Life History Research Society Conference 2018 PARIS May 30 - June 1

Programme

http://lhrs2018paris.com
# Table of content

- Table of content                                           2
- About LHRS                                                 3
- LHRS Conference in Paris                                  5
- Committees                                                6
- The venue                                                 7
- Faculté de Médecine Pierre & Marie Curie (UPMC)            7
- General Information                                       8
- Socials Events                                            9
- Programme at a glance                                     11
- LRHS2018 - Final programme                                14
  - Wednesday May 30th 2018                                  14
  - Thursday May 31th 2018                                   20
  - Friday June 1st 2018                                     25
- List of attendees                                         28
- Abstract book                                             31
About LHRS

The Society for Life history Research in Psychopathology started meeting in the late 1960s. At that point, it was made up of a small group of scientists open to researchers with a major commitment to longitudinal investigation, who shared a belief that a ‘life history’ approach would cast important light on the development of psychopathology, and who came from different disciplines, including genetics, psychology, psychiatry, sociology, social work and law.

At that stage, there was a tradition that papers from the meetings were published, either as books or special sections of a journal, and the meetings gave rise to a series of influential publications.

The first meetings of the Society for Life History Research in Psychopathology were published as books entitled Life History Research in Psychopathology, edited by Merrill Roff and David Ricks and published by University of Minnesota Press: vol 1, Roff & Ricks, 1970; vol 2, Roff et al., 1972; vol 3, Ricks et al., 1974; vol 4, Wirt et al., 1975. Each volume combines papers originally presented at two conferences on life history research in psychopathology.

It was during the third meeting at the Hillside Hospital, Glen Oasks, New York, that the participants decided to establish themselves as an organization (the fourth meeting was held at Washington University in St. Louis). These ‘founding’ members include Stella Chess and Alexander Thomas, Barbara and Bruce Dohrenwend, Lee Robins, George Vaillant, Merrill Roff, as well as lots of others.
Past meetings took place:

- In 1981 in Monterey, CA, organized by Sarnoff Mednick. The papers were published in a 1983 book entitled *Prospective Studies of Crime and Delinquency*.
- In 1986 in Palm Springs, CA, organized by Sarnoff Mednick again. This led to the publication of papers in a journal called *Psychiatry*, vol 51, 1988.
- In 1987 in St Louis, MO, organized by Lee Robins. The papers were published in a book entitled *Straight and Devious Pathways from Childhood to Adulthood* (Robins & Rutter, 1990).
- In 1995 in Chatham, MA, USA
- In 1996 in London, UK: organized by Barbara Maughan and David Farrington. Papers were published in a special issue of *Criminal Behaviour and Mental Health*, vol 9, 1999.
- In 1998 in Seattle, WA, USA: organized by David Hawkins and Richard Catalano.
- In 2006 in Atlanta, GA, USA
- In 2010 in Montreal, Canada
- In 2012 in Richmond, UK.
- In 2014 in Pittsburgh, PA, USA: organised by Drs. Alison Hipwell and Jeffrey Burke.
- In 2016 in Amsterdam, The Netherlands: organised by Machteld Hoeve and Hanneke Creemers.

Other key publications of the Society for Life History Research include:

- The Origins and Course of Psychopathology (Strauss et al., 1977);
- Human Functioning in Longitudinal Perspective (Sells et al., 1980);
- Life-span Research on the Prediction of Psychopathology (Erlenmeyer-Kimling & Miller, 1986);
- Origins of Psychopathology (Ricks & Dohrenwend, 1983);
LHRS Conference in Paris

The Life History Research Society is an informal, multi-disciplinary group of scholars who are pursuing prospective longitudinal research examining various aspects of human development.

The unifying theme of this society is the longitudinal research approach: the study of human development across time. Studies range from examining a population over the course of a year to multi-generational studies examining relationships between grandparents, parents, and their children.

The focus of the longitudinal programs of research varies widely, from delinquency and criminality to various psychosocial (i.e., happiness, financial autonomy), life-transition (i.e., puberty, retirement, etc.), and health-related outcomes (i.e., internalizing behaviours).

The society has been having meetings for over three decades at 18-24 month intervals at different international venues.

The objectives of these conferences are to:

1. share information that will advance the study of human development and influence the next generation of longitudinal studies,
2. promote multidisciplinary research and interdisciplinary dialogue/collaboration around a common theme (longitudinal research),
3. foster communication between senior and junior researchers, and researchers and students.

Have a nice meeting!

For the local organizing committee:
Maria Melchior & Judith van der Waerden
Committees

Scientific Committee

Maria Melchior (INSERM U1136/UPMC, Paris)
Judith van der Waerden (INSERM U1136/UPMC, Paris)
Anne-Laure Sutter-Dallay (INSERM U1219/Université de Bordeaux)
Cédric Galéra (INSERM U1219/Université de Bordeaux)
Sylvana Côté (Université de Bordeaux/Université de Montréal)
Xavier Benarous (GH Pitié-Salpêtrière, Paris)
Hugo Peyre (Hôpital Robert Debré, Paris)
Lidia Panico (INED, Paris)

Organizing Committee

Maria Melchior (INSERM U1136/UPMC, Paris)
Judith van der Waerden (INSERM U1136/UPMC, Paris)

Conference Organizer

carco

6, cite Paradis 75010 Paris – France
Phone: +33 1 55 43 20 00 – Fax: +33 1 55 43 18 19

Conference secretariat: Christine Senailles christine.senailles@carco.fr
Scientific secretariat: Dr Nathalie Isabelle nathalie.isabelle@carco.fr
Registration: Laurence Eyraud Laurence.eyraud@carco.fr
The venue

Faculté de Médecine Pierre & Marie Curie (UPMC)
Site Pitié-Salpêtrière, rez-de-chaussée
105, boulevard de l'Hôpital 75013 Paris

Metro station: Campo Formio

With the support of:

Inserm
Institut national de la santé et de la recherche médicale

Médecine Sorbonne Université
General Information

Venue
Faculté de Médecine Pierre & Marie Curie (UPMC), Site Pitié-Salpêtrière, rez-de-chaussée
105, boulevard de l'Hôpital 75013 Paris
Metro station: Campo Formio (line 5), bus n°57 & N31

Opening hours
Welcome and registration desk will be open during the whole Conference:
Wednesday May 30     From 8:00 AM to 6:00 PM
Thursday May 31     From 8:00 AM to 6:00 PM
Friday June 1     From 8:00 AM to 2:00 PM

Cloakroom
A cloakroom is available during the desk opening hours in the hall.

Registration
We remind you that registration is required for all LHRS 2018 delegates. Attendees not wearing conference badges will not be able to access the scientific sessions.
The Conference material (badges, bag, programme book, certificate of attendance) will be delivered upon presentation of the individual registration confirmation letter.

Posters
The posters will be displayed in the hall on may 30 and 31. Each poster will be presented one day long. All the presenters are kindly asked to hang their poster in the designated area, in the morning and to remove it at the end of the scheduled day.
The pins will be provided by the conference organizer’s at the welcome desk. The required format for the posters is A0 = 841 x 1189 mm = 33.1 x 46.8 inches, in portrait format.
Socials Events

Thursday, May 31th, 2018

Upon previous registration at the welcome desk of the Conference (limited to 30 people) – Free

Guided Discovery of the University Hospital Pitié-Salpêtrière

Charles FOIX

47, boulevard de l'Hôpital, 75013 Paris

Meet at the hospital at 5:15 pm

Just in front of the hospital entrance: 5 minutes walk from the Convention Centre.

“The Pitié-Salpêtrière Hospital (Groupe hospitalier Pitié-Salpêtrière) is a celebrated teaching hospital in the 13th arrondissement of Paris. Part of the Assistance publique – Hôpitaux de Paris, it is one of Europe’s largest hospitals. The Hôpital de la Pitié, founded about 1612, was moved next to the Salpêtrière in 1911 and fused with it in 1964 to form the Groupe Hospitalier Pitié-Salpêtrière. The Pitié-Salpêtrière is now a general teaching hospital with departments focusing on most major medical specialities....”

In https://en.wikipedia.org/wiki/Piti%C3%A9-Salp%C3%A9trière_Hospital
Thursday, May 31th, 2018

Discover Paris city centre and live an unique gastronomic experience on a boat especially booked for the LHRS Conference’s dinner:

8:00 PM: aperitif on the boat before the cruise start
9:00 to 11:00 PM: dinner on the boat during the cruise on the Seine river through Paris
11:00 PM to 12:00 AM: coffee and leisure time

Upon previous registration and upon availability: 50€/person.

Meet at the boat at 8:00 pm ! Warning : departure 8:30 pm !

La Guêpe Buissonnière : Escale Jardin des Plantes, Port Saint Bernard Quai Saint Bernard – 75005 Paris

15 minutes walk from the Convention Center
Programme at a glance

Wednesday May 30

9:00 AM - 12:00 PM

**9:00 AM - 9:15 AM**
Opening ceremony of LHRS 2018

**9:15 AM - 9:30 AM**
Moderator - Cédric Galéra, Bordeaux

**9:30 AM - 10:00 AM**
**Discussion Poster 1** - Reissilence
P01 - Context and individual factors as predictors of behavioral problems and resilience among Canadian 8th graders - Agnieszka Maria Helms, Curacao
P02 - Differences in the social context according to parental profiles of adolescent psychopathology: Findings from a childhood conduct problems sample - Melanie Lapaine, Sherbrooke

**10:00 AM - 10:30 AM**
**Discussion Poster 2** - Antisocial behavior
P03 - Association between peer acceptance and early student engagement among preschool children - Marie-Claude Savard, Saint-Jérôme
P04 - Using the Opportunity Propensity Model to predict School Readiness in American and Canadian Children - Carolin Reich, Patrick, Church Point and Aubrey H. Wang, Philadelphia
P05 - Early Environmental and Cognitive Predictors of Learning Abilities - Ava Guez, Paris

**10:30 AM - 11:00 AM**
**Discussion Poster 3** - Mental and physical health
P06 - Mediation analysis of emotions in the association between SES and child antisocial behavior - Nora McIntyre, Sheffield
P07 - Childhood Conduct Problems, Cultural-Urban-Rural and Anxiety: Risk Trajectories Leading to Aggression and Criminality in 2016 Males and Females - Marie-Pier Restelakis, Montreal
P08 - Inter-generational Transmission of Anger: Parental Anger and the Effects on Adolescents and Young Adults - Gabrielle Plickert, Montréal

**11:00 AM - 12:00 PM**
**Discussion Poster 4** - Mental and physical health
P09 - Preventing Adolescent Maltreatment Use with a Family-Centered Behavioral Health Intervention: A 12-month Follow-up Study - Holly Watanabe, Eugene
P10 - Early Environmental and Cognitive Predictors of Learning Abilities - Ava Guez, Paris
P11 - Gender differences in trajectories of depressive symptoms during the transition to adolescence among young with clinically significant conduct problems in childhood - Martinie Perrier, Rimouski
P12 - The role of temperament in psychopathology as a function of poverty and developmental period - Nadya Dich, Copenhagen
P13 - Trajectories of mental health problems during adolescence and early adulthood - Anoek Sluiter-Oerlemans, Groningen
P14 - Longitudinal Model of Childhood BMI Trajectories - Daniel Robitaille, Montréal

**12:00 PM - 1:00 PM**
Lunch & poster session

**1:00 PM - 2:00 PM**
**Discussion Poster 5** - Social and emotional development
P15 - Early environmental and cognitive predictors of learning abilities - Ava Guez, Paris
P16 - Early Environmental and Cognitive Predictors of Learning Abilities - Ava Guez, Paris
P17 - Psychosocial development - How robust are the estimates of child care quality and quantity? An empirical examination of sensitivity to combined - Eric Desrosiers, Boston
P18 - Social and emotional development - Can we learn from long-term population-based and experimental studies? Isabelle Guétel-Marin, Montréal
P19 - Early childhood and children's behaviour and emotional trajectories: data from the EDEN cohort, Ramcharan Gomaraj, Paris
P20 - Do child care services matter in the long-term associations with externalizing behavior problems and school performance in a 17-year population-based study - Sylvana Coym, Montréal

**2:00 PM - 3:00 PM**
**Discussion Poster 6** - Mental and physical health
P21 - School inequalities in Mental and Physical Health Across the Life Course - Laura Royé, Paris
P22 - Socio-economic gradients in early language and motor development in France - Lydia Panico, Paris
P23 - Family poverty during childhood and mental health at 11 years of age: Results from the Danish National Birth Cohort - Laura Royé, Paris
P24 - The expansion of compulsory education and adult health: quasi-experimental evidence from the Cohort - Emile Courjon, London
P25 - Understanding how the context of living in poverty contributes to individual-level - Caroline Adams, London
P26 - Understanding how the context of living in poverty contributes to individual-level - Caroline Adams, London

**3:00 PM - 4:00 PM**
**Discussion Poster 7** - Family functioning
P28 - The role of birth weight on the causal pathway to hpa axis development - Adi Stern, London
P29 - Trajectories of mental health problems during adolescence and early adulthood - Amy Patrei, Cardiff
P30 - Understanding the mediating role of social context on the causal pathway to hpa axis development - Amy Patrei, Cardiff
P31 - Understanding the mediating role of social context on the causal pathway to hpa axis development - Amy Patrei, Cardiff
P32 - The role of resilience in the development of mental health disorders in young adulthood - Alex Raine, Edinburgh
P33 - The role of resilience in the development of mental health disorders in young adulthood - Alex Raine, Edinburgh
P34 - The role of resilience in the development of mental health disorders in young adulthood - Alex Raine, Edinburgh

**4:00 PM - 5:00 PM**
**Discussion Poster 8** - Mental and physical health
P35 - Mental and physical health - Can we learn from long-term population-based and experimental studies? Isabelle Guétel-Marin, Montréal
P36 - Early childhood and children’s behaviour and emotional trajectories: data from the EDEN cohort, Ramcharan Gomaraj, Paris
P37 - Do child care services matter in the long-term associations with externalizing behavior problems and school performance in a 17-year population-based study - Sylvana Coym, Montréal

**5:00 PM - 6:00 PM**
**Discussion Poster 9** - Mental and physical health
P38 - The role of temperament in psychopathology as a function of poverty and developmental period - Nadya Dich, Copenhagen
P39 - Trajectories of mental health problems during adolescence and early adulthood - Anoek Sluiter-Oerlemans, Groningen
P40 - Longitudinal Model of Childhood BMI Trajectories - Daniel Robitaille, Montréal

**6:00 PM - 7:00 PM**
Closing ceremony of LHRS 2018
Welcome to Room J at LHRS 2018. The schedule includes sessions on topics such as antisocial behavior, mental and physical health, and developmental vulnerabilities. Speakers and moderators are from various institutions across Canada and the United States. The day starts with a welcome and moves into sessions on different topics throughout the day. Lunch and breaks are also indicated, providing opportunities for networking and rest. The day concludes with a keynote and abstract session, rounding out the event's focus on health and wellbeing throughout the life course.
<table>
<thead>
<tr>
<th>Time</th>
<th>Hall</th>
<th>Welcome Hall</th>
<th>Amphi F</th>
<th>Room I</th>
<th>Room J</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 - 9:00 AM</td>
<td>Registration</td>
<td>Welcome</td>
<td>Amphi F</td>
<td>Room I</td>
<td>Room J</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>S15A - Oral Communication 5A - Developmental trajectories of fine motor skills during the preschool period - PEYRE Hugo, Paris</td>
<td>S16A - Why Hasn’t Adolescent Marijuana Use Gone Up in Recent Years, as Perceived Risk of Marijuana Has Declined to Historical LowS? - Richard Miech, Columbia</td>
<td>S15B - Impact of a psychosocial intervention on stress regulation and disrupt the behaviors among preschoolers in childcare center; a cluster randomized controlled trial - Marie-Pier Larose, Montreal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:30 - 11:00 AM</td>
<td>Coffee break</td>
<td>Welcome</td>
<td>Amphi F</td>
<td>Room I</td>
<td>Room J</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:30 - 1:00 PM</td>
<td>Closing and poster award</td>
<td>Welcome</td>
<td>Amphi F</td>
<td>Room I</td>
<td>Room J</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Life History Research Society Conference – Paris 2018**

**LHRS 2018**
LRHS2018 - Final programme

Wednesday May 30th 2018

8:00 - 9:00 AM
Registration

8:30 - 8:45 AM  Amphitheater F
Opening ceremony of LHRS 2018

8:45 - 9:00 AM
Short break

9:00 - 10:30 AM  Amphitheater F
S01 - Mental and physical health
Pathways to excessive and harmful alcohol use in early adulthood
Barbara Maughan, London
S01A - The effect of parental drinking on alcohol use in young adults: the mediating role of parental monitoring and peer deviance
Liam Mahedy, Bristol
S01B - Externalising pathways to alcohol-related problems in early adulthood
Gemma Hammerton, Bristol
S01C - Examining the impact of anxiety on alcohol use across transition to adulthood
Jon Heron, Bristol

9:00 - 10:30 AM  Room I
S02 - Antisocial behavior - Attachment and psychopathology – recent findings from the Wirral Child Health and Development Study
Jonathan Hill, Reading
S02A - Attachment security assessed in the Still Face and the Strange Situation, vagal reactivity and child irritability at age 7 years
Jonathan Hill, Reading
S02B - Vulnerability to maternal criticism in infants securely attached at 14 months
Helen Sharp, Liverpool
S02C - Maternal sensitivity, attachment security and callous unemotional traits
Nicky Wright, Liverpool
9:00 - 10:30 AM
Room J
OC01 - Oral Communications 1 - Educational attainment -
Moderator - Sylvana Côté, Bordeaux
OC01A - Doubling Down: Educational Effects on the Children of Incarcerated Fathers
Holly Foster, College Station
OC01B - Predictors of the IQ-Achievement Gap in France
Ava Guez, Paris
OC01C - Profiles of cognitive development and the role of socioeconomic status and preschool child care attendance
Talia Losier, Montreal
OC01D - Effects of Heterogeneous Length of Stay in a Residential Job Training Program for At-Risk Youth
Youngjo Im, Chicago
OC01E - Low or Interrupted Education as a Risk Factor for Criminality Leading to Imprisonment in Emerging Adults with Substance Use Problems
Teemu Kaskela, Helsinki
OC01F - How mother’s pre-pregnancy body mass index and smoking during pregnancy mediate the relationship between socioeconomic status and child’s birthweight
Morgane Ballon, Villejuif

10:30 - 11:00 AM
Coffee Break

11:00 - 12:00 AM
Amphitheater F
Keynote 1 - Reframing autism as a behavioral syndrome
David COHEN, Paris, France

12:00 - 1:00 PM
Poster area
Lunch & poster session
Discussion Poster 1 - Resiliency
P01 - Contextual and individual factors as predictors of behavioral problems and resilience among Curacaoan 8th graders - Agnes de Lima-Heijns, Curacao
P02 - Differences in the social context according to latent profiles of adolescent psychopathology: Findings from a childhood conduct problems sample - Mélanie Lapalme, Sherbrooke

Educational attainment
P03 - Association between peer acceptance and early student engagement among preschool children - Marie-Claude Salvas, Saint-Jérôme

P04 - Using the Opportunity Propensity Model to Explain School Readiness in American and Canadian Children - Caroline Fitzpatrick, Church Point and Aubrey H. Wang, Philadelphia

P05 - Early Environmental and Cognitive Predictors of Learning Abilities - Ava Guez, Paris

Discussion Poster 2 - Antisocial behavior
P06 - Mediation analysis of mechanisms in the association between SES and child antisocial behaviour - Nora McIntyre, Sheffield

P07 - Childhood Conduct Problems, Callous-Unemotional Traits and Anxiety: Risk Trajectories Leading to Aggression and Criminality in 3016 Males and Females - Marie-Pier Robitaille, Montréal

P08 - Intergenerational Transmission of Anger: Parental Anger and the Effects on Adolescents and Young Adults - Gabriele Plickert, Pomona

Family functioning
P09 - Partnering with Cannabis Dispensaries to Prevent Underage Marijuana Use in Families with Cannabis Using Parents - Hyman Hops, Eugene

P010 - Preventing Adolescent Marijuana Use with a Family-Centered Behavioral Health Intervention: A 12-month Followup Study - Holly Waldron, Eugene

Discussion Poster 3 - Mental and physical health
P011 - Gender differences in trajectories of depressive symptoms during the transition to adolescence among youth with clinically significant conduct problems in childhood - Martine Poirier, Rimouski (Québec)

P012 - The role of temperament in psychopathology as a function of poverty and developmental period - Nadya Dich, Copenhagen

P013 - Trajectories of mental health problems during adolescence and early-adult functioning - Anoek Sluiter-Oerlemans, Groningen

P014 - Latent Class Modeling of Childhood BMI Trajectories - Daniel Schmolze, Duarte, CA

P015 - Parenting practices of the partners of parents with bipolar disorder: can competent parenting in middle childhood from one parent protect offspring against future psychopathology? - Lisa Serravalle, Montreal

1:00 - 2:30 PM  
Amphitheater F

S03 - Symposium 3 - Psychosocial development - Is child care good for development? And how can we be so sure about it?  
Maria Melchior, Paris

S03A - Early childcare and children’s behavioural and emotional trajectories: data from the EDEN cohort.  
Ramchandar Gomajee, Paris
S03B - Do child care services matter in the long-term? Associations with externalizing behavior problems and school performance in a 17-year population-based study
Sylvana Côté, Bordeaux
S03C - How robust are the estimates of child care quantity and quality effects? An empirical examination of sensitivity to confounders
Eric Dearing, Boston

1:00 - 2:30 PM  Room I
S04 - Symposium 4 - Mental and physical health - Social Inequalities in Mental and Physical Health Across the Lifecourse
Laura Pryor, Paris
S04A - Socio-economic gradients in early language and motor development in France
Lydia Panico, Paris
S04B - Family poverty during childhood and mental health at 11 years of age: Results from the Danish National Birth Cohort
Laura Pryor, Paris
S04C - The expansion of compulsory education and adult health: quasi-experimental evidence from the Constances cohort
Emilie Courtin, London
S04D - Understanding how the context of living in poverty contributes to individuals’ vulnerability
Caroline Adam,

1:00 - 2:30 PM  Room J
S05 - Symposium 5 - Psychosocial development - Active and passive socio-environmental influences as propensity indicators toward healthy and unhealthy lifestyle outcomes in youth
Moderator: Ian Colman, Ottawa
S05A - Prospective associations between television in the preschool bedroom and later bio-psycho-social well-being
Linda S. Pagani, Montréal
S05B - Extracurricular physical activity at age 6 is prospectively associated with academic outcomes and adjustment at age 12
Daniela Gonzalez-Sicilia, Montréal
S05C - The influence of personal social networks on adolescent lifestyle behaviours and risk of obesity
Tracie A. Barnett, Laval

2:30 - 2:45 PM
Short break
2:45 - 4:15 PM
Amphitheater F

S06 - Symposium 6 - Mental and physical health - Causes and consequences of child abuse or placement out of home: What can we learn from long-term population based and experimental studies?
Isabelle Ouellet-Morin, Montréal

S06A - Out-of-home placement before age 7 years and adult psychiatric and criminality outcomes in the 1987 Finnish birth cohort: A Nationwide propensity score-matched study
Sylvana Côté, Montréal

S06B - Enduring effect of early adversity on the hpa axis: The hypothesized moderating role of severity of experiences on cortisol reactivity and chronic secretion
Isabelle Ouellet-Morin, Montréal

S06C - Child neglect and abuse and life-course associations with cognition and mental health in the 1958 British Birth Cohort
Marie-Claude Geoffroy, Montréal

2:45 - 4:15 PM
Room I

S07 - Symposium 7 - Family functioning ou Psychosocial development - Using quasi-experimental designs to explore later outcomes of early risk
Adi Stern, London

S07A - Infant domestic adoption: Do advantageous adoptive environments offset early risk?
Rukmen Sehmi, London

S07B - Associations between abuse/neglect and ADHD from childhood to young adulthood: A prospective nationally-representative twin study
Adi Stern, London

S07C - The role of birth weight on the causal pathway to child and adolescent ADHD symptomatology: A twin differences longitudinal design - Kai Xiang Lim, London

S07D - Concurrent and Longitudinal Contribution of Exposure to Bullying in Childhood to Mental Health
Jean-Baptiste Pingault, London

2:45 - 4:15 PM
Room J

OC2 - Oral Communications 2 - Psychosocial development
Moderator - Cédric Galéra, Bordeaux

OC2A - Implementation of a multi-form planned missing data design in the context of multiple informants and repeated measures
Charlie Rioux, Montreal

OC2B - Prospective associations between early family meal environment quality and later well-being in school-aged children
Linda S. Pagani, Montréal, QC
**OC2C** - Emotional and Behavioral Symptom Network Structure in Elementary School Girls and Links with Anxiety Disorders in Adolescence and/or Early Adulthood
Alexandra Rouquette, Paris

**OC2D** - Repercussion of trajectories of maternal depression in the first years of life on peer relationship of children at 6 and 11 years old: 2004 Pelotas Birth Cohort
Jessica Mayumi Maruyama, São Paulo

**OC2E** - Understanding minds in middle childhood: The ongoing influence of caregivers’ references to internal states
Amy Paine, Cardiff

**OC2F** - What role does the cumulative burden of adolescent depression and conduct problems play in young adult functioning?
Ann Vander Stoep, Seattle, WA

**4:15-4:30 PM**
Mini coffee break

**4:30-5:30 PM**
Amphitheater F
**Keynote 2** - Early life adversity and lifelong mental health: is there a direct line from womb to gloom?
Ian Colman, Ottawa, Canada
Thursday May 31\textsuperscript{th} 2018

8:00 - 9:00 AM
Registration

8:30 - 9:30 AM
Amphitheater F
Keynote 3 - The EDEN Mother-Child cohort: a French study on early determinants of child health and development
Barbara Heude, Villejuif

9:30 - 9:45 AM
Short Break

9:45 - 11:15 AM
Amphitheater F
S08 - Symposium 8 - Psychosocial development - Adult outcomes: results from a longitudinal study of children
Elizabeth Costello, Durham
S08A - Impact of Bullying in Childhood on Adult Health, Wealth, Crime and Social Outcomes
Elizabeth Costello, Durham, USA
S08B - Cannabis Use and Disorder from Childhood to Adulthood
Sherika Hill, Durham, USA
S08C - Optimal outcomes of child and adolescent mental illness
Elizabeth Costello, Durham, USA

9:45 - 11:15 AM
Room J
OC3 - Oral Communications 3 - Antisocial behavior
Moderator - Anne-Laure Sutter, Bordeaux
OC3A - Intergenerational continuity of antisocial behavior in families with a parent having bipolar disorder
Mark A Ellenbogen, Montréal
OC3B - Does coercive parenting influence the genetic and environmental etiology of childhood proactive and reactive aggression? A test of genetic correlation and moderation
Stephane Paquin, Rosemere
OC3C - Self-Control, Parental Control and Antisocial Behavior from Childhood to Adolescence: Evidence of Developmental Reciprocal Influences
Marie-Pier Robitaille, Montréal
OC3D - Association of Parenting, Peer Relations and Deviance Promotive Belief Systems with Risky Partnerships in Youth at Familial Risk for Conduct Problems
Miriam Ehrensaft, Durham

OC3E - Childhood Aggression and the Inter-generational Transfer of Health Risk: A Thirty-year Prospective Study of Disadvantaged Families
Dale Stack, Montreal

Mental and physical health

OC3F - Mental health outcomes up to age 13 years associated with latent profiles of early developmental vulnerability at age 5 years
Vaughan Carr, Sydney

11:15 -11:30 AM
Coffee break

11:30 AM -1:00 PM

Amphitheater F

S10 - Symposium 10 - Psychosocial development - ADHD over the life course: Understanding the developmental course of ADHD from preschool to young adulthood
Jessica Agnew-Blais, London

S10A - Predicting the adolescent-to-young adult outcome of preschool hyperactivity: psychopathology, functioning and costs
Edmund Sonuga-Barke, London

S10B - Early risk factors for hyperactivity-impulsivity and inattention from 1.5 to 17-years: A population-based birth cohort study
Francis Vergunst, Montreal

S10C - What is "adolescent-onset" ADHD? A population cohort investigation - Lucy Riglin, Cardiff

S10D - Do changes in ADHD affect cognitive functioning in young adulthood?
Jessica Agnew-Blais, London

11:30 AM -1:00 PM

Room I

S11 - Symposium 11 - Psychosocial development - 99 - Peer groups, social support and loneliness: The role of social relationships in trajectories of health and development
Timothy Matthews, London

S11A - Early puberty, friendship group characteristics, and dating abuse in US girls
Sara R. Jaffee, Philadelphia, PA

S11B - Do high social support levels foster resilience to stressful life events?
Rukmen Sehmi, London

S11C - Protective factors for psychotic experiences amongst adolescents exposed to multiple forms of victimization
Eloise Crush, London
S11D - Lonely young adults in modern Britain: findings from an epidemiological cohort study
Timothy Matthews, London

11:30 AM - 1:00 PM  Room J
S12 - Symposium 12 - Mental and physical health - 65 - The retrospective collection of biographical data through the life history calendar: a useful method to understand the health situation of vulnerable populations
Annabel Degrée du Loû, Paris
S12A - TEEWA (Teens living with antiretrovirals) study: A life-event history approach among teenagers born with HIV
Sophie Lecoeur, Paris
S12B - The impact of HIV and Hepatitis B on Sub-Saharan immigrants’ lives in Paris greater area – results from a life event history survey
Anne Gosselin, Paris
S12C - The retrospective life-course approach for studying people with disabilities’ vulnerability to HIV in an African context
Pierre Debeaudrap, Paris

1:00 - 2:00 PM  Poster Area
Lunch & poster session
Discussion Poster 4 - Mental and physical health
P16 - Influence of disability onset during childhood on life trajectories in men and women from Cameroon (HandiVIH – ANRS12302) - Charles Emmanuel Moute Nyokon, Paris
P17 - Developmental schizotypy in the general population: associations with child protection reports and mental health contacts - Melissa Green, Darlinghurst
P18 - Childhood Developmental Vulnerabilities associated with Early Life Exposure to Infectious and Non-Infectious Diseases and Maternal Mental Illness - Melissa Green, Sydney

Psychobiological development
P19 - Risk factors of anxiety disorders in adolescents; TRAILS study - Altanzul Narmandakh, Groningen

Discussion Poster 5 - Antisocial behaviour
P21 - The Curaçao Longitudinal Study of Juvenile Resilience and Delinquency - Agnes de Lima-Heijns, Curacao
P22 - A systematic review of mechanisms in the relationship between SES and child antisocial behaviour - Nora McIntyre, Sheffield
Family functioning
P23 - Experiences in peer relationships in adolescence and perceived parenting stress in young adulthood - TiNA Kretschmer, Groningen
P24 - The Influence of Harsh Parenting on Relationship Quality across Generations - Tricia Neppl, Ames, Iowa

Discussion Poster 6 - Psychosocial development
P25 - Developmental trajectories of anxiety and depressive symptoms from early childhood to school age: correspondence among mother and teacher reports - Marie Navarro, Bordeaux
P26 - Examining the intertwined development of prosocial skills and ASD symptoms in adolescence - Anoek Sluiter-Oerlemans, Groningen
P27 - Peer-victimisation trajectories from early childhood to adolescence - Sinziana Oncioiu, Bordeaux
P28 - TRAILS Next - Tracking the next generation submit by: Jennifer Klop-Richards, Groningen

2:00 - 3:30 PM  Amphitheater F
S13 - Symposium 13 - Mental and physical health - 70 - The early roots of suicide: evidence from prospective birth cohort studies and meta-analysis
Ian Colman, Ottawa
S13A - Developmental origins of suicidality: systematic review and meta-analysis of the in utero and perinatal influences on suicide mortality
Massimiliano Orri, Montreal
S13B - Childhood cognitive trajectories of suicidal deaths by mid-adulthood: prospective investigations of the 1958 British Birth Cohort
Stéphane Richard-Devantoy, Montreal
S13C - Life-course associations of childhood victimization and serious suicidal ideation, suicide attempt and mortality - Lea Perret et Marie-Claude Geoffroy, Montreal

2:00 - 3:30 PM  Room I
Symposium 14 - Psychosocial development - 5 - Longitudinal associations between maternal depression and children's socio-emotional development
Anne-Laure Sutter-Dallay, Bordeaux
S14A - Stability and change in behaviour problems across early childhood: contributions of maternal depression and child gender
Judith van der Waerden, Paris
S14B - Longitudinal trajectories of maternal depressive symptoms and internalizing symptoms in the offspring
Marilyn Ahun, Montreal
S14C - Comparing adolescent and adult depression: A longitudinal family study of symptom presentation
Frances Rice, Cardiff
2:00 - 3:30 PM
OC4 - Free Communications 4 - Mental and physical health
Moderator - Lydia Panico
OC4A - Early Life Adversity and Cardiovascular Reactivity and Recovery
Stacey Doan, Claremont
OC4B - Interbirth spacing and mental health disorders in the offspring at 11 years: 2004 Pelotas birth cohort study
Alicia Matijasevich, São Paulo
OC4C - From home-based HIV testing to viral suppression: HIV care trajectories in the context of Universal Test-and-Treat in rural South Africa
Joseph Larmarange, Paris
OC4D - From individual care trajectories to HIV care cascade at population level in rural KwaZulu-Natal (South Africa): the impact of population dynamics (ANRS 12249 TasP trial)
Joseph Larmarange, Paris
OC4E - Get your children on time? A multi-cohort study on parental age and offspring mental health problems
Albertine Oldehinkel, Groningen
OC4F - Optimizing life-course outcomes for children with hyperactivity: evidence from a prospective birth cohort
Stephan Collishaw, Cardiff

3:30 - 4:00 PM
Coffee Break

4:00 - 5:00 PM
Amphitheater F
Keynote 4 - DNA methylation as a mediator in the link between early adversity and child and adolescent psychopathology
Ted Barker, London, UK

5:15 - 7:00 PM
Guided tour of the historic site of the Pitié Salpêtrière Hospital with a guide lecturer and historian, specialist of the Public Assistance of Paris Hospitals (APHP).
Upon previous registration at the welcome desk of the Conference (limited to 30 people)

8:00 PM – 12:00 AM
Social event of the LHRS 2018 Conference: (on separate registration)
Dinner cruise party on a boat along the Seine river through Paris city center.
Friday June 1st 2018

8:00 - 9:00 AM
Registration

9:00 - 10:30 AM  Amphitheater F
**S15 - Symposium 15 - Mental and physical health** - Interventions for Children with Antisocial Behavior: Long-term Outcomes and Moderators and Mediators of Treatment Response
Daniel S. Shaw, Pittsburgh
**S15A - Autonomic Nervous System Predictors of Aggressive Preadolescents’ Response to Group Versus Individual Intervention Formats Through a Four-year Follow-up**
John E. Lochman, Alabama
**S15B - Factors that Discriminate Intervention Response to the Family Check-Up: Family and Neighborhood Risk**
Daniel S. Shaw, Pittsburgh
**S15C - A multi-modal preventive intervention for disruptive kindergarten children: Impacts on social capital during early adulthood and their mechanisms**
Francis Vergunst, Montreal

9:00 - 10:30 AM  Room I
**S16 - Symposium 16 - Educational attainment - Marijuana use across the Americas: tracking trends and their drivers in the past twenty year**
Magdalena Cerdá, Sacramento
**S16A - Why Hasn’t Adolescent Marijuana Use Gone Up in Recent Years, as Perceived Risk of Marijuana Has Declined to Historical Lows?** - Richard Miech, Columbia
**S16B - Perceived risk and use of marijuana in a changing world: how are the two evolving in the Southern Cone?**
Pia Mauro, Columbia
**S16C - Investigating how perceived riskiness, wrongfulness and availability of marijuana are associated with medical marijuana legalization, marijuana use, and daily marijuana use over time by age in the United States**
Magdalena Cerdá, Sacramento
9:00 - 10:30 AM  
**Room J**

**OC5 - Oral Communications 5 - Psychobiological development**

**Moderator:** Xavier Benarous, Paris

**OC5A** - Developmental trajectories of fine motor skills during the preschool period  
PEYRE Hugo, Paris

**OC5B** - Impact of a psychosocial intervention on stress regulation and disruptive behaviors among preschoolers in childcare center: a cluster randomized controlled trial  
Marie-Pier Larose, Montreal

**Family functioning**

**OC5C** - Intergenerational Continuity of Child Maltreatment: The Role of Substance Use, Depressive Symptoms, and Strain  
Kimberley Henry, Fort Collins

**OC5D** - Cybervictimization and its association with mental health problems in young adulthood: Findings from a genetically sensitive longitudinal cohort study  
Louise Arseneault, King’s College London

**OC5E** - iCoverT: A rich data source on the incidence of child maltreatment over time in England and Wales  
Michelle Degli Esposti, University of Oxford

**OC5F** - Friendships promote children’s resilience to harsh, non-supportive parenting: a twin study  
Lucy Bowes, University of Oxford

10:30 - 11:00 AM  
Coffee break

11:00 - 12:30 AM  
**Amphitheater F**

**S17 - Symposium 17 - Mental and physical health - 87 - Long-term consequences of severe early deprivation: the young adult follow-up of the English and Romanian Adoptees study**

**Barbara Maughan, London**

**S17A** - Outcomes of deprivation-specific problems following early institutional deprivation: A comparison of the impact of ADHD and DSE in young adulthood  
Mark Kennedy, Southampton, UK

**S17B** - Modelling trajectories of cognitive recovery into young adulthood following early severe deprivation: What is the pattern of cognitive recovery and what can we learn from this about plasticity in cognitive function?  
Jana Kreppner, Southampton, UK
S17C - Late emergence of emotional disorder following early institutional deprivation: Latent vulnerability or knock-on effects of prior neurodevelopmental deficits?
Barbara Maughan, Londres

11:00 - 12:30 AM
Room I
S18 - Symposium 18 - Psychobiological development - Prenatal environmental exposures, placental DNA methylation, and neurodevelopment in the EDEN mother-child cohort
Johanna Lepeule, La Tronche
S18A - Maternal dietary exposure to chemicals during pregnancy and developmental outcomes of preschool aged children
Jérémie Botton, Villejuif
S18B - Prenatal exposure to non-persistent endocrine disruptors and behavior in boys at 3 and 5 year
Claire Philippat, La Tronche
S18C - Pregnancy exposure to tobacco smoking, atmospheric pollution and meteorological conditions and placental DNA methylation
Johanna Lepeule, La Tronche

11:00 - 12:30 AM
Room J
Oral Communications 6 - Mental and physical health
Moderator - Hugo Peyre, Paris
OC6A - Psychosis-spectrum disorders in adulthood are predicted by childhood social characteristics and disadvantaged neighborhood contexts
Dale Stack, Montreal, QC
OC6B - Low reward responsiveness at age 16 predicts onset of depression during nine years of follow-up
Charlotte Vrijen, Groningen
OC6C - Using Random Intercept Cross-lagged Panel Models to Investigate The Association between Self-esteem and Depressive Symptoms in Adolescents: Separating between-person effects from within-person effects
Maurits Masselink, Groningen
OC6D - Beyond not bad or just okay: Social predictors of young adults' wellbeing and functioning. A TRAILS study
Jennifer Klop-Richards, Groningen
OC6F - Sticks and stones may break bones but words increase the risk of psychotic experiences. submit by:
Colm Healy, Dublin

