



Childhood and Adolescence  
Psychopathology:  
unravelling the complex etiology  
by a large Interdisciplinary  
Collaboration in Europe

## Deliverable 7.5: Workshop 3, Childhood and adolescent psychopathology

**Work Package:** WP7  
**Lead partner:** Erasmus Medical Center, EMC  
**Author(s):** Henning Tiemeier & Sonja Swanson  
**Submission date:** 19 February 2019  
**Version number:** 0.1                      **Status:** Final

**Grant Agreement N°:** 721567  
**Project Acronym:** CAPICE  
**Project Title:** Childhood and Adolescence Psychopathology: unravelling the complex etiology by a large Interdisciplinary Collaboration in Europe  
**Call identifier:** H2020-MSCA-ITN-2016  
**Funding scheme:** MSCA-ITN-ETN - European Training Networks  
**Topic:** MSCA-ITN-2016 - Innovative Training Networks  
**Start date of the project:** February 1st, 2017  
**Duration:** 48 months

Dissemination Level	
PU: Public	✓
PP: Restricted to other programme participants (including the Commission)	
RE: Restricted to a group specified by the consortium (including the Commission)	
CO: Confidential, only for members of the consortium (including the Commission)	



Project funded by the European Commission  
under the Horizon 2020 Programme

## Table of Contents

1.	Introduction to Child Psychiatric Epidemiology .....	3
2.	Class Structure and Schedule with Readings .....	5
3.	Exercise .....	8
4.	Group Work .....	10

## **Introduction**

From January 22<sup>nd</sup> to 24<sup>th</sup>, the CAPICE student had the opportunity to attend the GWAS course in Rotterdam, title Child Psychiatric Epidemiology. This course was organized in collaboration with the Netherlands Institute of Health Sciences ([www.nihes.nl](http://www.nihes.nl)) and was developed for the CAPICE students. It was integrated into the NIHES curriculum and open to all NIHES and external students and attendees, but had never before been taught at the NIHES.

The course constituted the third network-wide training event in line with the CAPICE program.

### **Purpose of this Course:**

About one in five children and adolescents experiences clinical symptoms of a psychiatric problem each year. Children's psychosocial problems are considered the most common chronic conditions of childhood and are very predictive of later well-being and health. Childhood is a critical time to shape future health, when the brain develops rapidly to build the foundation of cognitive and behavioral skills necessary for success in school, health, and career. In this course the advances in developmental and child psychiatric epidemiology are discussed to better understand risk and protective factors as well as the effectiveness of interventions and treatments in a key public health area.

### **Course Description**

This course takes an epidemiological and public health approach to child psychiatry and development with less emphasis clinical problems. Epidemiological research advances and challenges in key developmental disorders such as autism, aggression, ADHD and anxiety are discussed. Child psychiatry is unique in that social disadvantage, mother-child interaction, peer-relations, brain development and genetics all are important factors, psychometric challenges like assessment, multi-informant and reverse causality are discussed as are interventions and public health impact.

### **Learning Objectives**

Psychiatric problems frequently occur in children and adolescents. Epidemiological methods are used in child psychiatric research to study the occurrence of psychiatric disorders, test causal hypotheses and investigate the developmental trajectories.

In this course epidemiological research and methods in Child and Adolescent Psychiatry will be discussed in depth. Using an interactive approach most material is presented in seminar format. A wide range of topics will be covered ranging from descriptive epidemiology, major research milestones, current methodological challenges to a future research agenda for Child and Adolescent Psychiatry. These themes are linked to selected major disorders. Other seminars will cover selected

research topics. Students are engaged to evaluate and design different research projects. Particular emphasis lies on study designs with a developmental, multi-informant, or multi-method approach.

Upon completion of the course the student will be able to:

1. Critically interpret the literature in the field of Child and Adolescent Psychiatry.
2. Evaluate critically major child psychiatric research themes such as nosology, genetics, brain imaging or multi-informant approach.
3. Design and analyze a Child Psychiatric epidemiological study.

This course is intended primarily for doctoral and master students with interest in social and behavioral, developmental or maternal and child health. In particular, the course should be of interest for any student whose career might involve behavioral or emotional problems in children or psychiatric problems in adults.

