

## Overview of measures collected in TRAILS

Variable	Instrument	Type <sup>a</sup>	Wave and Informant <sup>b</sup>					
			1	2	3	4	5	6
<b>Sociodemographic variables</b>								
Sociodemographic data	Sex, age, ethnicity, living conditions, educational/work status.	Q	P	PT	A	A	A	A
<b>Mental health</b>								
Internalizing and externalizing problems	- Child Behaviour Checklist (CBCL). <sup>1</sup> Anxious/depressed, withdrawn/depressed, aggressive, and delinquent behaviour; somatic complaints; social, thought, and attention problems during the past 6 months, as well as DSM-IV oriented scales. - Adult Behaviour Checklist (ABCL). <sup>2</sup> See CBCL. - Youth Self-Report (YSR). <sup>1</sup> See CBCL. - Adult Self-Report (ASR). <sup>2</sup> See CBCL. - Teacher Checklist of Psychopathology <sup>c</sup> . Vignettes describing CBCL/YSR dimensions.	Q	P	P	P			
		Q					P	
		Q	A	A	A			
		Q				A	A	A
		Q	T	T	T			
Psychiatric diagnoses (DSM-IV)	- World Mental Health Composite International Diagnostic Interview (CIDI). <sup>3</sup> Sections Depression, Mania, Panic Disorder, Specific Phobia, Social Phobia, Agoraphobia, Generalized Anxiety Disorder, Suicidality, Alcohol Use, Illegal Substance Use, Eating Disorders, Obsessive Compulsive Disorder, Gambling, Neurasthenia, Attention Deficit Disorder, Oppositional Defiant Disorder, Conduct Disorder, Separation Anxiety.	I				A		
Anxiety and depression	- Revised Child Anxiety and Depression Scale (RCADS). <sup>4</sup> DSM-IV related anxious and depressive states (depression not at Wave3). - Generalized Anxiety Scale (GAD-7). <sup>5</sup> - Beck Anxiety Inventory (BAI). <sup>6</sup> - Positive and Negative Affect Scale (PANAS). <sup>7</sup> - Major Depressive disorder (BIONIC questionnaire). <sup>8</sup>	Q	A	A	A			
		Q					A	A
		Q					A	A
		Q					A	A
		Q						A
Antisocial behaviour	- Antisocial Behaviour Questionnaire (ASBQ). <sup>c, cf. 9</sup>	Q	A	A	A	A	A	A
Relational aggression	- Relational aggression questions. <sup>c</sup>	Q		T				
Substance use	- Reported substance use. <sup>c, cf. 10</sup> Including nicotine alcohol, cannabis, and other drugs. - Drinking Motive Questionnaire Revised (DMQ-R). <sup>11</sup> Motivations for alcohol use. - Alcohol Use Disorders Identification Test (AUDIT). <sup>12</sup> - Cannabis Use Problems Identification Test (CUPIT). <sup>13</sup>	Q		A	A	A	A	A
		Q				A		
		Q					A	A
		Q					A	A
Eating disorders	- Eating Disorder Diagnostic Scale (EDDS). <sup>14</sup>	Q					A	A
Psychotic symptoms	- Community Assessment of Psychic Experiences (CAPE), short form. <sup>15</sup> Three dimensions of psychosis: positive, negative, and depressive symptoms.	Q			A			
Social-behaviour problems	- Children's Social Behaviour Questionnaire (VISK). <sup>16</sup> Problems in tuning of emotion/behaviour to the situation, social contacts, social orientation, and social cognition; stereotypical movements and reactions to sensory information; fear of change. - Social Behavior Questionnaire – Adult version (VIS-V). <sup>cf. 17</sup>	Q	P	P	P	P		
		Q						AP

