

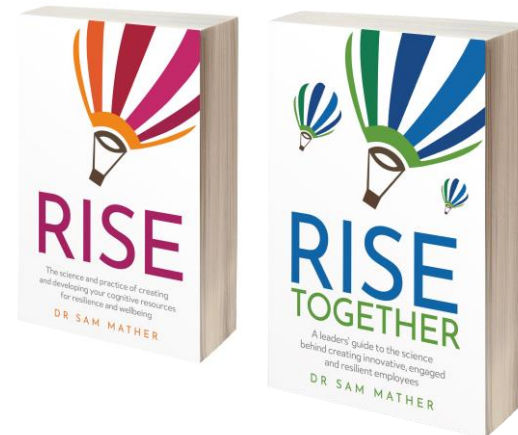


Dr Sam Mather

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What the brain needs to be able to learn...

... and how organisations can provide it!



How did I get here?

- Henley Business school @ University of Reading, UK
- 20+ years in Leadership and Talent Development
- International Blue Chip Organisations



Inspired and
insane in equal
measure

Option 1



Option 2



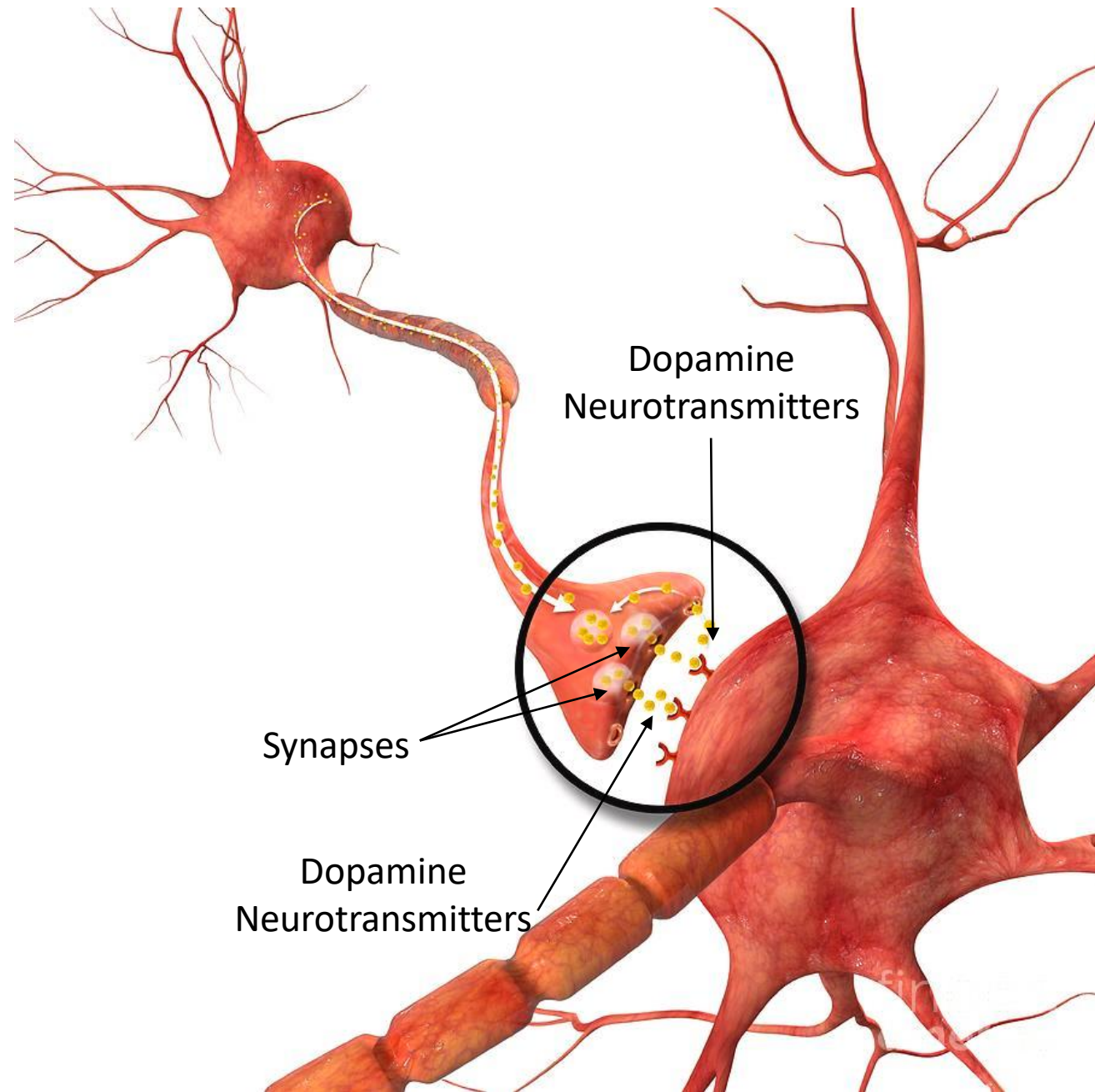
The research



What is learning?



What is Learning?

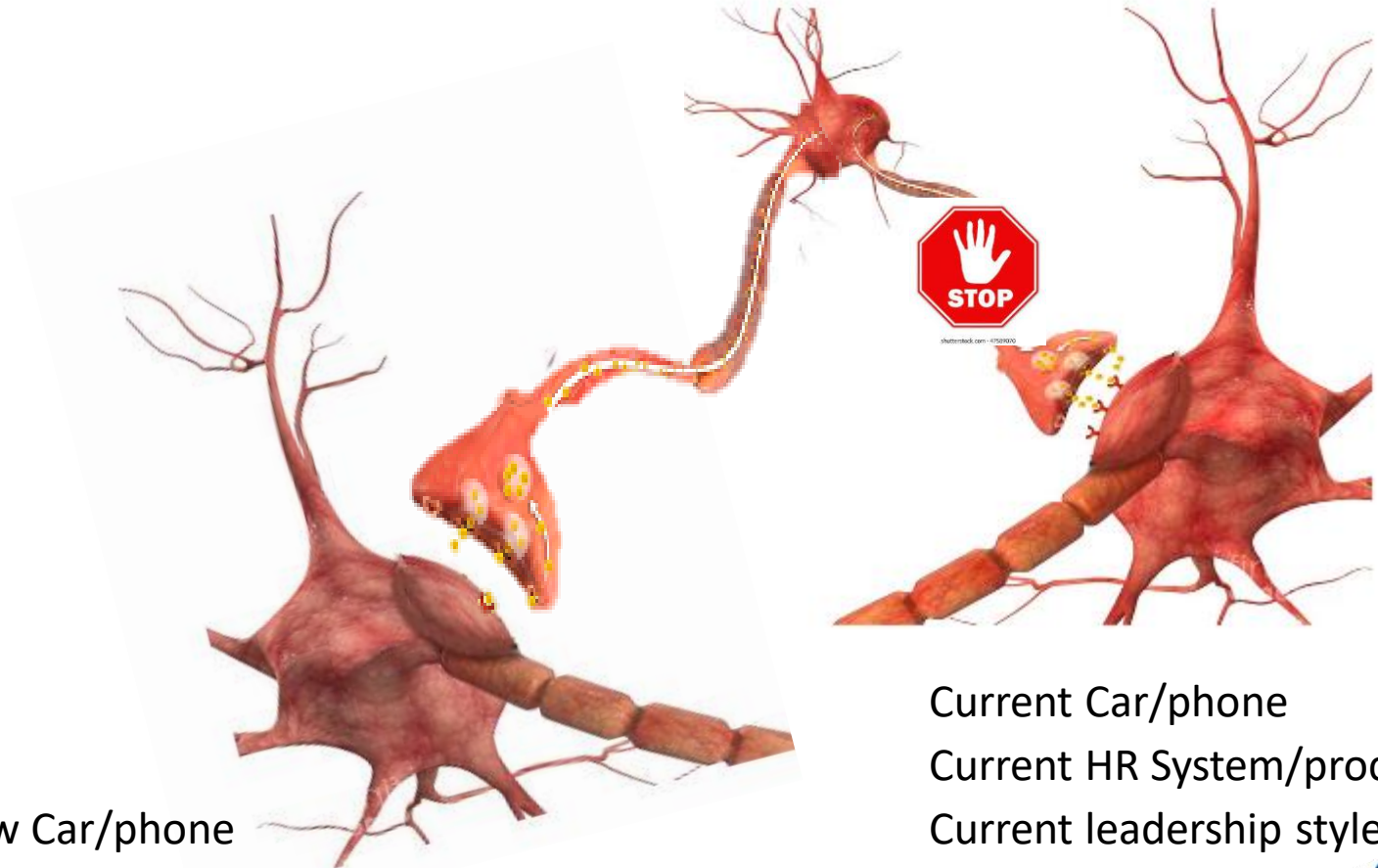


Learning



Un-Learning

Takes conscious effort (and energy)!



