Strumenti neuroscientifici per l'Active Ageing

Active Ageing: le soluzioni concrete

Milano, 15 settembre 2015

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Dipartimento Psicologia e Scienze Cognitive – Università di Trento

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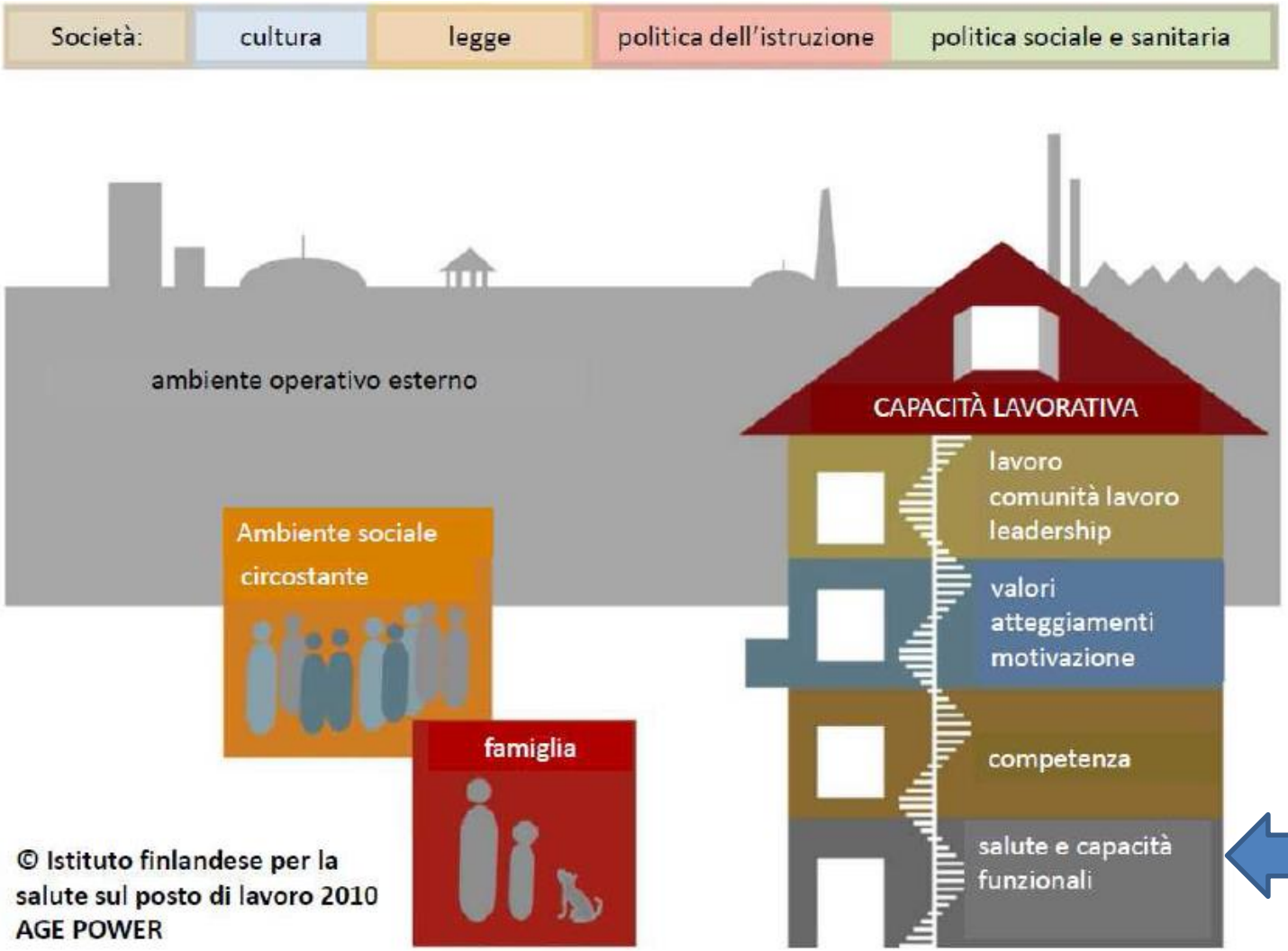
CIMeC