12:30 - 1:00 PM
Amphitheater F
Closing and poster award
## List of attendees

<table>
<thead>
<tr>
<th>NAME</th>
<th>FIRST-NAME</th>
<th>EMAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adam</td>
<td>Caroline</td>
<td><a href="mailto:caroline.adam@umontreal.ca">caroline.adam@umontreal.ca</a></td>
</tr>
<tr>
<td>Agnew-Blais</td>
<td>Jessica</td>
<td><a href="mailto:jessica.agnew-blais@kcl.ac.uk">jessica.agnew-blais@kcl.ac.uk</a></td>
</tr>
<tr>
<td>Ahun</td>
<td>Marilyn</td>
<td><a href="mailto:marilyn.ahun@umontreal.ca">marilyn.ahun@umontreal.ca</a></td>
</tr>
<tr>
<td>Aranda</td>
<td>Ezequiel</td>
<td><a href="mailto:ezee.aranda@gmail.com">ezee.aranda@gmail.com</a></td>
</tr>
<tr>
<td>Árseneault</td>
<td>Louise</td>
<td><a href="mailto:louise.arseneault@kcl.ac.uk">louise.arseneault@kcl.ac.uk</a></td>
</tr>
<tr>
<td>Ballon</td>
<td>Morgane</td>
<td><a href="mailto:morgane.ballon@inserm.fr">morgane.ballon@inserm.fr</a></td>
</tr>
<tr>
<td>Barkat-Defradas</td>
<td>Melissa</td>
<td><a href="mailto:melissa.barkat-defradas@univ-montp2.fr">melissa.barkat-defradas@univ-montp2.fr</a></td>
</tr>
<tr>
<td>Barker</td>
<td>Edward D.</td>
<td><a href="mailto:ted.barker@kcl.ac.uk">ted.barker@kcl.ac.uk</a></td>
</tr>
<tr>
<td>Barnett</td>
<td>Tracie</td>
<td><a href="mailto:tracie.barnett@iaf.inrs.ca">tracie.barnett@iaf.inrs.ca</a></td>
</tr>
<tr>
<td>Benarous</td>
<td>Xavier</td>
<td><a href="mailto:xavierbenarous@gmail.com">xavierbenarous@gmail.com</a></td>
</tr>
<tr>
<td>Berticat</td>
<td>Claire</td>
<td><a href="mailto:claire.berticat@univ-montp2.fr">claire.berticat@univ-montp2.fr</a></td>
</tr>
<tr>
<td>Bolze</td>
<td>Camille</td>
<td><a href="mailto:camille.bolze@inserm.fr">camille.bolze@inserm.fr</a></td>
</tr>
<tr>
<td>Button</td>
<td>Jérémie</td>
<td><a href="mailto:jeremie.button@inserm.fr">jeremie.button@inserm.fr</a></td>
</tr>
<tr>
<td>Carr</td>
<td>Vaughan</td>
<td><a href="mailto:v.carr@unsw.edu.au">v.carr@unsw.edu.au</a></td>
</tr>
<tr>
<td>Cerdá</td>
<td>Magdalena</td>
<td><a href="mailto:cerda@UCDAVIS.EDU">cerda@UCDAVIS.EDU</a></td>
</tr>
<tr>
<td>Cohen</td>
<td>David</td>
<td><a href="mailto:david.cohen@aphp.fr">david.cohen@aphp.fr</a></td>
</tr>
<tr>
<td>Collishaw</td>
<td>Stephan</td>
<td><a href="mailto:collishaws@Cardiff.ac.uk">collishaws@Cardiff.ac.uk</a></td>
</tr>
<tr>
<td>Colman</td>
<td>Ian</td>
<td><a href="mailto:icolman@uottawa.ca">icolman@uottawa.ca</a></td>
</tr>
<tr>
<td>Conil</td>
<td>Clément</td>
<td><a href="mailto:clement.conil@cri-paris.org">clement.conil@cri-paris.org</a></td>
</tr>
<tr>
<td>Costello</td>
<td>Elizabeth Jane</td>
<td><a href="mailto:elizabeth.costello@duke.edu">elizabeth.costello@duke.edu</a></td>
</tr>
<tr>
<td>Côté</td>
<td>Sylvana</td>
<td><a href="mailto:sylvana.cote.1@umontreal.ca">sylvana.cote.1@umontreal.ca</a></td>
</tr>
<tr>
<td>Courtin</td>
<td>Emilie</td>
<td><a href="mailto:emilie.courtin@kcl.ac.uk">emilie.courtin@kcl.ac.uk</a></td>
</tr>
<tr>
<td>Crush</td>
<td>Eloise</td>
<td><a href="mailto:eloise.crush@kcl.ac.uk">eloise.crush@kcl.ac.uk</a></td>
</tr>
<tr>
<td>De Lima-Heijns</td>
<td>Agnes</td>
<td><a href="mailto:adelimaheyns@gmail.com">adelimaheyns@gmail.com</a></td>
</tr>
<tr>
<td>Dearing</td>
<td>Eric</td>
<td><a href="mailto:dearinge@bc.edu">dearinge@bc.edu</a></td>
</tr>
<tr>
<td>Debeaudrap</td>
<td>Pierre</td>
<td><a href="mailto:pierre.debeaudrap@ird.fr">pierre.debeaudrap@ird.fr</a></td>
</tr>
<tr>
<td>Degli Esposti</td>
<td>Michelle</td>
<td><a href="mailto:michelle.degliesposti@psy.ox.ac.uk">michelle.degliesposti@psy.ox.ac.uk</a></td>
</tr>
<tr>
<td>Desgrées Du Loû</td>
<td>Annabel</td>
<td><a href="mailto:annabel.desgrees@ird.fr">annabel.desgrees@ird.fr</a></td>
</tr>
<tr>
<td>Dich</td>
<td>Nadya</td>
<td><a href="mailto:naditch@gmail.com">naditch@gmail.com</a></td>
</tr>
<tr>
<td>Doan</td>
<td>Stacey</td>
<td><a href="mailto:sdoan@cmc.edu">sdoan@cmc.edu</a></td>
</tr>
<tr>
<td>Ehrensaf t</td>
<td>Miriam</td>
<td>miriam.ehrensaf <a href="mailto:t@duke.edu">t@duke.edu</a></td>
</tr>
<tr>
<td>El-Khoury</td>
<td>Fabienne</td>
<td><a href="mailto:fabienne.khoury@inserm.fr">fabienne.khoury@inserm.fr</a></td>
</tr>
<tr>
<td>Ellenbogen</td>
<td>Mark</td>
<td><a href="mailto:mark.ellenbogen@concordia.ca">mark.ellenbogen@concordia.ca</a></td>
</tr>
<tr>
<td>Fitzpatrick</td>
<td>Caroline</td>
<td><a href="mailto:caroline.fitzpatrick@usainteanne.ca">caroline.fitzpatrick@usainteanne.ca</a></td>
</tr>
<tr>
<td>Foster</td>
<td>Holly</td>
<td><a href="mailto:hfoster@tamu.edu">hfoster@tamu.edu</a></td>
</tr>
<tr>
<td>Galera</td>
<td>Cédric</td>
<td><a href="mailto:cedric.galera@u-bordeaux.fr">cedric.galera@u-bordeaux.fr</a></td>
</tr>
<tr>
<td>Gedara</td>
<td>Lucy</td>
<td><a href="mailto:lucy.bowes@psy.ox.ac.uk">lucy.bowes@psy.ox.ac.uk</a></td>
</tr>
<tr>
<td>Geoffroy</td>
<td>Marie-Claude</td>
<td><a href="mailto:marie-claude.geoffroy@mcgill.ca">marie-claude.geoffroy@mcgill.ca</a></td>
</tr>
<tr>
<td>Gomajee</td>
<td>Ramchandar</td>
<td><a href="mailto:ramchandar.gomajee@inserm.fr">ramchandar.gomajee@inserm.fr</a></td>
</tr>
<tr>
<td>Gonzalez-Sicilia Fernandez</td>
<td>Daniela</td>
<td><a href="mailto:danielagsf@hotmail.com">danielagsf@hotmail.com</a></td>
</tr>
<tr>
<td>Gosselin</td>
<td>Anne</td>
<td><a href="mailto:anne.gosselin@ceped.org">anne.gosselin@ceped.org</a></td>
</tr>
<tr>
<td>Green</td>
<td>Melissa</td>
<td><a href="mailto:melissa.green@unsw.edu.au">melissa.green@unsw.edu.au</a></td>
</tr>
<tr>
<td>Guez</td>
<td>Ava</td>
<td><a href="mailto:ava.guez@sciencespo.fr">ava.guez@sciencespo.fr</a></td>
</tr>
<tr>
<td>Guimond</td>
<td>Fanny-Alexandra</td>
<td><a href="mailto:fanny-alexandra.guimond@uqat.ca">fanny-alexandra.guimond@uqat.ca</a></td>
</tr>
<tr>
<td>Hamieh</td>
<td>Nadine</td>
<td><a href="mailto:nadinehamieh1@gmail.com">nadinehamieh1@gmail.com</a></td>
</tr>
<tr>
<td>Name</td>
<td>Email</td>
<td></td>
</tr>
<tr>
<td>-----------------------</td>
<td>--------------------------------</td>
<td></td>
</tr>
<tr>
<td>Hammerton</td>
<td><a href="mailto:gemma.hammerton@bristol.ac.uk">gemma.hammerton@bristol.ac.uk</a></td>
<td></td>
</tr>
<tr>
<td>Harlé</td>
<td><a href="mailto:b.harle@aliceadsl.fr">b.harle@aliceadsl.fr</a></td>
<td></td>
</tr>
<tr>
<td>Healy</td>
<td><a href="mailto:colmhealy@rcsi.com">colmhealy@rcsi.com</a></td>
<td></td>
</tr>
<tr>
<td>Henry</td>
<td><a href="mailto:kim.henry@colostate.edu">kim.henry@colostate.edu</a></td>
<td></td>
</tr>
<tr>
<td>Heron</td>
<td><a href="mailto:jon.heron@bristol.ac.uk">jon.heron@bristol.ac.uk</a></td>
<td></td>
</tr>
<tr>
<td>Herranz</td>
<td><a href="mailto:Joel.herranz@gmail.com">Joel.herranz@gmail.com</a></td>
<td></td>
</tr>
<tr>
<td>Heude</td>
<td><a href="mailto:barbara.heude@inserm.fr">barbara.heude@inserm.fr</a></td>
<td></td>
</tr>
<tr>
<td>Hill</td>
<td><a href="mailto:j.hill@reading.ac.uk">j.hill@reading.ac.uk</a></td>
<td></td>
</tr>
<tr>
<td>Hill</td>
<td><a href="mailto:sherika.hill@duke.edu">sherika.hill@duke.edu</a></td>
<td></td>
</tr>
<tr>
<td>Hops</td>
<td><a href="mailto:hy@ori.org">hy@ori.org</a></td>
<td></td>
</tr>
<tr>
<td>Im</td>
<td><a href="mailto:youngjo@uchicago.edu">youngjo@uchicago.edu</a></td>
<td></td>
</tr>
<tr>
<td>Jaffee</td>
<td><a href="mailto:sara.jaffee@gmail.com">sara.jaffee@gmail.com</a></td>
<td></td>
</tr>
<tr>
<td>Kaskela</td>
<td><a href="mailto:teemu.kaskela@a-klinikka.fi">teemu.kaskela@a-klinikka.fi</a></td>
<td></td>
</tr>
<tr>
<td>Kennedy</td>
<td><a href="mailto:mark.kennedy@kcl.ac.uk">mark.kennedy@kcl.ac.uk</a></td>
<td></td>
</tr>
<tr>
<td>Klop-Richards</td>
<td><a href="mailto:j.s.klop-richards@umcg.nl">j.s.klop-richards@umcg.nl</a></td>
<td></td>
</tr>
<tr>
<td>Kreppner</td>
<td><a href="mailto:j.kreppner@soton.ac.uk">j.kreppner@soton.ac.uk</a></td>
<td></td>
</tr>
<tr>
<td>Kretschmer</td>
<td><a href="mailto:t.kretschmer@rug.nl">t.kretschmer@rug.nl</a></td>
<td></td>
</tr>
<tr>
<td>Lapalme</td>
<td><a href="mailto:melanie.lapalme@usherbrooke.ca">melanie.lapalme@usherbrooke.ca</a></td>
<td></td>
</tr>
<tr>
<td>Larmarange</td>
<td><a href="mailto:joseph.larmarange@ceped.org">joseph.larmarange@ceped.org</a></td>
<td></td>
</tr>
<tr>
<td>Larose</td>
<td><a href="mailto:marie.pier.larose@gmail.com">marie.pier.larose@gmail.com</a></td>
<td></td>
</tr>
<tr>
<td>Le Coeur</td>
<td><a href="mailto:sophie.lecoeur@phpt.org">sophie.lecoeur@phpt.org</a></td>
<td></td>
</tr>
<tr>
<td>Lepeule</td>
<td><a href="mailto:johana.lepeule@univ-grenoble-alpes.fr">johana.lepeule@univ-grenoble-alpes.fr</a></td>
<td></td>
</tr>
<tr>
<td>Lim</td>
<td><a href="mailto:kai.lim@kcl.ac.uk">kai.lim@kcl.ac.uk</a></td>
<td></td>
</tr>
<tr>
<td>Lochman</td>
<td><a href="mailto:jlochman@ua.edu">jlochman@ua.edu</a></td>
<td></td>
</tr>
<tr>
<td>Losier</td>
<td><a href="mailto:talia.losier@gmail.com">talia.losier@gmail.com</a></td>
<td></td>
</tr>
<tr>
<td>Mahedy</td>
<td><a href="mailto:Liam.Mahedy@bristol.ac.uk">Liam.Mahedy@bristol.ac.uk</a></td>
<td></td>
</tr>
<tr>
<td>Maruyama</td>
<td><a href="mailto:jessica.maruyama@usp.br">jessica.maruyama@usp.br</a></td>
<td></td>
</tr>
<tr>
<td>Masselink</td>
<td><a href="mailto:m.masselink@umcg.nl">m.masselink@umcg.nl</a></td>
<td></td>
</tr>
<tr>
<td>Matijasevich</td>
<td><a href="mailto:amatija@yahoo.com">amatija@yahoo.com</a></td>
<td></td>
</tr>
<tr>
<td>Matthews</td>
<td><a href="mailto:timothy.matthews@kcl.ac.uk">timothy.matthews@kcl.ac.uk</a></td>
<td></td>
</tr>
<tr>
<td>Maughan</td>
<td><a href="mailto:barbara.maughan@kcl.ac.uk">barbara.maughan@kcl.ac.uk</a></td>
<td></td>
</tr>
<tr>
<td>Mauro</td>
<td><a href="mailto:pm2838@cumc.columbia.edu">pm2838@cumc.columbia.edu</a></td>
<td></td>
</tr>
<tr>
<td>McIntyre</td>
<td><a href="mailto:n.mcintyre@sheffield.ac.uk">n.mcintyre@sheffield.ac.uk</a></td>
<td></td>
</tr>
<tr>
<td>Melchior</td>
<td><a href="mailto:maria.melchior@inserm.fr">maria.melchior@inserm.fr</a></td>
<td></td>
</tr>
<tr>
<td>Miech</td>
<td><a href="mailto:rmiech@gmail.com">rmiech@gmail.com</a></td>
<td></td>
</tr>
<tr>
<td>Moute Nyokon</td>
<td><a href="mailto:charles.moute@ird.fr">charles.moute@ird.fr</a></td>
<td></td>
</tr>
<tr>
<td>Nakamura</td>
<td><a href="mailto:aurelienakamura@gmail.com">aurelienakamura@gmail.com</a></td>
<td></td>
</tr>
<tr>
<td>Narmandakh</td>
<td><a href="mailto:a.narmandakh@umcg.nl">a.narmandakh@umcg.nl</a></td>
<td></td>
</tr>
<tr>
<td>Navarro</td>
<td><a href="mailto:marie.navarro@u-bordeaux.fr">marie.navarro@u-bordeaux.fr</a></td>
<td></td>
</tr>
<tr>
<td>Nepl</td>
<td><a href="mailto:tnepl@iastate.edu">tnepl@iastate.edu</a></td>
<td></td>
</tr>
<tr>
<td>Nishida</td>
<td><a href="mailto:nishida-at@igakuen.or.jp">nishida-at@igakuen.or.jp</a></td>
<td></td>
</tr>
<tr>
<td>Oldehinkel</td>
<td><a href="mailto:a.j.oldehinkel@umcg.nl">a.j.oldehinkel@umcg.nl</a></td>
<td></td>
</tr>
<tr>
<td>Onciou</td>
<td><a href="mailto:sinziana.onciou@u-bordeaux.fr">sinziana.onciou@u-bordeaux.fr</a></td>
<td></td>
</tr>
<tr>
<td>Orri</td>
<td><a href="mailto:massimiliano.orri@mail.mcgill.ca">massimiliano.orri@mail.mcgill.ca</a></td>
<td></td>
</tr>
<tr>
<td>Ouellet-Morin</td>
<td><a href="mailto:isabelle.ouellet-morin@umontreal.ca">isabelle.ouellet-morin@umontreal.ca</a></td>
<td></td>
</tr>
<tr>
<td>Pagani</td>
<td><a href="mailto:Linda.s.pagani@umontreal.ca">Linda.s.pagani@umontreal.ca</a></td>
<td></td>
</tr>
<tr>
<td>Paine</td>
<td><a href="mailto:paineil@cardiff.ac.uk">paineil@cardiff.ac.uk</a></td>
<td></td>
</tr>
<tr>
<td>Palmer</td>
<td><a href="mailto:Katharine.palmer@eleve.ehesp.fr">Katharine.palmer@eleve.ehesp.fr</a></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Last Name</td>
<td>Email</td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>Panico</td>
<td>Lidia</td>
<td><a href="mailto:lidia.panico@ined.fr">lidia.panico@ined.fr</a></td>
</tr>
<tr>
<td>Paquin</td>
<td>Stephane</td>
<td><a href="mailto:s.paquin@umontreal.ca">s.paquin@umontreal.ca</a></td>
</tr>
<tr>
<td>Perret</td>
<td>Lea</td>
<td><a href="mailto:lea.perret@mail.mcgill.ca">lea.perret@mail.mcgill.ca</a></td>
</tr>
<tr>
<td>Peyre</td>
<td>Hugo</td>
<td><a href="mailto:peyrehugo@yahoo.fr">peyrehugo@yahoo.fr</a></td>
</tr>
<tr>
<td>Philippat</td>
<td>Claire</td>
<td><a href="mailto:claire.philippat@inserm.fr">claire.philippat@inserm.fr</a></td>
</tr>
<tr>
<td>Pickles</td>
<td>Andrew</td>
<td><a href="mailto:andrew.pickles@kcl.ac.uk">andrew.pickles@kcl.ac.uk</a></td>
</tr>
<tr>
<td>Pingault</td>
<td>Jean-Baptiste</td>
<td><a href="mailto:j.pingault@ucl.ac.uk">j.pingault@ucl.ac.uk</a></td>
</tr>
<tr>
<td>Plickert</td>
<td>Gabriele</td>
<td><a href="mailto:gplickert@cpp.edu">gplickert@cpp.edu</a></td>
</tr>
<tr>
<td>Poirier</td>
<td>Martine</td>
<td><a href="mailto:martine_poirier@uqar.ca">martine_poirier@uqar.ca</a></td>
</tr>
<tr>
<td>Pryor</td>
<td>Laura</td>
<td>lp <a href="mailto:pryor3@jhu.edu">pryor3@jhu.edu</a></td>
</tr>
<tr>
<td>Ramus</td>
<td>Franck</td>
<td><a href="mailto:franck.ramus@ens.fr">franck.ramus@ens.fr</a></td>
</tr>
<tr>
<td>Rice</td>
<td>Frances</td>
<td><a href="mailto:ricef2@cardiff.ac.uk">ricef2@cardiff.ac.uk</a></td>
</tr>
<tr>
<td>Richard-Devantoy</td>
<td>Stephane</td>
<td><a href="mailto:richarddevantoy@orange.fr">richarddevantoy@orange.fr</a></td>
</tr>
<tr>
<td>Riglin</td>
<td>Lucy</td>
<td><a href="mailto:RiglinL@cardiff.ac.uk">RiglinL@cardiff.ac.uk</a></td>
</tr>
<tr>
<td>Rioux</td>
<td>Charlie</td>
<td><a href="mailto:charlie.rioux@umontreal.ca">charlie.rioux@umontreal.ca</a></td>
</tr>
<tr>
<td>Robitaille</td>
<td>Marie-Pier</td>
<td><a href="mailto:marie-pier.robitaille@umontreal.ca">marie-pier.robitaille@umontreal.ca</a></td>
</tr>
<tr>
<td>Rouquette</td>
<td>Alexandra</td>
<td><a href="mailto:bruno.falissard@inserm.fr">bruno.falissard@inserm.fr</a></td>
</tr>
<tr>
<td>Rowe</td>
<td>Richard</td>
<td><a href="mailto:r.rowe@sheffield.ac.uk">r.rowe@sheffield.ac.uk</a></td>
</tr>
<tr>
<td>Salvas</td>
<td>Marie-Claude</td>
<td><a href="mailto:marie-claude.salvas@uqo.ca">marie-claude.salvas@uqo.ca</a></td>
</tr>
<tr>
<td>Schmolze</td>
<td>Daniel</td>
<td><a href="mailto:daniel@schmolze.com">daniel@schmolze.com</a></td>
</tr>
<tr>
<td>Schoeler</td>
<td>Tabea</td>
<td><a href="mailto:tabea.t.schoeler@kcl.ac.uk">tabea.t.schoeler@kcl.ac.uk</a></td>
</tr>
<tr>
<td>Sehmi</td>
<td>Rukmen</td>
<td><a href="mailto:rukmen.sehmi@kcl.ac.uk">rukmen.sehmi@kcl.ac.uk</a></td>
</tr>
<tr>
<td>Serravalle</td>
<td>Lisa</td>
<td><a href="mailto:l_serr@live.concordia.ca">l_serr@live.concordia.ca</a></td>
</tr>
<tr>
<td>Shanahan</td>
<td>Lilly</td>
<td><a href="mailto:marta.dobrijevic@uzh.ch">marta.dobrijevic@uzh.ch</a></td>
</tr>
<tr>
<td>Sharp</td>
<td>Helen</td>
<td><a href="mailto:hmsharp@liv.ac.uk">hmsharp@liv.ac.uk</a></td>
</tr>
<tr>
<td>Shaw</td>
<td>Daniel</td>
<td><a href="mailto:casey@pitt.edu">casey@pitt.edu</a></td>
</tr>
<tr>
<td>Shuntaro</td>
<td>Ando</td>
<td><a href="mailto:sandou-tky@umin.ac.jp">sandou-tky@umin.ac.jp</a></td>
</tr>
<tr>
<td>Sluiter-Oerlemans</td>
<td>Anoek</td>
<td><a href="mailto:a.m.sluiter-oerlemans@umcg.nl">a.m.sluiter-oerlemans@umcg.nl</a></td>
</tr>
<tr>
<td>Sonuga-Barke</td>
<td>Edmund</td>
<td><a href="mailto:edmund.sonuga-barke@kcl.ac.uk">edmund.sonuga-barke@kcl.ac.uk</a></td>
</tr>
<tr>
<td>Stack</td>
<td>Dale</td>
<td><a href="mailto:dale.stack@concordia.ca">dale.stack@concordia.ca</a></td>
</tr>
<tr>
<td>Stern</td>
<td>Adi</td>
<td><a href="mailto:adi.stern@kcl.ac.uk">adi.stern@kcl.ac.uk</a></td>
</tr>
<tr>
<td>Sutter-Dallay</td>
<td>Anne-Laure</td>
<td><a href="mailto:alsutter@ch-perrens.fr">alsutter@ch-perrens.fr</a></td>
</tr>
<tr>
<td>Tacky</td>
<td>Kaposate</td>
<td><a href="mailto:kaposate.tacky@iplesp.upmc.fr">kaposate.tacky@iplesp.upmc.fr</a></td>
</tr>
<tr>
<td>Takahashi</td>
<td>Yusuke</td>
<td><a href="mailto:takahashi.yusuke.3n@kyoto-u.ac.jp">takahashi.yusuke.3n@kyoto-u.ac.jp</a></td>
</tr>
<tr>
<td>Torregrossa</td>
<td>Hugo</td>
<td><a href="mailto:hugo.torregrossa@iplesp.upmc.fr">hugo.torregrossa@iplesp.upmc.fr</a></td>
</tr>
<tr>
<td>Van Der Waerden</td>
<td>Judith</td>
<td><a href="mailto:judith.van-der-waerden@inserm.fr">judith.van-der-waerden@inserm.fr</a></td>
</tr>
<tr>
<td>Van Horn</td>
<td>Joan</td>
<td><a href="mailto:joanvanhorn@gmail.com">joanvanhorn@gmail.com</a></td>
</tr>
<tr>
<td>Vander Stoep</td>
<td>Ann</td>
<td><a href="mailto:annv@uw.edu">annv@uw.edu</a></td>
</tr>
<tr>
<td>Vergunst</td>
<td>Francis</td>
<td><a href="mailto:francis.vergunst@umontreal.ca">francis.vergunst@umontreal.ca</a></td>
</tr>
<tr>
<td>Vrijen</td>
<td>Charlotte</td>
<td><a href="mailto:c.vrijen@umcg.nl">c.vrijen@umcg.nl</a></td>
</tr>
<tr>
<td>Waldron</td>
<td>Holly</td>
<td><a href="mailto:holly@ori.org">holly@ori.org</a></td>
</tr>
<tr>
<td>Wang</td>
<td>Aubrey</td>
<td><a href="mailto:wang.aubrey@gmail.com">wang.aubrey@gmail.com</a></td>
</tr>
<tr>
<td>Wright</td>
<td>Nicola</td>
<td><a href="mailto:nwright@liv.ac.uk">nwright@liv.ac.uk</a></td>
</tr>
<tr>
<td>Yermachenko</td>
<td>Anna</td>
<td><a href="mailto:anna.yermachenko@iplesp.upmc.fr">anna.yermachenko@iplesp.upmc.fr</a></td>
</tr>
</tbody>
</table>
# Abstract book

## Table of content

<table>
<thead>
<tr>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keynote Conferences</td>
<td>1-2</td>
</tr>
<tr>
<td>Symposia</td>
<td>3 to 62</td>
</tr>
<tr>
<td>Oral Communications</td>
<td>63 to 95</td>
</tr>
<tr>
<td>Poster Presentation</td>
<td>96 to 120</td>
</tr>
</tbody>
</table>
Keynote Conferences

Keynote

K01 - Reframing autism as a behavioral syndrome

Authors:
D. Cohen

Authors Address:
GH Pitié Salpêtrière/UPMC, Paris, France

Abstracts:
Clinical, epidemiological, physiological and genetic studies have advanced current knowledge on causal association with autism. We will review both genetic and environmental risk factors associated with autism. We will discuss the different causal models that may explain the different neurobiological and developmental trajectories that can lead to autism. These include taking into account the time line, the frequency of the diverse risk factors, their pathological penetrance and specificity, and possible role of interactions between genetic and environmental factors. Finally, the pertinence of addressing autism as a dimension rather than a specific categorical mental disorder will be discussed. It highlights the need to study autism phenotype and developmental trajectory through a multidimensional, non-categorical approach with multivariate analyses within autism spectrum disorder but also across mental disorders to better understand autism.

Keynote

K02 - Early life adversity and lifelong mental health: is there a direct line from womb to gloom?

Authors:
I. Colman

Authors Address:
University of Ottawa, Canada

Abstract:
This talk will explore the link between adversity early in life and depression and anxiety across the life course. Evidence will be presented from several British and Canadian cohorts, that cover the life span from the womb to the grave. The talk will focus on evidence showing that early-life stress may impact lifelong mental health and response to stress, using objective measures of stressful events in both military and general populations. Additionally, this talk will highlight some of the methodological challenges in studying associations between early-life stress and lifelong mental health, which raise concerns regarding how best to interpret findings in this field. Finally, the talk will end with speculation about whether it’s possible to reverse early-life insults to a developing child, presenting evidence from observational and intervention studies.

Keynote

K04 - The Role of DNA methylation in the link between early adversity and child and adolescent psychopathology

Authors:
E. Barker

Authors Address:
King’s College London, UK
**Abstract:**
DNA methylation is a potential mechanism through which the genome can 'capture' the effects of early adversity and propagate their influence on child and adolescent mental health. In recent years, publications have shown steady growth, especially those indexing child DNA methylation through peripheral samples (blood, buccal cells). In this talk, I will provide a review of the current child and adolescent research – including that of my own group – to evaluate evidence for a mediating role of DNA methylation in the link between adversity and psychopathological outcomes. The 'promise' of a meditational framework is that – if DNA methylation is identified as a causal link in the aetiology of a disease – then reversing epigenetic marks might help alleviate the burdens of disease. It is also equally possible, however, that DNA methylation functions as a non-causal biomarker of adversity and/or stress-related disorders. Yet even in this situation DNA methylation can still serve as an important biomarker of disease and have clinical utility. As will be discussed, overall, very few studies have examined DNA methylation in relation to both exposures and outcomes, and most analyses have been correlational in nature. Hence the exact role of DNA methylation in child psychopathology is presently not known. I will conclude by discussing current challenges and the potential of DNA methylation.

**Keynote**

**K03 - The EDEN Mother-Child cohort: a French study on early determinants of child health and development**

**Authors:**
B.Heude

**Authors Address:**
Inserm, Villejuif, France

**Abstract:**
A better knowledge of the prenatal factors affecting later health need prospective studies starting from pregnancy. The EDEN Mother-Child cohort was set up in the early 2000s with the aim to examine the associations and potential interactions between maternal exposures and health status during pregnancy, fetal development, health status of the infant at birth and in early life, with the child’s health and development (see Heude et al. IJE 2016). This presentation will describe the study design and the main exposures and outcomes assessed during the follow-up of this prospective cohort of 2002 women included during pregnancy. Detailed information on phenotypes and expositions were collected using questionnaires from pregnancy until 8 years, with clinical examinations of the mother (24th WA and at birth) and the child (at birth, one, three and five years, including cognitive assessments at three and five-six years). A large biobank includes samples collected from fathers (blood for DNA), mothers (blood, urine, hair, placenta, colostrum) during pregnancy or at birth, and offsprings at birth (cord blood, placenta, hair, meconium, saliva) and at five years (blood, urine). A focus on a selection of results will be proposed such as the associations found between maternal depression trajectories from pregnancy to postnatal life and the behavioural and cognitive development of the child at 5 years. Findings on associations between early nutrition, including maternal caffeine intake during pregnancy, and child's neurodevelopment will also be described. EDEN is an extremely rich resource enabling a comprehensive characterization of the very early (from mid-pregnancy) determinants of child development and health, and is still promising to provide further insights in the understanding of human development over the lifecourse.
Symposia

Symposium Antisocial behavior

S02 - Attachment and psychopathology – recent findings from the Wirral Child Health and Development Study

Authors:
Jonathan Hill (1), Nicky Wright (1), Andrew Pickles (2), Helen Sharp (1)

Authors Address:
(1) University of Liverpool, UK, (2) King’s College, London, UK

Abstract:
In this symposium we aim to shed light on some of the reasons that there are so few convincing associations between attachment security and psychopathology. All three papers make use of attachment security assessed at age 14 months in the Strange Situation. In the first paper we show that attachment security modifies the sex dependent effect of vagal reactivity that we have previously reported but only when evident at two time points in early development. In the second paper we report that secure attachment is a risk for psychopathology in the presence of high maternal criticism. In the third paper we report that maternal sensitivity predicts child callous unemotional traits and this association is not mediated via attachment security. Taken together we interpret these findings to suggest that insecure attachment may confer risk for some forms of risk or resilience is context dependent, and there can be effects of maternal sensitivity that are not mediated via attachment security.

KeyWords: Attachment security: context: psychopathology

Symposium Antisocial behavior

S02A - Attachment security assessed in the Still Face and the Strange Situation, vagal reactivity and child irritability at age 7 years

Authors:
Jonathan Hill, Reading

Authors Address:
University of Liverpool, UK

Abstract:
Background: We have previously reported that the association between vagal reactivity in the Still Face (SF) at 29 weeks months and ODD symptoms up to 5 years is in opposite directions in boys and girls.

We have also shown that attachment security based on emotion regulation in the transition from maternal unresponsiveness to re-engagement in the Still Face (SF) is associated with later attachment security in the Strange Situation (SST) and may therefore represent an early indicator of attachment security. Extending the outcome to ODD symptoms at age 7 years we examined whether the sex dependent association is modified by attachment insecurity.

Sample: Stratified subsample (N = 211) from a general population study of first time mothers recruited during pregnancy (N = 1233).

Method: Mothers and infants were assessed in the Still Face at 29 weeks and the Strange Situation Test at 14 months. Mother reports of ODD symptoms were obtained at 7 years. Data on all measures were available for 211 children.

Results: There was a three way interaction between vagal reactivity in the SF, insecure attachment in both the SF and SST, and sex of child (p = .024). In girls increasing vagal reactivity was associated with increasing ODD symptoms (R2= .04, p = .038) with no modification by attachment security. In boys there was an attachment by vagal reactivity interaction (p = .003).
There was a protective effect of increasing vagal reactivity only in boys secure either in the SF or SST (R2=.11, p = .023) but among those insecure at both points the effect was in the opposite direction (R2=.09, p = .051).

Conclusions: We find further evidence for a sex dependent effect of vagal reactivity in infancy on childhood ODD symptoms. For the first time we also find that this is modified in boys but not in girls, by early attachment security.

**KeyWords:** Attachment, sex differences, vagal reactivity, ODD

---

**S02B - Vulnerability to maternal criticism in infants securely attached at 14 months**

**Authors:**
Helen Sharp

**Authors Address:**
University of Livelpool, UK

**Abstract:**
Background: The possibility that secure attachment could confer risk for psychopathology has been considered in previous publications however it has not been tested. This might be expected to be the case where an infant tends to seek comfort when distressed from parent who is likely to respond negatively. We predicted that increasing maternal criticism would be associated with increasing child symptoms in secure infants.

Sample: Stratified subsample of 196 drawn from a general population sample of 1233 first time mother recruited in pregnancy.

Measures: At age 14 months attachment was assessed in the Strange Situation, maternal criticism using the Five Minute Speech Sample, and infant adjustment by maternal report using the Brief Infant Brief Infant-Toddler Social and Emotional Assessment (BITSEA). Maternal borderline personality disorder (BPD) symptoms were assessed in pregnancy. Total symptoms were assessed by maternal report at 2.5 years using the CBCL, and maternal depressive symptoms using the EPDS.

Results: Controlling for age 14 months child symptoms and maternal psychopathology there was a significant interaction between secure attachment and maternal criticism (p = .007) in the prediction of total problems at age 2.5 years. The interaction arose from a stronger association between maternal criticism and total CBCL symptoms in the presence of secure attachment.

Conclusions: The secure attachment strategy for regulating emotions with a caregiver may be adaptive with a supportive caregiver but create vulnerability with a caregiver who may respond negatively.

**KeyWords:** Attachment security: maternal criticism: total child symptoms

---

**S02C - Maternal sensitivity, attachment security and callous unemotional traits**

**Authors:**
Nicky Wright

**Authors Address:**
University of Livelpool, UK

**Abstract:**
Background: Callous-unemotional (CU) traits are characterized by a lack of responsiveness to the emotions of others, particularly negative emotions. A parenting environment where the child's own distress emotions are sensitively responded to may help foster the child's ability to respond to the emotions of others. We tested whether maternal sensitivity to distress, and other
parenting characteristics, were associated with CU traits over the preschool period. We then examined whether associations between parenting and child CU traits were mediated via infant attachment status.

Method: In an epidemiological cohort, CU traits were assessed at age 2.5, 3.5, and 5.0 years by mother report. Dimensions of parenting were assessed in free play at age 29 weeks in a stratified subsample of 272, and attachment status at 14 months (n = 265). Structural equation modelling with maximum likelihood estimation was used to examine predictions from parenting dimensions and attachment status.

Results: A parenting factor comprised of sensitivity to distress (n = 207), sensitivity to non-distress, positive regard towards the infant, and intrusiveness, predicted child CU traits (p = .023). This effect was accounted for mainly by sensitivity to distress (p = .008) and positive regard (p = .023) which showed a synergistic effect as evidenced by a significant interaction (p = .01). This arose because the combination of low sensitivity to distress and low positive regard created the risk for elevated CU traits. Although sensitivity and positive regard predicted attachment security and disorganization, there were no associations between attachment status and CU traits, thus attachment did not mediate the associations between parenting and child CU traits.

Conclusions: The finding of contributions from both sensitivity to infant distress and positive regard to reduced CU traits suggests that children’s responsiveness to others’ emotions may be increased by their own mothers’ responsiveness to them and their mothers’ warmth. There was no evidence that this was mediated via attachment status suggesting that the mechanism does not entail emotion regulatory strategies to threat.

KeyWords: Maternal sensitivity: attachment: callous unemotional traits

Symposium Antisocial behavior

S15 - Interventions for Children with Antisocial Behavior: Long-term Outcomes and Moderators and Mediators of Treatment Response

Authors:
Daniel S. Shaw (1), John E. Lochman (2), Andrea Glenn (2), Thomas Dishion (3), Nicole Powell (2), Caroline Boxmeyer (2), Francesca Kassing (23), Lixin Qu (2), Devon Romer (2), o, William E. Pelham III (3), Stephanie L. Sitnick (4), Thomas J. Dishion (3), Melvin N. Wilson (5), Yann Algan (6), Elizabeth Beasley(6), Richard E. Tremblay (7), Frank Vitaro (7)

Authors Address:
(1) University of Pittsburgh, USA, (2) The University of Alabama, USA, (3) Arizona State University, USA, (4) Caldwell College, USA, (5) University of Virginia, USA, (6) Sciences Po, Paris, France, (7) University of Montreal, Canada

Abstract:
During the past three decades, much evidence has accumulated about child- and family-based interventions that are successful in reducing antisocial behavior, beginning in early childhood and continuing through middle childhood and adolescence. However, much less is known about the long-term effects of such interventions in relation to later antisocial behavior and other indices of social and instrumental functioning, factors that moderate treatment response, and mechanisms that account for intervention effects. The current symposium brings together three diverse preventive intervention projects focused on preventing the exacerbation of children identified at risk for conduct disorder, with follow-ups spanning multiple developmental periods. Importantly, the projects employ different interventions and initiated their projects during three distinct developmental periods to achieve their goals, and are now examining moderators or mediators of intervention processes. Study one (Lochman et al.) examines long-term outcomes associated with the Coping Power intervention (child-focused with family support), administered in either a group or individual modality to children at ages 10–11, and how indicators of physiological reactivity might moderate treatment response in relation to
different types of antisocial behavior and autonomic reactivity four years later. Study 2 (Shaw et al.) examines family risk profiles that discriminate treatment response to the Family Check-Up from ages 2 to 5, and how neighborhood deprivation moderates treatment response to teacher reports of child aggression at age 9.5 for a large cohort of low-income families living in rural, suburban, and urban communities. Finally, Study 3 (Algan et al.) examines child cognitive and social intermediate outcomes during early and later adolescence that might account for long-term outcomes on criminality and educational attainment for a cohort of Canadian youth receiving training in social skills and support for parents and teachers at formal school entry over a two-year period. Cumulatively, this symposium provides new insights about specific factors that might attenuate or amplify treatment response or account for long-term changes in relation to the prevention of serious forms of antisocial behavior and related instrumental functioning.

**KeyWords:** antisocial behavior, intervention, family, moderators, mediators

**Symposium Antisocial behavior**

**S15A - Autonomic Nervous System Predictors of Aggressive Preadolescents’ Response to Group Versus Individual Intervention Formats Through a Four-year Follow-up**

**Authors:**
*John E. Lochman*

**Authors Address:**
The University of Alabama, USA

**Abstract:**
Prior research that had found iatrogenic effects for group delivery formats for preventive intervention for antisocial youth led to a recent study comparing group versus individual delivery of one cognitive-behavioral intervention (child component of Coping Power) to 360 preadolescent children screened by teachers for higher levels of aggressive behavior. While both formats led to significantly decreased externalizing behavior problems according to parent and teacher reports through a one-year follow-up, at-risk children seen individually had significantly greater decreases in teacher-rated externalizing behavior than did similar children seen in small groups (Lochman, Dishion, Powell, Boxmeyer, Qu, & Sallee, 2015). To determine whether this finding applied to all aggressive children, initial efforts found that an aspect of children’s temperament (inhibitory control), a genetic marker that may be indicative of children’s level of social bonding (a variant of the oxytocin receptor gene), and children’s resting baseline level of respiratory sinus arrhythmia (RSA) partially indicate which types of aggressive children (poor inhibitory control; high social bonding; low resting RSA) fare less well in group formats at a one-year follow-up. The latter finding leads us to an exploration of how the arms of the central nervous system, which conceptually are linked to poor regulation of arousal, may be related to long-term levels of problem behaviors evident in children’s response to intervention and its different delivery formats. In the planned presentation we will extend prior findings in two important ways. First, using growth modeling, we will determine whether the delivery of intervention in group versus individual formats has continuing effects on youths’ externalizing behaviors years later, at a four year follow-up at the end of 9th grade. Second, we will examine whether both resting baseline and reactivity (collected during an arousing task) indicators of sympathetic (skin conductance) and parasympathetic (RSA) nervous system functioning predict children’s levels of reactive aggression, proactive aggression, and broader externalizing problem behaviors. In addition, we will also examine whether intervention produces changes in ANS markers across time, and thus reducing risk for externalizing outcomes. These findings can identify characteristics of children least likely to profit from typical group-based cognitive-behavioral intervention formats.

**KeyWords:** Aggression; group intervention; autonomic nervous system
**Symposium Antisocial behavior**

**S15B - Factors that Discriminate Intervention Response to the Family Check-Up: Family and Neighborhood Risk**

**Authors:**
Daniel S. Shaw

**Authors Address:**
University of Pittsburgh, USA

**Abstract:**

Background & Purpose. Several preventive early childhood interventions have shown success in preventing early emerging antisocial behavior by promoting positive parenting skills. However, less is known about factors that promote treatment response to such interventions. Using one such validated parenting program during early childhood, the Family Check-Up (FCU), the current paper provides data on factors that promote or moderate treatment response. The first study reports on specific constellations of family risk and adjustment variables assessed at child age 2 that discriminate treatment response on subsequent child conduct problems (CP). The second study examines neighborhood deprivation as a discriminator of intervention response based on teacher reports of children’s CP at age 9.5, and whether neighborhood deprivation effects can be attenuated by improving positive parenting in early childhood.

Method. 731 families with children enrolled in Women, Infants, and Children Nutritional Programs in urban, suburban, and rural communities in the USA were recruited at child age 2. Sample eligibility was based on the presence of low socioeconomic status, and presence of family and child risk. An RCT design was utilized with families assessed annually from ages 2 to 9. Latent class analysis (LCA) was used to generate clusters of family types based on family risk factors, with primary caregivers reporting on their child’s CP at ages 3-5 (Study 1). A composite measure of dyadic positive engagement was derived from observational tasks ages 2 and 3, and a census-derived measure was used to assess neighborhood deprivation. Teachers reported on child CP at age 9.5 (Study 2).

Results & Conclusions. Intervention effects were stronger for families characterized by child neglect, legal problems, and parental depression, and lower for those families in poverty but without other contextual issues (Study 1). Effects of the FCU were apparent only for families living in moderate versus extreme neighborhood deprivation. However, for those living in the most deprived neighborhoods, indirect effects were found from the FCU to improved parenting to teacher-reported CP (Study 2). Findings suggest that a screening process would help identify families more likely to respond to the FCU problems. While neighborhood risk attenuated intervention effects, it was possible to prevent antisocial behavior for children living in extreme poverty by initiating the FCU in early childhood.

**KeyWords:**
intervention, conduct problems, neighborhood, parenting
S15C - A multi-modal preventive intervention for disruptive kindergarten children: Impacts on social capital during early adulthood and their mechanisms

Authors: Yann Algan (1), Elizabeth Beasley (1), Richard E. Tremblay (2), Frank Vitaro (2)

Authors Address: (1) Science Po, Paris, France, (2) University of Montreal, Canada

Abstract:
Substantial evidence shows that non-cognitive skills, such as emotional-regulation, social cognition and social cooperation, are strongly correlated with economic success. Recent longitudinal studies also suggest that much of the long-term economic impact of early childhood programs does not flow through cognitive skills but through a residual, attributed to a non-academic or non-cognitive channel. However, it is unclear whether interventions targeting those skills, rather than cognitive skills, can improve adult outcomes. It is also unclear whether interventions initiated during middle childhood can have effects on social capital during early adulthood. Disruptive kindergarten boys from the Montreal Longitudinal and Experimental Study (N = 250) were randomly assigned to a treatment (69 boys) and a control group (181 boys). The 2-year (Grades 2 and 3) multi-modal preventive intervention program included social skills training for the children and support to parents and teachers. Previous assessments of the intervention showed numerous beneficial outcomes, including reduction of alcohol and drug consumption during adolescence, increase in high school graduation and reduction of adult criminality. This paper reports on an evaluation of the mechanisms potentially producing the long-term impacts of the program. We examine the relationship between treatment and a large set of intermediate variables concerning cognitive and non-cognitive skills between ages 10 and 17 years, which we group into early (10-13) and late (14-17) periods. We estimate the proportion of the impact of treatment on economic outcomes explained by changes in the traits using maximum likelihood estimation of simultaneous equations. This methodology allows flexibility in the assumptions about the nature of the covariance of the traits, and whether the traits are estimated simultaneously with the treatment effect. We first identify two self-control skill mechanisms, based largely on the behavioral dimensions used to identify the disruptive sample. We show that improvements in trust and self-control explain much of the impact on education and young adult outcomes. Finally, we provide the first in-depth cost-benefit analysis of this program by exploiting administrative data on education and crime, and the impact on wages.

KeyWords: intervention, self-control, child antisocial behavior, adult adjustment

S07 - Using quasi-experimental designs to explore later outcomes of early risk

Authors: Adi Stern, 1, Rukmen Sehmi, 1, Alan Rushton, 1, Margaret Grant, 2, Barbara Maughan, 2, Jessica Agnew-Blais, 1, Andrea Danese, 1, Helen L. Fisher, 1, Sara R. Jaffee, 3, Timothy Matthews,1, Guilherme V. Polanczyk, 4, Louise Arseneault, 1, Kai Xiang Lim, 5, Chao-Yu Liu, 5, Tabea Schoeler, 5, Charlotte M. Cecil, 1, Edward D. Barker, 1, Frühling Rijsdijk, 6, Essi Viding, 1, Corina U. Greven, 6,7,8, Jean-Baptiste Pingault, 1, 6, Timothy Singham, 5, Angelica Ronald, 9, Eamon McCrory, 5

Authors Address: 1 Institute of Psychiatry, Psychology and Neuroscience, King’s College London, UK
2 Adoption and Fostering Alliance (AFA) Scotland, UK
Abstract:
Researchers have commonly used twin and adoption studies to disaggregate genetic and environmental sources of variance. The overarching theme of the symposium is to use these designs to explore the negative effects of early risk factors on later outcomes, in order to better differentiate between the contributions of genes and the environment in influencing trajectories. This symposium will include four papers that investigate the impact of pre-natal, post-natal and childhood risk factors in a variety of domains, including in mental health, behaviour, cognition and socioeconomic status.

In the first study, Sehmi and colleagues explore whether advantageous adoptive environments buffer the negative effects of pre-natal risk on cognitive and socioeconomic outcomes at mid-life, using a subsample of adopted infants in the National Child Development Study. In the second study, Xiang Lim and colleagues use a twin study (Twins Early Developmental Study – TEDS) to investigate whether low birthweight influences the risk of developing Attention Deficit Hyperactivity Disorder (ADHD) symptomatology in childhood (age 8) and adolescence (age 16). In the third study, Stern and colleagues use a twin study [The Environmental Risk (E-Risk) Longitudinal Twin Study] to investigate whether maltreatment in childhood (up to age 12) leads to ADHD in young adulthood (age 18). In the fourth study, Singham and colleagues use TEDS to explore to what extent exposure to bullying in childhood (ages 11 and 14) contributes to mental health outcomes (at age 16).

This symposium presents several family-based quasi-experimental approaches to strengthen causal inference, including twin differences design, adoption design, and temporal ordering. These studies each explore a variety of early risk factors and outcomes across different domains, with several finding evidence to support early interventions for the prevention of later negative outcomes.

KeyWords: ADHD, mental health, environmental influences

Symposium Educational attainment

S07A - Infant domestic adoption: Do advantageous adoptive environments offset early risk?

Authors:
Rukmen Sehmi

Authors Address:
King’s College London, UK

Abstract:
Background: Adoption designs can help tease apart environmental and pre-natal influences on development. Using data at birth, during childhood and adolescence, and at mid-life from the National Child Development Study (NCDS), we explored whether adoptive environments offset the effects of pre-natal risk on later cognitive and socioeconomic outcomes.

Sample: The NCDS includes a sub-sample of 180 children (born predominantly to young unmarried mothers) who were placed for adoption shortly after birth. We compared outcomes for this group with those of (i) the majority of cohort members born to married parents
(n=14361), and (ii) a 'birth comparison' group (n=363) of children born to unmarried mothers who remained with their biological parent(s).

Method: Indicators of prenatal risk (e.g. prenatal smoking) and the child's environment (e.g. parental involvement with the child) were included. Cognitive skills were assessed via standardized tests in childhood and adolescence, and a cognitive test battery at mid-life. Indicators of SES outcomes at mid-life included property ownership, social class and educational attainments.

Results: Like children in the birth comparison group, infants who were subsequently adopted were exposed to higher levels of prenatal risk than those in the general population sample. In childhood, however, adopted children grew up in markedly more advantaged homes. The cognitive test scores of adopted children were comparable to those in the general population in childhood, and consistently higher than those in the birth comparison group. At mid-life, adopted individuals outperformed the general population and birth comparisons in verbal fluency, and scored comparably to the general population sample on all other cognitive assessments. Their profiles on SES attainments were equivalent to those in the general population sample, and more advantaged than in the birth comparison group. Differences from the birth comparison group were associated with the more advantaged childhood social/material circumstances of the adopted children, and with their higher levels of parental involvement in childhood.

Conclusion: Despite exposure to prenatal risks, adopted individuals in this cohort showed positive cognitive skills and educational attainments across the life-course; a range of aspects of their childhood rearing environments seemed associated with these effects.

**KeyWords:** adoption, environmental influences, mid-life outcomes

---

**Symposium Educational attainment**

**S07B - Associations between abuse/neglect and ADHD from childhood to young adulthood: A prospective nationally-representative twin study**

**Authors:**

*Adi Stern*

**Authors Address:**

*King's College London, UK*

**Abstract:**

Background: Attention deficit/hyperactivity disorder (ADHD) is one of the most common neurodevelopmental disorders in childhood, which can also be present in adulthood. Child abuse/neglect is consistently found to be associated with ADHD. However, the robustness of this association and the direction of the link between abuse/neglect and ADHD remain unclear.

Sample: Participants were members of the Environmental Risk (E-Risk) Longitudinal Twin Study, which tracks the development of a birth cohort of 2,232 British children. The sample was constructed in 1999-2000, when 1116 families with same-sex 5-year-old twins participated in home-visit assessments. Follow-up home visits were conducted when the children were aged 7, 10, 12 and 18 years.

Methods: We considered participants to have an ADHD diagnosis if they met criteria in childhood at age 5, 7, 10, or 12; and in adulthood at age 18. Abuse/neglect included physical abuse, sexual abuse, emotional abuse, and neglect. We examined the concurrent associations between abuse/neglect and ADHD in childhood and in young adulthood. We tested the robustness and the specificity of our findings in different ways. We examined the longitudinal associations between abuse/neglect and ADHD from childhood to young adulthood, using a full cross-lagged model and temporal priority. We conducted the analyses controlling for sex, age-5 IQ, parental SES, and conduct disorder (CD).

Results: We found that child abuse/neglect was not associated with ADHD in young adulthood. However, we found that childhood ADHD was associated with later exposure to abuse/neglect. This association was robust even after controlling for SES and IQ. This association, however, was
concentrated among individuals with co-morbid CD. We also found robust associations between abuse/neglect and ADHD in both childhood and young adulthood.

Conclusions: Our study does not provide support of a causal link between child abuse/neglect and adult ADHD. Nevertheless, our findings highlight the possibility of a long-term effect of ADHD on the risk of experiencing abuse/neglect. This link from ADHD to abuse/neglect is robust and is concentrated in a group of individuals with co-morbid CD. These findings emphasize that clinicians treating people with ADHD should be aware of their higher risk for current and future abuse/neglect. It further suggests that interventions should also focus on the environment of the individual with ADHD, to better deal with challenging behaviors.

KeyWords: Abuse/neglect, ADHD, temporal priority

Symposium Educational attainment

S07C - The role of birth weight on the causal pathway to child and adolescent ADHD symptomatology: A twin differences longitudinal design

Authors: Kai Xiang Lim

Authors Address: University College London, UK

Abstract:
Background: Previous twin studies point towards low birth weight as a risk factor for Attention-Deficit/Hyperactivity Disorder (ADHD) traits during childhood. We investigated whether this putative effect of birth weight on ADHD traits: (i) was still present after accounting for genetic and shared environment confounding using twin differences design; (ii) persisted from childhood to adolescence and; (iii) differed between the inattention and hyperactivity/impulsivity symptom domains.

Sample: Participants were 10,197 twin pairs (3,499 monozygotic pairs, 51.2% females) from Twins Early Development Study, who were born between January 1994 and December 1996, and were representative of the UK population.

Method: Parents, teachers and the twins themselves rated the twins’ ADHD traits at 9 assessment waves between ages 2 and 16 years. Associations between within-twin birth weight differences and within-twin ADHD traits differences were estimated for monozygotic (MZ) and dizygotic (DZ) twins respectively. The MZ estimates, which controlled for all genetic and shared environmental confounds, informed magnitudes of birth weight’s association with ADHD traits. We tested if there was any significant change for MZ estimates across time using adapted latent growth curve models. We also tested if the MZ estimates for inattention were significantly higher than that of hyperactivity/impulsivity.

Results: MZ estimates were significant from early childhood to late adolescence, pointing towards a plausible causal effect of low birth weight on increased ADHD traits. Although the associations were significant, magnitudes of these MZ estimates decreased across time for total ADHD and hyperactivity/impulsivity traits, but not for inattention traits. MZ estimates were significantly larger for inattention than hyperactivity/impulsivity traits at each time point, implying stronger effect of birth weight on inattention.

Conclusion: Our findings point towards a role of birth weight on the causal pathway to the development of ADHD symptoms, especially for inattention. This study provides stringent evidence in support of the developmental origins of health and disease (DOHaD) hypothesis, with persistent and differential developmental effects of prenatal growth on ADHD symptomatology.

KeyWords: ADHD, low birth weight, twin-differences design
Symposium Educational attainment

S07D - Concurrent and Longitudinal Contribution of Exposure to Bullying in Childhood to Mental Health The Role of Vulnerability and Resilience

Authors:  
Jean-Baptiste Pingault

Authors Address:  
King’s College London, UK

Abstract:  
Background: Exposure to bullying is associated with poor mental health. However, the degree to which observed associations reflect direct detrimental contributions of exposure to bullying to mental health remains uncertain, as noncausal relationships may arise from genetic and environmental confounding (e.g. preexisting vulnerabilities). Therefore, this study aims to characterize the concurrent and longitudinal contribution of exposure to bullying to mental health in childhood and adolescence using a twin differences design to strengthen causal inference.

Sample: Participants were drawn from the Twins Early Development Study, a population-based cohort recruited from population records of births in England and Wales between January 1994 and December 1996. Data collection took place when the participants were between 11 and 16 years of age, from December 2005 to January 2013.

Methods: Childhood exposure to bullying was measured using the Multidimensional Peer Victimization Scale at ages 11 and 14. Mental health assessments at 11 and 16 years of age included anxiety, depression, hyperactivity and impulsivity, inattention, conduct problems, and psychotic-like experiences. Data from up to 5,558 complete twin pairs was analysed.