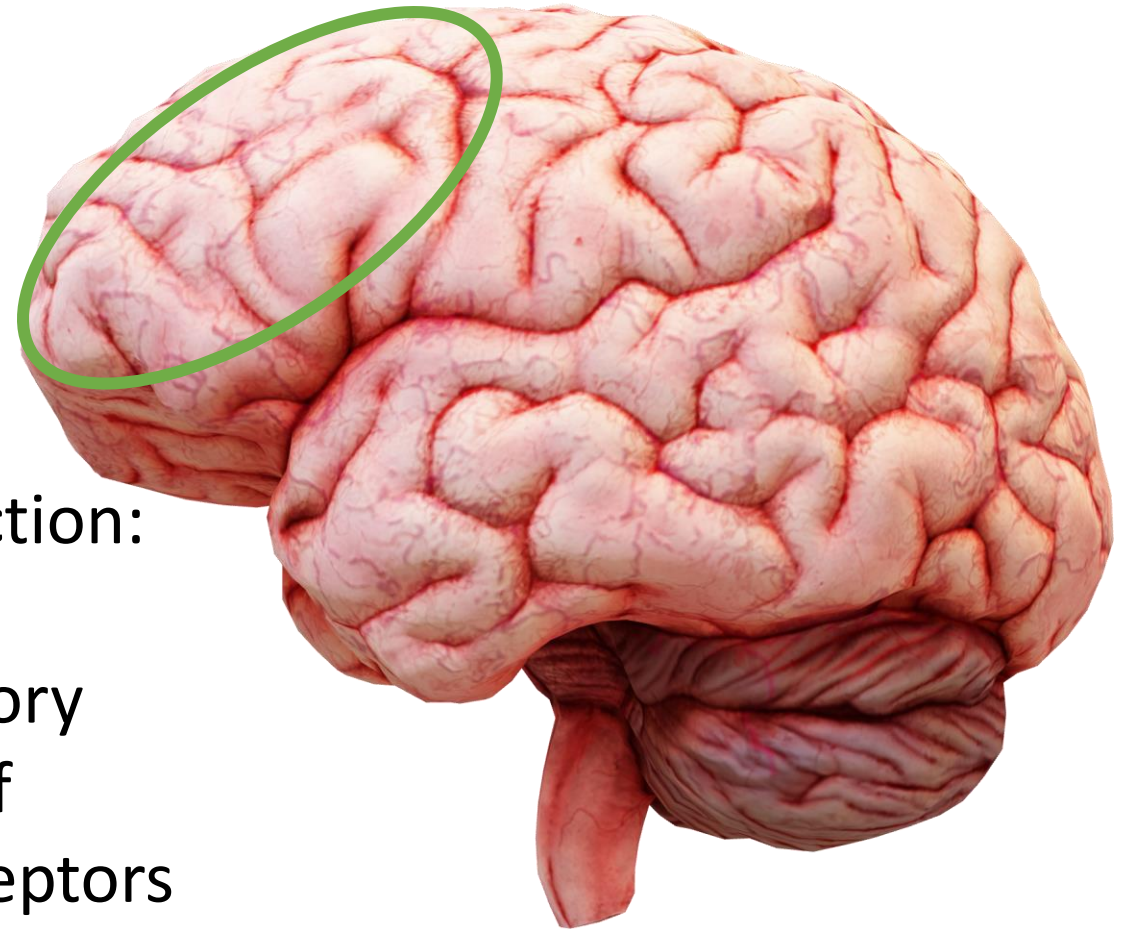
New Car/phone
New HR System/process
New leadership style

Current Car/phone
Current HR System/process
Current leadership style



The pre-frontal cortex

- Executive Function:
Smart thinking
- Working memory
- High density of
Dopamine receptors



And.....



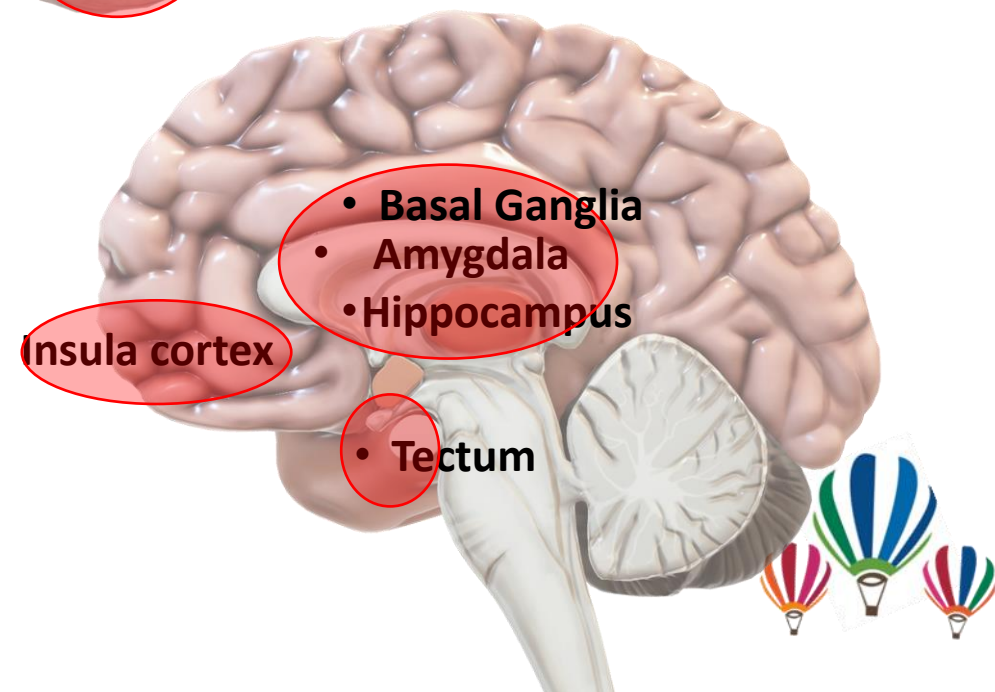
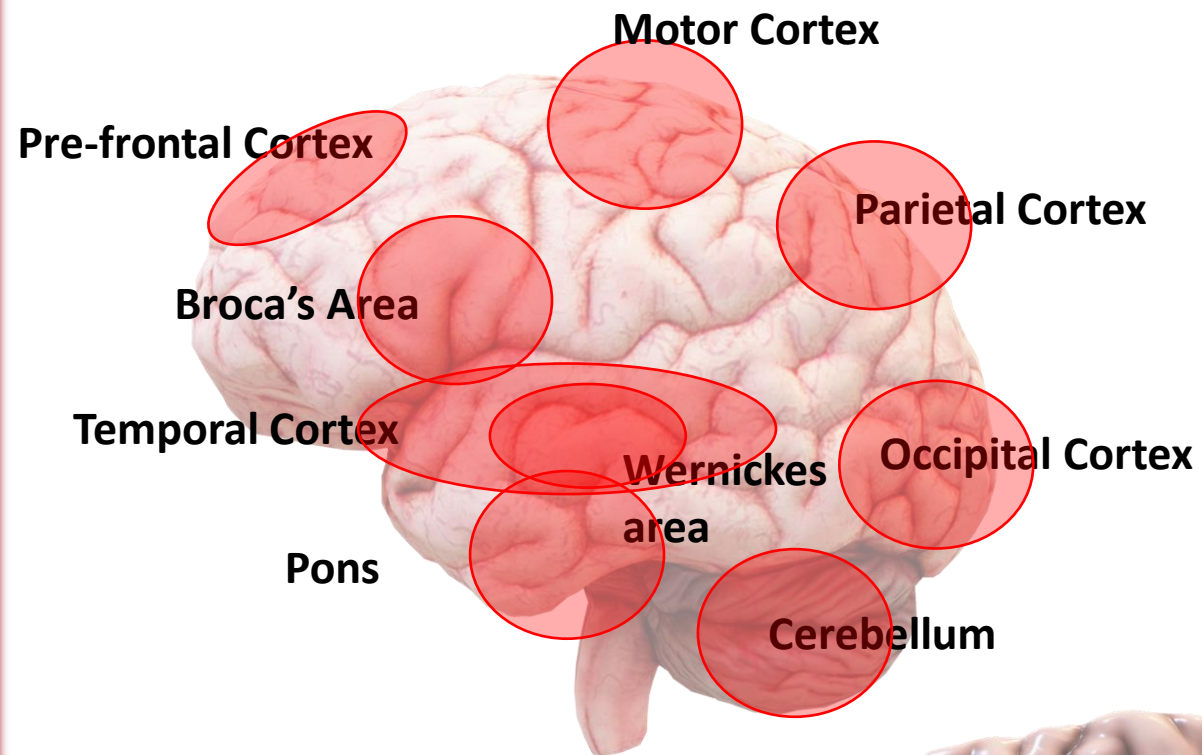
Recall
something that
happened last
week.

May 2022						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

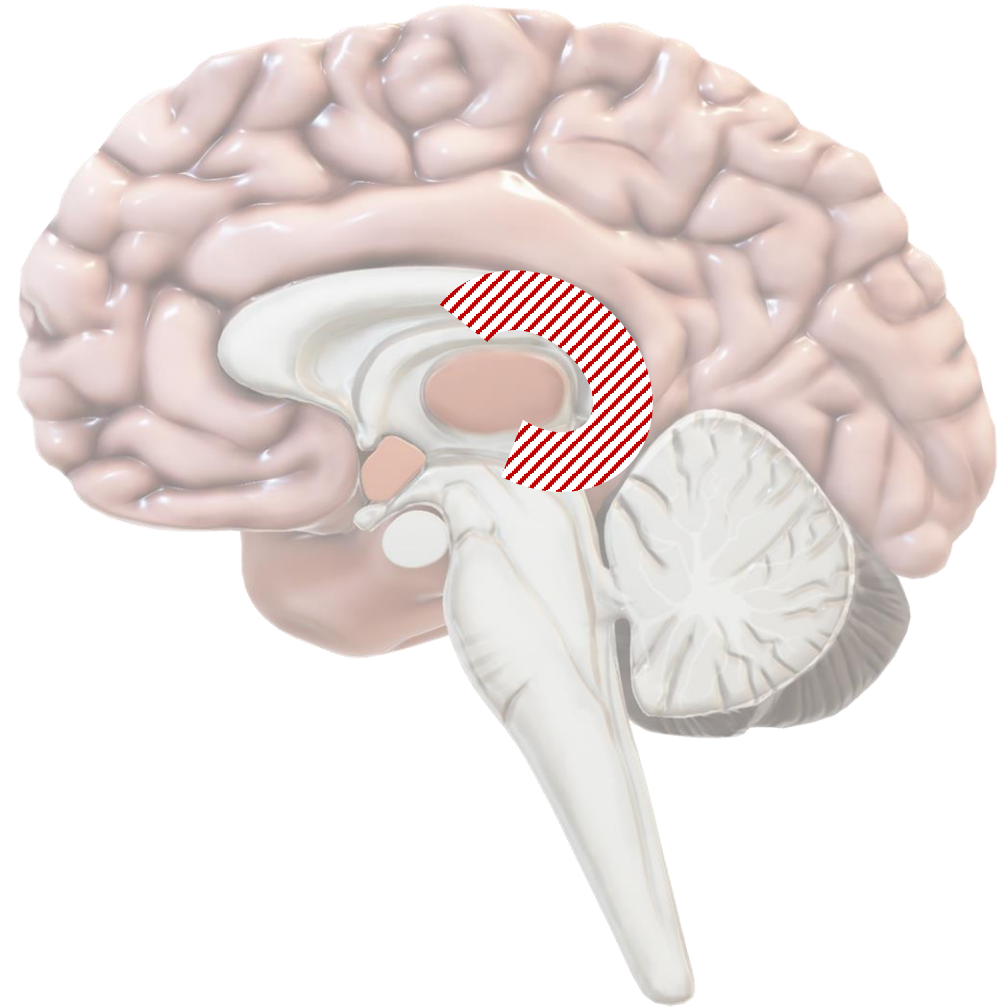
June 2022						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		



What just happened?



