

# Developmental Psychology



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# Definition Developmental Biological Psychology

*Developmental Biological psychology* is the study of systematic psychological, cognitive and neurobiological (brain) changes that occur in the human being over the course of the life span.

The field focuses on infant, childhood, adolescent and adult development

## **Studied topics are:**

Development of cognitive skills such as: problem solving, executive control, language acquisition, perception, attention, memory, motor skills,.

Development of other psychological processes such as:

social-emotional development, the forming of self-concept and identity.

# Focus of our *Maastricht* developmental Master

- The focus in this master is on ***cognitive*** and ***biological*** development.
- More specifically, you will learn all about the development of perception, attention, and higher-order cognitive skills such as memory, language, inhibition, response control and social-emotional development in infancy, childhood and adolescence.
- Importantly, you will also learn which biological (genes, brain, psychopharmacological) and environmental factors are underlying such development.
- Besides healthy development, also psychopathological development and its causes will be discussed; ADHD, autism, Gilles de laTourette, Dyslexia, Dyscalculia, Williams Syndrome.

# Methods in developmental research



# Programme: 4 courses, 2 practical trainings

<i>Sept-Oct: 7 weeks</i>	<i>Nov-Dec: 7 weeks</i>
Infancy 	Development of Cognition and Language 
Perception, Attention and Motor Development 	Social and Emotional Development 
Experimental Pract. (RT) <b>or</b> EEG/ERP Practical	Psychological Testing

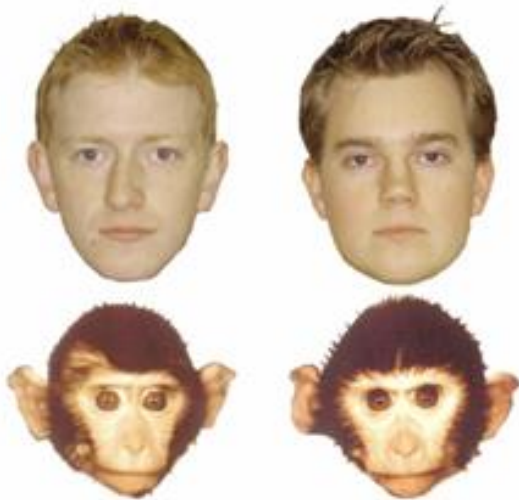
# Programme: Research Internship and thesis

January – August

- In the research group at FPN (see later slide)
- Elsewhere at FPN
- Outside UM in clinical setting (see later slide)
- Outside UM at other university

# Infancy Course

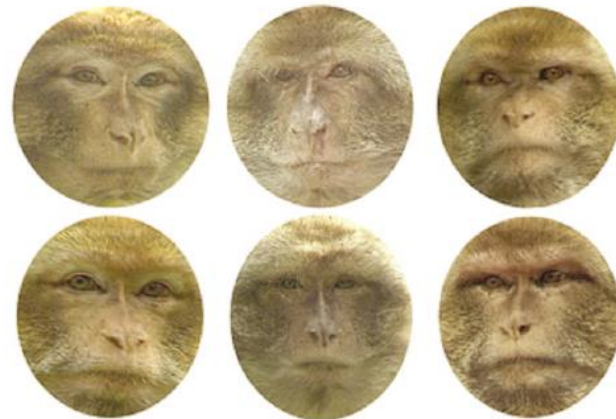
Is face perception species-specific from birth or is it learned?



Pascalis et al., 2001

Learning plays a role: 6-month old babies can discriminate different human and monkey faces. However, 9-month olds can only discriminate human faces.

9-month old babies can regain the ability to discriminate monkey faces when trained to do so. This points to a big role of experience on visual perception



Pascalis et al., 2005

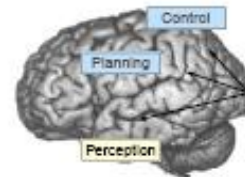
# Perception attention and motor development

Infants around 2 years of age sometimes make scale errors

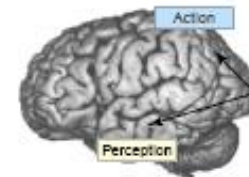


This is related to yet immature communication between brain areas that regulate perception and action

