**Supplementary Material**

The study of psychopathology from the network analysis perspective: a systematic review

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**Data extraction**

The data extraction was independently performed and double-checked by two authors (AC and IN). For the studies included, the following information was collected, as it can be seen in Tables 1-3 (Supplementary materials):

a) Sample characteristics: subsamples or total sample size, gender (percentage of males), type of participants (e.g. current or past clinical disorder) and age (mean and standard deviation).

 b) Network elements and instruments: symptoms and/or relevant psychological variables that have been represented in the network as a node (e.g. symptoms of the disorder analysed) and instruments used to assess the outcome studied.

c) Type of data: cross-sectional or longitudinal data. Note that longitudinal data have been considered cross-sectional when authors only took measures at one data point for the network estimation.

d) Network analysis information provided:

* Type of network estimated: we can identify several types of networks. In an *Association Network* (AN), each edge represents weighted correlation (positive or negative) between symptoms while *Concentration Networks* (CN) use partial correlation (i.e. edges have been adjusted for the influence of all other symptoms). CNs can use cross-sectional and time-series data [1]. Although a large sample size is recommended to compute a network, regularisation techniques allow reliable estimations, leading to *Regularised Partial Correlation Networks* (RPCN) [2]. In addition, some types of networks also reflect, not only the magnitude of the association, but also the directionality of it. For instance, the relative importance of symptoms as predictors of another symptom can be depicted with a *Relative Importance Network*, which represents strength and direction of the prediction but not causation [3]. *Bayesian Networks,* based on parametric methods that produce directed acyclic graphs (DAGs), identify the direction of the prediction and possible causation [3]. Finally, *temporal networks* are also directed and estimated from time-series data. From now on, Relative Importance, Bayesian and Temporal networks will be referred as *Directed Networks* (DN) [1].
* Centrality analysis: we assess whether any centrality metric were reported (i.e. strength, closeness and betweenness ) [4,5].
* Network parameters robustness: we assess according to Fried et al. guidelines [2] whether robustness analyses of estimated data were done (i.e. measures of stability of centrality indices and/or accuracy of estimated edge-weight).

e) Availability of materials in the published paper: software code or syntax (e.g. R script) and/or data (i.e. correlation matrix or dataset).