UNIVERSITÀ DEGLI STUDI DI TRENTO
Dipartimento di Psicologia e Scienze Cognitive

Salute sul posto di lavoro



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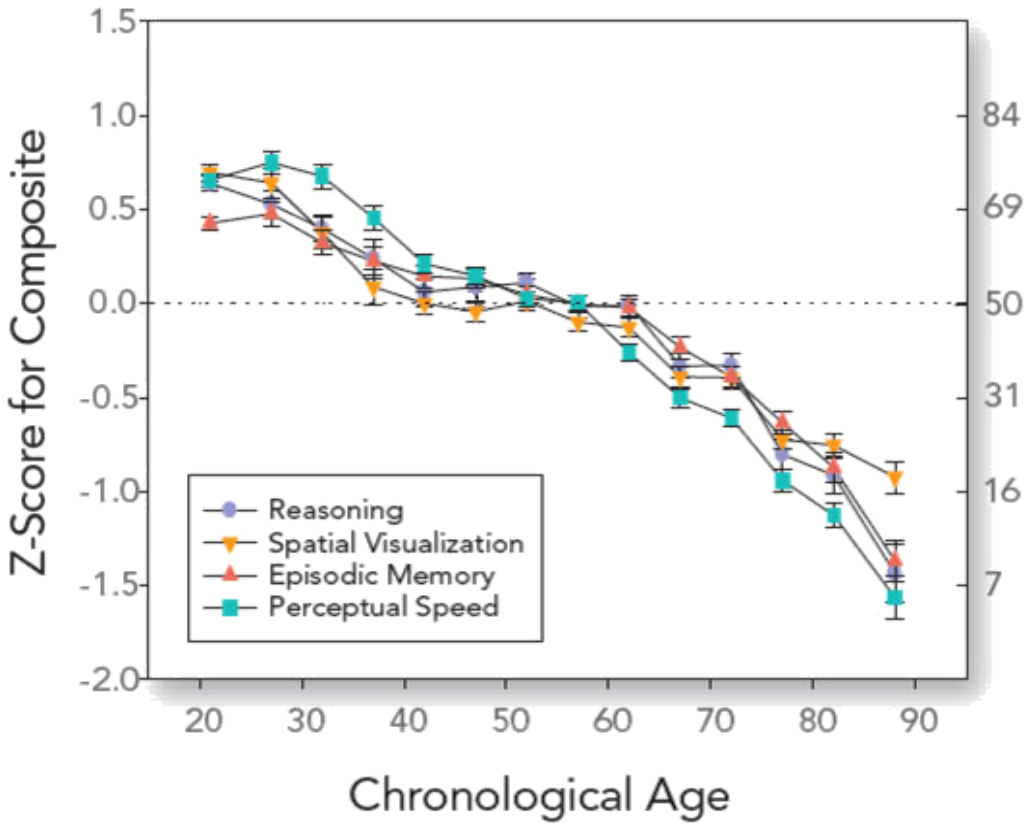
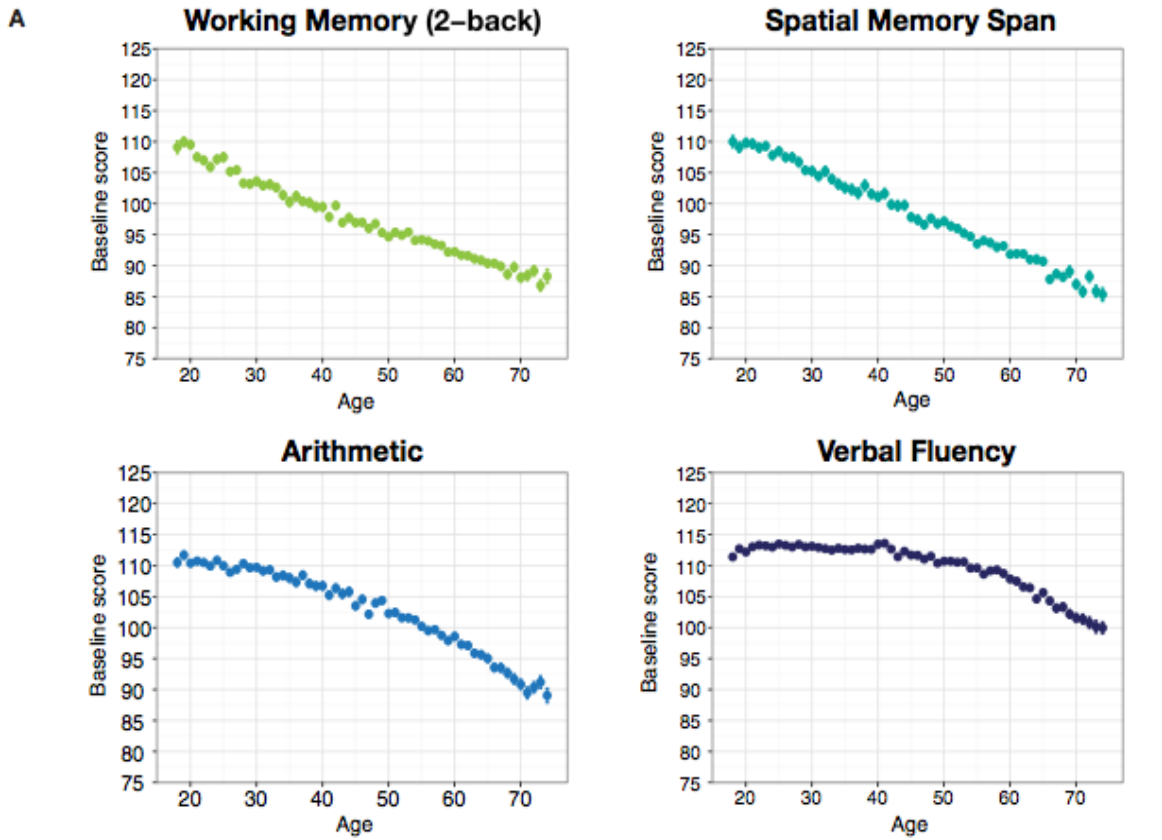
Cervello Anziano – Cervello giovane