**Schedule**

# Class structure

- 3 day course
- Structured by 5 child psychiatric disorders

Day	Disorder	Special topic	Independent topic
Tuesday am	ADHD	Gender differences	(Introduction)
Tuesday pm	Aggression/Conduct disorder	Classification Assessment	Preparation debate
Wednesday am	Autism	Screening	Treatment/ Intervention
Wednesday pm	Eating disorders	Reversed causality	Debate
Thursday am	Anxiety and Depression	Neuroimaging	Genetics
Thursday pm	-	Multi-informant approach	2x Exercise

**Course Dinner: Thursday evening**

## Detailed Schedule of Classes with selected background readings

Topic 1	Course overview and introduction A short history of Child Psychiatry Research: research milestones
Readings	Costello EJ, Foley DL, Angold A. 10-year research update review: the epidemiology of child and adolescent psychiatric disorders: II. Developmental epidemiology. <i>J Am Acad Child Adolesc Psychiatry</i> 2006; 45:8-25.
Topic 2	Epidemiology of ADHD Neurodevelopmental disorders
Readings	Taylor E. Developing ADHD. <i>J Child Psychol Psychiatr</i> 2009; 50:126-32
Topic 3	Gender differences in child psychiatric disorders
Readings	Biederman, Joseph, and Stephen V. Faraone. The Massachusetts General Hospital studies of gender influences

<p>Topic 4 Background</p>	<p>Classification systems and assessment instruments Achenbach TM, Rescorla LA, Ivanova MY. International epidemiology of child and adolescent psychopathology I: diagnoses, dimensions, and conceptual issues. <i>J Am Acad Child Adolesc Psychiatry</i> 2012; 51:1261-72 Rutter M. Research review: Child psychiatric diagnosis and classification: concepts, findings, challenges and potential. <i>J Child Psychol Psychiatry</i> 2011;52:647-60</p>
<p>Topic 5 Readings Background</p>	<p>Aggression and conduct disorder Subtyping of child psychiatric disorders Buitelaar JK, Smeets KC, Herpers P, Scheepers F, Glennon J, Rommelse NN. Conduct disorders. <i>Eur Child Adolesc Psychiatry</i>. 2013 Feb;22 Suppl 1:S49-54 Viding E, McCrory EJ. Genetic and neurocognitive contributions to the development of psychopathy. <i>Dev Psychopathol</i> 2012; 24:969-83</p>
<p>Topic 6 Background</p>	<p>Reversed causality Moffitt TE, Arseneault L, Jaffee SR, ..., Viding E. Research review: DSM-V conduct disorder: research needs for an evidence base. <i>J Child Psychol Psychiatry</i>. 2008; 49:3-33. Gross, H. E., Shaw, D. S., Moilanen, K. L., Dishion, T. J., &amp; Wilson, M. N. Reciprocal models of child behavior and depressive symptoms in mothers and fathers in a sample of children at risk for early conduct problems. <i>J Fam Psychol</i>, 2008; 22), 742-751.</p>
<p>Topic 7 Readings Background</p>	<p>Treatment studies in Child Psychiatry Sonuga-Barke EJ, Brandeis D, Cortese S, et. al. Non-pharmacological interventions for ADHD: systematic review and meta-analyses of randomized controlled trials of dietary and psychological treatments. <i>Am J Psychiatry</i>. 2013; 170:275-89. Kramer, M. S., Aboud, F., Mironova, E., ... &amp; Shapiro, S. Breastfeeding and child cognitive development: new evidence from a large randomized trial. <i>Arch Gen Psychiatry</i> 2008; 65:5, 578</p>
<p>Topic 8 Readings Background</p>	<p>Autism spectrum disorders Volkmar FR, State M, Klin A.. Autism and autism spectrum disorders: diagnostic issues for the coming decade <i>J Child Psychol Psychiatry</i> 2009; 50(1-2): 108-15 Surén P, Roth C, Bresnahan M, Haugen M, Hornig M, Hirtz D, Lie KK, Lipkin WI, Magnus P, ..., Schjølberg S, Davey Smith G, Øyen AS, Susser E, Stoltenberg C. Association between maternal use of folic acid supplements and risk of autism spectrum disorders in children. <i>JAMA</i> 2013 13;309:570-710</p>
<p>Topic 9 Reading</p>	<p>Time Trends in child psychiatric disorders Collishaw S, Gardner F, Maughan B, Scott J, Pickles A. Do historical changes in parent-child relationships explain increases in youth conduct problems? <i>J Abnorm Child Psychol</i>. 2012; 40:119-</p>
<p>Topic 9</p>	<p>Screening in Child Psychiatry</p>

