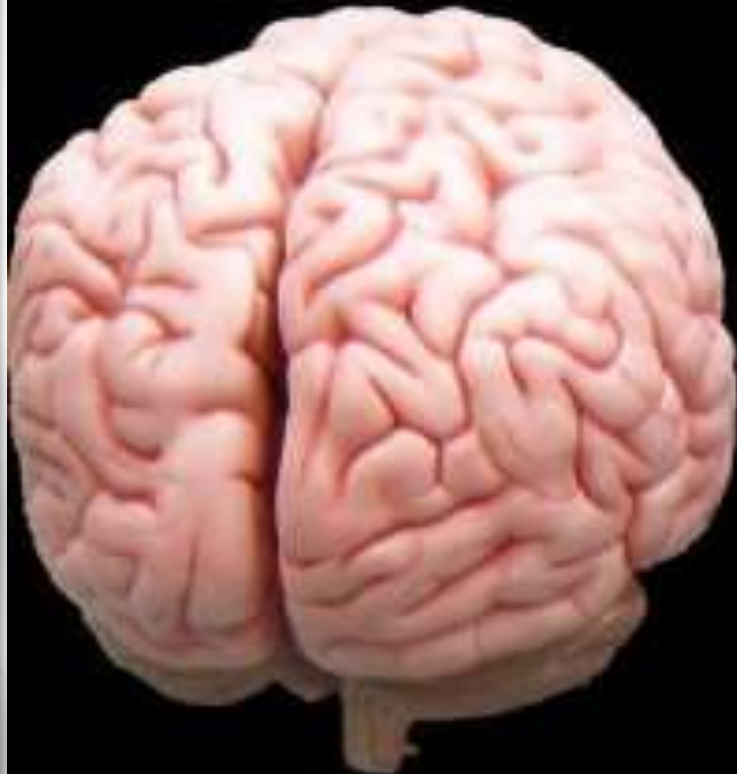


The Sources of Who We Are

Principles of Human Development



What is so special about human brain?

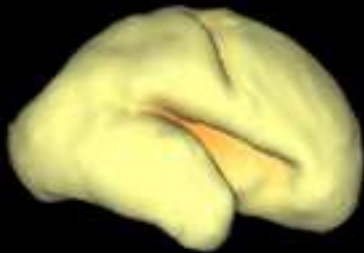


Human Brain

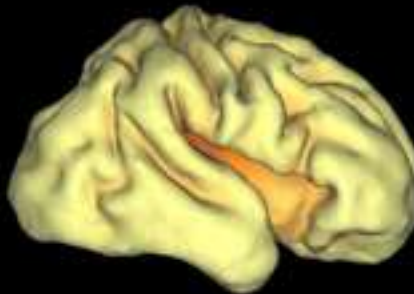


Dolphin Brain

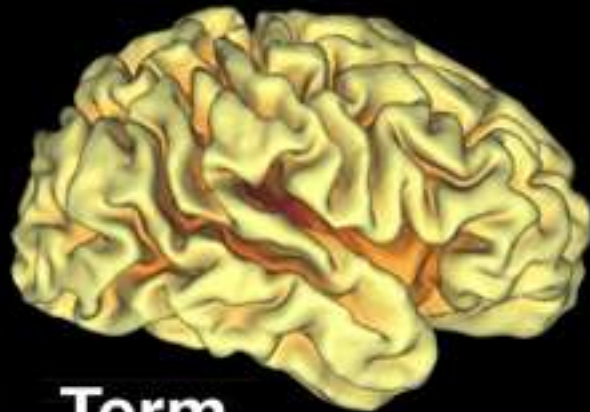
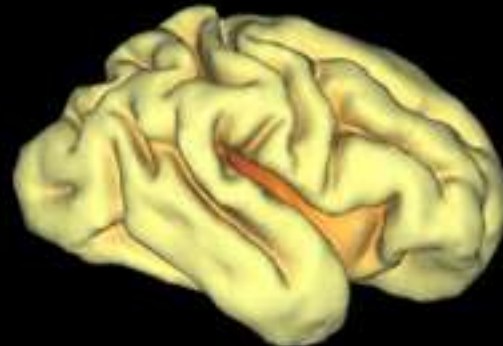
25 week



