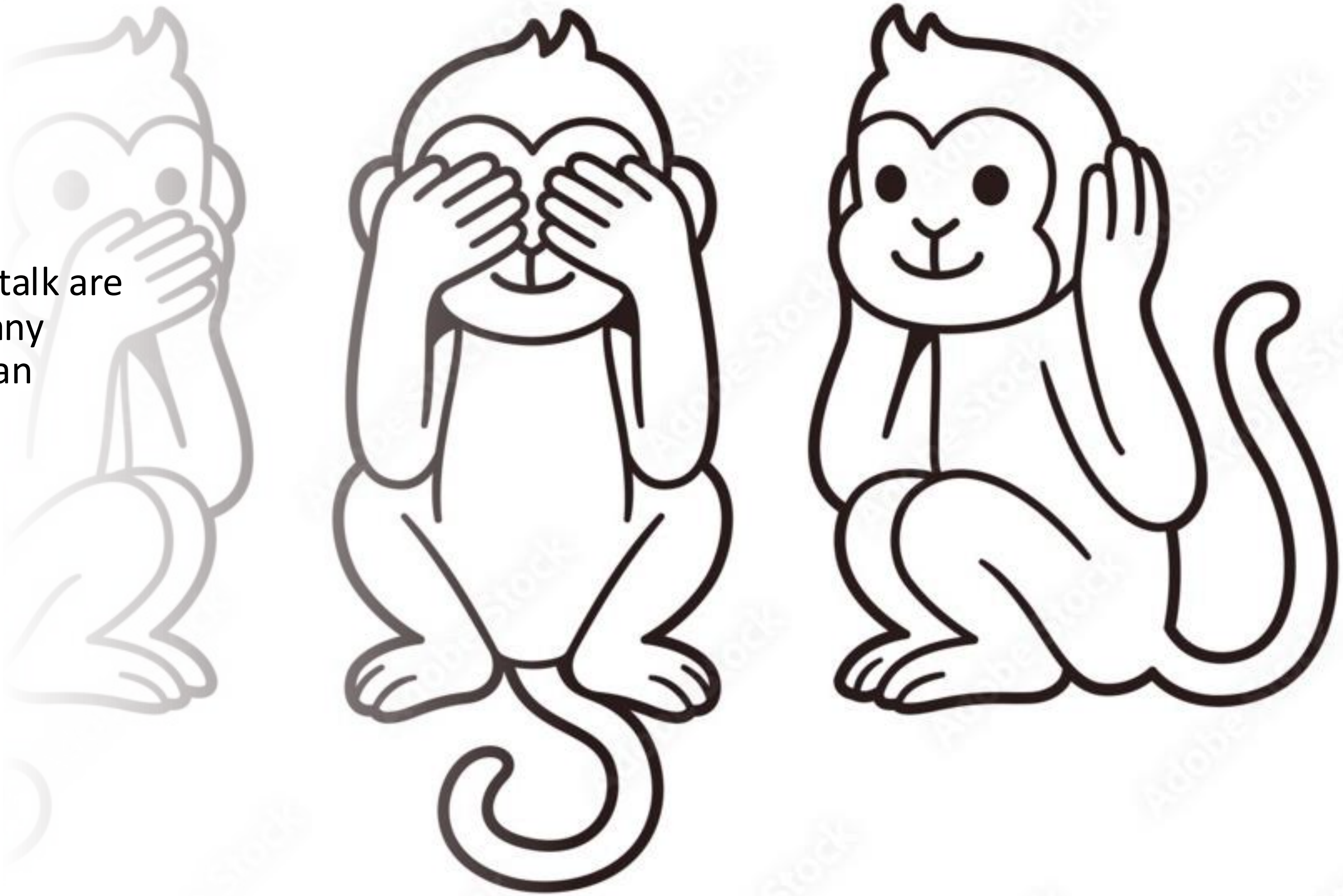
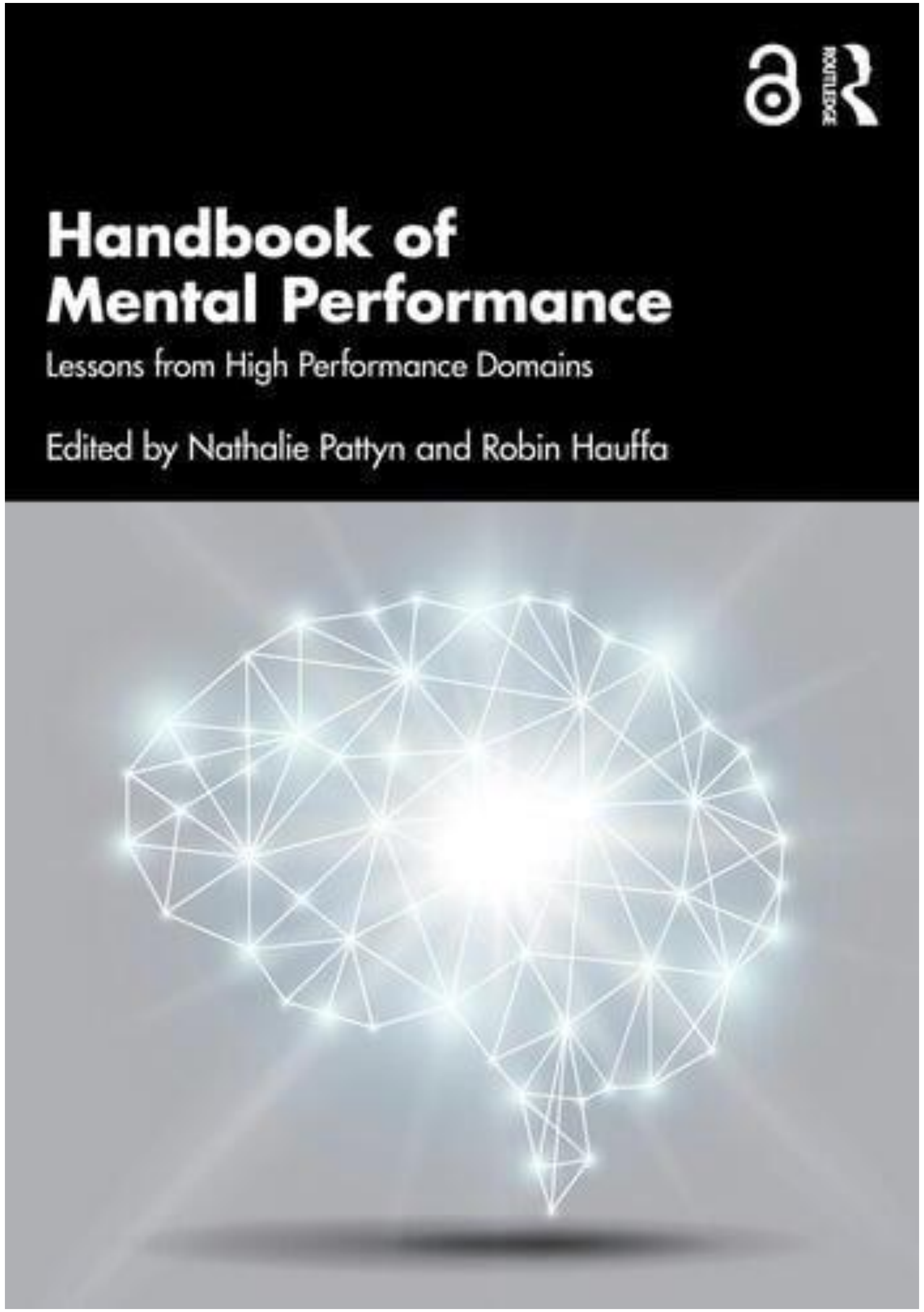
Mental Performance Training in High Performance Domains

