Lesson Three Embedded Videos

Transcript

# Brains: Journey to Resilience

The Alberta Family Wellness Initiative (AFWI).

**<https://www.albertafamilywellness.org/resources/video/brains-journey-to-resilience>**

Filmmaker: 00:11

Brains. They are everywhere, in the world's gentlest places and its harshest.

Filmmaker: 00:25

In this unforgiving environment, some brains exhibit troubling signs: addiction, illness, depression, social disorder. Yet others thrive. Why have some brains developed the ability to cope in harsh conditions while others struggle? It is one of nature's great secrets.

Scientist: 00:50

Ha, ha, hi. Hello? This is amazing, but I just need to clarify a few things. This great secret, it's actually science. Severe adversity isn't good for any brain, but it is true that some brains do better than others in the face of significant challenges.

Filmmaker: 01:05

Oh, a scientist. Yes, I agree.

Filmmaker: 01:08

... This is a great secret of science.

Scientist: 01:16

Great, yes, but not a secret. Let me explain.

Scientist: 01:20

We're born with brains, but our brains change as we grow. They develop based on experiences we have, and different brains respond to experiences in different ways. 'Kay, thanks. I'll let you get back to it.

Filmmaker: 01:32

Indeed. Some brains show robustidity and strongitude, while others

Scientist: 01:39

Sorry. Can I just? We scientists use the word resilience. Some brains are more resilient than others.

Filmmaker: 01:45

Yes, resilientsis.

Scientist: 01:46

Resilience.

Filmmaker: 01:48

Resilience, revenge of the cortex.

Scientist: 01:55

No. Resilience is a result of the interplay between genes and life experiences. It's a brain's ability to maintain good functioning under adversity.

Filmmaker: 02:03

Resilience makes us invincible.

Scientist: 02:08

Nothing makes us invincible. What resilience does is to give less leverage to negative factors in our lives and tip the balance in favour of positive outcomes.

Filmmaker: 02:21

Resilience, fate's legendary prize.

Scientist: 02:22

Whoa, no. Some people are born with more resilience than others, but resilience can also be built over time. It's a big project involving parents, caregivers, teachers...

Filmmaker: 02:33

Kith, kin, karaoke comrades.

Scientist: 02:36

Soccer coaches, counsellors.

Filmmaker: 02:38

Pastry chefs, associate producers, even millennials. Like a barn raising in times of old.

Scientist: 02:47

Yeah, yeah. In fact, we scientists believe strong brain architecture is the foundation for resilience, and, oh, look over there.

Filmmaker: 02:57

Oh yes. A young brain returns after months of isolation and adversity. No words can describe what this poor brain has suffered.

Scientist: 03:06

There are words that describe it. We scientists call it toxic stress.

Filmmaker: 03:11

Toxic stress lies in wait.

Scientist: 03:15

No, that's not, no ... Stress happens inside the body. It's the fight or flight system kicking in. But if stress hormones are elevated too high and for too long, it can have negative effects on the brain and body.

Filmmaker: 03:30

Stress, a nasty poison.

Scientist: 03:34

Not all stress, just toxic stress. With the right supports, we can make severe stress tolerable, which means it won't do lasting damage. Stress can even be positive because it helps us to learn problem solving and coping skills, which leads us back to resilience.

Filmmaker: 03:50 A

las, this brain is resilience-less.

Scientist: 03:54

No, it isn't. Let me explain.

Scientist: 03:57

Remember when I talked about giving less leverage to negative experiences and tipping the scale in a positive direction? Well, here's a little something I've been working on. It's a really amazing metaphor. Here it goes. I call it the resilience scale.

Filmmaker: 04:21

Resilience scales. Protective armour plates.

Scientist: 04:25

The resilience scale helps us understand why some brains are more resilient than others.

Filmmaker: 04:32

The resilience scale sends out invisible resilience rays that...

Scientist: 04:35

It's really just a scale, see? It's a beam being held up by a fulcrum.

Filmmaker: 04:39

Full of crumbs?

Scientist: 04:41

Jeez, no. A fulcrum. You know, like high school phys ... never mind.

Scientist: 04:46

Let me just clean this up. See, negative experiences add weight to one end of the beam, and positive factors add weight to the other end. Ideally, we want the scale to tip toward the positive side and lead towards positive life outcomes.

Filmmaker: 05:00

The brain's future literally hangs in the balance.

Scientist: 05:03

The position of the fulcrum can be understood as our original capacity for resilience. It's something like our genetic starting position. Remember the young brain that was struggling to survive? Look, it started life with the fulcrum off-center, giving more leverage to negative experiences, serious stuff like abuse, neglect, and chaotic environments. That means positive factors like responsive relationships, safe environments, and learning opportunities had less leverage. Over time, the negative load shifted the fulcrum even farther in a negative direction.

Filmmaker: 05:40

Tragedy. Doom.

Scientist: 05:42

Not at all. Right now, this brain is experiencing poor health, but with help, the scale can be tipped toward more positive outcomes. The first thing we can do is to stop negative experiences from stacking up. Then we can add more positive factors, loading up the positive side of the scale, and we're not done. We can work to shift the fulcrum in a way that favours positive outcomes.

Filmmaker: 06:08

The fulcrum, an amazing instant fix-it button.

Scientist: 06:09

No, it's a process. It involves many supportive people and plenty of time. Remember? This brain is still young, so adult brains can work with it to relieve toxic stress and teach coping skills. In early childhood, these efforts can push the fulcrum a considerable distance.

Filmmaker: 06:26

Childhood, filled with fascination and fulcrum flexibility.

Scientist: 06:32

Sort of, but there are other sensitive developmental periods that are windows of opportunity, like adolescence, and even if this brain doesn't get help until adulthood, change is still possible. It will take more support and the change will be less dramatic, but any fulcrum can be moved to make positive outcomes more achievable.

Filmmaker: 06:51

The bad experiences disappear.

Scientist: 06:54

I'm afraid not. It's hard to undo the effects of past negative experiences and it takes time, but we can eventually relieve the burden of those negative experiences. Our little brain can get the help it needs to adapt, recover, and enjoy good health and wellness.

Filmmaker:

07:10 And everyone everywhere can become more resilient for eternity.

Scientist: 07:18

Why not? With the right support, everyone everywhere can become more resilient.

Filmmaker: 07:25

I'm so glad I saved humanity. It's been a majestic experience.

Scientist: 07:30

Yeah, me too. Well done.