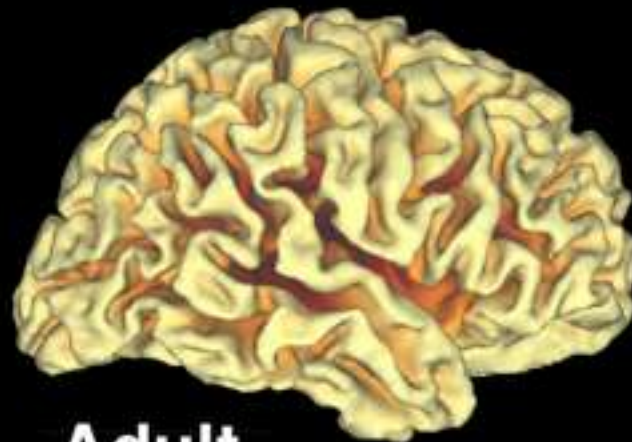
30 week



33 week



Term



Adult

Dimensions of patterns studied in psychology

BEHAVIOUR

SITUATION

PERSON



*Study of situational factors
with stable effects
→ Social psychology*

*Study of situational factors
with stable effects
→ Personality psychology*

Dimensions of patterns studied in psychology

BEHAVIOUR

SITUATION

PERSON

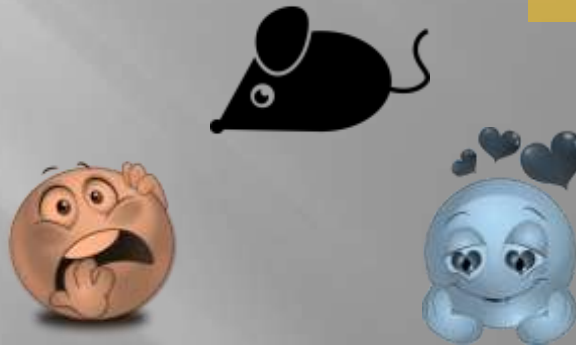