Variable	Instrument	Type <sup>a</sup>	Wave and Informant <sup>b</sup>					
			1	2	3	4	5	6
Happiness	- Ratings of happiness and satisfaction. <sup>c</sup>	Q				A	A	A
Miscellaneous	- Social Media Disorder. <sup>18</sup> - Internet Gaming Disorder. <sup>19</sup> - Adult ADHD. <sup>20</sup>	Q						A
		Q						A
		Q						P
<b>Physical health</b>								
Common health problems	- Developmental history interview. <sup>c</sup> Accidents and common disorders. - General health ratings. <sup>c</sup> - Health questionnaire. <sup>c</sup> Common complaints and disorders, accidents. - Asthma questions. <sup>c</sup> - Fibromyalgia, chronic fatigue syndrome, irritable bowel syndrome questions. <sup>c</sup>	I	P					
		Q	APT	APT	APT	P	A	A
		Q	AP	AP	AP			
		Q	P		A	A	A	
Q					A	A		
Pain	- Pain questionnaire. <sup>c</sup> Headache, back pain, etc.	Q		A	A	A	A	A
<b>Impairment, medication and health service utilization</b>								
Impairment	- Columbia Impairment Scale (CIS). <sup>21</sup> General impairment in different domains of daily life. - Absence from school or work. <sup>c</sup> - Use of glasses, braces, hearing aids. <sup>c</sup> - Disability (WHO-DAS 2.0). <sup>22</sup>	Q	P	P				
		Q	T	P	PT	A	A	
		Q		P	P			
		Q						A
Health worries	- Health worries questionnaire. <sup>23</sup>	Q				A		
Health services utilization	- Care utilization questions. <sup>c</sup> Various somatic and mental health services. - Registry-recorded care utilization 2000 - 2012. Psychiatric Case Registry North Netherlands.	Q	P	P	P	P	A	A
		R	-	-	-	-		
Need for care	- Columbia Impairment Scale (CIS). <sup>21</sup> - Need for care questions. <sup>c</sup>	Q	P	P				
		Q			P			
Medication use	Varying questions. <sup>c</sup>	Q	P	P	AP	AP	A	A
<b>Physical condition and development</b>								
Morphology	- Length, weight. - Waist and hip circumference. - Subcapular skinfolds. - Bio-electrical impedance. Fat percentage.	P	A	A	A	A	A	A
		P			A	A	A	
		P	A		A	A		
		P			A			
Physical fitness	- Shuttle run test. <sup>24</sup> - Peak flow test.	T			A			
		T			A			
Pubertal stage	- Schematic drawings of pubertal development. <sup>25</sup> - Pubertal development scale. <sup>26</sup>	Q	P	P				
		Q		A	A			

Variable	Instrument	Type <sup>a</sup>	Wave and Informant <sup>b</sup>					
			1	2	3	4	5	6
<b>Biography</b>								
Developmental history	- Developmental history interview. <sup>c</sup> Perinatal circumstances and complications, timing of developmental stages, toilet-trainedness, day-care use.	I	P					
Early childhood behaviour	- Preschool behaviour list. <sup>c</sup> Anxiety, aggression, concentration, social skills, and motor skills. - Registry-based pregnancy and early-childhood factors. <sup>27</sup> Retrieved from files of the Preventive Child Healthcare services.	I R	P					
Life events and difficulties	- Developmental history interview. <sup>c</sup> Hospital admissions, moves to other houses, parental illness, death of dear one, parental divorce, long stay away from home age 0-11. - Life events questionnaire. <sup>c</sup> Life events in 2 two years. - Event history calendar. <sup>c,cf.28,29</sup> Life events in past 5 years. - Life Stress Interview (LSI). <sup>cf.30</sup> Interviewer-rated life events between wave 3 and wave 4. - Turning points questionnaire. <sup>c</sup> - Long-term difficulties questionnaire. <sup>c</sup> - Traumatic childhood events. <sup>c</sup> Abuse and violence before the age of 16. - Perceived stress ratings. <sup>c</sup> Pertaining to ages 0-5, 6-11, 11-13, and 13-16 years.	I Q I I Q Q Q Q	P		A  P AP	A A P AP	A A A P A	A
<b>Genetic factors</b>								
Genetic risk	- DNA. Genomewide SNP variations and selected length polymorphisms. - Parental DNA. From buccal swabs. Not genotyped yet.	P P			A P			
Epigenetic methylation	- Methylation of <i>NR3C1</i> , <i>SLC6A4</i> , <i>COMT</i> .	P			A			
<b>Temperament, personality, self-perception</b>								
Temperament	- Early Adolescent Temperament Questionnaire - Revised (EATQ-R). <sup>31,32</sup> Fearfulness, frustration, shyness, surgency, affiliation, effortful control. At waves 4 and 5 selection of (age-appropriate) items. - EATQ self-report version. <sup>31</sup> Also including perceptual sensitivity and low intensity pleasure. - Adult Temperament Questionnaire (ATQ). <sup>33</sup> Only attention control items. - Temperament profiles list. <sup>c</sup> Ratings of 9 temperament traits descriptions.	Q Q Q Q	P  A		A T	P P	P	
Personality	- NEO-PI-R. <sup>34</sup> Facets hostility, impulsivity, assertiveness, excitement seeking, self-discipline, and vulnerability to stress. - NEO-PI-R. <sup>34</sup> Also including self-consciousness, gregariousness, competence, deliberation, achievement striving, altruism, tendermindedness, and actions. - NEO-PI-R. <sup>34</sup> Neuroticism.	Q Q Q			A P			A

