Science2Wellbeing:
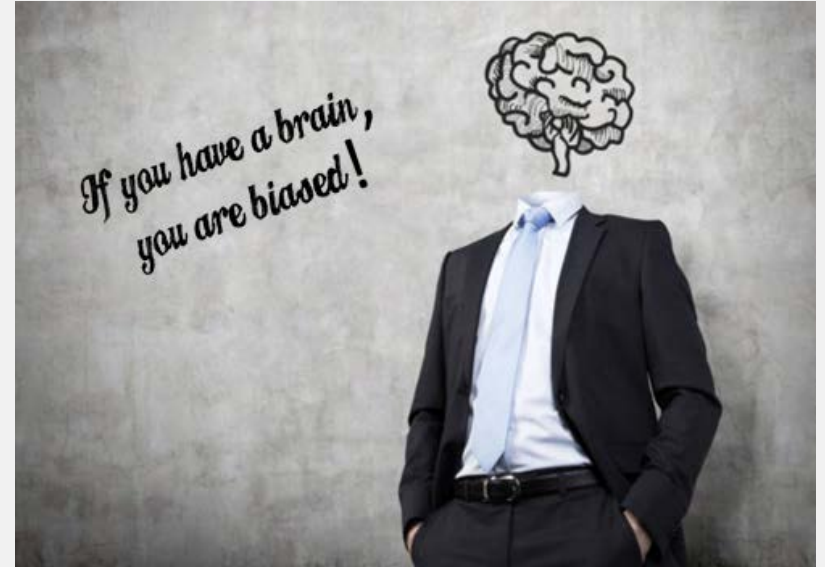
Surviving and thriving in academia

Senka Holzer, PhD

- About me

- What did I learn about wellbeing while studying the heart?

- What do we need to thrive @work?

- Why don't we thrive @work?

- What can we do?

Disclosure:
these are partly my personal opinions…

If you have a brain, you are biased!

About me

2001-2007   2008-2012   2013-2015   since 2016   2016 & 2018

FWF Hertha Firnberg Programme   FWF Elise Richter Programme

BSc and MSc in Biochemistry
University of Novi Sad, Serbia

Jr. Postdoc in Cardiac Physiology
University of California Davis, CA

PhD in Molecular Medicine
Medical University of Graz, Austria

Sr. Postdoc in Cardiac Physiology
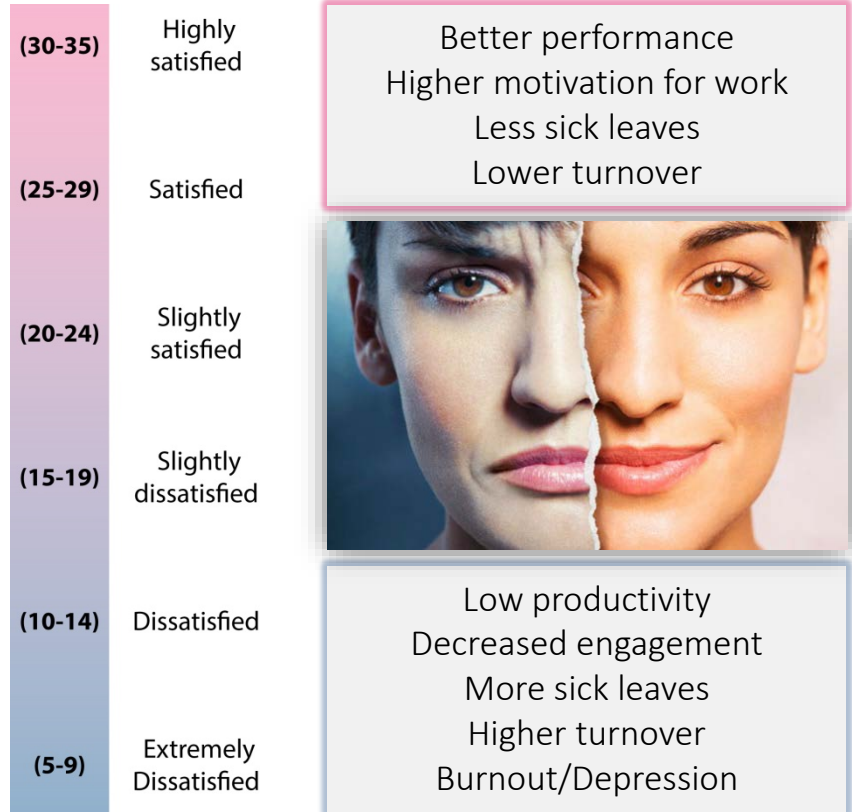Medical University of Graz, Austria

About Wellbeing

What is wellbeing?

A self-report of how satisfied one feels with his/her own life and how much positive and negative emotion he/she is experiencing

(1) Strongly disagree	(2) Disagree	(3) Slightly disagree	(4) Neither agree nor disagree	(5) Sligthly agree	(6) Agree	(7) Strongly agree

_____ In most ways my life is close to my ideal.

_____ The conditions of my life are excellent.

_____ I am satisfied with my life.

_____ So far I have gotten the important things I want in life.

_____ If I could live my life over, I would change almost nothing.

Diener et al, *Journal of Personality Assessment*, 1985

(30-35)	Highly satisfied
(25-29)	Satisfied
(20-24)	Slightly satisfied
(15-19)	Slightly dissatisfied
(10-14)	Dissatisfied
(5-9)	Extremely Dissatisfied

Better performance
Higher motivation for work
Less sick leaves
Lower turnover

Low productivity
Decreased engagement
More sick leaves
Higher turnover
Burnout/Depression

Wellbeing in academia

Early and mid career (up to 7 years after graduation)			Advanced career
PhD candidate	Postdoc	Junior group leader	Senior group leader

Younger scientists need better support

Universities must accept that there will be consequences if early-career researchers are not properly supported.