Down the rabbit hole

Disclaimer

The views expressed in this talk are my own and do not reflect any official position of the Belgian Defence.





- VIPER: 15+ years of experience in multidisciplinary research targetting human performance.
- Focus on elite populations: jet fighter pilots, astronauts, top athletes.
- Extreme environments: space, antarctic overwinterings, high altitude, parabolic flights, submarines.
- In 2017: request from SF Gp to apply our expertise to the needs of the unit.

Questions vs answers

What is mental performance, or mental health, and is it the same?

Can we train it? What is mental training?

Is there a difference between target populations (e.g. SOF vs conventional forces)?

Lessons learned from implementation?

1. Mental health vs mental performance?

Mental health?

“a state of psychological, emotional, and social well-being in which individuals are capable to feel, think, and act in ways that allow them to enjoy life, realize their potential, cope with the normal stresses of life, work productively, and contribute to their community.” (WHO)

Mental performance?

Clinical?

Experimental?

Operational?

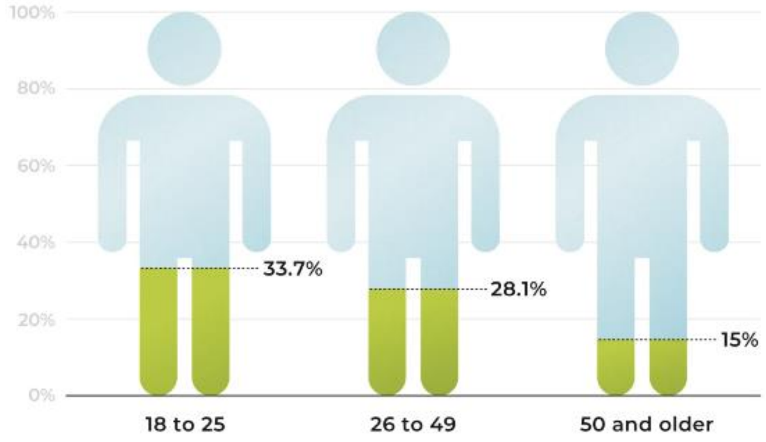
- Professional
- Military
- Athletic

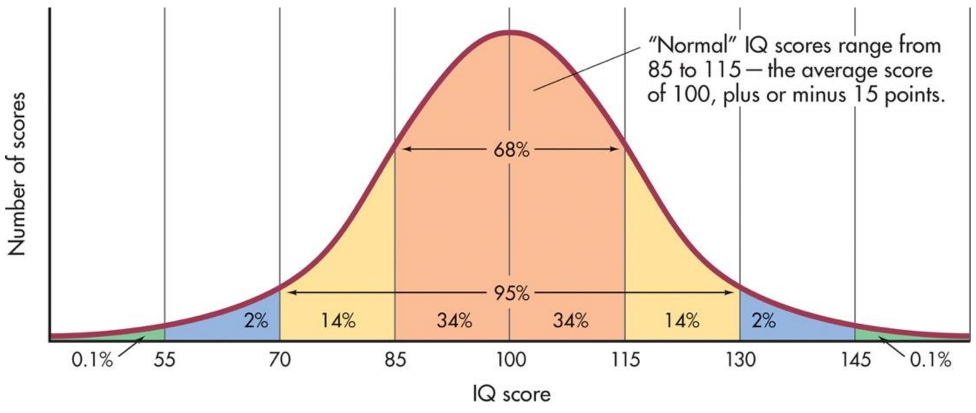
So does optimal mental health lead to optimal performance and vice versa?

Mental Health Scale

OPTIMIZING	COMBAT READY	REACTING	STRAINED	COMBAT INEFFECTIVE

Beware of the confusion





- Prevalence of mental health issues: roughly 20%
- Elite athletes show the same prevalence as the general population

https://www.nimh.nih.gov/health/statistics/mental-illness

Van Slingerland KJ, Durand-Bush N, Bradley L, Goldfield G, Archambault R, Smith D, Edwards C, Delenardo S, Taylor S, Werthner P, Janssen L, Schinke R, Kenttä G. Canadian Centre for Mental Health and Sport (CCMHS) Position Statement: Principles of Mental Health in Competitive and High-Performance Sport. Clin J Sport Med. 2019 May;29(3):173-180.

- Prevalence of exceptional abilities, in any given domain, according to a normal distribution: roughly 5 %

Gauss, Carolo Friderico (1809). Theoria motvs corporvm coelestivm in sectionibvs conicis Solem ambientivm [Theory of the Motion of the Heavenly Bodies Moving about the Sun in Conic Sections] (in Latin). Hambvrgi, Svmtibvs F. Perthes et I. H. Besser.

Can overachieving be healthy?

Yes

However, research from sports psychiatry shows:

- Athletes may be highly successful **despite** a coexistent mental health issue
- Athletes may have chosen the athletic arena **to cope** with an issue
- Athletes may have mental health **vulnerabilities precipitated/worsened** by the features of elite sports

Just my opinion?

Baum, A. L. (2003). Sport psychiatry: how to keep athletes in the game of life, on or off the field. Curr Psychiatry, 2(1), 51-56.

