**Appendix A**

As of January 1, 2017 the DSM-5 is used to assess the presence of a mental disorder in the Netherlands. Before this date the DSM-IV was used for this purpose. Due to this change in classifications systems, the data used in this study consists of both DSM-IV and DSM-5 scores. For all subjects included in this study, ICD-9 codes were available. The ICD-9 codes were linked to specific mental disorders and their decription in either DSM-IV, DSM-5 or both if the code appeared in both versions.

 The linked codes were examined by trained professionals, both in the field of forensic psychiatry and forensic psychology, and recoded in overarching categories ensuring both clinical relevance of the categories and a sufficient sample size within them for further analysis. Most ICD-9 codes were present in both DSM-IV and DSM-5 and had a similar dispriction in both DSM versions. If the ICD-9 code referenced to fundamentally different discriptions of mental disorders within the versions of the DSM, we indicated to which version of the DSM the ICD-9 code included in the category refers. Resulting in the following 23 categories:

**Attention-Deficit/Hyperactivity Disorder**

314.00 ADHD, predominantly inattentive presentation

314.01 ADHD, combined presentation

 ADHD, predominantly hyperactive/impulsive presentation

 Other specified ADHD

 Unspecified ADHD

314.90 Attention-deficit/hyperactivity disorder NOS

**Autism Spectrum Disorders**

299.00 Autistic disorder

 Autism spectrum disorder

299.80 Rett's disorder

 Asperger’s disorder

 Pervasive developmental disorder NOS

**Other Neurodevelopmental Disders**

307.00 Adult-onset fluency disorder

 Stuttering

307.20 Unspecified tic disorder

 Other specified tic disorder

 Tic disorder NOS

307.22 Persistent (chronic) motor or vocal tic disorder

307.23 Tourette’s disorder

307.90 Unspecified communication disorder

 Communication disorder NOS

315.00 Specific learning disorder, with impairment in reading

 Learning disorder

315.10 Specific learning disorder, with impairment in mathematics

 Mathematics disorder

315.39 Language disorder

 Social (pragmatic) communication disorder

 Speech sound disorder

 Phonological disorder

315.80 Other specified neurodevelopmental disorder

 Global developmental delay

315.90 Unspecified neurodevelopmental disorder

 Stuttering

 Learning disorder not otherwise specified

**Intellectual Disability**

317.00 Intellectual disability (intellectual developmental disorder), mild

 Mild mental retardation

318.00 Intellectual disability (intellectual developmental disorder), moderate

 Moderate mental retardation

318.10 Intellectual disability (intellectual developmental disorder), severe

 Severe mental retardation

318.2 Intellectual disability (intellectual developmental disorder), profound

 Profound mental retardation

319.00 Intellectual disability (intellectual developmental disorder)

 Mental retardation; severity unspecified

**Schizophrenia Spectrum and Other Psychotic Disorders**

295.10 Schizophrenia disorganized type

295.20 Schizophrenia catatonic type

295.30 Schizophrenia paranoid type

295.40 Schizophreniform disorder

295.60 Schizophrenia residual type

295.70 Schizoaffective disorder, bipolar type

 Schizoaffective disorder, depressive type

295.90 Schizophrenia

 Schizophrenia undifferentiated type

297.10 Delusional disorder

298.80 Brief psychotic disorder

 Other specified schizophrenia spectrum and other psychotic disorder

298.90 Unspecified schizophrenia spectrum and other psychotic disorder

 Psychotic disorder NOS

**Bipolar Disorder**

296.00 Bipolar I disorder, single manic episode unspecified

296.01 Bipolar I disorder, single manic episode mild

296.02 Bipolar I disorder, single manic episode, moderate

296.04 Bipolar I disorder, single manic episode, sever with psychotic features

296.06 Bipolar I disorder, single manic episode, in full remission

296.40 Bipolar I disorder, current or most recent episode hypomanic

 Bipolar I disorder, current or most recent episode hypomanic, unspecified

 Bipolar I disorder, current or most recent episode manic, unspecified

296.41 Bipolar I disorder, current or most recent episode manic, mild

296.42 Bipolar I disorder, current or most recent episode manic, moderate

296.43 Bipolar I disorder, current or most recent episode manic, severe

Bipolar I disorder, current or most recent episode manic, severe without psychotic features