Dimensions of patterns studied in psychology

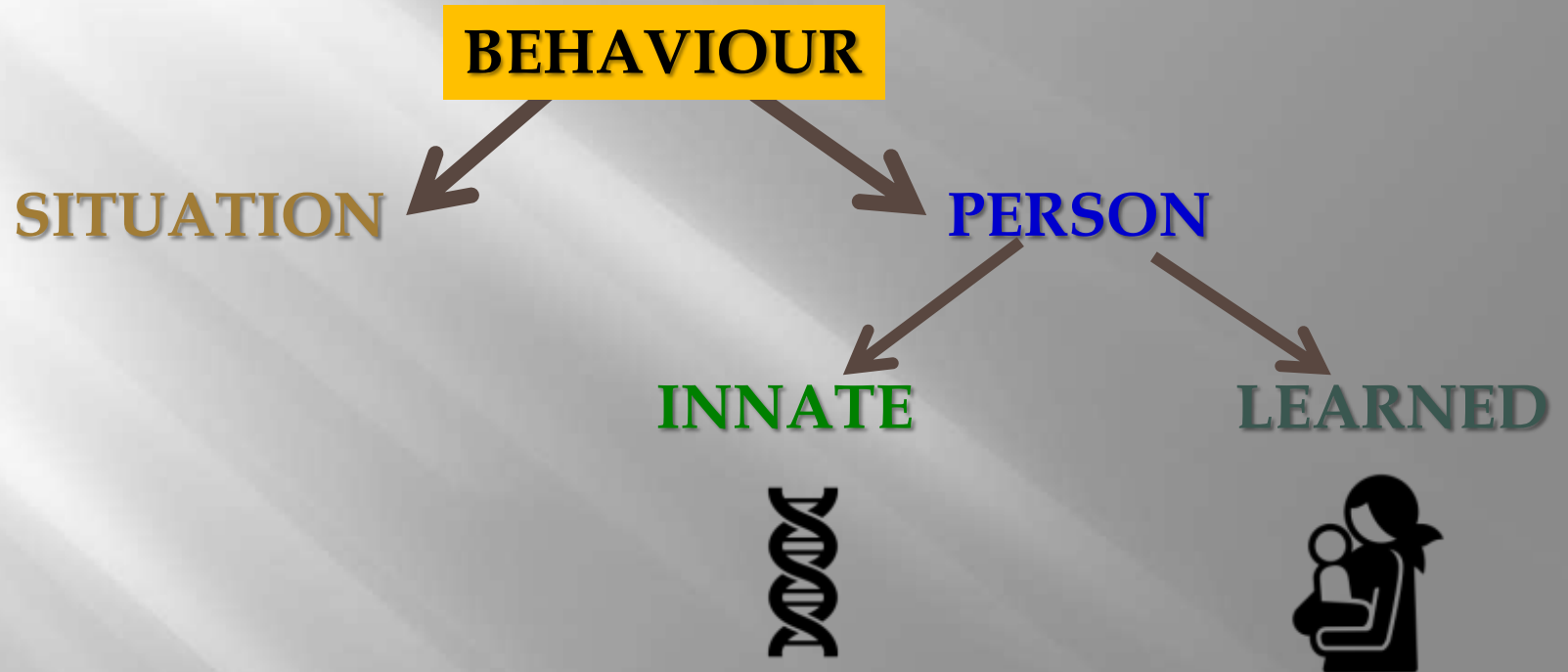
BEHAVIOUR

SITUATION

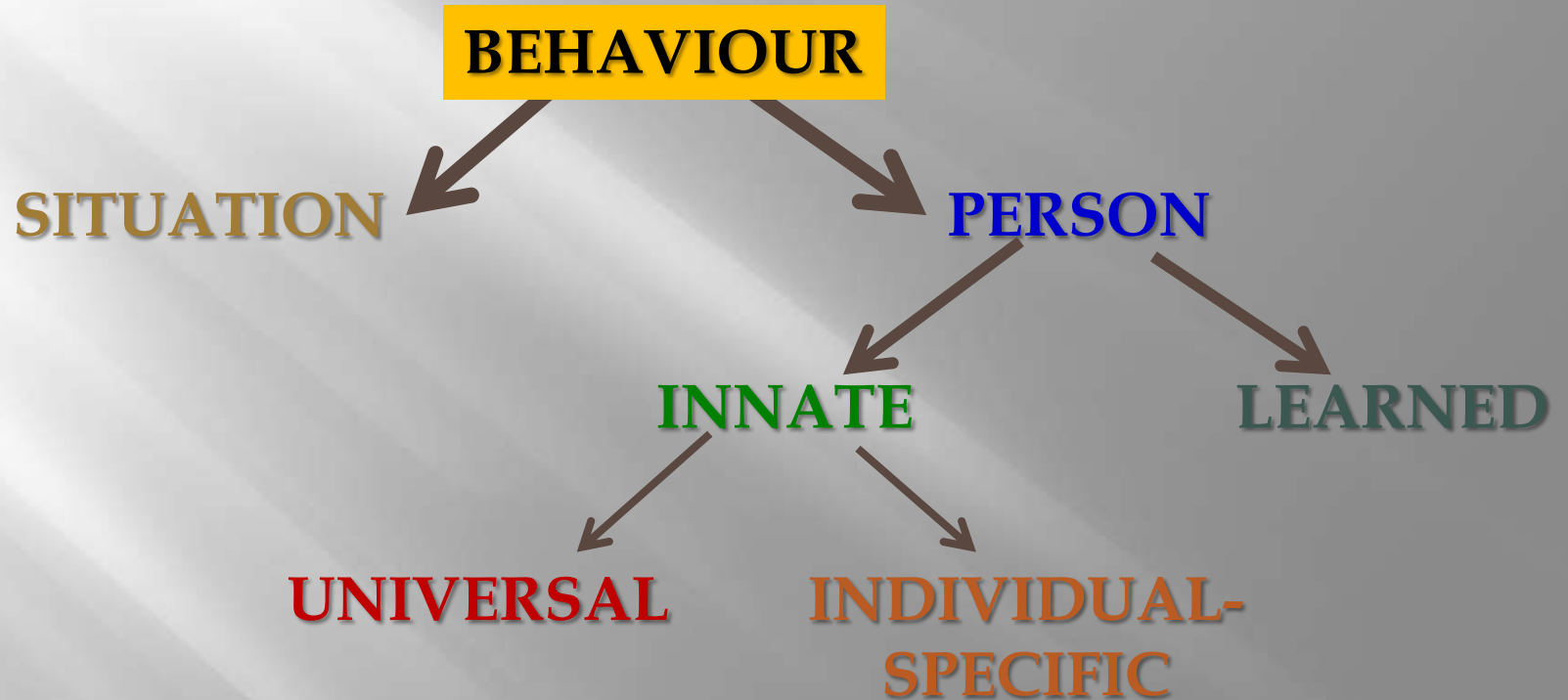
PERSON



Dimensions of patterns studied in psychology

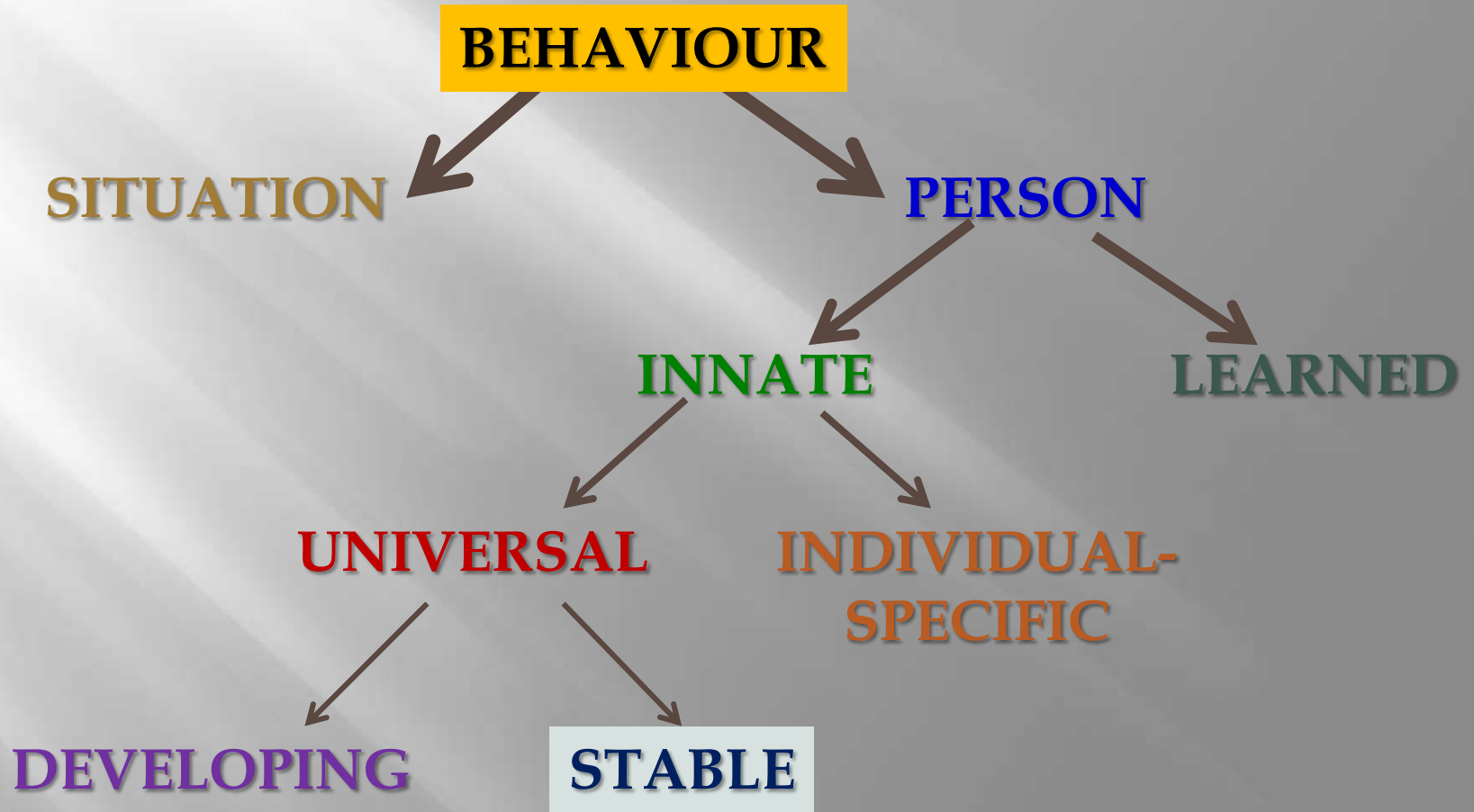


Dimensions of patterns studied in psychology



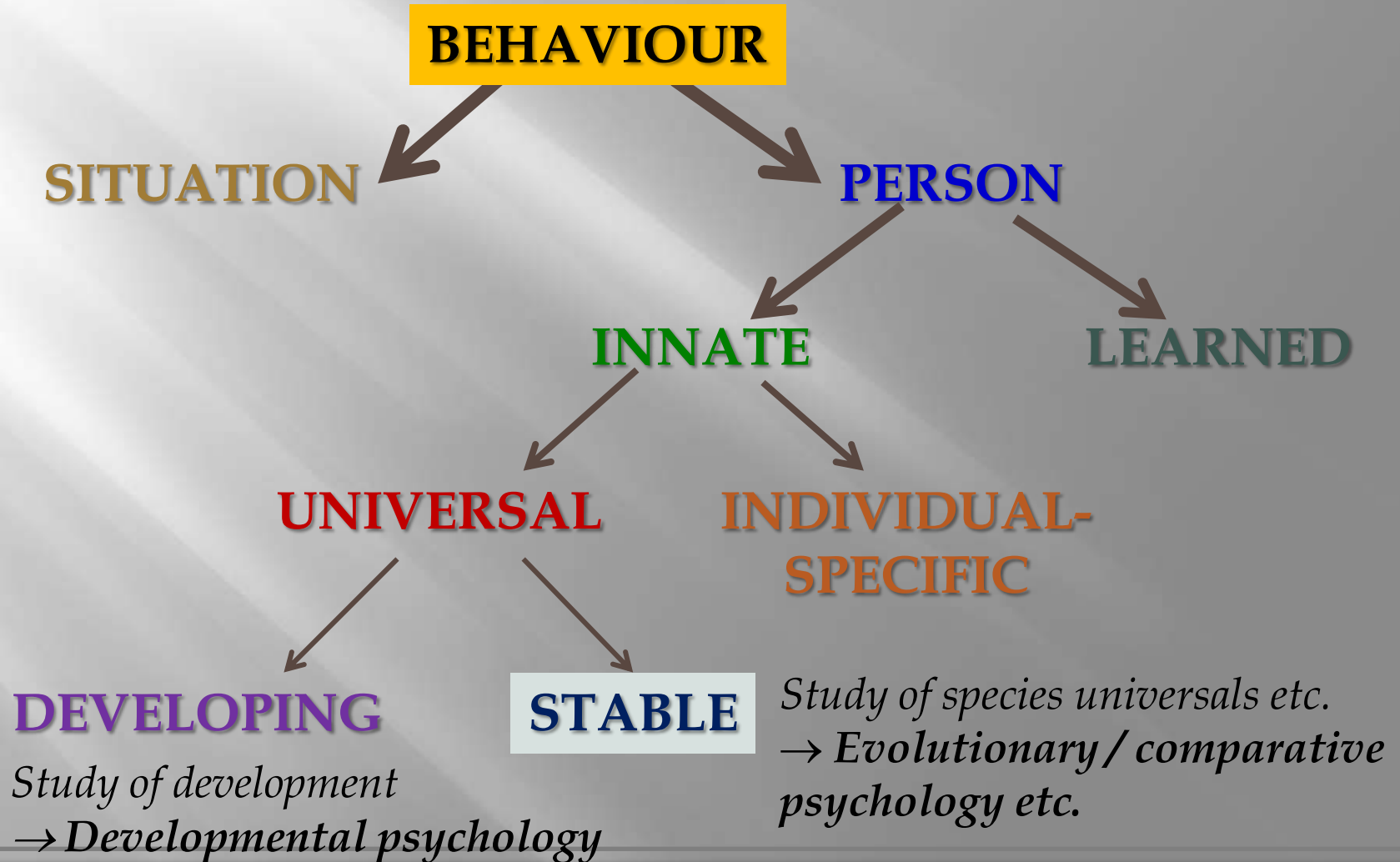
*Study of temperament
→ Personality psychology*