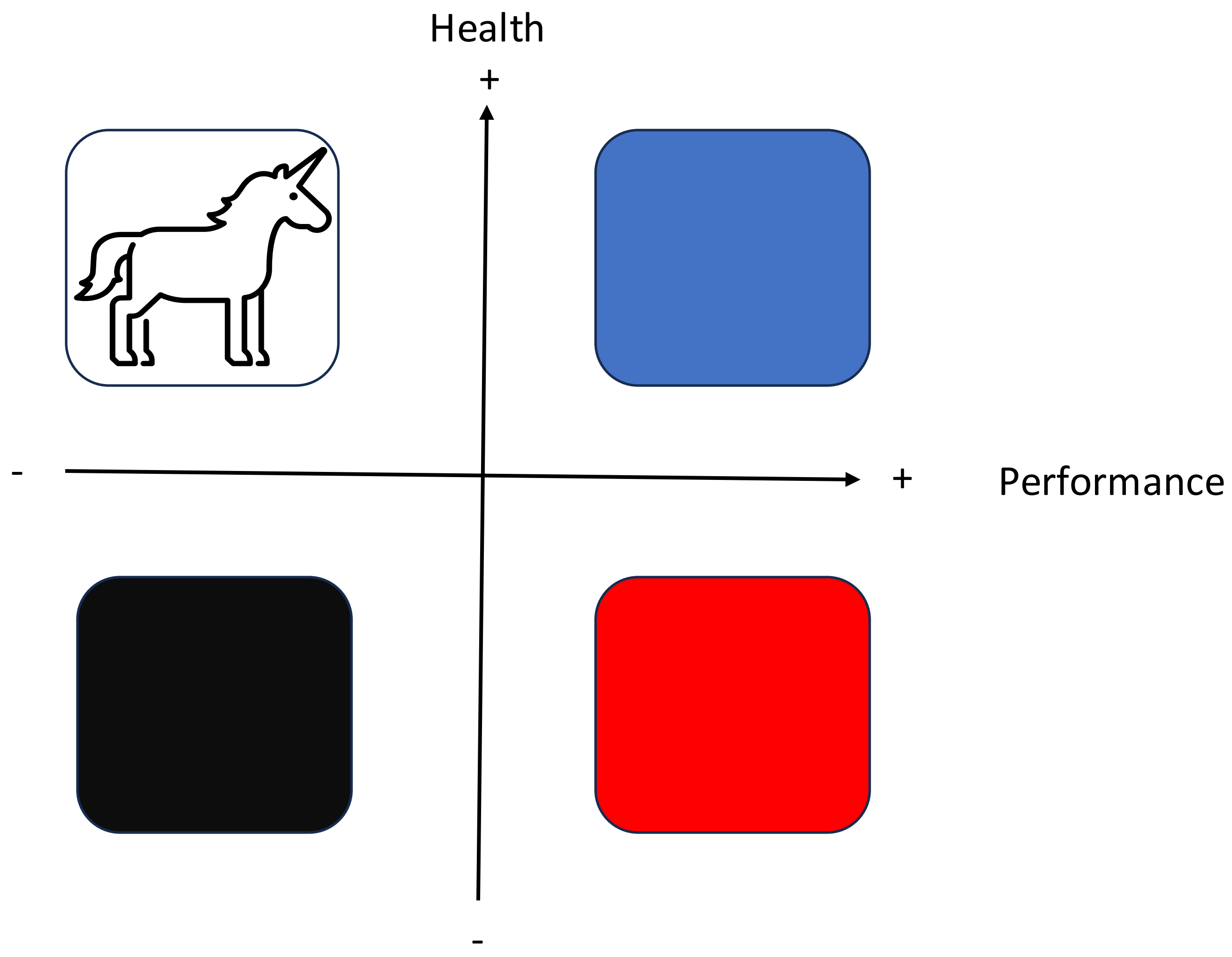
Reardon, C. L., & Factor, R. M. (2010). Sport Psychiatry. Sports Medicine, 40(11), 961-980.

Frank, R., Nixdorf, I., & Beckmann, J. (2013). Depression in Elite Athletes: Prevalence and Psychological Factors. Deutsche Zeitschrift für Sportmedizin [German Journal of Sports Medicine], 64, 320-326.

Nixdorf, I., Frank, R., & Beckmann, J. (2015). An Explorative Study on Major Stressors and Its Connection to Depression and Chronic Stress among German Elite Athletes. Advances in Physical Education, 5, 255-262.

Reardon, C. L., Hainline, B., Aron, C. M., Baron, D., Baum, A. L., Bindra, A., . . . Engebretsen, L. (2019). Mental health in elite athletes: International Olympic Committee consensus statement. British Journal of Sports Medicine, 53(11), 667-699.

So how do health and performance relate **in high-performance domains?**



2. Can we train mental performance?

- Mental health training, mental readiness, operational resiliency training

  => YES!

- What are we talking about when we talk about ***training*** mental performance?
  - Teaching
    - Knowledge => psycho-education: know your weapon system!
    - Skills => additional tools in your toolbox, e.g. tactical breathing
    - Attitudes => mindset
  - Practice

Skill acquisition?

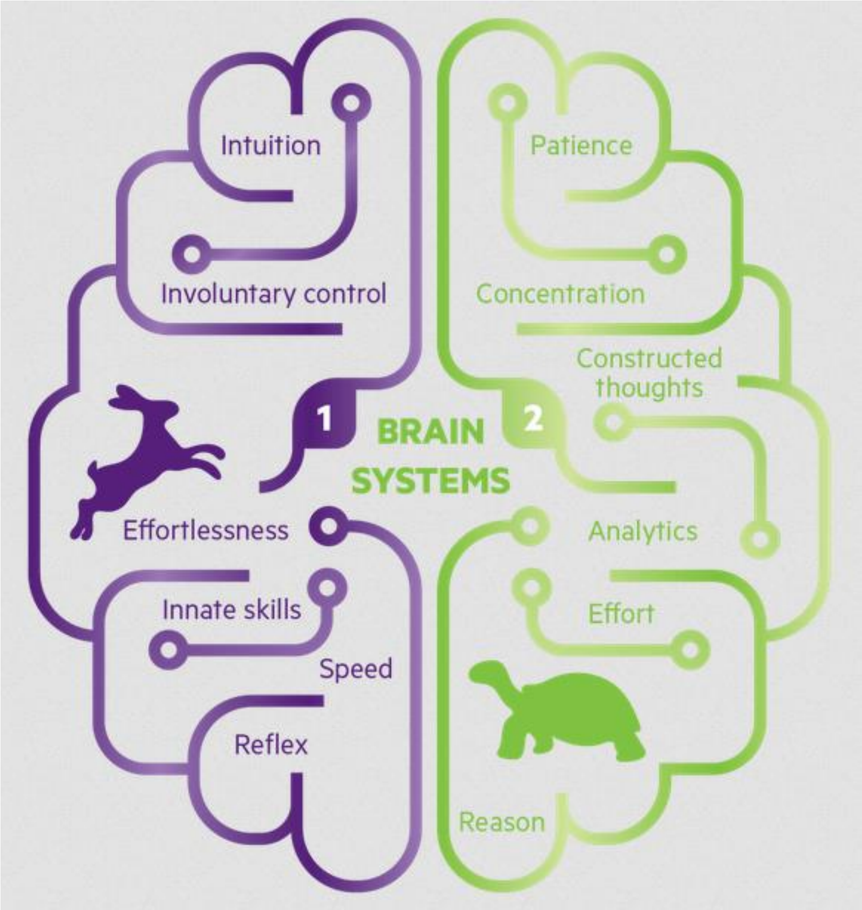
•**Cognitive Stage** –
-*Analyzing how* to perform a skill.
-Requires *all the learner's attention*.
-Any distraction => performance deterioration.

