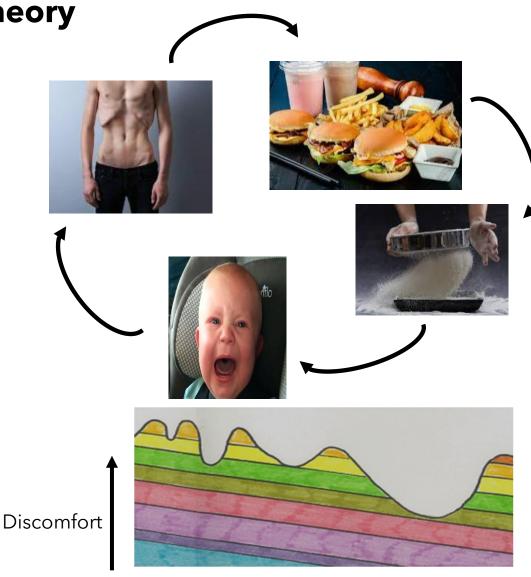
All Human Behaviour is Rational 2

For the anorexic their behaviour is less uncomfortable than the alternative levels of discomfort they experience if they eat too much or the wrong sort of food.

Optimising around the lowest level of discomfort given the internal and external resources available maintains the person's anorexic behaviour. Healthy change means finding a less harmful point of discomfort optimisation. That requires existing resources to be refined and/or new ones developed.

Avoidance theory predicts that humans find the lowest level of discomfort available to them from moment to moment, given the access they have to internal and external resources.

That does not mean they stop searching only when they are in a place of actual comfort. Even that does not seem to stop the search. There is always a more comfortable house, car, bed, shoes.......



All Human Behaviour is Rational 3

Among the options an insecure poor person has to keep their trigger packages shut and reduce/dull their discomfort is low cost high fat food.

Among the options an insecure billionaire has access to keep their trigger packages shut and reduce/dull their discomfort is high cost technology and rocket fuel to get them into low earth orbit.

They have a similar issue, insecurity, but have access to different internal and external resources to optimise their level of discomfort.





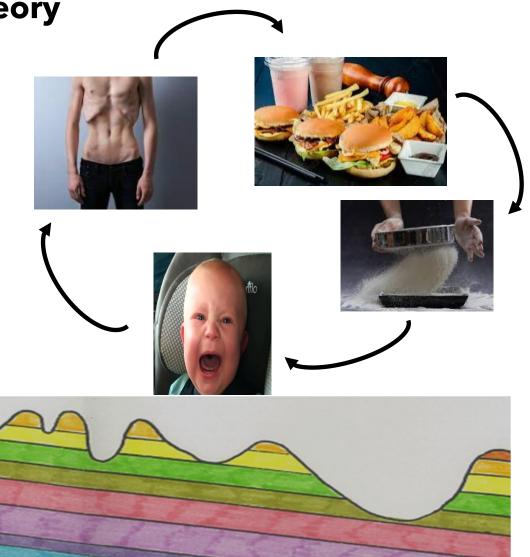
Breaking unwanted cycles of discomfort.

Psychotherapy, counselling and self help enables us to refine existing and develop new internal and external resources.

We experiment and perhaps endure periods of increased discomfort as we find ways to move from one valley floor of behavioural stability to another valley floor of stability where we can experience lower levels of discomfort and higher levels of mental and physical health.

Sometimes we can find a tunnel that enables us to optimise our level of discomfort to a lower level with out enduring an increased period of discomfort: "cold turkey".





One room, different chairs, one person.

You pretend to be a researcher for a furniture company saying you want to find the most comfortable chair.

Your volunteer is asked to stay in the room with different chairs for two hours.

A secret camera is installed. What do you witness?

You return and ask them which chair is the most comfortable?

Are they seeking the least uncomfortable or most comfortable chair?





One room, different chairs, two people.

Again you pretend to be a researcher for a furniture company saying you want to find the most comfortable chair.

Your two volunteers are asked to stay the room with different chairs for two hours. You will return and ask them which chair is the most comfortable?

A secret camera is installed. What do you witness?

Have the factors changed compared to the last experiment?

Are they seeking the least uncomfortable or most comfortable chair this time or are they balancing other influences to achieve the lowest level of overall discomfort (physical, psychological)?







Through the lens of Maslow's Hierarchy

Maslow's Hierarchy's wide spread and deep influence on how we view human motivation means we see some behaviour as self actualisation and some as dysfunctional:

 The insecure overweight poor person is motivated by base desires and in effect self harms slowly through their consumption of low cost high fat food.

Whereas:

 The insecure billionaire is motivated at the pinnacle of the hierarchy by the intrinsic human need to self-actualise by taking great risks that might also cause severe injury or premature and violent death.







Through the lens of Avoidance Theory 1

The insecure smoker and the insecure billionaire are motivated in exactly the same way through the lens of Avoidance Theory.

They are both driven to experience the lowest level of discomfort they can given the resources they have access to within them and external to them.

We typically see that when a wealthy person self harms for example getting injured skiing they are seen as doing so in pursuit of self actualisation whereas the smoker's behaviour is seen through a lens of dysfunction and self harm.









Through the lens of Avoidance Theory 2

Avoidance theory means that therapists and their clients can both view the client's current behaviour as a rational approach to sustaining a level of discomfort that is lower than the alternatives available.