Dimensions of patterns studied in psychology



Study of development
→ *Developmental psychology*

Dimensions of patterns studied in psychology

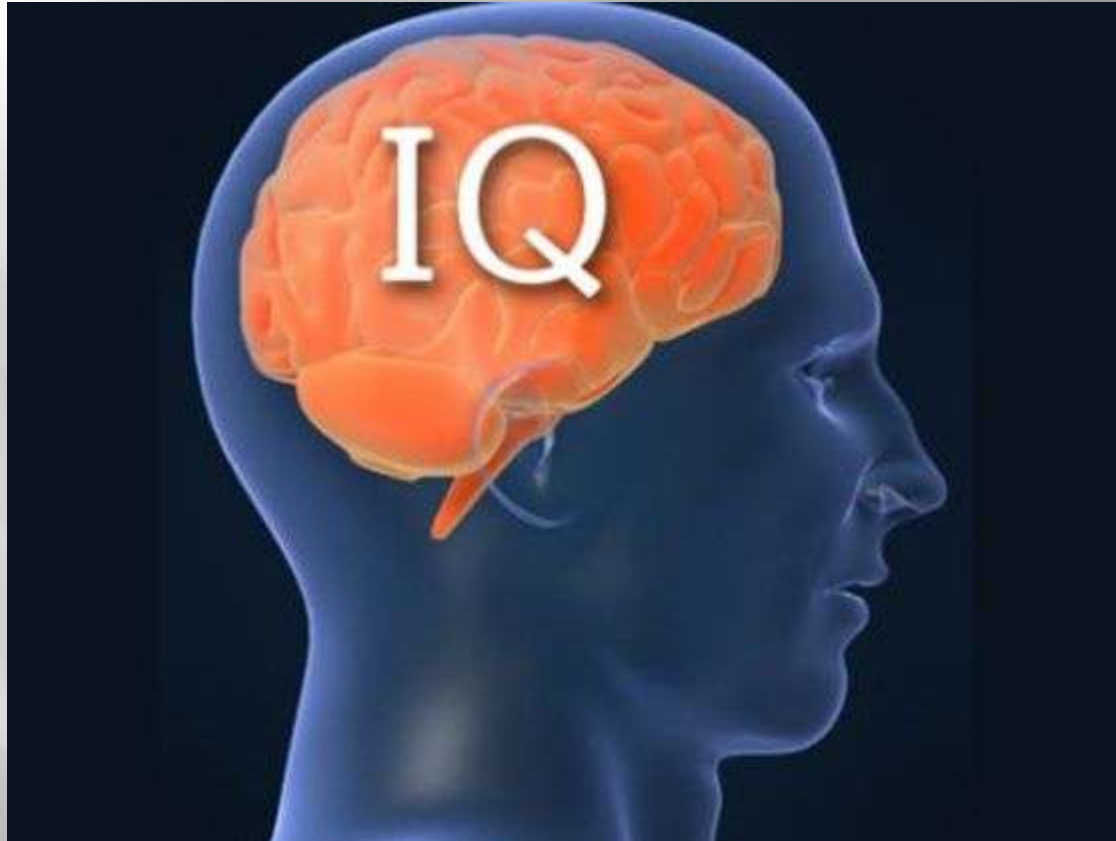


Behavioural genetics

- ▣ *% of common variance in traits explained by environmental and genetic influences (monozygotic vs. dizygotic twins)*



