

Topic in Action 1

Control Processes

Part 2 of 2

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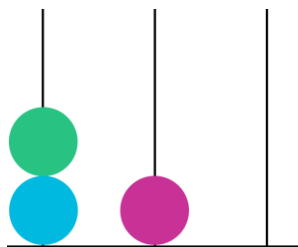


Planning: Tower of Hanoi and Tower of London

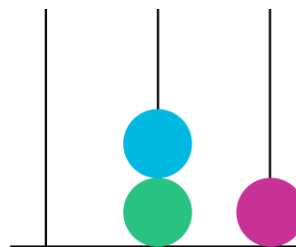
Planning = complex cognitive skill

Damage to prefrontal cortex → impaired planning

Tower of London



Start



Goal

Count the number
of steps

Shallice, Burges & Robertson (1996)

Planning: Multiple Errands



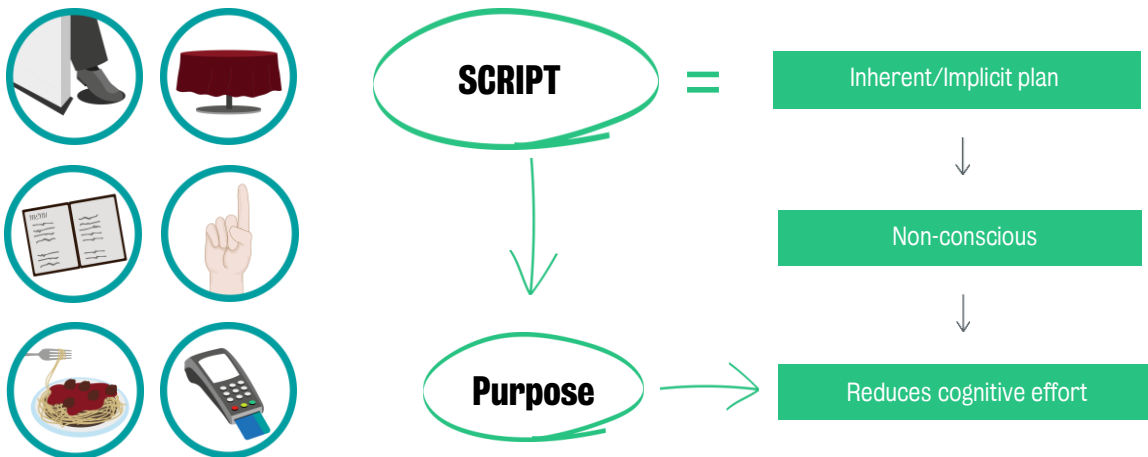
Shallice, Burges & Robertson (1996)

Week 2 Cognitive Processes & Representations

Topic in Action 1: Control Processes

3 of 14

Planning (1)



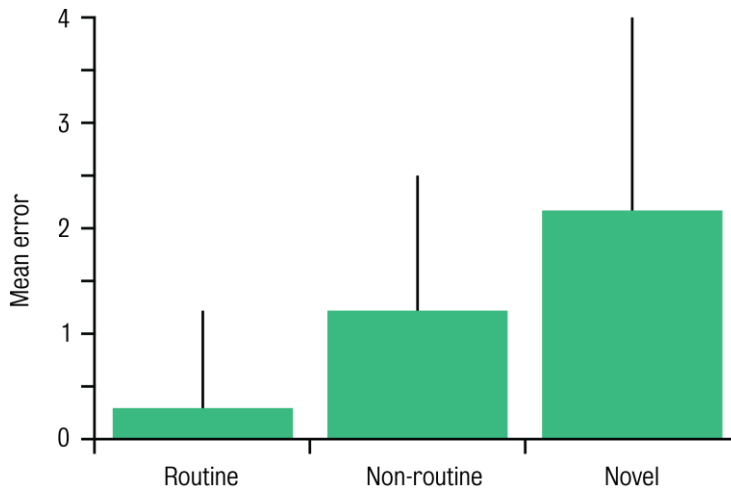
Shank & Abelson (1977), Sirigu et al (1995)

Week 2 Cognitive Processes & Representations

Topic in Action 1: Control Processes

4 of 14

Planning (2)