Results: The most stringent twin differences estimates (monozygotic) were consistent with causal contribution of exposure to bullying at 11 years to concurrent anxiety, depression, hyperactivity and impulsivity, inattention, and conduct problems. Effects decreased over time; that is, substantial concurrent contributions to anxiety ($\beta=0.27; 95\%CI 0.22-0.33$) persisted for 2 years ($\beta=0.12; 95\%CI 0.04-0.20$) but not 5 years. Direct contributions to paranoid thoughts and cognitive disorganization persisted for 5 years. Conclusions: This study is the largest to date to characterize the contribution of exposure to bullying in childhood to mental health using a twin differences design and multi-informant, multiscale data. Stringent evidence of the direct detrimental contribution of exposure to bullying in childhood to mental health is provided. Findings also suggest that childhood exposure to bullying may partly be viewed as a symptom of preexisting vulnerabilities. Finally, the dissipation of effects over time for many outcomes highlights the potential for resilience in children who were bullied. In addition to programs that aim to reduce exposure to bullying, interventions may benefit from addressing preexisting vulnerabilities and focus on resilience.

KeyWords: Bullying, mental health, causal Inference

Symposium Educational attainment

S10 - ADHD over the life course: Understanding the developmental course of ADHD from preschool to young adulthood

Authors:  
Jessica Agnew-Blais, Edmund Sonuga-Barke, Francis Vergunst, Richard E Tremblay, Cédric Galera, Daniel Nagin, Frank Vitaro, Michel Boivin, Sylvana M Côté, Miriam Cooper, Stephan Collishaw, Kate Langley, Ajay Thapar, Søren Dalsgaard, Evie Stergiakouli, Kate Tilling, George Davey Smith,
While attention-deficit hyperactivity disorder (ADHD) was once considered to be a childhood-limited disorder, it is now understood that ADHD can continue past childhood into adolescence and adulthood. Moreover, recent studies have suggested that, in contrast to current diagnostic criteria, ADHD may onset after childhood. This symposium includes presentations from four longitudinal cohort studies that illuminate important questions regarding the predictors and outcomes of different courses of ADHD development across the lifespan.

The first study by Sonuga-Barke describes the long-term economic burden associated with adolescent/young outcomes of preschool hyperactivity, as well as the child characteristics that increase risk for poor outcomes. The second study from Vergunst et al. using the Quebec Longitudinal Study of Child Development takes a similarly long-term approach to describe continuity and change in developmental trajectories of hyperactivity-impulsivity and inattention symptoms from age 1.5 to 17 years and to identify early risk factors associated with elevated trajectories. The third study by Riglin et al. examines a current controversy, the possible emergence of ADHD after childhood. Using data from Avon Longitudinal Study of Parents and Children (ALSPAC) Riglin et al. investigate the extent to which later-onset ADHD cases could be explained by: misclassification (measurement error), later-onset of the same underlying liability, or an aetiologically distinct set of symptoms. The fourth study by Agnew-Blais et al. uses data from the Environmental Risk (E-Risk) Longitudinal Twin study to examine how ADHD and cognitive functioning relate to one another across development. Specifically this study investigates whether changes in ADHD status across development—both remission of the disorder and its onset after childhood—are associated with changes in cognitive functioning.

**KeyWords:** ADHD
Results: At age 3 years, males and females in the hyperactive group had similarly raised levels of hyperactivity and other behavior problems. In adolescence/young adulthood, these individuals showed elevated symptoms of ADHD, conduct disorder, mood disorder, anxiety and autism, as well as functional impairment. Preschool hyperactivity was strongly predictive of poor adolescent/adult outcomes for males across domains with effects being specifically driven by hyperactivity. For females, the effects of preschool hyperactivity were smaller and dropped to non-significant levels when other preschool problems were taken into account. Environmental risk factors also differed between the sexes. Compared to controls, preschoolers with hyperactivity had 17.6 times higher average costs per annum across domains (apart from nonmental health costs). The effects of hyperactivity on costs remained significant when other baseline factors were added to the model. Effects were fully mediated by later psychiatric morbidity and predicted by male sex and, for some cost codes, by conduct problems.

Discussion: In conclusion, these results demonstrate marked sex differences in preschool predictors of later adolescent/adult mental health problems. Preventative approaches targeting early hyperactivity may be of value. Services should be targeted towards high-risk individuals with careful consideration given to the cost-to-benefit trade-off of early intervention strategies.

**KeyWords:** hyperactivity, preschool, economic burden

**Symposium Educational attainment**

**S10B - Early risk factors for hyperactivity-impulsivity and inattention from 1.5 to 17-years: A population-based birth cohort study**

**Authors:**
Francis Vergunst

**Authors Address:**
University of Montréal, Montréal

**Abstract:**

Background: Attention-deficit/hyperactivity disorder is a common childhood psychiatric disorder with persisting lifelong symptoms. The long-term developmental course of hyperactivity-impulsivity and inattention symptoms from infancy to adolescence and its association with early risk factors has not been documented in a population-based sample. Our aim was to describe continuity and change in developmental trajectories of hyperactivity-impulsivity symptoms and inattention symptoms from 1.5 to 17 years using assessments from multiple informants, and to identify early risk factors associated with following elevated trajectories in each symptom categories as well as both concurrently.

Sample: Quebec Longitudinal Study of Child Development, a population-based birth cohort study of 2120 individuals followed up from 1.5 to 17 years.

Methods: Mother (1.5–8 years), teacher (6–13 years) and self-report (10–17 years) symptom ratings were combined using group-based multi trajectory modelling to identify high trajectories of hyperactivity-impulsivity and inattention. Prenatal, perinatal and postnatal risk factors associated with high-symptom trajectories were identified.

Results: Hyperactivity-impulsivity symptoms broadly declined from 1.5 to 17 years while symptoms of inattention remained constant. 21.4% of children followed high-symptom trajectories of hyperactivity-impulsivity and 20.2% followed high-symptom trajectories of inattention, while 11.6% followed both high-symptom trajectories. Risk factors for high-symptom trajectories of hyperactivity-impulsivity were: low maternal education (adjusted odds ratio (OR), 1.71; 95% CI, 1.07–2.73), prenatal tobacco exposure (adj OR, 1.51; 95% CI, 1.03–2.21), and maternal depression (adj OR, 1.24; 95% CI, 1.09–1.41). Risk factors for high-symptom trajectories of inattention were: prenatal street drug exposure (adj OR, 5.05; 95% CI 1.43–17.83), early motherhood (adj OR, 2.12; 95% CI, 1.40–3.20), and maternal depression (adj OR, 1.18; 95% CI, 1.03–1.37). Risk factors for both symptom categories were low maternal education (adj OR, 2.72; 95% CI, 1.55-4.79) and maternal depression (adj OR, 1.34; 95% CI, 1.13-1.58).
Conclusions: Children follow distinct developmental trajectories of hyperactivity-impulsivity and inattention symptoms from infancy through adolescence. Prenatal, perinatal, postnatal and maternal psychopathology risk factors are associated with following persistently high-symptom trajectories.

**KeyWords:** hyperactivity-impulsivity, inattention, trajectories, risk factors

---

**Symposium Educational attainment**

**S10C - What is “adolescent-onset” ADHD? A population cohort investigation**

**Authors:**
Lucy Riglin  

**Authors Address:**
School of Medicine Cardiff University, UK

**Abstract:**
Background: Recent studies have challenged the notion that ADHD onset occurs exclusively in childhood by reporting cases of “later-onset” ADHD that appear to present in the absence of childhood symptoms. However, it is unclear whether such cases reflect (i) misclassification (measurement error), (ii) later-onset of the same underlying liability, or (iii) an aetiology distinct set of symptoms.


Method. Individuals were grouped based on presence/absence of parent-rated ADHD symptoms at ages 12 and 17 years (total N=4953). We investigated levels of childhood ADHD symptoms (age 7, 8 and 10), neurodevelopmental correlates and adolescent comorbidities in those with possible “adolescent-onset” ADHD.

Results: Preliminary results suggest that a significant proportion of individuals who appeared to show first onset between ages 12 and 17 years, and thus met criteria for potentially adolescent-onset ADHD, might be explained by misclassification (sub-threshold ADHD at earlier ages). The remaining “adolescent-onset” cases did not show typical childhood neurodevelopmental correlates (e.g. lower IQ, impaired executive functioning, autistic type symptoms) and showed a higher level of later-onset conduct problems but not mood disorder.

Conclusions: Some reported cases of apparent “adolescent-onset” are likely due to misclassification, but this did not explain all of our cases. While it remains unclear whether “adolescent-onset” ADHD is aetiology distinct from current definitions of ADHD or represents the later-onset of the same underlying liability, our preliminary findings suggest that these are not cases with characteristics typical of neurodevelopmental disorders.

**KeyWords:** ADHD, onset, ALSPAC

---

**Symposium Educational attainment**

**S10D - Do changes in ADHD affect cognitive functioning in young adulthood?**

**Authors:**
Jessica Agnew-Blais  

**Authors Address:**
Institute of Psychiatry, Psychology & Neuroscience, King’s College London, UK

**Abstract:**
Background: Children and adults with ADHD have been found to exhibit, on average, lower IQ and impaired executive functioning compared to peers without ADHD. However, whether changes in ADHD status across development— both remission of the disorder and its onset after childhood— are associated with changes in cognitive outcomes remains unclear.

Methods: ADHD diagnoses were assessed in childhood at ages 5, 7, 10, and 12 and in young adulthood at age 18. General intelligence was assessed with IQ tests at ages 5, 12 and 18 years; executive functioning was assessed with a composite score at age 5, and by the Rapid Visual Information Processing (RVP), Spatial Working Memory (SWM), and Spatial Span (SSP) tasks of the CANTAB battery at age 18. We used longitudinal mixed models to compare IQ trajectories among individuals with persistent, remitted and late-onset ADHD with non-ADHD controls. We additionally compared young adult executive functioning between ADHD groups and controls, further adjusting for age-5 executive functioning, and age-18 IQ.

Results: Longitudinal models showed a difference in level of IQ between persistent, remitted and late-onset ADHD groups compared with controls. The remitted group also showed a stable higher IQ compared with the persistent ADHD group. There was no evidence of an age x group interaction for full-scale IQ. Executive functioning at age 18 was impaired in all ADHD groups compared with controls. The late-onset group performed better than groups with childhood ADHD on executive functioning tasks, but more poorly than controls. Overall executive functioning did not differ between remitted and persistent ADHD groups in young adulthood, with the exception of the remitted group having fewer false alarms on the RVP task.

Conclusions: We found no evidence for change in ADHD status impacting cognitive functioning in young adulthood. Rather differences in IQ in young adulthood reflect stable IQ differences that were evident in early childhood. While executive functioning in young adulthood overall did not appear to be influenced by ADHD status, individuals with persistent ADHD were more likely to make false alarms on the RVP task, suggesting continued ADHD symptoms in particular may be associated with problems with response inhibition.

KeyWords: ADHD, cognition, longitudinal

Symposium Mental and physical health

S01 - Pathways to excessive and harmful alcohol use in early adulthood

Authors:
Liam Mahedy (1), Gemma Hammerton (1), Jon Heron (1), Georgina J. MacArthur (1), Alexis C. Edwards (2), Kenneth S. Kendler (2), John Macleod (1), Matthew Hickman (1), Simon C. Moore (3), Lexine Stapinski (4), Maree Teesson (4), Nicola Newton (4)

Authors Address:
(1) Population Health Sciences, Bristol Medical School, University of Bristol, United Kingdom.
(2) Department of Psychiatry and School of Medicine, Virginia Institute for Psychiatric and Behavioral Genetics, Virginia Commonwealth University, Richmond, Virginia, USA
(3) School of Dentistry, College of Biomedical and Life Science, Cardiff University, United Kingdom.
(4) NHMRC Centre for Research Excellence in Mental Health and Substance Use, University of New South Wales.

Abstract:
Excessive alcohol consumption remains a leading cause of premature mortality in the UK [1] and is one of the main risks for incident disability adjusted life years among young people aged 10-24 years [2]. Understanding factors that influence the initiation and trajectory of alcohol consumption among young people is therefore a public health priority. Alcohol use peaks in early adulthood [3], and excessive drinking at this age is associated with a wide range of short and long-term harms to health, including injury, violence, sexual risk behaviour, self-harm, and increased likelihood of dependence and abuse later in life [4-6]. Reduction in harmful levels of drinking and the later adverse consequences is challenging; therefore, identifying risk factors earlier in life is essential for successful prevention strategies. Hypothesised risk factors for excessive drinking in adulthood include early alcohol initiation and maladaptive drinking practices [7], deviant peers and antisocial behaviour [8], family influences and parental behaviour [9,10] and earlier mental health problems, such as anxiety [11].
We use data from a large, prospective, UK birth cohort: the ‘Avon Longitudinal Study of Parents and Children’ (ALSPAC) [12] to examine the pathways to excessive and harmful alcohol use in early adulthood. The “core” enrolled sample consisted of 14,541 pregnant women resident in the former county of Avon, United Kingdom, who had an expected date of delivery between 1st April 1991 and 31st December 1992. Parents and children have been followed up regularly since recruitment via questionnaire and clinic assessments. The self-report 10-item Alcohol Use Disorders Identification Test (AUDIT) [13], which is a brief screening tool to identify individuals with alcohol-related problems, was completed by the young person at regular time points between ages 18 and 23 years. Using this measure, we have derived several phenotypes representing excessive and harmful alcohol use in early adulthood and used a range of methods in a structural equation modelling framework, including mediation analysis, latent growth curve modelling and latent transition analysis, to examine the various pathways to excessive and harmful alcohol use in early adulthood.

KeyWords: alcohol; ALSPAC; structural equation modelling

References:

Symposium Mental and physical health
S01A - The effect of parental drinking on alcohol use in young adults: the mediating role of parental monitoring and peer deviance

Authors: Liam Mahedy

Authors Address: Bristol Medical School, University of Bristol, UK

Abstract:
Background: Evidence demonstrating an association between parental alcohol use and offspring alcohol use from robust prospective studies is lacking.
Sample: We used prospective data from a large UK based population cohort (Avon Longitudinal Study of Parents and Children). Data were available on 3,785 adolescents and their parents.
Methods: Maternal reports of their own and their partner's alcohol use were collected when their children were 12 years of age. Their children's self-reported alcohol use was assessed at 18 years of age using the Alcohol Use Disorders Identification Test. Structural equation modelling was used to assess hypothesised mechanisms (i.e., parental monitoring, deviant activity in the peer group, and early alcohol initiation), of the association between parental alcohol use and alcohol use in young adults.
Results: There was strong evidence of a total effect from maternal moderate alcohol use to young adult alcohol use via the hypothesized mechanisms (b=.26, 95% CI=.08, .44, p=.001). The majority of this association was explained through earlier alcohol initiation (b=.14, 95% CI=.04, .25, p=.01), and earlier alcohol initiation/associating with deviant peers (b=.06, 95% CI=.02, .10, p=.01). There was strong evidence of a remaining direct effect (b=.81, 95% CI=.39, 1.22, p<.001).
Conclusions: This prospective study found clear evidence of a potential pathway and prevention target from parental alcohol use and early initiation with alcohol to adverse alcohol use in young adults.

KeyWords: alcohol; parental transmission; teenagers

S01B - Externalising pathways to alcohol-related problems in early adulthood

Authors: Gemma Hammerton

Authors Address: Bristol Medical School, University of Bristol, UK

Abstract:
Background: Alcohol-related problems peak in early adulthood, and identifying risk factors earlier in life is essential for successful prevention strategies. Two key risk factors that often co-occur in adolescence include the early onset of heavy alcohol consumption and criminal behaviour.
Sample: Data from 4,239 young people were utilised from a UK birth cohort; the ‘Avon Longitudinal Study of Parents and Children’.
Methods: Four latent classes representing co-occurring criminal behaviour and heavy alcohol consumption (10%), only criminal behaviour (20%), only heavy alcohol consumption (7%), or neither (63%) were identified using latent class analysis with five binary items assessed at age 15 years ('violent crime', 'non-violent crime', 'heavy typical drinking', 'frequent drinking', 'regular binge drinking'). A quadratic latent growth curve was estimated to capture non-linear...
change in alcohol-related problems (assessed using a self-report questionnaire) between ages 18 and 23 years. The quadratic model was re-parameterised to examine three growth factors which were thought to be of greater interest when examining risk for excessive drinking: the intercept (average levels of alcohol-related problems at age 18 years), maximum level of alcohol-related problems and age at maximum.

Results: There was evidence for an association between latent classes at age 15 years and growth factors for alcohol-related problems in early adulthood [intercept: p<.001; age at maximum: p=0.001; maximum levels: p<.001]. Specifically, those with co-occurring criminal behaviour and heavy alcohol consumption in adolescence had the highest levels of alcohol-related problems at age 18 years [b(95% CI) = 6.17 (5.39, 6.95)], and the earliest [b(95% CI) = -0.66 (-1.25, -0.07)] and highest maximum levels [b(95% CI) = 5.22 (4.26, 6.18)] compared to those with neither. Those that displayed criminal behaviour without heavy alcohol consumption, or vice versa, also showed a more severe course of alcohol-related problems across early adulthood compared to those that displayed neither.

Conclusions: Those that report criminal behaviour, heavy alcohol consumption or both in adolescence show a more severe course of alcohol-related problems across early adulthood. Further analyses will consider the role of childhood conduct problems and other potential confounders. Identifying the specific externalising pathways to later alcohol-related problems will help to identify key targets for early intervention.

**KeyWords:** criminal behaviour; alcohol-related problems; latent growth curve

---

**Symposium Mental and physical health**

**S01C - Examining the impact of anxiety on alcohol use across transition to adulthood**

**Authors:**
Jon Heron

**Authors Address:**
Bristol Medical School, University of Bristol, UK

**Abstract:**
Background: Anxiety and alcohol use disorders commonly co-occur, with severe comorbid presentations often responding poorly to standard treatments. The transition from adolescence to adulthood represents a key risk period for these disorders, yet little is currently known about how they unfold or how best to prevent their escalation.

Sample: We used prospective data from a large UK based population cohort (Avon Longitudinal Study of Parents and Children). Data were available on 2,148 adolescents / young adults.

Methods: We examined the relationship between anxiety, coping-motivated drinking and transition from low alcohol use to hazardous use and emerging alcohol dependence. At ages 17 and 21, participants reported their alcohol use and related problems, anxiety symptoms, and use of alcohol to cope with emotional symptoms. Transition analysis was used to identify alcohol use subtypes, and examine the impact of anxiety and coping motives on the probability of moving from low- to high-risk use over this period.

Results: Three distinct profiles were identified with the largest characterised by infrequent bingeing. A second group reported at least monthly bingeing, with some alcohol-related problems, while a high-risk group was typified by regular bingeing, alcohol-related problems and emerging dependence symptoms. Anxiety predicted bingeing at baseline (OR=2.04, 95% CI=[1.53, 2.71]) but did not directly affect status at age 21. In contrast, coping-motivated drinking was associated with alcohol use at both waves and with transition between waves - those reporting more coping-motivated drinking had increased risk of moving from low-risk use to binge or high-risk states during the period studied.

Conclusions: Anxiety, and in particular measures of drinking to cope with anxiety, are associated with adverse drinking patterns in early adulthood.

**KeyWords:** alcohol, anxiety, coping motives
**Abstract:**

This symposium will examine social inequalities in mental and physical health from a life course perspective. The presentations are drawn from diverse backgrounds, including epidemiology, demography, economics, and health promotion, in an attempt to present a varied but complementary set of approaches examining the issue.

Socioeconomic position – ‘generally characterized by education, employment and income’, is a ‘fundamental cause’ of health inequalities, in that it shapes exposures to multiple risk factors, from the beginning of life (1,2). One of the key questions on the consequences of early socioeconomic adversity that has not yet been answered involves the timing and chronicity of negative experiences and exposures. Researchers have posited that children’s susceptibility to the adverse effects of low socioeconomic position may vary according to whether exposure is chronic or transient, and whether it occurs during key developmental periods (e.g. gestation, toddlerhood).

A second area of current interest, and one that has traditionally been overlooked by social epidemiologists (3), is how social policies affect social inequalities in health long-term and may act as a potential means for intervention (3). For example, while it is known that higher educational attainment is associated with better health, less is known on whether policies that increase education also improve health.

The first two studies that will be presented in this symposium make use of large, nation-wide birth cohorts in France and Denmark, in order to examine socioeconomic differences in each of language skills and motor development, as well as mental health symptoms, in toddlerhood and early adolescence, respectively. The third presentation will turn our attention to the role of social policies in increasing or attenuating health inequalities. In particular, the effect of change in policy on education reform in France on long-term mental and physical health outcomes will be presented by way of a Regression Discontinuity Design (RDD).

Finally, our last presenter will provide a theoretical framework for the concept of vulnerability, putting into perspective how social inequalities in health affect individuals’ ability to act in context. Examples from the prior presentations will be used in order to examine how this framework may be applied to life course research.

**KeyWords:** Social inequalities, poverty, social policy, vulnerability, mental health, development.

**References:**

Lydia Panico

Authors Address:
Pierre Louis Institute for Epidemiology and Public Health (iPLESP), France

Abstract:
Background: Socio-economic inequalities in child development appear to start early in life. However, few studies have assessed these differences using large, nationally-representative samples from toddlerhood, a critical age for child development. In this paper, we use the French Etude Longitudinale Française depuis l’Enfance (Elfe), a population-based longitudinal birth cohort following over 18,000 children from their birth in 2011, to study whether differences in early language skills and motor development by household socio-economic status are already evident at 2 years of age.

Sample: Cohort children were born in a representative sample of 341 hospitals located throughout continental France; interviews were carried out shortly after birth in the hospital, and by telephone roughly 2 months post-birth, and at about 1 and 2 years of age. These analyses will mainly use data from the 2-years interview for the child outcomes and the 2 months interview for the socio-economic variables and controls. Our analytical sample is based on over 12000 children included at both waves of interest.

Method: We use a validated tool to measure early language skills, the MacArthur-Bates inventory, reported by the parents. For motor development, we create a score by using 8 questions tapping into gross motor (walking, running, kicking a ball, climbing stairs, pedaling on a tricycle) and fine motor development (holding a spoon, drinking from a cup, putting on socks/slippers). Factor and multiple component analyses confirm that these variables constitute a coherent construct. Both scores are age-standardized z-scores. We use linear regression models with robust standard errors to estimate the correlations between two socio-economic variables (equivalised household income and parental education) on each outcome separately.

Results: Initial results suggest strong unadjusted gradients in early language development by both income and education. The difference between the most advantaged and the least advantaged households (both for education or income) is about half a standard deviation. We see however no significant differences by income or education for motor development. While the interaction between mother and father education was not significant, the coefficients suggest that, for low-educated mothers, increasing levels of father education predict increasing language scores. Within high educated mothers there was no gradient by father education. The interaction between income and parental education was not significant and did not improve model fit. Ongoing work will examine the role of parental reading to the child in explaining language differentials.

Conclusions: Strong gradients in socio-economic background are evident from a very early age for language but not motor development. These findings point to the importance of the early years for trajectories of unequal cognitive achievement.

KeyWords: socio-economic inequalities, language skills, motor development, critical periods

Symposium Mental and physical health

S04B - Family poverty during childhood and mental health at 11 years of age: Results from the Danish National Birth Cohort.

Authors:
Laura Pryor

Authors Address:
Social Epidemiology Research Group (ERES), Paris, France

Abstract:
Background: Children exposed to early socioeconomic adversity have a higher risk of experiencing psychological difficulties immediately and long-term. Few studies have examined the relation between family socioeconomic adversity and child mental health in a dynamic
fadashi using nation-wide objective measures of disposable income data, beginning before birth and extending into adolescence.

Methods: The Danish National Birth Cohort (DNBC) is a longitudinal, population-based cohort study, wherein from 1996 to 2002, 100 419 pregnancies were targeted for recruitment. Household poverty from the year before birth until the child was 10 years of age was calculated according to the modified OECD method. Poverty status across time was modeled using a Group-based developmental trajectory approach (Proc Traj). Child mental health symptoms (Conduct, Hyperactivity/Inattention, Emotional, or “any diagnosis”) were measured using mother and child reported Strengths and Difficulties questionnaire (SDQ) items at 11 years, while stress was measured using the child-reported Stress in Childhood (SiC) scale.

Results: A four-category trajectory model was identified, depicting families who experience: 1) No poverty (83.5%) 2) Intermittent poverty (8.6%); 3) Poverty during the perinatal period (4.9%) and; 4) Chronic poverty (3.0%). When controlling for several early life characteristics of the family/mother and child, significant associations were found between membership in the “Intermittent” poverty trajectory and Conduct problems (RR= 1.38, 95% CI: 1.19; 1.60), Hyperactivity (RR= 1.18, 95% CI: 1.01; 1.38), “Any problem” (SDQ) (RR= 1.18, 95% CI: 1.07; 1.30), and Stress (RR= 1.10 (1.03; 1.17).

Conclusions: Children growing up in a household characterized by financial instability may be more likely to exhibit symptoms of externalizing behaviours and stress in early adolescence. Policies geared towards raising family disposable income among families at risk of poverty throughout childhood may serve to prevent mental health problems and could help break the vicious circle between low socioeconomic position and mental ill health.

KeyWords: Poverty, Group-based developmental trajectories, child mental health, stress

Symposium Mental and physical health

S04C - The expansion of compulsory education and adult health: quasi-experimental evidence from the Constances cohort

Authors:
Emilie Courtin

Authors Address:
INSERM & Sorbonne Universities- Pierre et Marie Curie, Paris, France

Abstract:
Background. Higher educational attainment is associated with better health, but whether policies that increase education improve health is not well established. This study examines the long-term impact of a major policy that increased compulsory years of schooling in France on cognition, mental health and physical functioning.

Methods. Data came from Constances, a cohort representative of the French population. We used a Regression Discontinuity Design (RDD) to compare the health of cohorts born just before and after the reform, which increased the minimum school leaving age from 14 to 16 years in 1959.

Results. Average years of schooling increased by 2.9 months as a result of the policy. This increase was driven by participants from blue collar families, for whom years of schooling increased by 4.1 months. RDD estimates suggest that this reform led to higher cognitive scores (β=0.148, 95% confidence interval [CI] 0.02 to 0.27; odds ratio [OR] for top quartile of cognitive score=1.807, 95% CI 1.21 to 2.71) among men. Among women, increasing years of compulsory schooling did not increase cognitive scores and led to higher depression scores as measured by the Centre for Epidemiologic Studies Depression scale (β=1.5, 95% CI 0.320 to 2.724 and OR for elevated depressive symptoms=1.269, 95% CI 1.03 to 1.56). There was no effect on functional health outcomes.

Conclusions. An increase in compulsory schooling led to better cognitive function among men but increased depressive symptoms among women in older age. Compulsory schooling laws may have widened gender disparities in cognitive and mental health.
**KeyWords:** Social policy, educational attainment, education reform, mental health, physical health, cognition, gender disparities.

**Symposium Mental and physical health**

**S04D - Understanding how the context of living in poverty contributes to individuals’ vulnerability**

**Authors:**
Caroline Adam

**Authors Address:**
Université de Montréal, École de Santé Publique, Canada

**Abstract:**

Background: The social exclusion framework (Adam, Potvin, 2016) considers that situations of poverty are the result of exclusionary mechanisms which limit access to rights, resources and capacities required for a good quality of life. These mechanisms shape « the various settings of everyday life: where we learn, work, play and love » (WHO, 1986), and it is important to understand how they interact with the context in which individual actions are carried out. In the present research project, we sought to answer the following question: how do limitations on individuals' access to rights, resources and possibilities for capacity building interact with the context in which they carry out their actions?

Methods: A cross-sectional, qualitative research design based in an ethno-sociological perspective, and using life history analyses was used. Data was collected by way of semi-directed individual interviews (n=12) with individuals who frequent a community organization for food insecurity. A thematic analysis was then performed on the interview content.

Results: The results allowed us to elaborate on the concept of Action in context, in order to understand how limitations in access, generated by exclusionary mechanisms, interact with the context in which individual action is deployed. Six elements were found to interact: agency, resources, capacities, extrinsic threats, interactional threats and opportunities.

Discussion: Our results suggest that exclusionary mechanisms modify the interplay of the elements involved in the concept of Action in context, thereby creating situations of vulnerability. These situations are characterized not only by a higher risk of being exposed to threats without the necessary resources and capacities to deal with these, but also by a limitation of the possibilities for seizing opportunities to improve one’s outcome.

**References:**

**Symposium Mental and physical health**

**S06 - Causes and consequences of child abuse or placement out of home: What can we learn from long-term population based and experimental studies?**

**Authors:**
Isabelle Ouellet-Morin, Sylvana Côté and Marie-Claude Geoffroy.

**Discussant/Chairman:** Sara Jaffee.

**Authors Address:**
Abstract:

Children exposed to abuse, neglect and other forms of early adverse familial environments are at higher risk of experiencing mental health, social and behavioral problems across the life span. What is more, decisions made to remove children from abusive or neglectful family environments, such as placement of children in foster care, may also bear heavy consequences in the children’s live and compromise their future health and functioning. This symposium brings together results from three large population-based longitudinal studies to describe the medium- and long-term outcomes of children exposed to abuse, early adversity or foster care and offers insights about the physiological mechanisms that may underline these difficulties. The implication for mitigating the long-lasting impact of childhood maltreatment and child placement services on the future well-being of these children will be discussed.

Key Words: Maltreatment; Abuse; Socioeconomic status; Stress; Criminality; Cognition; Stress; Cortisol; Longitudinal study designs.

Symposium Mental and physical health

S06A - Out-of-home placement before age 7 years and adult psychiatric and criminality outcomes in the 1987 Finnish birth cohort: A Nationwide propensity score-matched study.

Authors: Sylvana Côté

Authors Address: Université de Montréal, Montréal, Canada

Abstract:

Importance. Several studies have shown that children removed from their families and placed in foster (out-of-home) care do more poorly as adults than those who remain in their own home. The causal role of out of home placement cannot be ascertained in correlational studies, yet experimental studies pose significant ethical challenges in this field of study. Objective. To assess the impact of out-of-home placement before age 7 years on mental health and criminality outcomes in adulthood (18-25 years) using a quasi-experimental design (i.e., propensity score matching).

Design. Linkage of population-based registers. Setting. 1987 Finnish birth cohort (FBC-87). Participants. N=59,476 FBC-87 participants followed-up from birth to 25 years. Exposure. Placement in care outside of home between age 2 and 6 years. Main outcomes and measures. We compared the rates of psychiatric diagnoses and criminality in adulthood (aged 18 and 25 years) between children placed out of the family home and those remaining in home prior to age 7 years and living in similarly aversive circumstances. Children were matched on a wide range of baseline characteristics (e.g., exposure to tobacco in utero, premature birth, early disability or developmental problems) and family risk factors (e.g., parental death, divorce, low education, psychiatric diagnoses, social assistance) using propensity score.

Results. Out of n=59,476 cohort members, n=388 (0.65%) children were placed out-of-home before age 7 years. Compared to propensity score matched not-placed children, placed children had greater odds of the following disorders: alcohol or drug use (OR=2.00, 95%CI=1.23-3.26), psychotic and bipolar (OR=4.67, 95%CI=1.93-11.27), depression or anxiety (OR=2.08, 95%CI=1.41-3.06), neurodevelopmental (including autism spectrum disorders, and attention-deficit hyperactivity disorder; OR=3.50, 95%CI=1.15-10.63), any other (including conduct/oppositional disorders, personality, and eating disorders; OR=2.14, 95%CI=1.28-3.60). Placed children were more likely, as adults, to use psychotropic medication (OR=1.96, 95%CI=1.37-2.80), and to have been convicted for an offence against person.
Conclusion and relevance. Children placed out-of-home for the first time during early childhood have poorer psychiatric outcomes and higher rates of criminal behaviors than propensity score-matched children never placed. Implications for the quality of foster care services for very young children are discussed.

KeyWords:
Child abuse; Out-of-home placement; Quasi-experimental study; Propensity score matching.

Symposium Mental and physical health

S06B - Enduring effect of early adversity on the hpa axis: The hypothesized moderating role of severity of experiences on cortisol reactivity and chronic secretion.

Authors:
Isabelle Ouellet-Morin

Authors Address:
Université de Montréal, Montréal, Canada

Abstract:
Context: There is a relative consensus about the detrimental impact of early adversity, including childhood maltreatment and low socioeconomic status (SES), on later mental health problems and behavioral difficulties. Prior research suggests that neurophysiological stress mechanisms may be involved in this association. To date, however, inconsistent findings have been reported about the hypothesized role of the hypothalamic–pituitary–adrenal (HPA) axis, and its end-product cortisol, in that association. In addition to common methodological concerns (e.g., saliva sampling, health-related confounders), the failure to examine the heterogeneity of these experiences, including its severity and the factors that may buffer the children against these environments, complicate this investigation.

Objective: To test whether distinct patterns of cortisol response to stress and chronic cortisol secretion emerged as a function of increasing levels of adversity in two study samples.

Methods: Study 1 included 155 male participants (56 maltreated and 99 controls) aged 18 to 35 years for whom cortisol was measured in response to the Trier Social Stress Test and maltreatment experiences were reported with the Childhood Trauma Questionnaire. Study 2 comprised 579 16 years-old adolescent members of the Québec longitudinal study of child development who provided a hair sample for cortisol measurement and for whom the data collected at 14 times, between 5 months-of-age and 16 years of age, in regards to SES and parental practices were considered simultaneously across three developmental periods using confirmatory factor analyses.

Results: Study 1 showed that maltreated participants had higher cortisol responses to stress in comparison to controls. However, a shift from lower-to-higher cortisol responses was noted as the experiences became more severe. Study 2 similarly showed, in girls only, a non-linear association between SES and chronic cortisol secretion, for which lower cortisol levels were again observed for those who grew up in the most-disadvantaged homes, indicative of a U-shaped association. More generally, the parenting practices were shown to moderate the impact of SES on cortisol secretion for both boys and girls, whereby this association was noted only children who were exposed to the most positive and negative parental practices.

Conclusion: Our findings provide further support for persistent dysregulation of the HPA axis following early adversity, of which the expression may change according to the severity of experiences and other family characteristics.

KeyWords:
Childhood adversity; Maltreatment; Stress; HPA axis; Cortisol; Non-linear models.
**Symposium Mental and physical health**

**S06C - Child neglect and abuse and life-course associations with cognition and mental health in the 1958 British Birth Cohort**

**Authors:** Marie-Claude Geoffroy  
**Authors Address:** Université de Montréal, Montréal, Canada

**Abstract:**
Objective: Life-long adverse effects of childhood maltreatment on mental health are well established, but effects on child-to-adulthood cognition and related educational attainment have yet to be examined in the general population. We aimed to establish whether different forms of child maltreatment are associated with poorer cognition and educational qualifications in childhood/adolescence and whether associations persist to midlife, parallel to associations for mental health. Method: Cognitive abilities at ages 7, 11, and 16 years (math, reading, and general intellectual ability) and 50 years (immediate / delayed memory, verbal fluency, processing speed) were assessed using standardized tests, and qualifications by age 42 were self-reported. Information on childhood maltreatment (neglect and abuse: sexual, physical, psychological, witnessed), cognition, and mental health was available for 8,928 participants in the 1958 British Birth Cohort. Results: We found a strong association of child neglect with cognitive deficits from childhood to adulthood. To illustrate, the most neglected 6% of the population (score 4) had a 0.60 (95% CI: 0.56–0.68) SD lower cognitive score at age 16 and a 0.28 (95% CI: 0.20–0.36) SD deficit at age 50 years relative to the non-neglected participants (score: 0) after adjustment for confounding factors and mental health, and they also had increased risk of poor qualifications (i.e., none/low versus degree-level). Childhood neglect and all forms of abuse were associated with poorer child-to-adulthood mental health, but abuse was mostly unrelated to cognitive abilities. Conclusion: The study provides novel data that child neglect is associated with cognitive deficits in childhood/adolescence and decades later in adulthood, independent of mental health, and highlights the lifelong burden of child neglect on cognitive abilities and mental health.

**Keywords:** Epidemiology; Longitudinal; Childhood maltreatment; Mental health; Cognition.

---

**Symposium Mental and physical health**

**S12 - The retrospective collection of biographical data through the life history calendar: a useful method to understand [the health situation of] vulnerable populations.**

**Authors:** Annabel Degrée du Loû, Pierre Debeaudrap, Anne Gosselin, Sophie Lecoeur, Eva Lelièvre  
**Authors Address:** CEPED, IRD, INED, Paris, France

**Abstract:**
With the 2030 agenda for sustainable development in mind, there is an urgent need to address the health gap experienced by vulnerable populations, those who are "left behind". These vulnerable populations, e.g. migrants, homeless people, people affected by a disease or disability are because of shared social characteristics, are more likely exposed to risk for adverse health outcomes. The life course perspective is therefore key to understand the social mechanism that contributes to shape their vulnerability. However, because these populations usually live in difficult circumstance, prospective cohort studies may not be feasible practically...
and/or ethically. By contrast, retrospective collection of life course data offers an interesting way to identify social mechanisms at stake and to generate hypotheses. If supplemented by a case-control design, an approach commonly used in epidemiology, relatively good evidence can be provided with the appropriate choice of a control groups. Such retrospective approach provides several advantages such as avoiding the expansive and time-consuming need of long follow-up and the risk of selection bias due to attrition. However, this approach has also important limitations especially related to the life history recall. Accuracy of life events recall varies widely according to the nature of these events and this should be considered and carefully discussed in the analysis of these types of studies.

The life history calendar (LHC) is a tool to collect retrospective life course information that has received relatively limited attention from the research community. Yet it has the interesting feature of improving the accuracy of the recall thanks to the visual cues offered by the grid.

In this symposium, we will discuss the strength and limits of the retrospective approach and of the LHC methods through 3 cases studies. These studies have focused on different vulnerable populations (migrants, people with disabilities and young people infected with HIV) with different research questions but have adopted a similar approach using retrospective collection of life course data with the LHC and the comparison with a control group. These studies have been conducted in 3 different contexts: Cameroon, Thailand, and France. Comparing the similarities between these studies will help to understand the scope of application of the retrospective approach and provide some guidelines for future use in research with vulnerable populations.

**KeyWords**: Vulnerable population, retrospective design, life history calendar, low-income countries

*Symposium Mental and physical health*

**S12A - TEEWA (Teens living with antiretrovirals) study : A life-event history approach among teenagers born with HIV**

**Authors:** Sophie Lecoeur

**Authors Address:** Institut National de la Démographie (INED), Paris, France

**Abstract:**
Designing a survey of HIV-infected adolescents is challenging. To shed light on the situation of adolescents born with HIV, the study had to capture the diversity of their life histories, family situations and living conditions, as well as regional differences, by means of an approach that, in a context of vulnerability, would not stir up memories of painful experiences. Therefore, in addition to a self-administered questionnaire filled by the adolescent documenting aspects of everyday life, we interviewed the adolescent’s primary caregiver to reconstruct their life history: major events were collected including family history such as illness/death of biological parents, residential history, school, medical and HIV history. Main events were recorded on a life history calendar.

In order to compare the situation of these adolescents with the general population, a similar survey was carried out among a sample of adolescents randomly selected in the general population (presumed uninfected) matched on sex, age and place of residence with those born with HIV, as well as their caregivers (control group).

**KeyWords**: HIV, Adolescents, Life-event history, Thailand, South-east Asia

*Symposium Mental and physical health*
S12B - The impact of HIV and Hepatitis B on Sub-Saharan immigrants’ lives in Paris greater area – results from a life event history survey

Authors:
Anne Gosselin

Authors Address:
Institut de Recherche pour le Développement (IRD), Paris, France

Abstract:

Background: Migrants are particularly affected by HIV as they account for 35% of HIV diagnoses in the European Union (ECDC/WHO 2014). Little is known about the impact of such a lifelong infection diagnosis on lives that are already disrupted by migration. In this communication, we assess the impact of HIV diagnosis on activity, union, well-being among African migrants living in France. We compare it with the impact of the diagnosis of Hepatitis B, another lifelong infection affecting African migrants.

Methods: We use the ANRS PARCOURS survey, a retrospective life-event survey led in 2012-2013 in 74 health structures in Paris greater area which collected 926 life histories of Sub-Saharan migrants living with HIV and 779 with Hepatitis B. Each dimension of interest was documented year by year thanks to a paper life grid during the interview. We modelled the probability year by year since 18 years of age until data collection to lose one’s activity, to experience a conjugal break up and degradation of well-being and we estimated the impact of migration and of HIV and Hepatitis B diagnoses on these probabilities, after adjustment on other factors, thanks to discrete-time logistic regressions.

Results: Migration entailed loss of activity and conjugal break up, though HIV diagnosis after migration did not statistically impact on these outcomes. Yet HIV diagnosis had a massive negative impact on well-being (aOR = 11.31 [4.64±27.56] for men and 5.75 [2.79±11.86] for women). The comparison between the HIV group and Hepatitis B group underlines the specificity of HIV diagnosis since Hepatitis B diagnosis did not impact on any dimension studied. The recent period was also associated with more loss of activity, showing how the economic crisis may have impacted Sub-Saharan immigrants’ life trajectories.

Conclusion: The retrospective design of the study allows us to recruit significant groups of immigrants affected by two diseases and to reconstitute the precise sequence of events before and after migration, before and after diagnosis. Migration appears as a major turning point as it is associated with loss of activity, break up of union and deterioration of well-being. HIV diagnosis is also associated with loss of well-being, suggesting that better social support is needed when people learn about their seropositivity.

KeyWords: Sub-Saharan African migrants; HIV/AIDS; Hepatitis B; life trajectories

Symposium Mental and physical health

S12C - The retrospective life-course approach for studying people with disabilities’ vulnerability to HIV in an African context

Authors:
Pierre Debeaudrap

Authors Address:
Institut de Recherche pour le Développement (IRD), Paris, France

Abstract:

Background: More than one billion of people have some sort of disabilities, and 80% of them live in resource-limited settings. There is growing evidence suggesting that people with disabilities in these contexts are more at risk of poor sexual and reproductive health outcomes than those without. There is also extensive evidence from both high and low-resource settings that people with disabilities suffer more frequently from socio-economic inequities than their non-disabled peers, which include higher rate of poverty, lower education level and increase rate of unemployment. As these social disparities are in turn strong determinants of health inequities,
including restricted access to health services and poor health outcomes, part of the association between disability and adverse health outcomes may be mediated by socio-economic disadvantages.

The HandiVIH study (ANRS 12302) was conducted to document the vulnerability of African adults with disabilities to HIV. An important question arising was how this vulnerability is shaped by lifelong structural factors, which required a life-course perspective. However, there are many challenges in conducting studies with this population (in resource-limited settings) including the difficulties to identify them, the important heterogeneity of this population and the communication difficulties. Therefore, the retrospective life history calendar method was adopted to collect information on participants’ environment, activities and resources along their lives.

This communication aims to show how the method was adapted to account for the specific needs related to disability and how this approach helps to better understand the vulnerability of people with disabilities to HIV infection.

**KeyWords:** disability, sub-Saharan Africa, HIV/AIDS, life trajectories

**References:**

---

**Symposium Mental and physical health**

**S13 - The early roots of suicide: evidence from prospective birth cohort studies and meta-analysis**

**Authors:**
*Ian Colman* *Chair available on May 30th*

**Authors Address:**
*University of Ottawa, Ontario, Canada*

**Abstract:**

Suicide is a major, potentially preventable, public health problem resulting in approximately 800,000 deaths each year throughout the world. A key focus of many suicide intervention strategies is to identify (and help) individuals who are seriously contemplating suicide or those made vulnerable by mental illness (such as depression or alcohol misuse) as these are important predictors of risk. While recognizing the importance of factors operating in the days/weeks prior to suicide, such as unemployment or relationship breakdown, there is an emerging body of research suggesting that early-life events occurring before/around the time of birth or in the first years of life can play a role in influencing later susceptibility to suicide.

This symposium will present new research findings on childhood risk factors associated with suicide across the life-course.

First presentation by Dr. Massimiliano Orri, will focus on a meta-analytic review of in-utero and perinatal factors associated with later suicide mortality

Second presentation by Dr. Stéphane Richard Devantoy will document the development of cognitive abilities from child-to-adolescence in individuals who will later die by suicide.

Third presentation by Dr. Marie-Claude Geoffroy will discuss the role of peer victimization on suicidal risk (including suicidal deaths) across the life-course.

**KeyWords:** Suicide, distal risk factors, life-course approach, birth cohort
S13A - Developmental origins of suicidality: systematic review and meta-analysis of the in utero and perinatal influences on suicide mortality

Authors:
Massimiliano Orri

Authors Address:
McGill University & Douglas Mental Health University Institute, Montreal, Canada

Abstract:
Background: Suicide is a leading cause of mortality worldwide, and its prevention is among the highest public health priorities. An increasing number of epidemiological studies are showing that in-utero & perinatal factors can increase later susceptibility to suicide. Those studies are in line with the Developmental Origins of Health and Disease Approach, which recognizes that both fetal and perinatal influences have long-term effects on a range of adult conditions, including mental illness and suicide. However, prior studies are heterogeneous, and this prevents firm conclusions about the role of in-utero & perinatal factors on suicide across the lifespan. The objective was to identify the longitudinal association between in utero & perinatal factors and suicide mortality, and to estimate the effect of moderators (eg, age, sex, study design, country).

Method: Data sources were articles retrieved through an English systematic literature search of MEDLINE, Embase, and PsycInfo Web of Science was performed for human studies published until to October 31st, 2017. Hand search of the bibliographical references of the selected papers was conducted to identify additional studies. Longitudinal studies examining the association between in utero & perinatal factors and suicide mortality were selected. For each in utero & perinatal factor, data were pooled using pooled hazard ratio and a random-effect model in Comprehensive Meta-Analyses v.2.0. The main outcome analysis compared suicide completers and non-suicidal individual. Heterogeneity was assessed using the Q statistics and the I2 index. We used Funnel Plots, Rosenthal's Fail-Safe N and Egger's Regression Intercept to test for the presence of publication bias.

Results: Preliminary findings indicated that younger maternal age, older paternal age, low birth weight, higher birth order, and being small for gestational age, were associated with increased risk for suicide mortality. The associations were small (eg, hazard ratios range: 1.2-2.5) and mostly seen in male adults with a paucity of data for suicide among adolescents and elderly. Although the large majority of studies come from large Scandinavian registers, the associations were consistent across western and eastern countries.

Conclusions: This meta-analysis provided evidence for the long-term effect of in utero & perinatal factors on suicidality in adulthood. Possible mechanisms underlying these associations are discussed.

KeyWords: Suicide, meta-analysis

S13B - Childhood cognitive trajectories of suicidal deaths by mid-adulthood: prospective investigations of the 1958 British Birth Cohort

Authors:
Stéphane Richard-Devantoy

Authors Address:
McGill University & Douglas Mental Health University Institute, Montreal, Canada

Abstract:
Background: Cohort studies suggest that low IQ and poor school performances are associated with an increased risk of suicide in males. Mechanisms underlying these associations are
unclear. It is possible that deterioration in cognitive function or interruption of schooling as a result of mental illness may contribute to the observed patterns of risk. Cognitive impairment may result in problem solving difficulties; it is possible that people with limited problem-solving abilities may be more likely to see suicide as the only solution to their problems. Previous studies have not investigated changes in cognitive function across childhood in relation to subsequent suicide risk, nor have they comprehensively assessed the possible confounding effects of key early-life influences. We aimed to examine associations between prospectively collected childhood cognitive abilities and the risk of suicidal and non-suicidal deaths in adulthood.

Method: The data were from 15,993 individuals born in March 1958 in England, Scotland and Wales. Cognitive abilities at ages 7, 11, and 16 years (math and reading) were assessed using standardized tests. Deaths occurring from 18 to 54 years of age were identified from linked national death certificates. Suicidal deaths were identified from International Classification of Diseases, ninth revision (ICD-9) codes E950–59 (suicide) and E980–89 (undetermined intent) or tenth revision (ICD-10) codes X60–84 (suicide) and Y10–34 (undetermined intent). To examine association between suicide mortality and cognitive abilities over time, latent growth curve was adjusted for father's social class at birth.