Hippocampus



To learn (and
remember), involves
all parts of the brain
(logic and emotion!)



So what?





To learn, the brain
needs to be fit.



A fit brain

- McEwen, B. S. (2016). In pursuit of resilience: stress, epigenetics, and brain plasticity. *Annals of the New York Academy of Sciences*, 1373(1), 56-64. doi:10.1111/nyas.13020
- Sáez de Asteasu, M. L., Martínez-Velilla, N., Zambom-Ferraresia, F., Casas-Herrero, Á., & Izquierdo, M. (2017). Role of physical exercise on cognitive function in healthy older adults: A systematic review of randomized clinical trials. *Ageing research reviews*, 37, 117-134. doi:10.1016/j.arr.2017.05.007
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Sleep (8 hours)

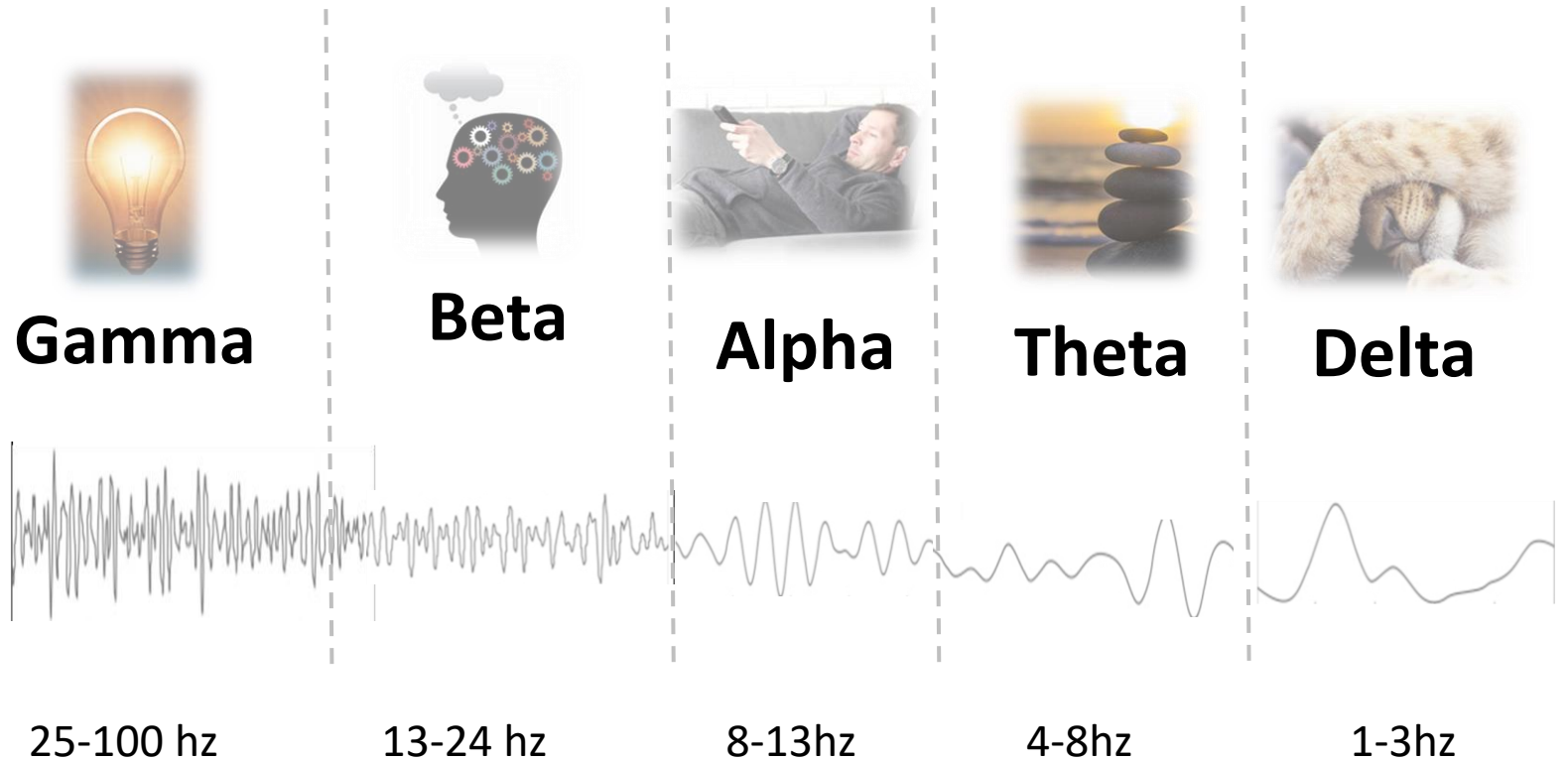
Diet

Exercise



When do you
get your best
ideas?

Brain waves



A fit brain

Sleep (8 hours)

Diet

Exercise

Meditation

Challenge

Social life/ fun/time out



A fit brain

Sleep (8 hours)



Delta



Diet

Exercise



Beta



Meditation



Theta



Challenge



Beta



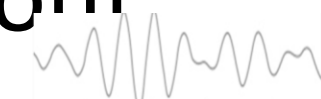
Social life/ fun/time out



Beta



Alpha





To learn, our brain
needs to have
sufficient cognitive
resources.