Variable	Instrument	Type <sup>a</sup>	Wave and Informant <sup>b</sup>					
			1	2	3	4	5	6
Approach/avoidance	- BIS/BAS Questionnaire. <sup>35</sup> Scales behavioural inhibition (BIS), behavioural activation (BAS) drive, BAS fun seeking, and BAS reward responsiveness. - Spatial Orienting Task (SOT). <sup>36,37</sup> Fear- and appetitive attentional processes - Bangor Gambling Task. <sup>38</sup> Emotion-based learning. - Approach-Avoidance Test (AAT). <sup>39</sup>	Q		A				
		T			A <sup>d</sup>			
		T			A <sup>d</sup>	A <sup>e</sup>		
		T						
Self-esteem	- Self-Perception Profile for Children (SPPC). <sup>40,41</sup> Scales learning, friends, sports, appearance, behaviour, and general self-competence. - Fear of Negative Social Evaluation scale <sup>cf. 42</sup>	Q	A				A	
Self-efficacy	- Generalized Self-Efficacy (GSE). <sup>43</sup> Subset of 5 out of 10.	Q				A		
Body perception	- Body perception questionnaire. <sup>c</sup> Perceived body size and body satisfaction.	Q				A	A	A
<b>Cognitive functioning and academic performance</b>								
Intelligence	- Wechsler Intelligence Scale for Children (WISC). <sup>44,45</sup> Block design and vocabulary. - Wechsler Adult Intelligence Scale (WAIS-III). <sup>46</sup> Block design, vocabulary, and digit span.	T	A					
		T				A <sup>e</sup>		
Information processing capacity and social cognition	- Amsterdam Neuropsychological Tasks (ANT). <sup>47</sup> Focused attention, sustained attention, shifting attention, memory search, face recognition, identification of facial expressions. At wave 4 without face recognition and identification of facial expressions . - Rey's Verbal Learning Test. <sup>48</sup> - Rey-Osterrieth Complex Figure test. <sup>49</sup> - Fluency test. <sup>50</sup> - Self-Ordered Pointing Task (SOPT). <sup>51</sup>	T	A			A <sup>e</sup>		
		T				A <sup>e</sup>		
		T				A <sup>e</sup>		
		T				A <sup>e</sup>		
Cognitive style	- Adolescent Cognitive Style Questionnaire (ACSQ). <sup>cf. 52</sup>	Q				A		
School performance	- School records. Regarding language, arithmetic, sports, and creative skills, as well as need for additional help due to learning difficulties. - Educational status. <sup>c</sup> Level of ongoing and completed education.	Q	T <sup>e</sup>	T <sup>e</sup>	T <sup>e</sup>			
		Q!			A	A	A	A
<b>Social behaviour</b>								
Social skills	- Social Skills Rating System. <sup>53</sup> Cooperation, assertion, and self-control.	Q	PT					
Social behaviour	- Revised Class Play. <sup>54</sup> Sociability/leadership, aggressive/disruptive, isolated/sensitive.	Q	T <sup>e</sup>					
Prosocial behaviour	- Prosocial behaviour questionnaire. <sup>cf.55</sup>	Q	T	T	T			
Relational aggression	- Relational aggression questionnaire. <sup>c</sup> Scales perpetrations and victimization.	Q		T				