Decadimento cognitivo





Fonte: Sternberg et al, Frontiers in human neuroscience, 20 june 2013

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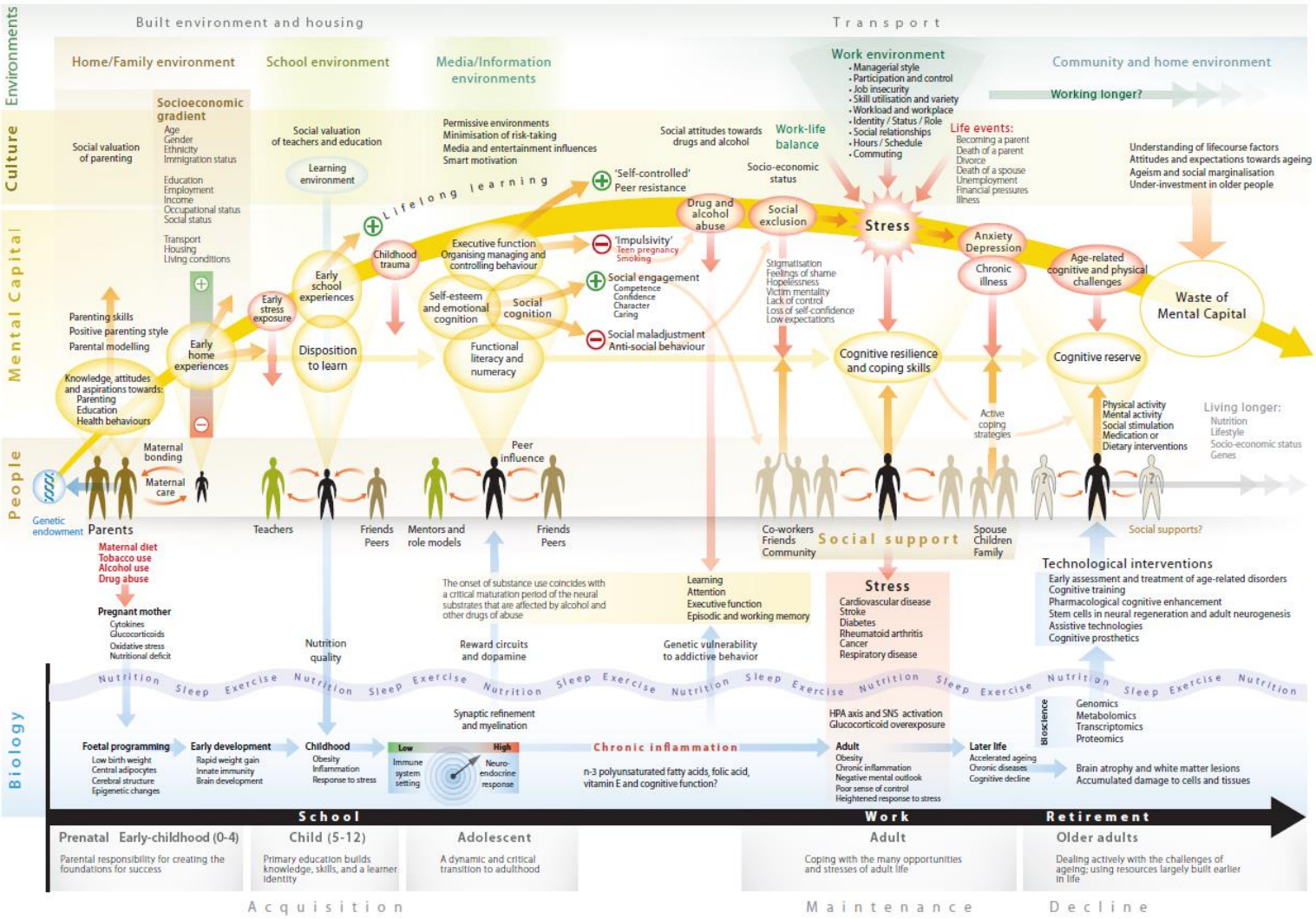
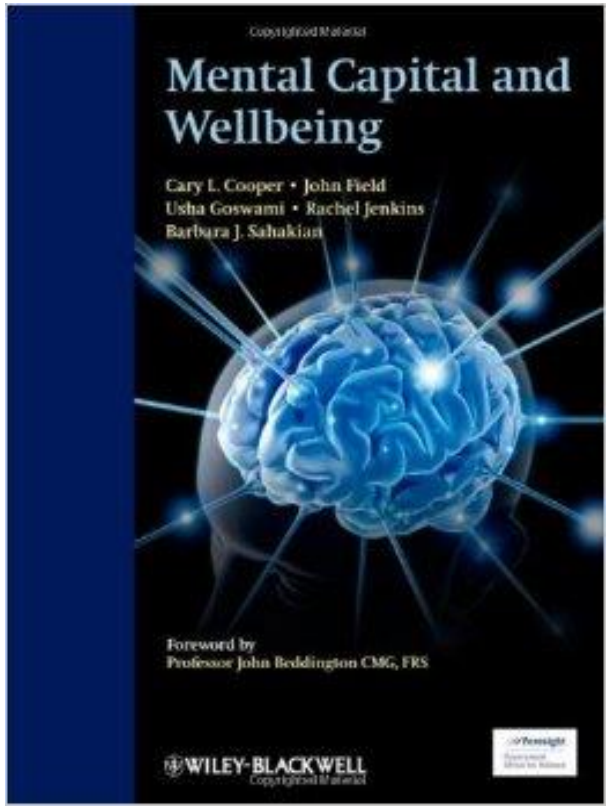
Il Capitale Mentale





Studio del 2008, a Foresight Report commissionato dal Governo UK.