Results: There were 625 deaths between 18 to 54 years of age, 55 were due to suicides, and 570 were identified as non-suicidal. The difference between individuals who died by suicide and those still alive in reading and in mathematic abilities increased over time (slope for mathematics, p=.014 and slope for reading, p=.002). No difference was observed in cognitive abilities at 7 years between individuals who died by suicide and those still alive. Non-suicidal deaths were associated with lower cognitive scores at all ages.

Conclusions: Mathematics and reading abilities worsen over time in individuals who died by suicide compared to those still alive at 54 years old. A greater understanding of the mechanisms underlying these associations may provide opportunities and strategies for prevention.

KeyWords: Suicide, cognition, childhood

Symposium Mental and physical health

S13C - Life-course associations of childhood victimization and serious suicidal ideation, suicide attempt and mortality.

Authors:
Lea Perret et Marie-Claude Geoffroy

Authors Address:
McGill University & Douglas Mental Health University Institute, Montreal, Canada

Abstract:

Background: Over the past few years, a series of bullying-related suicides have drawn public attention to the possible connection between peer victimization and suicide, but such assumption has been rarely tested with prospectively collected data. We aimed to document concurrent and longitudinal associations of peer victimization with serious suicidal ideation and suicide attempt and mortality in the general population.

Methods: We used data from the Québec longitudinal study of child development (QLSCD) in Canada (Quebec) and the National Child Development Study (NCDS) in the UK. In QLSCD, peer victimization was assessed with child reports at 13, 15 and 17 years with 7 items covering a range of behaviours from verbal (such as teasing, calling names) to cyberbullying. In the NCDS, peer bullying was assessed with mother reports at 7 and 11 years. Suicidality outcomes investigated were serious suicidal ideation and suicide attempt at 13, 15 and 17 years in the QLSCD and suicidal ideation at 45 years and suicide mortality in midlife identified from linked national death certificates in the NCDS. To examine association between peer bullying and suicidality outcomes logistic regressions were adjusted for a series of confounders including prior mental health status.
Results: In the QLSCD, peer bullying was associated with increased risk of thinking about suicide and attempting suicide during adolescence in both concurrent and longitudinal analyses. To illustrate, adolescents who experienced chronic victimization (all forms of victimization combined) were at increased risk of suicidal ideation at 15 (OR=5.41, 95% CI 2.53-11.53) and suicide attempt (OR: 5.85-95% CI 2.12-16.18) in models adjusting for prior mental health problems (including suicidality), and other confounders. Magnitude of associations were greater for cyberbullying than for face-to-face victimization in concurrent analyses (e.g. fully adjusted OR at 15 years was 4.31 (2.57,7.22) for cybervictimization and 2.00 (1.17,3.42) for face-to-face victimization) but cyberbullying was not predictive of greater suicidal ideation/suicide attempt in a 2-year follow-up period. One third of individuals who died by suicide were frequently victimized by their peers in their childhood. After adjusting for confounders, children who have been bullied were are increased risk of suicidal ideation at 45 years and suicide mortality (trend association) in adulthood in the NCSD.

Conclusion: Being victimized by peers is a risk factor for both adolescent and adult suicidality. The associations were not explained by prior childhood mental health status and other confounding factors. As peer victimization is common, prevention (e.g. school-based interventions) and psychotherapeutic interventions (e.g. cognitive behavioural therapy) for suicidal risk may include components to help bully-victims.

KeyWords: bullying, suicide

Symposium Mental and physical health

S16 - Marijuana use across the Americas: tracking trends and their drivers in the past twenty years

Authors:
Magdalena Cerdá, Katherine M. Keyes, Silvia S. Martins

Authors Address:
Sacramento, CA, USA

Abstract:
Marijuana is by far one of the most widely cultivated, trafficked, and used drugs, together with alcohol and tobacco. About 183 million people, or 3.8% of the world's population, used marijuana in the past year. While occasional marijuana use has not been associated with substantial problems, long-term, heavy marijuana use has been linked to psychological and physical health concerns, lower educational attainment, welfare dependence and unemployment, and increased risk of motor vehicle crashes. Unprecedented changes in the regulation of marijuana markets across the world, as well as changes in the social norms regarding the perceived harmfulness of marijuana use make it important to understand how patterns of marijuana use (including daily use and cannabis use disorder) are evolving in countries across the world. In this symposium, we will discuss how some of the key drivers of trends in marijuana use are evolving over time in the United States and South America (in particular, in Uruguay, Argentina and Chile). In particular, studies will describe changes over historical time in the substances that represent the “gateway” in the “gateway theory” that leads to marijuana use in the United States; changes in the relationship between perceived risk and adolescent use of marijuana in Uruguay, Chile and Argentina in the past fifteen years; and the impact of medical and recreational marijuana legalization in the United States on perceived risk and use of marijuana.

KeyWords: Marijuana use, perceived risk, gateway sequence, substance use, marijuana legalization
**Symposium Mental and physical health**

**S16A - Historical trends in the sequence of substance use among adolescents in the United States, 1975-2014**

**Authors:**
*Richard Miech*

**Authors Address:**
*Colombia, USA*

**Abstract:**
Background: Historically, there is a common sequence in the path of drug use initiation among adolescents. Use typically begins with drugs that are legal for adults to use such as alcohol and cigarettes; approximately 20-25% of users progress to illicit substances such as marijuana. This epidemiological pattern has led to the theory that alcohol and cigarettes may be ‘gateway’ drugs to use of other substances. However, the legal status of marijuana is changing, and disapproval of marijuana has decreased. Conversely, cigarette use is decreasing among adolescents and adults. These trends raise the question of whether the ‘gateway’ sequence is changing.

Methods: We analyzed data from 1975-2014 from Monitoring the Future, a nationally-representative cross-sectional survey of high school attending adolescents, conducted annually. Approximately 15,000 12th grade students were surveyed yearly on use of substances and a subset were asked about their school grade at first use.

Results: Among those who used marijuana by 12th grade (ranging from 62% in 1980 to 33% in 1992), we examined the proportion who reported using cigarettes and alcohol before marijuana. Among marijuana users, approximately 95% reported trying cigarettes before marijuana throughout the 1980s and 1990s. Since the 2000 (in which 90% of students tried cigarettes before using marijuana), however, there was consistent decreases in the proportion who tried cigarettes before marijuana; by 2014, 76% of marijuana users in the 12th grade had ever tried cigarettes, and among those who used marijuana and cigarettes, less than half tried cigarettes first. In contrast, the proportion who reported initiating alcohol before marijuana remained high, varying between 100% and 94.9% in all study years.

Conclusions: The gateway sequence is changing based upon social acceptability. As cigarettes become less popular and marijuana continues to become more acceptable, fewer adolescents use cigarettes before first using marijuana. In contrast, alcohol is almost always used before marijuana.

**KeyWords:** gateway sequence, cigarette use, alcohol use, marijuana use

**Symposium Mental and physical health**

**S16B - Perceived risk and use of marijuana in a changing world: how are the two evolving in the Southern Cone?**

**Authors:**
*Pia Mauro*

**Authors Address:**
*Colombia, USA*

**Abstract:**
Background. In 2013, Uruguay legalized recreational marijuana use, while Chile and Argentina legalized medical use of marijuana in 2015 and 2017, respectively. Perceived risk of marijuana use has historically been strongly associated with adolescent marijuana use; however, recent evidence from the United States suggests that in recent years, decreases in the perceived risk of marijuana use have not been followed by attendant increases in adolescent marijuana use. In
light of evolving drug policies, we estimated trends in adolescent perceived risk of marijuana use in Uruguay, Argentina, and Chile, and examined whether the relationship between perceived risk and past-month use of marijuana in the three countries changed from 2001-2016.

Methods. Using repeated, annual, cross-sectional data from national student (grades 8-12) surveys on substance use (2001-2016) collected in Uruguay, Argentina, and Chile (n=508,236), we modeled the prevalence of perceived risk of regular marijuana use (no/low vs. moderate/great) and past-month marijuana use by country. To test whether the relationship between the two constructs changed over time, we used weighted time-varying effect modeling methods.

Results. Students who perceived no/low risk of regular marijuana use had higher odds of past-month marijuana use [Chile: Odds ratio (OR) = 7.57 (6.87, 8.35); Argentina: OR = 17.38 (10.70, 28.24); Uruguay: OR = 32.81 (23.47, 45.87)] compared to those who perceived moderate/great risk. These associations varied over time: in Chile, the magnitude of the association peaked in 2001 (OR ≈14), decreased by 2003 and remained stable (OR ≈7) thereafter. In Argentina, the relationship between perceived risk and use was also strongest in 2001(OR ≈17), weakened until 2005 (OR ≈5), and strengthened and stabilized by 2011 (OR ≈10). In Uruguay, the magnitude of the association was strongest in 2001 (OR ≈33), weakened until 2007 (OR ≈10), and remained stable thereafter.

Conclusions. While perceived risk remains a strong predictor of marijuana use in three countries in South America, this association is becoming weaker over time. Future research should consider the role that intervening marijuana policy changes play in modifying the relationship between perceived risk and marijuana use.

KeyWords: perceived risk, marijuana use, marijuana legalization

Symposium Mental and physical health

S16C - Investigating how perceived riskiness, wrongfulness and availability of marijuana are associated with medical marijuana legalization, marijuana use, and daily marijuana use over time by age in the United States

Authors: Magdalena Cerdá

Authors Address: Sacramento, CA, USA

Abstract:

Background: Given evolving marijuana policies, increased attention has been paid to attendant changes in attitudes and perceptions towards marijuana, and risk factors associated with marijuana use. Among these risk factors are perceived riskiness, wrongfulness, and availability of marijuana.

Methods: We conducted analyses of respondents to the U.S. National Survey on Drug Use and Health 2004-2013 restricted use files. First, we examined annual trends in the prevalence of perceived riskiness, perceived wrongfulness, and perceived availability of marijuana, and the prevalence of past-month and daily marijuana use among adolescents and adults in the US from 2004-2013 overall, by age, and by medical marijuana legalization (MML) status (before/after, with/without dispensaries). Then, we examined, via weighted multilevel logistic regression models, different levels of perceived riskiness, perceived wrongfulness, and perceived availability. All models controlled for other demographics and state-level covariates.

Results: Among adults 26+, past-month prevalence of marijuana use increased from 5.87% to 7.15% after MML passage (Adjusted Odds Ratio (AOR): 1.24 [1.16-1.31]), but no change in prevalence of use was found for 12-17 or 18-25 year-olds. Perceived availability of marijuana increased after MML were enacted among those 26+ but not in younger groups. Among all age groups, prevalence of marijuana use and perception of it being easily available was higher in states that would eventually pass MML by 2013 compared to those that had not. Perceived
availability was significantly associated with increased risk of past-month marijuana use in all age groups. Analyses for perceived riskiness and wrongfulness and for daily marijuana use are still being conducted as of now.

Conclusion: Evidence suggests perceived availability as a driver of change in use of marijuana due to MML. To date, this has only occurred in adults 26+ and different scenarios that could explain this change need to be further explored.

**KeyWords:** perceived risk, perceived wrongfulness, marijuana availability, marijuana legalization, marijuana use

---

**Symposium Psychobiological development**

**S18 - Prenatal environmental exposures, placental DNA methylation, and neurodevelopment in the EDEN mother-child cohort**

**Authors:**
Johanna Lepeule

**Authors Address:**
INSERM , IAB-site santé, La Tronche, France

**Abstract:**
Although initially focused on early nutrition, the Developmental Origins of Health and Disease (DOHaD) approach has expanded to embrace all environmental stressors, such as tobacco smoking, air pollutants, endocrine disruptors, etc. Mounting evidence suggests that maternal environmental exposures during pregnancy not only adversely affect birth outcomes, but also subsequent development and health outcomes including neuropsychological development, cardiovascular and respiratory outcomes. Such chronic conditions are responsible for a major part of the total burden of diseases in our society.

Epigenetics has been suggested as a potential mechanism linking early exposures to later health effects. Epigenetic marks are established early in development and are relatively stable throughout life. Therefore, they may constitute the memory of early life insults in the genome and thus influence diseases susceptibility and health outcomes.

Understanding the role of early environmental exposures within the DOHaD framework requires prospective follow-up of populations with accurate estimates of exposure and outcome as well as collection of biological samples to investigate epigenetic mechanisms.

This symposium will focus on current research investigating the impact of prenatal environmental exposures on the development of the child and on epigenetic mechanisms within the EDEN mother-child cohort. It will cover several prenatal exposure: tobacco smoking, air pollutants, endocrine disruptors and food contaminants.

**KeyWords:** DOHaD, environment, air pollution, endocrine disruptors, food contaminants, smoking, neurodevelopment

---

**Symposium Psychobiological development**

**S18A - Maternal dietary exposure to chemicals during pregnancy and developmental outcomes of preschool aged children**

**Authors:**
Jérémie Botton

**Authors Address:**
INSERM, Villejuif, France

**Abstract:**
Background: Child development is influenced by many factors, including nutritional and environmental ones. Food brings essential nutrients but also carry chemicals.
Aim: to study the association of prenatal exposure to food chemicals individually or as mixtures with child developmental outcomes.

Methods: In 1,361 mother-child pairs from the French EDEN cohort, maternal food intake during pregnancy was assessed by a 137-item food frequency questionnaire and combined with food chemical data from the 2nd French Total Diet Study to assess their exposure to food chemicals. Ages and Stages Questionnaire score (ASQ) of children was assessed at age 3 and 4 years, IQ at 5-6 years with the Wechsler Preschool and Primary Scale of Intelligence-III (WPPSI-III) and total difficulties score calculated from 4 subscores of the Strengths and Difficulties Questionnaire (SDQ) at 3 and 5.5 years. Mixtures were identified using Sparse Non-negative Matrix Under approximation on 99 chemicals selected as being non-collinear with intake of one specific food item. Associations between chemicals or mixtures with outcomes were tested by separate multivariable linear regression adjusted for potential confounders after log-transforming exposure variables to the base 2 to express the change in outcome for a doubling of exposure. False Discovery Rate (FDR) was used as indicative of statistical significance.

Results: Four mixtures were positively associated with IQ and one with ASQ at 3 years. After FDR, total IQ was positively associated with HT2-toxin ($\beta=2.40; p=0.001$) and Ochratoxin A ($\beta=2.05; p=0.001$). Positive associations were found between verbal IQ and mycotoxins: Deoxynivalenol ($\beta=2.27$), HT2-toxin ($\beta=2.61; p=0.001$), Ochratoxin A ($\beta=2.44; p<0.001$), Zearalenone ($\beta=2.31; p=0.009$); pesticides: Chlorpyrifos-methyl ($\beta=1.37; p=0.007$), Pirimiphos-methyl ($\beta=2.07; p=0.005$) and PAHs: Benzo[g,h,i]perylene ($\beta=2.57; p=0.002$), Cyclopenta[cd]pyrene ($\beta=2.68; p=0.002$) and Indeno[1,2,3-cd]pyrene ($\beta=2.44; p=0.008$). The main contributors of exposure to pesticides (fruits and vegetables) and mycotoxins (cereal products) were positively associated with IQ. We found positive association between total SDQ score at 3 years and BPA ($\beta=0.66; p=0.02$, not significant after FDR).

Conclusion: Our results suggest that during pregnancy nutrients from specific food groups (e.g. fruits, vegetables and cereals) may outweigh potential risk from the food chemicals they also carry.

**KeyWords:** development, DOHaD, environment, food, mixtures

---

**Symposium Psychobiological development**

**S18B - Prenatal exposure to non-persistent endocrine disruptors and behavior in boys at 3 and 5 years.**

**Authors:** Claire Philippat

**Authors Address:** INSERM, IAB-site santé, La Tronche, France

**Abstract:**
Background: Sex-specific associations have been reported between phthalates, bisphenol A and child behavior. No data on large study populations is available for other phenols with possible endocrine disrupting properties.

Aim: We aimed to study associations between prenatal exposure to phthalates and several phenols on behavior among male infants.

Methods: We quantified 11 phthalate metabolites and nine phenols (four parabens, benzophenone-3, bisphenol A, two dichlorophenols, triclosan) in spot urine samples collected during pregnancy among EDEN cohort mothers who delivered a boy. Mothers completed the Strength and Difficulties Questionnaire (SDQ) when their child was 3.1 ($n=529$) and 5.6 ($n=464$) years old.

Results: Bisphenol A was positively associated with the relationship problems subscale at 3 years (Incidence Rate Ratio (IRR), 1.11; 95% Confidence Interval (CI), 1.03; 1.20) and the hyperactivity-inattention subscale scores at 5 years (IRR, 1.08; 95% (CI), 1.01; 1.14). Mono-n-butyl phthalate (MBP) was positively associated with internalizing behavior, relationship problem and emotional symptom scores at 3 years. Monobenzyl phthalate was positively
associated with internalizing behavior and relationship problems scores at 3 years. After dichotomizing SDQ scores, triclosan tended to be positively associated with emotional symptom subscales at both 3 and 5 years.

Discussion: The observed associations between bisphenol A, MBP and behavior in boys are consistent with previous findings. Further health impact assessment studies based on dose-response functions corrected for exposure misclassification are required to quantify the public health burden possibly entailed by such associations.

KeyWords: Behavior, benzophenone, bisphenol A, hyperactivity, parabens, phthalates, triclosan

Symposium Psychobiological development

S18C - Pregnancy exposure to tobacco smoking, atmospheric pollution and meteorological conditions and placental DNA methylation

Authors: Johanna Lepeule
Authors Address: INSERM, IAB-site santé, La Tronche, France

Abstract:
Background: In utero environmental exposures such as air pollution and tobacco smoking represent a major health threat to the developing fetus. Blood DNA methylation has been proven sensitive to some environmental exposures and has been suggested as a potential mechanism for the development of diseases. However, these molecular mechanisms have received little attention so far in new-borns.

Objectives: We investigated whether maternal tobacco smoking, air pollutants and weather conditions during pregnancy are associated with differences in genome-wide placental DNA methylation in 668 individuals enrolled in the EDEN cohort.

Methods: Maternal tobacco smoking and maternal exposure to nitrogen dioxide (NO2), particulate matter (PM10), temperature and humidity were estimated for different time-windows during pregnancy. Placental DNA methylation was measured using the Illumina Infinium 450k Beadchip. We designed an original strategy using a priori biological information to focus on candidate genes with a specific expression pattern in placenta (active or silent) combined with an agnostic epigenome-wide association study (EWAS). We used robust linear regression to identify CpGs affected by each exposure during short- and long-term time-windows.

Results: The candidate genes approach identified eight CpGs mapped to 8 genes associated with prenatal NO2, PM10 and humidity exposure [false discovery rate (FDR) p<0.05]. Among these, the methylation level of 2 CpGs located on ADORA2B remained significantly associated with NO2 2nd trimester exposure in the EWAS (FDR p<0.05). EWAS further revealed associations between exposure and the methylation of another 11 CpGs, which constitute candidates for replication in future studies. The candidate genes approach identified 221 CpGs mapped to 168 genes associated with maternal smoking during pregnancy (FDR-p<0.05). Among these, the methylation level of 190 CpGs (150 genes) remained significantly associated with maternal smoking in the EWAS (FDR-p<0.05).

Conclusions: These findings demonstrate that maternal tobacco smoking and air pollutants exposure at levels commonly experienced in the European population could impact placental gene methylation and provide some mechanistic insight into some of the reported effect of air pollutants on pre-eclampsia. Indeed, the methylation of ADORA2B, a gene whose expression was previously associated with hypoxia and pre-eclampsia, was found here sensitive to atmospheric pollutants.

KeyWords: smoking, air pollution, placenta, DNA methylation
**Symposium Psychosocial development**

**S03 - Is child care good for development? And how can we be so sure about it?**

**Authors:**
*Lidia Panico*

**Authors Address:**
INED, Paris, France

**Abstract:**
Is child care good for development? And how can we be so sure about it?

For decades, there is a debate in the literature on child development, regarding the consequences of child care attendance on children's behavior. While some studies have found that children who are raised in collective settings tend to be more aggressive that those who stay at home until school entry, more recent evidence suggests that this is not the case when child care is of high quality.

This symposium will present recent evidence on relations between child care attendance and children's development, specifically addressing issues of causal inference. The first presentation, based on data from EDEN cohort study from France (R. Gomajee, INSERM U1136), will show the consequences of child care attendance on behavior in middle-childhood, in a setting where differences between attenders and non-attenders are controlled for using propensity scores and inverse probability weighting. The second presentation (S. Côté, Montréal University/ Bordeaux University), based on data from a large Canadian population-based cohort study, will show associations between child care attendance and long-term psychological well-being in adolescence. Finally, a third presentation (E. Dearing, Boston College/ Norwegian Center for Child Behavioral Development), based on NICHD data will specifically test hypotheses regarding the degree of bias necessary to invalidate findings regarding positive effects of child care on children’s outcomes.

Overall, this symposium will provide an international overview of recent findings regarding the influence of child care on children's development, specifically addressing threats to causal inference inherent to research based on observation data, as well as methods used to limit them.

**KeyWords:** Child care; psychosocial development; causal inference; methods

---

**Symposium Psychosocial development**

**S03A - Early childcare and children’s behavioural and emotional trajectories: data from the EDEN cohort.**

**Authors:**
*Ramchandar Gomajee*

**Authors Address:**
INSERM UMRS 1136, Paris, France

**Abstract:**
We examined the association between early childcare as well as time spent in childcare prior to age 3, and children’s behavioural and emotional trajectories from ages 3 to 8.

Mother-reported SDQ scores at 3, 5.5 and 8 years of 1428 children from EDEN mother-child cohort in France, were used to identify 3 trajectories (high, intermediate, low) using Group-based Trajectory Modelling for each of the SDQ 5 subscales (emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, prosocial behaviour) as well as the SDQ total score. Children were classified in 3 groups depending on childcare they received from birth to age 3: child-minder (44.5%), centre-based childcare (25.7%) and informal care (29.8%), and 5 groups depending on whether they spent < 1 year or >= 1 year there.
Associations between childcare and time spent in childcare with behavioural difficulties trajectories were examined adjusting on a large number of selection factors and confounders using Inverse Probability Weights.

IPWs-adjusted analyses showed no significant differences in behavioural trajectories (SDQ total score) in children from centre-based childcare and child-minder’s care when compared to those who were in informal care. However, more than 1 year spent in centre-based childcare was associated to decreased likelihood of being in an intermediate (OR = 0.67, 95% IC 0.46-0.97) or a high (OR = 0.42, 95% IC 0.19-0.93) trajectory of behavioural difficulties. Compared to children in informal childcare, those who attended centre-based childcare had a lower likelihood of having high levels of emotional symptoms (ORIPW-adjusted = 0.35, 95% CI: 0.17-0.71) and peer relationship problems (ORIPW-adjusted = 0.31, 95% CI: 0.15-0.67) while those who looked after by a childminder had a higher likelihood of following a high trajectory of conduct problems (ORIPW-adjusted = 0.72, 95% CI: 1.05-2.81). For children who spent at least 1 year in formal care, those in centre-based care had less hyperactivity/inattention symptoms and higher prosocial behaviour than those in childminder's care. Girls and children from a favourable socioeconomic background reaped more benefits of childcare than boys and those from a less favourable background.

KeyWords: child care; epidemiology; behavior

Symposium Psychosocial development
S03B - Do child care services matter in the long-term?
Associations with externalizing behavior problems and school performance in a 17-year population-based study.

Authors:
Sylvana Côté
Authors Address:
INSERM U1219, Bordeaux, France
Abstract:
The association between exposure to early child care services of different intensity and type with self-reported physical aggression, opposition, hyperactivity, impulsivity and school performance at 12-17 years and was examined in a large Canadian population-based birth cohort (n=1588). Using propensity score weighted models, we found a protective effect of child care intensity (but not type) on physical aggression, opposition, and total externalizing behavior (effect sizes: d<0.20). The effect was not statistically significant, but in the same direction, for hyperactivity and impulsivity. Moreover, for children from families with low socioeconomic status, we found a protective effect of child care for aggression and school performance, not present for children from high socioeconomic status families. Our findings do not replicate previous reports of negative associations between child care intensity or type and self-reported externalizing behavior problems. They rather suggest a long-term positive effect of child care on self-reported externalizing behavior, and especially on physical aggression for children from low socioeconomic status families.

Symposium Psychosocial development
S03C - How robust are the estimates of child care quantity and quality effects? An empirical examination of sensitivity to confounders

Authors:
Eric Dearing
Authors Address:
Boston College, USA
Abstract:
Over the last few decades, considerable attention has been given to estimating the consequences of early child care for children’s achievement and behavior. In general, two lines of evidence have proven replicable: (1) high-quality child care is positively associated with high achievement well into the schooling years and, yet, (2) extensive quantities of child care are associated with later behavior problems (Belsky et al., 2007; Dearing et al., 2009; McCartney et al., 2010). Both of these lines of evidence, however, have been based largely on non-experimental studies in which researchers attempt to rule out selection factors using covariate adjustments to their statistical models, a method that is seriously limited when the goal is to test causal hypotheses (Dearing & Zachrisson, 2017). Ultimately, therefore, the practical significance of these correlational studies is partly based on the assumption (or at least hope) that powerful confounders are not serious sources of bias, or at least not serious enough to nullify findings.

In the present study, we help empirically address the plausibility of these assumptions. Specifically, we replicate a series of studies conducted with the NICHD Study of Early Child Care and Youth Development and, in turn, examine the sensitivity of the estimated child care effects using a methodology originally developed by Rosenbaum (1991, p. 901) to address questions of “how much hidden bias would need to be present if hidden bias were to explain the differing outcomes in the treated and control groups.” This technique, now generalizable to multiple regression (and similar) methods, helps us answer the question: how strongly correlated – with child care and with outcomes of interest – would a hypothetical unobserved confounder need to be in order to produce null results? In turn, we compare these effect sizes with those evident in the literature for measured potential confounders such as parent income, education, employment, and intelligence. Finally, we discuss the value of considering sensitivity to bias in the child care literature as an indicator of robustness.

KeyWords: child care; development; causal inference

Symposium Psychosocial development

S05 - Active and passive socio-environmental influences as propensity indicators toward healthy and unhealthy lifestyle outcomes in youth

Authors:
Linda S. Pagani (1)(2), Daniela Gonzalez-Sicilia (1)(3), Tracie A. Barnett (2)(3)
*Ian Colman (moderator) (4).

Authors Address:
(1) Université de Montréal, École de Psychoéducation
(2) Centre de Recherche du CHU Sainte-Justine
(3) Unité d'épidémiologie et de biostatistique, Centre INRS – Institut Armand-Frappier
(4) University of Ottawa, Faculty of Medicine, Department of Epidemiology and Community Medicine

Abstract:
This symposium presents novel approaches in the study of three socio-environmental characteristics that putatively affect youth development. It places special emphasis on lifestyle outcomes. First, Pagani and colleagues examine the prospective influence of television in the preschool bedroom environment on subsequent bio-psycho-social risks in early secondary school. Recent North American screen time guidelines explicitly discourage screens in youth bedrooms. Long-term relationships between a seemingly innocuous early childhood bedroom television and unhealthy dispositions in adolescence are observed. This suggests a need for parental awareness of how children's limited waking hours are invested. In the second paper, Gonzalez-Sicilia and colleagues examine the early extracurricular environment. The benefits of physical activity on well-being are established. For many children, after-school represents a privileged moment for endeavors involving physical activity. The potential benefits of extracurricular physical activity on academic performance are examined using a prospective design that controls for pre-existing and concurrent confounds. Results show that a greater
kindergarten participation in extracurricular physical activity is prospectively associated with sixth grade school outcomes, according to multiple sources. Stronger academic performance prior to secondary school entrance promises better bio-psycho-social outcomes throughout the life course. School policies that offer early childhood physical extracurricular activities promise academic success and its long-term wider benefits. Finally, Barnett and colleagues examine the influence of adolescent social networks on healthy lifestyle behaviors and adiposity. Using measures of personal (i.e. ego-based) social networks, they describe characteristics of SN connections with friends ('alters') including frequency, mode, and settings of interactions, strength of ties with and between alters, propinquity, and homophily. Alter composition includes frequency of physical activity, websurfing, healthy eating, and encouraging ego to be active. Characteristics of SN structure include degree, density, betweenness centrality, cliques and isolates. Their promising results bring a deeper and more nuanced understanding of the relation between SN features and risk of obesity. Implications for the identification of social and environmental targets to enhance personalized interventions are discussed.

KeyWords:
Academic performance; bedroom television; built environment; child development; extracurricular physical activity; home environment; obesity; physical activity; sedentary behaviour; social network analysis; televiewing.

Symposium Psychosocial development

S05A - Prospective associations between television in the preschool bedroom and later bio-psycho-social well-being

Authors:
Linda S. Pagani

Authors Address:
École de psychoéducation, Université de Montréal, Canada

Abstract:
Background. There has been an enormous push worldwide toward policies that aim to reduce sedentariness and promote healthy habits among youth. The recent decrement in American Academy of Pediatrics daily screen time guidelines to not more than one hour represent a tangible example of immediate common national concerns about how preschool children spend their free time. These guidelines now explicitly discourage bedrooms harboring television, computer, or video game equipment for all youth. This study aims to estimate the prospective associations between having a bedroom television at age 4 and subsequent bio-psycho-social risks at ages 12/13.

Sample. Participants are from a prospective-longitudinal birth cohort of 907 girls and 952 boys from the Quebec Longitudinal Study of Child Development.

Methods. Interviewers directly asked children about the presence of a bedroom television at age 4 (0 = no and 1 = yes). Child biological risks (BMI and unhealthy food consumption), psychological risks (emotional distress and depressive symptoms), and social risks (sociability, victimization, and aggression), measured by multiple sources (direct, teacher, and self) at ages 12/13, were linearly regressed on having a bedroom television at age 4 while adjusting for a multitude of potential individual and family confounders, including parent-reported daily child television exposure during weekdays and weekends.

Results. Having a preschool bedroom television was prospectively associated with later bio-psycho-social well-being: a higher body mass index (unstandardized B = 1.14, p < 0.001); more unhealthy eating habits (unstandardized B = 0.24, p < 0.01); higher levels of emotional distress (unstandardized B = 0.58, p < 0.01), depressive symptoms (unstandardized B = 0.67, p < 0.01), victimization (unstandardized B = 0.39, p < 0.05), and physical aggression (unstandardized B = 0.38, p < 0.05); and lowers levels of sociability (unstandardized B = -0.50, p < 0.01) in early adolescence.
Conclusions. The long-term risks associated with having easily available bedroom screen-time may chart developmental pathways toward unhealthy dispositions in adolescence. These adjusted relationships, observed more than a decade later, suggest a need for parental awareness of how seemingly innocuous early childhood bedroom furniture can influence how their limited waking hours are invested. A population-level understanding of such risks remains essential for optimizing child growth and development.

**KeyWords:** Bedroom television; built environment; televiwing; bedroom environment; home environment; interior environment

**Symposium Psychosocial development**

**S05B - Extracurricular physical activity at age 6 is prospectively associated with academic outcomes and adjustment at age 12**

**Authors:**
Daniela Gonzalez-Sicilia

**Authors Address:**
École de psychoéducation, Université de Montréal, Canada

**Abstract:**
Background and Objective. The benefits of physical activity for human development are well-known. For many children, after-school represents a privileged moment for endeavors involving physical activity. Yet, the potential benefits of extracurricular physical activity on academic performance have yet to be examined using a prospective design. Secondary analysis of existing longitudinal data offers the chance to examine this question while controlling for pre-existing and concurrent confounds. This study aims to examine prospective associations between kindergarten participation in extracurricular physical activity and academic outcomes by the end of sixth grade.

Method. Participants are from the Quebec Longitudinal Study of Child Development 1997-1998 birth cohort. When children were age 6, mothers reported on their child’s participation in three types of extracurricular physical activity (sport with an instructor, other structured physical activity, and unstructured physical activity). For each activity, children participating at least once a week received a score of 1. Their scores were summed up to compute the participation variable. At age 12, sixth grade teachers reported on children’s specific and global academic performance. Children also self-reported on their academic performance. Academic outcomes were then linearly regressed on extracurricular physical activity, while controlling for pre-existing individual and family factors (sex, temperament, cognitive skills, bedroom television, physical condition, maternal education, and family configuration).

Results. Most kindergarteners (89%) participated in extracurricular physical activity at least once per week. Increased extracurricular physical activity in kindergarten was associated with better teacher-reported and self-reported performance in language ($\beta = .126$, $p \leq .01$ and $\beta = .120$, $p \leq .01$, respectively), math ($\beta = .132$, $p \leq .01$ and $\beta = .107$, $p \leq .05$, respectively), global academic performance ($\beta = .110$, $p \leq .05$), and classroom engagement ($\beta = .108$, $p \leq .05$) by the spring of sixth grade.

Conclusions. More participation in early extracurricular physical activity was associated with later academic performance. Stronger performance prior to secondary school entrance promises more optimal bio-psycho-social outcomes and diminishes the chances of secondary school dropout. School policies that offer physical extracurricular activities in early childhood promise long-term wider benefits of academic success.

**KeyWords:** Academic performance; child development; extracurricular physical activity.
Symposium Psychosocial development

S05C - The influence of personal social networks on adolescent lifestyle behaviours and risk of obesity

Authors:
Tracie A. Barnett

Authors Address:
Unité d’épidémiologie et de biostatistique, Centre INRS – Institut Armand-Frappier, laval, Canada

Abstract:
Background
Personal social networks (SN) may influence health behaviours. SN analysis allows us to operationalize the structure and characteristics of individuals’ reported ties and to describe relationships within. Using a newly developed questionnaire, we measured adolescents’ SN and identified features associated with risk of obesity.

Sample: We conducted a pilot study in 46 adolescents recruited from QUALITY, a cohort study investigating the natural history of obesity.

Method: Participating adolescents (egos) nominated up to 10 individuals (alters) with whom they discuss important matters. SN ties were described by frequency, mode, and settings of interactions, propinquity and homophily. Alter composition was computed for frequency of physical activity, websurfing, healthy eating, and encouraging ego to be more active. Positive role models were defined as alters who were active and ate healthfully; cheerleaders additionally encouraged egos to be active. Characteristics of SN structure included degree, mean alter degree, density, betweenness centrality for each parent, cliques, and isolates. Outcomes included DEXA-derived % total body fat (BF), accelerometer-measured moderate to vigorous physical activity (MVPA) and sedentary time, and recreational screen time. Correlations were computed between all SN characteristics and all outcomes; MLR analyses were performed for %BF.

Results: As ego %BF increased, proportion of cheerleaders (ρ=–0.43), positive role models (ρ=–0.39) and number of isolates (ρ=–0.21) decreased, while mean alter degree (ρ=0.22), frequency of any (ρ=0.22) and of face-to-face (ρ=0.21) interactions with ego increased.

Parents’ betweenness, an indicator of influence within the network, correlated positively with MVPA and negatively with sedentary time; relations were strongest in fathers for MVPA (ρ=0.26) and in mothers for sedentary time (ρ=–0.44).

As ego-reported screen time increased, proportion of alters with school-based (ρ=–0.28) or recreational (ρ=–0.25) interactions, ties in multiple settings (ρ=–0.23), and face-to-face contact (ρ=–0.20) all decreased.

In MLR analyses, higher degree and lower mean alter degree were associated with lower %BF, as was higher number of cheerleaders, but only among boys.

Conclusion: These promising results deepen and nuance our understanding of the relation between SN and risk of obesity. Findings may help identify key social and environmental targets to enhance personalized interventions and health promotion programs.

KeyWords: social network analysis; obesity; physical activity; sedentary behaviour

References:
Rovniak LS et al. (2013). Engineering online and in-person social networks to sustain physical activity : application of a conceptual model. BMC Public Health, 13 : 753
Symposium Psychosocial development

S07 - Using quasi-experimental designs to explore later outcomes of early risk

Authors:
Adi Stern, 1, Rukmen Sehmi, 1, Alan Rushton, 1, Margaret Grant, 2, Barbara Maughan, 2, Jessica Agnew-Blais, 1, Andrea Danese, 1, Helen L. Fisher, 1, Sara R. Jaffee, 3, Timothy Matthews, 1, Guilherme V. Polanczyk, 4, Louise Arseneault, 1, Kai Xiang Lim, 5, Chao-Yu Liu, 5, Tabea Schoeler, 5, Charlotte M. Cecil, 1, Edward D. Barker, 1, Frühling Rijsdijk, 6, Essi Viding, 1, Corina U. Greven, 6, 7, 8, Jean-Baptiste Pingault, 1, 6, Timothy Singham, 5, Angelica Ronald, 9, Eamon McCrory, 5

Authors Address:
1 Institute of Psychiatry, Psychology and Neuroscience, King’s College London, UK
2 Adoption and Fostering Alliance (AFA) Scotland, UK
3 Department of Psychology, University of Pennsylvania, Philadelphia, Pennsylvania, USA
4 University of São Paulo, São Paulo, Brazil
5 Clinical, Educational and Health Psychology, Division of Psychology and Language Sciences, University College London, London, UK
6 Social, Genetic, and Developmental Psychiatry Centre, Institute of Psychiatry, Psychology and Neuroscience, King's College London, London, UK
7 Radboud University Medical Centre, Donders Institute for Brain, Cognition and Behaviour, Department of Cognitive Neuroscience, the Netherlands
8 Karakter, Child and Adolescent Psychiatry, University Center, Nijmegen, the Netherlands
9 Department of Psychological Sciences, University of Birkbeck, London, England

Abstract:
Researchers have commonly used twin and adoption studies to disaggregate genetic and environmental sources of variance. The overarching theme of the symposium is to use these designs to explore the negative effects of early risk factors on later outcomes, in order to better differentiate between the contributions of genes and the environment in influencing trajectories. This symposium will include four papers that investigate the impact of pre-natal, post-natal and childhood risk factors in a variety of domains, including in mental health, behaviour, cognition and socioeconomic status.

In the first study, Sehmi and colleagues explore whether advantageous adoptive environments buffer the negative effects of pre-natal risk on cognitive and socioeconomic outcomes at mid-life, using a subsample of adopted infants in the National Child Development Study. In the second study, Xiang Lim and colleagues use a twin study (Twins Early Developmental Study – TEDS) to investigate whether low birthweight influences the risk of developing Attention Deficit Hyperactivity Disorder (ADHD) symptomatology in childhood (age 8) and adolescence (age 16). In the third study, Stern and colleagues use a twin study [The Environmental Risk (E-Risk) Longitudinal Twin Study] to investigate whether maltreatment in childhood (up to age 12) leads to ADHD in young adulthood (age 18). In the fourth study, Singham and colleagues use TEDS to explore to what extent exposure to bullying in childhood (ages 11 and 14) contributes to mental health outcomes (at age 16).

This symposium presents several family-based quasi-experimental approaches to strengthen causal inference, including twin differences design, adoption design, and temporal ordering. These studies each explore a variety of early risk factors and outcomes across different domains, with several finding evidence to support early interventions for the prevention of later negative outcomes.

KeyWords: ADHD, mental health, environmental influences
**S07A - Infant domestic adoption: Do advantageous adoptive environments offset early risk?**

**Authors:**
Rukmen Sehmi  
**Authors Address:**  
King’s College London, UK

**Abstract:**
Background: Adoption designs can help tease apart environmental and pre-natal influences on development. Using data at birth, during childhood and adolescence, and at mid-life from the National Child Development Study (NCDS), we explored whether adoptive environments offset the effects of pre-natal risk on later cognitive and socioeconomic outcomes.

Sample: The NCDS includes a sub-sample of 180 children (born predominantly to young unmarried mothers) who were placed for adoption shortly after birth. We compared outcomes for this group with those of (i) the majority of cohort members born to married parents (n=14361), and (ii) a 'birth comparison' group (n=363) of children born to unmarried mothers who remained with their biological parent(s).

Method: Indicators of prenatal risk (e.g. prenatal smoking) and the child’s environment (e.g. parental involvement with the child) were included. Cognitive skills were assessed via standardized tests in childhood and adolescence, and a cognitive test battery at mid-life. Indicators of SES outcomes at mid-life included property ownership, social class and educational attainments.

Results: Like children in the birth comparison group, infants who were subsequently adopted were exposed to higher levels of prenatal risk than those in the general population sample. In childhood, however, adopted children grew up in markedly more advantaged homes. The cognitive test scores of adopted children were comparable to those in the general population in childhood, and consistently higher than those in the birth comparison group.

At mid-life, adopted individuals outperformed the general population and birth comparisons in verbal fluency, and scored comparably to the general population sample on all other cognitive assessments. Their profiles on SES attainments were equivalent to those in the general population sample, and more advanced than in the birth comparison group. Differences from the birth comparison group were associated with the more advanced childhood social/material circumstances of the adopted children, and with their higher levels of parental involvement in childhood.

Conclusion: Despite exposure to prenatal risks, adopted individuals in this cohort showed positive cognitive skills and educational attainments across the life-course; a range of aspects of their childhood rearing environments seemed associated with these effects.

**KeyWords:** adoption, environmental influences, mid-life outcomes

---

**S07B - Associations between abuse/neglect and ADHD from childhood to young adulthood: A prospective nationally-representative twin study**

**Authors:**
Adi Stern  
**Authors Address:**  
King’s College London, UK

**Abstract:**
Background: Attention deficit/hyperactivity disorder (ADHD) is one of the most common neurodevelopmental disorders in childhood, which can also be present in adulthood. Child
abuse/neglect is consistently found to be associated with ADHD. However, the robustness of this association and the direction of the link between abuse/neglect and ADHD remain unclear.

Sample: Participants were members of the Environmental Risk (E-Risk) Longitudinal Twin Study, which tracks the development of a birth cohort of 2,232 British children. The sample was constructed in 1999-2000, when 1116 families with same-sex 5-year-old twins participated in home-visit assessments. Follow-up home visits were conducted when the children were aged 7, 10, 12 and 18 years.

Methods: We considered participants to have an ADHD diagnosis if they met criteria in childhood at age 5, 7, 10, or 12; and in adulthood at age 18. Abuse/neglect included physical abuse, sexual abuse, emotional abuse, and neglect. We examined the concurrent associations between abuse/neglect and ADHD in childhood and in young adulthood. We tested the robustness and the specificity of our findings in different ways. We examined the longitudinal associations between abuse/neglect and ADHD from childhood to young adulthood, using a full cross-lagged model and temporal priority. We conducted the analyses controlling for sex, age-5 IQ, parental SES, and conduct disorder (CD).

Results: We found that child abuse/neglect was not associated with ADHD in young adulthood. However, we found that childhood ADHD was associated with later exposure to abuse/neglect. This association was robust even after controlling for SES and IQ. This association, however, was concentrated among individuals with co-morbid CD. We also found robust associations between abuse/neglect and ADHD in both childhood and young adulthood.

Conclusions: Our study does not provide support of a causal link between child abuse/neglect and adult ADHD. Nevertheless, our findings highlight the possibility of a long-term effect of ADHD on the risk of experiencing abuse/neglect. This link from ADHD to abuse/neglect is robust and is concentrated in a group of individuals with co-morbid CD. These findings emphasize that clinicians treating people with ADHD should be aware of their higher risk for current and future abuse/neglect. It further suggests that interventions should also focus on the environment of the individual with ADHD, to better deal with challenging behaviors.

**KeyWords:** Abuse/neglect, ADHD, temporal priority

---

**Symposium Psychosocial development**

**S07C - The role of birth weight on the causal pathway to child and adolescent ADHD symptomatology: A twin differences longitudinal design**

**Authors:**
Kai Xiang Lim

**Authors Address:**
King's College London, UK

**Abstract:**
Background: Previous twin studies point towards low birth weight as a risk factor for Attention-Deficit/Hyperactivity Disorder (ADHD) traits during childhood. We investigated whether this putative effect of birth weight on ADHD traits: (i) was still present after accounting for genetic and shared environment confounding using twin differences design; (ii) persisted from childhood to adolescence and; (iii) differed between the inattention and hyperactivity/impulsivity symptom domains.

Sample: Participants were 10,197 twin pairs (3,499 monozygotic pairs, 51.2% females) from Twins Early Development Study, who were born between January 1994 and December 1996, and were representative of the UK population.

Method: Parents, teachers and the twins themselves rated the twins’ ADHD traits at 9 assessment waves between ages 2 and 16 years. Associations between within-twin birth weight differences and within-twin ADHD traits differences were estimated for monozygotic (MZ) and dizygotic (DZ) twins respectively. The MZ estimates, which controlled for all genetic and shared environmental confounds, informed magnitudes of birth weight’s association with ADHD traits. We tested if there was any significant change for MZ estimates across time using adapted latent
growth curve models. We also tested if the MZ estimates for inattention were significantly higher than that of hyperactivity/impulsivity.

Results: MZ estimates were significant from early childhood to late adolescence, pointing towards a plausible causal effect of low birth weight on increased ADHD traits. Although the associations were significant, magnitudes of these MZ estimates decreased across time for total ADHD and hyperactivity/impulsivity traits, but not for inattention traits. MZ estimates were significantly larger for inattention than hyperactivity/impulsivity traits at each time point, implying stronger effect of birth weight on inattention.

Conclusion: Our findings point towards a role of birth weight on the causal pathway to the development of ADHD symptoms, especially for inattention. This study provides stringent evidence in support of the developmental origins of health and disease (DOHaD) hypothesis, with persistent and differential developmental effects of prenatal growth on ADHD symptomatology.

KeyWords: ADHD, low birth weight, twin-differences design

Symposium Psychosocial development

S07D - Concurrent and Longitudinal Contribution of Exposure to Bullying in Childhood to Mental Health The Role of Vulnerability and Resilience

Authors: Jean-Baptiste Pingault

Authors Address: King’s College London, UK

Abstract: Background: Exposure to bullying is associated with poor mental health. However, the degree to which observed associations reflect direct detrimental contributions of exposure to bullying to mental health remains uncertain, as noncausal relationships may arise from genetic and environmental confounding (e.g. preexisting vulnerabilities). Therefore, this study aims to characterize the concurrent and longitudinal contribution of exposure to bullying to mental health in childhood and adolescence using a twin differences design to strengthen causal inference.

Sample: Participants were drawn from the Twins Early Development Study, a population-based cohort recruited from population records of births in England and Wales between January 1994 and December 1996. Data collection took place when the participants were between 11 and 16 years of age, from December 2005 to January 2013.

Methods: Childhood exposure to bullying was measured using the Multidimensional Peer Victimization Scale at ages 11 and 14. Mental health assessments at 11 and 16 years of age included anxiety, depression, hyperactivity and impulsivity, inattention, conduct problems, and psychotic-like experiences. Data from up to 5,558 complete twin pairs was analysed.

Results: The most stringent twin differences estimates (monozygotic) were consistent with causal contribution of exposure to bullying at 11 years to concurrent anxiety, depression, hyperactivity and impulsivity, inattention, and conduct problems. Effects decreased over time; that is, substantial concurrent contributions to anxiety ($\beta=0.27; 95\%CI 0.22-0.33$) persisted for 2 years ($\beta=0.12; 95\%CI 0.04-0.20$) but not 5 years. Direct contributions to paranoid thoughts and cognitive disorganization persisted for 5 years.

Conclusions: This study is the largest to date to characterize the contribution of exposure to bullying in childhood to mental health using a twin differences design and multi-informant, multiscale data. Stringent evidence of the direct detrimental contribution of exposure to bullying in childhood to mental health is provided. Findings also suggest that childhood exposure to bullying may partly be viewed as a symptom of preexisting vulnerabilities. Finally, the dissipation of effects over time for many outcomes highlights the potential for resilience in
children who were bullied. In addition to programs that aim to reduce exposure to bullying, interventions may benefit from addressing preexisting vulnerabilities and focus on resilience.