(a) Planning vs. Control



(b) Perception vs. Action



TRENDS in Cognitive Sciences



# Development of Cognition and Language

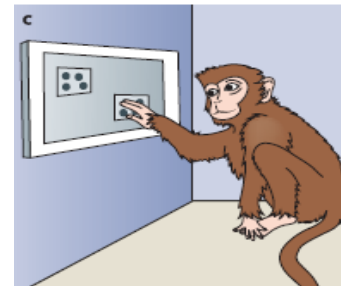
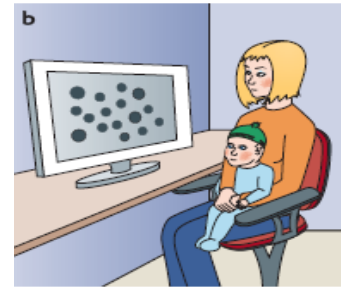
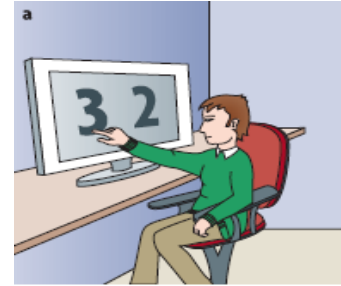
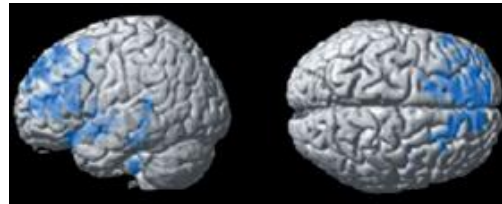
Number sense is crucial for mathematics development

What do we know about the development of number sense ?

Intuitive sense of number, discrimination of quantities is present in infancy

Understanding of symbolic numbers starts at preschool age

Children activate frontal areas when learning to understand numbers

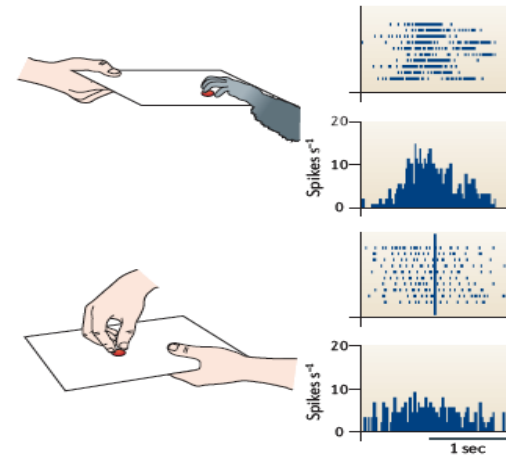


# Biological basis of social-emotional development

Imitation is highly important for learning of motor actions, but also for emotional development.

Biological basis of imitation of actions and emotions: mirror neurons

Autistic children have problems with imitation and understanding others; role of mirror neuron system ?



Healthy children



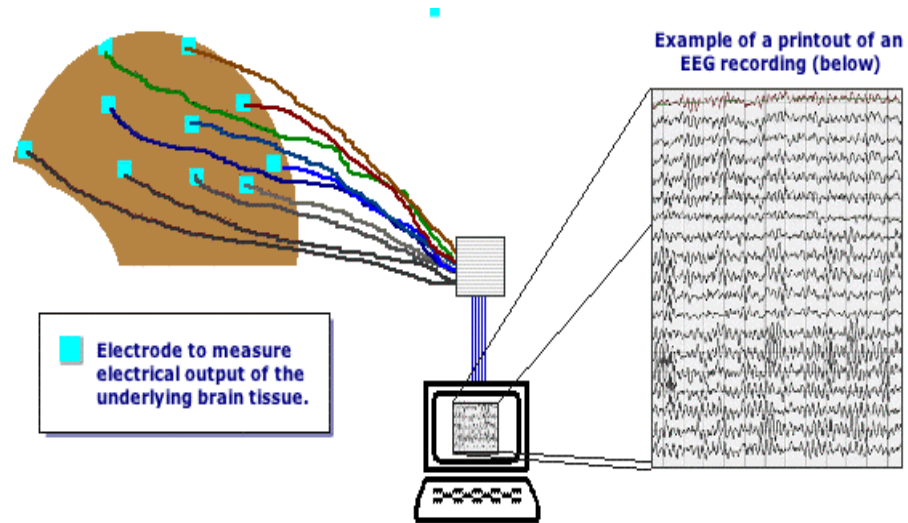
Autistic children



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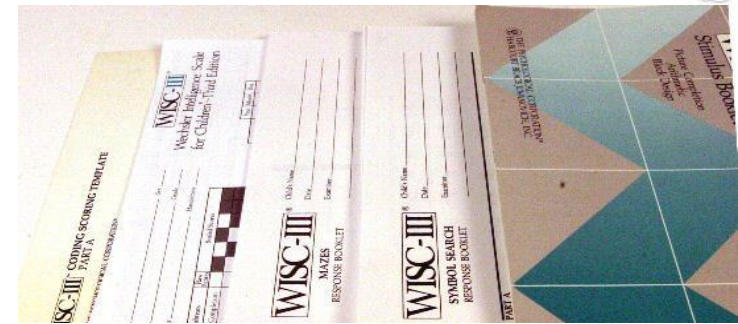
# EEG-ERP practical



- learning how to attach electrodes and do your own measurement
- learning the basics of ERP analyses
- learning what you can do with ERPs, apply to which research questions ?