Rescuing US biomedical research from its systemic flaws

Bruce Alberts[a], Marc W. Kirschner[b], Shirley Tilghman[c,1], and Harold Varmus[d]

[a]Department of Biophysics and Biochemistry, University of California, San Francisco, CA 94158; [b]Department of Systems Biology, Harvard Medical School, Boston, MA 02115; [c]Department of Molecular Biology, Princeton University, Princeton, NJ 08540; and [d]National Cancer Institute, Bethesda, MD 20892

Wellbeing in academia

Early and mid career (up to 7 years after graduation)			Advanced career
PhD candidate	Postdoc	Junior group leader	Senior group leader

73% early- and mid-career academic researchers finds their job

stressful

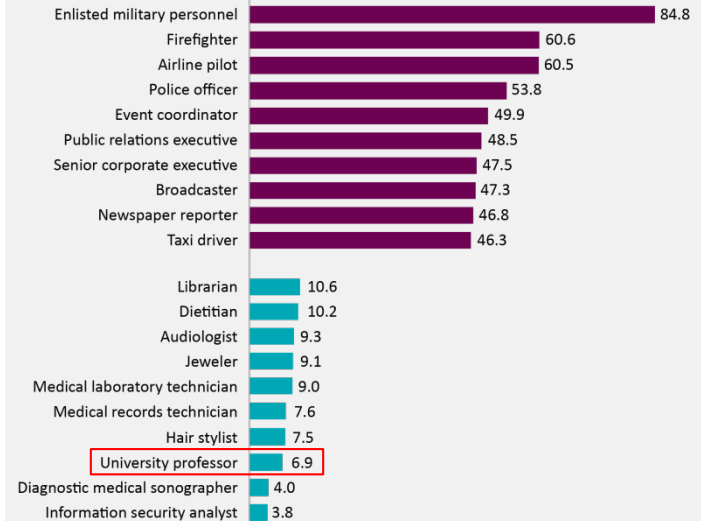**41%** PhD students experience moderate to severe

anxiety

39% PhD students experience moderate to severe

depression

burnout rates among university staff are similar to 'high-risk' groups such as healthcare workers

35%

Most & Least Stressful jobs in the U.S. 2016

Enlisted military personnel	84.8
Firefighter	60.6
Airline pilot	60.5
Police officer	53.8
Event coordinator	49.9
Public relations executive	48.5
Senior corporate executive	47.5
Broadcaster	47.3
Newspaper reporter	46.8
Taxi driver	46.3
Librarian	10.6
Dietitian	10.2
Audiologist	9.3
Jeweler	9.1
Medical laboratory technician	9.0
Medical records technician	7.6
Hair stylist	7.5
University professor	6.9
Diagnostic medical sonographer	4.0
Information security analyst	3.8

Evans et al., *Nature Biotechnology*, 2018; Guthrie et al., *RAND Corporation Research Reports,* 2017; Loesche, *Statista*, 2016

Science Breakfast

www.biotechmedgraz.at

BioTechMed GRAZ

What influences wellbeing?

It is challenging to pinpoint a single factor that determines individual levels of wellbeing
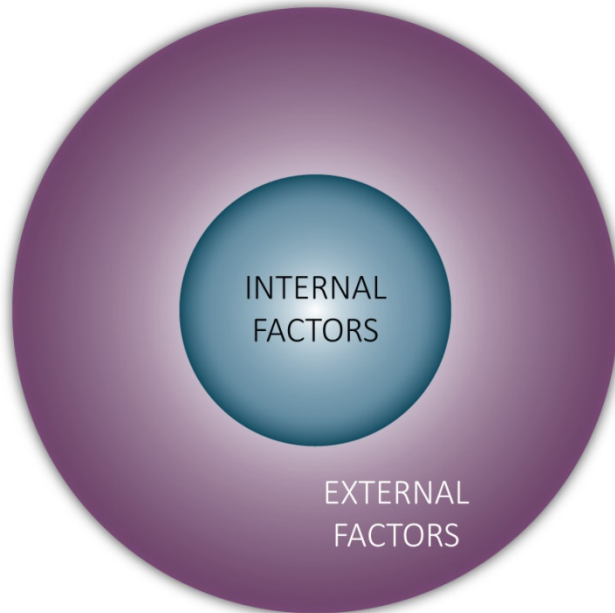
- Internal factors
  - *Personality characteristics* (emotional agility, resilience, self-awareness, perseverance)
  - *young generations are weak – we used to "toughed it out"*

- External factors
  - *the postdoc pile-up* (8% becoming professors vs. 41% in 1980)
  - *fierce competition for academic funding* (R01 grant-holders who are ≤36 has fallen six fold)
  - *job insecurity* (multiple short-term contracts)
  - *administrative burdens* (low success rates for grants and ever-increasing regulatory requirements = less time for research)

Maher & Sureda Anfres, *Nature*, 2016; Susan Guthrie et al., *RAND Corporation Research Reports,* 2017

What do we need to thrive?

Science Breakfast

www.biotechmedgraz.at

BioTechMed
GRAZ

Optimal work situation to foster wellbeing

Nugget MARKETS

- never made layoffs in its 93-year history

- spent $1.4 million on employee development

- offers $1,000 to employees who quit smoking for a full year

FORTUNE 100 BEST COMPANIES TO WORK FOR® 2019

14 YEARS IN A ROW!

Optimal work situation to foster wellbeing

"The key is creating a dynamic, family-friendly work environment that supports the wellbeing of every associate's professional and personal life."

