Name	**Generation R**
Description	The Generation R Study is a population-based prospective cohort study from fetal life until adulthood. The study is designed to identify early environmental and genetic causes and causal pathways leading to normal and abnormal growth, development and health from fetal life, childhood and young adulthood. This multidisciplinary study focuses on several health outcomes including behaviour and cognition, body composition, eye development, growth, hearing, heart and vascular development, infectious disease and immunity, oral health and facial growth, respiratory health, allergy and skin disorders of children and their parents. Main exposures of interest include environmental, endocrine, genomic (genetic, epigenetic, microbiome), lifestyle related, nutritional and socio-demographic determinants.
Location	Rotterdam, the Netherlands
Lead Institute	Erasmus MC
Cohort size	In total, 9,778 pregnant women with a delivery date from April 2002 until January 2006 were enrolled in the study. Children and parents are in ongoing follow-up
Start Cohort	2001
Follow-up	Preschool period (age: 0-4 years old) Early school age (age: 6 years old) Mid childhood period (age: 10 years old) Early adolescence period (age: 13 years old)
Variables and Measurement methods	Measurements: questionnaires, house visits, data from consultant bureaus Main themes: **Parental questionnaires** Mother/father • General health • Quality of life • Pregnancy and complications • Life events • Medical history • Lifestyle • Eating behaviour Social and demographic factors • Housing and living conditions • Work and working conditions • Educational level and household income • Family activities and social support Mental health and stress • Parenting • Depressive symptoms • Psychopathology • Family functioning Child • Diet and physical activity • Diet • Eating behaviour • Television watching, use of computer and physical activity

- Day-care, School

<u>Childhood health and diseases</u>

- Quality of life
- Fever and infectious diseases
- Asthma, Asthma related symptoms and eczema
- Acne
- Allergy
- Accidents
- Seizures
- Abdominal pain, stool pattern
- Doctors visit
- Teeth and dental care
- Physical characteristics
- Hearing (listen to music, use of headphone)
- Vision/Eyes (glasses, viewing habits (“close” and “far away”))

<u>Behaviour and cognition</u>

- Sleeping, crying and soothing
- Temperament
- Motor development
- Behaviour and emotional problems
- Pain perception
- Language development
- Non-verbal cognition
- Executive function
- Prosocial behaviour
- Autistic traits
- Obsessive compulsive disorder
- Bullying
- Social media use

Child questionnaire:

- Friendships
- Bullying
- General health
- Abdominal pain, stool pattern
- Social status [
- Development and well-being
- Eating behaviour
- Television watching and physical activity
- Temperament
- Behaviour
- Body Image
- Self-perception
- Sleeping behaviour
- Puberty stages
- Social media
- Hearing (listen to music, use of headphone)
- Vision (viewing habits (“close” and “far away”))

Availability and Type of -omic data	Genomic data (GWAS, imputed to all major panels): N = 5731 children Methylation data (EWAS, Illumina 450K) N = 1396 at birth, N = 493 at 6 years, N = 464 at 10 years Metabolomic data: N = 814 mother early pregnancy, N = 921 child at birth, N = 503 child age 10 years Transcriptomics: RNA sequencing, N = 196 at age 10 years Proteomics: NA Microbiome: Fecal microbiome at age 10 years, N = 2414
Design paper	Kooijman et al. 2016
website	www.generationr.nl/