# Test practical

- Testing a child (IQ)
- Interpreting results (Bayleys)
- Developing a test



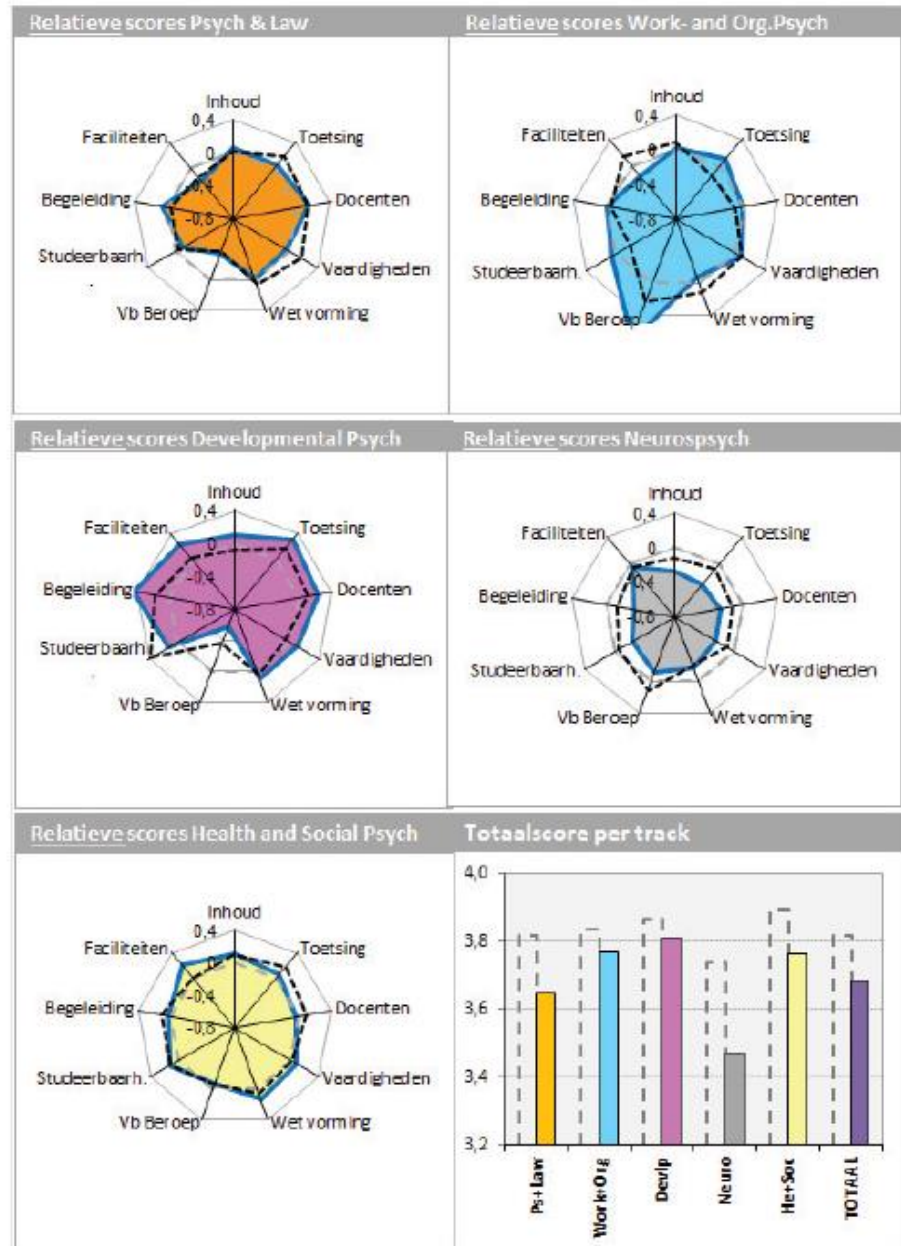
# Evaluations

## National student evaluation C.H.O.I. 2017

### Student course evaluations:

**2016/2017** (N=29)      **2017/2018** (N= 37)

Infancy:	8.2	8.6
Perception:	7.9	8.1
Cognition:	7.6	8.4
Social-emot:	7.8	8.0
Practical 1:	8.0	7.4
Practical 2:	7.0	7.1



# Master research internship topics

Some examples of topics of expertise within developmental group:

- ADHD, attention & executive control development and mindfulness/cognitive training (L.Jonkman)
- Autism, attention & perception development (H.Stauder)
- Memory development (F.Donkers)
- Number development & dyscalculia (L.Jonkman)
- Genetics and Development (H. Smit)
- Motor development (H. Van Mier)
  
- But of course also own topics, internships in one's own country, with other colleagues, at other universities, lots of possibilities !

