Write your own DNA

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A unified approach to improving the lives of young people

www.thrivingadolescent.com

Rationale

• Our question - How do humans grow and adapt flexibly?

• ACT
  • For adults
  • Psychopathology focus - originally
  • Did not consider developmental issues
  • Was top down, we wanted bottom up


Is it genetic?

your DNA is infinitely changeable, epigenetic changes through multiple streams - (e.g. health, movement, food, love, even mindfulness and on…..)
Is it my brain or chemical?

Your DNA is not the boss
You are a whole system

How about your body? Is it just a
vehicle for carrying your brain around?

Without our body, how would our brains know the world?

Your brain is not the boss
You are a whole system

The Vagus Nerve

Vagus (10th cranial nerve) feeds information to our brain

80% of the nerve fibres go from the body to the brain
you are a whole system

Social connection shapes us - our genes, our brains, our bodies
Social is as important as nutrition

so is the system just genes, brains, and bodies?

CBS is also a whole system science

- Evolution science and its principles of variation, selection and retention for the purposes of adaptation
- Worldview of functional contextualism
- Behavioural principles from operant theory and relational frame theory
- Applied realm with Acceptance and Commitment Therapy (and fellow travellers)

- One goal:
  - Basic and applied scientific methods to predict and influence the behaviour of humans with precision, scope and depth

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How will you write your own DNA?

Choose 3 numbers between 1 and 63

Choosing
what do you love?

Social DNA

stepping into the noticer space

we start as noticers, with a drive to connect

noticing all sensations, with discomfort, but without verbal evaluations/judgements/control
but, like all mammals, our bodies have evolved to always be on guard

Polyvagal theory (Porges, 2011)

• Porges Polyvagal theory built on Darwin's observations of the nervous system.

• Polyvagal refers to the evolution of the branches of the vagus system

• Considered ground breaking, is a sophisticated understanding of biological safety and danger detection in mammals

• Neuroception, focuses on the detection of safety or danger between from the environment and the people around us

visceral system neuroanatomically links heart and lungs to facial expression, muscles in the face and head, middle ear, larynx...

https://www.youtube.com/watch?v=yemiiZfB7ty

Table II. Physiological functions of autonomic subsystems

<table>
<thead>
<tr>
<th>Physiological functions/systems</th>
<th>VVC</th>
<th>SNS</th>
<th>DVC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart rate</td>
<td>+/-</td>
<td>+/−</td>
<td>+/−</td>
</tr>
<tr>
<td>Bronchi</td>
<td>+/−</td>
<td>+/−</td>
<td>+/−</td>
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<tr>
<td>Gastrointestinal</td>
<td>−/−</td>
<td>+/−</td>
<td>+/−</td>
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<tr>
<td>Vasoconstriction</td>
<td>−/−</td>
<td>+/−</td>
<td>+/−</td>
</tr>
<tr>
<td>Sweat</td>
<td>+/−</td>
<td>+/−</td>
<td>+/−</td>
</tr>
<tr>
<td>Adrenal medulla</td>
<td>+/−</td>
<td>+/−</td>
<td>+/−</td>
</tr>
<tr>
<td>Tears</td>
<td>+/−</td>
<td>+/−</td>
<td>+/−</td>
</tr>
<tr>
<td>Vocalization</td>
<td>+/−</td>
<td>+/−</td>
<td>+/−</td>
</tr>
<tr>
<td>Facial muscles</td>
<td>+/−</td>
<td>+/−</td>
<td>+/−</td>
</tr>
<tr>
<td>Eyeballs</td>
<td>+/−</td>
<td>+/−</td>
<td>+/−</td>
</tr>
<tr>
<td>Middle ear muscles</td>
<td>+/−</td>
<td>+/−</td>
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</table>

VVC, ventral vagal complex; SNS, sympathetic nervous system; DVC, dorsal vagal complex. DVC slows heart rate, constricts bronchi, and stimulates gastrointestinal function. SNS increases heart rate, dilates bronchi, inhibits gastrointestinal function, promotes vasoconstriction, increases sweating, and activates catecholamine release from the adrenal medulla. Depending on degree of neural tone, VVC either slows or speeds heart rate, constricts or dilates bronchi, lowers or raises vocalization pitch, regulates middle ear muscles to foster perception of human voice, and increases or decreases facial expressivity that enables complex facial gestures and vocalizations. This phylogenetic course results in greater central nervous system regulation of behavior, especially behaviors needed to engage and disengage with environmental challenges including behaviors involved in social interactions.