Heritability of... intelligence



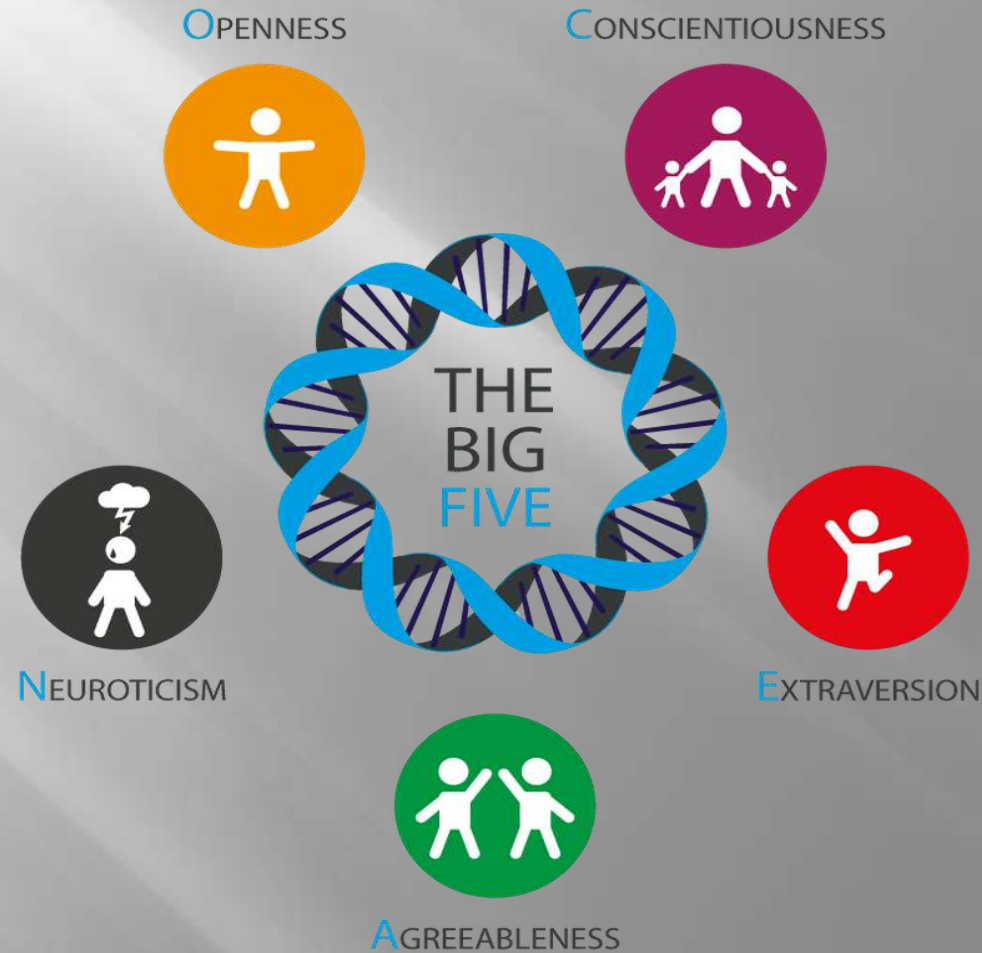
Infancy: ca. 20%

Childhood: ca. 40%

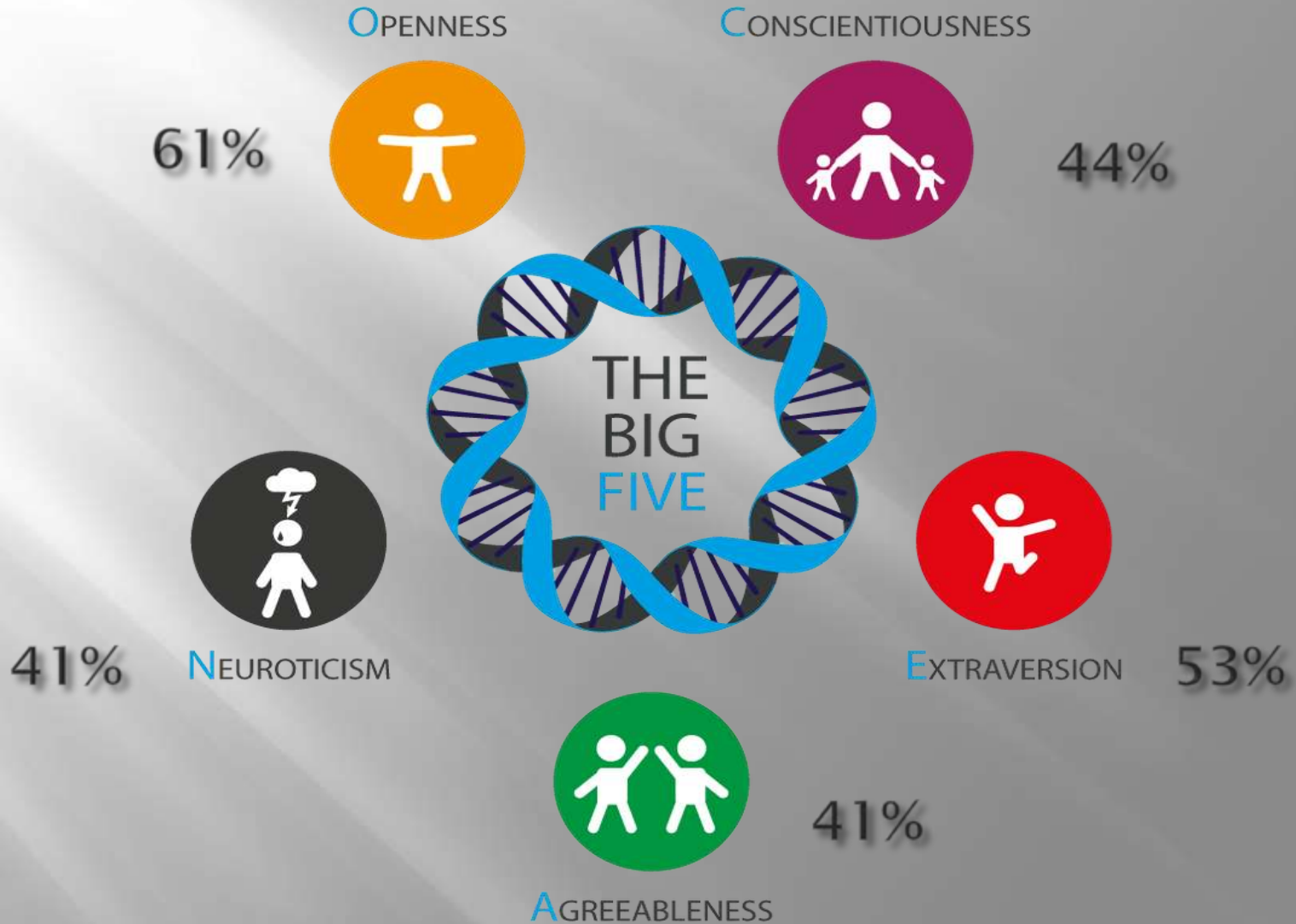
Adulthood: > 70% ... WHY???

Heritability of... personality

Jang, K. L., Livesley, W. J., & Vernon, P. A. (1996). Heritability of the Big Five personality dimensions and their facets: A twin study. *Journal of Personality*, 64(3), 577-592.

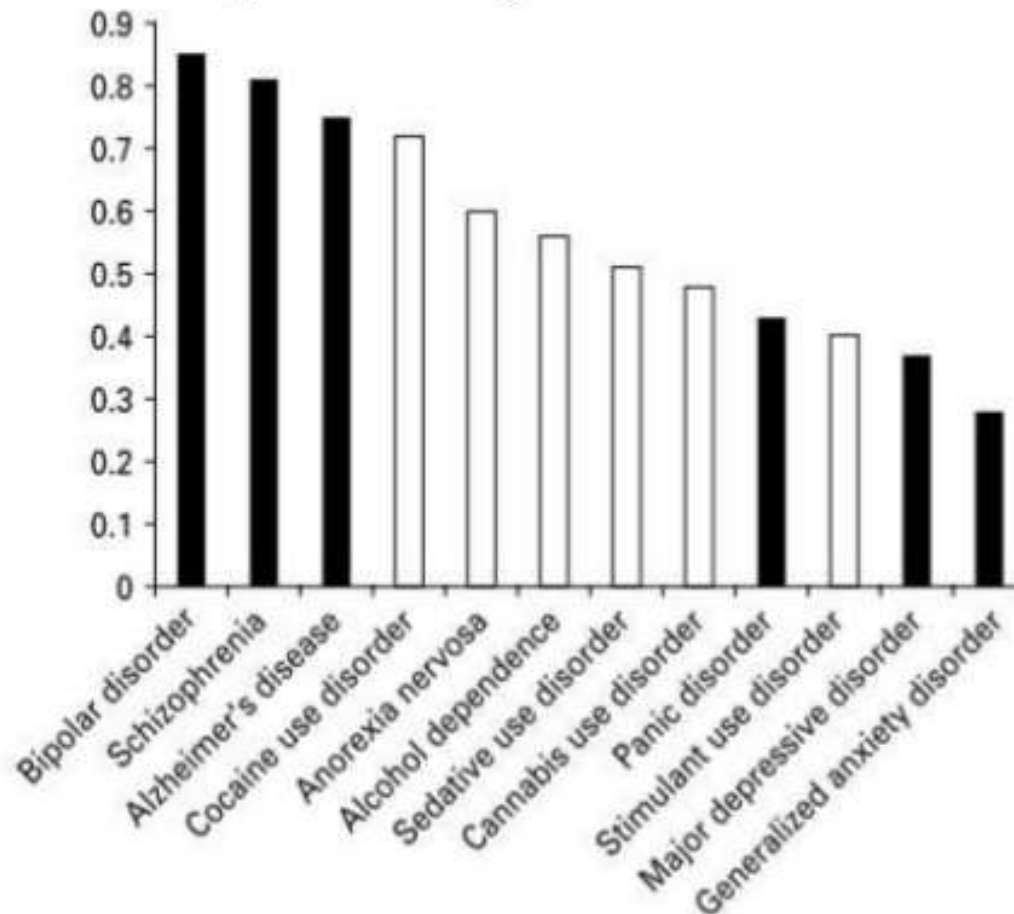


Heritability of... personality



Heritability of... mental disorders

Heritability of Psychiatric Disorders



Bienvenu et al. Psychiatric 'diseases' versus behavioral disorders and degree of genetic influence. Psychological Medicine 2011;41:33-40.

What is actually inherited?

- ▣ *Biological factors in the brain (e.g. neurotransmitter production and sensitivity → Temperament)*
- ▣ **Biology sets limits** to the efficiency of learning (environment-induced change)

What is **NOT** inherited?

- ▣ *Motivation*
- ▣ *Beliefs and representations*
- ▣ *Skills and competencies*
- ▣ *Character strengths*

What is **NOT** inherited?

- ▣ **Motivation** (*sensitivity to positive/negative experiences vs. specific objects and situations associated with these emotions*)
- ▣ *Beliefs and representations*
- ▣ *Skills and competencies*
- ▣ *Character strengths*

What is **NOT** inherited?

- ▣ *Motivation*
- ▣ **Beliefs and representations** (*flexibility in thought operations vs. specific “ingredients”*)
- ▣ *Skills and competencies*
- ▣ *Character strengths*

What is **NOT** inherited?

- ▣ *Motivation*
- ▣ *Beliefs and representations*
- ▣ **Skills and competencies** (*baseline limits in processing efficiency vs. learned behavioural patterns, e.g. **critical thinking skill***)
- ▣ *Character strengths*

What is **NOT** inherited?

- ▣ *Motivation*
- ▣ *Beliefs and representations*
- ▣ *Skills and competencies*
- ▣ **Character strengths** (*“formal” aspects of spontaneous behaviour vs. global “guides” in decision-making, e.g. agreeableness vs. compassion; shyness vs. humility; inhibition vs. temperance*)

What is actually inherited?