- Nuggets Markets CEO Eric Stille

3 key elements of fostering wellbeing @work

Feeling Self-directed

Feeling Competent

Feeling Connected
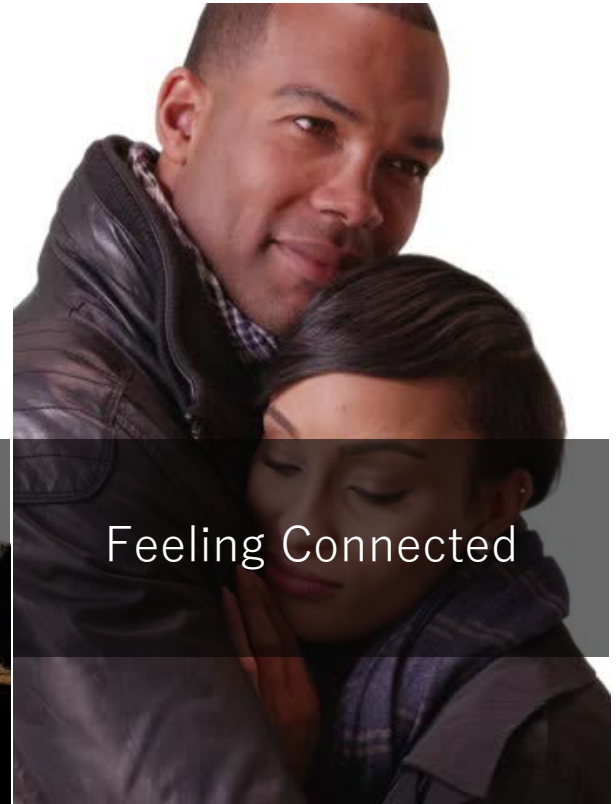
What do we really *need* to thrive?

Self-Determination Theory is a theory of what humans really *need* from their environments to thrive.

- **Autonomy**: the need to determine the course of one's own life and act in harmony with one's interests and values.

- **Competence**: The need to feel effective and to contribute to the greater good and the welfare of others.

- **Relatedness** : The need to feel deep connection and attachment to other people.

Self-Determination Theory
Basic Psychological Needs in Motivation, Development, and Wellness

Richard M. Ryan and Edward L. Deci
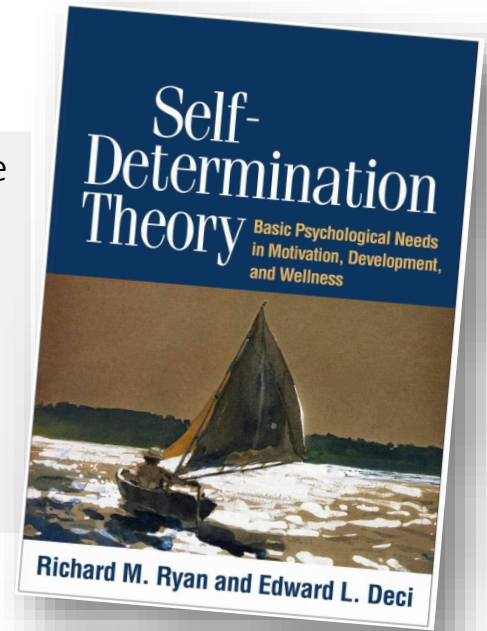
Ryan and Deci, *Self-Determination Theory*. 2017

Need #1: Feeling Self-directed

"…For many years I worked in palliative care. My patients were those who had gone home to die. I was with them for the last weeks of their lives…"

"…When asked about regrets they had, common themes surfaced again and again…"

Need #2: Feeling Competent

The importance of having a job extends far beyond the salary attached to it.

Lucas et al., Psychological Science, 2017

Need #3: Feeling connected

The Harvard Study of Adult Development

- 724 men for 75 years!
- 2 groups of men

Sophomores at Harvard College	Boys from Boston's poorest neighbourhoods

"…Teenagers grew up. They became factory workers, lawyers, bricklayers, doctors, one President of the USA. Some developed alcoholism. Few developed schizophrenia. Some climbed the social ladder from the bottom all the way to the very top, and some made that journey in the opposite direction…"

…What are the lessons that come from the tens of thousands of pages of information?

"Good relationships keep us happier and healthier. Period."

"The Study of Adult Development", Division of Psychiatry, Brigham and Women's Hospital, Boston, MA

Why don't we thrive @work?

How do we satisfy our basic psychological needs?