The mammalian autonomic nervous system retains components of three interactive, but distinct, phylogenetically dependent neural systems associated with: (1) the dorsal vagal complex (DVC); (2) the sympathetic nervous system (SNS); and (3) the ventral vagal complex (VVC). Each of these three neural systems is linked with a specific emotion subsystem observable in humans. Each emotion subsystem carries out specific, but different adaptive functions. The DVC promotes immobilization and the conservation of metabolic resources. The SNS promotes mobilization behaviors and is metabolic costly. The VVC provides mechanisms to communicate that require minimal energy expense. The constituent responses associated with each subsystem are listed in Table II. Changes in affect regulation can be seen as an emergent property of this evolutionary trend.

With the increased neural complexity paralleling phylogenetic development, the organism's behavioral and affective repertoire is enriched. The DVC represents the phylogenetically oldest stage. The DVC is characterized by a primitive unmyelinated vegetative vagal system that fosters digestion and responds to novelty or threat by reducing cardiac output to protect metabolic resources. Behaviorally, the DVC is associated with the use of immobilization behaviors as an avoidance strategy. The SNS, the second stage, evolved as a neural regulator of metabolic output. The SNS can rapidly increase metabolic output and inhibit the primitive vagal system's influence on the gut to foster mobilization behaviors necessary for fight or flight. The VVC represents the phylogenetically most recent stage and is unique to mammals. The VVC is characterized by a myelinated vagal system that can rapidly regulate cardiac output to foster engagement and disengagement with the environment. The VVC consists of the myelinated vagus and portions of other cranial nerves (i.e. V, VII, IX, XI) that regulate structures derived from the embryonic branchial arches (i.e. ancient gill arches). Collectively, these neural pathways regulate the


The ultimate survival machine

We are most threatened when our close attachments are at risk. Tonick's still face experiments

survival depends on our ability to sense others and the space around us - Porges calls this neuroception

• In your adolescence who (if anyone) did you feel safe/secure with?

• And what about young people you serve?
• Are they ever safe/secure with anyone?

3 basic noticer skills

you have a message
how about this?

but there are other options..

be here

allow it to ring

not if you have a body

Feelings

On Off

first thing...

A-N-D

aware

name the body message
Mindful mashup

• 3 rules
  • 1. pause
  • 2. fix attention on an anchor
  • 3. notice what shows up - curiosity

Noticer isn't just about feelings

• becoming aware of your engine running
• our physiology can be altered
• through moving, breathing, mindfulness, etc
• but also being seen, and loved by others
Write your own N
what is hard? what feelings?
What N skills can you use

stepping into the the advisor space

AT FIRST ADULTS SPEAK FOR US

YOU ARE TIRED

THEN WE TAKE OVER AND SPEAK FOR OURSELVES

I'M NOT TIRED!!!

we learn to use language to imagine and pretend

until, we become the person we talk to the most, our best friend, our constant companion....
we create a view that is unique to us

our very own advisor

There is a lion in the grass

The positive one

The groupie

The mellow one

The Advisor!!
Your advisors job is... stay out of danger. Zero mistakes!

script - there is a lion in the grass

- The first person has an advisor that’s extremely positive. So when a tan-colored blob appears in the distance, the advisor says, “Ooh! Look at that beautiful creature. Maybe I’ll pet it.” This person dies.
- The second person has an advisor that’s a bit more negative. The person hates the advisor and tells it to shut up—which the advisor does. So when a lion shows up in the distance, the advisor doesn’t shout a warning. It’s been shut up. The person gets eaten.
- The third person has an advisor that can’t be shut up, but this advisor isn’t always negative. It has a laid-back view, seeing dangers but not being highly tuned in to them, so it misses a few dangers. But how many dangers can it afford to miss? One. Just one and this person gets eaten too.
- Finally, the fourth person, who has a supersensitive negative advisor. This person hates the advisor too and tells it to shut up. But this advisor isn’t laid-back, like the third person’s. It sticks with evaluating, judging, and making negative comments. No matter how hard the fourth person tries to quash the advisor, it still yammers. The good news is, when a lion appears in the distance, the advisor shouts its warning. The fourth person runs away from the lion and survives.