**KeyWords:** Bullying, mental health, causal Inference

---

**Symposium Psychosocial development**

**S08 - Adult outcomes: results from a longitudinal study of children**

**Authors:**
Elizabeth Costello Ph.D.

**Authors Address:**
*Duke University, Durham, USA*

**Abstract:**
Adult outcomes: results from a longitudinal study of children

The three presentations in this symposium are based on one study: the Great Smoky Mountains Study, which has followed children from age 9 into adulthood. The Great Smoky Mountains Study (GSMS) was designed to examine the development of, need for, and use of mental health services in children and adolescents in an area of the southeastern United States. The study addresses the extent of met and unmet need for mental health care; the role played by education, primary care, child welfare, and juvenile justice in the provision of mental health care for children; the interrelationship of diagnosis and functional impairment; individual, family, and community predictors of need for mental health care; the impact of different service delivery systems in urban and rural communities; and the interplay of individual development and the development of need for and use of services. The area contains the Qualla Boundary, a federal reservation that is home to the 8000-strong Eastern Band of the Cherokee Nation, a community with different traditions of dealing with mental illness and its own mental health service system.

GSMS used a screening-stratified sampling design. The screening questionnaire was designed to identify children with a high probability of mental health service use, i.e., children with psychiatric symptoms. All children with scores above a cutoff point defined from pilot testing were recruited for the main study. In addition, a 1 in 10 random sample of the remainder were also recruited. Weights inversely proportional to probability of selection were attached to each subject’s data, so that estimates of population prevalence could be made. Participants have been assessed annually through age 16, and then at age 19, 21, 25, and 30.

Overall prevalence has remained fairly constant at 13%-15%. However, measures of functional impairment show that half of participants are not functioning well by age 30, and half of these had a psychiatric disorder in childhood. Very few received any psychiatric help as children or adults. The three speakers take three snapshots of different aspects of the study: outcomes of adversity (Copeland), outcomes of pathology (Hill) and the likelihood of resilience as an outcome (Costello).

**KeyWords:** epidemiology longitudinal outcomes

---

**Symposium Psychosocial development**

**S08A - Impact of Bullying in Childhood on Adult Health, Wealth, Crime and Social Outcomes.**

**Authors:**
Elizabeth Costello Ph.D.

**Authors Address:**
*Duke University, Durham, USA*
**Abstract:**
Bullying is a serious problem for schools, parents, and public-policymakers alike. Bullying creates risks of health and social problems in childhood, but it is unclear if such risks extend into adulthood. A large cohort of children was assessed for bullying involvement in childhood and then followed up in young adulthood in an assessment of health, risky or illegal behavior, wealth, and social relationships. Victims of childhood bullying, including those that bullied others (bully-victims), were at increased risk of poor health, wealth, and social-relationship outcomes in adulthood even after we controlled for family hardship and childhood psychiatric disorders. In contrast, pure bullies were not at increased risk of poor outcomes in adulthood once other family and childhood risk factors were taken into account. Being bullied is not a harmless rite of passage but throws a long shadow over affected people’s lives. Interventions in childhood are likely to reduce long-term health and social costs.

**KeyWords:** bullying outcomes children

---

**Symposium Psychosocial development**

**S08B - Cannabis Use and Disorder from Childhood to Adulthood**

**Authors:**
Sherika Hill, Ph.D.

**Authors Address:**
Duke University, Durham, USA

**Abstract:**
Recent changes in DSM criteria require new documentation of the prevalence and developmental sequences of cannabis use disorder (CUD). The goal of this study was to investigate the early course of DSM-5 CUD and its overlap with DSM-IV and consumption constructs in a community-representative sample of American Indians. Data came from the prospective, longitudinal, population-based Great Smoky Mountains Study in North Carolina (N = 1,420, including 349 American Indians). Cannabis use and disorder were assessed during yearly interviews from 9 to 16 years of age and at 19, 21, 26, and 30 years of age (up to 11 assessments per participant from 1993 through 2015). By 30 years of age, approximately 70% of participants had used cannabis, 34% had used cannabis daily, and 18% had met criteria for DSM-5 CUD. Approximately 1 in 4 cannabis users met criteria for CUD at some point. Those who met criteria initiated use more than 2 years previously (at 13.3 years old) compared with other users. Despite higher risks from increased poverty, American Indians’ patterns of use were similar to those of the rest of the sample. Concordance between DSM-5 CUD and DSM-IV abuse or dependence was substantial but was even higher between DSM-5 CUD and daily use. It was common to have used cannabis daily or to have met criteria for DSM-5 CUD by adulthood. DSM-5 CUD was an improvement over DSM-IV diagnostic constructs by raising the threshold for diagnosis. Several childhood or late-adolescent risk factors differentiate problematic cannabis use patterns between the ages of 19-21 and 26-30 years that are persistent, limited, or delayed.

**KeyWords:** cannabis outcomes DSM-5

---

**Symposium Psychosocial development**

**S08C - Optimal outcomes of child and adolescent mental illness**

**Authors:**
Elizabeth Costello Ph.D.

**Authors Address:**
Duke University, Durham, USA

**Abstract:**
‘Optimal outcomes’ of child and adolescent psychiatric disorders may mean the best possible outcome, or the best considering a child's history. Most research into the outcomes of child and
adolescent psychiatric disorder concentrates on the likelihood of adult illness and disability given an earlier history of psychopathology. We review the research literature (based on a literature search using PubMed, RePORT and Google Advanced Scholar databases) on including optimal outcomes for young people with a history of anxiety, depression, attention-deficit/hyperactivity disorder, conduct disorder, oppositional defiant disorder, or substance use disorders in childhood or adolescence. We consider three types of risks that these children may run later in development: future episodes of the same disorder, future episodes of a different disorder, and functional impairment. The impact of treatment or preventative interventions on early adult functioning is briefly reviewed.

We found that very few studies enabled us to answer our questions with certainty, but that in general about half of adults with a psychiatric history were disorder-free and functioning quite well in their 20s or 30s. However, their chance of functioning well was less than that of adults without a psychiatric history, even in the absence of a current disorder. Among adults who had a psychiatric disorder as a child or adolescent, about half can be expected to be disorder-free as young adults, and of these about half will be free of significant difficulties in the areas of work, health, relationships, and crime. Optimal outcomes are predicted by a mixture of personal characteristics and environmental supports.

**KeyWords:** child adult outcomes

---

**Symposium Psychosocial development**

**S10 - ADHD over the life course: Understanding the developmental course of ADHD from preschool to young adulthood**

**Authors:**
Jessica Agnew-Blais, Edmund Sonuga-Barke, Francis Vergunst, Richard E Tremblay, Cédric Galera, Daniel Nagin, Frank Vitaro, Michel Boivin, Sylvana M Côté, Miriam Cooper, Stephan Collishaw, Kate Langley, Ajay Thapar, Søren Dalsgaard, Evie Stergiakouli, Kate Tilling, George Davey Smith, Barbara Maughan, Michael O'Donovan, Anita Thapar, Lucy Riglin, Andrea Danese, Terrie E. Moffitt, Louise Arseneault

**Authors Address:**
Social, Genetic & Developmental Psychiatry Centre, King’s College London, UK
Child & Adolescent Psychiatry, King’s College London, London, UK
Research Unit on Children’s Psychosocial Maladjustment, University of Montréal, Montréal, CA
Division of Psychological Medicine and Clinical Neurosciences, School of Medicine Cardiff
University, Cardiff, Wales
Social, Genetic, and Developmental Psychiatry Centre, Institute of Psychiatry, Psychology and Neuroscience, King’s College London, London UK.

**Abstract :**
While attention-deficit hyperactivity disorder (ADHD) was once considered to be a childhood-limited disorder, it is now understood that ADHD can continue past childhood into adolescence and adulthood. Moreover, recent studies have suggested that, in contrast to current diagnostic criteria, ADHD may onset after childhood. This symposium includes presentations from four longitudinal cohort studies that illuminate important questions regarding the predictors and outcomes of different courses of ADHD development across the lifespan.

The first study by Sonuga-Barke describes the long-term economic burden associated with adolescent/young outcomes of preschool hyperactivity, as well as the child characteristics that increase risk for poor outcomes. The second study from Vergunst et al. using the Quebec Longitudinal Study of Child Development takes a similarly long-term approach to describe continuity and change in developmental trajectories of hyperactivity-impulsivity and inattention symptoms from age 1.5 to 17 years and to identify early risk factors associated with elevated trajectories. The third study by Riglin et al. examines a current controversy, the possible emergence of ADHD after childhood. Using data from Avon Longitudinal Study of Parents and
Children (ALSPAC) Riglin et al. investigate the extent to which later-onset ADHD cases could be explained by: misclassification (measurement error), later-onset of the same underlying liability, or an aetio logically distinct set of symptoms. The fourth study by Agnew-Blais et al. uses data from the Environmental Risk (E-Risk) Longitudinal Twin study to examine how ADHD and cognitive functioning relate to one another across development. Specifically this study investigates whether changes in ADHD status across development—both remission of the disorder and its onset after childhood—are associated with changes in cognitive functioning. This symposium brings together cutting-edge research on the course of ADHD across the life span. The presentations communicate findings about ADHD diagnosis and symptoms ranging from early childhood to young adulthood to shed light on how ADHD evolves across development, and how it may interact with and affect mental health and functioning across the life course.

**KeyWords:** ADHD

**Symposium Psychosocial development**

**S10A - Predicting the adolescent-to-young adult outcome of preschool hyperactivity: psychopathology, functioning and costs.**

**Authors:**

*Edmund Sonuga-Barke*

**Authors Address:**

*King's College London, UK*

**Abstract:**

Background: Evidence of continuities between preschool hyperactivity and adult mental health problems highlights the potential value of targeting early identification and intervention strategies. However, neither: (i) the long term economic burden associated with such continuities or (ii) the child characteristic that increase risk are currently well understood.

Sample: One hundred and seventy children (89 females) rated as hyperactive by their parents, and 88 non-hyperactive controls (48 females) were identified from a community sample of 4215 3-year-olds.

Method: At baseline behavioral/emotional problems and background characteristics were collected. Follow-up mental health, functional impairment and service use and associated cost data were collected. We calculated the average cost per annum incurred by each individual.

Results: At age 3 years, males and females in the hyperactive group had similarly raised levels of hyperactivity and other behavior problems. In adolescence/young adulthood, these individuals showed elevated symptoms of ADHD, conduct disorder, mood disorder, anxiety and autism, as well as functional impairment. Preschool hyperactivity was strongly predictive of poor adolescent/adult outcomes for males across domains with effects being specifically driven by hyperactivity. For females, the effects of preschool hyperactivity were smaller and dropped to non-significant levels when other preschool problems were taken into account. Environmental risk factors also differed between the sexes. Compared to controls, preschoolers with hyperactivity had 17.6 times higher average costs per annum across domains (apart from nonmental health costs). The effects of hyperactivity on costs remained significant when other baseline factors were added to the model. Effects were fully mediated by later psychiatric morbidity and predicted by male sex and, for some cost codes, by conduct problems.

Discussion: In conclusion, these results demonstrate marked sex differences in preschool predictors of later adolescent/adult mental health problems. Preventative approaches targeting early hyperactivity may be of value. Services should be targeted towards high-risk individuals with careful consideration given to the cost-to-benefit trade-off of early intervention strategies.

**KeyWords:** hyperactivity, preschool, economic burden
**S10B - Early risk factors for hyperactivity-impulsivity and inattention from 1.5 to 17-years: A population-based birth cohort study**

**Authors:**  
Francis Vergunst  
Authors Address:  
University of Montréal, Montréal, Canada

**Abstract:**

Background: Attention-deficit/hyperactivity disorder is a common childhood psychiatric disorder with persisting lifelong symptoms. The long-term developmental course of hyperactivity-impulsivity and inattention symptoms from infancy to adolescence and its association with early risk factors has not been documented in a population-based sample. Our aim was to describe continuity and change in developmental trajectories of hyperactivity-impulsivity symptoms and inattention symptoms from 1.5 to 17 years using assessments from multiple informants, and to identify early risk factors associated with following elevated trajectories in each symptom categories as well as both concurrently.

Sample: Quebec Longitudinal Study of Child Development, a population-based birth cohort study of 2120 individuals followed up from 1.5 to 17 years.

Methods: Mother (1.5–8 years), teacher (6–13 years) and self-report (10–17 years) symptom ratings were combined using group-based multi trajectory modelling to identify high trajectories of hyperactivity-impulsivity and inattention. Prenatal, perinatal and postnatal risk factors associated with high-symptom trajectories were identified.

Results: Hyperactivity-impulsivity symptoms broadly declined from 1.5 to 17 years while symptoms of inattention remained constant. 21.4% of children followed high-symptom trajectories of hyperactivity-impulsivity and 20.2% followed high-symptom trajectories of inattention, while 11.6% followed both high-symptom trajectories. Risk factors for high-symptom trajectories of hyperactivity-impulsivity were: low maternal education (adjusted odds ratio (OR), 1.71; 95% CI, 1.07–2.73), prenatal tobacco exposure (adj OR, 1.51; 95% CI, 1.03–2.21), and maternal depression (adj OR, 1.24; 95% CI, 1.09–1.41). Risk factors for high-symptom trajectories of inattention were: prenatal street drug exposure (adj OR, 5.05; 95% CI 1.43–17.83), early motherhood (adj OR, 2.12; 95% CI, 1.40–3.20), and maternal depression (adj OR, 1.18; 95% CI, 1.03–1.37). Risk factors for both symptom categories were low maternal education (adj OR, 2.72; 95% CI, 1.55-4.79) and maternal depression (adj OR, 1.34; 95% CI, 1.13-1.58).

Conclusions: Children follow distinct developmental trajectories of hyperactivity-impulsivity and inattention symptoms from infancy through adolescence. Prenatal, perinatal, postnatal and maternal psychopathology risk factors are associated with following persistently high-symptom trajectories.

**KeyWords:** hyperactivity-impulsivity, inattention, trajectories, risk factors

---

**S10C - What is “adolescent-onset” ADHD? A population cohort investigation**

**Authors:**  
Lucy Riglin  
Authors Address:  
School of Medicine Cardiff University, UK

**Abstract:**

Background: Recent studies have challenged the notion that ADHD onset occurs exclusively in childhood by reporting cases of “later-onset” ADHD that appear to present in the absence of childhood symptoms. However, it is unclear whether such cases reflect (i) misclassification...
(measurement error), (ii) later-onset of the same underlying liability, or (iii) an aetiologically distinct set of symptoms.


Method. Individuals were grouped based on presence/absence of parent-rated ADHD symptoms at ages 12 and 17 years (total N=4953). We investigated levels of childhood ADHD symptoms (age 7, 8 and 10), neurodevelopmental correlates and adolescent comorbidities in those with possible “adolescent-onset” ADHD.

Results: Preliminary results suggest that a significant proportion of individuals who appeared to show first onset between ages 12 and 17 years, and thus met criteria for potentially adolescent-onset ADHD, might be explained by misclassification (sub-threshold ADHD at earlier ages). The remaining “adolescent-onset” cases did not show typical childhood neurodevelopmental correlates (e.g. lower IQ, impaired executive functioning, autistic type symptoms) and showed a higher level of later-onset conduct problems but not mood disorder.

Conclusions: Some reported cases of apparent “adolescent-onset” are likely due to misclassification, but this did not explain all of our cases. While it remains unclear whether “adolescent-onset” ADHD is aetiologically distinct from current definitions of ADHD or represents the later-onset of the same underlying liability, our preliminary findings suggest that these are not cases with characteristics typical of neurodevelopmental disorders.

KeyWords: ADHD, onset, ALSPAC

Symposium Psychosocial development

S10D - Do changes in ADHD affect cognitive functioning in young adulthood?

Authors: Jessica Agnew-Blais

Authors Address: King's College London, UK

Abstract:
Background: Children and adults with ADHD have been found to exhibit, on average, lower IQ and impaired executive functioning compared to peers without ADHD. However, whether changes in ADHD status across development—both remission of the disorder and its onset after childhood—are associated with changes in cognitive outcomes remains unclear.


Methods: ADHD diagnoses were assessed in childhood at ages 5, 7, 10, and 12 and in young adulthood at age 18. General intelligence was assessed with IQ tests at ages 5, 12 and 18 years; executive functioning was assessed with a composite score at age 5, and by the Rapid Visual Information Processing (RVP), Spatial Working Memory (SWM), and Spatial Span (SSP) tasks of the CANTAB battery at age 18. We used longitudinal mixed models to compare IQ trajectories among individuals with persistent, remitted and late-onset ADHD with non-ADHD controls. We additionally compared young adult executive functioning between ADHD groups and controls, further adjusting for age-5 executive functioning, and age-18 IQ.

Results: Longitudinal models showed a difference in level of IQ between persistent, remitted and late-onset ADHD groups compared with controls. The remitted group also showed a stable higher IQ compared with the persistent ADHD group. There was no evidence of an age x group interaction for full-scale IQ. Executive functioning at age 18 was impaired in all ADHD groups compared with controls. The late-onset group performed better than groups with childhood ADHD on executive functioning tasks, but more poorly than controls. Overall executive functioning did not differ between remitted and persistent ADHD groups in young adulthood, with the exception of the remitted group having fewer false alarms on the RVP task.

Conclusions: We found no evidence for change in ADHD status impacting cognitive functioning in young adulthood. Rather differences in IQ in young adulthood reflect stable IQ differences that were evident in early childhood. While executive functioning in young adulthood overall did not
appear to be influenced by ADHD status, individuals with persistent ADHD were more likely to make false alarms on the RVP task, suggesting continued ADHD symptoms in particular may be associated with problems with response inhibition.

**KeyWords:** ADHD, cognition, longitudinal

---

**Symposium Psychosocial development**

**S14 - Longitudinal associations between maternal depression and children's socio-emotional development**

**Authors:**
Marilyn Ahun, Frances Rice, Judith van der Waerden

**Authors Address:**
University of Montreal, Montreal, Canada

MRC Centre for Neuropsychiatric Genetics and Genomics, Division of Psychological Medicine and Clinical Neurosciences, Cardiff University, UK

Institut Pierre Louis d’Epidémiologie et de Santé Publique, Paris, France

**Abstract:**
Maternal depression is a major public health concern. Approximately 9% of women in childbearing age will meet diagnostic criteria for major depression, so that a high number of children are exposed. Children of depressed mothers are at risk for poor behavioural, emotional, and cognitive outcomes. The socio-emotional risks deserve particular attention because early socio-emotional skills are the early building blocks of social capital in modern societies. Despite the significant body of research investigating the negative consequences of maternal depression on offspring's socio-emotional outcomes, few studies have tested the underlying mechanisms of this association from a longitudinal perspective. The studies presented in this symposium investigate the longitudinal associations between maternal depression and offspring internalizing and externalizing symptoms across childhood and adolescence. The first study investigates the impact of maternal depression on initial levels of problem (internalizing and externalizing) behaviour and transitions across early and middle childhood in a French birth cohort. The second study uses a Canadian-based birth cohort to test the association between trajectories of maternal depression and trajectories of children's depression and anxiety symptoms in middle childhood while controlling for family factors which are known to confound this association. Finally, the third study compares the profile of presenting symptoms in adolescent versus adult depression using data from a longitudinal British cohort of the adolescents of depressed parents. The longitudinal design of these studies allowed for the systematic follow-up of children's development and the detection of changes in stability of socio-emotional outcomes, the changes in maternal depression over time, and their respective associations. These studies emphasize the importance of adopting a longitudinal perspective on the development of maternal depression and its association with children's socio-emotional development across childhood and adolescence in order to develop timely interventions for the prevention of poor behavioural outcomes.

**KeyWords:** maternal depression; psychosocial development; family; longitudinal;

---

**Symposium Psychosocial development**

**S14A - Stability and change in behaviour problems across early childhood: contributions of maternal depression and child gender**

**Authors:**
Judith van der Waerden

**Authors Address:**
Institut Pierre Louis d’Epidémiologie et de Santé Publique, Paris, France
Abstract:
Background – Relatively little is known about the course and persistence of early-emerging social-emotional and behavioural problems. Studying the stability of problems from a young age onwards will increase our understanding of the development of psychopathology and will help in early identification of children at risk for psychopathology later in life. As maternal depression is detrimental to children’s emotional and behavioural development, we explored in particular whether children’s outcomes varied depending on their mothers’ mental health, as well as potential differences between girls and boys.

Sample and Method – Data from 1320 mother-child pairs participating in the EDEN mother-child longitudinal cohort study were analyzed. The Strengths and Difficulties Questionnaire (SDQ) was completed by mothers when their child was 3, 5 and 8 years old. Latent Transition Analysis (LTA) was applied to study the stability of children’s emotional symptoms, conduct problems, symptoms of hyperactivity/inattention, peer relationship problems and pro-social behaviour. The impact of maternal depression was explored on initial levels of problem behaviour and transitions across time. Results – At each wave, 3 distinct classes of emotional and behavioural could be distinguished: no problems; internalizing problems (peer relationship and emotional symptoms) and externalizing problems (conduct and hyperactivity/inattention symptoms). Overall, profiles of problem behaviour were relatively stable between ages 3 and 8, in particular for internalizing problems (100%) and to a lesser extent for externalizing problems (45%). At age five externalizing but not internalizing problems emerged for 5% of children (in particular boys), and at age 8 an internalizing profile emerged for 24% of children, in particular for girls. Children whose mother was depressed in the postpartum period had significantly higher odds to belong to the externalizing and internalizing classes at age 3 (OR 3.16 and 1.85 respectively). Persistence of problem behaviour was equally related to maternal depression in early childhood. Conclusions – Our findings indicate that even in early and middle childhood, social-emotional and behavioural problems are not transient, with a particularly high stability of early internalizing problems. Maternal depression appears to be an important predictor for persistence of both internalizing and externalizing problems.

Symposium Psychosocial development

S14B - Longitudinal trajectories of maternal depressive symptoms and internalizing symptoms in the offspring

Authors: Marilyn Ahun

Authors Address: University of Montreal, Montreal, Canada

Abstract:
Background – Maternal depressive symptoms (MDS) are a robust risk factor for internalizing symptoms in the offspring. However, the relative importance of MDS and the family factors associated with it (i.e. other types of maternal psychopathology, maternal parenting practices, family characteristics) are not well understood. The objectives of the study were: 1) to identify a group of children following trajectories of high levels of internalizing symptoms between 6 and 12 years using maternal and teacher assessments and 2) to quantify the associations between MDS during early childhood and children's internalizing symptoms trajectories before and after controlling for family factors associated with MDS.

Sample – Population-based longitudinal cohort of singleton children born in 1997-98 in Canada. Children were assessed annually from age 5 months to 7 years and every two years from 7 to 12 years. Average response rate over 12 years of data collection was 82.2%. Study sample
(n=1537) consisted of participants who had data for at least one internalizing symptoms assessment by each informant.
Method – Group-based multi-trajectory modeling was used to estimate trajectories of mother and teacher-reported internalizing symptoms from ages 6 to 12 years. Multinomial logistic regression analyses were then used to estimate the association between MDS and children’s membership in an internalizing symptoms trajectory group while controlling for family factors.
Results – Four trajectory groups of internalizing symptoms were identified: 1) low by both mothers and teachers (low; 22.8%), high by teachers and increasing by mothers (high-increasing, 24.5%); low by teachers and moderate by mothers (low-moderate, 41.3%), and high internalizing symptoms by both informants (high, 11.5%). Children in the high group were more likely to have been exposed to higher levels MDS (OR=4.14 [95% CI=2.60;6.61]), even after controlling for family factors (1.90 [1.04;3.48]). They were also more likely to have been exposed to higher levels of maternal anxiety.
Conclusions – MDS is associated with high levels of children’s internalizing symptoms independent of other maternal and family characteristics. Interventions targeting maternal psychopathology and testing the impact on children's internalizing symptoms would provide information on the putative causal pathways between maternal and offspring’s symptomatology.

**KeyWords:** maternal depression, internalizing symptoms, family factors

*Symposium Psychosocial development*

**S14C - Comparing adolescent and adult depression: A longitudinal family study of symptom presentation**

**Authors:**
**Frances Rice**

**Authors Address:**
*MRC Centre for Neuropsychiatric Genetics and Genomics, Division of Psychological Medicine and Clinical Neurosciences, Cardiff University, UK*

**Abstract:**
Background – Findings from longitudinal, family and twin studies suggest that adolescent depression can be viewed as an early-onset form of the adult disorder – there are strong links with recurrence later in life and both conditions show similar familial and heritable contributions. However, differences in treatment efficacy and in the proportion of cases going undetected (higher in adolescence) also suggest important differences. Identical criteria are used to diagnose depression in adolescents and adults but there is no clear consensus on whether and how adolescent and adult depression differ in their profile of presenting symptoms.

Sample – The Early Prediction of Adolescent Depression (EPAD) study – a longitudinal repeated measures (3 phases completed, 1 ongoing) cohort of 337 adolescent offspring of recurrently depressed parents.

Method – Compared the presentation of DSM-IV depressive symptoms in adolescents and adults with MDD (Major Depressive Disorder) and sub-syndromal depressive symptomatology. Latent profile analysis was used for examining sub-syndromal differences. Sensitivity analyses examined the role of age, gender, informant and family history.

Results – Physical symptoms (appetite and weight change, loss of energy and insomnia) were more common in adolescent MDD than adult MDD. Anhedonia and concentration problems were more common in adults with MDD. Similar findings were observed using latent profile analysis for symptomatology below the diagnostic threshold and across multiple assessment points.

Conclusions – We observed differences in how depression (MDD and sub-syndromal depression) presents in adolescents and adults. This may be one reason for the poor identification rates in adolescents.

**KeyWords:** depression, family, symptoms
S17 - Long-term consequences of severe early deprivation: the young adult follow-up of the English and Romanian Adoptees study

Authors:
Edmund Sonuga-Barke, Mark Kennedy, Jana Kreppner, Barbara Maughan

Authors Address:
Institute of Psychiatry, Psychology & Neuroscience, London, UK

Abstract:
Social and emotional deprivation early in development is assumed to carry long-term negative consequences for mental health. Evidence from animal studies supports that view, but human studies often face problems of interpretation. In particular, effects of early adversity are often confounded by exposure to adverse experiences later in development; confounding may also arise from familial correlations between genetic and environmental risks.

Absent the possibility of direct experimentation, ‘natural experiments’ can help in clarifying effects. The placement of children in supportive family environments after periods in institutional care constitutes a natural experiment of this kind. This symposium examines the impact of severe early deprivation via findings from the young adult follow-up of the English and Romanian Adoptees (ERA) study. The ERA study has followed the development of children adopted from institutions in Romania into UK families after the fall of the Ceaușescu regime in 1989. The institutional regimes were particularly depriv ing, with poor hygiene and nutrition, little personalized care, and a lack of social and cognitive stimulation. The children moved to the UK at between 2 weeks and 43 months of age, and were placed into socioeconomically advantaged adoptive families that were stable, supportive and caring. The study included 165 children adopted from Romania (stratified to reflect differing lengths of exposure to institutional care), along with a comparison sample of UK adoptees (n=52). The children and their families have been studied at ages 4, 6, 11, 15 and 23-25 years of age; over 70% of young people and/or families provided data at the young adult follow-up.

We present findings in 4 outcome domains illustrating differing developmental trajectories following severe early deprivation.

The ERA study team: The ERA study was established by Professor Sir Michael Rutter. Edmund Sonuga-Barke was PI of the young adult follow-up, and the team included Dennis Golm, Mark Kennedy, Nicky Knights, Jana Kreppner, Robert Kumsta, Barbara Maughan and Wolf Scholtz.

KeyWords: Institutional deprivation; natural experiment; long-term outcomes

S17A - Outcomes of deprivation-specific problems following early institutional deprivation: A comparison of the impact of ADHD and DSE in young adulthood

Authors:
Mark Kennedy

Authors Address:
Southampton, UK

Abstract:
Background: Early life institutional deprivation is associated with both ADHD and Disinhibited Social Engagement disorder (DSE). Historically characterised as childhood disorders, little is known about their persistence into, and impact upon, adulthood. For the first time, the ERA Young Adulthood Follow-Up allows a thorough investigation of these issues.

Method: We estimated rates of ADHD and DSE at ages 15 and Young Adulthood in individuals at low (LoDep; nondeprived UK adoptees and Romanian adoptees with less than 6-month
institutional exposure) and high deprivation-related risk (HiDep; Romanian adoptees with more than 6-month exposure). Estimates were based on parent report and where possible, criteria were matched with the DSM-5. Data on educational attainment, employment status, service use, quality of life and other mental health outcomes were also gathered.

Results: ADHD rates in the LoDep group were similar to the general population in adolescence and adulthood. HiDep individuals were, respectively, nearly four and over seven times more likely to meet criteria, than LoDep (at age 15 and Young Adulthood, respectively). Similarly, DSE in adulthood was strongly associated with deprivation, with the HiDep being six times more likely to be classed as having DSE than the LoDep group. However, whilst ADHD was associated with poorer educational attainment, unemployment, service use and poorer subjective quality of life in adulthood, DSE was not.

Conclusions: We provide the first evidence of strong persistence into adulthood of both ADHD and DSE following early life institutional deprivation. However, our results provide evidence for differential impacts of deprivation specific problems and further highlight the debilitating effect of persistent ADHD on outcomes in later life.

KeyWords: ADHD; DSE; psychosocial functioning

Symposium Psychosocial development

S17B - Modelling trajectories of cognitive recovery into young adulthood following early severe deprivation: What is the pattern of cognitive recovery and what can we learn from this about plasticity in cognitive function?

Authors: Jana Kreppner

Authors Address: Southampton, UK

Abstract:

Background: One of the most striking findings in our recent assessment of child-to-adult neurodevelopmental trajectories following early life institutional deprivation related to cognition. In contrast to persisting effects into young adulthood of early life deprivation on ADHD symptoms, disinhibited social engagement and autism spectrum symptoms, we reported remission from cognitive impairment in early adulthood (Sonuga-Barke et al., 2017). In this presentation, we will examine more specifically the pattern of cognitive recovery and consider what we can learn from this about plasticity in cognitive function. We explore whether the potential for recovery is affected by the duration of deprivation exposure and/or levels of sub-nutrition.

Method: Data for cognitive ability were available for the time of entry to the UK, and from ages 6, 11, and 15 years old, as well as from young adulthood. The trajectories for cognitive ability were modelled on the duration of time spent in the adoptive family. This allowed comparison of cognitive developmental trajectories between those adopted from deprivation before 6 months of age (low risk group) and those adopted after 6 months of age (high risk group) while controlling for the amount of time spent in the adoptive home environment.

Results: Our findings suggest that there are two phases of cognitive recovery; a rapid relatively short phase lasting around 4 years since adoption (phase 1), and a subsequent slower extended phase (phase 2) lasting into adulthood. Duration of deprivation had a different effect on recovery in the two phases. Specifically, deprivation status had no effect during phase 1 but during phase 2 recovery was limited to the more deprived group. While early deprivation-related sub-nutrition had no overall effect on the rate of recovery in either phase, its effect on recovery in the two phases differed for deprivation status; there were no effects of sub-nutrition on either recovery phase in the more deprived group but sub-nutrition slowed cognitive recovery during phase 1 in the less deprived group.
Discussion: Our data are the first to show two phases of cognitive recovery into adulthood following rescue from early institutional deprivation. Moreover, duration of deprivation had a different effect on recovery in the two phases. Findings will be discussed in terms of the implications for plasticity in cognitive ability.

**KeyWords:** cognition; recovery

**Symposium Psychosocial development**

**S17C - Late emergence of emotional disorder following early institutional deprivation: Latent vulnerability or knock-on effects of prior neuro-developmental deficits?**

**Authors:**
Barbara Maughan

**Authors Address:**
Institute of Psychiatry, Psychology & Neuroscience, London, UK

**Abstract:**
Background: Institutional rearing is associated with elevated risks of emotional problems. It is unclear whether such difficulties persist if children move to supportive family settings. In the ERA sample, levels of emotional problems were not elevated among previously institutionalized children at age 6, but began to emerge from age 11, and were marked in early adulthood. We explored two mechanisms that might account for these effects: (i) that institutional rearing conveys a latent vulnerability to later stress; and (ii) that young adult emotional difficulties reflect downstream consequences of early onset neurodevelopmental problems.

Samples: Data for the outcomes reported here were available for 158 Romanian adoptees (96% of the original sample) at age 6, and 105 (64%) in young adulthood. In the UK sample Ns were 52 (100%) and 37 (71%) respectively. Prior analyses have validated a distinction within the Romanian sample between those with <6months and >6 months exposure to institutional deprivation. We compared a low risk group (UK + Romanian<6 months) with a high risk group (Romanian >6months institutional care).

Method: Symptoms and diagnoses of Major Depressive Disorder and Generalized Anxiety Disorder (GAD) in young adulthood were assessed via interview and questionnaire. Early onset neurodevelopmental problems (ADHD symptoms, disinhibited social engagement, and social communication difficulties) were assessed via parental interview/questionnaires at age 6. Late adolescent/early adult functioning in love relationships and friendships, along with the extent of unemployment in the past 5 years, was assessed via interviews with the young people; exposure to negative life events in late adolescence/early adulthood was assessed via questionnaire.

Results: Early adult depression and GAD symptoms were significantly elevated in the high risk group. We found no evidence of latent vulnerability via exposure to recent stressors. Structural equation models indicated that much of the increased vulnerability to young adult emotional symptoms ran via effects of early deprivation on early onset neurodevelopmental problems, which in turn impacted risk for difficulties in young adult functioning in employment and relationships.

Conclusions: The impact of institutional rearing on risk for early adult emotional difficulties appears to reflect developmental consequences of early-onset neurodevelopmental difficulties.

**KeyWords:** depression; Generalized Anxiety Disorder

**Symposium Resiliency**

**S11 - Peer groups, social support and loneliness: The role of social relationships in trajectories of health and development**

**Authors:**
Abstract:
The importance of social relationships for health and functioning throughout the lifespan is widely recognised in the medical and behavioural sciences. Social relationships provide sources of support, intimacy, guidance and shared interests, promoting positive self-esteem and resilience. On the other hand, social relationships also have the potential to exert negative effects, through conflict, victimisation, stress, or the promotion of risky behaviours. Furthermore, perceived deficits in social relationships can foster feelings of isolation and predict declines in mental and physical health. This symposium integrates four studies across three cohorts, investigating the role of social relationships in developmental outcomes. Different features of social relationships are examined, including structural aspects (characteristics of friendship groups), functional aspects (social support), and subjective aspects (loneliness). Longitudinal analyses are used to study how these features of social relationships interact with other exposures and risk factors to shape a diverse range of outcomes.

KeyWords: Social relationships, friendship group, loneliness, risk factor

Symposium Resiliency

S11A - Early puberty, friendship group characteristics, and dating abuse in US girls

Authors: Frances Chen1, Emily Rothman2 and Sara Jaffee3

Authors Address: 1 George State University; 2 Boston University; 3 University of Pennsylvania, USA

Abstract:
Background: The current study aimed to investigate the relationship between advanced pubertal development and adolescent dating abuse (ADA) and to test if this relationship is moderated by friendship group characteristics in a nationally representative sample of US girls. Sample and method: Data were drawn from wave 1 (1994-1995) and 2 (1995–1996) of the National Longitudinal Study of Adolescent to Adult Health, which used a school-based sampling frame to select a nationally-representative sample of adolescents who were in grades 7 through 12 in 1994-1995. The analysis sample included 3870 girls aged 13 to 17 years, all of whom were in romantic and/or nonromantic sexual relationships. Relative pubertal development was measured as perceived physical development as compared with peers of the same age and race and age at menarche at wave 1. At wave 2, each participant identified up to 3 romantic and 3 nonromantic relationships that involved sexual activity in the past 18 months and reported whether they had experienced any verbal or physical abuse in their relationships. At wave 1, each participant was asked to nominate up to 5 male and 5 female friends from the roster of all students enrolled in the participant’s school. Friendship group characteristics included the percentage of friends who were boys, older friends, and friends’ risk behavior level. The use of peer network data allows us to determine features of the friendships groups based on the nominated friends’ self-reports of behavior and demographic characteristics rather than on the target participant’s perceptions of those characteristics. Results: Negative binomial regression analyses revealed an interaction between advanced pubertal development and percentage of friends who were boys on adolescent dating abuse victimization, adjusted for age, race, parents’ marital status, household income, number of relationships, self-esteem, self-control, and...
antisocial behavior history. Advanced pubertal development was associated with more adolescent dating abuse victimization when girls' friendship groups comprised a higher percentage of boys. Conclusions: Early pubertal development is a risk marker for adolescent dating abuse victimization, particularly when a higher percentage of girls' friends are boys. Pediatricians and adolescent health specialists should be sensitive to the elevated risk for adolescent dating abuse victimization in early-maturing girls.

Symposium Resiliency

S11B - Do high social support levels foster resilience to stressful life events?

Authors: Rukmen Sehmi, Barbara Maughan, Louise Arseneault

Authors Address: King's College London, UK

Abstract: Background: Several studies have established that social support is beneficial for wellbeing. We explore whether high social support levels counter the negative effects of stressful life events on mental health outcomes at mid-life. Sample and Method: The NCDS is a nationally representative cohort of over 17,000 individuals born in England, Scotland and Wales in 1958. Social support was assessed at age 45 using items derived from the Close Persons Questionnaire and the Berkman-Syme Social Network Index. The total score was trichotomised such that the upper quartile of the distribution of scores represented high social support levels, the lower quartile represented low social support levels and the remaining 50% of the distribution equated to the mid-range. Mental health was assessed at age 50 using the Malaise Inventory. Stressful life events experienced in the last 6 months were self-reported at age 45; a 3-category variable represented those who had experienced a) none, b) 1 or 2 and c) 3 or more events. Results: Having mid-range, compared with low, social support was associated with lower psychological distress scores if individuals had experienced no, or 1-2 stressful life events; but having high levels conferred no further benefit as scores were equivalent to those in the mid-range. Conversely, only high social support levels were associated with decreased psychological distress scores for those who had experienced at least 3 stressful life events, as scores for those in the mid-range and with low levels were equivalently elevated. Conclusion: These findings suggest that an absence of low levels of social support is sufficient in ameliorating the negative effects of stress on mental health for those who have experienced no, or few, stressful life events. However, a high level of social support is necessary to foster resilience amongst those who have experienced a greater number of stressful life events.

Symposium Resiliency

S11C - Protective factors for psychotic experiences amongst adolescents exposed to multiple forms of victimization

Authors: Eloise Crush1, Louise Arseneault1, Terrie E. Moffitt2, Andrea Danese1, Avshalom Caspi2, Sara R. Jaffee3 and Helen L. Fisher1

Authors Address: 1King's College London; 2Duke University; 3University of Pennsylvania

Abstract: Background: Experiencing multiple types of victimization (poly-victimization) during adolescence is associated with onset of psychotic experiences. However, many poly-victimized adolescents will not develop such subclinical phenomena and the factors that protect them are unknown. This study investigated whether individual, family, or community-level characteristics
were associated with an absence of psychotic experiences amongst poly-victimized adolescents. Sample and methods: Participants were from the Environmental Risk (E-Risk) Longitudinal Twin Study, a nationally-representative cohort of 2232 UK-born twins. Exposure to seven different types of victimization between ages 12-18 was ascertained using a modified Juvenile Victimization Questionnaire at age 18. Adolescents were also interviewed about psychotic experiences at age 18. Protective factors were measured at ages 12 and 18. Results: Exposure to poly-victimization during adolescence was associated with age-18 psychotic experiences (OR=4.62, 95% CI 3.59-5.94, P<0.001), but more than a third of the poly-victimized adolescents reported having no psychotic experiences (40.1%). Greater social support was found to be protective against adolescent psychotic experiences amongst those exposed to poly-victimization. Notably, social support was also generally associated with a reduced likelihood of age-18 psychotic experiences in the whole sample (along with engaging in physical activity and greater neighborhood social cohesion). Conclusion: Increasing social support from friends and family appears to be an important area for preventive interventions targeting adolescent psychotic experiences. Such prevention efforts would be most effectively targeted at poly-victimized adolescents who are at high-risk of developing psychotic phenomena.

Symposium Resiliency

S11D - Lonely young adults in modern Britain: findings from an epidemiological cohort study

Authors: Timothy Matthews
Authors Address: King's College London, UK

Abstract:

Background: Loneliness is an established risk factor for ill health and early mortality. Although extensively studied from a gerontological perspective, loneliness is particularly common among young adults as well as the elderly. The aim of this study was to build a detailed, integrative profile of young adults’ experience of loneliness, in terms of their current health and functioning and their childhood experiences and circumstances. Sample and method: Data were drawn from the Environmental Risk Longitudinal Twin Study, a birth cohort of 2,232 individuals born in England and Wales in 1994 and 1995. Loneliness was measured using a short form of the UCLA Loneliness Scale when participants were aged 18. Regression analyses were used to test concurrent associations between loneliness and health and functioning in young adulthood. Longitudinal analyses were conducted to examine childhood factors associated with young adult loneliness. Results: Loneliness was concurrently associated with poor functioning across multiple domains: lonelier young adults were more likely to experience mental health problems, to engage in physical health risk behaviours, and to use more negative strategies to cope with stress. They were less confident in their employment prospects and were more likely to be out of work. Data provided by informants indicated that individuals’ feelings of loneliness are visible to others; however, informants also made more negative ratings of lonely individuals’ personality and behaviour. Lonelier young adults were, as children, more likely to have had mental health difficulties, and to have experienced bullying and social isolation. Loneliness was evenly distributed across genders and socioeconomic backgrounds. Conclusions: Young adults’ experience of loneliness co-occurs with a diverse range of health and lifestyle-related impairments, making it a risk marker of high clinical relevance. The findings underscore the importance of early intervention to prevent lonely young adults from being trapped in loneliness as they age, with potential implications for health in later life.
OC3A - Intergenerational continuity of antisocial behavior in families with a parent having bipolar disorder

Authors: Mark A. Ellenbogen (1), Catherine Eidus (1), Erin Yong Ping (1), Lisa Serravalle (1), Sheilagh Hodgins (2)

Authors Address: (1) Concordia University, (2) Université de Montréal

Abstract:

Background: The offspring of parents with bipolar disorder (OBD), relative to control offspring, are at high risk for developing internalizing and externalizing problems. Studies have shown that traits like neuroticism (Nijjar et al, 2016) and antisocial behavior (Kim-Cohen et al, 2005) in parents with an affective disorder are robust predictors of externalizing behaviors in their offspring. We tested the hypothesis that antisocial behaviors in parents will predict antisocial behavior in their offspring in early adulthood via externalizing problems in middle childhood. Moreover, we examined whether the effects of parents’ antisocial behavior on this trajectory might be explained by two mediators: violence in the home or stressful life events. Sample: The sample (19.4 ± 3.1 years) consisted of 66 OBD and 66 offspring of parents with no affective disorder (controls), assessed at 4 to 12 years and 11 years later at 14 to 26 years of age.

Methods: At time 1, antisocial behaviors were defined as symptoms reported during the Structured Clinical Interview for DSM-3-R (SCID) Personality Disorders. The Child Behavior Checklist was used to measure externalizing problems in children. At time 2, substance use disorder symptoms on the SCID and sexual risk behaviors (abortion, unprotected sex, early sexual intercourse) were used as proxy measures of antisocial behavior.

Results: Bootstrapping mediation analyses revealed that externalizing problems in middle childhood significantly mediated the relationship between parents’ antisocial behaviors and sexual risk behaviors in young adulthood (CI: 0.05 to 1.2). This finding was replicated with substance use symptoms (CI: 0.2 to 2.7). A serial multiple mediation model demonstrated significant pathways from parents’ antisocial behaviors to verbal aggression in the home, from verbal violence to externalizing problems in children, and from externalizing problems to sexual risk behaviors in young adulthood (CI: 0.03 to 0.83).

Conclusions: These findings highlight a developmental trajectory of antisocial behaviors in parents leading verbal aggression in the home, externalizing problems in childhood, and behavioral problems in early adulthood, all of which suggest the intergenerational continuity of antisocial behavior in youth at high risk for affective disorders. It will be important to determine if this pattern serves to trigger future affective disorders in this high risk population.

Keywords: antisocial behavior; affective disorders; verbal aggression

References:


OC3B - Does coercive parenting influence the genetic and environmental etiology of childhood proactive and reactive aggression? A test of genetic correlation and moderation

Authors:
Stephane Paquin, PhD candidate, Eric Lacourse, PhD, Mara Brendgen, PhD, Isabelle Ouellet-Morin, PhD, Frank Vitaro, PhD, Ginette Dionne, PhD, Richard Tremblay, PhD, Michel Boivin, PhD

Abstract:
Background: Existing evidence suggests that coercive parenting (COER) is not only associated with children’s externalizing behaviors, but that these behaviors may evoke such practices in return. Twin-study designs allow to part whether the association between COER and the development of proactive aggression (PA) and reactive aggression (RA) is indeed the result of a socialization effect, reflects a child’s effect on the parents’ behavior (i.e., evocative gene-environment correlation (rGE)), or simply emerge because of shared underlying genetic influences (i.e., passive rGE). Objectives: This study tests these three distinct hypotheses proposed to explain the mechanisms by which the experience of COER is associated with the development of PA and RA. We will also investigate whether COER affect the genetic and environmental etiology of PA and RA (i.e., moderation).

Methods: Participants were 254 monozygotic and 413 dizygotic pairs. Teacher reports of PA and RA were obtained at 6, 7, 9, 10, and 12 years of age. COER was reported by mothers when their children were 4 and 5 years-old. Growth curves were modeled separately for PA and RA to assess the influence of COER on the development of these subtypes of aggression.

Results: Phenotypic correlations between COER and the intercept of PA (.25) and RA (.18) were positive while it was negative with their respective slopes (-.21 and -.11). Part of the covariance between COER and the intercept of PA was accounted for by additive genetic factors, suggestive of a possible evocative rGE. Moreover, COER moderated the effect of nonshared environmental factors associated with the intercept and the slope of PA, whereby these factors had a higher incidence on PA in children exposed to high COER. Despite the fact that COER was also associated with RA at the phenotypic level, the genetic and environmental factors associated with COER were not associated with the children’s initial levels of RA and its subsequent change. In other words, there was no evidence that the association between COER and RA could be accounted for by rGE, nor that genetic and environmental contributions to RA varied according to COER.

Conclusions: By showing that COER may be partly evoked by children’s PA, this study offer additional support for the relevance of coercive family processes in the etiology of behavior problems. The apparent specificity of these findings for PA, and not RA, will be discussed.

KeyWords: Coercive parenting, behavioral genetics, proactive aggression, reactive aggression, childhood, development, social learning theories.

OC3C - Self-Control, Parental Control and Antisocial Behavior from Childhood to Adolescence: Evidence of Developmental Reciprocal Influences

Authors:
Marie-Pier Robitaille, Franca Cortoni, Michel Boivin, Frank Vitaro, Richard E. Tremblay, Isabelle Ouellet-Morin

Authors Address:
University of Montreal, Canada
Abstract:
Self-control and parental control, specifically parental supervision and authority, have been repeatedly associated with the onset and persistence of antisocial behavior. Contemporary models integrating parent-child transactions improved our understanding of antisocial behavior. To date, however, no study has simultaneously examined the bidirectional effects occurring between parental control, self-control, and antisocial behavior, from childhood to adolescence. Objectives. We prospectively examined the time-stability, direct effect and reciprocal influences of child's self-control, parental control, and antisocial behavior, and tested for sex differences in these associations. Method. A total of 3007 participants of the Québec Longitudinal Study of Kindergarten Children were prospectively followed from ages 6 to 15. Self-control was derived using behavior and attitudes reported by the mothers and participants. Parental control was measured using the parents’ and participants’ reports of authority and supervision. Antisocial behavior was assessed using teachers’ reports and the youth self-reports. Three models were tested using structural equation modeling longitudinal path models. First, the autoregressive model proposed only time-stability and concurrent correlations over time. Second, the reciprocal model added tests of direct and bidirectional influences of antisocial behavior, self-control and parental control. Third, the transactional model tested for all possible direct and indirect influences between these variables. Results. The transactional model was the best fitted model, for which moderate stability in self-control, parental control and antisocial behavior was noted over the 9-years period. Participants with higher self-control and whose parents exhibited more authority and supervision consistently manifested less antisocial behavior. Conversely, participants who manifested more antisocial behavior were subsequently less controlled by their parents and had poorer self-control. Exposure to more parental control was associated with higher self-control, but only in adolescence. No sex differences were detected in these associations. Conclusions. Our study offers further support for the reciprocal effects between children and parents that persist beyond childhood and highlighted that parents can still influence the extent to which their children engage in antisocial behavior in adolescence, over and above individual differences in self-control.