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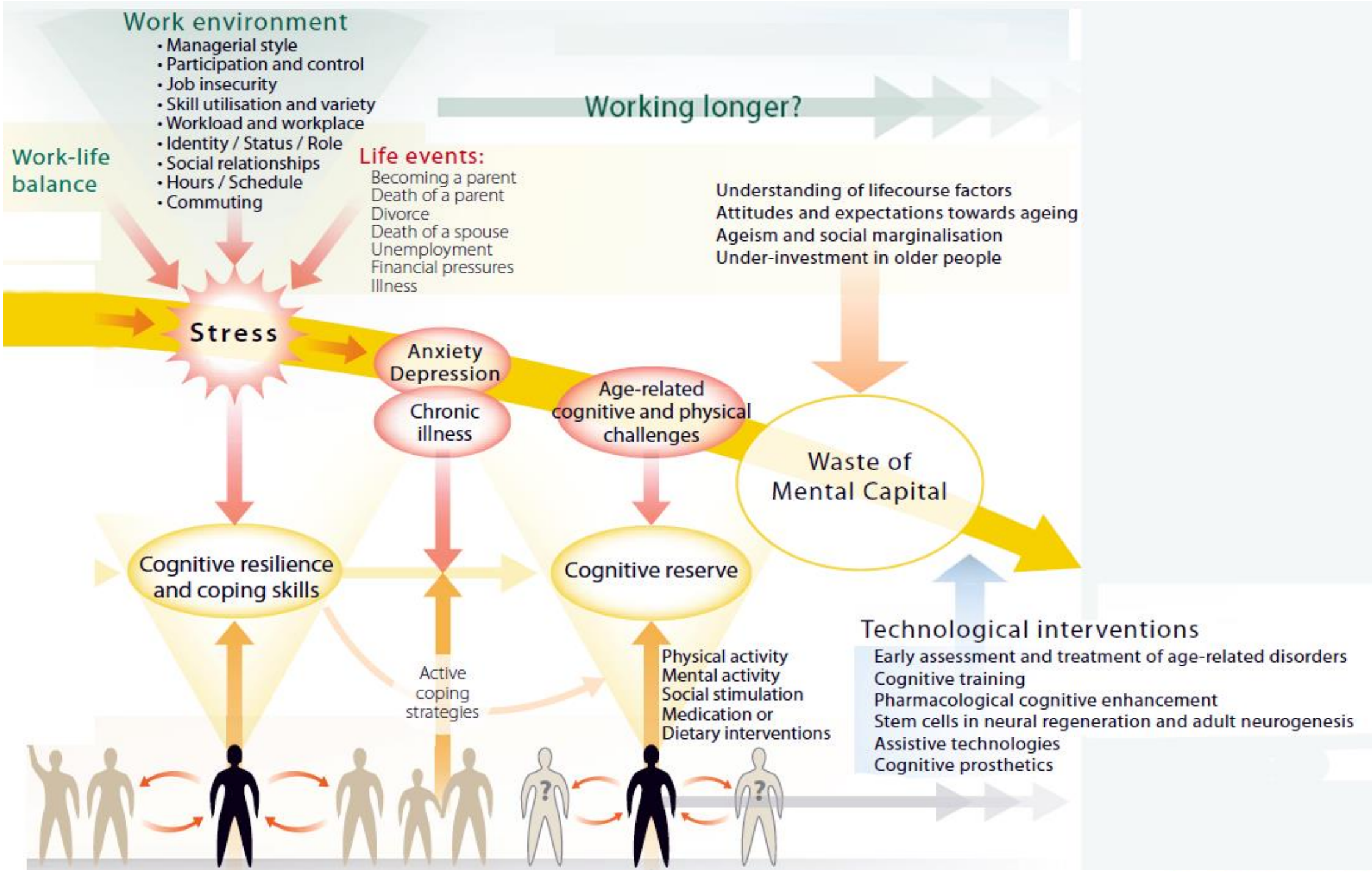
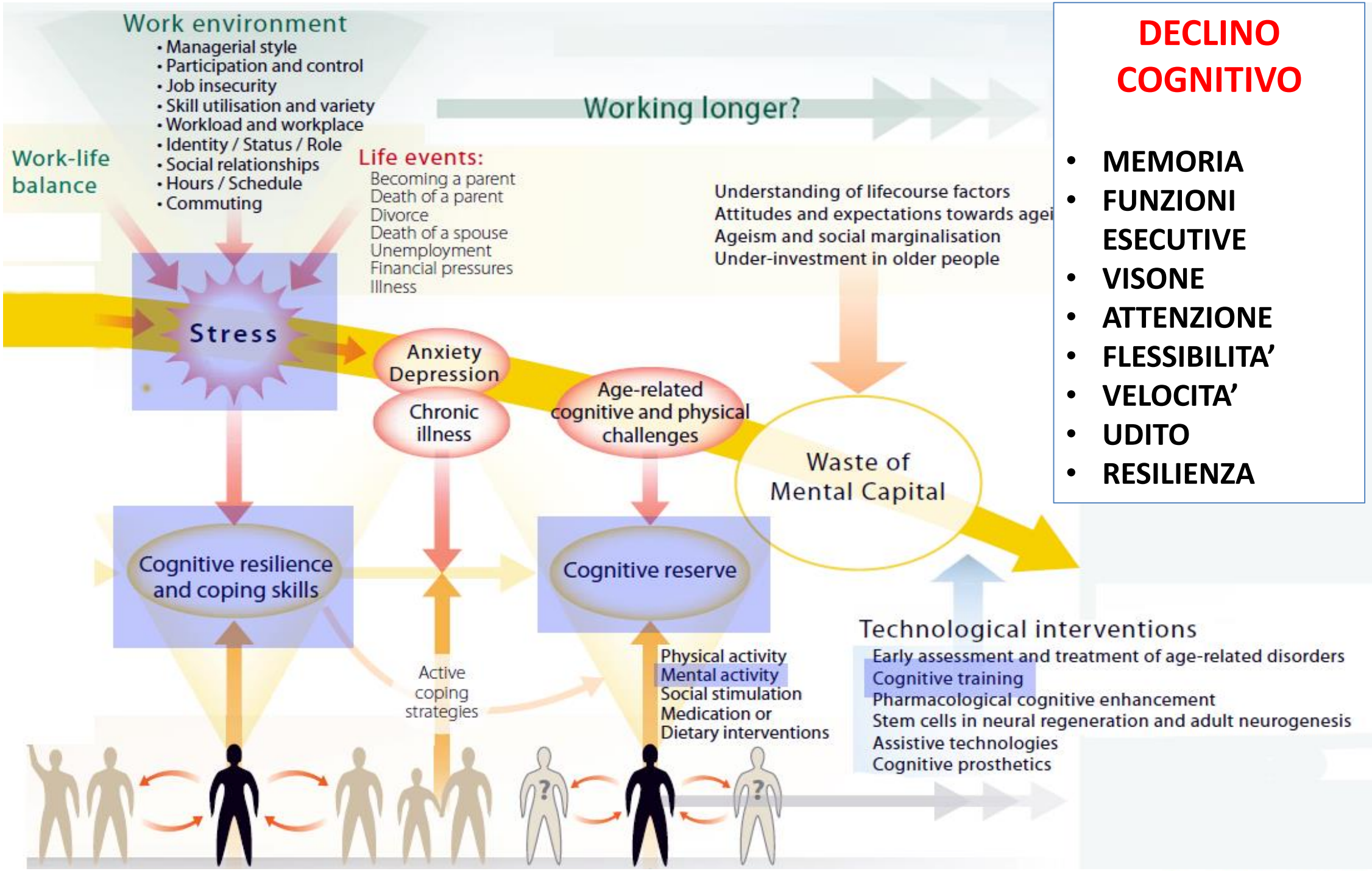