296.44 Bipolar I disorder, current or most recent episode manic, with psychotic features

296.45 Bipolar I disorder, current or most recent episode hypomanic, in partial

 remission

 Bipolar I disorder, current or most recent episode manic, in partial remission

296.46 Bipolar I disorder, current or most recent episode hypomanic, in full remission

 Bipolar I disorder, current or most recent episode manic, in full remission

296.50 Bipolar I disorder, current or most recent episode depressed, unspecified

296.51 Bipolar I disorder, current or most recent episode depressed, mild

296.52 Bipolar I disorder, current or most recent episode depressed, moderate

296.53 Bipolar I disorder, current or most recent episode depressed, severe without

 psychotic features

296.54 Bipolar I disorder, current or most recent episode depressed, with psychotic

 features

296.60 Bipolar I disorder, most recent episode mixed unspecified

296.64 Bipolar I disorder, most recent episode mixed, severe with psychotic features

296.70 Bipolar I disorder, current or most recent episode unspecified

296.80 Unspecified bipolar and related disorder

 Bipolar disorder NOS

296.89 Bipolar II disorder

 Other specified bipolar and related disorder

296.90 Only if diagnosed under DSM-IV: Mood disorder NOS

**Depressive Disorders**

296.20 Major depressive disorder, single episode, unspecified

296.21 Major depressive disorder, single episode, mild

296.22 Major depressive disorder, single episode, moderate

296.23 Major depressive disorder, single episode, severe

 Major depressive disorder, single episode, severe, without psychotic features

296.24 Major depressive disorder, single episode, with psychotic features

296.25 Major depressive disorder, single episode, in partial remission

296.26 Major depressive disorder, single episode, in full remission

296.30 Major depressive disorder, recurrent episode, unspecified

296.31 Major depressive disorder, recurrent episode, mild

296.32 Major depressive disorder, recurrent episode, moderate

296.33 Major depressive disorder, recurrent episode, severe

296.34 Major depressive disorder, recurrent episode, with psychotic features

296.35 Major depressive disorder, recurrent episode, in partial remission

296.36 Major depressive disorder, recurrent episode, in full remission

300.40 Persistent depressive disorder (dysthymia)

 Dysthymic disorder

311.00 Unspecified depressive disorder

 Other specified depressive disorder

 Depressive disorder NOS

**Anxiety Disorders**

300.00 Unspecified anxiety disorder

 Anxiety disorder

300.01 Panic disorder

 Panic disorder withoout agoraphobia

300.02 Generalized anxiety disorder

300.21 Panic disorder with agoraphobia

300.22 Agoraphobia

 Agoraphobia without history of panic disorder

300.23 Social anxiety disorder (social phobia)

300.29 Specific phobia, animal

 Specific phobia, blood-injection-injury

 Specific phobia, natural environment

 Specific phobia, other

 Specific phobia, situational

 Specific phobia

**Trauma and Stressor related Disorders**

308.30 Acute stress disorder

309.81 Posttraumatic stress disorder

309.89 Other specified trauma- and stressor-related disorder

309.90 Unspecified trauma- and stressor-related disorder

 Adjustment disorder, unspecified

313.89 Disinhibited social engagement disorder

 Reactive attachment disorder

**Adjustment Disorder**

309.00 Adjustment disorder, with depressed mood

309.00 Adjustment disorder, with mixed disturbance of emotions and conduct

309.24 Adjustment disorder, with anxiety

309.28 Adjustment disorder, with mixed anxiety and depressed mood

309.30 Adjustment disorder, with disturbance of conduct

309.40 Adjustment disorder with mixed disturbance of emotions and conduct

**Neurocognitive Disorders**

290.40 Vascular neurocognitive disorder, probable, with/without behavioral disturbance

 Vascular dementia uncomplicated with/without behavioral disturbance

294.10 Major frontotemporal neurocognitive disorder, probable, without behavioral

 disturbance

 Major neurocognitive disorder due to Alzheimer's disease, probable, without

 behavioral disturbance

Major neurocognitive disorder due to another medical condition, without behavioral disturbance

 Major neurocognitive disorder due to HIV infection, without behavioral

 disturbance

Major neurocognitive disorder due to Huntington's disease, without behavioral disturbance

Major neurocognitive disorder due to multiple etiologies, without behavioral disturbance

Major neurocognitive disorder due to Parkinson's disease, Probable, without behavioral disturbance

 Major neurocognitive disorder due to prion disease, without behavioral

 disturbance

Diffuse traumatic brain injury with loss of consciousness of unspecified duration

 Major neurocognitive disorder due to traumatic brain injury, without behavioral

 disturbance

 Major neurocognitive disorder with Lewy bodies, probable, without behavioral disturbance

 Dementia of the Alzheimer’s Type, without behavioral disturbance

 Dementia due to HIV disease, without behavioral disturbance

 Dementia due to head trauma, without behavioral disturbance

 Dementia due to Parkinson's disease, without behavioral disturbance

 Dementia due to Huntington's disease, without behavioral disturbance

 Dementia due to Pick’s disease, without behavioral disturbance

 Dementia due to Creutzfeldt–Jakob disease, without behavioral disturbance

 Dementia due to other general medical condition, without behavioral disturbance

294.11 Major frontotemporal neurocognitive disorder, probable, with behavioral

 disturbance

Major neurocognitive disorder due to Alzheimer's disease, probable, with behavioral disturbance

 Major neurocognitive disorder due to another medical condition, with behavioral

 disturbance

 Major neurocognitive disorder due to HIV infection, with behavioral disturbance

 Major neurocognitive disorder due to Huntington's disease, with behavioral

 disturbance

Major neurocognitive disorder due to multiple etiologies, with behavioral disturbance

Major neurocognitive disorder due to Parkinson's disease, probable, with behavioral disturbance

 Major neurocognitive disorder due to prior disease, with behavioral disturbance

Major neurocognitive disorder due to traumatic brain injury, with behavioral disturbance

 Major neurocognitive disorder with Lewy bodies, probable, with behavioral

 disturbance

 Dementia of the Alzheimer’s Type, with behavioral disturbance (early/late)