Table 1. Main characteristics of network analysis studies in specific psychopathological conditions.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Authors,****year** | **Group(s), N****(% male)** | **Mean age (SD)** | **Network****symptoms or elements** | **Assessment of symptoms or elements**  | **Type of data** | **Network analysis** | **Availability** |
| **AN** | **RPCN** | **DN** | **CA** | **Robustness analysis** | **Syntax** | **Data** |
| **Post-traumatic stress disorder**  |
| McNally et al., 2015 | Survivors of an earthquake, 362 (26.5) | 44.8 (10.9) | PTSD symptoms | PCL-C | CS | √ | √ | √ | √ | N/A | N/A | N/A |
| Sullivan et al., 2016 | Witnesses of a shooting event, 4639 (45.4) | 21.8 (4.4) | PTSD symptoms | TSQ | CS | N/A | √ | √ | √ | √ | N/A | NA |
| Armour et al., 2017 | Veterans with PTSD, 221 (86.7) | 54.0 (14.8) | PTSD symptoms, depression, anxiety, suicidal ideation, quality of life | THS, PCL-5, PHQ-4, PHQ-9, SF-8 | CS | N/A | √ | N/A | √ | √ | √ | √ |
| Birkeland & Heir, 2017 | Witness of a terrorist attack, 190 (N/A) | 44.7 (11.9) | PTSD symptoms, social support, neuroticism | PCL-S, BFI (neuroticism), CSS (4 items) | CS | N/A | √ | N/A | √ | √ | N/A | N/A |
| Bryant et al., 2017 | Survivors of a traumatic injury from the AIVS, 1138 (73.6) | 37.9 (13.6) | PTSD symptoms | CAPS | L | N/A | √ | √ | √ | √ | N/A | √ |
| Glück et al., 2017 | Survivors of institutional abuse, 220 (59.8) | 57.9 (9.5) | PTSD symptoms, anger, aggression, rumination, traumatic events, shame | CTQ, DAQ, LEC-5, ITQ, STAXI | CS | √ | √ | N/A | √ | √ | N/A | N/A |
| Jayawickreme et al., 2017 | Survivors of the Sri Lankan civil war, 337 (54.9) | 43.41 (13.7) | Trauma exposure, war-related problems, stressful life events and psychopathology | PRPWPQ | CS | √ | √ | N/A | √ | √ | N/A | √ |
| McNally et al., 2017 | Adults who reported childhood sexual abuse, 179 (33.3) | 41.2 (12.4) | PTSD symptoms | PCL-C | CS | N/A | √ | √ | √ | √ | √ | √ |
| Russell et al., 2017 | Exposed to a natural disaster (49): 388 children,388 adolescents | 8-13 (N/A)14-18 (N/A) | PTSD Symptoms | UCLA PTSD-RI | CS | N/A | √ | N/A | √ | N/A | N/A | N/A |
| Spiller et al., (2017) | Refugees with and without formal posttraumatic stress disorder, 151 (70) | 41.9 (9.8) | Trauma exposure, PTSD symptoms | HTQ; DSM-IV, V (PCL, third part) | CS | N/A | √ | N/A | √ | √ | √ | N/A |
| **Authors,****year** | **Group(s), N****(% male)** | **Mean age (SD)** | **Network****symptoms or elements** | **Assessment of symptoms or elements**  | **Type of data** | **Network analysis** | **Availability** |
| **AN** | **RPCN** | **DN** | **CA** | **Robustness analysis** | **Syntax** | **Data** |
| **Anxiety-related disorders** |
| Heeren et al., 2016 | Social anxiety disorder, 61 (19.6) | 25.9 (9.1) | Social anxiety, depression, attention bias, social reactivity | LSAS, STAI, BDI, ANT, LM, SUDS, BASA | CS | √ | √ | √ | √ | N/A | N/A | N/A |
| Tsuruta et al., 2017 | General population, 1360 (0) | 19.6 (1.1) | Social anxiety, preoccupations with body part odor, subjective halitosis, olfactory ideas of reference  | Ad hoc scale for social anxiety (7 items), halitosis (10 items) and olfactory ideas (7 items) | CS | N/A | N/A |  √ | N/A | N/A | N/A | N/A |
| Vehling et al. 2017 | Patients with advanced cancer, 382 (40.3) | 58.7 (11.4) | Death anxiety | DADDS | CS | N/A |  √ | N/A | √ | N/A | N/A |  √ |
| **Mood disorders** |
| Cramer et al., 2012 | Depressive symptoms, from VATSPUD study, precipitated by a SLE:Stress 710 (57.46);Loss 528 (49.62);Health 371 (44.47);Conflict 487 (43.94) |  N/A | Depression, stressful life events | VATSPUD interview, LEDS | CS | √ | N/A | N/A | √ | N/A | N/A | √ |
| Bringmann et al., 2013 | Residual depressive symptoms from a RCT: MT, 63 (N/A) CG, 66 (N/A) | 44.6 (9.7)43.2 (9.5) | Positive and negative affect, neuroticism | ESM,NEO- FFI | L | N/A | N/A | √ | √ | N/A | √ | √ |
| Robinaugh et al., 2014 | Loss of a spouse, from the CLOC, 265 (14.7) | 70.2 (6.9) | Persistent complex Bereavement Disorder, depression, risk factors | DSM-5 (13 items) CES-D, ITDS (9 items), NEO-FFI (11 items) | L | √ | N/A | √ | √ | N/A | N/A | N/A |
| Bringmann et al., 2015 | MDD from a RCT: 99 CT (20); 83 IT (36) | 40 (12)41 (12) | Depressive symptoms | BDI-II | L | N/A | N/A | √ | √ | N/A | N/A | N/A |
| Fried et al., 2015 | With and without loss of spousal, 515 (14.6) | 73.3 (6.5) | Depression, spousal loss | CES-D(11-item) | CS | N/A | √ | N/A | N/A | N/A | N/A | N/A |
| **Authors,****year** | **Group(s), N****(% male)** | **Mean age (SD)** | **Network****symptoms or elements** | **Assessment of symptoms or elements**  | **Type of data** | **Network analysis** | **Availability** |
| **AN** | **RPCN** | **DN** | **CA** | **Robustness analysis** | **Syntax** | **Data** |
| Koenders et al., 2015 | Bipolar disorder,mildly impaired 47 (42.6); predominantly depressed 42 (40.5);cycling 36 (36.1) | 50.6 (11.2);53.1 (10.8);51.9 (11.7);45.8(10) | Bipolar disorder, depression, mania | YMRS, QIDS-SR, LCM-R | L | √ | N/A | N/A | √ | N/A | N/A | √ |