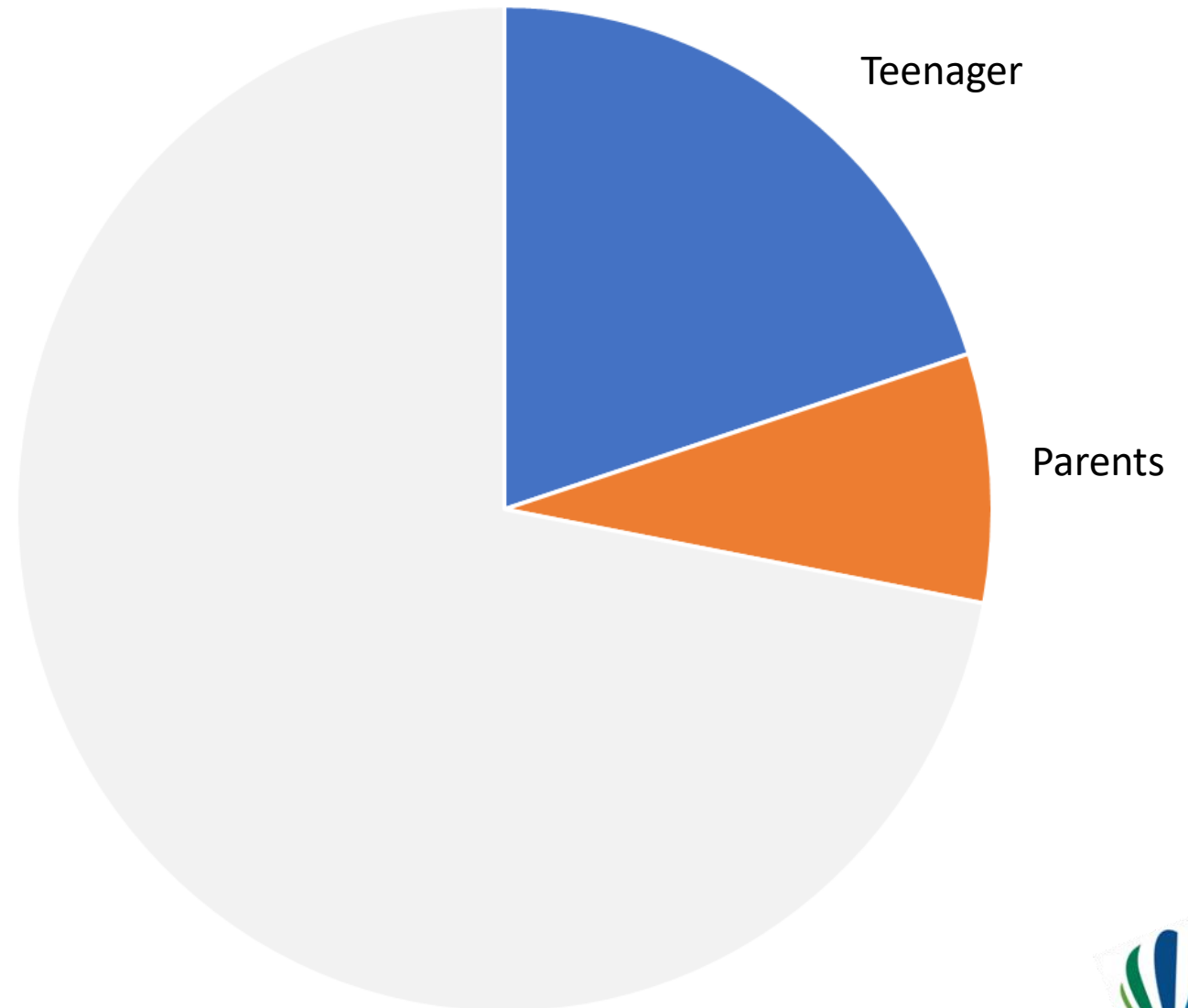
Finite resources

Teenager

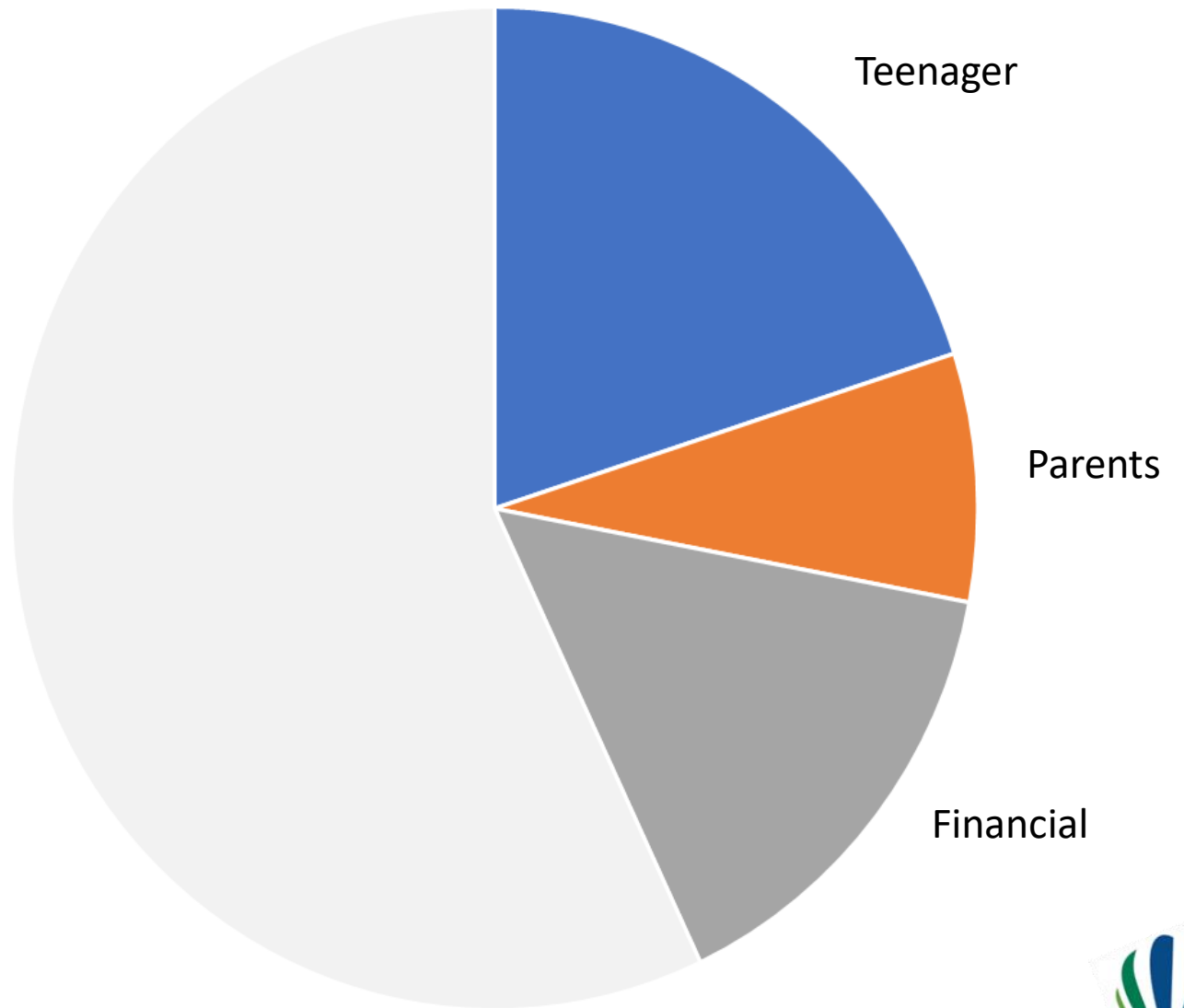
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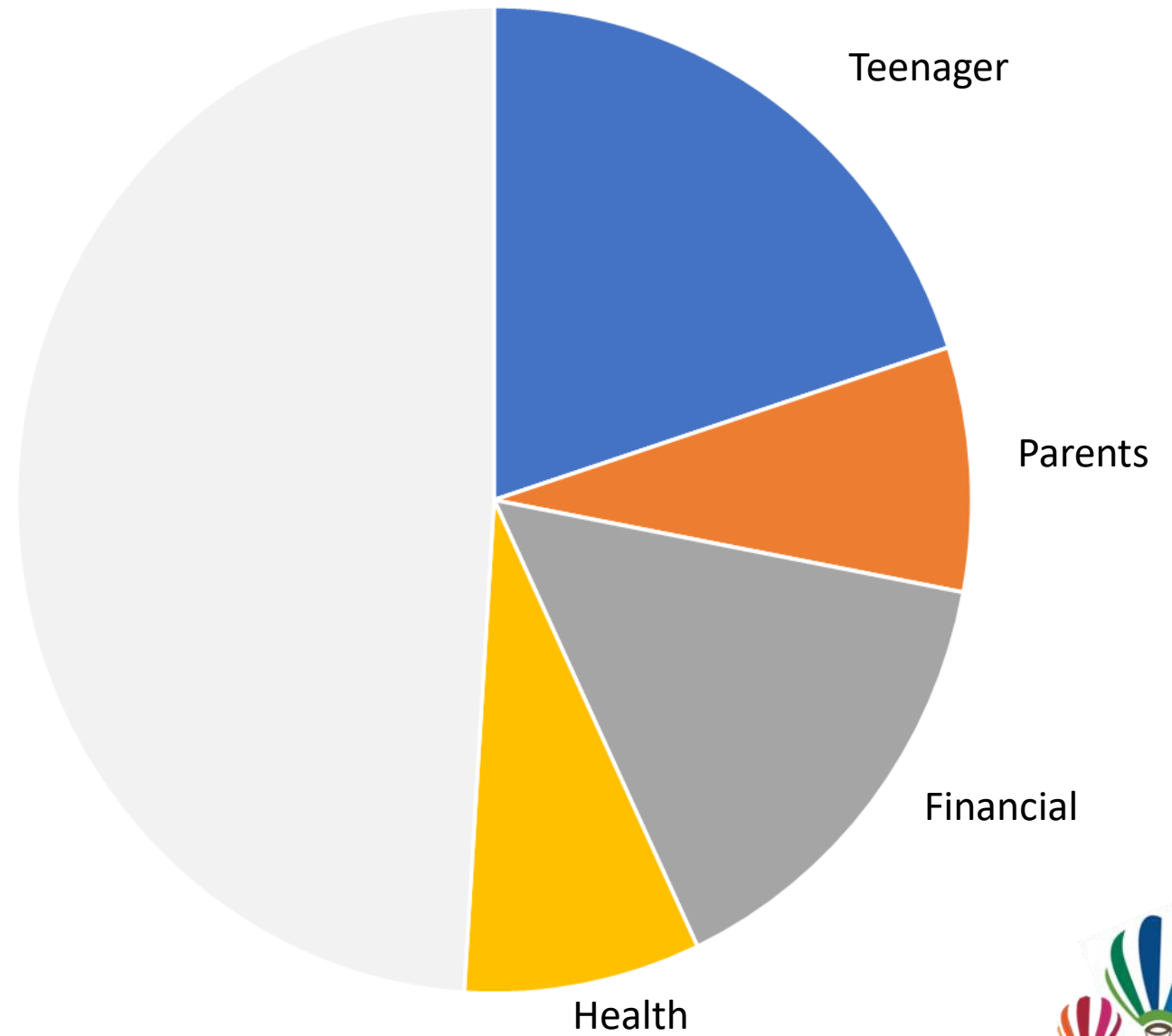
Investing your resources