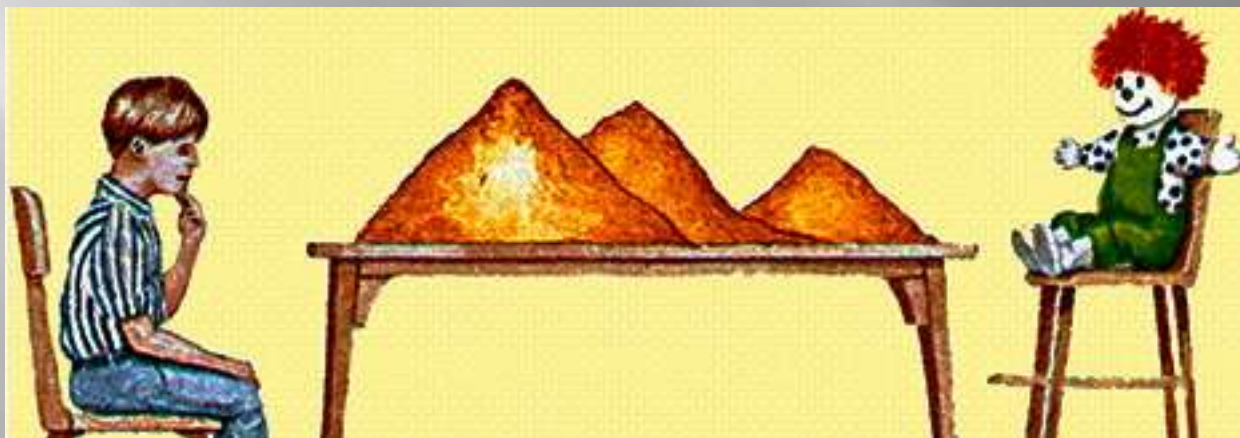
- ▣ **Biological maturation** – some types of learning cannot be expected of children at certain age

Cognitive maturation



Jean Piaget

Cognitive maturation



High heritability \neq Small role of environment

- ▣ *Even an inherited trait may need specific environmental triggers to be fully expressed = heritability is % of variance, not amount!!!*

Is vision learned??

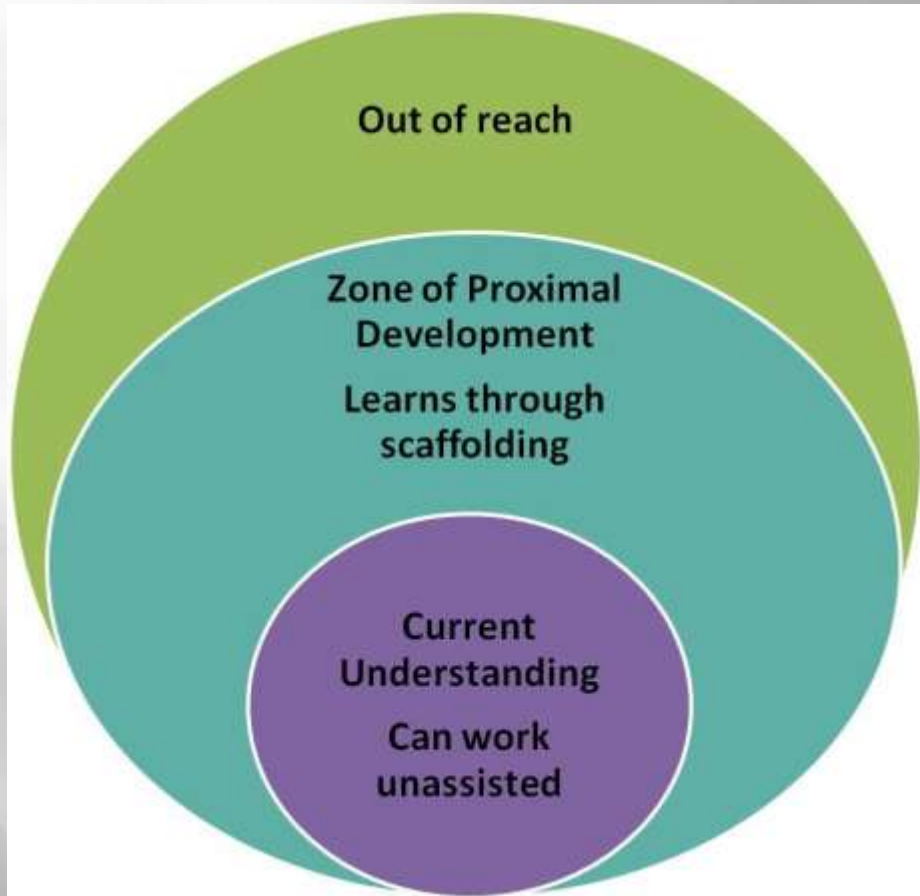
Blakemore, C., & Cooper, G. F. (1970). Development of the brain depends on the visual environment. *Nature*, 228(5270), 477-478.



Critical period = time when specific stimulation is needed for healthy development of a specific function

**Do we need the help of
others to develop?**

“Scaffolding” the development



Lev Vygotsky

Zone of proximal development

“Scaffolding” the development



What a child can do today with
assistance, she will be able to do by
herself tomorrow.

— *Lev S. Vygotsky* —

AZ QUOTES

Development of personality and psychosocial development

**Radical “environmentalist”
view of development:
Behaviourism**

Learning theories of development



“Give me a dozen healthy infants, well-formed, and my own specified world to bring them up in and I'll guarantee to take any one at random and train him to become any type of specialist I might select – doctor, lawyer, artist, merchant-chief and, yes, even beggar-man and thief, regardless of his talents, penchants, tendencies, abilities, vocations, and race of his ancestors. I am going beyond my facts and I admit it, but so have the advocates of the contrary and they have been doing it for many thousands of years.”

(John B. Watson, *Behaviorism*, 1930)

Little Albert Experiment



Learned helplessness

Seligman, M. E., & Maier, S. F. (1967). Failure to escape traumatic shock. *Journal of Experimental Psychology*, 74(1), 1-9.



Learned helplessness

Seligman, M. E., & Maier, S. F. (1967). Failure to escape traumatic shock. *Journal of Experimental Psychology*, 74(1), 1-9.

Three groups of dogs:

	Time to learn escape in phase 2	Successful escape
Control (no initial learning)	< 27 s	88%
Escape condition (Phase 1)	< 27 s	100%
No escape condition (Phase 1)	48 s	25%

What does learned helplessness do?

- ▣ Learning that there is no link between one's behaviour and the outcome of the situation = **lack of control**
- ▣ **Learning** through further conditioning **severely impaired** in other situations, too
- ▣ Symptoms of **depression**

Is verbal reinforcement a better/worse educational tool than tangible reinforcement?

Negative effect of criticism

“Monster Study” (1939)

W. Johnson & M. Tudor

https://en.wikipedia.org/wiki/Monster_Study



Negative effect of criticism

“Monster Study” (1939)

W. Johnson & M. Tudor

https://en.wikipedia.org/wiki/Monster_Study

- ▣ **Stuttering experiment** = *children who were criticized for the quality of their speech developed serious speech problems even when their speech was actually normal*
- ▣ **Effect of negative criticism on performance through **increased self-consciousness****
- ▣ *Considered highly unethical by both present and past standards + unclear mechanism*

**Is direct reinforcement the
only way to learn new
behaviours?**

Does one learn to be violent through imitation?