•**Associative Stage** –
-*Practice* => *coordinate* motor activity with sensory input.
-*Associate* each step in the routine with likely outcomes
-Performance is *smoothing*.
-Still requires deliberate attention, but the learner is better able to deal with distractions, and to vary contexts

•**Automatic Response Stage** –
-*Automaticity* = result of practice and transfer.
-Performance of the skill is rapid and smooth and requires much less deliberate attention.
-Transfer of practice to different contexts.
-The practitioner may no longer be able to explain how to perform the skill.

Teaching

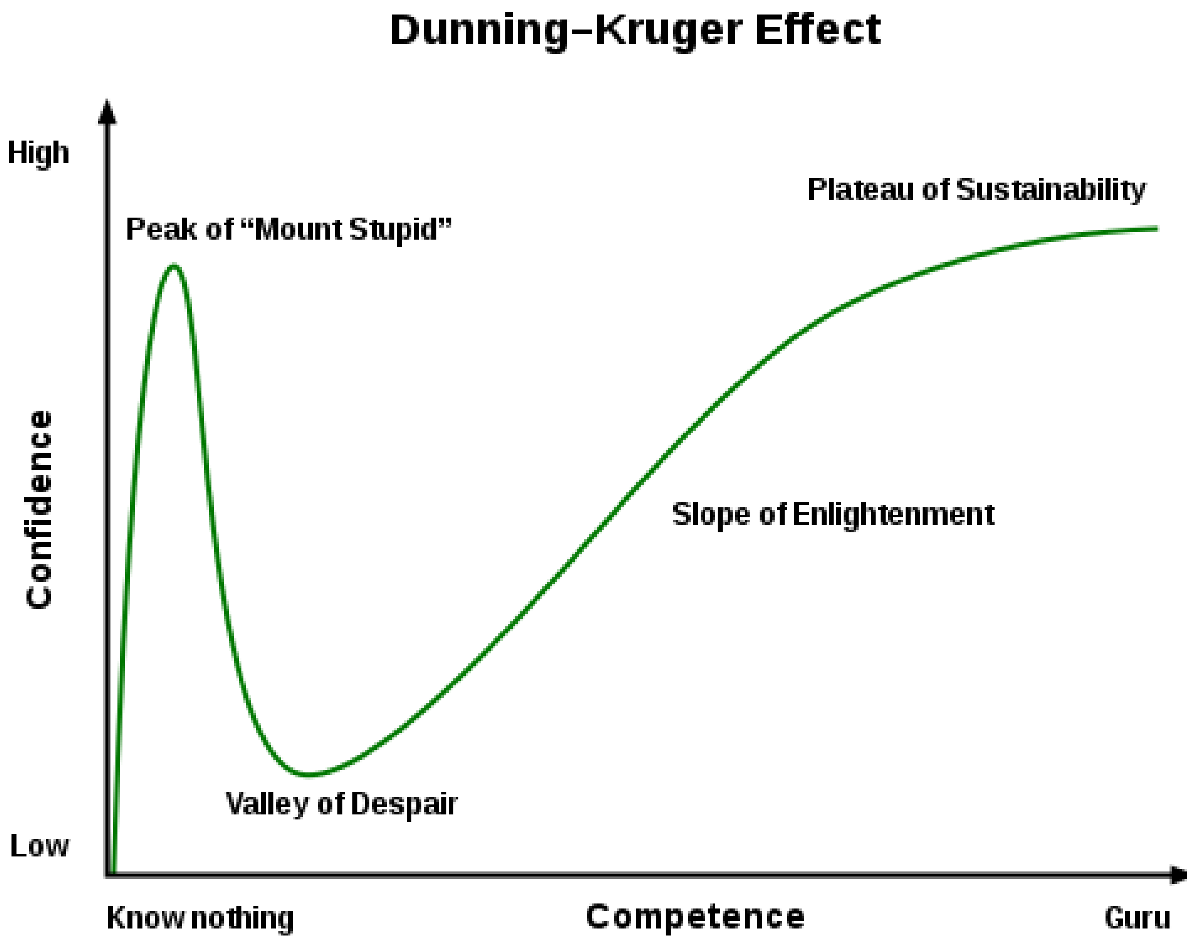
Training



Main issue with existing mental training

Never getting to the "training" stage

-Performance of the skill is rapid and smooth and requires much less deliberate attention.
-Transfer of practice to different contexts.



Kruger, J., & Dunning, D. (1999). Unskilled and unaware of it: How difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Journal of Personality and Social Psychology, 77*(6), 1121–1134.

What is the difference between mental performance training, mental performance optimization, and mental performance enhancement?

Human Performance Optimization (HPO) as **reaching** individual's biological potential