KeyWords: Antisocial behavior, Self-control, Parental control, Transactional model, Reciprocal influences, Longitudinal study

Oral Communication Antisocial behavior

OC3D - Association of Parenting, Peer Relations and Deviance Promotive Belief Systems with Risky Partnerships in Youth at Familial Risk for Conduct Problems

Authors: Miriam K. Ehrensaft (1), Heather Knous-Westfall (2), Demy Kamboukos (3), Keng-Yen Huang (3), Laurie Brotman (3)

Authors Address: (1) Duke University, (2) Western State Hospital, (3) NYU School of Medicine

Abstract: Background: Youth with a history of early antisocial behavior are at elevated risk for subsequent peer deviance, and for later selectively partnering with deviant, violent romantic or sexual partners. Less is known about the contribution in adolescence of family behaviors, peer relations, and specific attitudes about partner deviance, to involvement in risky partnerships in adolescence. In a sample of urban youth at familial risk for conduct problems, this study aimed to examine associations about parenting behavior, deviant partner behavior, peer relations, beliefs about partner deviance, and involvement in partner violence.

Method: Ninety-nine urban, diverse preschoolers at familial risk for conduct problems were recruited for a family-based intervention study, and were randomly assigned to intervention or control conditions. Ten years later, preschoolers and their siblings (M age = 16.5, SD = 5.2, range
= 10-28) completed three yearly assessments of their family, peer and romantic relationship functioning, including measures of parenting behaviors, peer relations, attitudes accepting of partner deviance, deviant partner behavior, and partner violence involvement.

Results: Regression analyses, controlling for age, sex, wave, intervention status, and with target preschoolers and siblings nested in families, suggest that: 1) Trajectories of dating partner deviance, beliefs promotive of partner deviance and of early sexual behavior, involvement in partner violence, and acceptance of deviant partner behavior were stable across time; 2) Male and female reports of partner violence victimization and perpetration were highly correlated; 3) Low levels of warm parenting and high levels of coercive parenting independently predicted reduced parental monitoring of dating behavior, acceptance of deviant partner behavior, and increased partner violence; 4) Attitudes accepting of deviant partner behavior was associated with both IPV victimization and perpetration risk, and with deviant partner behavior.

Conclusions: Family context, specifically low levels of parental monitoring of dating behavior, low parental warmth, and high parental coercion, are predictive of adolescents' acceptance of deviant partner behavior and partner violence. Belief systems promotive of deviance by dating partners may be a key risk for partner violence in youth at familial risk for conduct problems.

**Key Words:** Antisocial Behavior, Adolescent, Interpersonal Violence

**References:**


Abstract:
Background. Aggressive behavior during childhood, particularly in the context of economic disadvantage, may lead to a sequence of negative psychosocial events and health problems (e.g. substance abuse, lifestyle illnesses, cardio-vascular risk). When aggressive children become parents, continuing problematic behavior and a sequential trajectory of negative experiences may place their young offspring at risk for health and developmental problems. Following a “cascade” theoretical model, parents’ aggressive behavior in childhood and its’ sequelae (e.g. low educational attainment, early parenthood, mental health problems) were examined as predictors of injuries and health risk to their offspring during infancy and early childhood.

Method. Participants (N=2249 parent-child dyads) were drawn from the Concordia Longitudinal Research Project: a 30-year longitudinal study of families from lower income neighborhoods in Montreal, begun in 1976 when the current parents were between 7 and 13 years old. Predictive measures including childhood aggression (peer-nomination), education, neighborhood disadvantage, and mental health were obtained for parents from interviews, questionnaires and official records (from 1976-onward). Outcome measures were drawn from offsprings’ comprehensive health care records, across the ages of 1 to 6 years (i.e. a 5-year period).

Results. Hierarchical multiple regression and SEM analyses indicated that parents’ childhood histories of aggressive behavior significantly predicted higher rates of injuries to their offspring during early childhood, as well as more acute infections and a greater frequency of visits to the emergency room. Outpatient and “well baby” medical visits were negatively predicted. As anticipated, parents’ aggressive behavior and disadvantage in childhood were partially mediated by a sequence of negative events including low education, young age at parenthood, poor mental health and ongoing neighborhood disadvantage.

Conclusion. Childhood aggressive behavior and neighborhood disadvantage may ultimately impact the health of young offspring, perpetuating intergenerational cycles of risk. Continuity of parents’ earlier aggressive behavior into less-than-optimal parenting styles, as well as a cascade of negative experiences across adolescence/adulthood, present a cumulative threat. Prevention programs for disadvantaged youth may have an inter-generational impact, potentially disrupting cycles of risk.

KeyWords: Aggression; Inter-generational transfer of health risk; Neighborhood Disadvantage

References:

Oral Communication Educational attainment

OC1A - Doubling Down: Educational Effects on the Children of Incarcerated Fathers
Authors: John Hagan (1), Holly Fostre (2), Chantrey J Murphy (3)
Authors Address:
Abstract:
Background: Research on mass incarceration reveals micro-level intergenerational negative effects of paternal incarceration on educational outcomes for children, but we know surprisingly little about whether and how these effects are linked to macro-level variation in what Beckett and Western (2001) call the state penal-welfare regime. More specifically, we know little about how variation in exclusionary state policies of punishment as well as inclusionary policies of support and protection impact individuals and families. We join exclusionary and inclusionary perspectives with a life course recapitalization approach to conceptualize the impact of state policies on adult educational outcomes for children of incarcerated and non-incarcerated fathers.

Sample: Our analysis is based on four waves of prospective longitudinal data on in-home respondents tracked from adolescence to early adulthood (n=8659, average age of 28 years old) from the National Longitudinal Study of Adolescent and Adult Health nested in 30 pseudo-states. We have appended to the pseudo-states accompanying information from government agency data, state-level population census data, and survey data collected from state correctional facilities.

Results: Net of negative individual-level paternal incarceration effects, we do not find significant negative state-level effects of punitive judicial policies and index crime rates on educational outcomes for children. We do find substantial positive state-level effects on college completion for children of incarcerated and un-incarcerated fathers resulting from investment in recapitalization through heightened welfare expenditures and the provision of prison counseling and prison education programs.

Conclusions: The generic pattern of findings for both incarcerated and un-incarcerated fathers suggests a broad foundation for public support of expanded recapitalization inclusionary policies.

KeyWords: Educational attainment, paternal incarceration, state policy regimes, life course sociology

References:

Oral Communication Educational attainment

OC1B - Predictors of the IQ-Achievement Gap in France

Authors: Ava Guez; Thelma Panaiotis; Hugo Peyre; Franck Ramus

Authors Address:
ENS, Cachan, France

Abstract:
Background: Why do some children under-perform at school relative to their level of cognitive ability? So far, studies on the topic have focused on a limited range of predictors. In this study, we explored the relative effects of cognitive ability, self-efficacy and socio-economic environment on academic achievement in France, and its variation over middle school.

Sample: We used the 2007 DEPP Student Panel, which followed 34,986 children from grade 6 in 2007 to grade 9. 23,810 participants were included in the present study.
Method: In 2007 and 2011, students completed standardized tests measuring their level of academic performance, non-verbal IQ and perceived self-efficacy. Besides, parents were asked to fill a questionnaire giving information on socio-economic environment and their own degree of involvement in school. We analyzed the data using structural equation modeling (SEM).

Results: Cross-sectional models
Non-verbal IQ was the best predictor of achievement in grades 6 and 9 (β = 0.5). Perceived self-efficacy, parental education, cultural objects in the house, household income, extracurricular activities, and parental involvement in school life induced greater achievement than predicted by IQ (ordered by decreasing effect size). Conversely, being in a disadvantaged school, gender (female), meeting with teachers, commitment to help the child, and parents-child conversations on future induced lower achievement than predicted by IQ (by decreasing effect size).

Longitudinal model
Non-verbal IQ in grade 6 marginally predicted progression in achievement over middle school (β = 0.026). Change in achievement was mostly affected by past perceived self-efficacy (β = 0.107) and school environment (β = 0.105). Socio-cultural factors also moderately but significantly affected academic progression, such as parental education, household income, and cultural objects in the house (positive influence). Parental involvement measures had overall a small influence. Gender did not have a significant effect on academic progression.

Conclusions: Self-efficacy, school environment and parental education were the most important predictors of academic achievement independently from intelligence. In addition, these factors significantly affected students’ progression over middle school, such that inequalities keep growing.

Keywords: academic achievement, intelligence, structural equation modeling

OC1C - Profiles of cognitive development and the role of socioeconomic status and preschool child care attendance.
Authors: Talia Losier, Sylvana Côté
Authors Address: Université de Montréal, Group de Recherche sur l'Inadaptation Psychosociale chez l'enfant, Canada

Abstract:
Human cognition develops rapidly throughout childhood. This increased neural plasticity in the first 5 years of life means that cognitive development is heavily influenced and shaped by our experiences and environment. More specifically in the child’s familial environment, socioeconomic status (e.g., Hackman & Farah, 2009), among other elements, has been reported to influence cognitive abilities. The preschool day care environment is also important to consider: Research has shown that the use of a good quality day care service will promote the cognitive abilities of children (Côté, Doyle, Petitclerc, & Timmins, 2013; Geoffroy et al., 2010; Laurin et al., 2015; NICHD Early Child Care Research Network, 2002). Most studies, however, have only studied one specific cognitive ability at a time. They also have not considered longitudinal cognitive development of general cognitive abilities. We used data from the Quebec longitudinal Study on Child Development (QLSCD) to tackle these shortfalls. The QLSCD is a longitudinal study of n= 2123 children born in Quebec in 1997-1998. Continuous measures of three cognitive abilities were collected between 3 and 7 years of age: The Peabody vocabulary test (receptive vocabulary), the Number knowledge test (conceptual and procedural understanding of whole numbers) and the Visually-cued recall memory test (short-term memory). Multi-trajectory modeling identified three latent clusters of children following similar trajectories across these three indicators of cognitive function. The first group consisted of children that performed below average on all three cognitive measures (16.9% of children). The majority of children (52.6%) were in the second group with average performances and the third group (30.6%) consisted of children that performed above average on all cognitive tests. A
multinomial logistic regression reveals that children in the low performance group lived in families with lower income than those in groups 2 and 3. They also attended preschool child care for less hours. Levels of education of the mother were not significantly different between groups 1 and 2 but were higher in group 3 than in group 1. Our findings provide further evidence that socioeconomic status, particularly income, and preschool child care attendance influence the development over time of multiple cognitive abilities in a similar manner during childhood.

**Keywords:** Cognitive development, preschool child care, socioeconomic status

**References:**


**OC1D - Effects of Heterogeneous Length of Stay in a Residential Job Training Program for At-Risk Youth**

**Authors:**

Youngjo Im

**Authors Address:**

Chicago State University, USA

**Abstract:**

Background: Job Corps is the nation's largest vocationally focused education and training program for at-risk youth. Evaluating the impact of Job Corps has been of great interest to policymakers because other job training programs for at-risk youth have not been found to be effective. Previous studies examining the Job Corps effects have improved our understanding of the cost benefit aspects of Job Corps. However, the literature lacks an explanation for how the program works. This study investigates the likely heterogeneous effects in terms of length of stay. Because the youth enroll for different lengths of time, we hypothesize that heterogeneous duration of stay leads to heterogeneous program effects. We then investigate which training classes were more useful than others for attainment of desirable youth outcomes.

Methods: We perform a secondary data analysis of the National Job Corps Study. Our analytic sample includes 11,313 youth aged 16 to 24 at the time of the baseline interview. Youth outcomes are employment and earnings, welfare dependency, and criminal behavior, measured at 48-month follow-up. Intervention variables are five discrete lengths of stay. Our analysis includes twenty class variables that constitute academic and job training programs. We use a regression tree technique to separate the length of stay into a number of different parts. We next construct multivariate generalized linear models to understand the heterogeneous effects of length of stay.
Results: Results indicate that length of stay plays a key role in determining the program effect on youth outcomes. Optimal length of stay for labor market outcomes is 6-8 months, and 8-14 months for criminal behavior. Less than 2 months of stay has deleterious effects on all youth outcomes. As to class effects, world of work and performance panels classes are beneficial for increasing total hours worked and earnings per week. Clerical and parenting skills classes help reducing criminal activities. Surprisingly, reading, math, and GED classes do not play key roles in enhancing youth outcomes.

Conclusions: This study brings new empirical evidence to the debate on the Job Corps effects in youth development. The study establishes that there is indeed a net association between length of stay and youth outcomes. Exploration of exact program content was intrinsic to a better understanding of the program impact, and the results suggest the ways in which future program can be improved.

KeyWords: job training program; positive youth development

Oral Communication Educational attainment

OC1E - Low or Interrupted Education as a Risk Factor for Criminality Leading to Imprisonment in Emerging Adults with Substance Use Problems

Authors:
Teemu Kaskela, Tuuli Pitkänen

Authors Address:
Helsinki, Finland

Abstract:
Background: Criminality leading to imprisonment peaks in the emerging adulthood. Both low education and substance use problems have an effect on criminal behaviour. However, there is a limited knowledge on how education is connected to criminality of individuals with substance use problems, especially women.

Sample: Data was formed combining official data concerning imprisonment, hospitalizations, death and education to the substance use treatment registers (1990-2009) of two out-patient clinics and one in-patient treatment center. Register based data consisted 1424 men and 697 women who had had substance use problems in their emerging adulthood.

Method: Cox regression analysis was used to analyse how low or interrupted education was connected to the risk of committing a crime leading to imprisonment between 18 and 27 years. Both common and separate models for men and women were constructed.

Results: Men without secondary education were 2,5 times and women over three times more likely to commit a crime leading to imprisonment in their emerging adulthood compared to others. The risk to commit a crime was almost four times higher for men than for women.

Conclusions: Education is an important factor to understand the link between substance use problems and severe criminality. More effort should be put on the measures enabling youths with substance use problems to stay in schools, but also alternative paths to education should be available for people who have been pushed out of the secondary education.

KeyWords: Education, imprisonment, substance use problems

Oral Communication Educational attainment

OC1F - How mother’s pre-pregnancy body mass index and smoking during pregnancy mediate the relationship between socioeconomic status and child’s birthweight

Authors:
M. Ballon J. Botton, MA. Charles, B. de Lauzon-Guillain, A. Forhan, B. Heude, S. Lioret
on behalf of the EDEN mother-child cohort study group

Authors Address:
INSERM, Villejuif, France

Abstract:
Background: Whereas several studies have shown a positive association between socioeconomic status and weight at birth, the mechanisms involved are not well known yet. Our study aims to determine the joint indirect effect of mother’s pre-pregnancy BMI and smoking during pregnancy in the association between maternal education and birthweight.

Sample: 1731 children from the French EDEN mother-child cohort study, which recruited 2002 pregnant women in two maternity hospitals (Poitiers and Nancy, France) between 2003 and 2006.

Methods: We calculated gestational age- and sex-specific z-scores for birthweight. To assess the indirect effects of mother’s pre-pregnancy BMI (thin, normal, overweight or obese) and smoking during pregnancy (non-smokers, smokers only in the first trimester and smokers throughout pregnancy) in the association between maternal education and birthweight z-score, we applied a mediation analysis in the counterfactual framework, i.e. a marginal structural model, including multiple mediators without restraint of the type of included variables. We used a bootstrap approach in order to obtain robust standard errors. Analyses were adjusted for center and maternal height.

Results: There was a weak positive association between maternal education and birthweight z-score. In children from low educated mothers vs. intermediate educated mothers the total effect was mainly explained by maternal smoking during pregnancy. In children from high educated mothers vs. intermediate educated mothers the total effect hided indirect opposite effects of mother’s BMI and smoking during pregnancy.

Conclusion: Mother’s pre-pregnancy BMI and smoking mediated the relationship between maternal education and birthweight in opposite directions, and in a way masked the extent to which healthy fetal growth is socially determined. Targeting these modifiable risk factors in less educated pregnant women could help to address socioeconomic inequalities in healthy fetal growth, a strong determinant of later health and development.

KeyWords: mediation analysis, maternal education, birthweight

Oral Communication Family functioning

OC5C - Intergenerational Continuity of Child Maltreatment: The Role of Substance Use, Depressive Symptoms, and Strain

Authors:
Kimberly L. Henry, Celia J. Fulco, Melissa T. Merrick

Authors Address:
Colorado State University, Fort Collins, USA

Abstract:
Introduction: The ecology of an individual’s childhood has the capacity to foster or hinder their adaptive development over the life course. This notion is a primary premise of the ecobiodevelopmental (EBD) model, a framework designed to elucidate the interplay of childhood ecology, biology, and long term prosperity in terms of mental, physical, social, and economic well-being. Recently, the EBD framework has been used to explain the consequences of child maltreatment, with results indicating that child maltreatment’s ill effect is far reaching, long lasting, and profound. In this presentation, we propose a developmental cascade set in motion by child maltreatment.

Objectives: To examine the developmental cascade of maltreated children, including heightened risk for maladaptive behaviors and socio-economic difficulties that he or she may experience, and the manner in which his or her family climate during adulthood may differ compared to a child not exposed to maltreatment.
Methods: Path analyses examined whether parents who reported more maltreatment victimization during their own childhood were more likely to report the use of harsher forms of parenting when their child was in early adolescence. In addition, mediation models were used to determine if such a linkage was due to parents’ depressive symptoms and substance across their life course, as well as socio-economic instability as he/she enters into parenthood. We use data from a longitudinal panel study of 531 parents participating in the Rochester Intergenerational Study.

Results: Maltreatment from ages 0 to 12 was associated with an increased risk of depressive symptoms and substance use in adolescence, as well as a greater likelihood of experiencing financial strain in adulthood. Parents who reported greater financial strain were more likely to suffer from depressive symptoms and abuse substances at a greater frequency during their adulthood, and the confluence of these factors predicted the use of harsh parenting practices.

Conclusions: The narrative surrounding those who exhibit harsh parenting should incorporate the understanding that early life adversity precipitates challenges in life that are outside of a parent’s ability to solve alone since child maltreatment stems from interrelated factors that disadvantage some parents, and can increase the perpetuation of intergenerational abuse.

KeyWords: child maltreatment; development; intergenerational

OC5D - Cybervictimization and its association with mental health problems in young adulthood: Findings from a genetically sensitive longitudinal cohort study

Authors: Louise Arseneault

Authors Address: King’s College London, UK

Abstract:
Background: Cybervictimization has gained increasing recognition as a new way for targeting and abusing vulnerable individuals, especially among young people. In contrast to other forms of abuse, cybervictimization can be anonymous, has an infinite pool of spectators and continues even when the phone is switched off. Some studies have even concluded that victims of cybervictimization fare worse compared to victims of more traditional forms of victimization or bullying. However, whether cybervictimization is truly more toxic than other forms of abuse needs to be tested in a representative sample of young adults.

Sample: Participants were members of the Environmental Risk (E-Risk) Longitudinal Twin Study, which tracks the development of a birth cohort of 2,232 British children. The E-Risk sample was constructed in 1999-2000, when 1116 families (93% of those eligible) with same-sex 5-year-old twins participated in home-visit assessments. Follow-up home visits were conducted when the children were aged 7, 10, 12 and 18 years. Cybervictimization and other forms of victimization were assessed when participants were age 18 using the Juvenile Violence Questionnaire (JVQ).

Methods: We examined associations between cybervictimization and mental health problems in young adulthood using logistic regressions, controlling for childhood confounding factors. We also used the discordant monozygotic twin design to test the associations controlling for genetic influences.

Results: Findings indicate that cybervictimization was associated with depression, anxiety, self-harm and PTSD over and above childhood IQ, past symptoms of the disorder, as well as peer and other forms of victimisation in young adulthood. Effect sizes were especially strong for groups of individuals who experience moderate cybervictimization vs no cybervictimization. The association between cybervictimization and conduct problems became non-significant after controlling for other forms of victimisation. Discordant MZ co-twin analyses showed an
environmentally-mediated association between cybervictimization and both depression and anxiety disorders. Discordance on cybervictimization was not associated with differences on self-harm and PTSD, either in the full sample or among MZ twins only, suggesting genetic influences on these associations.

Conclusions: Cybervictimization is associated with mental health problems in young adulthood via different mechanisms (other forms of victimization).

KeyWords: cybervictimization, mental health problems, young adulthood

**OC5E - iCoverT: A rich data source on the incidence of child maltreatment over time in England and Wales**

**Authors:**
Michelle Degli Esposti a, David K. Humphreys b, Lucy Bowes a

**Authors Address:**
a Department of Experimental Psychology, University of Oxford, UK
b Department of Social Policy and Intervention, University of Oxford, UK

**Abstract:**
Background: Child maltreatment is a major public health problem world-wide, which is plagued with research challenges. Good epidemiological data can help to address these challenges; establishing the nature and scope of child maltreatment, as well as to track and monitor its response to child protection efforts. However, comprehensive national incidence data are currently lacking. This project aimed to develop a rich data source on the incidence of Child maltreatment over Time (iCoverT) in England and Wales.

Method: We developed a systematic method to search and identify regularly collected data that may act as indicators of the national incidence of child maltreatment. Data were investigated and assessed against pre-specified eligibility criteria and a bespoke quality assessment tool. Relevant data were extracted and harmonised to generate temporally consistent databases. Databases and their accompanying data documentation were prepared, forming the iCoverT data source (freely available online at the Open Science Framework).

Results: We identified 13 unique datasets, six of which met our eligibility criteria: Child protection statistics, Children in care statistics, Criminal statistics, Homicide index, Morality statistics and NSPCC statistics. These six datasets were extracted and prepared to form six temporally consistent databases and corresponding data documentation. In total, the iCoverT consists of six unique databases with 272 data variables, and spans from 1858 to 2016. A preliminary analysis of a subset of the data illustrates an overall decreasing trend in the incidence of maltreatment-related criminal offences from 1893 to 1970. This analysis further acts as proof-of-principle, demonstrating how time series methods may be used to analyse data within the iCoverT.

Conclusions: By implementing systematic methods, we developed a rich data source on the incidence of child maltreatment over time in England and Wales. The iCoverT overcomes practical obstacles to extend current data sources by over 80 years, offering the opportunity to use advanced time series methods to analyse past and present temporal trends, and examine changes at the national-level. This may be an invaluable public health surveillance resource; not only helping to overcome challenges in child maltreatment research, but also providing robust and directly translatable evidence for policy-makers.

KeyWords: child maltreatment; epidemiology; methodology
OC5F - Friendships promote children’s resilience to harsh, non-supportive parenting: a twin study

Authors:
Lucy Bowes, 1, Bonamy Oliver, 2, Kathryn Asbury, 3

Authors Address:
1 University of Oxford, UK, 2 Goldsmiths, University of London, UK, 3 University of York, UK

Abstract:
Background: Children who experience negative parenting that is harsh and lacking in warmth are at increased risk of behavioral difficulties across childhood. Some ‘resilient’ children function better than expected, given their experience of negative parenting. We aimed to test whether protective factors relating to the school and social environment reduce the risks of negative parenting at age 4 on behavioral difficulties at age 16.

Methods: Data were from the Twins Early Development Study (TEDs), a longitudinal birth cohort. We used longitudinal regression models to test for main effects of negative parenting at 4 years on self-reported behavioral problems at age 16, adjusting for early individual characteristics and family background. A monozygotic twin discordant design was used to correlate differences in protective factors at 14 years (extracurricular activities and positive peer relationships) to differences in outcomes among pairs of MZ twins exposed to harsh, non-supportive parenting to test for environmental mediation.

Results: Results from linear regression models showed that engaging in extracurricular activities and having positive peer relationships was associated with children’s behavioral resilience to negative parenting in early childhood, even after adjusting for early emotional and behavioral difficulties, pro-social behavior, cognitive ability and gender) and family background (e.g. socioeconomic disadvantage, maternal education, maternal depressive symptoms). We used a twin differences design to separate out environmental protective factors in twins who are genetically identical. Differences in supportive peer relationships between twins from genetically identical monozygotic pairs discordant for negative parenting were correlated with twin differences in behavioral problems (r = −.18) such that the twin who reported more supportive friendships had fewer behavioral problems.

Conclusions: Our findings indicate that teenager’s social relationships and extracurricular activities are associated with better than expected behavioral functioning among individuals exposed to negative parenting in early childhood. We find some evidence that these effects may be environmentally mediated.

KeyWords: Resilience, behavioral problems, monozygotic twins

OC3F - Mental health outcomes up to age 13 years associated with latent profiles of early developmental vulnerability at age 5 years

Authors:
Vaughan J. Carr (1,2,5), Stacy Tzoumakis (2,3), Maina Kariuki (1,2), Kristin R. Laurens (1,2,4), Felicity Harris (1,2), Melissa J. Green (1,2).

Authors Address:
1. School of Psychiatry, University of New South Wales, Sydney, Australia
2. Neuroscience Research Australia, Sydney, Australia
3. School of Social Sciences, University of New South Wales, Sydney, Australia
4. School of Psychology, Australian Catholic University, Brisbane, Australia.
5. Department of Psychiatry, School of Clinical Sciences, Monash University, Melbourne, Australia

Abstract:
Background: Detecting the early emergence of childhood risk for adult mental disorders may lead to effective preventative interventions. Using population data from the New South Wales Child Development Study (NSW-CDS; Carr et al., 2016), we previously defined latent classes of
children at putative risk of developing mental illness, according to patterns of developmental vulnerability at age 5 years (Green et al., 2017). Here, we examined associations between each of these age 5 putative risk profiles and mental health service contacts for these children by age 13 years.

Methods: Intergenerational records from government departments of health, education, justice and child protection were linked with the Australian Early Development Census (AEDC) for a population cohort of 67,537 children (50.8% male), spanning pre-birth up to the child’s mean age of 13.15 years (SD=0.36). Latent Class Analyses of 16 AEDC sub-domains were used to determine four classes of children with shared patterns of developmental vulnerability at age 5 years: (1) ‘misconduct risk’ (N=4,831; 6.9%); (2) ‘pervasive risk’ (N=2,734; 3.9%); (3) ‘mild generalised risk’ (N=7,694; 11.1%); and (4) ‘no risk’ (N=54,278; 78.1%). Health service use for mental health conditions was determined for these children up to age 13 years (N=3514; 5.1%) from NSW Health’s Mental Health Ambulatory (n=2600; 3.7%), Admitted Patient (n=845; 1.2%), and Emergency Department (n=466, 0.7%) data collections. The likelihood of mental health service contacts by age 13 years was examined for each of the age 5 years putative ‘risk’ classes, using multinomial logistic regression; the ‘no-risk’ class was used as the reference group, and child’s sex was included as a covariate.

Results: Mental health service contacts by age 13 years were approximately 2.5 times more likely among children in the ‘pervasive risk’ (OR=2.53; 95% CI=2.22-2.89) and ‘misconduct risk’ classes (OR=2.58; 95% CI=2.33-2.86); a relatively lower likelihood of mental health service contacts was observed for the ‘mild generalised risk’ class (OR=1.34; 95% CI=1.20-1.48), and male sex was also significantly associated with mental health contacts by age 13 years (OR=1.19; 95% CI=1.11-1.27).

Conclusion: Patterns of early childhood developmental vulnerabilities may provide useful indicators for mental health outcomes in later life; associations with particular diagnoses of mental disorder remain to be established in longitudinal follow up of the cohort.

**Keywords:** early childhood, record linkage, developmental vulnerability, risk profiles, mental health

**References:**

**Oral Communication Mental and physical health**

**OC4 - Moderator - Free Communications 4 - Mental and physical health**

**Moderator:** Lydia Panico, Paris, France

**Oral Communication Mental and physical health**

**OC4A - Early Life Adversity and Cardiovascular Reactivity and Recovery**

**Authors:**
Stacey N. Doan, Nadya Dich, Thomas Fuller-Rowell, Gary W. Evans

**Authors Address:**
Claremont McKenna University, CA, U.S.A

**Abstract:**
Exaggerated cardiovascular reactions to acute psychological stress is thought to be a risk factor for cardiovascular health problems (Lovallo & Gerin, 2003). Moreover, both exaggerated cardiovascular stress reactions, as well as dampened responses, are associated with long-term physical (Treibner, Kamarck, Scheniderman, Sheffield, Kapuku, & Taylor, 2003) and mental health (Salomon, Clift, Karlsdottir, & Rottenberg, 2009). Along these lines, researchers have been interested in the role of early life adversity and how early life stressors may influence individual variability to stressors. Despite dozens of studies attempting to address these questions, the literature is rather mixed. Some studies report a potentiating effect of chronic stressors on cardiovascular response, while others show a null finding, or even attenuated reactivity to acute stress (Gump & Matthews, 1991).

Moreover, this body of work has ignored the role of early life adversity, focused almost exclusively on reactivity and have ignored the roles of recovery from stress. This limitation is important because while it is possible to argue that reactivity may not always be detrimental (e.g., the ability to mount an effective response in the context of a stressor is important for mobilizing the body to respond meet the increased demands), findings on dampened recovery on the hand is more conclusive. Being able to recover from stress response quickly is likely to always be adaptive.

In the current study, we investigate the relations between early life adversity and adolescent cardiovascular reactivity and recovery after acute stress. Early life adversity was assessed via interview, we measured demographic, environmental and psychosocial stressors before the age of 9 (Evans, 2003). We used the Trier Psychosocial Stress Test at age 13 and measure blood pressure to elicit cardiovascular reactivity and recovery. We used linear mixed models to model BP reactivity and recovery over time.

Results from the current study suggested that higher levels of early life adversity was were associated with slower recovery from the stressor. Interestingly, however, there was no effect of early life adversity on cardiovascular reactivity. Our data suggests that even in the early adolescent years, the effects of early life adversity on cardiovascular outcomes are evident.

**KeyWords:** cardiovascular reactivity, recovery, stress, early life adversity

**References:**


*OC4B - Interbirth spacing and mental health disorders in the offspring at 11 years: 2004 Pelotas birth cohort study*

**Authors:**

Alicia Matijasevich 1,2; Joseph Murray 2; Tiago N. Munhoz 3; Iná S. Santos 2; Fernando C. Barros 2, 4; Aluísio J. D. Barros 2

**Authors Address:**

1 Department of Preventive Medicine, School of Medicine, University of São Paulo, São Paulo, Brazil
2 Post-Graduate Program in Epidemiology, Federal University of Pelotas, Pelotas, Brazil
3 Department of Psychology, Federal University of Pelotas, Pelotas, Brazil
4 Post-Graduate Program in Health and Behavior, Catholic University of Pelotas, Pelotas, Brazil

**Abstract:**
Background: Closely spaced births have been associated with poor delivery outcomes, as well as development problems in the child. This study aimed to explore the association between birth spacing and psychiatric disorders among offspring at age 11 years.

Sample: Children born in Pelotas, southern Brazil, in 2004, were recruited in a birth cohort (n=4231, non-response rate at recruitment <1%) and followed from birth to age 11 (87% retention).

Method: Birth interval was constructed for women with at least one previous viable pregnancy and computed by calculating the number of months between date of birth of the index child and the previous birth. Birth intervals were analysed in the following categories: <18; 18-35; 36-53 and ≥54 months. At age 11, child psychiatric disorders were assessed using the Development and Well-Being Assessment (DAWBA). The DAWBA was administered to mothers or caregivers by trained interviewers, all of them psychologists. Mental disorders were analysed as any anxiety disorder, any mood disorder, any attention deficit/hyperactivity disorder (ADHD) and any conduct/oppositional disorder. Potential confounders (maternal schooling, smoking and alcohol consumption during pregnancy, moods symptoms during pregnancy, child’s sex, preterm birth and number of siblings) were included in the adjusted logistic regression models.

Results: 1964 single birth children were included in the analyses. No significant relationship was observed between birth interval and anxiety, mood or ADHD disorders in the adjusted analyses. Short (<18-month) birth intervals were independently associated with increased risk of any conduct/oppositional disorder. Compared to birth intervals of 54+ months, the odds ratio (OR) of any conduct/oppositional disorder at age 11 was 2.6 (95% confidence interval [CI], 1.1 to 5.7) for birth intervals shorter than 18 months, 2.1 (95% CI, 1.2 to 3.9) for intervals of 18 to 35 months and 1.4 (95% CI, 0.7 to 2.8) for intervals of 36 to 53 months.

Conclusions: Short birth intervals may represent a risk factor for conduct/oppositional disorders in the offspring. Early prevention of mental health disorders is needed in Brazil, and promoting optimal birth spacing might be one important strategy with respect to conduct/oppositional disorders.

KeyWords: Cohort study; children; adolescents; mental health; conduct disorders

OC4C - From home-based HIV testing to viral suppression: HIV care trajectories in the context of Universal Test-and-Treat in rural South Africa.

Authors:
Delphine PERRIAT 1,2, Mamadou Hassimiou DIALLO 3, Francois DABIS 1,2, Deenan PILLAY 4,5, Joanna ORNE-GLIEMANN 1,2, Joseph LARMARANGE 3, for the ANRS 12249 TasP Study Group.

Authors Address:
1. Univ. Bordeaux, Inserm, Bordeaux Population Health Research Center, UMR 1219, F-33000 Bordeaux, France
2. Inserm, ISPED, Bordeaux Population Health Research Center, UMR 1219, F-33000 Bordeaux, France
3. Centre Population & Développement (UMR 196 Paris Descartes Ined IRD), SageSud ERL Inserm 1244, Institut de Recherche pour le Développement, Paris, France
4. Africa Health Research Institute, Somkhele, KwaZulu-Natal, South Africa
5. University College London, Division of Infection and Immunity, London, United Kingdom

Abstract:
Background: In order for people living with HIV to achieve an undetectable viral load, and thus live longer and healthier, they need access to a continuum of services. There are numerous reports of "leaks" at all steps of the HIV care cascade. We described the timing and sequencing of individual HIV care statuses from care referral to viral suppression, by identifying groups of individuals with similar trajectories and factors associated.

Sample: We used prospective individual-level longitudinal data from the ANRS 12249 TasP cluster-randomized trial, which investigated the impact of universal antiretroviral treatment
(ART) on HIV incidence in rural South Africa (2012-2016). We included trial participants >16 years, identified HIV+, not in care at referral and followed-up for ≥18 months.

Method: The care status of all study participants was classified for each calendar day as: not in care, in care but not on ART, on ART but not virally suppressed, virally suppressed. We used state sequence data analysis to identify homogeneous care trajectories groups. A multinomial logistic regression was used to identify the profile of each group in terms of individual and cluster characteristics.

Results: 1,816 participants were included. Median age was 34 years [IQR 27-45], 74% were female. We identified four care trajectories groups: (i) participants who mostly did not enter care (55%), (ii) participants with inconstant care, visiting a clinic occasionally but leaving care thereafter (median time to exit care: 10 m. [5.2-13]) (12%), (iii) participants who took extensive time at each step of the care continuum (median time between referral and ART: 8.0 m. [6.4-9.7]) (12%) and (iv) participants who rapidly progressed towards continuous care (median time between referral and ART: 1.2 m. [0.6-2.7]) (21%). Participants younger than 50 years, newly diagnosed at referral, living further than a kilometre from a trial clinic, and living in a cluster where immediate ART was not offered, were more likely to present with incomplete, inconstant and slow care trajectories.

Conclusions: A longitudinal and person-specific approach to the study of HIV care patterns contributed to highlight the heterogeneity in care trajectories, in terms of speed and care utilization behaviours. Differentiated and personalised care and support should be scaled-up, especially between diagnosis and ART initiation, which constitutes the main bottleneck of HIV programs in this South African rural study area.

KeyWords: State sequence data analysis, HIV care, South Africa

Oral Communication Mental and physical health

OC4D - From individual care trajectories to HIV care cascade at population level in rural KwaZulu-Natal (South Africa): the impact of population dynamics (ANRS 12249 TasP trial)

Authors:
Joseph Larmarange 1,2, Mamadou Hassimiou Diallo 1, Nuala McGrath 2,3, Collins Iwuji 2,3,4, Rodolphe Thiébaut 5, Frank Tanser 2,6, Till Bärnighausen n2,7, Deenan Pillay y2,8, François Dabis 5, Joanna Orne-Gliemann 5 for the ANRS 12249 TasP Study Group.

Authors Address:
1. Centre Population et Développement, Institut de Recherche pour le Développement, Université Paris Descartes, Inserm, Paris, France
2. Africa Health Research Institute (previously Africa Centre for Population Health), KwaZulu-Natal, South Africa
3. Research Department of Infection and Population Health, University College London, United Kingdom
4. Department of Global Health & Infection, Brighton and Sussex Medical School, Falmer, Brighton, United Kingdom
5. Université de Bordeaux, ISPED, Inserm, Bordeaux Population Health Research Center, UMR 1219, Bordeaux, France
6. University of KwaZulu-Natal, School of Nursing and Public Health, Durban, South Africa
7. Harvard University, Department of Global Health & Population, Harvard School of Public Health, Boston, United States & Heidelberg University, Institute of Public Health, Faculty of Medicine, Heidelberg, Germany
8. University College London, Division of Infection and Immunity, London, United Kingdom

Abstract:

Introduction
The universal test-and-treat strategy (UTT) was developed to maximize the proportion of all HIV-positive individuals on antiretroviral and virally suppressed, assuming that it leads to reduction in HIV incidence. The evolution over time of the cross-sectional population HIV care cascade is determined by longitudinal individual trajectories through the HIV care continuum and the underlying HIV population dynamics. This structural effect could dilute the impact observed at population level of a UTT strategy RT: either add impact on what (incidence) or delete sentence. The purpose of this paper is to quantify the contribution of each component of population change on the population HIV care cascade in the context of UTT.

Sample: We used prospective individual-level longitudinal data from the ANRS 12249 cluster-randomized trial which was implemented in rural KwaZulu-Natal, South Africa between 2012 and 2016 to test such an approach.

Methods: HIV tests results and information on clinic visits, ART prescription, viral load and CD4 count, migration and deaths were used to calculate residency status, HIV status and HIV care status for each individual on a daily basis. Position within the HIV care continuum was considered as a score ranging from 0 (undiagnosed) to 4 (virally suppressed). We compared the cascade score of each individual joining or leaving the HIV population with the average score of their cluster at the time of entry or exit. Then, we computed the contribution of each event on the average cascade score and the annualised total contribution of all events, considering 5 components of HIV population change: aging into the cohort, HIV seroconversions, in-migrations, out-migrations, and permanent exits (including deaths).

Results: While the average cascade score increased over time in all clusters, that increase was limited due to population dynamics, the total contribution of all population entries and exits being negative. Permanent exits and individuals already infected when reaching the age of 16 had a marginal effect. Although migrants had a lower position than the rest of the population, their overall impact on the cross-sectional population cascade remained limited as in- and out-migration compensated each other.

Conclusions: In a context of high HIV incidence, the continuous flow of newly infected individuals slows down the efforts to increase ART coverage and population viral suppression.

**KeyWords:** Population dynamics, HIV care cascade, care trajectories

---

**Oral Communication Mental and physical health**

**OC4E - GET YOUR CHILDREN ON TIME? A MULTI-COHORT STUDY ON PARENTAL AGE AND OFFSPRING MENTAL HEALTH PROBLEMS**

**Authors:** Albertine J. Oldehinkel, on behalf of the CID Parental Age and Mental Health Project Group.

**Authors Address:** Interdisciplinary Center Psychopathology and Emotion Regulation, University Medical Center Groningen, CC72, P.O. Box 30001, 9700 RB Groningen, The Netherlands.

**Abstract:** Background: Literature on associations between parental age at birth and offspring mental health suggests that both young and old parenthood represent excess risk of mental health problems, presumably through different mechanisms. However, the existing evidence is scattered, due to varying populations, often representing selected groups, and diverging outcome measures. We investigated maternal and paternal age effects on offspring externalizing and internalizing problems in multiple population-based cohorts.
Samples: The data came from four Dutch cohort surveys: Generation R (N=5,398), the Netherlands Twin Register (NTR, N=22,678), the Research on Adolescent Development and Relationships (RADAR-Y, N=497), and the Tracking Adolescents’ Individual Lives Survey (TRAILS, N=2,230).

Methods: In all cohorts, mental health problems were assessed at around age 10-12 years by means of one or more rating scales from the Achenbach System of Empirically Based Assessment (ASEBA). This offered the unique opportunity to replicate the analyses in four independent samples, and across multiple informants. We investigated linear and quadratic effects of maternal and paternal age on mother-reported, father-reported, self-reported, and teacher-report internalizing and externalizing problems. A Bayesian updating method was used to quantify the joint evidence of the four studies. Exploratory analyses, meant to generate hypotheses of interest, were performed in random halves of each cohort. The other halves will be used to assess the support for each of these hypotheses.

Results: The exploratory analyses generally showed a highly consistent pattern across the four cohorts, Parental age was inversely related to the risk of externalizing problems, with quadratic effects suggesting that the effect leveled off or even reversed at high parental age. Internalizing problems seemed less strongly, if at all, associated with parental age. Based on these findings, we specified the following hypotheses: H0: age =0 & age2 =0; H1: age < 0 & age2 =0; H2: age < 0 & age2 > 0; and H3: none of these. During the presentation, I will present the amount of support for each of these hypotheses, separately for externalizing and internalizing problems and for maternal and paternal age, and discuss possible mechanisms.

Conclusions: To be presented at the meeting. Tentatively, high parental age is not associated with an increased risk of common mental health problems in population-based samples.

KeyWords: Parental age, Externalizing problems, Internalizing problems

OC4F - Optimizing life-course outcomes for children with hyperactivity: evidence from a prospective birth cohort

Authors:
Stephan Collishaw (1), Ajay Thapar (1), Alishia Addicoat (1), Anita Thapar (1), Jenny Stuart-Smith (1), Barbara Maughan (2)

Authors Address:
(1) Cardiff University; (2) King’s College London

Abstract:
Background. Clinical follow-ups of children with ADHD highlight links with later mental health problems, poor physical health and social functioning difficulties. Long-term consequences in unselected population cohorts remain unclear. Aims were to (1) examine adult mental health, physical health and social outcomes in an unselected population cohort, and (2) to test early life predictors of variation in outcomes. Sample. National Child Development Study (NCDS) Method. Children with (N = 453) and without (N = 9192) pervasive and persistent elevated symptoms of hyperactivity were identified using parent and teacher Rutter reports at ages 7 and 11. Outcome measures include i) recorded deaths at each adult follow-up, ii) self-rated mood problems (Malaise Inventory age 50), iii) self-rated physical health (age 50), and iv) social functioning (age 50 partner relationship, social support, social participation, employment, housing, finances and well-being). Childhood covariates included perinatal risk, emotional and conduct problems, cognitive attainment and family social disadvantage. 65% of eligible cohort members participated at age 50. Weights were derived using childhood predictors of adult non-response.

Results. Childhood hyperactivity was associated with increased risk of early death (by age 23: 2.0% vs 0.4%, OR = 5.65 [2.36-13.50, p<0.001], increased mood problems (ES = 0.27-0.45), poor self-rated health (OR = 1.73 [1.33-2.25, p<0.001]), and pervasive impairments affecting 3+ domains of adult social functioning (OR = 1.82 [1.31-2.52], p < 0.001). Associations were only
partially attenuated by controls for childhood covariates. Around a quarter of individuals with childhood hyperactivity reported good mental health, good physical health and no social functioning difficulties at age 50. Further analyses will test risk and protective mechanisms that account for apparent resilience and vulnerability within this high-risk group.

Conclusion. Childhood hyperactivity is associated with poor long-term outcomes for many but not all individuals. Identifying potentially modifiable risk and protective mechanisms is important for informing strategies for intervention (which currently only address core symptoms of ADHD). Study limitations include crude measurement of ADHD problems in childhood focusing exclusively on symptoms of hyperactivity, selective participant drop-out, and lack of information about hyperactivity and other ADHD symptoms in adulthood.

KeyWords: ADHD, adult outcomes, risk and protective factors

Oral Communication Mental and physical health

OC6A - Psychosis-spectrum disorders in adulthood are predicted by childhood social characteristics and disadvantaged neighborhood contexts

Authors:
Dale M. Stack, Paul D. Hastings, Lisa A. Serbin, William M. Bukowski, Jonathan Helm, Jane Ledingham, & Alex E. Schwartzman.

Authors Address:
Department of Psychology and CRDH, Concordia University, Montreal, Canada; Department of Psychology, Center for Mind and Brain, Center for Poverty Research, University of California Davis, Davis, USA; Department of Psychology and CRDH, Concordia University, Montreal Canada; Department of Psychology and CRDH, Concordia University, Montreal, Canada; Department of Psychology, San Diego State University; San Diego, USA; Department of Psychology, University of Ottawa, Ottawa, Canada; Department of Psychology and CRDH, Concordia University, Montreal, Canada

Abstract :
Background: Research on behavioral and contextual risk factors for schizophrenia, bipolar, and other psychosis spectrum diagnoses in adulthood underscores the necessity of studying childhood factors that precede and predict future disorders. Early identification of those at risk for these serious mental illnesses is essential for designing targeted, effective preventive interventions.

Sample: Participants (N=3905) were from a 2-generation, 30-year prospective longitudinal study of families beginning in 1976 (Concordia Longitudinal Risk Project), studied against a sociocultural backdrop of changing economic and social conditions. Key features were G1 neighborhood socioeconomic disadvantage, G2 childhood characteristics of aggression and social withdrawal, and G2 change in neighborhood disadvantage in adulthood. G1 were followed from childhood to their mid-late 60’s and G2 offspring into their 30-40’s.

Method: Parents’ lifetime histories of psychiatric disorders were obtained from cumulative health records. Psychiatric data were available for adult to senior years of G1 and adolescent to adult years of G2. Neighborhood socioeconomic disadvantage (G1), change in neighborhood disadvantage (G2) and childhood histories of aggression and social withdrawal (G2) were also measured. Four mutually exclusive categories of adult psychiatric status were applied to G1 and G2 (no diagnosis, psychosis spectrum, bipolar, schizophrenia).

Results: Classroom-based peer nominations of aggression, withdrawal and likeability, census-based evaluations of neighborhood-level socioeconomic disadvantage in childhood, and changes in neighborhood socioeconomic conditions from childhood to adulthood were found to significantly predict diagnoses of bipolar, schizophrenia, and other psychosis-spectrum disorders in adulthood (logistic regression). Greater neighborhood disadvantage in childhood, and increasing neighborhood disadvantage into adulthood, predicted increased likelihood of psychosis-spectrum diagnoses only for those both highly aggressive and highly withdrawn in
childhood. Men were at particularly high risk of diagnoses when they had been highly aggressive or lived in more disadvantaged neighborhoods in childhood.

Conclusion: Results provide strong support for multiple-domain models of psychopathology and suggest that universal preventative interventions and social policies to improve neighborhood conditions are important for decreasing prevalence of psychiatric disorders.

KeyWords: mental health; neighborhood disadvantage; intergenerational.