For you to be here, your ancestors had to make zero fatal mistakes before they produced children—zero mistakes across thousands of years. If your life depended on making zero mistakes, would you rather have an advisor that’s too negative and sensitive, or one that’s laid back and sometimes makes mistakes?

Give your advisor the microphone

My advisor ——— is like ————

- Metaphor for your advisor

- yoda
- the voice of history
- a GPS
- wikipedia
- the wind
- my advisor - is like - ???
- traffic light
- bambi
- colours
- eddie murphy
- a bug in ear device
- clipit from Microsoft Word
The advisor helps us find our way

- 1. normalise advisor’s ‘watching out’ function
- 2. decide helpfulness - does it help build meaning
- 3. unhook if stuck - step out of advisor to N or D
- 4. develop helpful rules

A-only

have your advisor take you

A-N shift

you take your advisor

Write in your A space
what will be your most discouraging and encouraging advice?
stepping into the discoverer space

We discover

• the world can be moved
• manipulated
• changed
• we have agency

what is adolescence for?

play = the ability to be scared and still be a discoverer

animal studies on adolescence

• Animal adolescence - risk taking, love of novelty, sensation seeking, and changes in peer and family relationship (Spear, 2004, Laviola, Macrì, Morley-Fletcher, & Waiter, 2003)

anthropological studies on adolescence

• Human adolescence seen across 187 countries - risk taking, love of novelty, sensation seeking, and changes in peer and family relationship - (Schlegel & Barry, 1991)
risk taking, love of novelty and sensations evolved in adolescence for learning to be independent - for survival discoverer is the step for this

adaptive risk

Discoverer in 4 steps

tracking what is working (ABC)
building strengths
creating values
explore new and untested behaviour

DNA eating

“The real voyage of discovery consists not in seeking new landscapes, but in having new eyes.” Marcel Proust
Teach them to track - How did it go?

<table>
<thead>
<tr>
<th>The Situation</th>
<th>What You Did</th>
<th>What Happened Next</th>
<th>Did It Work Out? (Make Life More Meaningful)</th>
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Build Strengths

Strength Spotting Card Sort

- your top five strengths
- one strength you wish you had

Honesty
I tell people what I care about, keep promises, and don’t lie

Strength Spotting Card Sort

- tell your partner what you chose, and discuss the comparison between their self choice and hearing from another
- talk about YOURS, and
- whether you use your strength FOR values, or away from values

Honesty
I tell people what I care about, keep promises, and don’t lie

D exercise DNA-V of Your Life

Write down five events that have happened in the past few years

DNA-V of Your Life

Step to Discoverer

Look through the physical experience of recent times.

write down what is there anything at all that you notice as you scan - about 20 things
DNA-V of Your Life

Step to Noticer

Compare your recollection with your physical evidence.

What is different?

My valued journey

1. Identifying Past Values
2. Identifying Favorites
3. Dreaming of the Future

Write in your D space what you have been trying, how it is going, what might be new to discover

Values
- chosen
- quality of action
- not an outcome
- not a goal
- constructed from language
- held lightly
- dynamic
- intrinsically reinforcing

Returning to Values
Connect to Actions
six ways to well being

Feeling
Finding peace
Moving
Asking for help
Seeing
possibilities
Giving
thanks
Understanding
Accepting yourself
Valuing
Ourselves

sweet spot (Kelly Wilson)

Care for yourself

Self-care includes anything you do to make sure your mind and body are working well.

treating yourself to a fun activity after a hard day at school,
being kind to yourself during tough times,
eating well, and getting enough sleep.

DONT put this last on the list!!!

Connect

being with family, friends, mentors, pets
Give

Giving to others promotes your own well-being.

Think of times when you did something for someone, such as thanking someone, paying someone a compliment, or helping someone work through a problem.

Or maybe you gave someone a gift by just listening to or accepting that person. Other ways of giving include taking care of animals or the environment.

Being active

Going for a walk or run.
Stepping outside, cycle, play a game, dance.

Exercising makes you feel good.

physical activity you found meaningful.

Notice now

Think of times when you've been a noticer, paying attention with your five senses: touch, taste, sight, sound, and smell.

Nature, experiences, the world inside and outside

or, fully engaged with a friend

Challenge yourself

Think of how you might challenge yourself or perhaps learn something new.