| Pe et al., 2015 | MDD, 53 (28.3); CG, 53 (32.1) | 25.4 (6.4);28.2 (6.4) | Negative affect | ESM | L | N/A | N/A | √ | N/A | N/A | N/A | N/A |
| van Borkulo et al., 2015 | MDD from NESDA: 262 in remission (N/A) and 253 persistent (N/A) | 40.9 (12.1) | Depressive symptoms | IDS | CS | N/A | √ | N/A | √ | √ | N/A | N/A |
| Boschloo, van Borkulo et al., 2016a | Individuals with no lifetime depressive or anxiety disorder from the NESDA, 501 (N/A) | N/A | Depressive symptoms | IDS (12 items) | CS | N/A | √ | N/A | √ | N/A | N/A | N/A |
| Fried et al., 2016 | Single or recurrent nonpsychotic MDD from the STAR\*D, 3463 (37) | 41 (13) | Depressive symptoms | IDS-C | CS | N/A | √ | N/A | √ | √ | N/A | N/A |
| Hoorelbeke et al., 2016 | MDD history and being in (partial) remission for at least six months, 69 (33.3) | 47.1 (11.4) | Depression, cognitive control, emotional regulation, resilience | INQUISIT, RS, BRIEF-WM, RDQCERQ, PASAT | CS | √ | √ | √ | √ | N/A | N/A | √ |
| Madhoo et. al., 2016 | Nonpsychotic MDD from the STAR\*D:baseline, 2862 (N/A); endpoint, 2585 (N/A); change, 2578 (N/A) | 18-75 (N/A) | Depressive symptoms | QIDS-SR | CS | N/A | √ | N/A | √ | N/A | N/A | N/A |
| Watters et al., 2016 | Psychiatric out and inpatient, community, medical outpatients and healthy participants 842 (36.6) | 38.6 (13.1) | Alexithymia | TSIA | CS | √ | √ | N/A | √ | √ | N/A | N/A |
| Wichers et al., 2016 | History of multiple episodes of MD, 1 male | 57 (N/A) | Mental unrest, cognitive context, negative and positive affect | ESM | L | N/A | N/A | √ | N/A | N/A | N/A | N/A |
| **Authors,****year** | **Group(s), N****(% male)** | **Mean age (SD)** | **Network****symptoms or elements** | **Assessment of symptoms or elements**  | **Type of data** | **Network analysis** | **Availability** |
| **AN** | **RPCN** | **DN** | **CA** | **Robustness analysis** | **Syntax** | **Data** |
| De Beurs et al., 2017 | Suicide attempters: repeaters at 15-month follow-up 94 (46.80); non-repeaters 272 (41.91) |  35 (13.6) | Suicide symptoms |  SSI | CS | √ | √ | N/A | √ | N/A | N/A | N/A |
| Maccallum et al., 2017 | Loss of a spouse 193 (33.5); Loss a parent, 180 (55) | 57.04 (6.58);  42.35(10.94) | Grief, depression | PG-13CES-D | CS | N/A | √ | N/A | √ | √ | N/A | N/A |
| Dejonckheere et al., 2017 | High scores in depression, 112 (52) | 34.27 (9.7) | Social expectancies, depressive symptoms | SEDASDSM-V | L | N/A | N/A | √ | √ | N/A | N/A | N/A |
| Santos et al. 2017 | Women at the second trimester of pregnancy: 245 with symptoms of depression, 270 with no depressive symptoms | 24.6 (5.8) | Depression, stress,reproductivebiomarkers | CES-D-20, blood sample | CS | N/A | √ | N/A | √ | √ | √ | √ |
| McWilliams et al., 2017 | MDD with chronic pain, 225 (38) | 47.06 (N/A) | Depressive symptoms | PHQ-9 | CS | N/A | √ | N/A | √ | N/A | N/A | N/A |
| **Psychosis-related conditions** |
| Bak et al., 2016 | Paranoid schizophrenia, 1 female | 46 (N/A) | Schizophrenia, positive and negative affect | ESM | L | N/A | N/A | √ | √ | N/A | N/A | N/A |
| Isvoranu et al., 2016 | General population, 3012 (N/A) | 14-24 (N/A) | Anxiety, depression, somatization, OCD, phobia, hostility, risk factors, psychosis | N/A | CS | √ | N/A | N/A | N/A | N/A | N/A | N/A |
| Levine et al., 2016 | Chronic schizophrenia, 437 (65.3) | 34.04 (9.4) | Negative symptoms | SANS |  L | N/A | √ | N/A | √ | N/A | N/A | N/A |
| Esfahlani et al., 2017 | Psychotic disorders from CATIE: 733 TV (N/A), 316 TR (N/A) | N/A | Positive and negative syndrome, general psychopathology | PANSS | L | √ | N/A | N/A | √ | N/A | N/A | N/A |
| Isvoranu et al., 2017 | Participants with psychotic disorder from GROUP,552 (75.7) | 30.8 (7.2) | Psychosis, childhood trauma | PANSS, CTQ-SF | CS | N/A | √ | N/A | √ | N/A | N/A | N/A |
| **Authors,****year** | **Group(s), N****(% male)** | **Mean age (SD)** | **Network****symptoms or elements** | **Assessment of symptoms or elements**  | **Type of data** | **Network analysis** | **Availability** |
| **AN** | **RPCN** | **DN** | **CA** | **Robustness analysis** | **Syntax** | **Data** |
| van Rooijen et al., 2017 | Non-affective psychotic disorder from GROUP, 408 (100) | 27.4 (7,5) | Manic and depressive syndrome, delusions, avolition, alogia hallucinations, formal thought, inattention, catatonic and affective symptoms | CASH | CS | N/A | √ | N/A | √ | √ | N/A | N/A |
| Wigman et al., 2017 | Individuals with and without hallucinations, 293 (41) | 18.9 (0.4) | Verbal and auditory hallucinations, anxiety, depression, stress | CAPE, DASS-21 | CS | N/A | √ | N/A | √ | N/A | N/A | N/A |
| **Personality disorders** |
| Richetin et al., 2017 | Healthy students, 1317 (25.9); Psychiatric and/or personality disorder, 96 (39.5) | 22.56 (4.05)37.75 (10.5) | Borderline personality symptoms |  BPDCL | CS | N/A | √ | N/A | √ | N/A | N/A | √ |
| **Substance abuse** |
| Rhemtulla et al., 2016 | Frequent life-time substance abusers (from the VATSPSUD), 2405 (65) | 34.7 (7.3) | Substance Abuse |  SCID | CS | N/A | √ | N/A | √ | N/A | N/A | N/A |