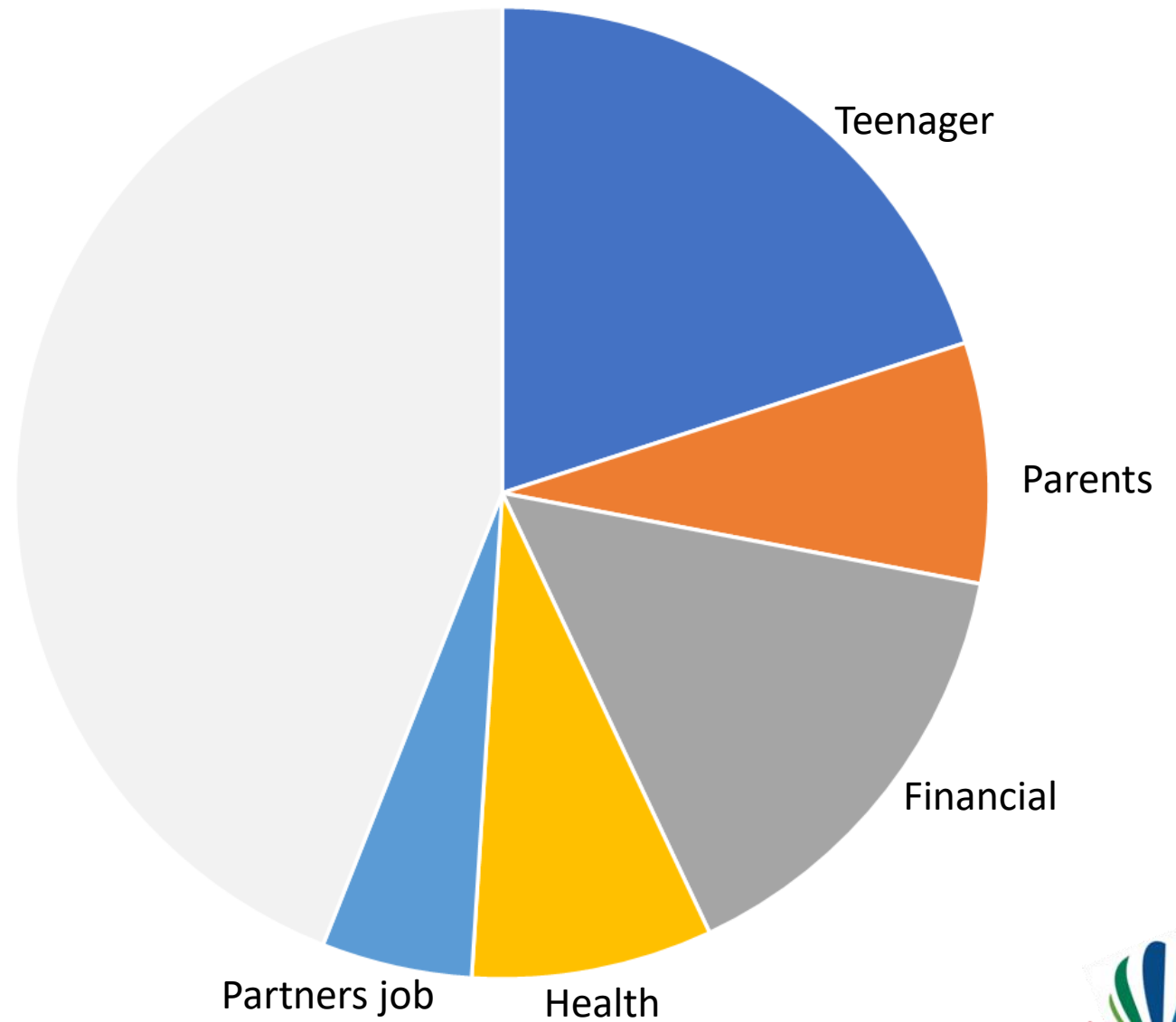
Investing your resources



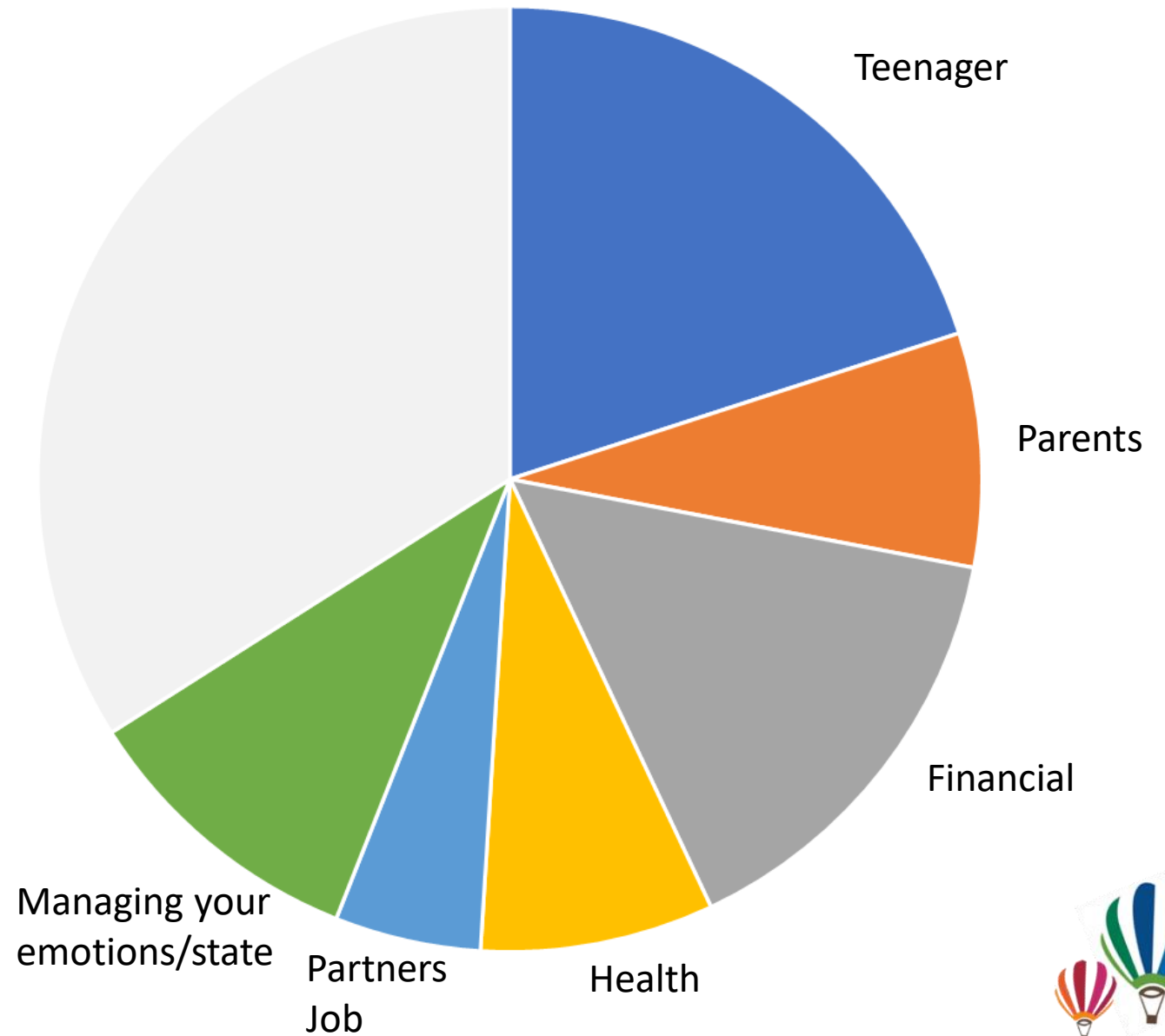
Investing your resources



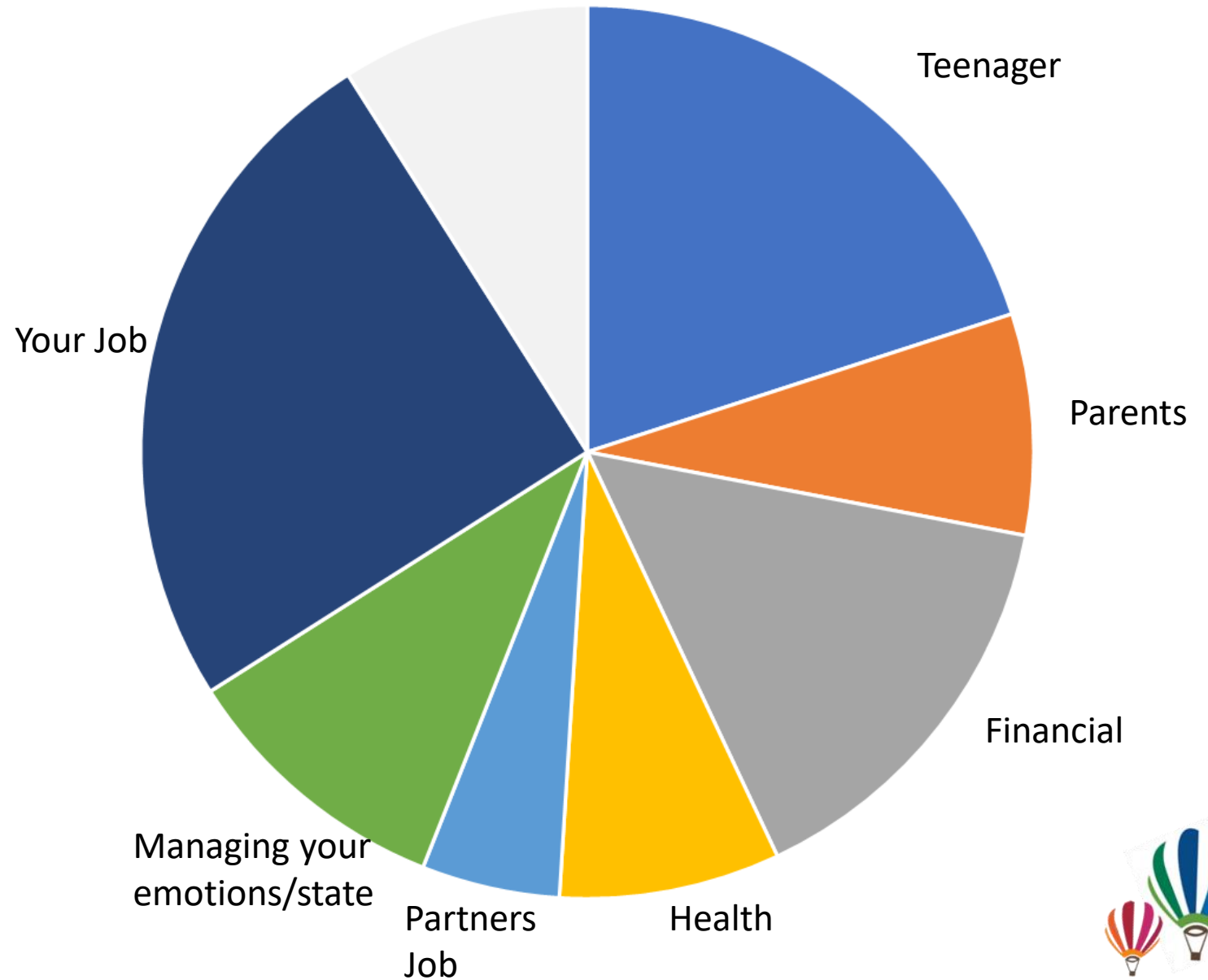
Investing your resources



Investing your resources

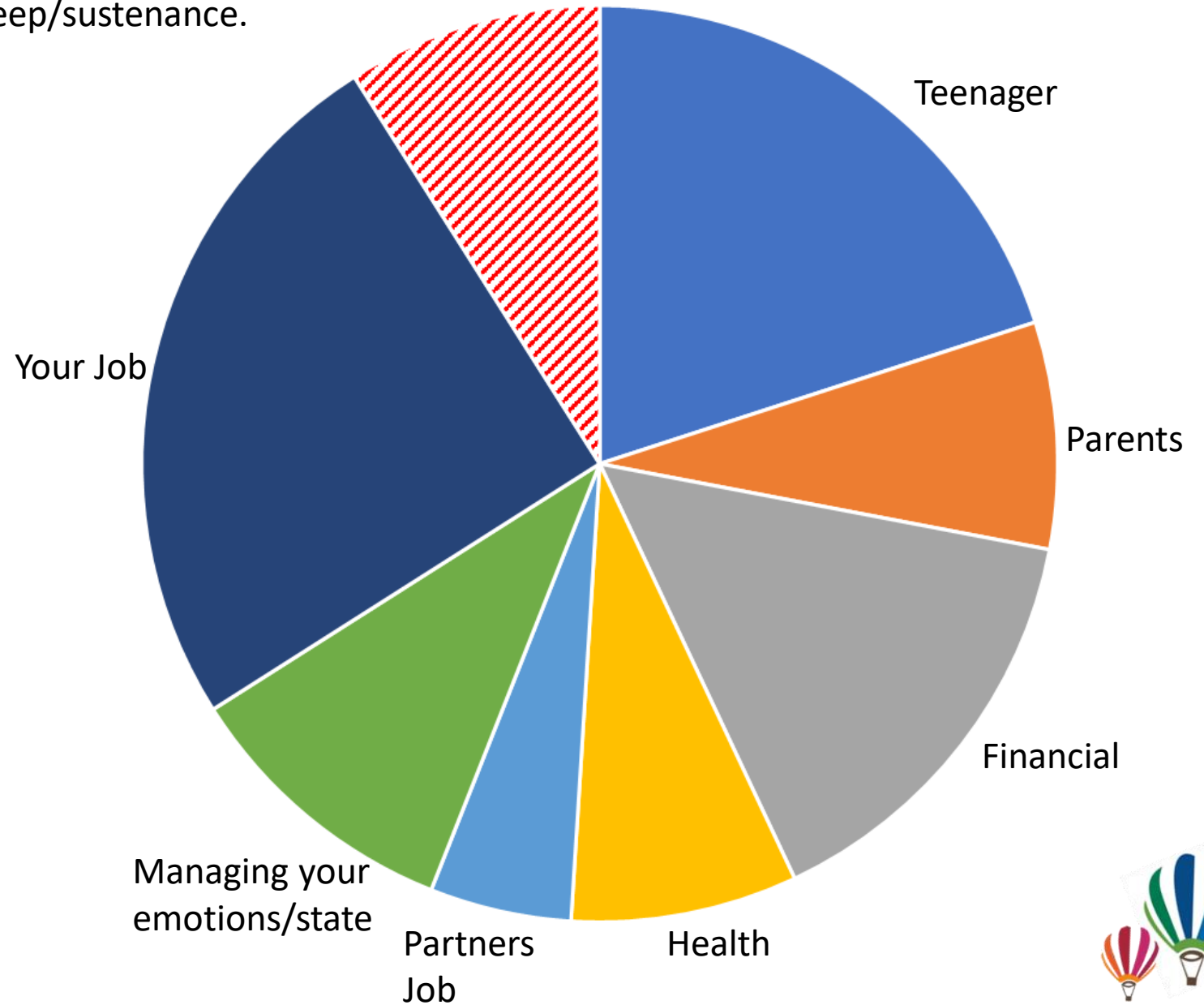


Investing your resources



Investing your resources

Everything Else..... Change at work, learning, lack of sleep/sustenance.



But...