Needs, Values, Behaviors, Wellbeing

There is a cause-and-effect relationship among our psychological needs, personal values, behaviors, and ultimately wellbeing.
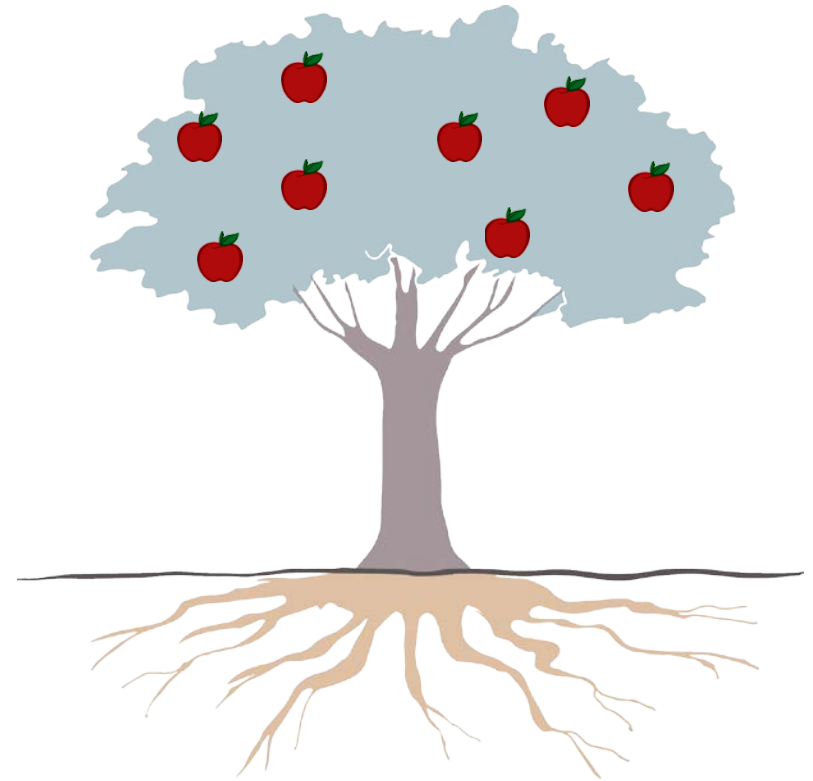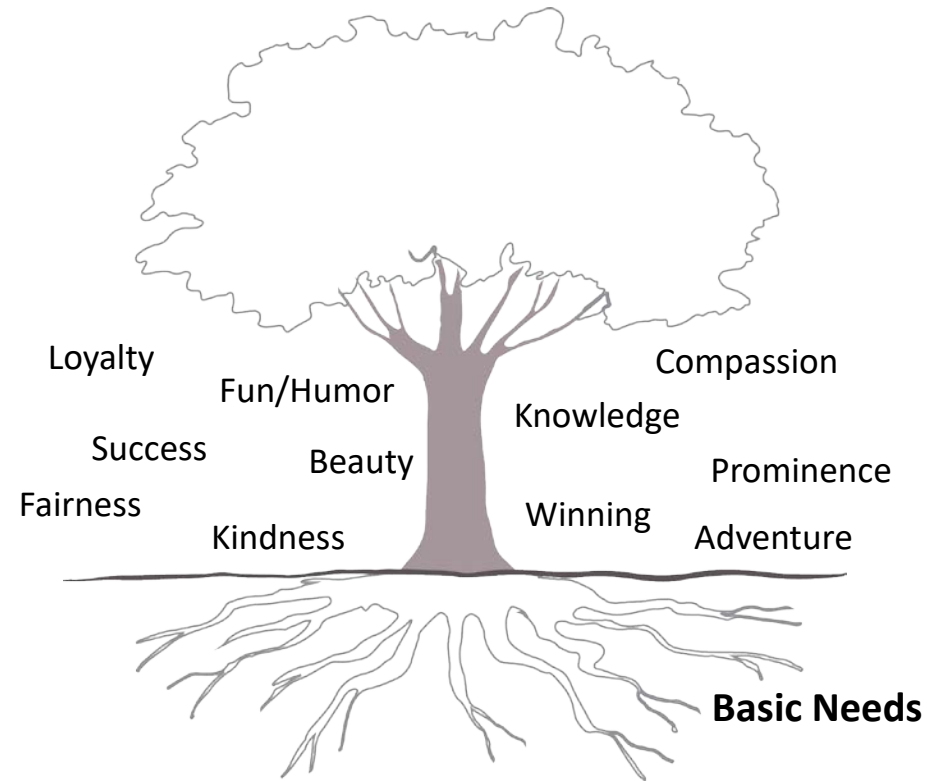
Basic Needs

We have a natural, human tendency to act toward satisfaction of our basic psychological needs.
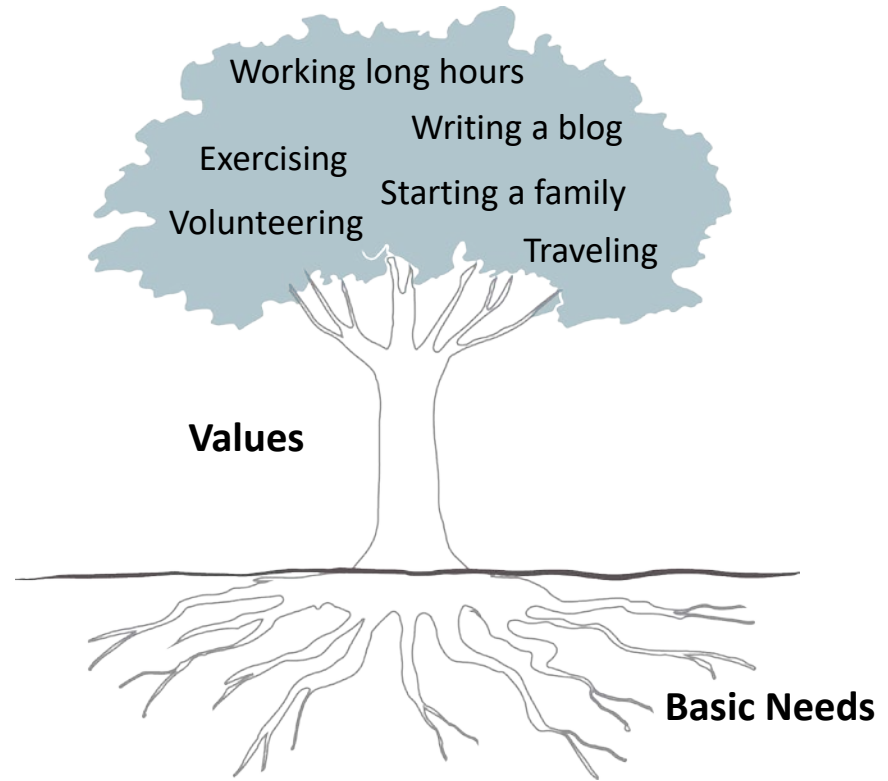