References:


Oral Communication Mental and physical health

OC6B - Low reward responsiveness at age 16 predicts onset of depression during nine years of follow-up

Authors:
Charlotte Vrijen, Catharina A. Hartman, Albertine J. Oldehinkel

Authors Address:
University Medical Center Groningen, The Netherlands

Abstract:
Background. Depressed individuals tend to be less responsive to rewards than healthy individuals, and there is preliminary evidence that low reward responsiveness may precede first onset of depression. We investigated whether low reward responsiveness reflects a vulnerability for developing depression in a large cohort of never-depressed 16-year-old adolescents who completed a reward task and were subsequently followed for a period of nine years during which onset of depression was assessed. We hypothesized that reduced engagement toward expected reward and nonpunishment, and enhanced disengagement from expected reward and nonpunishment would predict onset of depression during nine years of follow-up.

Sample. Data were collected in a population-based focus sample of the TTraking Adolescents’ Individual Lives Survey (TRAILS), an ongoing prospective cohort study investigating mental and social development from early adolescence into adulthood. Participants who completed the reward bias task at age 16, had no previous onset of depression, and were assessed on onset of depression at age 19 and/or age 25 were included in the present study. This yielded a sample of 531 individuals of whom 80 later developed a depressive disorder.
Method. Reward responsiveness at age 16 was assessed by means of the Spatial Orienting Task and depression was assessed at age 19 by means of the World Health Organization Composite International Diagnostic Interview (CIDI) and at age 25 by the Lifetime Depression Assessment Self-report (LIDAS).

Results. As hypothesized, we found that faster disengagement from expected reward and faster disengagement from expected nonpunishment at age 16 predicted depression during follow-up. This was only found at an automatic, implicit level of information processing. Contrary to expectations, we found no evidence that reduced engagement toward reward or nonpunishment predicted onset of depression.

Conclusion. Our findings suggest that enhanced disengagement from reward reflects a vulnerability for developing depression. Speculatively, adolescents with enhanced disengagement from reward and nonpunishment may process disproportionately more negative information and this may increase the risk for depression by gradually triggering the more explicit, top-down negative biases that characterize a depressive disorder. For future prevention programs it may be useful to target low reward responsiveness in at risk adolescents.

KeyWords: Depression, Vulnerability, Reward responsiveness, Adolescence

Oral Communication Mental and physical health

OC6C - Using Random Intercept Cross-lagged Panel Models to Investigate The Association between Self-esteem and Depressive Symptoms in Adolescents: Separating between-person effects from within-person effects

Authors: Maurits Masselink, Eeske van Roekel, Benjamin Hankin, Loes Keijsers, Gerine Lodder, Janne Vanhalst, Maaike Verhagen, Jami Young, Albertine Oldehinkel

Authors Address: University Medical Center Groningen, The Netherlands

Abstract:
Background: Many studies have shown that self-esteem and depressive symptoms are associated with each other in adolescents, with lower self-esteem being associated with more depressive symptoms. The two most dominant theories describing this association are the vulnerability model (i.e., low self-esteem makes one vulnerable to developing depression), and the scar model (i.e., going through depression is damaging for self-esteem). Until now, the vulnerability and scar model have been commonly investigated longitudinally using Cross-lagged Panel Models (CLPM). Recently it has become clear that associations found in CLPMs, may not reflect within-person associations and may be even opposite within persons, because between-person effects are not separated from within-person effects in these models. Previously published studies pertaining to answer the within-person question how self-esteem and depressive symptoms may affect each other over time, are thus potentially erroneous.

Method: In our manuscript we therefore investigated the longitudinal association between self-esteem and depressive symptoms using a method which is able to analyze both between- and within-person associations: the Random-Intercept Cross-lagged Panel Model (RI-CLPM). To examine whether conclusions would substantially differ if either the RI-CLPM or CLPM would be used, we compared results from both models. We analyzed results of the individual studies and synthesized the results of the three studies using meta-analyses.

Sample: We did so in three independent longitudinal adolescent samples (7-18 years), coming from three different countries (Study 1: N = 1,948, Study 2: N = 1,455, Study 3: N = 316, Total N = 3,719).

Results: Aggregated across studies, we found evidence for small longitudinal within-person associations from self-esteem to depressive symptoms, but not the other way around. The aggregated RI-CLPM results were quite similar to that of the CLPM, but model fit was superior in all RI-CLPM models.
Conclusion: Overall, we found support for the vulnerability model, showing that low self-esteem may negatively influence depressive symptoms over time within adolescents. Moreover, we conclude that within-person research questions should be investigated with methods in line with this research question, as is the RI-CLPM, instead of the CLPM.

**KeyWords:** self-esteem, depression, within-person analyses

**Oral Communication Mental and physical health**

**OC6D - Beyond not bad or just okay: Social predictors of young adults’ wellbeing and functioning. A TRAILS study**

**Authors:** Richards, J.S.1, Hartman, C.A.1, Jeronimus, B.F.1,2, Ormel, J.1, Reijneveld, S.A.3, Veenstra, R.4, Verhulst, F.C.5, Vollebergh, W.A.M.6, Oldehinkel, A.J.1

**Authors Address:**
1 Department of Psychiatry, Interdisciplinary Center Psychopathology and Emotion regulation (ICPE), University of Groningen, University Medical Center Groningen, Groningen, The Netherlands
2 Department of Developmental Psychology, Faculty of Social and Behavioural sciences, University of Groningen, Groningen, The Netherlands.
3 Department of Health Sciences, University of Groningen, University Medical Center Groningen, Groningen, The Netherlands
4 Department of Sociology, Interuniversity Center for Social Science Theory and Methodology (ICS), University of Groningen, Groningen, The Netherlands
5 Department of Psychiatry, Erasmus Medical Center, Rotterdam, The Netherlands
6 Department of Interdisciplinary Social Sciences, Utrecht University, Utrecht, The Netherlands

**Abstract:**

Background: Various childhood social experiences have been reported to predict adult outcomes. This study examined the joint contribution of adolescent family and peer experiences to young adult wellbeing and functioning.

Sample: Participants came from the Tracking Adolescents’ Individual Lives Survey (TRAILS) study (n = 2230), a prospective cohort study of Dutch adolescents. Psychological, social, and physical development as well as environmental conditions have been studied in the adolescents since TRAILS began in 2000-2004 when participants were approximately 11 years old.

Methods: We measured family and peer relations at ages 11 and 16 (i.e. family functioning, perceived parenting, peer status, peer relationship quality), and functioning as the combination of subjective wellbeing, physical and mental health, and socio-academic functioning at age 22. Using structural equation modelling, two latent variables were created for positive and negative functioning, which together formed the index of overall functioning. Positive, negative, and overall functioning at young adulthood were regressed on adolescent family experiences, peer experiences, and interactions between the two.

Results: Family experiences during early and mid-adolescence were most predictive for later functioning; peer experiences did not independently predict functioning. Interactions between family and peer experiences suggested that both protective and risk factors tend to have context dependent effects, and can be exacerbated or overshadowed by negative experiences or buffered by positive experiences in other contexts. Overall the effect sizes were modest at best.

Conclusions: Adolescent family relations as well as the interplay with peer experiences predict adult functioning. This emphasizes the importance of considering the relative effects of one context in relation to the other.

**KeyWords:** family relations, peer relations, multidimensional functioning
OC6E - Trajectories of maternal depression in childhood and offspring risk of suicide-related behaviours in early adolescence: 2004 Pelotas Birth Cohort Study

Authors: Tiago N. Munhoz, Iná S. Santos, Fernando C. Barros, Aluísio J. D. Barros, Alicia Matijasevich

Authors Address: Universidade Federal de Pelotas, Brasil

Abstract: Background: Offspring of depressed mother are at increased risk for the development of a broad range of mental health problems. We aimed to explore the association between maternal depression during childhood and suicide-related behaviour among offspring at age 11 years.

Sample: Children born in Pelotas, southern Brazil, in 2004, were recruited in a birth cohort (n=4231, non-response rate at recruitment <1%) and followed from birth to age 11 (87% retention).

Method: Maternal depression was assessed at 3 months after delivery, as well as when the child had reached 1, 2, 4, and 6 years of age. To assess maternal depression, we used the self-report Edinburgh Postnatal Depression Scale (EPDS), which has been translated to Portuguese and validated for use in Brazil. We used the Development and Well-Being Assessment, administered to the mothers or legal guardians, to identify suicide-related behaviour among the 11-year-old subjects. We also employed logistic regression to perform bivariate and multivariate analyses, using a backward-stepwise selection. Potential confounding characteristics included maternal mood symptoms during pregnancy, socioeconomic position and mental disorders at age 6 (any mood, ADHD, disruptive or anxiety disorder).

Results: 3172 single birth adolescents were included in the adjusted analysis. Offspring of high chronic depressed mothers and children who were identified with any mood disorder at age 6 years were, respectively, 4.57 (CI95% 1.89; 11.05) and 3.63 (CI95% 1.30; 10.14) more likely to suicidal-related behaviour in early adolescence.

Conclusions: Maternal depression during infancy and any mood disorders of the child (age 6 years) increased the risk of suicidal-related behaviours. The treatment of maternal depression should be a major focus of public health policies, because it is important to reduce its adverse consequences, including its effects on the mental health of children and adolescents.

KeyWords: Prospective Studies; Mood Disorders; Neurodevelopmental Disorders; Child Behavior Disorders

OC6F - Sticks and stones may break bones but words increase the risk of psychotic experiences.

Authors: Mr. Colm Healy, Dr. Mary Clarke, Dr Ian Kelleher, Professor Mary Cannon

Authors Address: Dept. Of Psychiatry, Royal College Of Surgeons In Ireland, ERC, Beaumont Hospital

Abstract: There has been a surge of interest into the relationship between bullying and psychotic experiences (PEs). However, the methods of bullying and impact of bullying varies across individuals and the prevalence may also vary by respondent. Thus a thorough investigation into this relationship is warranted.

A longitudinal analysis was conducted on waves 1 and 2 (ages 9 and 13) of the Growing Up in Ireland study using data from n=7163 families. Data on bullying, being a bully, bullying method, reasons for the bullying, the impact of the bullying was collected from the participating child
and/or their primary care giver (PCG) at both waves. PEs were reported by the child at age 13 using the Adolescent Psychotic Symptoms Screener. Adjusted odds ratios (Adj-OR) account for bullying at age 13.

13.12% of children met validated criteria for PEs. Based on the PCG, 17.71% of those bullied at 9 reported PEs at age 13 (Adj-OR: 1.40, CI: 1.19-1.65). In a multivariate analysis of bullying method only verbal bullying was associated with an increased risk of PEs (Adj-OR: 1.47, CI: 1.19-1.82). Of the reasons for the bullying only ethnicity, being a teacher's pet and jealousy were significantly associated with PEs (OR: 2.36, CI: 1.46-3.80; OR: 2.09, CI: 1.17-3.73; and OR: 2.28, CI: 1.5-3.39, respectively).

Based on the child, both being a bully and being bullied at age 9 were associated with an increased risk of PEs (OR: 1.34, CI: 1.09-1.64; and OR: 1.71, CI: 1.48-1.98, respectively). In a multivariate analysis only being bullied was associated with PEs (Adj-OR: 1.57, CI: 1.34-1.83). Verbally bullying another was the only method associated with an increased risk of PEs (OR: 1.59, CI: 1.06-2.39). Of those reporting being bullied, only written bullying was associated with an increased risk of PEs (Adj-OR: 1.41, CI: 1.01-1.99). The impact of the bullying was associated with a vastly higher risk of PEs (never bullied: OR: 4.42, CI: 3.44-5.69; and bullied once OR: 2.71, CI: 2.10-3.50).

Bullying is pervasive in the childhood of those who subsequently report PE. Bullying at age 9, particularly verbal and written bullying methods elevate the risk of PEs at age 13 even when controlling for bullying at age 13. Persistent bullying was associated with a vastly higher risk of PEs. Reducing the rates of bullying in childhood may moderate the likelihood of PEs in adolescents.

**KeyWords:** Psychotic Experiences; Childhood Bullying; Verbal Bullying

---

**OC5A - Developmental trajectories of fine motor skills during the preschool period**

**Authors:** Hugo Peyre, Franck Ramus

**Authors Address:** Hopital Robert Debré, Paris, France

**Abstract:**

Background: Coexisting cognitive disorders and problems are common in Developmental Coordination Disorder. Longitudinal studies can help to disentangle the complex relationships between the different cognitive domains. This study aims to examine the contribution of several early cognitive factors to predict changes in fine motor skills during preschool.

Method: Children (N = 1138) from the EDEN mother-child cohort were assessed for fine motor skills with the Design copying task (from the NEPSY battery) and the parent-rated Ages and Stages Questionnaire at ages 3 and 5.5 years. At 3 years, language skills were evaluated using the NEPSY and ELOLA batteries and emotional, behavioral and social problems were assessed with the Strengths & Difficulties Questionnaire (SDQ) Emotional problems, Conduct problems, Inattention/Hyperactivity symptoms, Peer relationships and Pro-social behavior subscores.

Logistic regressions adjusted for a broad range of pre- and postnatal environmental factors were performed to examine two change trajectories: children who fall below the 10th percentile of fine motor skills between 3 and 5-6 years (declining trajectory), and those who rose above the 10th percentile (resilient trajectory).

Results: SDQ Inattention/Hyperactivity symptoms subscore at 3 years (OR = 1.41; IC-95%: 1.12-1.77) was associated with the declining trajectory. Language skills score at 3 years (OR = 1.71; IC-95%: 1.12-2.61) was associated with the resilient trajectory.

Conclusions: This study provides a better understanding of the natural history of developmental coordination delays by identifying the influence of cognitive factors that predict changes in fine motor skills.
motor skills between the ages of 3 and 5-6 years. We discussed the implications of these results for treatment of children with Developmental Coordination Disorder.

KeyWords: Longitudinal; Preschool; fine motor skills, ADHD; language

References:

Oral Communication Psychobiological development

OC5B - Impact of a psychosocial intervention on stress regulation and disruptive behaviors among preschoolers in childcare center: a cluster randomized controlled trial

Authors: Larose Marie-Pier (1), Geoffroy Marie Claude (2), Laurin Julie (1), Vitaro Frank (1), Tremblay E. Richard (1), Ouellet-Morin Isabelle (1), Côté M. Sylvana (1)

Authors Address: (1) Université de Montreal, Montreal, Canada, (2) McGill Université, Montreal, Canada

Abstract:
Background: Meta-analytic data suggested that childcare might be a stressful experience, especially for children between 3 and 4 years old who have externalizing behaviors (i.e., high level of aggressiveness and hyperactivity). One of the most plausible explanations for children’s higher stress levels in childcare is related to the quality of social interactions, which are characterized by frequent conflicts at these ages. The aim of this study is to assess the impact of a child care-based psychosocial intervention aiming at improving social skills on preschooler’s stress levels.

Sample: We used a cluster randomized control trial (cRCT) to test the hypothesis that an intervention aiming at supporting the development of social skills would lead to better stress regulation as compared to no intervention. In fall 2013, nineteen public Child Care Centers (n=362, 3 years old preschoolers) of underprivileged neighborhoods in Montreal were randomized to one of those two conditions: 1) intervention group (n=10 centers, 184
The intervention covered four main topics: an introduction to social contact, problem-solving process, emotional self-regulation, and how to express and recognize one's own emotions.

Method: Stress levels reflected in salivary cortisol were taken thrice a day in pre and post-intervention: [1] childcare arrival, [2] before lunch and [3] one hour after napping in the afternoon. Parents and childcare educators assessed children’ disruptive behaviors by questionnaire in pre- and post-intervention. We used a mixed linear model for repeated measures to test the impact of the intervention on cortisol levels in post-intervention, and to test the interaction between children’ disruptive behaviors in pre-intervention and children’ cortisol level in post-intervention.

Results: Children’ disruptiveness (i.e., high level of aggressiveness, impulsivity, and hyperactivity) in pre-intervention was a moderator of the impact of the intervention on stress regulation in post-intervention. The results indicate that the most disruptive children benefit more from the intervention than the less disruptive ones.

Conclusion: In population-based studies, children’ disruptiveness might be considered as a significant moderator of child development even for biological outcomes. The impact demonstrated in the current study provides a promising solution to high stress level among children who attend childcare.

KeyWords: Intervention, externalizing behaviors, stress regulation

Oral Communication Psychosocial development

OC2 - Moderator - Free Communications 2 - Psychosocial development

Moderator: Cédric Galéra, Bordeaux

OC2A - Implementation of a multi-form planned missing data design in the context of multiple informants and repeated measures

Authors: Charlie Rioux, Natalie Castellanos-Ryan, Jean R. Séguin, Sophie Parent

Authors Address: Université de Montréal; Centre de recherche CHU Ste-Justine, Canada

Abstract:

Background. Planned missing data designs are recommended to decrease data collection costs, improve data quality and maintain statistical power while also decreasing the burden on participants. One popular planned missing data design is the 3-form design, where items are divided into one common block with 25% of the items, and 3 blocks to which 25% of the items are attributed randomly. Each of the three forms includes the common block and 2 of the 3 random blocks. Thus, each form is missing 25% of the items. However, there is a lack of simulation studies on how to implement such designs in the context of multiple informants and repeated measures. This presentation will highlight the limitations of the current literature and how decisions were made to allow the implementation of a planned missing data design in the 3D-transition study.

Sample. The 3D study in Quebec (Canada) has followed 2366 families across pregnancy and after birth until the children were 2 years old. Over 1500 families agreed to a follow-up and constitute the sample for the present project (3D-transition), spanning from 2017 to 2021.

Method. A 3-form design was implemented. The common block included socio-demographic information and the most representative items of each scale.

Results. Decisions were made to maximize the information collected with multiple informants and repeated measures. Since two parents filled out the questionnaires, they filled out different versions of the 3 forms (across informants). Furthermore, versions filled out were different at each assessment within informants. A detailed analysis of this approach will be presented, including its rational basis, advantages and inconveniences. The rate of item nonresponse and
attrition will be calculated and compared to the data collection of the 3D study before the implementation of the planned missing data design and to other similar longitudinal cohorts from Quebec.

Conclusion. The implementation of a planned missing data design in the 3D-transition study highlighted the current limitations of the methodological literature on these designs. Although this design could still be implemented on a rational basis, sound decisions need to be supported empirically. Simulation studies are needed to inform researchers on why, when and how to use planned missing data in their longitudinal research and demonstrate the conditions under which validity and generalizability are enhanced when such designs are appropriately utilized.

**KeyWords:** cohort study, planned missing data, methods, design, longitudinal, repeated measures, multiple informants

**Oral Communication Psychosocial development**

**OC2B - Prospective associations between early family meal environment quality and later well-being in school-aged children**

**Authors:**
Marie-Josée Harbec and Linda S. Pagani.

**Authors Address:**
School of Psycho-Education and Sainte-Justine’s Hospital Research Center (Brain Diseases Division), Université de Montréal, Canada

**Abstract:**
Background. Eating together has traditionally been part of living together as a group. The home environment remains the primary vehicle for socialization of children. Some families routinely share meals together, while others rarely, if ever, eat together. This is especially true today, where both mothers and fathers often have busy schedules, which can diminish the priority of meal sharing as a family. Past research suggests a positive link between family meals and child and adolescent health. Although researchers have often relied upon family meal frequency, how often families eat together may not capture the complexity of the meal experience. This study examines the prospective influence of the environmental quality of family meals at age 6 on later child well-being at age 10. We expect that better family meal environment quality will be associated with more optimal healthy lifestyle habits, school achievement, and social adjustment.

Sample. Participants are 1492 children the Quebec Longitudinal Study of Child Development.

Methods. When children were age 6, parents reported on their family meal environment experience. At age 10, parents, teachers, and children themselves provided information on healthy lifestyle habits, academic achievement, and social adjustment, respectively. The relationship between early family meal environment quality and later child outcomes were analyzed using a series of multivariate linear regression.

Results. Family meal environment quality at age 6 predicted higher levels of general fitness and lower levels of soft drink consumption, physical aggression, oppositional behavior, non-aggressive delinquency, and reactive aggression at age 10. These relationships were adjusted for pre-existing child characteristics (gender, temperament problems, cognitive abilities, and baseline body mass index [BMI]) and family characteristics (family configuration and functioning, maternal education, depression, BMI).

Conclusions. This study is particularly unique in its assessment of the early childhood family meal environment experience. From a population-health perspective, our findings suggest that family meals have long-term influences on children’s bio-psycho-social well-being. At a time when frequency of family meals is on a natural decline in Western populations, this environmental characteristic can become a target of home-based interventions and could be featured in information campaigns that aim to optimize child development.

**KeyWords:** family meal environment; well being; childhood.
OC2C - Emotional and Behavioral Symptom Network Structure in Elementary School Girls and Links with Anxiety Disorders in Adolescence and/or Early Adulthood

Authors: Alexandra ROUQUETTE (1,2), Jean-Baptiste PINGAULT (3), Eiko FRIED (4), Bruno FALISSARD (1,2), Jolanda J. KOSSAKOWSKI (4), Massimiliano ORRI (5,6), Sylvana COTE (5,7), Deny BORSBOOM (4).

Authors Address:
1. CESP, INSERM, Univ. Paris-Sud, UVSQ, Université Paris-Saclay, Paris, France.
2. AP-HP, Bicêtre Hôpitaux Universitaires Paris Sud, Public Health and Epidemiology Department, Le Kremlin-Bicêtre, France.
3. Division of Psychology and Language Sciences, University College London, London, UK
4. Department of psychology, University of Amsterdam, Amsterdam, The Netherlands.
5. Bordeaux Population Health Research Centre, INSERM U1219 and University of Bordeaux, Bordeaux, France
6. Department of Psychiatry, Douglas Mental Health Research Institute, McGill University, Montreal, Canada
7. Department of Social and Preventive Medicine, University of Montreal, Canada.

Abstract:
Objective: The network perspective is an alternative conceptualization of psychopathology to the classical common cause approach [1, 2]. For the first time, we applied network analysis to emotional and behavioral symptoms during childhood in order to A) explore the network structure among these symptoms in girls at age 6, B) describe its change from age 6 to 10, C) focus on internalizing and disruptive symptom network in childhood to explore its links with anxiety disorders occurrence during adolescence or early adulthood.

Methods: This study included 932 girls from the Quebec Longitudinal Study of Kindergarten Children whose parents filled out the Social Behavior Questionnaire (SBQ) at age 6, 8 and 10; 783 were assessed for diagnoses of anxiety disorders at age 15 and 23 [3, 4]. Exploratory structural equation modeling (ESEM) and Gaussian graphical models (GGM) were estimated on the 33 SBQ symptoms during childhood (objectives A and B) [5, 6]. Then, GGM were estimated on the 21 disruptive and internalizing SBQ symptoms and a binary variable indicative of anxiety disorder occurrence at follow up (objective C).

Results: The network was relatively stable over the three timepoints in childhood. Symptoms clustered in communities corresponding to the five dimensions revealed in ESEM, and “Irritable”, “Blames other”, “Not liked by others”, “Often cries” and “Solitary” emerged as bridge symptoms between the disruptive and internalizing dimensions. Importantly, these symptoms were also those, at each of the three childhood timepoints, which mostly exhibited relationships with the occurrence of anxiety disorders at follow-up.

Conclusions: As shown in this exploratory study, the network perspective can bring new and valued information and insights for developmental psychopathology where patterns of connectivity between symptoms and their change over time can reveal the distinctive position of specific symptoms that may further be investigated as potential target in disease-prevention or health promotion interventions.

KeyWords: Network analysis, Emotional and behavioral symptoms, Childhood, Girls, Anxiety disorders.

References:

Oral Communication Psychosocial development

OC2D - Repercussion of trajectories maternal depression in the first years of life on peer relationship of children at 6 and 11 years old: 2004 Pelotas Birth Cohort

Authors:
Jessica M. Maruyama (1), Tiago N. Munhoz (2), Iná S. Santos (3), Aluíso J. D. Barros (4), Fernando, C. Barros (5), Alicia Matijasevich (6)

Authors Address:
(1) Department of Preventive Medicine, School of Medicine, University of São Paulo, Brazil; e-mail: jessica.maruyama@usp.br;
(2) Department of Psychology, Federal University of Pelotas, Brazil; e-mail: tyagomunhoz@hotmail.com;
(3) Postgraduate Program in Epidemiology, Federal University of Pelotas, Brazil; e-mail: inasantos@uol.com.br;
(4) Postgraduate Program in Epidemiology, Federal University of Pelotas, Brazil; e-mail: abarros.epi@gmail.com;
(5) Postgraduate Course in Health and Behavior, Catholic University of Pelotas, Brazil; e-mail: fcbarros.epi@gmail.com;
(6) Department of Preventive Medicine, School of Medicine, University of São Paulo, Brazil; e-mail: alicia.matijasevich@fm.usp.br.

Abstract:
Background: Maternal depression is a well-known risk factor for child developmental and behavioral problems. It may impair the development of socioemotional competences and affect adaptive functioning among children and adolescents. The aim of the study was to examine the association between trajectories of maternal depression and offspring peer relationship problems at 6 and 11 years.

Sample: This work used the data from 2004 Pelotas Birth Cohort Study. Almost all children born in Pelotas, Brazil, in 2004, were recruited to a birth cohort study (n=4231). Non-response rate at recruitment was below 1%. Follow-up assessments were made at 3, 12, 24, 48 months, 6 and 11 years with follow-up rates between 87 and 96%.

Methods: Maternal depressive symptoms were assessed with the Edinburgh Postnatal Depression Scale (EPDS) at each follow-up. Trajectories of maternal depression from three-months until the six-year-follow-up were calculated using a group-based modelling approach. Peer relationship problems were assessed with the Strengths and Difficulties Questionnaire (SDQ) at 6 and 11 years. We used logistic regression to estimate odds ratio (OR) and 95% confidence intervals (CIs) for the association between trajectories of maternal depression and offspring peer relationship problems. Potential confounders were included in the adjusted model.
Results: A total of 3579 children were included in the analyses. The prevalence of peer relationship problems was 14.1% (95% CI 12.9-15.3%) at age 6 and 13.3% (95% CI 12.2-14.5%) at age 11. We identified five trajectories of maternal depressive symptoms: a “low” trajectory (34.7%), a “moderate low” (41.4%), a “increasing” (8.9%), a “decreasing” (9.7%) and a “high-chronic” trajectory (5.3%). The probability of children having peer relationship problems increased as we moved from the “low” to the “high-chronic” trajectory, both at age 6 and 11. In the adjusted analysis, children of mothers in the “high-chronic” trajectory were four-times as likely to have peer relationship problems compared to children of women in the “low” group at both age 6 (OR 4.3; CI 95% 2.8-6.5) and 11 (OR 3.9; 95% CI 2.5-6.0).

Conclusion: The results strengthen the evidence of the impact of maternal depression on children’s peer relationship. Early identification, appropriate treatment and follow-up of depressed women and their children must be a key priority for mental health services.

KeyWords: Infant development; Socioemotional skills;Maternal depression;Cohort study.

OC2E - Understanding minds in middle childhood: The ongoing influence of caregivers’ references to internal states

Authors:
Amy L. Paine, Salim Hashmi, Leo M. J. de Sonneville, Stephanie H. M. van Goozen, Dale F. Hay

Authors Address:
School of Psychology, Cardiff University, UK

Abstract:
Many features of parent-child conversations have been explored in relation to children's development of theory of mind in the preschool years (Miller, 2016). Longitudinal studies have identified robust associations between caregivers’ references to internal states and children's early performance on theory of mind tasks (Ruffman et al., 2002, 2006). While it is well-established that features of caregivers' speech fosters children's understanding of minds in the preschool years, there is a dearth of research beyond the fifth year of life (Devine & Hughes, 2016). More research investigating social influences on higher-order understanding of minds in middle childhood is warranted, to build on existing longitudinal studies of theory of mind development. We aimed to (1) describe children's and caregivers’ internal state language in middle childhood and (2) investigate concurrent associations between caregivers' internal state language and 7-year-olds' understanding of second-order false belief. Families were assessed in the sixth wave of the prospective Cardiff Child Development Study, a representative community sample of firstborn children and their families (subsample n = 254, mean age 83.23 months).

Children's mind-understanding was measured using a developmentally appropriate second-order false belief narrative enacted with Playmobil figures. Caregivers’ and children's internal state language during a caregiver-child interaction task was transcribed and coded. Language was coded for references to perception, physiology, preferences, intentions, desires, emotions and cognitions. When known correlates of caregivers’ internal state references (socioeconomic adversity, caregivers’ verbal ability, talkativeness and children's own references to internal states) and children's second-order false belief (age, verbal IQ, working memory and number of siblings) were controlled, frequency and variety of caregivers’ references to cognitions significantly predicted children's understanding of second-order false belief: OR = 1.82, 95% CI(1.22 - 2.73), final model χ2 (9) = 35.84, and p < .001, R2 = .23, OR = 2.62, 95% CI(1.16 - 5.90), final model χ2 (9) = 33.93, p < .001, R2 = .22. This study corroborates evidence that caregivers' references to cognition throughout childhood promotes children's higher-order understanding of minds, strengthening the claim that exposure to proficient conversational partners is important for children's understanding of the minds of others.

KeyWords: Theory of mind; Internal state language; Middle childhood; Longitudinal study
References:

OC2F - What role does the cumulative burden of adolescent depression and conduct problems play in young adult functioning?

Authors:
Ann Vander Stoep, Elizabeth McCauley

Authors Address:
University of Washington, Seattle, USA

Abstract:
Adolescent mental health problems have been shown to adversely affect adult economic and social well-being, yet little research has demonstrated whether there is specificity in the effects of different types of adolescent mental health problems on particular domains of young adult (YA) functioning. We will explore the impact of the cumulative burden of depression and conduct problems over the course of adolescence on educational, vocational, and interpersonal functioning in young adulthood.

Methods: We take advantage of an 8th wave of data collected during young adulthood as part of the community-based Developmental Pathways Project (DPP). DPP is a longitudinal study of the development and consequences of comorbid depression and conduct disorders. The DPP cohort was recruited from Seattle Public Schools at the time of middle school entry (age 12 yrs). The cohort is comprised of 27% African Americans, 20% Asian American/Pacific Islanders, 5% American Indians, and 48% European Americans. At the time of recruitment, 33% of cohort members were living below the federal poverty level. Of the original 520 participants, 416 (80%) were interviewed at age 22 yrs. To address how adolescent mental health problems contribute to YA functioning, we will estimate burden of adolescent psychopathology using symptom counts of major depression symptoms and combined oppositional defiant disorder and conduct disorder symptoms measured in 6th, 7th, 8th, 9th, and 12th grades. Using statistical models, we will examine the role of adolescent psychopathology in self-reported functioning in educational (e.g., high school and college graduation); vocational (e.g., financial self-sufficiency, getting fired from a job); and social (e.g., residential stability, stability of romantic relationships) domains.

Findings: YA functional status of DPP participants was highly varied across domains. Between the ages of 18 and 22 yrs, of 416 study participants, 116 had completed a college degree; 30 had not completed high school or a GED. In the vocational domain, 185 had been fully self-supporting; 79 had been fired from a job. And in the social domain, 40 had been homeless; 89 had been pregnant or gotten someone pregnant; 66 had 4 or more sex partners in past 12 months. We will present findings to highlight the role of cumulative burden of depression and conduct disorder symptoms on these specific indicators of YA functioning and explore potential explanatory variables, including antecedents (household and neighborhood poverty, exposure to stressful life events, low social support) and mediators (social skills; emotion regulation; executive function). Finally, we will highlight ethnic/racial differences in developmental pathways towards YA functioning.
Conclusions/Discussion: Implications will be discussed regarding means of supporting vulnerable adolescents as they transition into adult roles.

**KeyWords:** adolescent depression, conduct disorders, young adult functioning, education, vocation, social domains
P06 - Longitudinal analysis of mechanisms in the association between SES and child antisocial behaviour

Authors:
Nora McIntyre (Presenting author), 1; Patrycja Piotrowska, 2; Christopher Stride, 1; Barbara Maughan, 3; Robert Goodman, 3; Richard Rowe, 1

Authors Address:
1 University of Sheffield, UK; 2 University of Sydney, Australia; 3 King’s College London, UK

Abstract:
Children with low socioeconomic status (SES) are significantly more likely to display antisocial behaviour. Since antisocial behaviour is a major mental health problem, it is important to investigate the mechanisms linking SES to the development of antisocial behaviour. However, antisocial behaviour is a heterogeneous construct. The present study therefore disentangles antisocial behaviour subtypes in its analysis of the mechanisms underlying the link between SES and antisocial behaviour. Accordingly, the present study gained access to the BCAMHS-1999 and BCAMHS-2004 data, in which the income (SES) and ratings of antisocial behaviour for 7977 children were available. Structural equation models were run for each of six antisocial behaviour subtypes. In each model, multiple latent variables were simultaneously analysed as mediators in the SES-antisocial behaviour relationship. Mediators included parent mental health, family functioning, stressful life events and child cognitive ability. Preliminary analyses for this abstract used only the 2004 data, but the incorporation of the 1999 data will be ready for reporting by the time of the LHRS 2018 conference. By then, autoregressive cross-lagged analysis will have been conducted for longitudinal confirmation of what is reported in this abstract. From the BCAMHS-2004 data, preliminary results indicate that children from lower SES were likely to have lower cognitive ability, more stressful life events and live in impoverished neighbourhoods which, in turn, predicted higher levels of all antisocial behaviour subtypes. One antisocial behaviour subtype—callousness—revealed a unique SES-antisocial behaviour pathway: family dysfunction and impoverished neighbourhoods emerged to have exceptional influence, while stressful life events and child cognitive ability were less pronounced for callousness. This preliminary analysis provides highlights the importance of distinguishing between antisocial behaviour subtypes. Existing models for the SES-antisocial behaviour link that underscore the importance of family functioning (Conger et al., 2000), child characteristics (Corcoran & Adams, 1997) and parental investment into the child (Bradley & Corwyn, 2000) are also supported. However, longitudinal analysis of both datasets—the BCAMHS-1999 and the BCAMHS-2004—combined will become available by the time of the LHRS 2018 conference, when a causal relationship between SES, antisocial behaviour and its mediators will be even clearer.

KeyWords: Autoregressive cross-lagged analysis; antisocial behaviour; socioeconomic status

P07 - Childhood Conduct Problems, Callous-Unemotional Traits and Anxiety: Risk Trajectories Leading to Aggression and Criminality in 3016 Males and Females

Authors:
Robitaille, Marie-Pier, Côté, Sylvana, Vitaro, Frank, Tremblay, Richard E. Hodgins, Sheilagh
Authors Address:
University of Montreal, Canada

Abstract:
Background. Children who exhibit conduct problems (CP) and callous-unemotional traits (CU) are at high risk to acquire juvenile and adult criminal convictions. Such children typically exhibit low levels of anxiety (AX). The association between CU and AX is not well understood as children with CP and low CU typically show high levels of AX, as do antisocial adults. The present study aimed to compare boys and girls presenting combinations of CP, CU, and AX and their subsequent criminal offending. Sample. 3016 children recruited at school entry into the Quebec Longitudinal Study of Kindergarten Children (QLSKC). Method. Data were collected prospectively from ages 6 to 24. Each spring, when participants were aged 6 to 11, teachers rated CP, CU, and AX using the Social Behaviour Questionnaire. At age 12, teachers rated proactive and reactive aggression. Juvenile and adult criminal records were available for all participants. Semiparametric mixture models were used to estimate trajectories of CP, CU, and AX for boys and girls separately, using MPlus. Final trajectory models revealed three trajectories (low, moderate, high) for each sex. Children were then categorized into one of twelve behavioral profiles, representing different combinations of the trajectories. Results. Behavioral profiles revealed types and antitypes of boys and girls. Boys were more likely to present a behavioral profile characterized by high CP and CU, either with high or low AX. Girls were more likely to follow trajectories of moderate CU and low CP, with high or low AX. Antitypes: High CU trajectory did not exist without high CP or AX, high CP trajectory did not exist without high CU or AX, either for boys or girls. Boys following the CP+CU-AX trajectory obtained scores for proactive aggression that were two times higher than scores of boys with CP+CU+AX. Both profiles, however, showed similar high levels of reactive aggression. The opposite was observed for girls, who showed a higher risk for proactive aggression when anxious (CP+CU+AX vs CP+CU-AX-), although not statistically significant. Males at the highest risk of adult criminal convictions had shown high CP with high CU with and without AX, and high CP with medium CU with and without AX. Conclusions. Sex-specific combinations of CP, CU, and AX from age 6 to 11 were differentially prevalent, and associated with different risks for proactive and reactive aggression at age 12, and for criminal convictions from age 12 to 24.

KeyWords: Callous-unemotional, Anxiety, Criminality

Poster Presentation Antisocial behavior

P08 - Intergenerational Transmission of Anger: Parental Anger and the Effects on Adolescents and Young Adults

Authors:
Gabriele Plickert, Heili Pals

Authors Address:
California State Polytechnic University, Pomora, USA

Abstract:
This study examines the intergenerational transmission of anger from parents to children. Structural equation models are conducted to assess the extent to which parental anger (G1) is predictive of anger and self-dereogation in children (G2). In addition, hierarchical growth curve models are used to estimate parental anger effects on trajectories of emotional well-being from adolescence through young adulthood. Drawing on perspectives of intergenerational, we state hypotheses about developmental changes in the transmission of parental anger. We employ longitudinal data of two generations with parallel measures of emotional distress in both generations. We assess parental anger in parent’s mid-life and children’s anger and self-dereogation in adolescence (ages 11-18) and in young adulthood (ages 20-26). We find that parental anger affects children’s anger in adolescence. In young adulthood, however, parental
anger increases children's self-derogation and not anger. Further, maternal anger has stronger effects on child’s self-derogation in young adulthood than paternal anger.

**KeyWords:** anger, self-derogation, intergenerational transmission, hierarchical growth curve, structural equation models

**References:**

Some selected references:


**Poster Presentation Antisocial behavior**

**P22 - A systematic review of mechanisms in the relationship between SES and child antisocial behaviour**

**Authors:**

Nora McIntyre (Presenting author), 1; Patrycja Piotrowska, 2; Christopher Stride, 1; Barbara Maughan, 3; Richard Rowe, 1

**Authors Address:**

1 University of Sheffield, UK; 2 University of Sydney, Australia; 3 King’s College London, UK

**Abstract:**

Whereas few doubt that the SES-ASB link exists, debates persist regarding the mechanisms that underlie the SES-ASB relationship. We therefore aimed to identify causal mechanisms in the SES–ASB relationship by examining relevant longitudinal studies (Jaffe et al., 2012). Our systematic review database is comprised of 120 longitudinal studies that report a SES-ASB link published between 1960 and 2016. These papers report data from a number of major studies including the Tracking Adolescents' Individual Lives Survey (TRAILS), the Christchurch Health and Development Study, the Cambridge Study on Delinquent Development and the National Longitudinal Survey of Children and Youth (NLSCY). To identify longitudinal studies in this area, our search strategy comprised search terms relating to childhood, antisocial behaviour and SES. Bibliographic databases included PsycInfo, Scopus and ERIC among others. Our inclusion criteria for the systematic review required studies to be published in English, to be empirical, target the general population, children (0-18 years), SES (inc. family income, occupational prestige, poverty level), ASB (inc. conduct disorder, oppositional defiant disorder, aggression), and to report a SES-ASB metric. To qualify as longitudinal research, multiple timepoints will have been used, with SES measured before ASB or vice versa. Each paper from this database was then coded with regard to whether it addressed mechanisms of the SES–ASB relationship using longitudinal data and, if so, the nature of this mechanism was noted (mediation, moderation, confounding variable). Whether studies supported or opposed the
intermediary variable as a mechanism, as well as the quality of each analysis, were also coded. Support was weighted by study quality such that the total quality score across all supporting studies for each mechanism was obtained. 

Fifteen mechanisms emerged from our review. Once study quality was taken into account, research suggests parenting style (\(\sum w = 127\)), family functioning (\(\sum w = 102\)) and parent mental health (\(\sum w = 100\)) to be three leading SES-ASB mechanisms, followed by peer problem (\(\sum w = 61\)), child health (\(\sum w = 57\)) and child cognitive ability (\(\sum w = 45\)). The Family Stress Model (Conger et al., 1992) thus receives the most support from existing literature. However, we contend that the under-researched factors are likely to play a greater role in the SES-ASB relationship than has been evidenced so far.

**KeyWords:** Systematic review; antisocial behaviour; socio-economic status

**Poster Presentation: Antisocial behavior**

**P21 - The Curaçao Longitudinal Study of Juvenile Resilience and Delinquency**

**Authors:**
Agnes de Lima-Heijns, MsC, Forensic Mental Health Psychologist at GGZ-Curaçao, PhD student Juvenile Forensic Psychology and Youth Care Services, University of Amsterdam (UvA), the Netherlands, adelimaheyns@gmail.com
Dr. Joan van Horn, PhD, Senior Researcher at "de Waag", the Forensic Care Specialists, the Netherlands; joavanhorn@gmail.com
Prof. Dr. Geert-Jan Stams, PhD, Professor of Juvenile Forensic Psychology and Youth Care Services, University of Amsterdam (UvA), the Netherlands, g.j.m.stams@uva.nl
Roeland Thomas, MsC, Head of Research at Caribbean Medical University (CMU), Curaçao, Thomas.Roeland@gmail.com
Dr. Anne-Marie Marchena-Slot, PhD, University of Curaçao (UoC), Annemarieslot@mac.com

**Abstract:**

Background. With about 30% of culprits being under 17 (Faber, 2007) and 36% of the prison population being younger than 24 years of age (Antilliaanse Jeugdzorg, 2008), juveniles form a relatively large part of the judicial population in Curaçao (Jonkman, et al., 2010). In contrast to abundant research on risk factors for delinquent behavior, little is known about prevention and resiliency promoting factors. This is the first longitudinal population-based study investigating developmental pathways into resilience and delinquency among Curaçaoan youth. Knowledge about factors contributing to favorable or non-favorable outcomes may be used to inform a policy of preventive interventions.

Objectives. Integrating resiliency theory (e.g. Ungar et al., 2008) and explanatory models of criminal conduct (Andrews & Bonta, 2010) into Bronfenbrenners (1997) Process-Person-Context-Time (PPCT) model, the study aims to establish prevalence of and possible change in protective, promotive and risk factors over time, and identify their role in developmental pathways towards resilience and delinquency among Curaçaoan 8th grade students. Based on these, the study aims to develop a screening tool for early identification of potential resilience and risk factors.

Method.

Sample. From a nationwide population of 8th graders, the protective, promotive, preventive and risk factors underlying developmental pathways towards resilience and delinquency are studied in a four-wave panel mixed model design.

Procedure. Included schools varied along demographical data (Bals, 2011) according to neighborhood SES status and location, resulting in a representative sample.

At baseline, 78% of the targeted population and 47% of the total sample participated, with consent refusals and absentees both being under 1%, showing design feasibility. So far 3 waves were successfully completed.

Analyses. First, prevalence and incidence rates of behavioral problems and delinquency are analyzed. Second, instruments are validated through, amongst others, exploratory and
confirmatory factor analyses, and analyses of measurement and structural invariance. Third, developmental pathways are identified through longitudinal multilevel analyses, amongst which multi-group structural equation modeling, repeated-measures multivariate general linear models, logistic regression, and CHAID analyses. Integrative theoretical model, methods and procedures will be presented in more detail in the poster.

**KeyWords:** Risk and protective factors, Resilience, Behavioral problems

**References:**

**Poster Presentation Educational attainment**

**P05 - Early Environmental and Cognitive Predictors of Learning Abilities**

**Authors:**
Ava Guez; Hugo Peyre; Franck Ramus

**Authors Address:**
ENS, Paris France

**Abstract :**
Background: Disentangling influences from cognitive and environmental factors on school related abilities is an important question for education policy. Past research studying academic skills as an outcome have usually focused on a limited range of predictors. Taking advantage of newly collected longitudinal data on school-aged children in France, this paper asks the following questions: what are the early environmental factors that predict learning abilities at 11-12 years old; and to what extent are the effects of these factors mediated by early cognitive abilities and behavioral problems?

Sample: We used the Eden Mother-Child Cohort, which followed a large number of mother-child dyads from pregnancy (N = 2,002) to 12 years old (N = 400).

Method: The Eden database includes particularly valuable measures of specific cognitive capacities at 11-12 years old relevant to school learning such as phonological skills (phonological awareness, rapid naming), verbal working memory and basic mathematical skills (number sense, naïve geometry). It also comprises a set of tests assessing learning abilities such as reading, spelling and arithmetic. Besides, tests measuring general cognitive ability as well as behavioral problems were regularly assessed; and a rich set of environmental variables is available. We will analyze this data using a structural equation modeling (SEM) approach.

Results:
Our models will allow us to understand:

- How are academic skills at 11-12 years old inter-related;
Which early environmental factors are most crucial in influencing the development of academic skills at 11-12 years old;

And to what extent the effects of these environmental factors are mediated by early cognitive abilities and behavioral problems.

**Conclusions**

This paper will help us understand the complex environmental and cognitive mechanisms underlying the development of school learning difficulties at the end of primary school, which is crucial to formulate policy-relevant recommendations to tackle school failure.

**KeyWords:** learning, cognitive abilities, early predictors

---

**Poster Presentation Educational attainment**

**P03 - Association between peer acceptance and early student engagement among preschool children**

**Authors:**
Salvas, M.C., Archambault, I., Cantin, S., Vitaro, F., Guimond, F-A, & Goulet, J.

**Authors Address:**
Salvas: Université du Québec en Outaouais
Archambault, Cantin, Vitaro and Goulet: Université de Montréal
Guimond: Université du Québec en Abitibi-Témiscamingue

**Abstract:**

Given that school success is considered as a priority in North America, several efforts are made to encourage all children's academic achievement. Promoting student engagement seems to be a valuable avenue in this context. Indeed, past research has shown that children’s classroom participation, as well as interest in learning are likely to influence their school success. However, although early prevention has become a growing emphasis of researchers, very few studies have tracked student engagement during kindergarten, nor have they identified contextual factors, such as peer group acceptance, that are likely to shape this developmental process over time. As conceptualized by ecological theorists, peer experiences are consistently identified as an important source of influence, but their unique relationship to student engagement has only recently been examined. As such, the first aim of the present study was to examine whether the children’s level of peer acceptance predicted their engagement by the end of kindergarten, while taking into account their initial level of engagement, social skills, and sex. The second aim was to test for potential moderating effects of these personal characteristics on this predictive association.

Using a prospective, short-term longitudinal design, 396 pupils from ten elementary schools were assessed at the beginning (T1) and the end of kindergarten (T2). Children’s peer group acceptance level was obtained at T1 through peer nominations. Student engagement and social skills were assessed by teacher at both time points.

In bivariate analysis, being well-accepted by the peer group at the beginning of the school year was significantly associated with later student engagement toward school \( r = .47, p < .001 \).

After controlling for child characteristics at T1 (i.e. sex, social skills and engagement level), hierarchical multiple regressions analysis showed that peer group acceptance at T1 uniquely predicted student engagement at T2 \( b = .10, p < .01 \). Moderation analysis indicated that no predictor interacted with peer acceptance at T1 in predicting student engagement at T2.

In line with the ecological systems theory, these findings have implications for school prevention efforts in highlighting contextual forces that uniquely shape student engagement. It also supports the importance of peer level interventions that may be beneficial in promoting social inclusion, in addition to child level interventions.