 Dementia due to HIV disease, with behavioral disturbance

 Dementia due to head trauma, with behavioral disturbance

 Dementia due to Parkinson's disease, with behavioral disturbance

 Dementia due to Huntington's disease, with behavioral disturbance

 Dementia due to Pick’s disease, with behavioral disturbance

 Dementia due to Creutzfeldt–Jakob disease, with behavioral disturbance

 Dementia due to other general medical condition, with behavioral disturbance

294.90 Only if diagnosed under DSM-IV: Cognitive disorder not otherwise specified

331.83 Mild frontotemporal neurocognitive disorder

 Mild neurocognitive disorder due to Alzheimer's disease

 Mild neurocognitive disorder due to another medical condition

 Mild neurocognitive disorder due to HIV infection

 Mild neurocognitive disorder due to Huntington's disease

 Mild neurocognitive disorder due to multiple etiologies

 Mild neurocognitive disorder due to Parkinson's disease

 Mild neurocognitive disorder due to prion disease

 Mild neurocognitive disorder due to traumatic brain injury

 Mild neurocognitive disorder with Lewy bodies

 Mild vascular neurocognitive disorder

**Disruptive Behavior and Impulse-Control Disorders**

312.30 Impulse-control disorder NOS

312.33 Pyromania

312.34 Intermittent explosive disorder

312.81 Conduct disorder, childhood-onset type

312.82 Conduct disorder, adolescent-onset type

312.89 Conduct disorder, unspecified onset

 Other specified disruptive, impulse-control, and conduct disorder

312.90 Unspecified disruptive, impulse-control, and conduct disorder

 Disruptive behavior disorder NOS

313.81 Oppositional defiant disorder

**Substance Induced Disorders**

291.30 Alcohol induced psychotic disorder, with hallucinations

291.90 Alcohol induced psychotic disorder

292.11 Amphetamine induced psychotic disorder, with delusions

 Cannabis induced psychotic disorder, with delusions

 Cocaine induced psychotic disorder, with delusions

 Hallucinogen induced psychotic disorder, with delusions

 Inhalant induced psychotic disorder, with delusions

 Opioid induced psychotic disorder, with delusions

 Phencyclidine induced psychotic disorder, with delusions

 Sedative, hypnotic, or anxiolytic induced psychotic disorder, with delusions

 Other substance induced psychotic disorder, with delusions

292.12 Amphetamine induced psychotic disorder, with hallucinations

 Cannabis induced psychotic disorder, with hallucinations

 Cocaine induced psychotic disorder, with hallucinations

 Hallucinogen induced psychotic disorder, with hallucinations

 Inhalant induced psychotic disorder, with hallucinations

 Opioid induced psychotic disorder, with hallucinations

 Phencyclidine induced psychotic disorder, with hallucinations

 Sedative, hypnotic, or anxiolytic induced psychotic disorder, with hallucinations