Autonomy

Relatedness
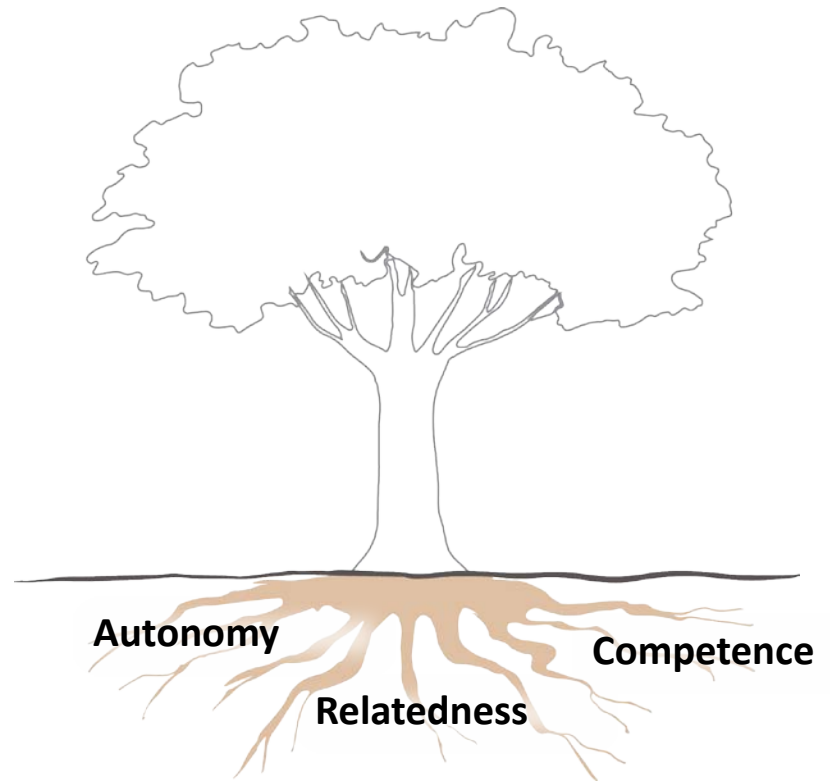
Competence

Values

We strive to meet our basic needs by acting on values we believe are important for feeling autonomous, related and competent.

Loyalty

Fun/Humor

Compassion

Knowledge

Success

Beauty

Fairness

Prominence

Winning

Kindness

Adventure

Basic Needs

Behaviors

The function of a person's value system is to help one choose between behavioral alternatives in every day life.

Working long hours

Writing a blog

Exercising

Starting a family

Volunteering

Traveling

Values

Basic Needs

Wellbeing

Our values drive our beliefs and actions, which ultimately determine our wellbeing.
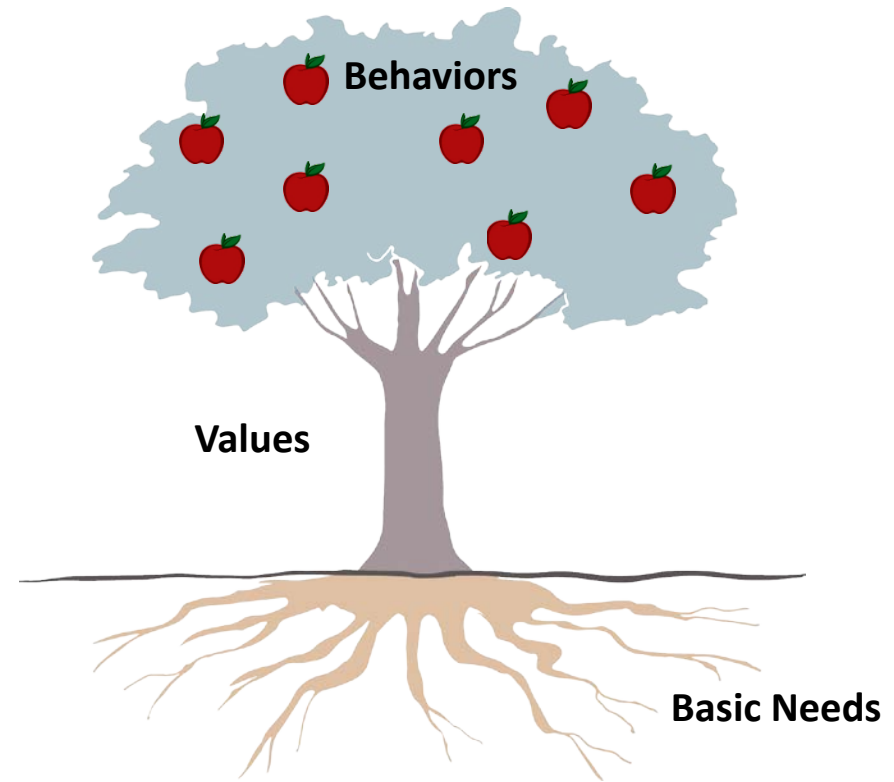
We operate on two different, but competing sets of values
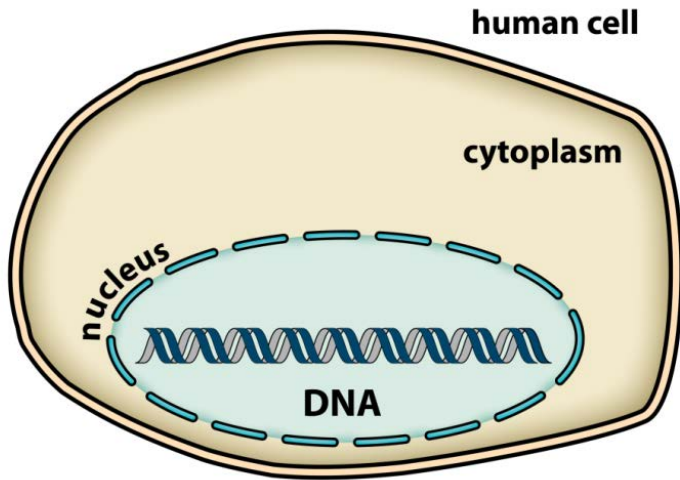
CORE VALUES