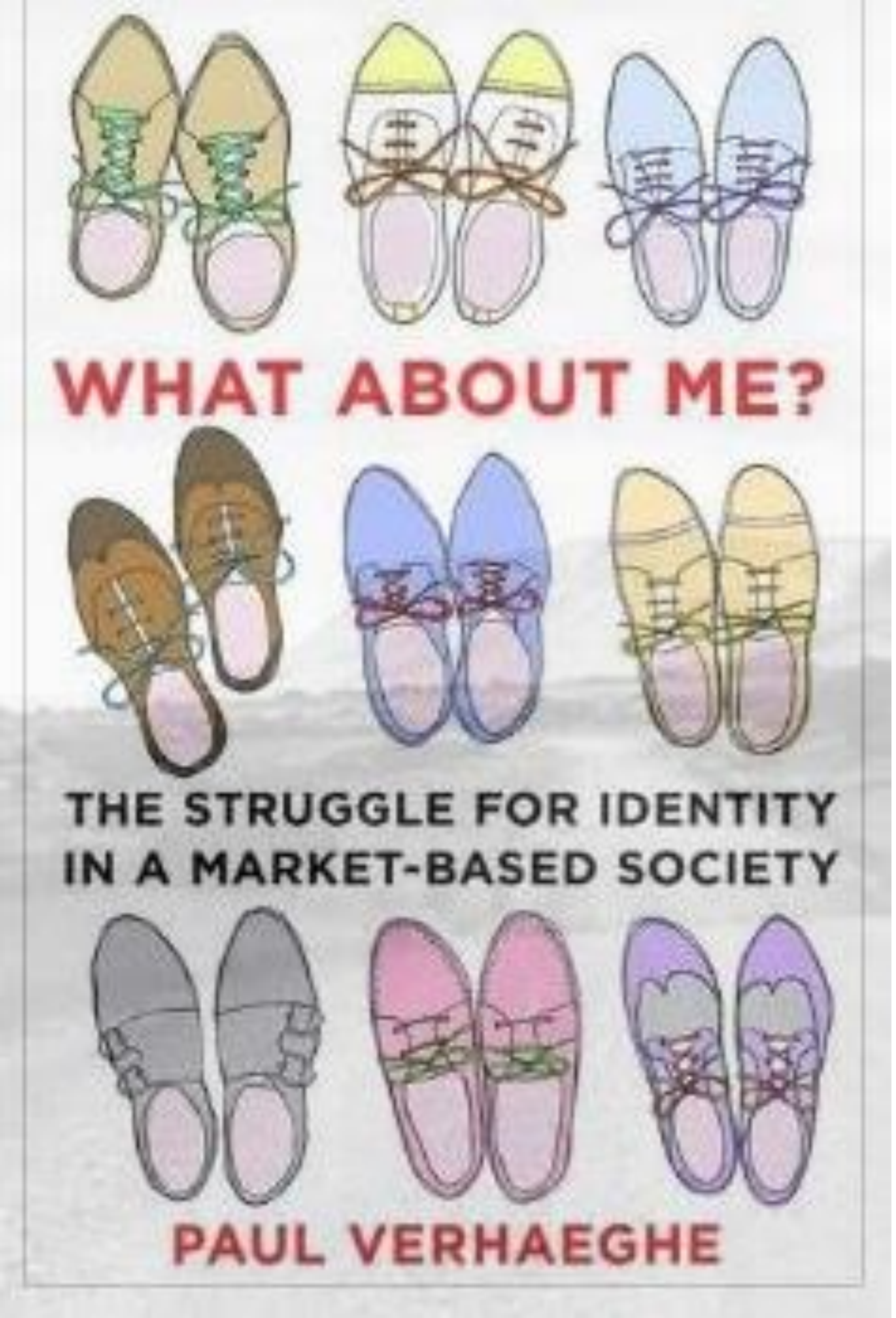
Human Performance Enhancement (HPE) as **exceeding** the biological potential

UNCLASSIFIED

MCDC

Multinational Capability Development Campaign

Human Performance Optimization and Enhancement

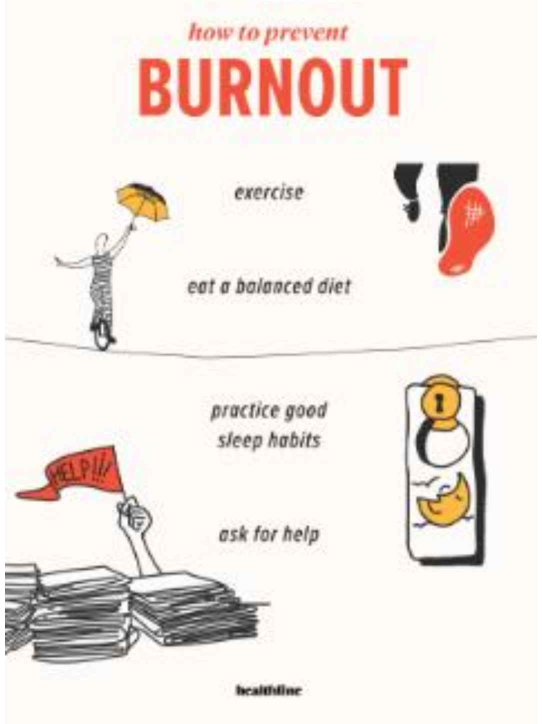


The ethics of performance improvement?

Limits to the « makeability » of an individual…

« Today's pay-for-performance mentality is turning institutions such as schools, universities, and hospitals into businesses - even individuals are being made to think of themselves as one-person enterprises. »

Ethics: beware of the MP expert as a « fixer » for bad management



The Role of the Corporate Communicator in Preventing Burnout

Communiqué de presse: Après le burn-out et le bore-out, les travailleurs risquent le fade-out