Work environment
• Managerial style
• Participation and control
• Job insecurity
• Skill utilisation and variety
• Workload and workplace
• Identity / Status / Role
• Social relationships
• Hours / Schedule
• Commuting
Work-life balance
Working longer?
Life events:
Becoming a parent
Death of a parent
Divorce
Death of a spouse
Unemployment
Financial pressures
Illness
Understanding of lifecourse factors
Attitudes and expectations towards ageing
Ageism and social marginalisation
Under-investment in older people
Stress
Anxiety
Depression
Chronic illness
Age-related cognitive and physical challenges
Waste of Mental Capital
Cognitive resilience and coping skills
Cognitive reserve
Active coping strategies
Physical activity
Mental activity
Social stimulation
Medication or
Dietary interventions
Technological interventions
Early assessment and treatment of age-related disorders
Cognitive training
Pharmacological cognitive enhancement
Stem cells in neural regeneration and adult neurogenesis
Assistive technologies
Cognitive prosthetics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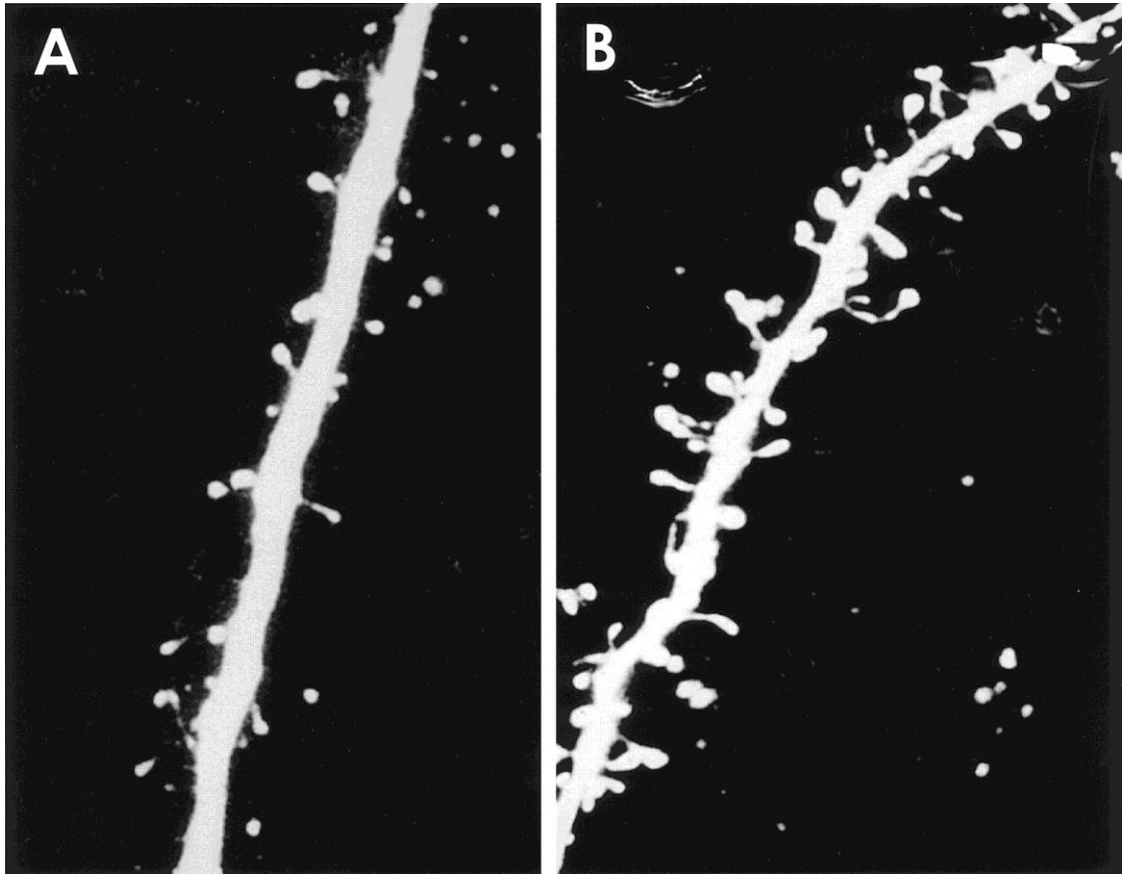
Cognitive prosthetics
DECLINO COGNITIVO
• MEMORIA
• FUNZIONI ESECUTIVE
• VISONE
• ATTENZIONE
• FLESSIBILITA'
• VELOCITA'
• UDITO
• RESILIENZA