ACQUIRED VALUES

ACQUIRED VALUES
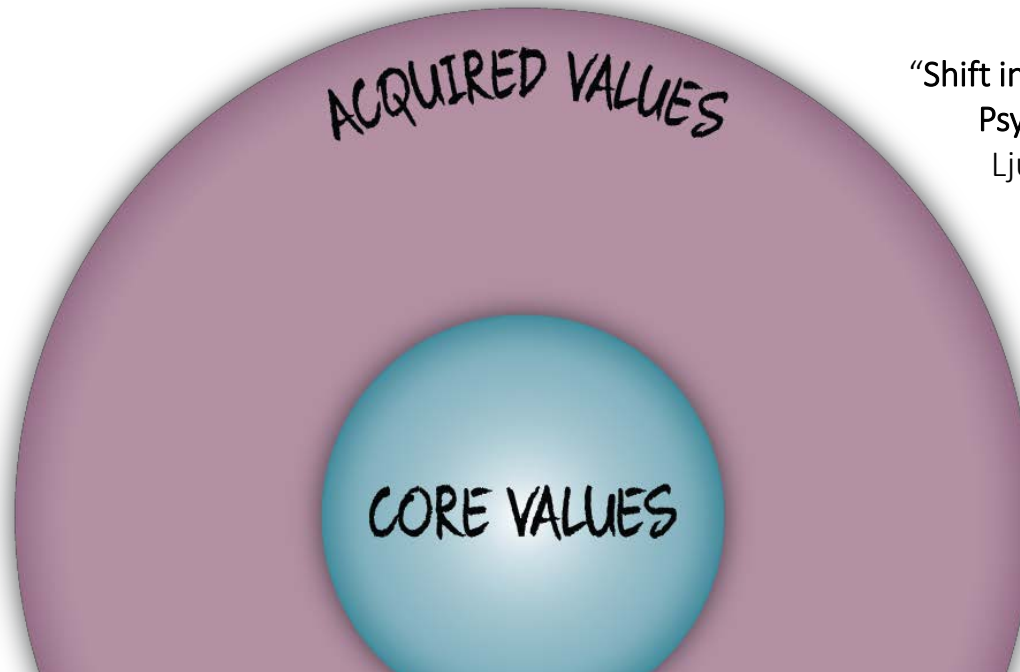
CORE VALUES

"Shift in Value System – Shift in Psychological Well-Being", Ljubojevic & Payne, 2015
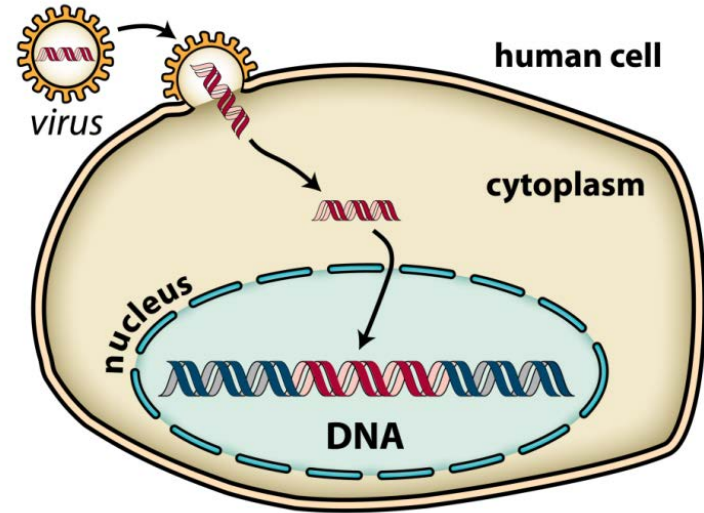
How did we get these two sets of values?

CORE VALUES

They are 'in our DNA'

human cell
cytoplasm
nucleus
DNA

ACQUIRED VALUES

They are coming from the outer world

virus
human cell
cytoplasm
nucleus
DNA

Once those values are mixed, we can't recognize our original "files" anymore…

Layers of acquired values

MODESTY
RESPECT
SHARING
PATIENCE
POLITNESS
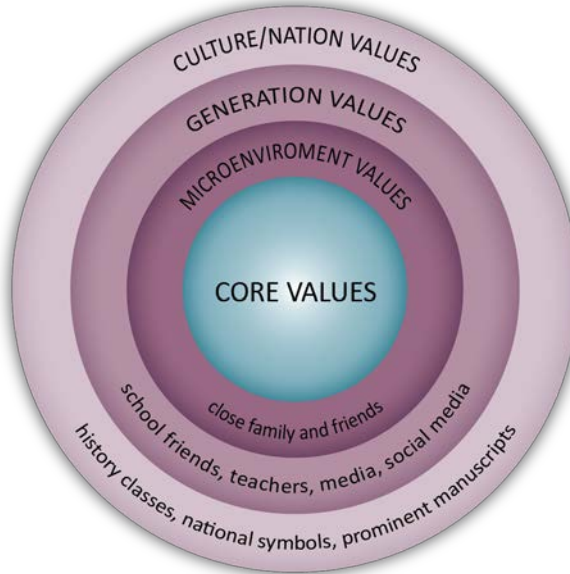
EDUCATION   FAMILY   CULTURE
NATURE
ACHIEVEMENT