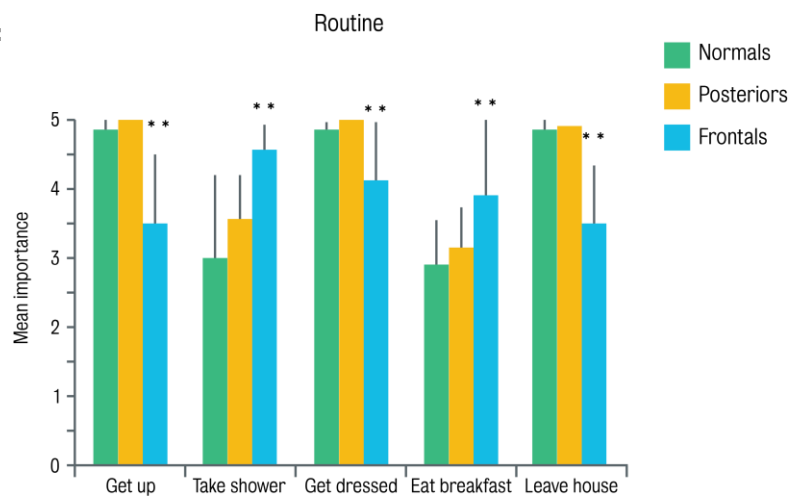


Sirigu et al (1995)

Planning (3)

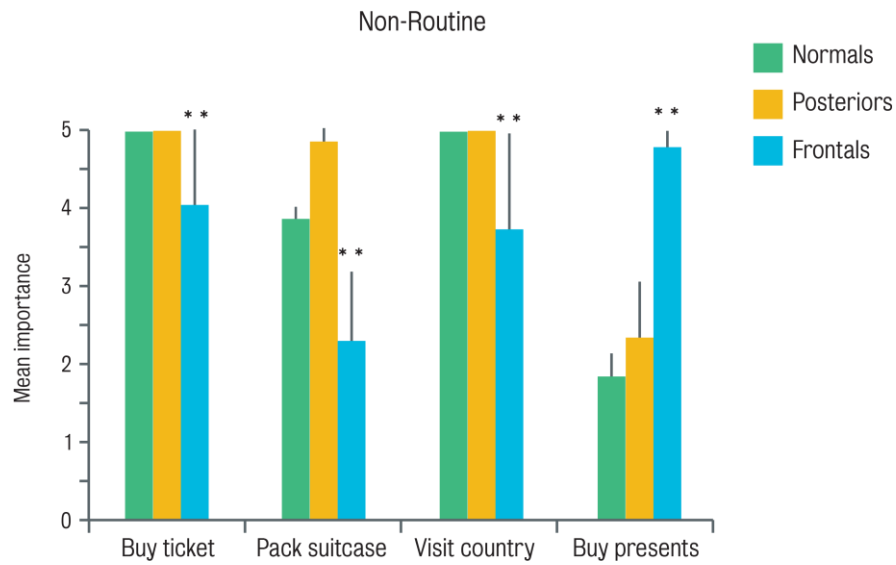
Failures in executive control functions:

- Poor planning
- Inability to structure
- Poor task monitoring
- Poor attention



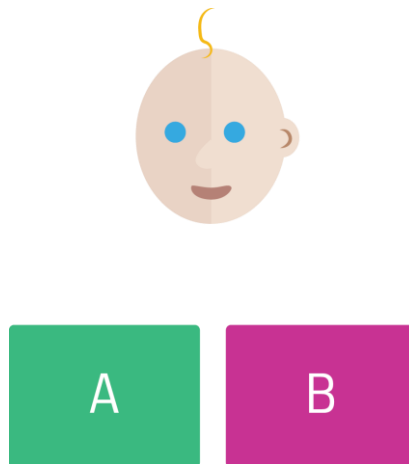
Sirigu et al (1995)

Planning (4)