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			1	2	3	4	5	6
<b>Lifestyle</b>								
Health behaviours	- Life style questions. <sup>c</sup> Sports, diet, etc. - Time spending patterns (TSP). <sup>cf. 56</sup> - Physical activity and sports. <sup>c</sup>	Q Q I	A	A	A A	A A	A A	A
Sports motivation	- Achievement Goals and Beliefs about Success in Sport. <sup>57</sup>	Q			A			
<b>Physiological functioning</b>								
Autonomic nervous function	Heart rate (HR), HR variability, blood pressure(BP), baroreflex sensitivity (BRS). Supine and standing.	P	A		A <sup>d</sup>			
HPA-axis	Salivary cortisol levels after waking up, half an hour later, and at 8 pm (only wave 1). <sup>58</sup>	P	A		A <sup>d</sup>			
Psychophysiological stress-reactivity	Laboratory experiments. Physiological and subjective (re)activity assessed in a number of experimental conditions. Experimental conditions included orthostatic stress (from supine to standing), a startle reflex task <sup>59</sup> , and the Trier Social Stress Test. <sup>60</sup> Physiological measures concerned HR, BP, BRS, pre-ejection period (PEP), respiratory sinus arrhythmia (RSA), eyeblink reflexes (only at startle reflex task) and salivary cortisol (only at the Trier test). Self-reported stress was assessed by the Self-Assessment Manikin, <sup>61</sup> the Profiles of Moods Schedule (POMS), <sup>62</sup> and the State-Trait Anxiety Inventory (STAI). <sup>63</sup>	PT			A <sup>d</sup>			
Biological markers	CRP, creatinine, ASAT, ALAT, cholesterol (HDL, LDL), glucose, insulin, lipoprotein, HbA1c, platelet serotonin, platelet tryptophan, IgE, IgG antibodies (HSV 1 & 2, EBV, human herpes virus 6, toxoplasma gondii, influenza (A, B), gliadin, cytomegalovirus, ACTH, alpha-MSH), apolipoprotein (A1, B100). Assessed in blood samples.	P			A			
<b>Family characteristics</b>								
Family composition	- Developmental history interview. <sup>c</sup>	I	P					
Socioeconomic position	- Parental socioeconomic position. Based on education, profession, and income.	IQ	P			P		
Home environment	- Observed home environment. <sup>c</sup> Atmosphere, dirt, luxury, space.	O	I					
Familial psychopathology and distress	- Vignettes <sup>c</sup> describing depression, anxiety, addiction, antisocial behaviour, psychoses, ADHD and PDD-NOS of biological parents and sibling. - Depression Anxiety Stress Scales (DASS). <sup>64</sup> Depression, anxiety, and stress. - Kessler Psychological distress Scale (K10). <sup>65</sup>	IQ Q Q	P P		PS		P	
Chronic conditions of family members	- Developmental history interview. <sup>c</sup> Handicaps, chronic diseases, mental health problems. - Long-term difficulties questionnaire. <sup>c</sup>	Q Q	P	P	P	P		
Parental happiness	- Ratings of happiness and satisfaction. <sup>c</sup>	Q				P	P	P

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			1	2	3	4	5	6
Familial personality	- NEO-PI-R. <sup>34</sup> Facets vulnerability to stress, hostility, impulsivity, self-consciousness, assertiveness, excitement seeking, gregariousness, competence, self-discipline, deliberation, achievement striving, altruism, tendermindedness, and actions.	Q			PS			
Parental health and health behaviours	- General health. <sup>c</sup>	Q	P	P	P	P		P
	- Physical activity. <sup>c</sup>	Q	P	P	P			
	- Substance use. <sup>c</sup>	Q	P	P	P		P	
Parental health worries	- Health worries questions. <sup>23</sup>	Q				P		
Parental help-seeking attitudes	- Inventory of attitudes towards seeking mental health services (IASMHS). <sup>66</sup> Scales psychological openness, help-seeking propensity, and indifference to stigma.	Q						P
Parental religiosity	- Developmental history interview. <sup>c</sup>	I	P					
	- Religion and religiosity. <sup>c, cf. 67</sup>	Q				P		
<b>Family functioning</b>								
General family functioning	- Family Assessment Device (FAD). <sup>68,69</sup>	Q	P	P	P	P	P	P
Parenting stress	- Parenting Stress Index (PSI). <sup>70,71</sup> Parental distress and difficult child characteristics.	Q	P		P			
Parental rearing behaviours	- EMBU-C (Egna Minnen Beträffande Uppfostran). <sup>72</sup> Scales overprotection, emotional warmth, and rejection. The T4 list contains only the 8 most relevant items.	Q	A			A		
Parental monitoring	- Parental knowledge questions <sup>c</sup> regarding friends, time spending, and drug use.	Q		A				
	- Parent-child relation questions <sup>c, cf. 73</sup> regarding child disclosure, parental solicitation, parental control, and parental reactions to disclosure.	Q			A			
Conflicts	- Conflicts Tactics Scale (CTS-PC and CTS-CP). <sup>cf. 74</sup> Corporal punishment and psychological aggression, both from and toward parents.	Q					P	
<b>Peer and romantic relationships</b>								
Peer status	- Peer nominations. <sup>c,75,76</sup> Liking, disliking, helping, and bullying; additional items at wave 2.	Q	C <sup>e</sup>	C <sup>e</sup>				
Friends	- Number and quality of friendships. <sup>c</sup>	I			A		A	A
Romantic relationships	- Current and past relationships. <sup>c</sup>	QI			A	A	A	A
Relationship satisfaction	- Investment Model Scale. <sup>77</sup> Satisfaction, alternatives, investment, commitment	Q				A	A	A
Intrasexual competition	- Intrasexual Competition Scale. <sup>78</sup>	Q				A		
Sexuality	- Age at first sexual intercourse.	Q		A	A	A	A	A
	- Sexual experiences and pregnancy. <sup>c</sup>	Q				A	A	A
Partner characteristics	- Sociodemographic information, health, smoking, alcohol use, <sup>11</sup> drugs use, personality (see Familial personality), <sup>34</sup> psychopathology (see Familial psychopathology), past relationships, sexual behaviour, intrasexual competition, <sup>78</sup> relationship satisfaction. <sup>77</sup>	Q					R	R
Partner support	- Experienced partner support. <sup>c</sup>	Q					AR	AR
Inter-partner aggression	- Conflict in Adolescent Dating Relationships Inventory. <sup>79</sup>	Q					R	R