CULTURE/NATION VALUES
GENERATION VALUES
MICROENVIROMENT VALUES
CORE VALUES
close family and friends
school friends, teachers, media, social media
history classes, national symbols, prominent manuscripts

INDIVIDUALITY   EQUALITY
FREEDOM   SUCCESS   JUSTICE

TRUTH   TOLERANCE
SERVICE
SIMPLICITY
SPIRITUALITY

Expectation–Reality Gap

We adopt many acquired values based on persistent voices, some loud and others subtle, that promise a good and happy life if we do certain things and avoid doing other things. We work hard at meeting values-driven goals and expect happiness as promised.
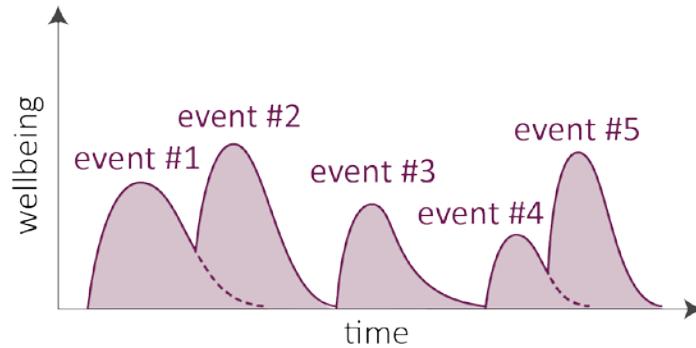
EXPECTATIONS

REALITY

Acquired values give us spikes of happiness... ("Hedonic adaptation")

Expectation-Reality Gap & Core vs. Acquired values

ACQUIRED VALUES

- Intense spikes of joy and/or relief that lift your mood
- are more subject to hedonic adaptation—the positive effects quickly fade away
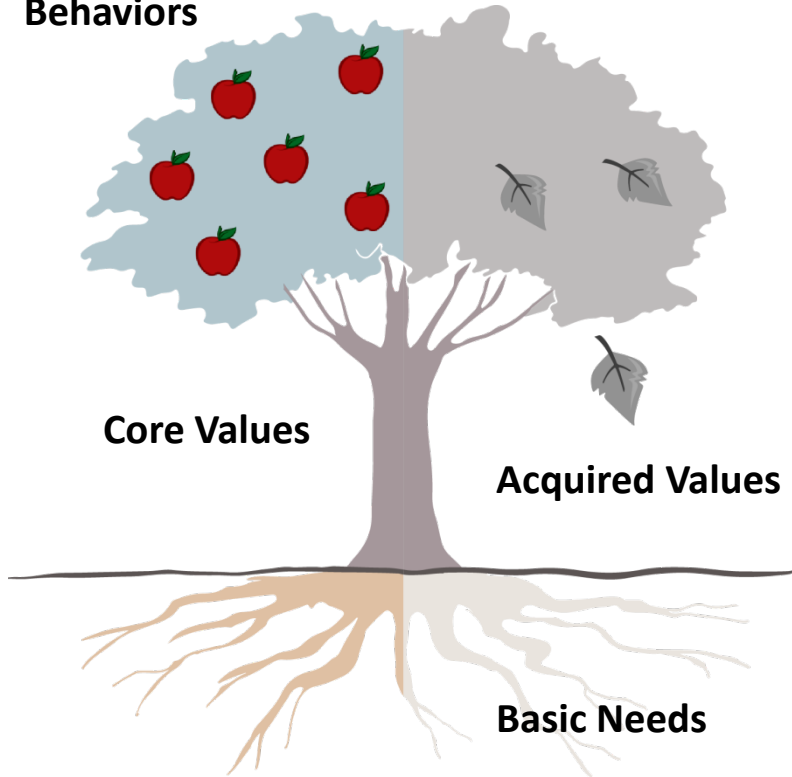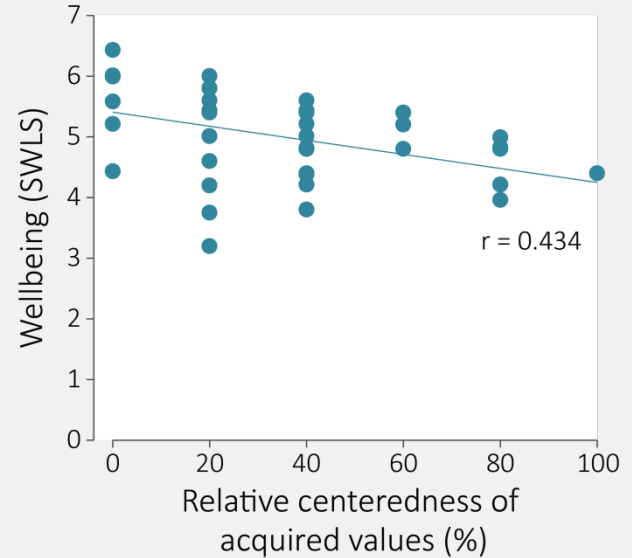
CORE VALUES
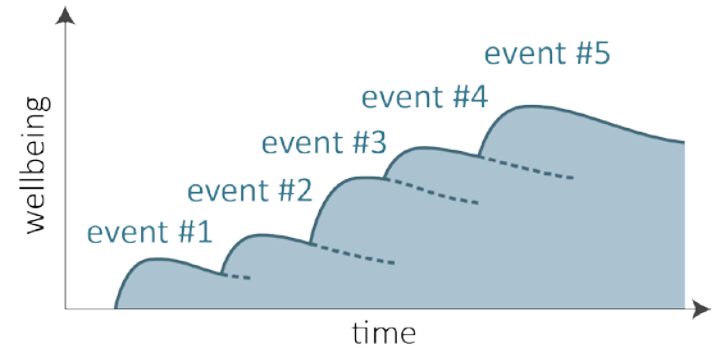
- May not be enjoyable, but bring lasting satisfaction, inner peace and sense of purpose
- Positive effects accumulate over time - more immune to the effects of hedonic adaptation