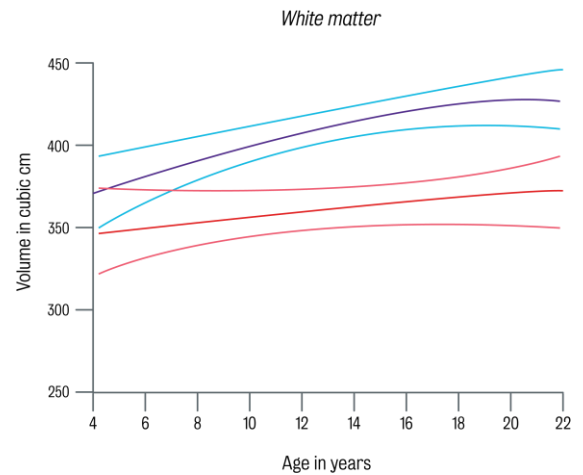
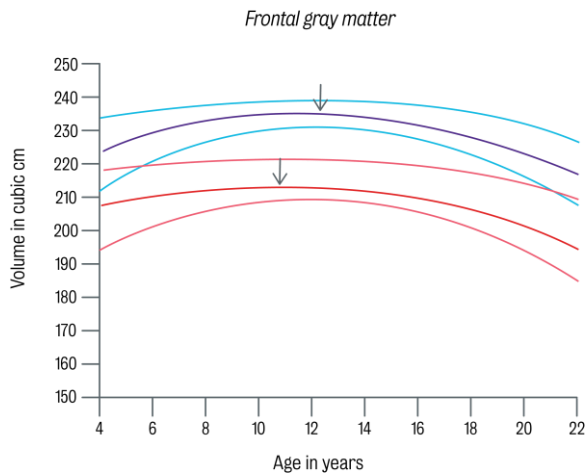
Sirigu et al (1995)

Development of Frontal Lobes (1)



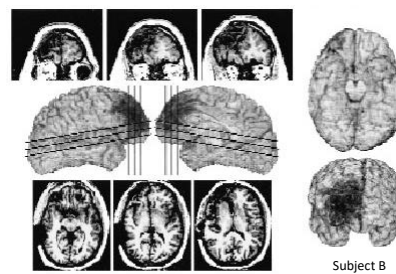
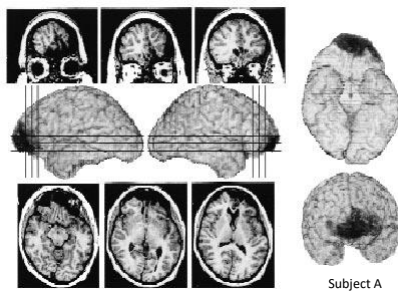
Diamond (1985), Diamond, Kirkham & Amso (2002)

Development of Frontal Lobes (2)



Sowell et al (1999), Giedd et al (1999)

Development of Frontal Lobes (3)



Anderson et al (1999)

Development of Frontal Lobes (4)

Level 3: Postconventional

Stage 6: Personal commitment to universal moral principles.

Achieved by a minority of adults.

Stage 5: Recognition that moral perspective may conflict with law. Consider rights and welfare of all.

One of 6 adult-onset patients at this level.

Level 2: Conventional

Stage 4: Recognition of obligations to society. The individual is viewed within the system.

Characteristic of most adults and adolescents.

Stage 3: Reliance on the Golden Rule. Be a good person in your own eyes and those of others.

Five of six adult-onset patients at this level.

Level 1: Preconventional

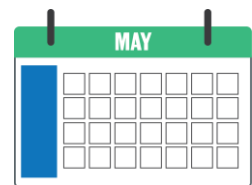
Stage 2: Concrete reasoning that, to serve one's own needs, you must recognise other's rights.

Characteristic of most children under age 9.

Stage 1: Egocentric perspective with decisions based on avoidance of punishment.

Both early-onset patients at this level.

Conclusion



Executive control processes

References

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Attributions

Image: collection, Photograph by Jack and Beverly Wilgus of daguerreotype from their. English: Photograph of Cased-Daguerreotype Studio Portrait of Brain-Injury Survivor Phineas P. Gage (1823–1860) Shown Holding the Tamping Iron Which Injured Him. Includes View of Original Embossed Brass Mat. Color, Unretouched. From the Collection of Jack and Beverly Wilgus. Like Most Daguerreotypes, the Image Seen in This Artifact Is Laterally (Left-Right) Reversed; Therefore a Second, Compensating Reversal Has Been Applied to Produce This Image, so as to Show Gage as He Appeared in Life. That This Shows Gage Correctly Is Confirmed by Contemporaneous Medical Reports Describing His Injuries, as Well as from the Injuries Visible in Gage's Skull and Life Mask, Still Preserved., 19 December 2008. Own work. https://commons.wikimedia.org/wiki/File:Phineas_Gage_Cased_Daguerreotype_WilgusPhoto2008-12-19_Unretouched_Color.jpg. Image: 'File:PhineasGageSS.jpg - GGCWiki'. Accessed 30 June 2016. <http://wiki.ggc.edu/wiki/File:PhineasGageSS.jpg#filelinks>.

Image: 'Photos from a Walk around Bloomsbury and Holborn, Central London Saturday 14th June 2008'. Accessed 30 June 2016. <http://www.urban75.org/london/bloomsbury-photos.html>.