Variable	Instrument	Type <sup>a</sup>	Wave and Informant <sup>b</sup>					
			1	2	3	4	5	6
<b>Work-related factors</b>								
Jobs	- Paid jobs. <sup>c</sup> Start and end date, number of hours per week, type of work	IQ			A	A	A	A
Job characteristics	- Social support, social relations, sense of commitment. <sup>c</sup> - Copenhagen Psychosocial Questionnaire – short version. <sup>80</sup>	Q					A	A
		Q					A	A
Work engagement	- Utrecht Work Engagement Scale (UWES). <sup>81</sup> Selection of 3 items.	Q					A	A
Absence	- Absence from work. <sup>c</sup> - WHO-DAS 2.0. <sup>22</sup>	Q				A	A	A
		Q						A
Ambitions	- Professional ambitions and expectations <sup>c</sup> from self and parents.	Q				AP	P	
<b>Miscellaneous</b>								
Sleep	- Nottingham Health Profile (NHP). <sup>82</sup> Sleep scale.	Q				A	A	A
Time spending	- Time Spending Patterns. <sup>cf. 56</sup> - Going out. <sup>c</sup> - Internet use. <sup>c</sup>	Q	A	A	A	A		
		Q						A
		Q						A
Sources of well-being	- Social Production Functions (SPF) Questionnaire. <sup>cf. 83</sup> Affection, behavioural confirmation, status, stimulation, and comfort from parents, teachers, and peers.	Q	A	A	A			
Motives for behaviour	- Motives for behaviour questionnaire. <sup>c</sup> Hedonic, instrumental, and normative motives.	Q		T	T			
Religion and religiosity	- Developmental history interview. <sup>c</sup> - Religion and religiosity. <sup>c, cf. 67</sup>	I	P					
		Q				P		
Discrimination	- Discrimination questions <sup>c</sup> regarding race, sex or physical appearance.	Q		A				
Noise	- Disturbance by noise. <sup>c</sup> Disturbance experienced from different sources of noise.	Q			A			
Debts	- Financial debts.	Q					A	A

Note: Information that will be collected in the offspring of the TRAILS cohort (starting end 2014) is not included in this overview.

<sup>a</sup> Q = questionnaire, I = interview, P = physical examination (anthropomorphic measures, physiological measures, biomarkers), T = neuropsychological or behavioural test, R = registry-based, O = observation

<sup>b</sup> A = adolescent, P = parent, T = teacher, C = classmates, R = romantic partner, S = sibling, I = interviewer

<sup>c</sup> Developed by TRAILS or composed from other instruments

<sup>d</sup> Assessed in a high-risk subsample.

<sup>e</sup> Only assessed in the population cohort.

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