 Other substance induced psychotic disorder, with hallucinations

291.89 Alcohol induced anxiety disorder

 Alcohol induced bipolar and related disorder

 Alcohol induced depressive disorder

 Alcohol induced mild neurocognitive disorder

 Alcohol induced sexual dysfunction

 Alcohol induced sleep disorder

 Alcohol induced mood disorder

291.10 Alcohol induced major neurocognitive disorder, amnestic confabulatory type

 Alcohol induced persisting amnestic disorder

291.20 Alcohol induced major neurocognitive disorder, nonamnestic confabulatory type

 Alcohol induced persisting dementia

291.00 Alcohol intoxication delirium

 Alcohol withdrawal delirium

292.81 Medication-induced delirium

 Opioid intoxication delirium

 Other (or unknown) substance intoxication delirium

 Hallucinogen intoxication delirium

 Phencyclidine intoxication delirium

 Sedative, hypnotic, or anxiolytic intoxication delirium

 Sedative, hypnotic, or anxiolytic withdrawal delirium

 Amphetamine (or other stimulant) intoxication delirium

 Cannabis intoxication delirium

 Cocaine intoxication delirium

 Inhalant intoxication delirium

292.84 Amphetamine (or other stimulant) induced bipolar and related disorder

 Amphetamine (or other stimulant) induced depressive disorder

 Cocaine induced bipolar and related disorder

 Cocaine induced depressive disorder

 Inhalant induced depressive disorder

 Opioid induced depressive disorder

 Other (or unknown) substance induced bipolar and related disorder

 Other (or unknown) substance induced depressive disorder

 Other hallucinogen induced bipolar and related disorder

 Other hallucinogen induced depressive disorder

 Phencyclidine induced bipolar and related disorder

 Phencyclidine induced depressive disorder

 Sedative, hypnotic, or anxiolytic induced bipolar and related disorder

 Sedative, hypnotic, or anxiolytic induced depressive disorder

 Amphetamine induced mood disorder

 Cocaine induced mood disorder

 Hallucinogen induced mood disorder

 Inhalant induced mood disorder

 Opioid induced mood disorder

 Phencyclidine induced mood disorder

 Sedative, hypnotic, or anxiolytic induced mood disorder

 Other substance induced mood disorder

292.89 Inhalant induced mild neurocognitive disorder

Opioid intoxication

Opioid induced anxiety disorder

Opioid induced sexual dysfunction

Other (or unknown) substance intoxication

Other (or unknown) substance induced anxiety disorder

Other (or unknown) substance induced mild neurocognitive disorder

Other (or unknown) substance induced obsessive-compulsive and related disorder

Other (or unknown) substance induced sexual dysfunction

Other hallucinogen intoxication

Other hallucinogen induced anxiety disorder

Phencyclidine intoxication

Phencyclidine-induced anxiety disorder

Sedative, hypnotic, or anxiolytic intoxication

Sedative, hypnotic, or anxiolytic nduced anxiety disorder

Sedative, hypnotic, or anxiolytic induced mild neurocognitive disorder

Sedative, hypnotic, or anxiolytic induced sexual dysfunction

Amphetamine (or other stimulant) induced anxiety disorder

Amphetamine (or other stimulant) induced obsessive-compulsive and related disorder