Plasticità cerebrale

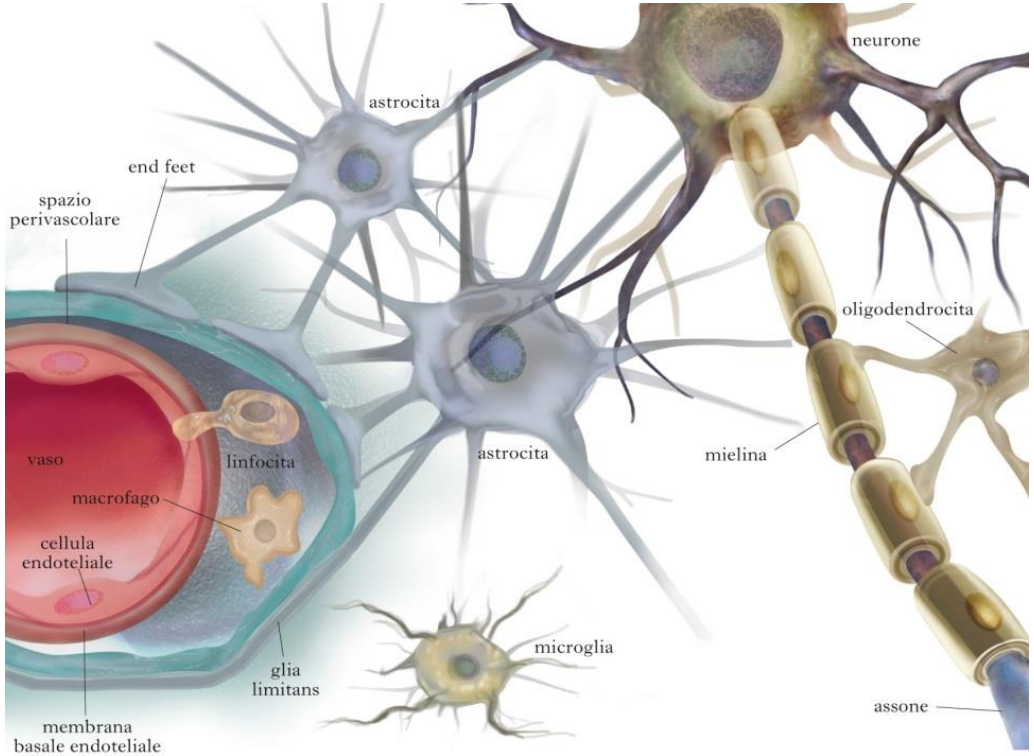
- **Neuroplasticità.** L'abilità del cervello di riorganizzare se stesso e creare nuovi circuiti in risposta ai cambiamenti ambientali, all'attenzione.

- **Neurogenesi.** Le cellule staminali nel cervello possono far crescere nuovi neuroni a qualunque età.

- **Life-long Plasticity.** Nell'ultimo decennio gli scienziati hanno scoperto che il cervello è plastico durante la vita intera.



Come possono intervenire le neuroscienze?