The biggest
consumer of
cognitive resources
is...



FEAR

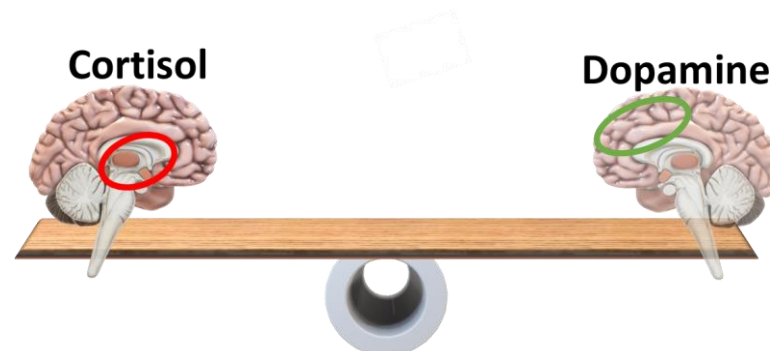
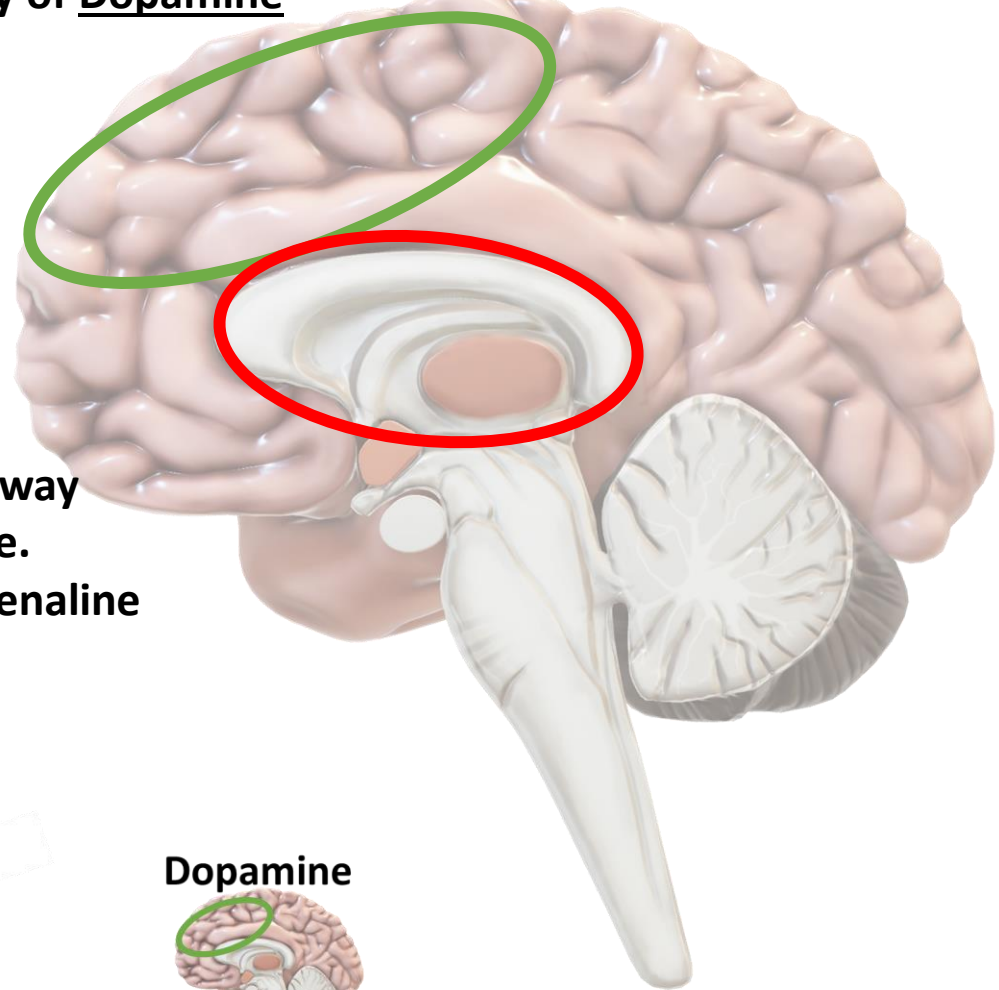
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Smart brain vs survival brain

- Executive Function: Smart thinking
- High density of Dopamine receptors.

- Limbic System
- Towards(safe)/Away (threat) response.
- Cortisol and Adrenaline





A safe
environment:
dopamine!