Amphetamine (or other stimulant) induced sexual dysfunction

Amphetamine or other stimulant intoxication

Caffeine induced anxiety disorder

Cannabis intoxication

Cannabis induced anxiety disorder

Cocaine intoxication

Cocaine induced anxiety disorder

Cocaine induced obsessive-compulsive and related disorder

Cocaine induced sexual dysfunction

Hallucinogen persisting perception disorder

Inhalant intoxication

Amphetamine (or other stimulant) induced sleep disorder

Caffeine induced sleep disorder

Cocaine induced sleep disorder

Inhalant induced anxiety disorder

Opioid induced sleep disorder

Sedative, hypnotic, or anxiolytic induced sleep disorder

Other (or unknown) substance induced sleep disorder

292.90 Amphetamine (or other stimulant) induced psychotic disorder

 Cannabis induced psychotic disorder

 Cocaine induced psychotic disorder

 Inhalant induced psychotic disorder

Other (or unknown) substance induced psychotic disorder

Other hallucinogen induced psychotic disorder

Phencyclidine induced psychotic disorder

Sedative, hypnotic, or anxiolytic induced psychotic disorder

Unspecified caffeine related disorder

Unspecified cannabis related disorder

Unspecified hallucinogen related disorder

Unspecified inhalant related disorder

Unspecified opioid related disorder

Unspecified other (or unknown) substance related disorder

Unspecified phencyclidine related disorder

Unspecified sedative, hypnotic, or anxiolytic related disorder

Unspecified stimulant related disorder

Unspecified tobacco related disorder

Amphetamine related disorder NOS

Nicotine related disorder NOS

**Antisocial Personality Disorder**

301.70

**Borderline Personality Disorder**

301.83

**Narcissistic Personality Disorder**

301.81

**Cluster A Personality Disorders**

301.20 Schizoid personality disorder

301.22 Scizotypical personality disorder

301.00 Paranoid personality disorder

If cluster A is defined, but not the specific personality disorder, data is included in this category.

**Cluster B Personality Disorders**

301.50Histornic personality disorder, is included in this category because of the very

 low prevalence of the disorder within this sample.

If cluster B is defined, but not the specific personality disorder, data is included in this category.

**Other Personality Disorders**

301.90 Unspecified personality disorder

 Personality disorder not otherwise specified

301.89 Otherwise specified personality disorder

The following categories were excluded from the network analysis bescause of a small sample size within the category (*n* <20).

**Gambling Disorder (*n =* 19)**

312.31 Gambling disorder

**Paraphelia (*n =* 16)**

302.20 Pedophilic disorder

 Pedophilia

302.82 Voyeuristic disorder

293.83 Sexual masochism disorder

302.84 Sexual sadism disorder

302.89 Frotteuristic disorder

 Other specified paraphilic disorder

302.90 Unspecified paraphilic disorder

 Paraphilia NOS

**Cluster C Personality Disorders (*n =* 18)**

301.60 Dependent personality disorder

301.82 Avoidant personality disorder

301.40 Obsessive-compulsive personality disorder

If cluster C is defined, but not the specific personality disorder, data is included in this category.