Wellbeing and core vs. acquired values

Behaviors

Core Values

Acquired Values

Basic Needs

Wellbeing and prioritization of acquired values

r = 0.434

Lower level of subjective wellbeing correlates
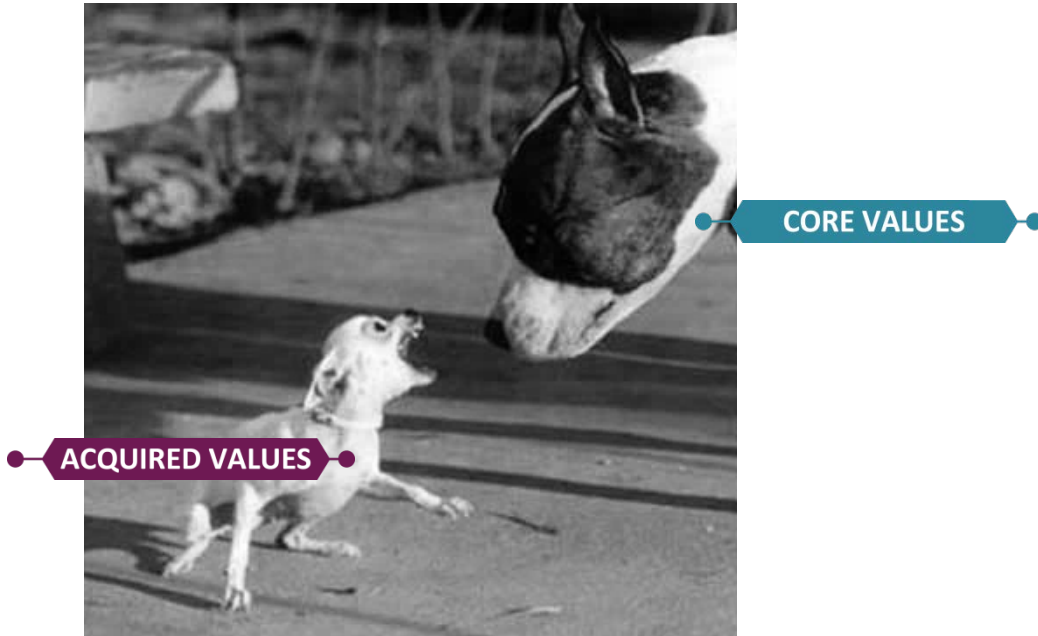with relative focus on acquired values

What can we do?

Create awareness around our value system

1) Notice core & acquired values at work

CORE VALUES

ACQUIRED VALUES

2) Increase the "awareness space"

Create situations to employ our passions and strengths

3) Find your "academic strengths"…

- What tasks I keep enjoying while other people are complaining?

- Where do I get greater returns than the average person?

- What makes me lose track of time?

4) …and use them to advance

- Spread the word – a colleague next to you maybe struggles with what you love to do

- The more you work on a specific skill, the more you'll master it
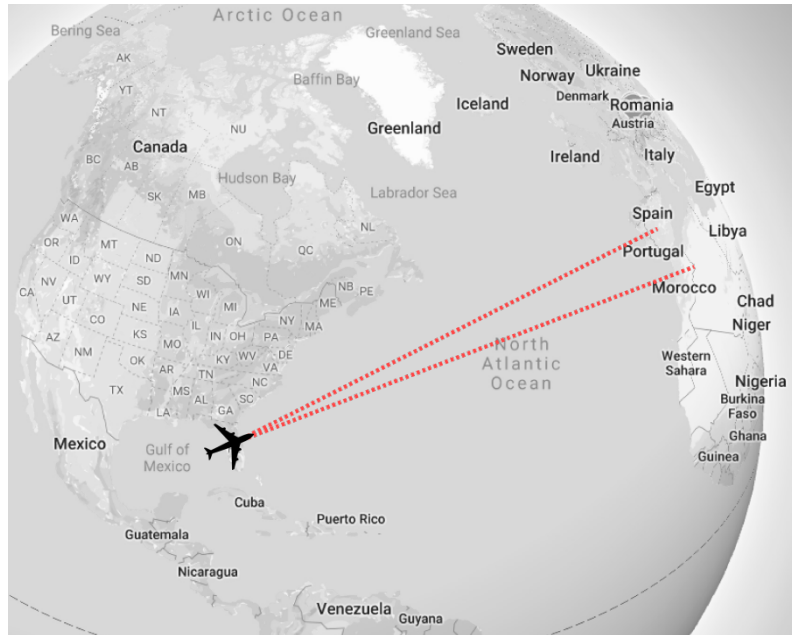
- "Plant yourself where you will bloom"

"The work that hurts you less than it hurts others is the work you were made to do."

- The Habits Academy CEO James Clear

5) Small twists for a big change

6) Choose the right settings

Take-home message

"Taking care of your personal wellbeing is a part of your job, just as earning CME credits or publishing."

Thank You :)

This was cool

Good point

I'm skeptical

Whatever…

Nothing new

Interesting

Wow