Topic 10	Anxiety and depression
Readings	Beesdo K, Knappe S, Pine DS. Anxiety and anxiety disorders in children and adolescents: developmental issues and implications for DSM-V Psychiatr Clin North Am. 2009; 32:483-524
Background	Copeland WE, Angold A, Shanahan L, Costello EJ. Longitudinal patterns of anxiety from childhood to adulthood: the Great Smoky Mountains Study JAACAP 2014; 53:21-33 Luby JL. Preschool Depression: The Importance of Identification of Depression Early in Development. Curr Dir Psychol Sci. 2010; 19: 91–95
Topic 11	Imaging in Child and Adolescent Psychiatry
Readings	Horga, G., Kaur, T., & Peterson, B. S. Annual Research Review: current limitations and future directions in MRI studies of child-and adult-onset developmental psychopathologies. Journal of Child Psychology and Psychiatry, <i>online 20 Jan 2014</i>
Background	Giedd JN, Rapoport JL. Structural MRI of pediatric brain development: what have we learned and where are we going?. Neuron 2010; 67:728-34 (includes child psychiatry).
Topic 12	Eating disorders
	Psychosomatics in child psychiatric disorders
	Cross-cultural differences
Readings	Smink FR, van Hoeken D, Hoek HW. Epidemiology of eating disorders: incidence, prevalence and mortality rates. <i>Current Psychiatry Reports 2012; 14,406-414</i>
Background	Hoek HW, van Harten PN, Hermans KM, Katzman MA, Matroos GE, Susser ES. The incidence of anorexia nervosa on Curaçao. Am J Psychiatry. 2005 Apr;162(4):748-52.
Topic 16	Multi-informant approach
Readings	van der Ende J, Verhulst FC, Tiemeier H. Agreement of informants on emotional and behavioral problems from childhood to adulthood. Psychol Assess. 2012; 24:293-300.
Background	De Los Reyes A, Thomas SA, Goodman KL, Kundey SM Principles underlying the use of multiple informants' reports. Annu Rev Clin Psychol 2013;9:123-49.

## Exercise Group work

### ► Design a randomized controlled trial of the effectiveness of 'true' family therapy

A group of clinicians at the Vermont Center for Children, Youth and Family at Burlington, VT, maintains a busy clinical service treating children with severe externalizing psychiatric problems. The therapy is multi-modal and includes pharmacology, psychotherapy, and psychosocial programs.

The clinicians regularly encounter parents with psychopathology when they accompany their children to the center. Parental psychopathology can affect the environment in which that the child is raised. Therefore, the strategy is to also always formally diagnose and, if necessary, treat the parent(s). However, the effectiveness of this strategy has not been shown.

The Vermont Center researchers recently approached the Harvard T.H. Chan School of Public Health to design a large-scale randomized controlled trial (RCT) of the effectiveness of systematic parental treatment as part of the therapy for child psychiatric disorders in all of Vermont.

Please design a RCT and define the followings:

1. Setting
2. Eligible population
3. Intervention (treatment, duration)
4. Follow-up
5. Outcome measures
6. Power (not a formal calculation, not needed, but a judgement)



► **Design a randomized controlled trial of methylphenidate discontinuation in asymptomatic adolescents with a past ADHD diagnosis on long-term maintenance therapy.**

Child psychiatrists at the Children's Hospital at Montefiore, Bronx, NY, see a large number of preadolescents age 11-12 years on methylphenidate maintenance therapy.

Currently, the first choice for children diagnosed with ADHD is methylphenidate with and without additional psychosocial interventions. Most children are now diagnosed at ages 6-8 years. Many are symptom free for three or more years when seen at the outpatient clinic at ages 11-12 years. A substantial group of these children are functioning very well at school and in the home environment.

Some observational studies suggest that discontinuation before age 20 years is associated with a recurrence of symptoms, others argue this risk has to be balanced against the long term safety of methylphenidate, in particular growth retardation before puberty.

The child and adolescent psychiatrists at the Children's Hospital at Montefiore want to conduct a randomized trial in NYC to study the adverse effects and benefits of methylphenidate discontinuation in preadolescents on maintenance therapy for at least 3 years.

Please design a RCT and define the followings:

1. Ethical concerns
2. Setting
3. Eligible population
4. Intervention
5. Follow-up
6. Criteria for re-uptake of treatment
7. Outcome measures
8. Power, only globally (not a formal calculation, not needed, but a judgement)

<b>List of attendees</b>	
<b>Beneficiary</b>	<b>Early Stage Researcher</b>
VU University	Wonu Akingbuwa
VU University	Eshim Shahid
King's College	Andrea Allegrini
University of Gothenburg	Sabrina Doehring
University of Bristol	Ellis Haan
University of Bristol	Laura Shellhas
Erasmus Medical Center	Elisabeth Diemer
Karolinska Institutet	Ashley Thompson
University of Twente	Kratika Agerwal
University of Cagliari	Hema Sekhar Reddy Rajula
Imperial College	Ville Karhunen
Jansen	Marica Leone

### **Texts and Reading Materials**

Selected readings will be made available through links on the course website.

Book recommended:

- Rutter's Child and Adolescent Psychiatry, 6th Edition 2015, Michael Rutter, Anita Thapar, Daniel S. Pine, James F. Leckman, Stephen Scott, Margaret J. Snowling, Eric A. Taylor
- ISBN: 978-1-118-38196-0 or Wiley.com