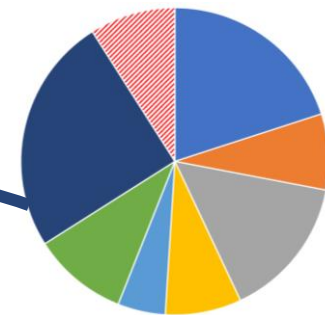
Your Job

productive & Smart

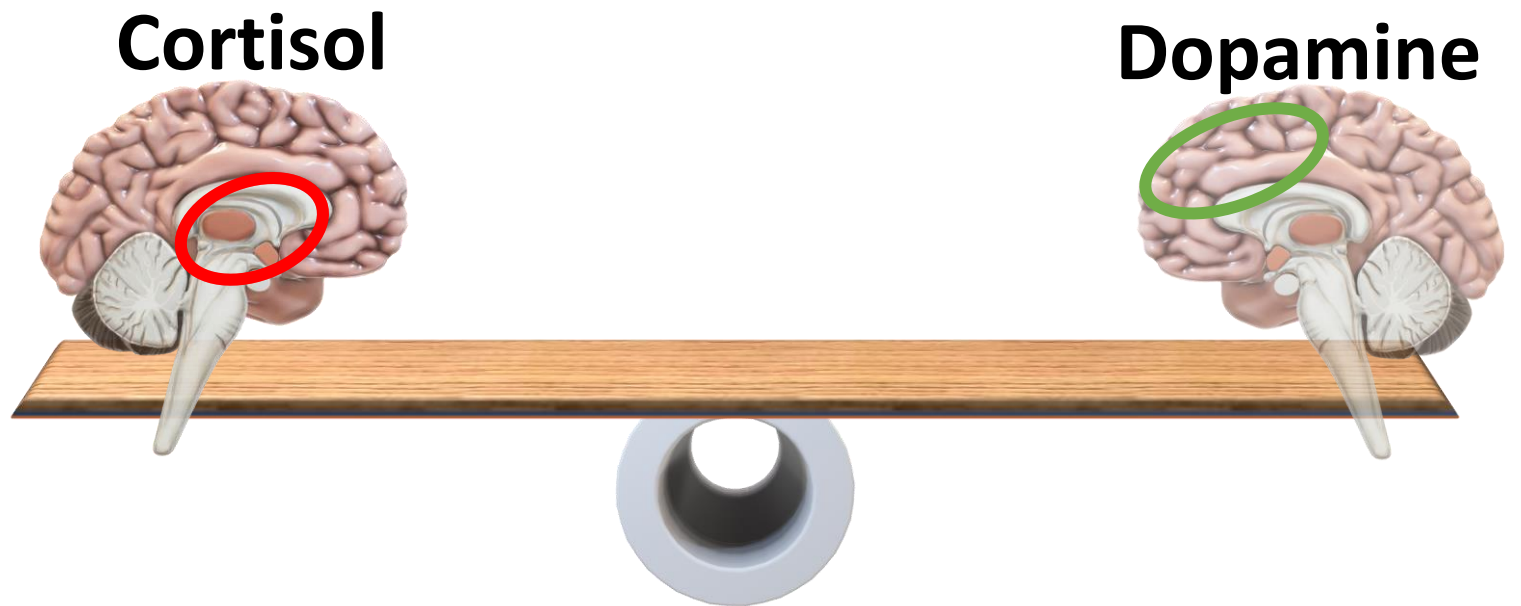
Learning

Fun!

Innovation
Engagement
Challenge
Collaboration
Creativity
Big-Picture
thinking
Efficiency
Open-ness



Smart
thinking and
the threat
response





In a non-safe environment:
Cortisol,
adrenaline.

Your Job

Non-Productive & Emotional

Writing
your CV

Plotting
revenge

Avoiding
Mistakes

WIIFM

Covering up
Mistakes

CYA

Holding Pity
Parties

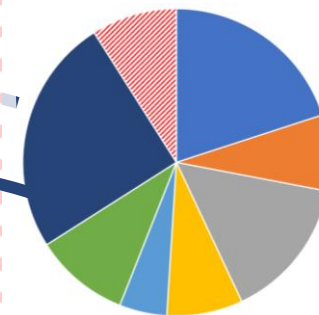
Blaming
someone else

Politics

Planning your
resignation

Doing the job

Managing your
emotions



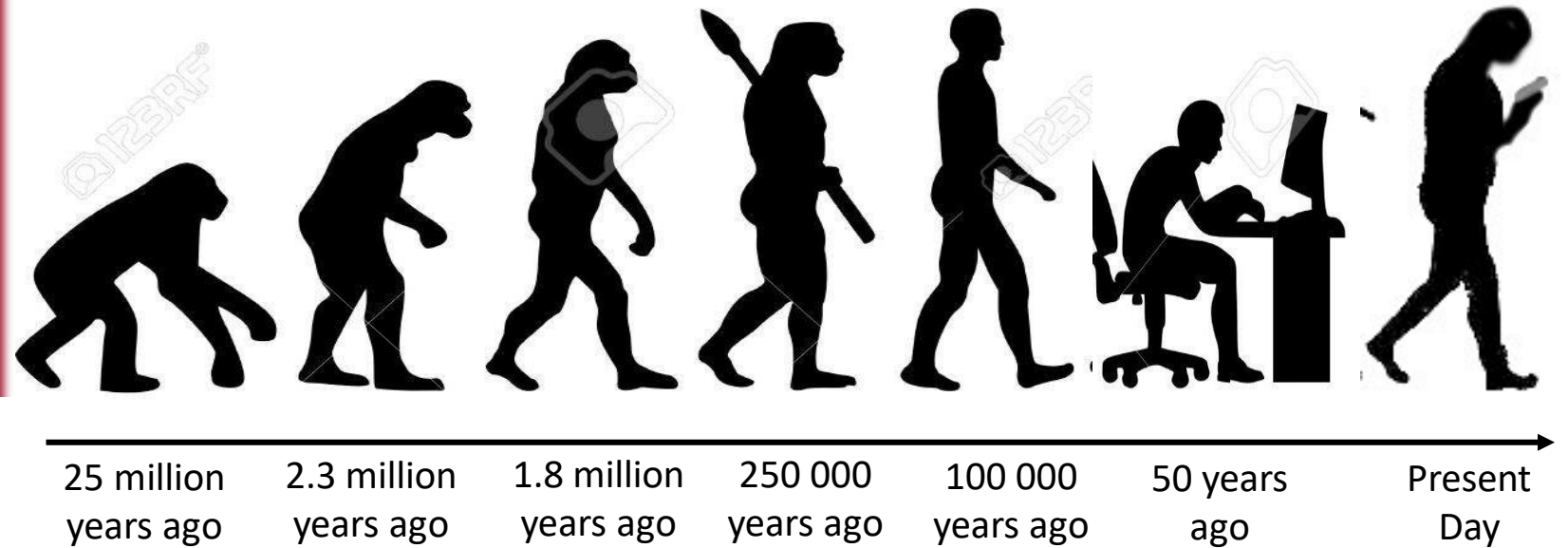
So What?

When under *perceived* (and prolonged) threat, the human brain's ability to activate the smart part of the brain is compromised.

And that means the ability to learn.



Hardwired threats



Hardwired
threats

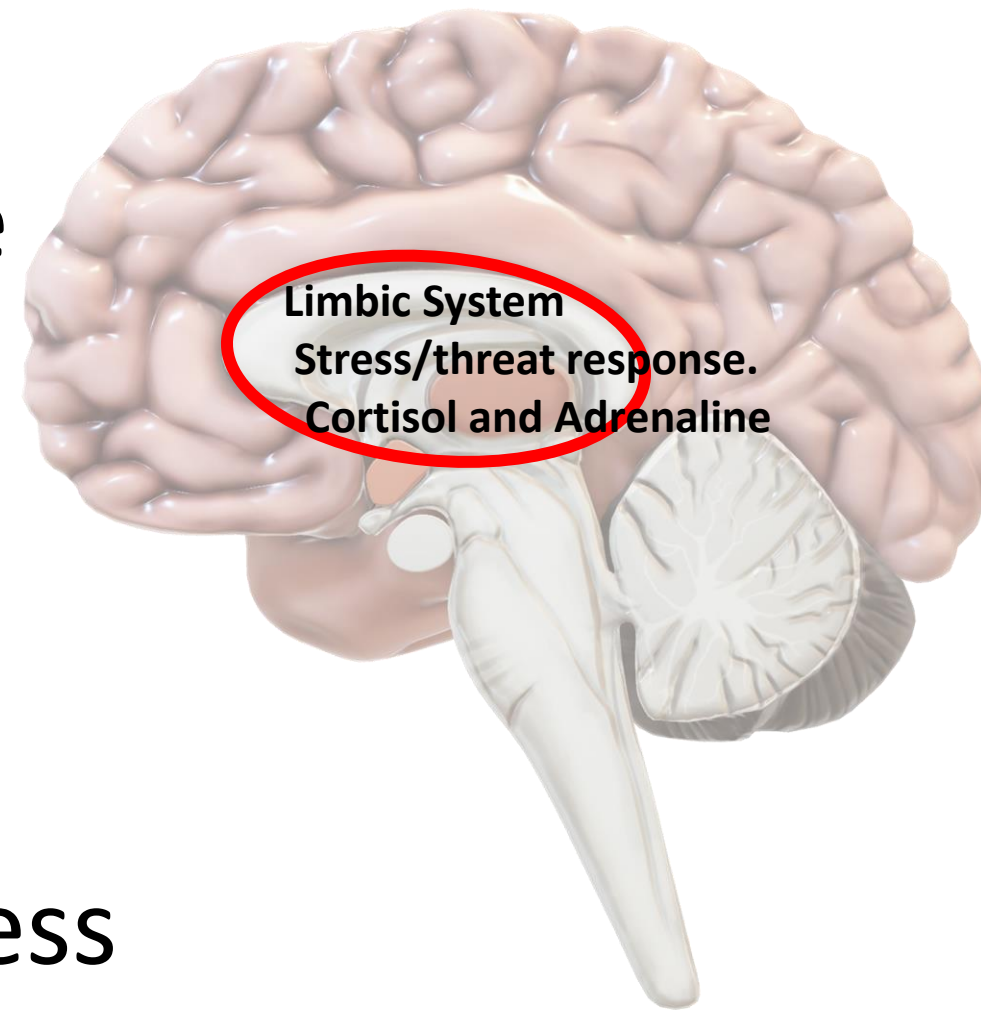
C Competence

C Consistency

C Control

C Connectedness

C Cause



Key Requirements for Learning

Learning uses ALL parts of the brain

So the brain needs to be “fit” to learn

...and have sufficient cognitive resources

...with a quiet limbic system (no fear!)

So how are organisations doing?