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Esempio 1: Presbiopia

- **Decadimento visivo: 40+**

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OPEN

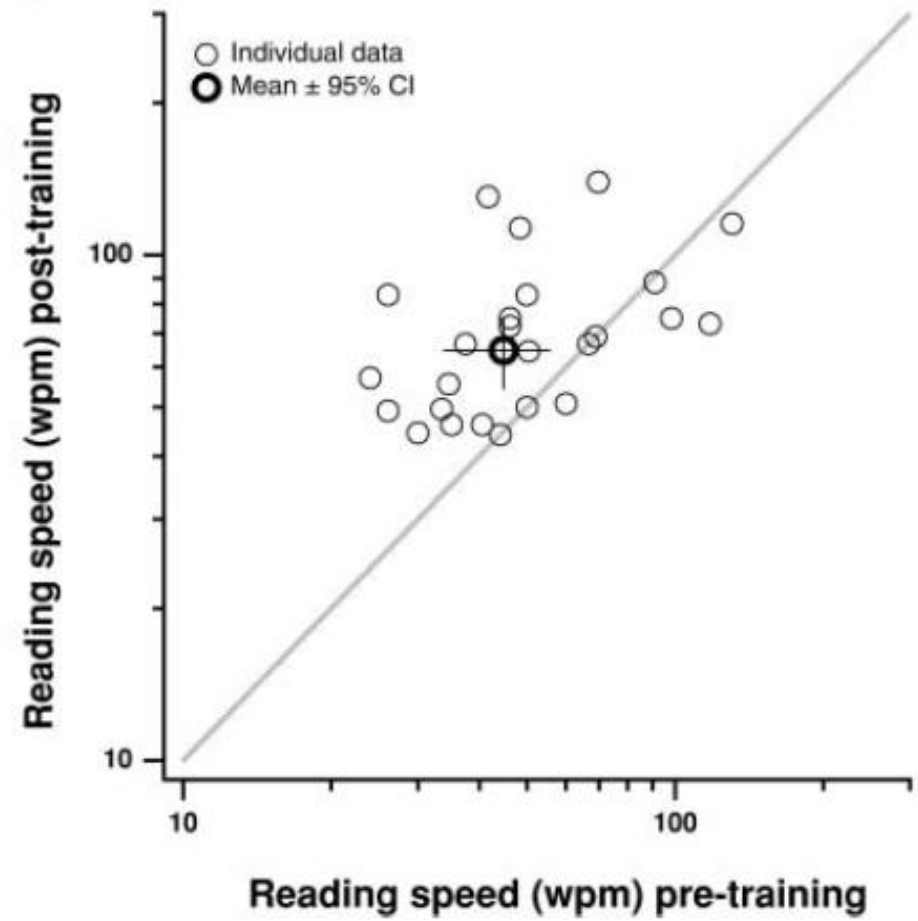
Training the brain to overcome the effect of aging on the human eye

SUBJECT AREAS:
SYSTEMS BIOLOGY
NEUROSCIENCE
PLASTICITY
MEDICAL RESEARCH

Uri Polat[2], Clifton Schor[1], Jian-Liang Tong[1], Ativ Zomet[1,2], Maria Lev[2], Oren Yehezkel[2], Anna Sterkin[2] & Dennis M. Levi[1]

[1]School of Optometry and Helen Wills Neuroscience Institute, UC Berkeley, Berkeley, CA, [2]Faculty of Medicine, Goldshleger Eye Research Inst, Tel-Aviv University, Tel-Hashomer, Israel.