Learning by observation

Bandura, A., Ross, D., & Ross, S. A. (1961). Transmission of aggression through imitation of aggressive models. *The Journal of Abnormal and Social Psychology*, 63(3), 575-582.



Albert Bandura

The “Bobo Doll Experiment”

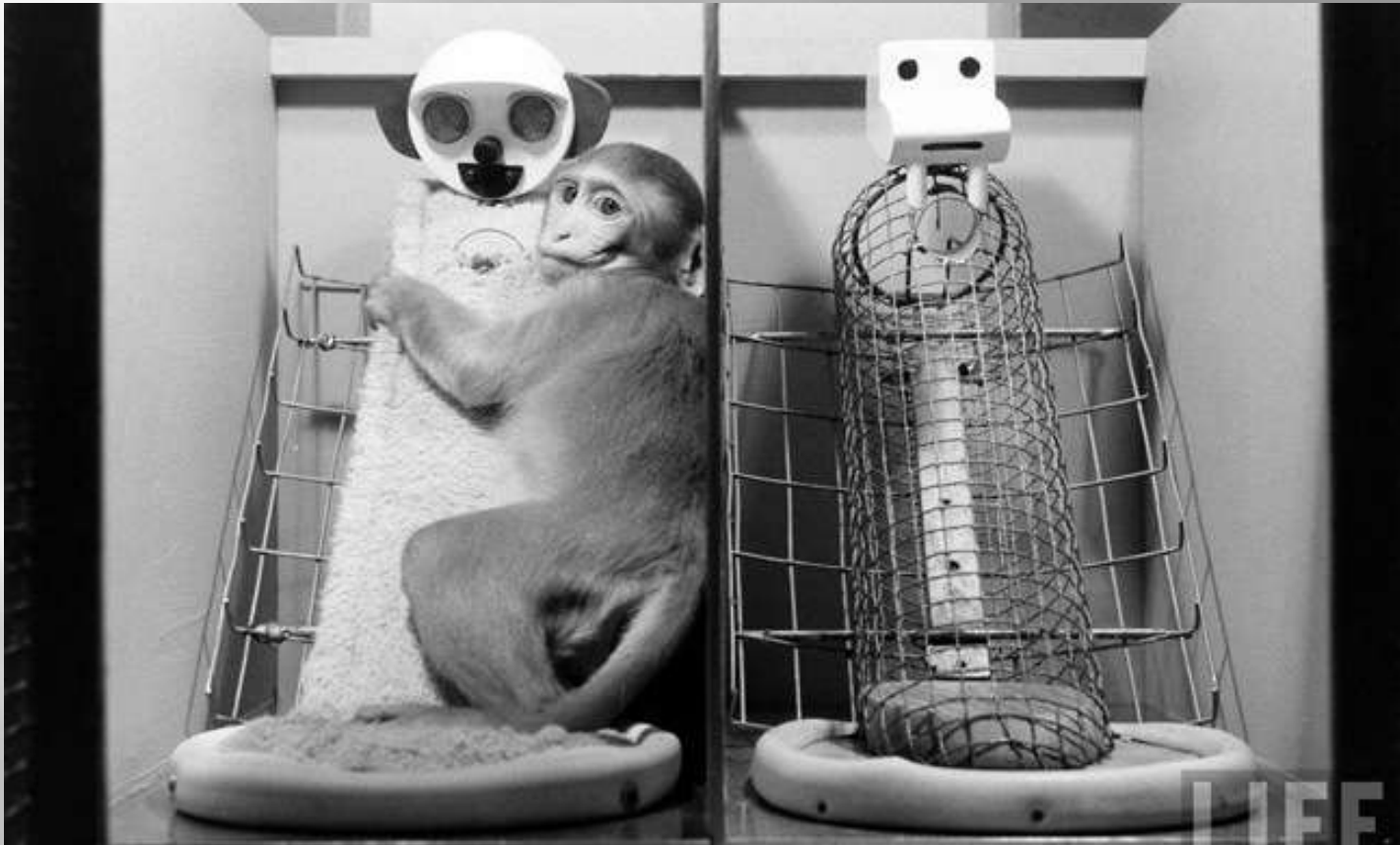
The “Bobo Doll Experiment”

- ▣ Children imitated aggressive behaviour of an adult model (boys more than girls)
- ▣ Even non-imitative aggressive behaviour increased (e.g. pointing a toy shotgun on the Bobo)
- ▣ Effect of gender of the model (social stereotypes) – men expected to show more aggressive behaviour
- ▣ Problems with the study: *no measure of long-term effects; low ecological validity – unusual situation; generalization of violent behaviour on other situations?*
- ▣ The effect of **vicarious reinforcement** – behaviour will be imitated if reinforced and if the model is similar – **The Social Cognitive Theory**

Is affection also learned?
(a response to Watson)

Is affection learned?

Harlow, H. F. (1959). Love in infant monkeys. *Scientific American*, 200, 68-74.