**Mental Disorder due to Another Medical Condition (*n =* 14)**

293.00 Delirium due to another medical condition

 Delirium due to multiple etiologies

293.81 Psychotic disorder due to another medical condition, with delusions

293.90 Mental disorder NOS due to general medical condition

294.00 Amnestic disorder due to general medical condition

294.80 Obsessive-compulsive and related disorder due to another medical condition

 Other specified mental disorder due to another medical condition

294.90 Only if diagnosed under DSM-5: Unspecified mental disorder due to another

 medical condition.

310.10 Personality change due to another medical condition

**Delirium (*n* = 2)**

780.09 Unspecified delirium

 Other specified delirium

 Delirium NOS

**Dissociative Disorders (*n* = 1)**

300.14 Dissociative identity disorder

300.15 Other specified dissociative disorder

 Unspecified dissociative disorder

 Dissociative disorder NOS

**Eating Disorders (*n* = 3)**

307.10 Anorexia nervosa

307.50 Unspecified feeding or eating disorder

 Eating disorder NOS

**Gender Dysphoria (*n* = 6)**

302.60 Gender dysphoria in children

 Other specified gender dysphoria

 Unspecified gender dysphoria

 Gender identity disorder in children

 Gender identity disorder NOS

302.85 Gender dysphoria in adolescents and adults

**Sleep Disorder (*n* = 3)**

307.42 Primary insomnia

780.52 Insomnia disorder

 Other specified insomnia disorder

 Unspecified insomnia disorder

**Somatic Symptom Disorders (*n* = 7)**

300.11 Conversion disorder

300.82 Somatic symptom disorder

 Unspecified somatic symptom and related disorder

 Somatoform disorder NOS

307.89 Pain disorder associated with both psychological factors and a general medical

 Condition

**Somatorform Disorders (*n* = 2)**

300.7 Body dysmorfic disorder

 Illness anxiety disorder

 Hypochondriasis

**Obsessive-Compulsive Disorder (*n* = 14)**

300.3 Obsessive-compulsive disorder

 Other specified obsessive-compulsive and related disorder

 Unspecified obsessive-compulsive and related disorder

 Hoarding disorder

312.39 Trichotillomania

**Withdrawal (*n* = 15)**

291.81 Alcohol withdrawal

292.00 Amphetamine or other stimulant withdrawal

 Caffeine withdrawal

 Cannabis withdrawal

 Cocaine withdrawal

 Opioid withdrawal

 Opioid withdrawal delirium

 Other (or unknown) substance withdrawal

 Other (or unknown) substance withdrawal delirium

 Sedative, hypnotic, or anxiolytic withdrawal

 Sedative, hypnotic, or anxiolytic withdrawal delirium

 Tobacco withdrawal

**Movement Disorder (*n* = 4)**

293.89 Unspecified catatonia

 Catatonia associated with another mental disorder

 Catatonic disorder due to another medical condition

333.72 Medication induced acute dystonia

 Tardive dystonia

333.85 Tardive dyskinesia

 Finally, the category “Unspecified mental disorders” was excluded bacause of its indistinct nature, it provides no information on specific symptoms or behaviors related to the category. Keeping in mind the aim of the current study, to examine the relations between specific mental disorders and preoblematic substance use, the variable would not have contributed to this goal.

**Unspecified Mental Disorder (*n* = 24)**

300.90 Unspecified mental disorder

 Other specified mental disorder

 Mental disorder not otherwise specified

 The merging of DSM-IV and DSM-V diagnoses resulted in 23 categories of mental disorders used in the network analysis of mental disorders.