Rester en contact avec les travailleurs malades de longue durée est payant

mensura
Protecting your human capital

Erik Carlier
Directeur Health bij Mensura
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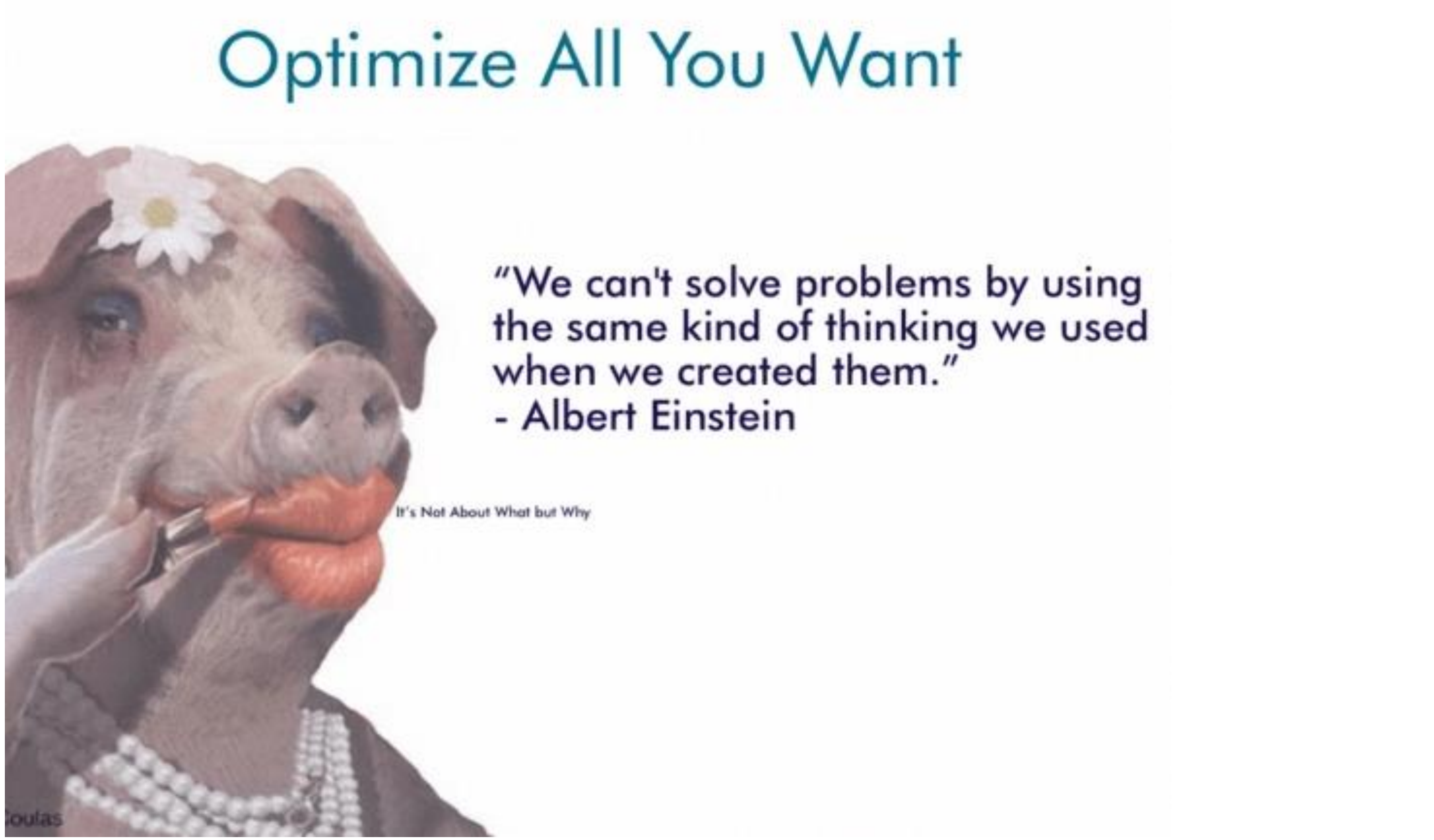


So how NOT to tackle mental performance?

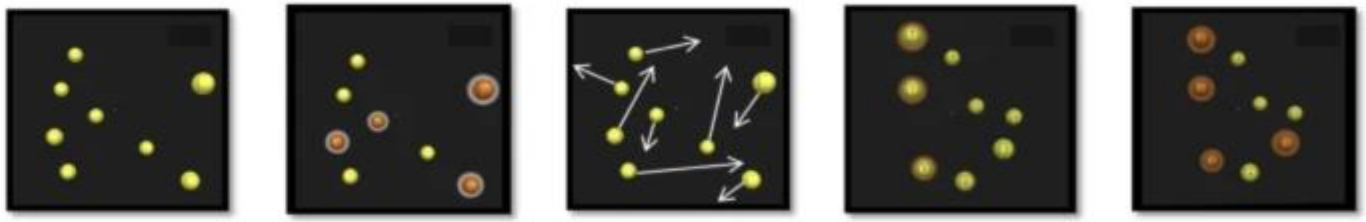
Making the INDIVUAL responsible for SYSTEMIC shortcomings

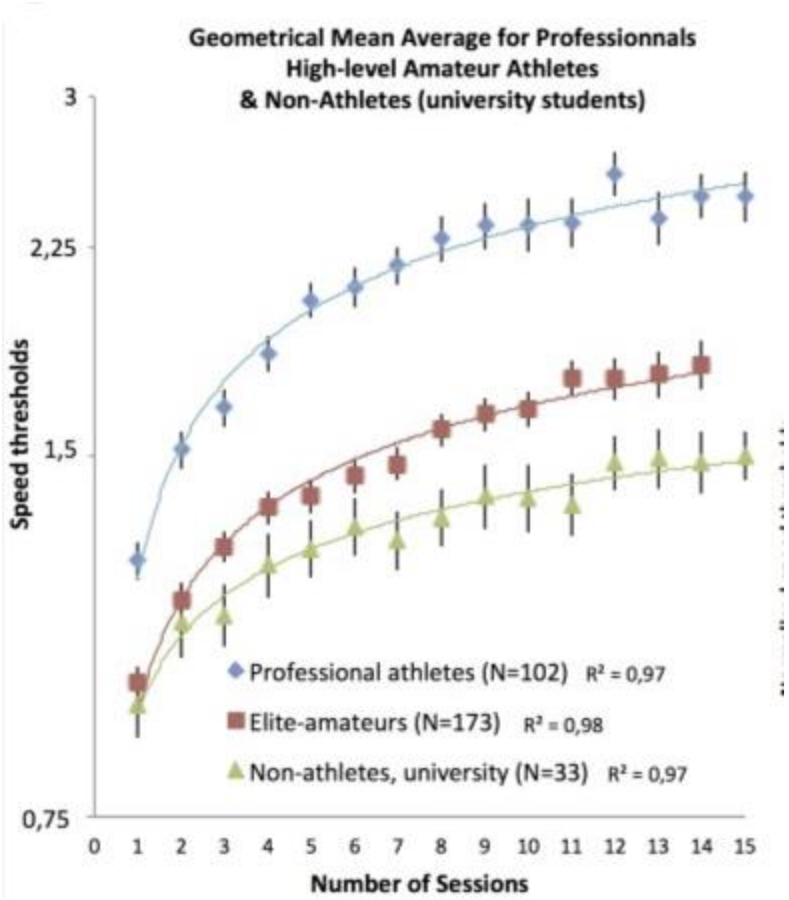
Is like putting lipstick on a pig…

It is still a pig!

3. Is there a difference in target populations?

Athletes learning to identify moving visuo-spatial stimuli (3D-MOT task)





Faubert, J. Professional athletes have extraordinary skills for rapidly learning complex and neutral dynamic visual scenes. Sci Rep 3, 1154 (2013).

SOF compared to conventional forces?