What are some challenging activities that you find enjoyable, meaningful, or personally important?

Applying Behavioral Principles to Examining the Self

• Self is merely the act of relating to oneself
  • but with use it is over learned
  • it can become us, but with variability in behaviour, we can become free of this
  • therefore has ABCs
  • Q to ask = how does the selfing work in this context?
**Build high skilled advisor self**

- Talent Mindset - reinforcing the self:
  - You’re so clever.
  - You’ve got real talent.
  - You’re going to be a great artist.

  - Such statements can have demotivating effects (Yeager & Dweck, 2012)

- Growth mindset - reinforcing the behaviour:
  - Yeager & Dweck, 2012 - two groups of kids that are similar in verbal ability
  - kids praised for their talent choose to do easy puzzles,
  - kids praised for being hardworking choose to do hard puzzles

**Growth mindset**

- Praise effort: When a young person gets a top mark, you can say, “Wow, you worked hard at that. You didn’t give up.”

- Praise strategy: When a young person is careful in making a tough decision, you can say, "It’s great that you considered many options before making that decision."

- Praise choices: When a young person stands up for a friend, you can say, "It must have been hard to stand up for your friend, but it’s clear that friendship is important to you. Good for you."

- Give corrective feedback: When a young person does poorly on a test, you can say, "Your study time may have been too low for this exam. How can you go about increasing your time commitment?"

**Connect hope to behaviour**

Set up opportunities to experience success or mastery

Emphasize that success is about acting with values, not outcomes

Identify role models who successfully live by values rather than talent

Encourage and believe in the person (stand in for them)

Discourage relating experiences of failure to the self

**What does your advisor think? - 30 second quiz**

1. People don’t change

2. You cannot improve my intelligence that much

3. If I’m bad at something, it probably means I’ll never be good at it

4. I can’t develop talent at something. I either have it or don’t have it

1 = strongly agree — to — 6 = strongly disagree

4 or higher = flexible self-view

3 or lower = fixed self-view

**discoverer all your self**
How about 20 years ago?

How about in 10 years time?

Q: Which one are you?
A: All

YOU

Broadening Self-view

I listen to my advisor say “I am broken.”

I become a noticer, seeing, smelling, hearing, even as the advisor tries to pull me back to “broken.”

I began my journey through an unknown land allowing my experiences to light the way toward value.

How about 20 years ago?

How about in 10 years time?

Q: Which one are you?
A: All

YOU

Broadening Self-view

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Poetry (reflection of poetry is scary)

Four step Instructions:

1. one negative advisor statement
2. one statement of being a skilled noticer
3. one statement about how you can discover, change, grow
4. one statement that says values are your centre

Self as metaphor

- DNA-V
- A cup and its contents
- Sky and weather
- Chessboard and pieces

Flexible Self-View

Taking a flexible self-view: seeing patterns of self-behavior as part of oneself.

In the absence of broad self-views, we typically see ourselves as fixed concepts, as shown in the inner advisor area in figure 17. For example, people often have the thought I’m unlovable and believe this to be a literal description of themselves. It’s as if “unlovable” describes their essence—some true part of themselves. By developing DNA skills for working with the advisor, we help young people develop workable self-concepts that can create hope and foster growth. However, before we can reinforce workable self-concepts, we often have to loosen the grip of unworkable self-concepts through training in flexible self-view.

We begin teaching flexible self-view skills by showing young people that the advisor is merely a quick and efficient way of interpreting the world and events using past experience. Then we explore how becoming a noticer can help them unhook from rigid uncorrected proof
# Why reassurance can go wrong

- I am bad/broken/screwed up
- Rule following

# Role switches

- Allow noticing
- Especially in body
- Seeing all self through metaphor
- Discovering with exercises
- Perspective taking
- The wise traveller

# Using control and the self

- Clinging to the abusive Advisor
- Self criticism is helpful
- Disconnection from self
- Escape themselves with drugs etc
- Disconnection from others
- Withdraw from others
- Needing the self fixed from ‘outside’
- Want others to convince them they are good enough

# The antidote to an abusive Advisor

- Allow noticing
- Especially in body
- Seeing all self through metaphor
- Discovering with exercises
- Perspective taking
- The wise traveller

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### The elements of self-compassion

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you accept that you will often fail to live up to your ideals?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Do you accept that when you fail to live up to your ideals, you will often experience self-criticism and discomfort?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Are you willing to mindfully make space for the self-criticism and discomfort, and allow it to come and go like the weather?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Do you value treating yourself with kindness?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Do you use kindness to motivate yourself when you experience setbacks?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Young people report the highest rates of loneliness in any age group (Hawkley & Cacioppo, 2010; Heinrich & Gullone, 2006). Over 79 percent of those under eighteen reported feeling lonely sometimes or often.