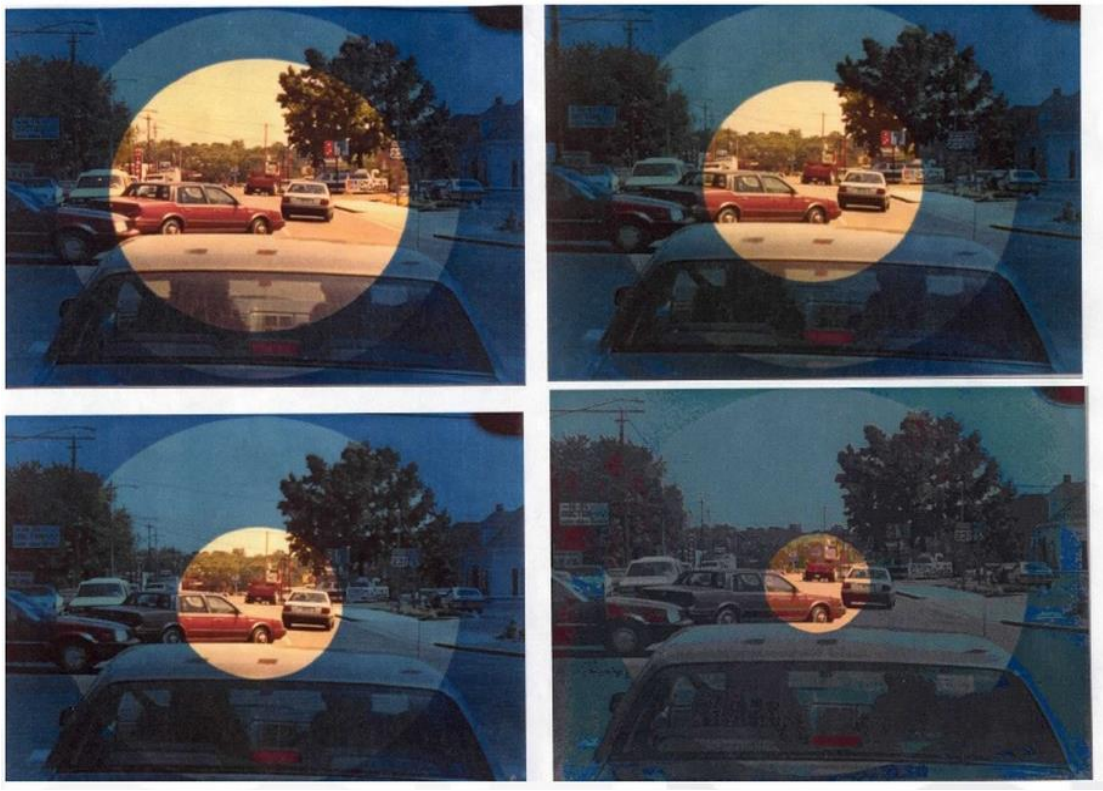
nature



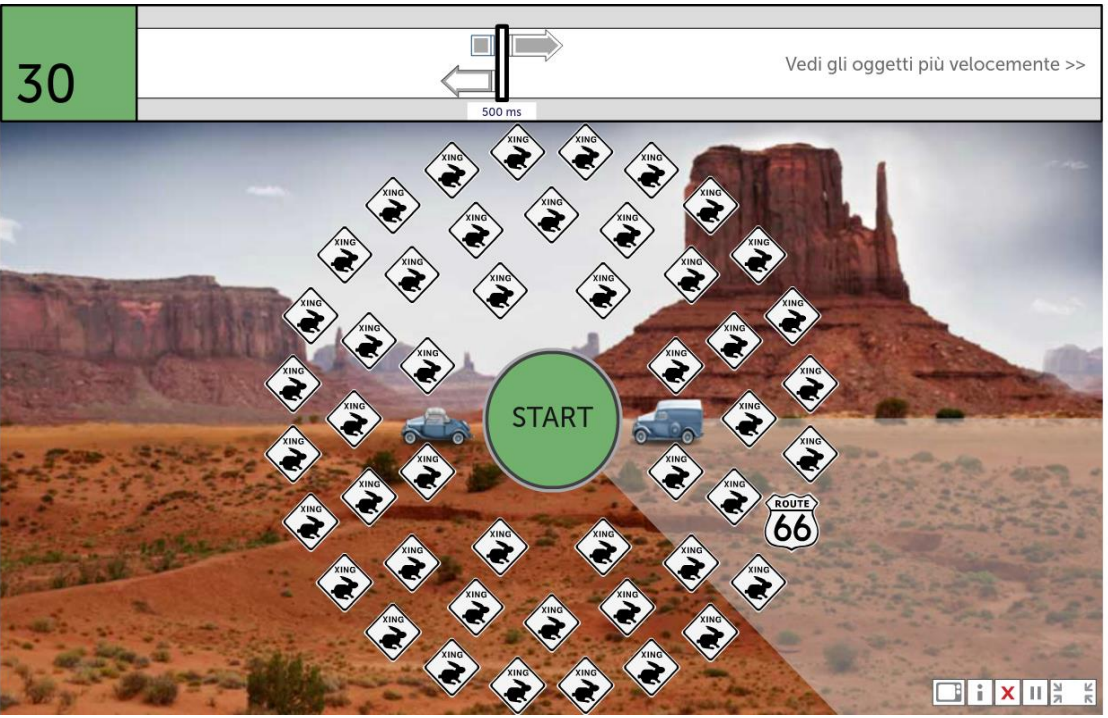
CONCLUSIONE: This improvement was achieved without changing the optical characteristics of the eye. The results suggest that **the aging brain retains enough plasticity** to overcome the natural biological deterioration with age.

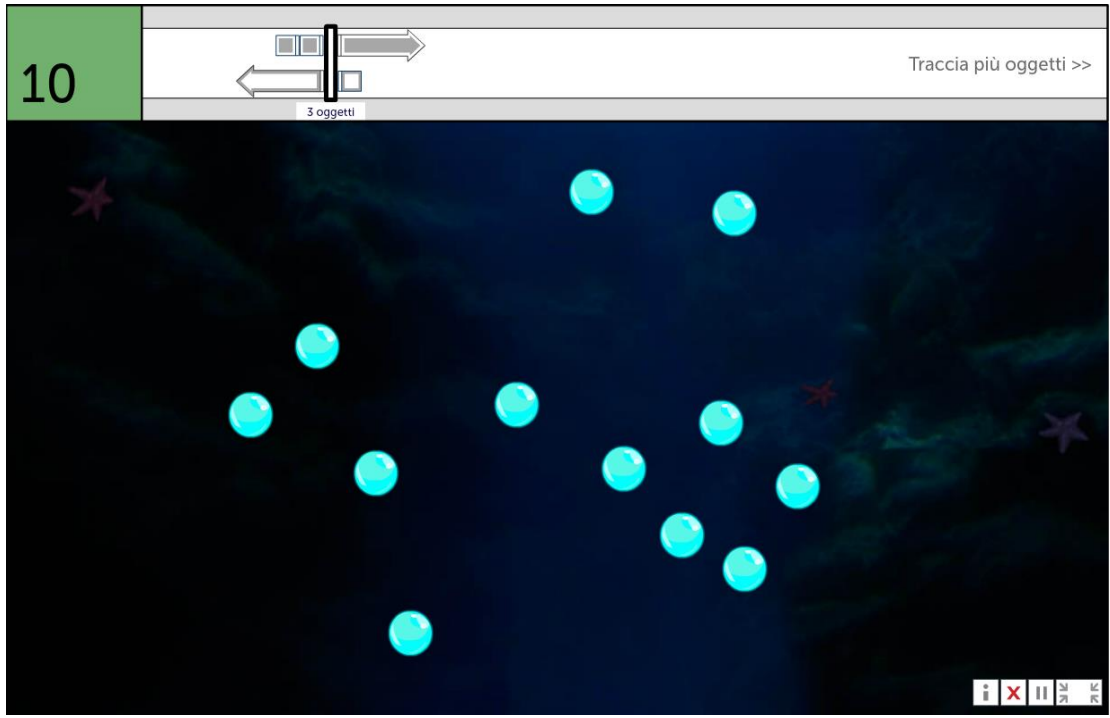
Esempio 2: Campo Visivo Utile

- **Decadimento attentivo: 50+**
- il campo visivo utile (Useful Field of View) diminuisce.
- Non è un difetto visivo: è un limite cognitivo.
- Pur “vedendo” fisicamente l’oggetto, il campo attentivo ristretto non permette di reagire adeguatamente.
- Questo comporta una diminuita consapevolezza dell’ambiente, e tempi di reazione maggiori ai pericoli improvvisi.



Esercizi training cognitivo – VALIDATI!





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Esempio 3: Mindfulness

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Grazie dell’attenzione!

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