Total IQ: 114.5

VO_2 max: 57ml/kg/min

EQ: 127

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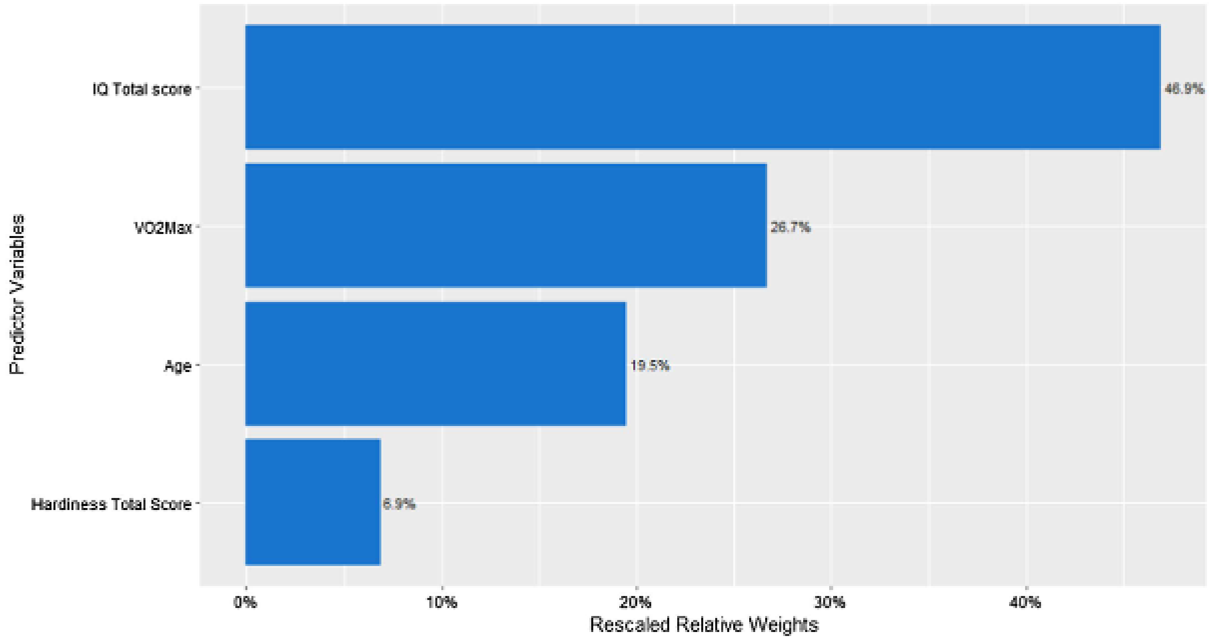
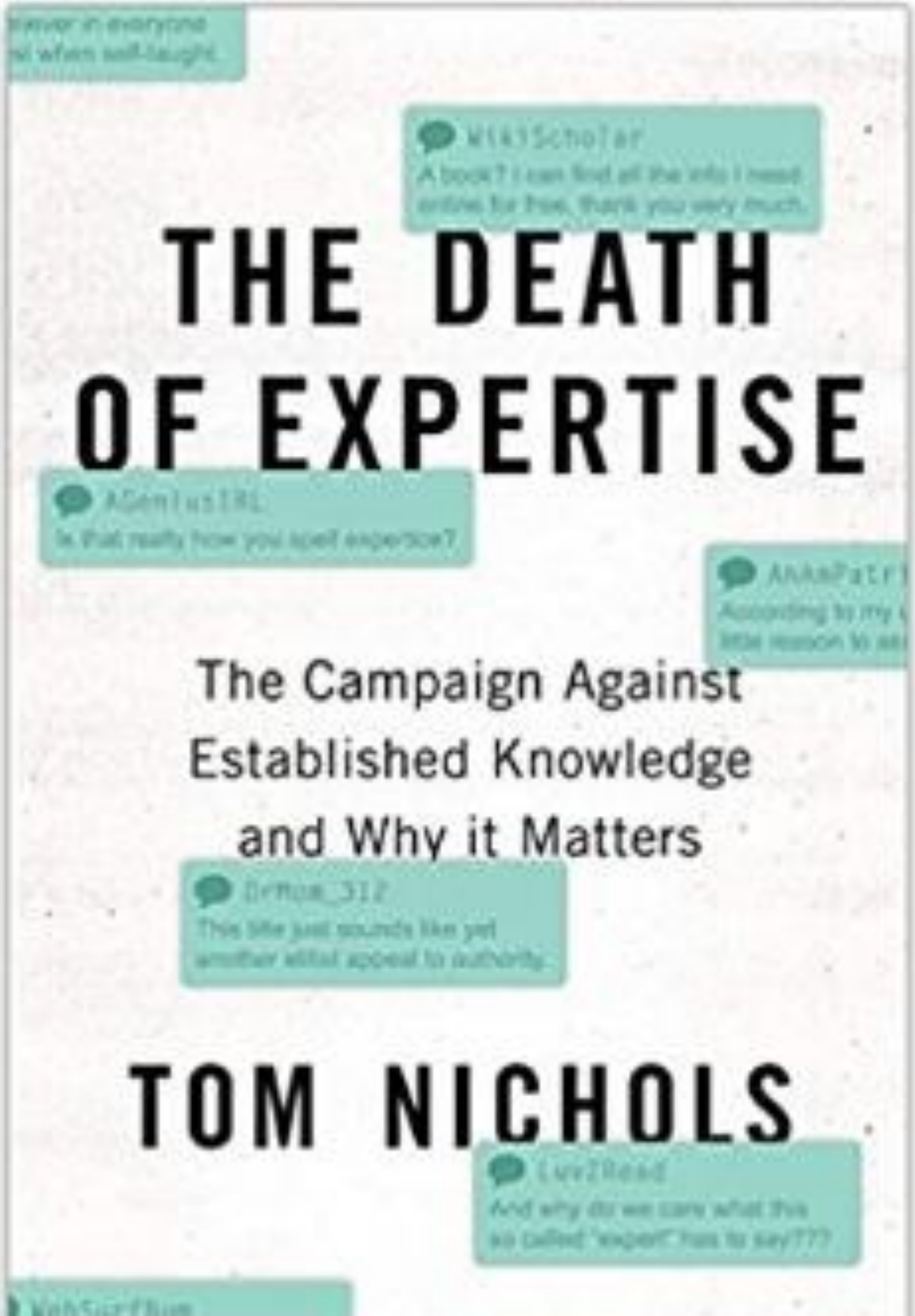
Smart Is the New Strong: An Investigation of the Contribution of Physical, Cognitive, Anthropometric, and Personality Variables to Success in a Tier 1 Special Forces Qualification Course



4. Lessons learned from implementation

Who?

What?



Expertise?

"To reject the advice of experts is to assert autonomy, a way for Americans to insulate their increasingly fragile egos from ever being told they're wrong about anything. It is a new Declaration of Independence: No longer do we hold *these* truths to be self-evident, we hold *all* truths to be self-evident… All things are knowable and every opinion on any subject is as good as any other."