The client's behaviour represents the lowest level of discomfort their system can achieve given the resources they have within and external to them.







Discomfort



Through the lens of Avoidance Theory 3

To a person with vertigo a cliff is a source of intense discomfort. A discomfort reducing resource for them is to move away from the cliff edge and/or distracting themselves from thinking about it.

A cliff might be a discomfort reducing resource to a person planning suicide compared to the alternative levels of discomfort available to them given their current internal and external resources that they have access to.







Through the lens of Avoidance Theory 4

The client and therapist can collaborate as equals to modify and develop resources that change the point of Behavioural Equilibrium that delivers less intense or harmful levels of discomfort and improved life outcomes for the client







The Invisibility of Avoidance Theory

As we grow older we develop ever more effective ways to avoid discomfort such that the original drivers become invisible.

- We do not wait to become hungry before eating.
- We sleep before we experience sleep deprivation.
- We urinate before our bladders become uncomfortable.
- We reject others before they can reject us.
- We increasingly live within the invisible boundaries of discomfort never touching the sides.
- We create artwork to increasingly insulate us from discomfort: pleasure is an insulator.
- We scream at loved ones







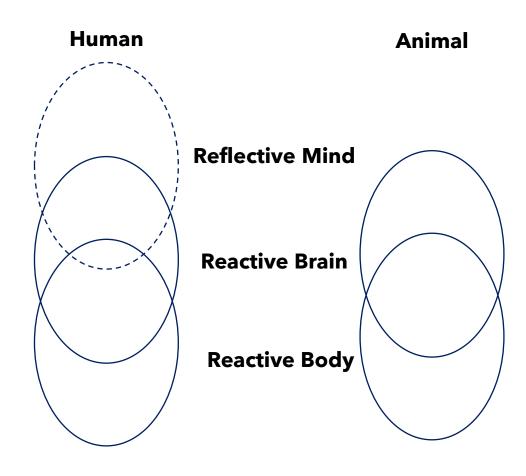




The Invisibility of Avoidance Theory

Our large brain and capacity for reflection has masked the role of discomfort optimisation as the most fundamental driver of our behaviour which is identical to all other species with a central nervous system.

Our capacity for language and reflection makes us far more creative and self deluding in understanding our search for the lowest level of discomfort. With virtually all other species that behavioural driver is easier to see and accept.



Falsifiability

A range of empirical tests are being generated to falsify Avoidance Theory.

One test was the prediction that the pain threshold of new-borns would be at its lowest level. Research done by Oxford University published in 2015 validated this prediction.

An example of a prediction that has yet to be validated is that in the first days/weeks of life the amplitude of glucose sugar level in the blood will reduce more rapidly than the reduction in the amplitude of neurological and physical discomfort connected with the decline of the blood glucose level.

A confounding factor may be the role of white and perhaps brown fat.

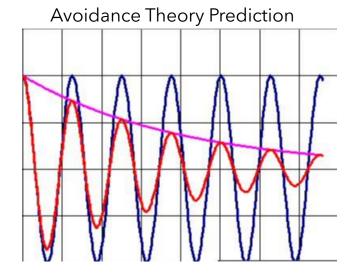
Very young babies CAN feel pain and have a lower threshold than adults, say experts at Oxford

- · Young babies are more sensitive to pain than adults, according to study
- · Doctors previously assumed very young babies had high pain threshold
- · New findings by Oxford University shows newborn babies do react to pain

Red line: Blood Glucose amplitude of blood glucose levels.

Blue line: amplitude of discomfort connected with reducing blood glucose levels.

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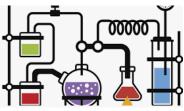
We are all trying to avoid the proverbial pea of discomfort all of the time.

Adapted from the fable of the Princess and the Pea:

- The pea triggers discomfort.
- The discomfort drives behaviour. The princess experiments to reduce discomfort: She buys different mattresses, lays in different positions.
- Eventually she forgets about the pea but continues to strive for ultimate comfort or as Maslow describes it: self-actualisation.
- There are still periods of discomfort no matter how much she self actualises. Her internal and external discomfort optimisation resources interact: drink, scuba diving, meditation, antidepressants, but the uncomfortable and invisible pea persists, as it does for all of us.











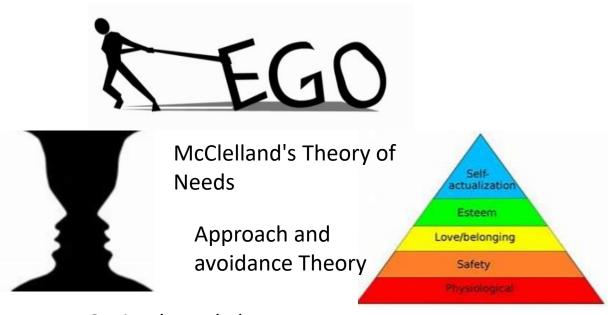


So What?

Avoidance theory holds no special message in terms of how an individual should live their life.

Avoidance Theory offers another perspective for healthcare professionals and their clients to reflect from in terms of the most fundamental influences on our behaviour and those of everyone around us. How that turns into something that is useful will be different for each one of us.

The more our understanding of the human system correlates with how it actually develops and operates the more likely our therapeutic interactions will have the desired outcomes.



Optimal Level Theory

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