What does loneliness predict? ....

- Heart disease
- Obesity
- Impaired cognitive performance
- Poor sleep quality
- Poor immune function
- Mental health problems
- Poor self-control
  ....and the list goes on

Adolescent attachment?

Adolescence is a time of critical growth in biological, brain, cognitive and social functioning. Adult problems set their roots, with up to 40% of mental illness (ref mcgorry) in adults beginning in the adolescent period.

- Need a solid relationship with parents that facilitates communication, and allows exploration but also providing fair rules and boundaries.
- Does not mean absence of conflict.
- Securely attached adolescents will have a strong relationship, be able to express their opinions even while disagreeing, validate other’s opinions and show empathy.

Changing relationships

During adolescence, perceived parental support declines and perceived support from friends increases until the point where support from both sources are similar (Helsen et al., 2000) (Furman & Buhrmester, 1992).

Later adolescence is characterized by another shift, this time away from peers towards romantic relationships (Helsen et al., 2000) (Brown, Eicher, & Petrie, 1986).

Importantly, support from parents is more strongly associated with well-being and development than support from friends, and having friends does not adequately compensate for a lack of support from parents (Helsen et al., 2000).

Meaney -
The purpose? Survival

keep watch for the enemy in the service of protecting the group
highly coordinated when we work as a team
can ensure food and survival more than individuals
unselfish humans are willing to risk their lives for the good of the tribe
selfish groups look after themselves
selfish groups tend to disorganisation and destruction over time

Social DNA-v

what does your advisor tell you about this person - blame? judgement? action?

what difficult feelings show up - what happens when you react?
Does acting according to my predictions and judgments (A) support V?
What does my advisor predict—things going well or poorly?

Connection experiments:
What are some new ways to live V?
How does my advisor judge me and the other person?
Should I practice AND and allow my feelings?

What kind of person do I want to be in this relationship? What do I care about in this relationship?
What difficult feelings show up—what happens when you react?

Does reacting to my feelings support V?
Is willingness useful here?
What happens if I listen to my advisor?
What happens when I immediately react to feelings?

Are you willing to try something different?
Are you willing to unhook when your Advisor dominates?
Are you willing to allow hurt feelings?

Conceptual using the DNA model

Figure 20.
Example questions for building social connections.

Setting the Stage
Begin by briefly introducing the exercise:
Let’s do a simple noticing task. Your job is to notice, with curiosity, what shows up as you answer some questions. These questions are about relationships, so first think of someone you really care about.
(This works well when it’s a relationship the young person is seeking help with.)

Are you willing to unhook when your Advisor dominates? Are you willing to allow hurt feelings?

mindful adventures
not for profit, mindfulness professional development

follow up slides will be on
www.thrivingadolescent.com

www.louisehayes.com.au
Evidence for ACT overall

More than 150 RCTs

https://contextualscience.org/state_of_the_act_evidence

Mindfulness mashups

• 3 rules
  • 1. pause
  • 2. fix attention on an anchor
  • 3. notice what shows up - curiosity

Mindfulness list

• A-N-D
• Breathing (Balloon Breathing, Hand rising and falling)
• Eating
• Walking
• Listening to sounds
• Stretching
• Moving
• Yoga
• Observing the outside world
• Listening to music
• Playing
• Having a conversation

Evidence for ACT overall

More than 150 RCTs

Multiple presentations from health, to well being, to psychopathology

American Psychological Association, Society of Clinical Psychology (Div. 12), Research Supported Psychological Treatments:
  • Chronic Pain - Strong Research Support
  • Depression - Modest Research Support
  • Mixed anxiety - Modest Research Support
  • Obsessive-Compulsive Disorder - Modest Research Support
  • Psychosis - Modest Research Support

https://contextualscience.org/state_of_the_act_evidence
Emerging evidence for young people for ACT

Our studies


Others

Plus some small case studies designs