Bursting the bubble: the HP truths

HP truths

- There's no free lunch: If it's free, you're the product
- If something looks too good to be true…it is
- Science is not a holy cow
- If there are no side-effects…there might be no effects at all
- Never trust an expert with no skin in the game
- Humans are more important than hardware

4. Lessons learned from implementation

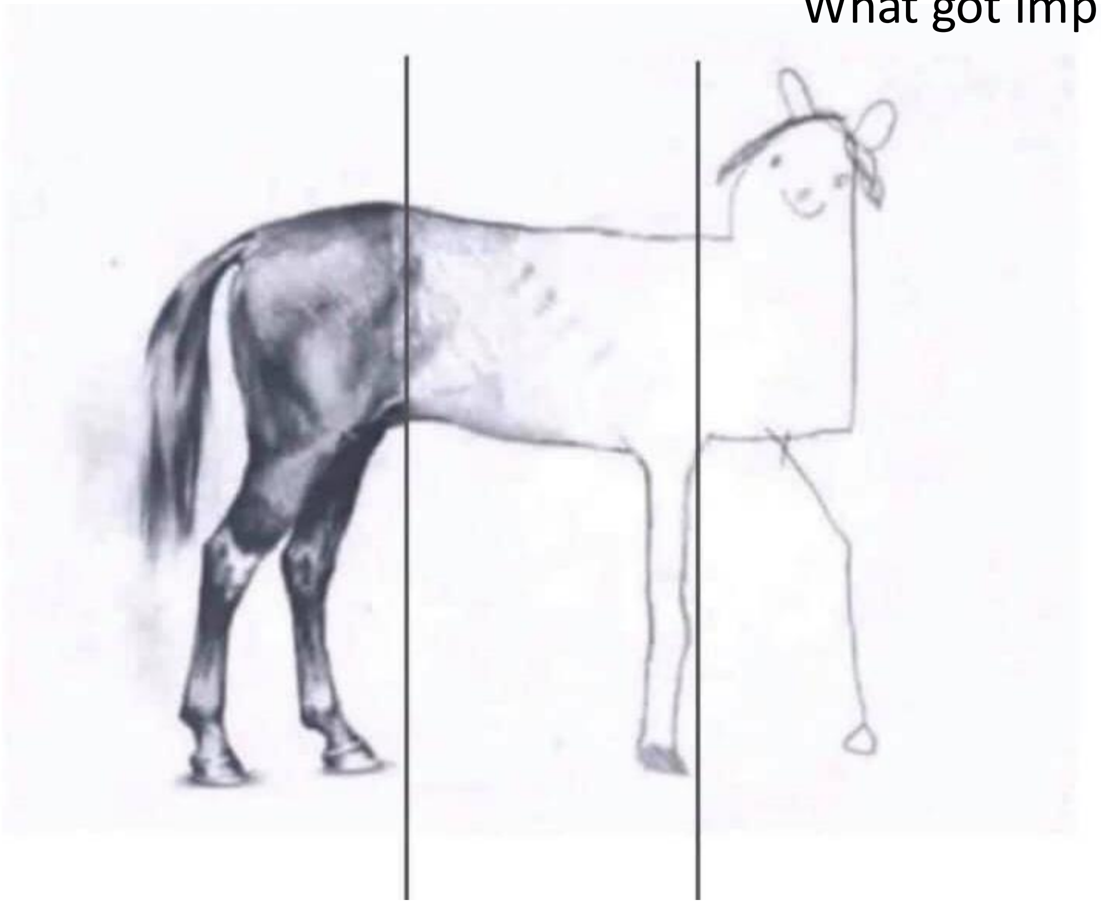
Case Study

Holistic human performance program for a Tier 1 SF unit

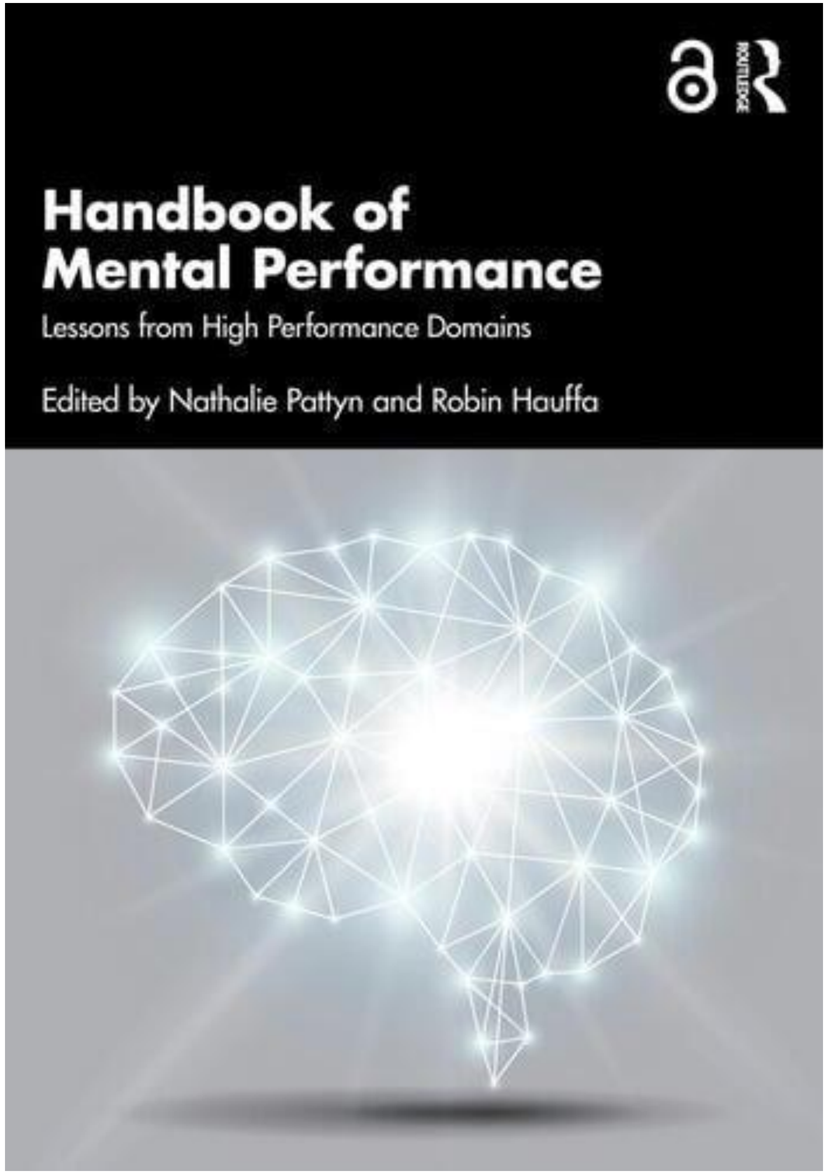
What we tested

What became doctrine

What got implemented



Holistic human performance program for a Tier 1 SF unit



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