Affection in rhesus monkeys

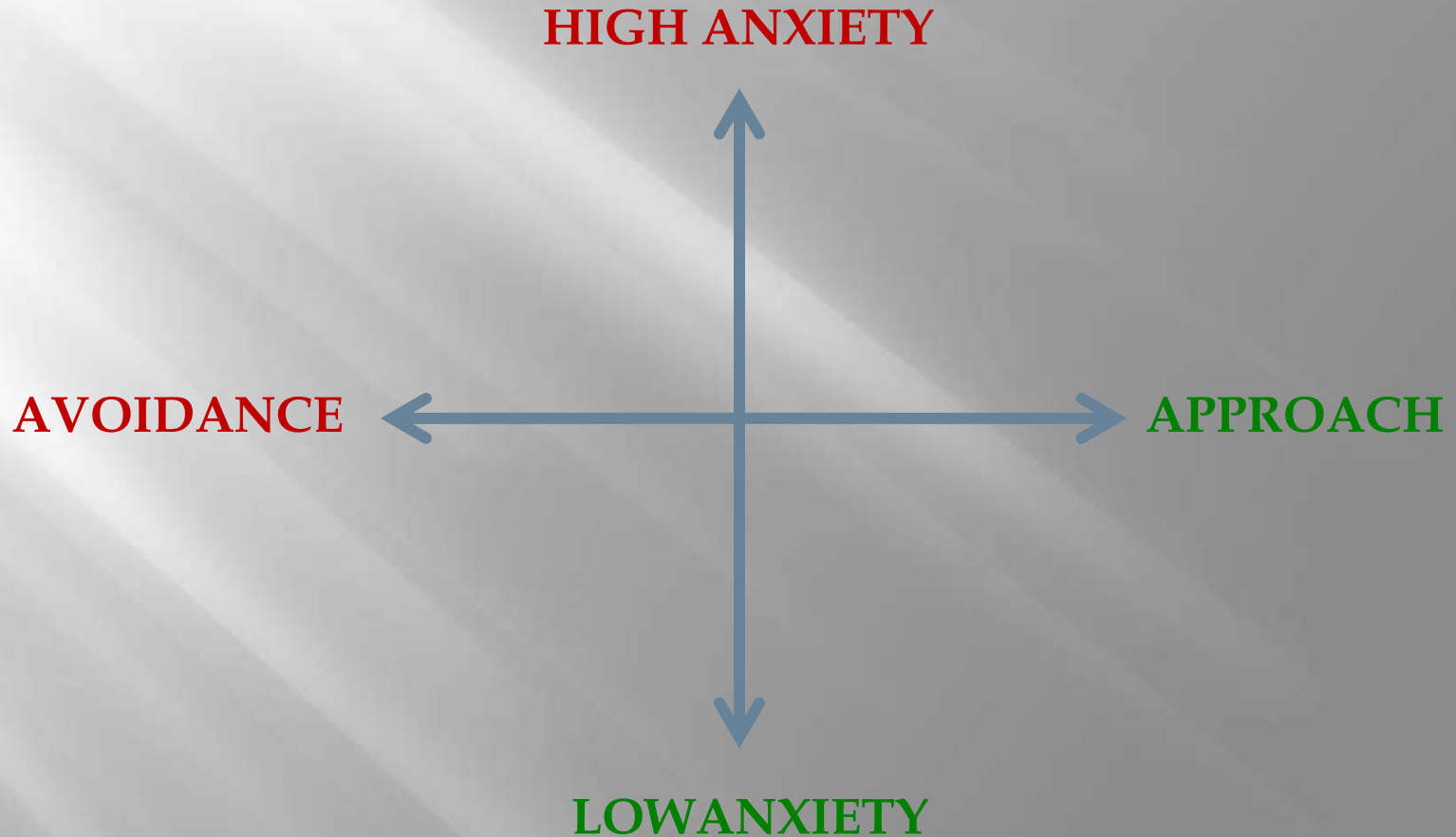
The Harlow monkey experiment

- ▣ Baby monkeys clung to the cloth “mother” even when it provided no food
- ▣ They ran to the cloth “mother” when scared or run to it for “reattachment” in a strange situation
- ▣ They opened a window to look at the “cloth” mother as often as they did at real monkeys but treated the food-providing wire mother as any other inanimate object
- ▣ Inspired research on **attachment** (John Bowlby)

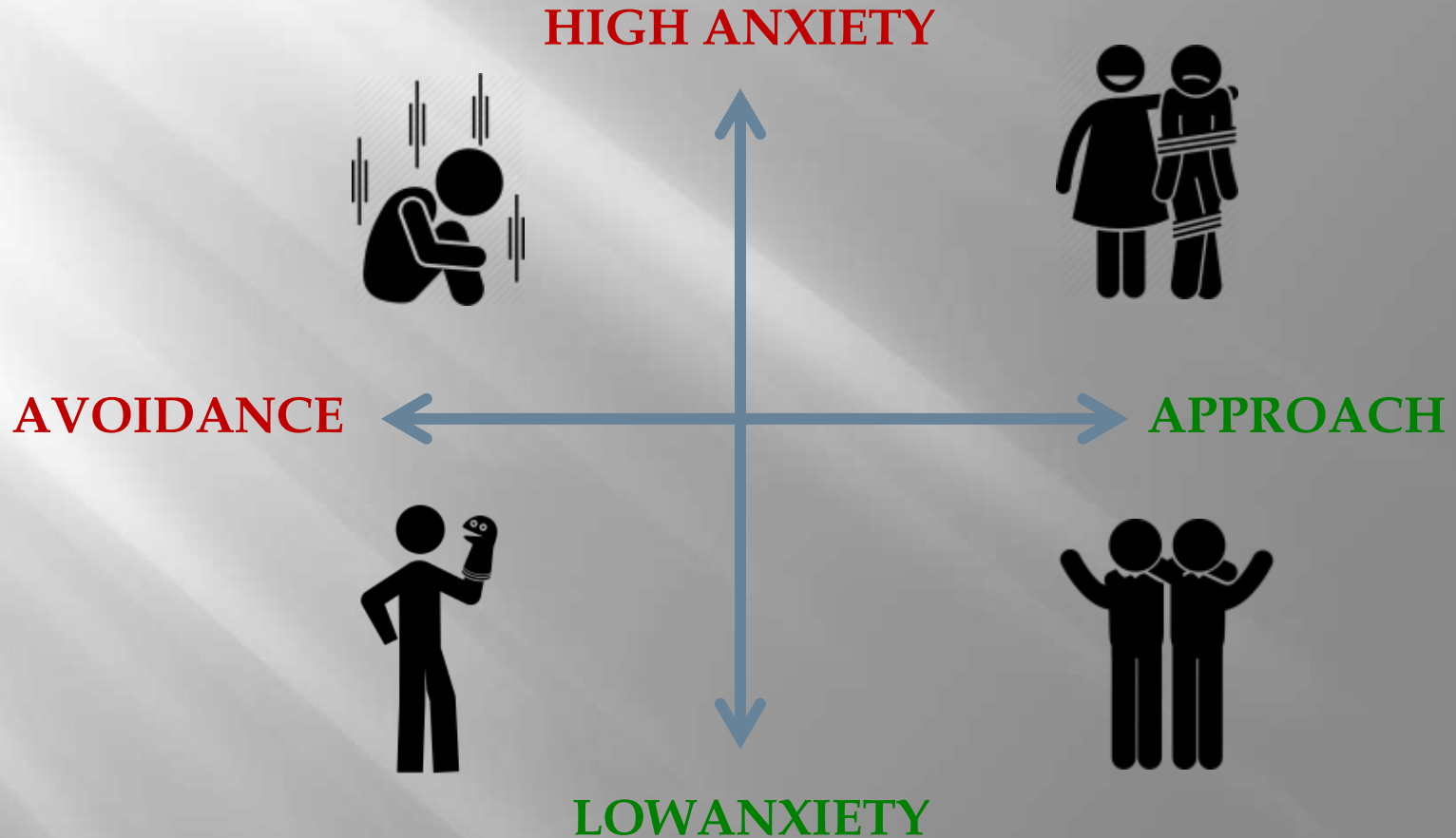
Attachment theory



Attachment styles



Attachment styles



**All highly intelligent animals
are highly social. Why?**

All highly intelligent animals are highly social.

- ▣ Instinctive and intuitive positive responses to social stimuli
- ▣ Specialized brain area for face recognition
- ▣ Child-protective and child-responsive instincts in adults
- ▣ **Emotional and social deprivation impairs development in general**
- ▣ Our brains are wired for and dependent on specific types of interactions with the environment

Cognitive deprivation

Blakemore, C., & Cooper, G. F. (1970). Development of the brain depends on the visual environment. *Nature*, 228(5270), 477-478.



Emotional and social deprivation



Effects of abuse and neglect

- ▣ *Inappropriate social responses and interactions*
- ▣ *Inability to form healthy relationships*
- ▣ *Pathological self-concept*
- ▣ *Impaired moral reasoning – lack of empathy and conscience*
- ▣ *Lack of interaction with the environment = impaired cognitive development*
- ▣ *Impaired self-regulation*
- ▣ **Development of personality disorders**
(psychodynamic theories = based on psychoanalysis)

Additional materials

- ▣ **Before attempting the second quiz, watch the videos on the research and theory mentioned in this lecture and the video on the effects of neglect**

The Sources of Who We Are



Thank you!