**KeyWords:** student engagement, peer acceptance, kindergarten
Poster Presentation Educational attainment

P04 - Using the Opportunity Propensity Model to Explain School Readiness in American and Canadian Children

Authors:
Caroline Fitzpatrick, PhD2, Aubrey H. Wang, PhD1

Authors Address:
Université Sainte-Anne, Church Point, Canada
Saint-Joseph’s University, Philadelphia, USA

Abstract:
There is global consensus that child school readiness, reflecting the ability to benefit from instruction at the time of school entry, represents one of the most promising targets for improving the life opportunities of children. Despite efforts by policymakers to develop and implement programs that help ensure that all children are ready to learn on the first day of school, important discrepancies remain between children. Indeed, disadvantaged children continue to fare much worse than their more advantaged peers. In order to guide policymakers and practitioners, an empirically supported theoretical framework for understanding early achievement is needed. The present study builds on the previous theory-building efforts of researchers who have tested and refined a model known as the Opportunity-Propensity (O-P) model of achievement. This comprehensive, multivariate model synthesizes and frames the interactions between children’s background (antecedent factors), learning opportunities (opportunity factors), and acquired skills and competencies (propensity factors) to predict early achievement. Using the O-P model as the guiding framework, we examine how well it explains variations in the achievement of American and Canadian children from the province of Quebec, using nationally and regionally representative data. Using structural equation modelling, we found that the O-P model accounted for a large proportion of the variance in the achievement of American and Canadian children and accurately captured the interactions between antecedent, opportunity, and propensity factors. Key differences across the models are discussed in terms of educational and social policy differences between the regions.

KeyWords: School readiness; Academic achievement; Structural equation modelling

Poster Presentation Family functioning

P09 - Partnering with Cannabis Dispensaries to Prevent Underage Marijuana Use in Families with Cannabis Using Parents

Authors:
Hyman Hops, PHD, Holly Waldron, PHD, Tim Ozechowski, PHD

Authors Address:
Oregon Research Institute, Eugene, Oregon, USA

Abstract:
Cannabis products are legally available for adult medical or recreational use in 28 states in the United States. Evidence is mounting that rising rates of marijuana use among adults due to expanding legalization are associated with adolescents’ decreased perceptions of marijuana’s harmful effects and increases the risk of initiating marijuana use. Parents have a powerful influence on youth socialization and enforcing family norms in domains such as drug use and many family-centered programs have been established to harness this influence in preventing adolescent marijuana use. To date, however, intervention efforts have failed to address the specific needs of parents who legally consume medical or recreational cannabis. The current study involved the development of a preventive intervention to help cannabis-using parents deter marijuana use in their underage children. Our initial findings indicate that parent cannabis
users oppose marijuana use for adolescents, but also acknowledge using cannabis products in their children's presence and struggling to talk about their own use with their children. Parents also reported experiencing stigmatization and having difficulty reconciling their actions with efforts to support youth abstinence. Parents also reported uncertainty about standard intervention practices and health recommendations that fail to address their unique challenges. Based on our initial findings, we designed the "Motivating Actions for Prevention" (MAP) intervention as a respect-based motivational approach with educational and skill-building components to address marijuana effects and misconceptions, safety and security, parent-adolescent communication, and other strategies to reduce youth exposure to risky conditions and foster resilience through family cohesion, positive modeling, and effective coping. MAP development is supported through a collaboration with local cannabis dispensaries where parents acquire their products. Intervention development activities have included formative research with parents and dispensary personnel to guide MAP content, structure, and delivery methods. MAP is currently being pilot tested to examine the impact on cannabis-using parents and acceptability among cannabis dispensary owners, managers, and staff. Pilot findings from our initial evaluation of MAP will be presented and implications for harnessing the support of the cannabis industry to enhance prevention of adolescent marijuana use will be discussed.

**KeyWords:** Cannabis, Marijuana, Adolescent, Parent, Family, Dispensary, Prevention

**Poster Presentation Family functioning**

**P10 - Preventing Adolescent Marijuana Use with a Family-Centered Behavioral Health Intervention: A 12-month Followup Study**

**Authors:**
Holly Waldron, PHD, Hyman Hops, PHD, Tim Ozechowski, PHD, Michael Robbins, PHD, Charles, Turner, PHD, Janete Brody, PHD1776

**Authors Address:**
Oregon Research Institute, Eugene, Oregon, USA

**Abstract:**
Background: With an increasing number of US states legalizing adult recreational and/or medical marijuana use, with a concomitant increase in teen use, prevention efforts are urgently needed. Most efforts have been school-based. Another potential avenue for marijuana use prevention is via community-based treatment for adolescent mental health problems. The current study was conducted with the primary aim of examining implementation processes associated with Functional Family Therapy (FFT), an evidence-based family-centered intervention for youth disruptive behavior, widely disseminated in community practice settings. We compared observation-based supervision (BOOST) to the FFT dissemination program’s supervision as usual (SAU) for youth referred for behavioral health treatment in community practice settings. None of the adolescents were referred specifically for drug-related problems. However, supervisors were knowledgeable in techniques specific to drug treatment. Hence, in the context of this study, we examined the extent to which FFT, implemented using BOOST versus SAU, would have preventive effects on adolescent substance use over a 1-year period. Sample: BOOST (26 therapists, 105 families) and SAU (21 therapists, 59 families) supervision was implemented in 8 community mental health settings with FFT experienced therapists (77% female). Method: Participating youth (41% female) had been referred for treatment for diverse problem behavior (e.g., delinquent and/or disruptive behaviors, depression, noncompliance). Families included those with Hispanic (62%), African American (19%), Non-Hispanic White (12%) or Other (7%) ethnic/racial origins. Therapy sessions were audio-recorded. Clinical process variables included treatment fidelity, engagement, retention. Clinical outcomes, including adolescent behavior, family functioning, and substance use, were measured at baseline, 5 months, and 12 months after treatment initiation. Results: The BOOST therapists did not differ significantly from SAU therapists in engagement, retention rates, rated adherence. However, BOOST adolescents had significantly lower rates of marijuana use at the 5th and 12th
month assessment. Conclusion: The results suggest that enhanced therapy supervision of family-based therapy can prevent the normal escalation of marijuana use in high-risk adolescents. Moreover, the results also suggest that family-based therapy needs to focus on drug-specific components in order to achieve success.

**KeyWords:** Marijuana, Adolescent Prevention, Family, Therapy, Supervision

**Poster Presentation Family functioning**

**P24 - The Influence of Harsh Parenting on Relationship Quality across Generations**

**Authors:**
(1) Tricia Neppl, Olivia Diggs, (2) Catie Walker O’Neal

**Authors Address:**
(1) Iowa State University, USA ; (2) University of Georgia, USA

**Abstract:**
Parenting in the family of origin (G1) may influence the quality of relationships across generations. Family System perspectives suggest that G1-G2 relationship quality affects G1-G3 relationship quality. Indeed, G1-G2 relationship quality during G2 adolescence is associated with G1-G3 involvement in adulthood. Despite this evidence, less is known about how harsh parenting experienced in adolescence influences G1-G2 relationship quality in early adulthood, as well as G1-G3 relationship quality in later adulthood. Therefore, the purpose of the present investigation was to examine G1-G2 harsh parenting during G2 adolescence, G1-G2 relationship quality in early adulthood, and G1-G3 relationship quality during G2 middle adulthood. We examined these relations separately by G1 mother and father.

**Method:** Participants come from a 28-year study that began in 1989 when G2s were 13; today they are 41. Primarily rural-European-Americans were selected based on economic dislocation. The present study includes 396 G2s with a biological G3. Assessments occurred when G2 was 16 years old (males=234), the second when G2 were 27-29 years old, and at 41 years old. Time 1 included G1-G2 harsh parenting, time 2 included G1-G2 poor relationship quality, and time 3 included G1-G3 poor relationship quality. G1-G2 harsh parenting was assessed during a videotaped discussion task and was defined by hostility, angry coercion, and antisocial behavior. G2s reported on G1-G2 relationship quality by how satisfied and happy they are with G1. For G1-G3 relationship quality, G1s answered how much G3 makes them feel appreciated, how much they can depend on G3, and how much concern G3 shows. Covariates included G1, G3 age; G2, G3 gender, G1, G2 relationship status, and G1, G2 per capita income.

**Results and Conclusion:** Using Mplus 7 FIML, results showed G1-G2 harsh parenting was associated with G1-G2 relationship quality in early adulthood (β = .24** mothers; β = .27*** fathers). G1-G2 relationship quality was related to G1-G3 relationship quality (β = .19** mothers; β = .19*** fathers). Thus, G1-G2 harsh parenting was associated with G1-G3 relationship quality through G1-G2 relationship quality in early adulthood. G1 father harsh parenting was associated with G1 mother relationship quality to G3. The current study contributes an advanced understanding of how G2s facilitate relationship quality between G1 and G3.

**KeyWords:** Harsh Parenting, Relationship Quality, Intergenerational Transmission

**References:**
P23 - Experiences in peer relationships in adolescence and perceived parenting stress in young adulthood

Authors:
Tina Kreitschmer, Catharina Hartman

Authors Address:
Grote Rozenstraat, Groningen, The Netherlands

Abstract:

Background: Plenty of research has shown that peer experiences in childhood and adolescence can impact psychosocial adjustment and wellbeing long into adulthood and can also affect one’s romantic relationships, thus extend beyond the individual in being transmitted across social contexts. This study extends this work by exploring whether adolescent peer experiences also affect one’s relationship with own offspring. Sample: We employed a developing intergenerational sample originating from the Dutch longitudinal cohort study TRAILS (TRacking Adolescents’ Individual Lives Survey), where 2700 adolescents completed questionnaires and a range of other tests every two to three years since age 11. TRAILS respondents are now in their late twenties and have started to have children. Within the TRAILS NEXT spin-off study, those young families are followed from pregnancy onwards. At this point, 92 TRAILS respondents parents have entered the TRAILS NEXT study, this sample forms the basis for the analyses reported below.

Method: For the analyses reported here, self- and parent-reported data on peer relationships from the first four waves of TRAILS (ages 11, 13, 16, and 19) and self-reports on perceived parenting stress from offspring age 3 months were used. We focused on bullying-victimization using single indicators assessed as part of the Youth Self Report and within Life History Interviews, and compare parenting stress among victims and non-victims and bullies and non-bullies.

Results: As depicted in Figure 1, respondents who had experienced victimization in adolescence reported slightly higher levels of parenting stress than non-victims. Respondents who had reported to have bullied others in adolescence appeared to perceive parenting as slightly less stressful than non-bullies.

Conclusion: Findings provide preliminary support that peer experiences throughout adolescence are linked to perceptions of later interpersonal relationships. Young adults who were victimized as adolescents seem to perceive their infants as more stressful than other young adults, especially those who bullied others in adolescence. Given that prior work showed how perceived parenting stress affects the quality of parenting and ultimately the development of the child, this search for antecedents is crucial.

KeyWords:
peer relationships, parenting stress

P17 - Developmental schizotypy in the general population: associations with child protection reports and mental health contacts

Authors:
Melissa J. Green (1,2), Richard Linscott (3), Kristin R. Laurens (1,4), Stacy Tzoumakis (1,2), Kimberlie Dean (1,2,5), Felicity Harris (1,2), Vaughan J. Carr (1,2,6)

Authors Address:
1. University of New South Wales, Sydney, Australia
2. Neuroscience Research Australia, Sydney. Australia
4. Australian Catholic University, Brisbane, Australia
Abstract:

Background: Latent liability for schizophrenia (schizotypy) is expressed in various combinations of cognitive, psychological, and behavioural characteristics evident in the general population.

Method: Latent profiles of schizotypy were distinguished among 22,137 children (mean age=11.9 years) for whom intergenerational mental health contacts and child protection records were linked to the Middle Childhood Survey (MCS; Laurens et al., 2016) within the NSW Child Development Study (Carr et al., 2015). Selected MCS items were used to index schizotypy across six domains (Unusual Experiences, Cognitive Disorganisation, Impulsive Non-conformity, Introversive, Dysphoria and Self-Other disturbance). Using Latent Profile Analyses (LPA) we derived four groups according to patterns of expression across these domains; membership of three putative schizotypy groups were examined in relation to the likelihood of being exposed to childhood maltreatment and parental mental illness, and the child’s own mental health contacts up to age 13 years, relative to the no risk group.

Results: Figure 1 illustrates 4 classes emerging from the LPA: (1) 'schizotypy' (n=1323; 6%); (2) 'dysphoric pseudo-schizotypy' (n=4261, 19%); (3) 'introverted pseudo-schizotypy' (n=4473; 20%) and; (4) 'no psychopathology' (no-risk, n=12,080; 55%). Children in the schizotypy group had the greatest odds of being the subject of a child protection report (OR=2.9, 95% CI 2.6-3.3) and in contact with health services for mental illness by age 13 years (OR=2.7, 95% CI 2.2-3.3), relative to the no-risk group. The odds of child protection reports and childhood mental disorders were smaller, yet significantly increased among dysphoric pseudo-schizotypy (ORs=1.9 and 1.8, respectively) and introverted pseudo-schizotypy (ORs=1.7 and 1.4, respectively), relative to the no-risk group. Parental mental illness exposure was greatest among the schizotypy (OR=2.3, 95% CI 2.0-2.6) subgroup, but was also increased in dysphoric pseudo-schizotypy, (OR=1.6, 95% CI 1.5-1.8) and introverted pseudo-schizotypy (OR=1.4, 95% CI 1.3-1.5), relative to the no-risk group.

Conclusion: The subgroup of children labeled schizotypy (6%) characterized by high levels of cognitive disorganisation, impulsive non-conformity, introversion, and self-other disturbance may be at highest risk for developing severe mental illness in later life, and were more likely to have been exposed to childhood maltreatment and parental mental illness.

KeyWords: psychosis-proneness, maltreatment, latent risk, record linkage, mental health

References:


Poster Presentation Mental and physical health

P18 - Childhood Developmental Vulnerabilities associated with Early Life Exposure to Infectious and Non-Infectious Diseases and Maternal Mental Illness

Authors:
Melissa J. Green (1,2), Maina Kariuki (1,2), Kimberlie Dean (1,2,3), Kristin R. Laurens (1,4), Stacy Tzoumakis (1,2,5), Felicity Harris (1,2), Vaughan J. Carr (1,2,6)

Authors Address:
1. School of Psychiatry, University of New South Wales, Sydney, Australia
2. Neuroscience Research Australia, Sydney, Australia
3. Justice Health & Forensic Mental Health Network, NSW, Australia
4. School of Psychology, Australian Catholic University, Brisbane, Australia
5. School of Social Sciences, University of New South Wales, Sydney, Australia
6. Department of Psychiatry, School of Clinical Sciences, Monash University, Melbourne, Australia

Abstract:
Background. The strongest known risk factor for any mental illness is a family history of mental disorder. However, early life exposures to infectious and non-infectious diseases also confer small but significant risk for adult illness, and these risk exposures may influence early childhood developmental functioning on the path to later mental disorder. Here we investigated the effects of maternal exposure to infectious and non-infectious diseases during pregnancy on offspring developmental vulnerabilities at age 5 years, in the context of early childhood exposures to infectious and non-infectious diseases and maternal mental illness.

Methods. We used population data for 66,045 children from an intergenerational record linkage study (the New South Wales Child Development Study), for whom an assessment of developmental competencies (physical, social, emotional, cognitive, communication) was obtained at age 5 years, using the Australian Early Development Census (AEDC). Child and maternal exposures to infectious or non-infectious diseases during gestation or early childhood (age 0-4 years) were determined from the NSW Ministry of Health Admitted Patients Data Collection (APDC); maternal mental illness exposure was derived from both APDC and Mental Health Ambulatory records. Multinomial logistic regression analyses were used to examine unadjusted and adjusted associations between these physical and mental health exposures and child developmental vulnerabilities at age 5 years.

Results. Among the physical disease exposures, maternal infectious diseases during pregnancy and early childhood infection conferred the largest associations with developmental vulnerabilities at age 5 years; maternal non-infectious illness during pregnancy also retained small but significant associations with developmental vulnerabilities even when adjusted for other physical and mental illness exposures and covariates known to be associated with early childhood development (e.g., child’s sex, socioeconomic disadvantage, young maternal age, prenatal smoking). Among all exposures examined, maternal mental illness first diagnosed prior to childbirth conferred the greatest odds of developmental vulnerability at age 5 years.

Conclusion. Prenatal exposure to infectious or non-infectious diseases appear to influence early childhood physical, social, emotional and cognitive developmental vulnerabilities that may represent intermediate phenotypes for subsequent mental disorders.

Keywords: record linkage, immune system, gestation, prenatal, infection, child development, early childhood, mental health

References:
**P11 - Gender differences in trajectories of depressive symptoms during the transition to adolescence among youth with clinically significant conduct problems in childhood**

**Authors:**
Martine Poirier, Michèle Déry, Caroline E. Temcheff, Jean-Pascal Lemelin

**Authors Address:**
Université du Québec à Rimouski, Canada, Université de Sherbrooke, Canada, McGill University, Montreal, Canada,

**Abstract:**
Depressive symptoms (DS) are frequently observed in youth, particularly girls, presenting with conduct problems (CP). While recent findings suggest that distinct developmental profiles of DS may characterize subgroups of youth in community samples, knowledge of these profiles among youth with early clinical CP is still lacking. Moreover, despite evidence indicating that from adolescence, DS increase more in girls than in boys, there is little knowledge on gender differences in developmental profiles of DS among children with early clinical CP. Nevertheless, identifying these profiles within this vulnerable population is essential to detect the subgroups, in boys and in girls, most at risk of persisting difficulties, for whom interventions should be intensified. The goal of this study is to identify developmental profiles of DS during the transition to adolescence (from age 11.5 to 14.5 years) in a sample of children with early clinically significant CP, and to analyse whether those profiles are gender invariant. Method. Participants were 345 children (45.5% female, mean age at study inception = 8.41; SD = .95) presenting early clinically significant CP at study inception (T0), according to parent or teacher report. They were recruited from public schools in four regions of Quebec, Canada. DS were evaluated by the children themselves using the DSM-oriented scale for affective problems of the ASEBA (Achenbach & Rescorla, 2001) three years after study inception, and then annually for the three subsequent years. Results. The results of the multi-group GMM showed that classes of trajectories differed among boys and girls. An eight-class model was retained, including four classes for boys [“consistently low” (78.0%), “consistently moderate” (14.3%), “high decreasing” (5.1%), and “low increasing” (5.1%)]; and four class for girls [“consistently low” (78.0%), “low increasing” (14.3%), “stable high” (5.3%) and “moderate increasing” (2.6%). Conclusions. A large proportion of youth with early significant CP maintain a low level of DS during the transition to the adolescence. However about 22% of girls have a developmental profile where DS increase or remain at a high level over time, whereas about 20 % of boys displayed DS that decrease or remain at a moderate level. These results suggest that gender differences should be taken into account when considering developmental profiles of DS in children with early CP.

**KeyWords:** Conduct problems, Depressive symptoms, Gender differences

**P12 - The role of temperament in psychopathology as a function of poverty and developmental period**

**Authors:**
Nadya Dich, Stacey N. Doan, Gary W. Evans

**Authors Address:**
University of Copenhagen, Copenhagen, Denmark

**Abstract:**
Background. Mainstream developmental psychopathology models argue that a highly emotional temperament is a risk factor for poor health and adjustment, especially in disadvantaged environments. However, most studies investigating temperament × environment interactions
are limited by childhood and early adolescence. In the present study, we investigate the effects of temperament on internalizing problems as a function of poverty, from childhood through the early adult years.

Sample. At baseline, 341 9-year old children (50% girls) from rural Upstate New York and their mothers were recruited, with oversampling of poor families. Children were followed up at ages 13, 17, and 24.

Method. Income-to-needs ratio was assessed at baseline and each follow up. At 24, the proportion of time spent in poverty (income-to-needs ratio ≤ 1) was calculated. We divided the group into children from lower resourced (> 50% of life spent in poverty) and richer resourced environments. Temperament was assessed at age 9. Internalizing symptoms were self-reported by the participants at each follow-up.

Results. At age 13, we saw a predictable pattern of results, where difficult temperament was associated with more internalizing, but only among children from lower SES backgounds (Figure 1). However, by the time children reached age 24, the risk was no longer present, as the association between temperament and internalizing became weaker and no longer statistically significant. Moreover, in the higher SES group, temperament predicted lower levels of internalizing.

Conclusions. The effects of difficult temperament on internalizing behaviors appear to be influenced by both the environment and developmental period. In low SES environments, difficult temperament is a risk factor, but in more favorable environment, such temperament might actually offer benefits later in life. These results are consistent with the emerging more nuanced view of the temperament arguing that negative emotions may have a function and may offer advantages in certain situations.

KeyWords: internalizing, poverty, temperament, life-course health

Poster Presentation Mental and physical health

P13 - Trajectories of mental health problems during adolescence and early-adult functioning

Authors: Johan Ormel, PhD, Klaas J. Wardenaar, PhD, Dennis Raven, MSc, Anoek M. Oerlemans, PhD
Authors Address: Groningen, The Netherlands

Abstract:
Aim: Mental health problems among youths may create a poor starting position to enter adulthood. This study adopts a dimensional, longitudinal approach to relate early-adult functioning to individual trajectories of mental health problems during adolescence. We aimed to establish the independent contribution of adolescent trajectories, i.e., adjusted for childhood functioning and selected confounders, as well as investigate to what extent these trajectories explained early-adult functioning in excess to the explanatory power of current mental health.

Methods: Participants were 1778 youths from the Dutch TRAILS study. Internalizing (INT) and externalizing (EXT) symptoms were measured with the Youth/Adult Self-Report (Y/ASR), which was administered five times (T1-T5; ages 11.1, 13.6, 16.3, 19.1 and 22.3). We used Parallel-processes Latent Class Growth Analyses (PP-LCGA) to identify different developmental trajectories based on T1-T4 Y/ASR data; T5 ASR yielded current mental health status. Current mental health was also assessed with the parent-reported Adult Behaviour Checklist (ABCL). At T5, we further assessed 20 economic, social, psychological, and health-behavior outcomes. Childhood functioning (intelligence, temperament, SES, and parenting) was assessed at T1.

Results: PP-LCGA identified four distinct trajectories of course variation in INT and E symptoms across adolescence: (1) consistently high INT+EXT (n=298), (2) consistently low INT+EXT (n=460), (3) more INT than EXT, both increasing in severity (n=414), and (4) more EXT than INT, both decreasing in severity (n=352), see Figure 1. Compared to the consistently low symptom trajectory class, all other trajectory classes predicted less favorable outcomes across
all functioning domains. Both trajectories and current mental health had substantial independent effects on outcomes after controlling for childhood functioning, confounders and parent-reported current mental health (using self-reported current mental health, trajectories had less effect).

Conclusions: Both current mental health and adolescent mental health trajectories predicted early-adult functioning. Youth with relatively stable high problem levels across adolescence, about 10% of the population, may be at risk of an unsuccessful transition into adulthood.

**KeyWords:** mental health; adolescence; adult outcome

**Poster Presentation Mental and physical health**

**P14 - Latent Class Modeling of Childhood BMI Trajectories**

**Authors:**
Daniel Schmolze, M.D., Stacey Doan, Ph.D., Gary Evans, Ph.D.

**Authors Address:**
City of Hope, Department of Pathology, Duarte, USA
Claremont McKenna College, Department of Psychology, Claremont, USA
Cornell University, Department of Psychology, Ithaca, USA

**Abstract:**
Introduction/Background: Obesity during childhood is an important predictor of adult obesity, metabolic syndrome, type 2 diabetes and cardiovascular diseases (Berenson, Srinivasan, Bao et al., 1998; Srinivasan, Myers, Bergenson, 2002) Recent research has underscored the importance of longitudinal data during childhood to capture the heterogeneity of patterns of weight change over time (Ventura, Loken & Birch, 2009). In particular, understanding distinct patterns of BMI change over time have important impacts on intervention. In the current study, we examine BMI trajectories in a sample of rural children from 9-24 years of age. The purpose of the study is to investigate to which underlying groups of children can be indentified with regards to changes in BMI over time. A second goal of the study is to explore predictors of class membership.

Methods: We used latent class mixture modeling to examine BMI trajectories in a cohort of 353 children from a rural area of the United States. BMI data was collected at age 9, 13, 17, and 24 years of age. A large number of psychosocial and biologic measures were also collected at each time point, including socioeconomic measures, stress hormone levels, measures of early life adversity, and personality characteristics. Raw BMI scores were converted to percentiles for age using publically available tables and formulas provided by the CDC. The number of latent classes was chosen by optimizing the Bayesian information criterion (BIC), with the constraint that no class should contain fewer than 10% of the subjects. Following assignment to a particular latent class, logistic regression was used to determine the covariates influencing class membership.

Results: Four distinct “prototypical” BMI trajectories were identified: 1) a group with low BMI that did not change 2) a group with high BMI that did not change 3) a group with low initial BMI that steadily increased 4) a group with initial high BMI that decreased slightly. Among the large number of covariates examined, only income was significantly predictive of class membership, and only for the first class (those with persistently low BMI).

Conclusions: This data adds to the body of literature demonstrating the influence of socioeconomic status on childhood obesity. Specifically, our results showed that children living in high income households were significantly more likely to have a persistently healthy BMI throughout childhood.

**KeyWords:** bmi,obesity,health,childhood,stress,income,ses,socioeconomic status,latent class,mixture modeling

**References:**

Poster Presentation Mental and physical health

P15 - Parenting practices of the partners of parents with bipolar disorder: can competent parenting in middle childhood from one parent protect offspring against future psychopathology?

Authors:
Lisa Serravalle, Mark A. Ellenbogen

Authors Address:
Concordia University Montreal, Canada

Abstract:
Background. The offspring of parents with bipolar disorder (OBD) are at increased risk for psychopathology, relative to their healthy counterparts. Although suboptimal parenting of the parent with bipolar disorder (BD) has been identified as a risk factor, little is known about the parenting practices of their partners. As growing up with at least one competent caregiver may act as a protective factor against future psychopathology, we sought to examine, 1) which parenting practices were most common in partners of parents with BD, relative to controls, and 2) whether the presence of at least one parent with a positive parenting style in middle childhood would be associated with less psychopathology during adolescence and early adulthood.

Sample. The sample consisted of 47 OBD and 45 offspring of parents with no mental illness, from 68 families (37 BD). Method. Parenting style was measured at baseline, classifying parents as either authoritative, authoritarian, permissive or uninvolved. Current substance abuse and internalizing symptoms in the OBD were measured at 10-year follow-up.

Result. Chi square analyses revealed that partners of parents with BD were characterized as uninvolved ($\chi^2 = 5.37$, $p = .021$) significantly more often than controls. Next, we classified each family with a parent having BD by either the presence (32%) or absence (68%) of at least one authoritative parent. A one-way ANOVA yielded a significant main effect of the presence/absence of an authoritative parent on substance abuse in the OBD ($F(1, 46) = 3.96$, $p = .05$). Specifically, having at least one authoritative parent in middle childhood was associated with less substance abuse in the OBD during adolescence and young adulthood, compared to families where neither parent was authoritative. This main effect was not found for internalizing symptoms.

Conclusions. These findings suggest that partners of parents with BD also display negative parenting styles, often exposing the OBD to poor parenting practices from both parents. However, despite being relatively infrequent, families that had at least one competent caregiver appeared to protect the OBD against the development of substance abuse later in life. These findings emphasize the importance including both parents when examining the caregiving environment and suggests that including partners in prevention programs that foster positive parenting skills may help decrease the chances of negative outcomes in these high-risk youth.

Keywords: Mental Health, Parenting, Bipolar Disorder, High-Risk Youth
P16 - Influence of disability onset during childhood on life trajectories in men and women from Cameroon (HandiVIH – ANRS12302)

Authors:
Charles Mouté; Pierre De Beaudrap; Gervais Beninguisse; Annabel Degrée du Loû

Authors Address:
IRD, Paris, France

Abstract:
Background: People with disabilities (PwD) face many disadvantages across their lives that influence their health. Therefore, a life-course approach taking into account individual and socio-economical factors is needed to understand their vulnerability to health inequities. This study examines the family and education/occupational life trajectories of people with and without disabilities living in Yaoundé, Cameroon, to assess how disability occurring before 10 years shapes these trajectories.

Sample: A total of 807 PwD and 807 controls without disability matched for age and sex were randomly recruited in the HandiVIH study (ANRS 12302) between 2014 and 2105 in Yaoundé. Life-course data were retrospectively collected during interviews with the help of the Life History Calendar method. The subset of PwD with disability onset before 10 years and of their controls aging ≥25 were included in this analysis.

Method: Sequence analysis was used to identify typical family and occupational trajectories from age 12 to 24. In a first step, a distance matrix between the individual sequences was derived using the optimal matching method. Then clusters representing “typical” trajectories were identified using hierarchical clustering. Lastly the relationship between disability status and the trajectories pattern was assessed using log-linear models. Analyses were conducted separately for men and women.

Results: A total of 231 PwD and 537 participants without disability were included in this analysis. Five typical family trajectories and seven typical occupational trajectories were identified. Regarding family trajectories, PwD left their parents later (49.9% vs 30.3%) and were less likely to cohabitate with a partner (8.7% vs 15.8%). The overall probability of transition to cohabitation/marriage at 25 years was 29.9% for women without disabilities, 13.7% for women with disabilities, 1.5% for men without disabilities and 3.5% for men without disabilities. Regarding occupation trajectories, while important gender difference in the trajectories were observed among participants without disability, these differences greatly reduced among PwD: 17.1% of men (respectively 24.4% of women) with disabilities are educated and unemployed against to 9.8% (respectively 48.8% of women) without disabilities.

Conclusion: Disability has a strong effect on the life trajectories and this effect vary with gender calling for an intersectional approach.

KeyWords: life trajectories, disability, gender

References:
3. De Beaudrap Pierre, Mouté Charles et al, Risk of HIV infection in people with severe disability from childhood and related factors (HandiVIH - ANRS 12302), ICASA; 2017; Oral communication
P20 - Models for stress response in children: application to 6-month infants from the Wirral Child Health and Development Study (WCHADS)

Authors:
Andrew Pickles and Pablo Vidal-Ribeiro (King’s College London), Jonathan Hill (University of Reading) and Helen Sharp (University of Liverpool).

Authors Address:
King’s College London, Inst. of Psych., DeCrespigny Park, London

Abstract:
Background: Understanding stress response, its early development and the factors that might contribute to resilience is of considerable interest for life-course research. However, obtaining reliable measurement is not straightforward, especially from children where for reasons of ethics and ongoing cohort participant engagement, the stressors must be quite modest. As a result, Gunnar et al. (2009) argued that the majority of such studies fail to find the expected patterns of physiological response, possibly because the majority of participants failed to experience a meaningful stress. This study examines whether progress can be made by an analysis that recognizes the imperfect nature of the stressor, restricting estimation of the stress response model to a probabilistically defined subset of children who did experience stress.

Sample: Recruited in pregnancy, WCHADS is a cohort of 1233 mothers and children from which 300 children were selected for more frequent and detailed observational and physiological assessment. We focus on data from the 6-month infant assessment.

Measures: Video-coded observation during the LabTab task with concurrent RSA measurement for vagal tone and vagal withdrawal (Tibu et al., 2014).

Analysis: The theory that provides the structure of the model is explained how this leads to an estimable model, illustrated by the use of simulated data and then by application to the WCHADS data.

Results: The scope of extending the model to include behavioural markers of stress recognition is examined and alternative structures considered.

KeyWords: stress-response, measurement error, resilience

References:

Poster Presentation Psychobiological development

P19 - Psychobiological risk factors of anxiety disorders in adolescents; TRAILS study

Authors:
Narmandakh A.1, Roest A.M.2, De Jonge P.2, Oldehinkel A.J. 1

Authors Address:
1 Interdisciplinary Center Psychopathology and Emotion regulation, University Medical Center Groningen, University of Groningen, The Netherlands
2 Department of Psychology, University of Groningen, The Netherlands

Abstract:
Background: Anxiety disorders are a common problem in adolescent's mental health. Although previous studies investigated a number of risk factors of developing anxiety disorders, only investigating all factors simultaneously will allow for a more complete understanding of the etiology of anxiety disorders. Therefore, we assessed preadolescent sociodemographic, familial,
psychological and biological risk factors, and investigated whether and how these risk factors predicted the onset of anxiety disorders in adolescence.

Methods: The study was based on the Dutch longitudinal population survey of adolescents TRAILS (n=1,584). Risk factors were assessed at the baseline (age 10-12), and included sociodemographic (gender, socio-economic status), familial (parental anxiety and depression), psychological (child adversity and temperament), and biological (BMI, heart rate, blood pressures and cortisol) variables. Anxiety disorders were assessed at about age 19 through a clinical interview, the Composite International Diagnostic Interview (CIDI). Univariate and multivariate logistic regression analyses were performed with onset of anxiety as dependent variables and the above-mentioned putative risk factors as predictors. The effects were adjusted for gender. A p-value < 0.05 was considered statistically significant.

Results: Of the total sample (N=1584), 25.7% had a lifetime diagnosis of anxiety disorder at age 19. Anxiety disorders were more prevalent in girls (67%) than in boys (33%). Multivariate logistic regression analysis showed that being female (OR 2.38, 95% CI: 1.79–3.18), parental anxiety and depression (OR 1.34, 95% CI: 1.02–1.76), and preadolescent temperamental frustration (OR 1.31, 95% CI: 1.04–1.65) significantly predicted anxiety disorders. We found no associations between biological risk factor and anxiety. After exclusion of adolescents with an onset of anxiety before the age 12, being female was the only significant predictor of anxiety disorders.

Conclusion: Being female was the strongest predictors with increasing likelihood of the diagnosis of anxiety. Therefore, female is a main tool to identify high-risk target groups for prevention and intervention of anxiety disorders.

KeyWords: Key words; Anxiety disorders, psychobiological risk factors, adolescence

Poster Presentation Psychosocial development

P25 - Developmental trajectories of anxiety and depressive symptoms from early childhood to school age: correspondence among mother and teacher reports

Authors:
Marie Navarro, Massimiliano Orri, Sylvana Côté

Authors Address:
Université de Bordeaux - Centre de recherche INSERM U1219, France
Université de Montréal, Canada

Abstract:
Background: Anxiety and depressive symptoms (ADS) are common among adults and adolescents but the symptoms could appear early in child development. Few studies have investigated the developmental trajectories of ADS from early childhood to school age. The assessment of children's behavior is usually based on parent and teacher reports, but these informants often disagree about the intensity of internalizing disorders.

The objective is twofold. First, to identify different developmental trajectories of ADS in children using concurrently mother and teacher ratings, and evaluate the agreement of both informants’ assessment. Second, to describe the factors associated with the ADS trajectories.

Sample: Data came from a representative prospective longitudinal cohort study of children aged from 1.5 to 12 years (n=1,431) born in the Canadian province of Quebec, between 1997 and 1998. Methods: Mother assessed anxiety and depression yearly from 1.5 to 8 years, while teachers assessed those same behaviors every two years from 6 to 12 years. Multi-trajectories analyses were conducted to identify different latent groups of children following similar trajectories for mother and teacher evaluations of ADS. Multinomial logistic regression was used to examine risk factors for the ADS trajectories.

Results: Multi-trajectory modeling found five clusters of children with differing evolutions and intensity of symptoms. Agreement between informants was higher for the two extreme groups
of symptoms intensity, but in the three other groups we found discrepancies between mother and teacher assessments. The shape of the trajectories was also different according to the evaluator: according to mothers, ADS increased during all the study period; while, according to teachers the evolution was stable. Child sex, low mother age at birth, low family socio-economic status and high maternal depression were associated with trajectories showing higher ADS.

Conclusions: Mothers’ and teachers’ congruence depends on the intensity of symptoms and, except for one group, mothers score children higher on ADS than teachers. These results suggest that child emotional disorders should be conceptualized with multiple informants who vary in the context in which they observe child behavior. Further studies are needed to determine the reasons for these differences.

KeyWords: Child psychopathology, anxiety and depressive symptoms, mother-teacher agreement

Poster Presentation Psychosocial development

P26 - Examining the intertwined development of prosocial skills and ASD symptoms in adolescence

Authors:
Anoek Oerlemans, PhD, 1 ; Nanda Rommelse, PhD, 2,3 ; Jan Buitelaar, PhD, 3,4 ; Catharina Hartman, PhD, 1

Authors Address:
1 Department of Psychiatry, Interdisciplinary Center Psychopathology and Emotion Regulation (ICPE), University of Groningen, University Medical Center Groningen, the Netherlands
2 Department of Cognitive Neuroscience, Donders Institute for Brain, Cognition and Behaviour, Radboud university medical center, Nijmegen, the Netherlands
3 Karakter Child and Adolescent Psychiatry University Centre Nijmegen, the Netherlands
4 Department of Psychiatry, Donders Institute for Brain, Cognition and Behaviour, Radboud university medical center, Nijmegen, the Netherlands

Abstract:
Background: Autism Spectrum Disorder (ASD) and reduced prosocial behaviour are strongly intertwined. However, social interactions with peers may be increasingly practiced over the course of development and may instigate a reduction in ASD symptoms and vice versa. We therefore sought to determine if, during adolescence, possible improvements in prosocial behaviours and ASD symptoms may benefit one another over time.

Sample: Participants were 2,773 adolescents from the Tracking Adolescents’ Individual Lives Survey (TRAILS) cohorts.

Methods: Measurements took place over three waves (mean ages: 11.1y, 13.4y, and 16.2y). Longitudinal associations between teacher-rated classroom prosocial skills and parent-rated ASD symptoms were examined using the random intercept cross-lagged panel model (RI-CLPM). In addition to estimating the stable, between-person associations, the dynamical effects between prosocial skills and ASD symptoms over time were estimated at the within-person level. We tested whether the model fitted equally well across gender (male, female), cohort (population, clinically referred), and diagnostic status (ASD cases versus non-cases). In addition, we reran the model separately for social and communication behaviors and for stereotypic interests and repetitive behaviors to test whether the association between prosocial skills in the classroom and ASD depended on type of ASD symptoms.

Results: At the between-person level, prosocial skills and ASD symptoms were substantially negatively correlated. At the within-person level, a small and unexpected positive cross-lagged effect from wave 1 ASD symptoms on wave 2 prosocial skills was observed, see Figure 1. For prosocial skills, no associations were found at the within-person level. Fixing across gender, cohort and for ASD versus non-ASD did not significantly impair model fit. The parameter estimates for social and communication symptoms were highly similar to the parameter
estimates of the full model. The cross-lagged effect from wave 1 stereotypic and repetitive behaviors to wave 2 prosocial skills was not significant.

Conclusions: We added to the existing literature by showing that, in addition to replicating the already firmly established between-person association between low prosocial skills and ASD, we found no evidence that improvements in ASD symptoms and in prosocial skills over time during adolescence do not appear to influence each other for the better.

KeyWords: Autism Spectrum Disorders; prosocial skills; adolescence

Poster Presentation Psychosocial development

P27 - Peer-victimisation trajectories from early childhood to adolescence
Authors: Sylvana Côté
Authors Address: University of Bordeaux - Bordeaux Population Health, 146 rue Leo Saignat - Case 11 - Healthy Team

Abstract:
Background: Peer-victimization is prevalent worldwide. Its short- and long-term effects include negative psychological and physical health outcomes (i.e. low self-esteem, aggression, depression, suicidality, impaired physical health, and school problems). Despite evidence that peer-victimization may have an early onset (pre-school age) and it is stable over time, to our knowledge, no study described the trajectories of peer victimisation from preschool to adolescence. The aim of the study was to describe the trajectories of peer-victimisation from early childhood (3.5 years) to adolescence (17 years) and the family-, educational- and child-level factors associated with these trajectories.

Sample: The participants are part of the Quebec Longitudinal Study of Child Development, a 17-years population-based cohort of children born in Quebec, Canada, in 1997/98. The sample at baseline is represented by 2120 children whose families were reached and agreed to participate in the study.

Method: Peer-victimisation was assessed by multiple informants: parents, teachers and self-reports using items encompassing verbal, physical, direct and indirect aspects of peer-victimisation (including cyber-victimisation). Group-based multi-trajectory modelling was used to identify clusters of individuals who are following similar trajectories of the peer-victimisation across early-childhood, middle-childhood, and adolescence, and across multiple informants. The trajectory membership was described using characteristics of the family, the parents, the children and the educational environment (multinomial logistic regression analysis).

Results: Preliminary findings indicate that trajectories of high peer victimisation are stable from childhood to adolescence. This suggests that children being chronically victimized during early childhood (pre-school) are more likely to be victimised until adolescence. The role of different factors associated with trajectory membership such as family (e.g., socioeconomic characteristics), parental (e.g., mental health and parenting behaviours), child (e.g., sex, early temperament, cognition) and educational (e.g. quality and intensity of non-parental early childhood education and care, school violence) will be examined.

Conclusion: Our findings suggest that interventions targeting pre-existing factors associated with the risk of peer-victimisation should start during early childhood.

KeyWords: peer-victimisation, early childhood, trajectories

Poster Presentation Psychosocial development

P28 - TRAILS Next – Tracking the next generation
Authors: Richards, J.S., Oerlemans, A.M., Oldehinkel, A.J. & Hartman, C.A.
Authors Address:
Abstract:
Background: TRAILS Next aims (a) to study parent and child development as early as possible and elucidate transgenerational mechanisms of child and adolescent development and psychopathology, as well as (b) to clarify the role of social context, life events and long-term difficulties and of personal characteristics herein.
Sample: TRAILS Next is nested within the longitudinal cohort study Tracking Adolescents’ Individual Lives Survey (TRAILS), see Figure 1. The current add-on study focuses on the children of TRAILS participants and their partners. Development of cognitive ability, personality and mental (ill-) health as well as environmental conditions have been studied in the prospective parents since TRAILS began in 2000-2004 when participants were approximately 11 years old (N=2773). In TRAILS Next, parents are followed from pregnancy onwards.
Methods: At T1, pre- and postnatal parental experiences are collected up to when the baby is 3 months old (T2). At T2, a home visit is planned, including a short observation (motor activity of the baby, parent child-interaction), and an interview asking about major life events. Questionnaire data on parental psychopathology, personality, parenting, and child temperament, social competence, and mental health are also collected. At T3, when the child is 30 months, questionnaire data as well as observational data (parent child interactions, play and tasks) are collected. At T4, questionnaire data will be collected from parents and teachers when the child is 54 months, see Figure 2.
Results: TRAILS Next started in February 2015 and over 80 children and their parents have been included in the study so far. During this poster presentation, we present the most recent numbers and provide an (preliminary) overview of the study cohort characteristics.
Conclusions: Findings from this study will help us understand the complex interplay of determinants of parenting and to what extent and which specific parenting and parent-child relationship dimensions explain associations between parent characteristics and child developmental outcomes. In addition, results will expand our understanding of how Person x Environment interactions and their associations with parental mental (ill-) health reach into the next generation and are predictive of child developmental outcomes.

Keywords: Transgenerational research; parent-child relationship; person x environment interactions

Poster Presentation Resiliency

P01 - Contextual and individual factors as predictors of behavioral problems and resilience among Curaçao 8th graders

Authors:
Agnes de Lima-Heijns, MSc, Forensic Mental Health Psychologist at GGz-Curaçao, Phd Student
Juvenile Forensic Psychology and Youth Care Services, University of Amsterdam (UvA), the Netherlands, faculty of Forensic Youth Care; Adelimaheyns@gmail.com
Dr. Joan van Horn, PhD, Senior Researcher at "de Waag", the Forensic Care Specialists, the
Prof. Dr. Geert-Jan Stams, PhD, Professor of Juvenile Forensic psychology and Youth Care Services,
University of Amsterdam (UvA), the Netherlands, G.J.J.M.Stams@uva.nl

Abstract:
Background: Behavioral problems and juvenile delinquency among Curaçao’s youth are high and rising (Jonkman, et al., 2010). With about 30% of culprits being under 17 (Faber, 2007) and 36% of the prison population being under 24 years of age (Antilliaanse Jeugdzorg, 2008), juveniles form a relatively large part of the judicial population in Curaçao. Despite these high and rising numbers, very limited risk and strength based longitudinal research has been conducted, specifically on Curaçaoan youth. Results from a few larger studies on the former Dutch Antilles (e.g. Boekhout van Solinge et al., 2010, Boer et al., 2006; Jonkman et al., 2010) underline the relevance of commonly recognized individual and contextual risk factors to behavioral problems.
in Curaçaoan youth. Although the importance of resilience in promoting prosocial behaviors among juveniles and refraining them from developing problematic behaviors, has been long acknowledged (e.g. Werner & Smith, 2001; Jesor & Turbin, 2014; Heffernan, & Ward, 2017), hardly any study was conducted on their resilience. Moreover, it is known that the relationship between risk and protective factors on the one hand and problem behaviors and resilience on the other, differs for girls and boys (e.g. Asscher et al., 2015; Whitney et al., 2010). In 2015, the NWO granted - Curaçao Longitudinal Study of Juvenile Resilience and Delinquency commenced, of which the current study forms part.

Research aims: The current study investigated a number of factors among Curaçaoan 8th grade students, assumed to be bipolar (risk or protective), as predictors of one of two possible behavioral outcomes: behavioral problems and resilience. Moreover, gender was included as a moderator.

Method: Sample. From a nation-wide population of 8th grade students, 892 juveniles (48.8% boys, 50.2%) girls took part in the first of a four-wave panel design. Their average age was 12.40 years (SD=.98, range 10-15 years).

Instruments. From a larger test-battery, the Youth Self Report (YSR, Achenbach & Rescorla, 2011), Child and Youth Resilience Measure (CYRM-28. Ungar & Liebenberg, 2013), and International Self Report on Delinquency (ISRD-3, Enzmann et al., 2010) were used.

Analyses. Multigroup Moderation analysis using Amos were used to test the moderator effect of gender on how risk and protective factors relate to behavioral problems and resilience.

Results and conclusions: Results will be presented and discussed during presentation.

KeyWords: Risk and protective factors, Resilience, Behavioral problems

References:
Put, van der, C.m Stams, G.J.J.M., & Hoeve, M. (2011). Promotive factors during adolescence: are there changes in impact and prevalence during adolescence and how does this relate to risk factors?. International Journal of Child, Youth and Family studies. 2 (1/2), 119-141

**Poster Presentation Resiliency**

**P02 - Differences in the social context according to latent profiles of adolescent psychopathology: Findings from a childhood conduct problems sample**

**Authors:**
Mélanie Lapalme ; Michèle Déry ; Alexa Martin-Storey

**Authors Address:**
Groupe de recherche sur les inadaptations sociales de l’enfance (GRISE); Université de Sherbrooke, Canada

**Abstract:**
Background: In order to improve understanding of resilience during adolescence among children with early-onset behavior problems, it is recommended to focus not only to the persistence of disruptive behaviors, but also identifying additional indicators of psychological adjustment/psychopathology across different contexts (Luthar et al., 2000; Rutter, 1999; Windle, 2011). The current study (1) used parent (at home) and teacher (at school) reported externalizing and internalizing problems to derive latent profiles of behavior problems during adolescence among boys and girls who had exhibited severe behavior problems during childhood, and (2) explored how measures of the social context (social support network, empathy, social competence, neighborhood disorder) were associated with these latent class profiles.

Sample/method: Participants were drawn from an original sample of 370 French-speaking Canadian elementary school students aged six to nine years during the initial assessment period. These children were recruited from eight school boards in the province of Quebec from the larger population of children referred for special educational services due to their behavior problems. The final sample was composed of 196 boys and 130 girls for which data was available at the sixth wave when children were between 12 and 15. Latent classes were constructed using the DSM-oriented subscales of ASEBA (Achenbach & Rescorla, 2001), and included assessments of conduct problems, oppositional behaviors, anxiety and depression.

Results: The latent profile analysis (Muthén & Muthén, 2006) showed three profiles for boys (good psychological adjustment, oppositional problems, externalizing and internalizing problems) and two profiles for girls (good psychological adjustment, externalizing and internalizing problems). In terms of how the adolescents in these classes varied according to the social context, logistics regressions showed that higher empathy was associated with being in the lower psychopathology group for girls, while greater social competence was associated with being in the lower psychopathology groups for boys.

Conclusions: These results suggest that variation in the social context may be predictive of the heterogeneity of psychopathology profiles, and suggest that participation in social skills programs may improve later mental health outcomes among youth with childhood histories of conduct problems.

**KeyWords:** disruptive behavior problem, social context, psychopathology profiles

**References:**
Life History Research Society Conference
2018 PARIS May 30 - June 1