Research Question

**What did
employees need to
meet these
hardwired needs
to enable learning
and growth?**

Competence

Consistency

Control

Connectedness

Cause



The ~~test subjects~~ participants

Qualitative

- Focus groups (32 participants, 4 groups)

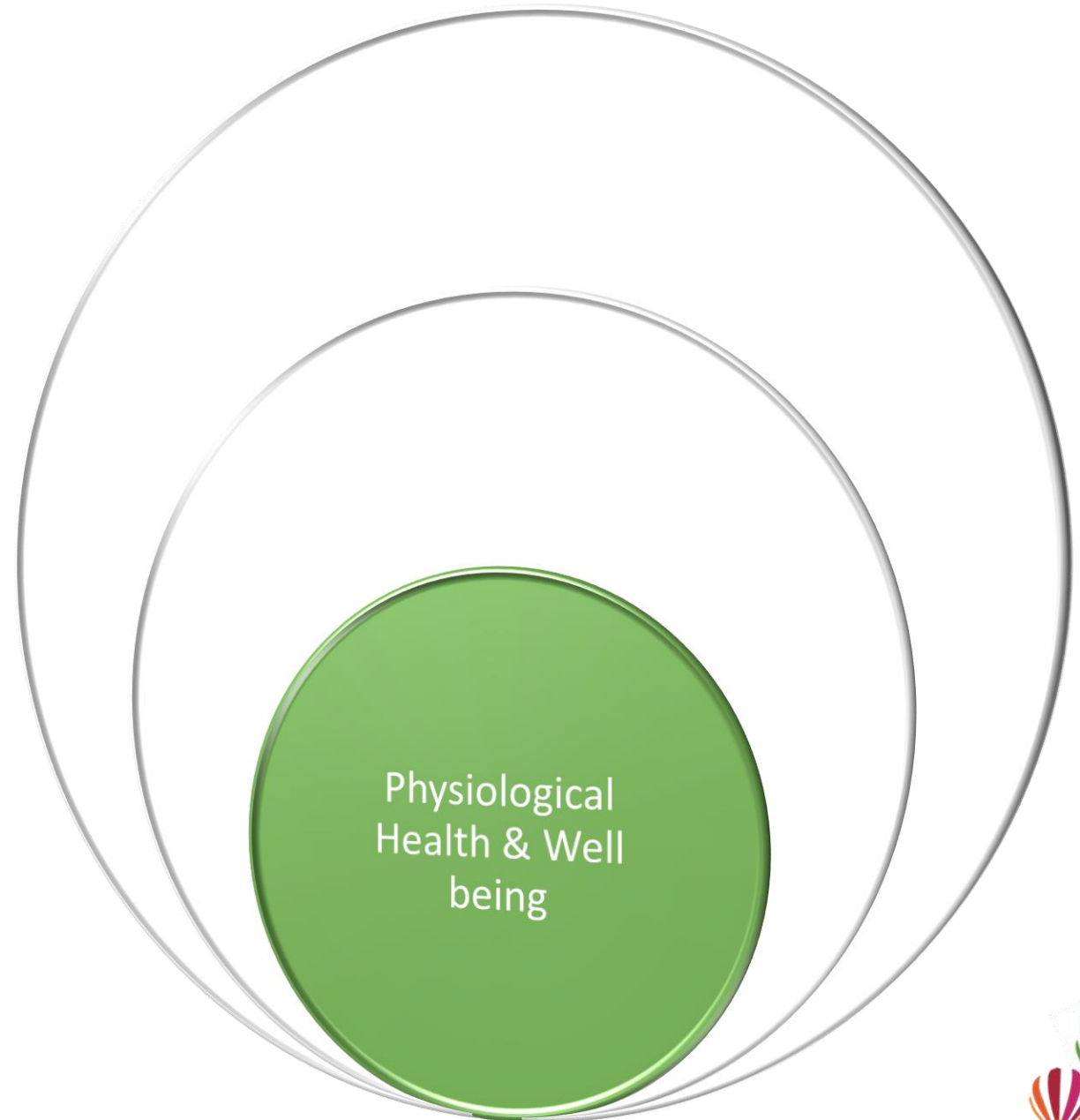
Quantitative

- 200 respondents
- 67.5% over 3 years experience in their current role
- 21.3% of respondents in the IT industry
- Questionnaires
- Cognitive tests



Creating PS for learning

- Sakamoto, N., Nanri, A., Kochi, T., Tsuruoka, H., Pham, N. M., Kabe, I., . . . Mizoue, T. (2013). Bedtime and Sleep Duration in Relation to Depressive Symptoms among Japanese Workers. *Journal of Occupational Health*, 55(6), 479-486. doi:10.1539/joh.13-0074-OA
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Creating PS for learning



- Nakata, A. (2017). Long working hours, job satisfaction, and depressive symptoms: a community-based cross-sectional study among Japanese employees in small- and medium-scale businesses. *Oncotarget*, 8(32), 53041. doi:10.18632/oncotarget.18084



Creating PS for learning



Creating a SAFE workplace

- Alegre, I., Berbegal-Mirabent, J., Guerrero, A., & Mas-Machuca, M. (2018). The real mission of the mission statement: A systematic review of the literature. *Journal of Management & Organization*, 24(4), 456-473.
- Baldoni, J. (2011, 04.12.19). Purpose Is What Your Organization Needs Most. Here's How to Get It. *Forbes Leadership Forum*, November 7.
- Baumeister, R. F., & Vohs, K. D. (2002). The pursuit of meaningfulness in life. *Handbook of positive psychology*, 1, 608-618.
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- Hurth, V., Ebert, C., & Prabhu, J. (2018). Organisational purpose: the construct and its antecedents and consequences. *Cambridge Judge Business School Working Papers*, 02, 67.

Story

Create meaning & stability
through vision & stories.

Consistency

Connectedness

Cause



Creating a SAFE workplace

- Direnzo, M. S., & Greenhaus, J. H. (2011). Job Search and Voluntary Turnover in a Boundaryless World: A Control Theory Perspective. *Academy of Management Review*, 36(3), 567-589. doi:Doi 10.5465/Amr.2011.61031812
- Faraj, S., & Yan, A. (2009). Boundary work in knowledge teams. *Journal of Applied Psychology*, 94(3), 604-617. doi:10.1037/a0014367
- McNeil, K. A., Mitchell, R. J., & Parker, V. (2013). Interprofessional practice and professional identity threat. *Health Sociology Review*, 22(3), 291-307.
- Vogt, J., Houwer, J. D., Crombez, G., & Van Damme, S. (2013). Competing for attentional priority: Temporary goals versus threats. *Emotion (Washington, D.C.)*, 13(3), 587-598. doi:10.1037/a0027204

Story Arena

Clear boundaries & goals.

Competence
Connectedness
Consistency
Control
Cause



Creating a SAFE workplace

- Carmeli, A., & Gittell, J. H. (2009). High-quality relationships, psychological safety, and learning from failures in work organizations. *Journal of Organizational Behavior*, 30(6), 709-729. doi:10.1002/job.565
- Dweck. (2016). What having a "growth mindset" actually means. *Harvard Business Review*, 13.
- Dweck, C. S., & Leggett, E. L. (1988). A social cognitive approach to motivation and personality. *Psychological Review*, 95(2), 256-273. doi:10.1037/0033-295X.95.2.256
- Edmondson, A.C., 2003. Speaking up in the operating room: How team leaders promote learning in interdisciplinary action teams. *Journal of management studies*, 40(6), pp.1419-1452.

Story Arena Flourish

Grow optimism and hope

Competence
Consistency
Control
Cause



Creating a SAFE workplace

- Markovitz, D., 2012. The folly of stretch goals. *Management Services*, 56(4), p.34.
- Moller, A.C., Deci, E.L. and Ryan, R.M., 2006. Choice and ego-depletion: The moderating role of autonomy. *Personality and social psychology bulletin*, 32(8), pp.1024-1036.

S tory
Arena
FLOURISH
Ego-lite Ethos

C Connectedness
C Consistency
C Competence
C Control

Death to command
& control.
Long live coaching.



In summary:

- Ensure Employees are looking after themselves
- Provide support for wellbeing
- Create the (cognitive & emotional) space for learning
- Choose the timing of learning wisely
- Make learning a holistic experience (with emotion)
- Ensure leaders lead in a brain friendly way
- Create a S.A.F.E. environment



A learning enabled brain!

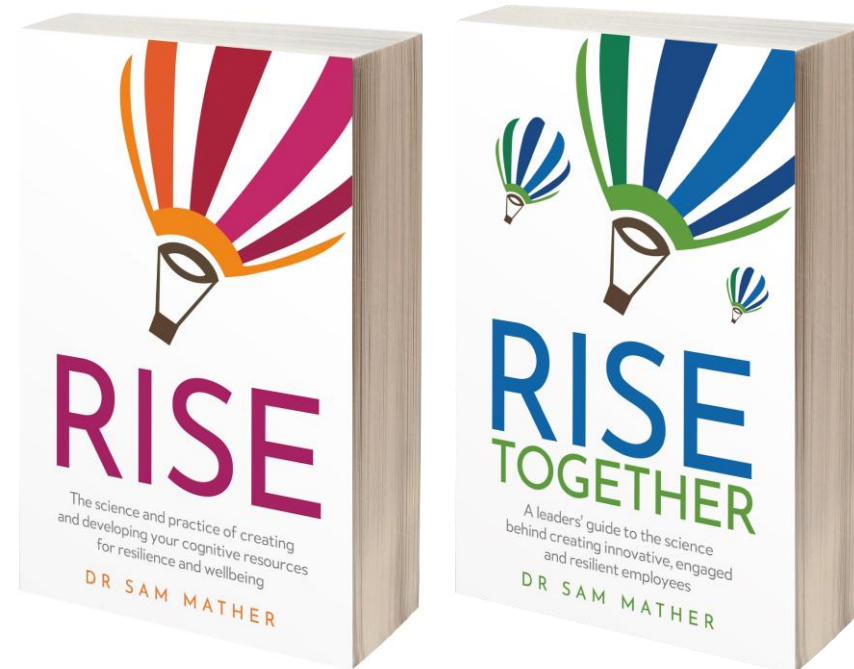


Thank you

Dr Sam Mather



www.drsmather.com



References

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- Hackman, J. R., & Oldham, G. R. (1976). Motivation through Design of Work - Test of a Theory. *Organizational Behavior and Human Performance*, 16(2), 250-279.
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