## Information for Dutch speaking students that want to do an extracurricular clinical internship (NOT part of the 1-year DP Master):

- To get Basis Aantekening-Psychodiagnostiek (BAPD-NIP), one needs to do a NIP-approved Psychology master (which the Developmental Master is) and a clinical internship under guidance of a certified clinician.
- One needs the BAPD to be able to enroll in the post-master clinical education programmes in the Netherlands (GZ-opleiding), and to be able to become a member of NIP .
- Also in Germany (Landesprüfungsamt Nordrhein-Westfalen), our students have been approved to enroll in their post-master clinical educational programme (do research internship on an applied developmental topic).



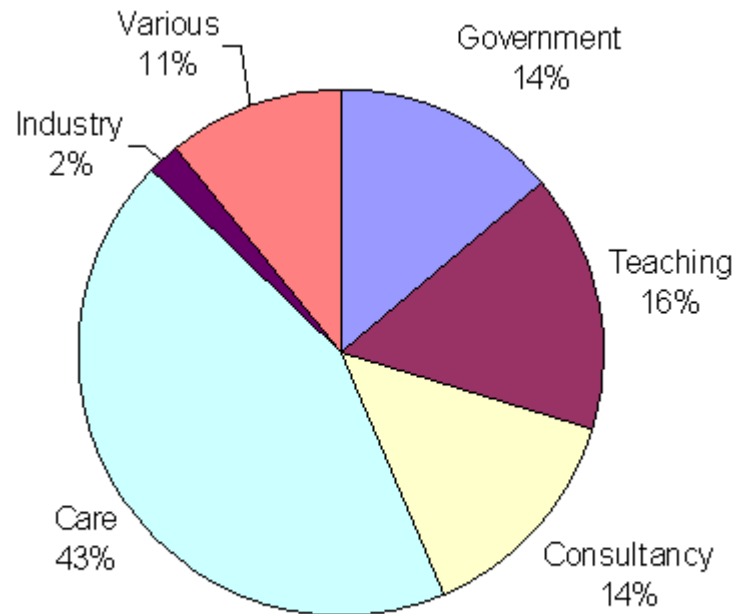
## Two choices clinical internship (in NL/Dutch): (is NOT part of the 1-year developmental master)

- Do it extra-curricular (*after* finishing the Developmental Master) as a contract-student (costs 75% of normal master fee).
- Do a second Dutch clinical/mental health Master (f.e. Kinder en Jeugd-Psychologie or Volwassenen-Psychologie) at FHML faculty for reduced costs after the Psychology (developmental) master.  
Advantages: extra Masters degree, long clinical internship and 1 day a week extra education.

# Career-perspectives

- **Psychologist** (diagnostics and treatment)
  - at schools (psychological/educational assistant)
  - in mental health care institutions (In Netherlands; RIAGG's; andere overheidsinstellingen zoals Raad voor Kinder en Jeugd bescherming; commercial clinical institutions)
  - revalidation clinics
  - neuropsychologist in hospitals
- **Lecturer**
  - at vocational level (bijv. hogeschool)
  - at university, but mostly after having obtained PhD
- **Researcher**
  - at university or in industry, or commercial or other institution

# Career perspectives



# Admission Requirements

Bachelor's degree		Remarks
Dutch University Bachelor Psychology	Admissible	
Non-Dutch University Bachelor Psychology	Check by Board of Admissions	
All other University Bachelors*	Check by Board of Admissions	
University of Applied Science (HBO)	Not admissible	The Faculty does not offer any pre-master programmes

*\* Additional requirements*

- *Courses in Statistics (min. 18 ECTS);*
- *Knowledge of Psychology (min. 4 courses);*
- *The Bachelor's degree must be substantially relevant to the Master's specialisation of your choice;*
- *You are requested to write a one-page motivation letter which specifies why you want to follow the master's programme of Psychology and the specialisation of your choice.*

*For more information visit the stand 'Application & Admission' at the information market*

END

Thanks for your attention !

Questions ?