*Note*. SD= Standard Deviation; **Network analysis initials**: AN=Association Network; CA=Centrality Analysis; CS = Cross-Sectional; Data = sharing database; DN = Directed Network; L = Longitudinal; N/A = Not Applicable; Robustness analysis = stability and/or accuracy; RPCN = Regularized Partial Correlation Network; Syntax = sharing analysis codes**. Rest of initials:** AIVS= Australian Injury Vulnerability Study; ANT=Attentional Network Task; BASA=Behavioral Assessment of Speech Anxiety; BDI=Beck Depression Inventory; BFI= Big Five Inventory; BPDCL=Borderline Personality Disorder Checklist; BRIEF-WM=Behavior Rating Inventory of Executive Function Adult version; CAPE=Community Assessment of Psychic Experiences; CAPS=Clinician Administered PTSD Scale; CASH=Comprehensive Assessment of Symptoms and History; CATIE= Clinical Antipsychotic Trials of Intervention Effectiveness study; CES-D=Center for Epidemiologic Studies Depression scale; CERQ=Cognitive Emotion Regulation Questionnaire; CG= Control Group; CLOC= Changing Lives of Older Couples study; CSS= Crisis Support Scale; CT= Cognitive Therapy; CTQ/SF=Childhood Trauma Questionnaire/ Short Form; DADDS= Death and Dying Distress Scale; DAQ= Displaced Aggression Questionnaire; DASS-21=Depression, Anxiety and Stress Scale; DSM-IV/ V=Diagnostic and Statistical Manual of Mental Disorder (fourth/fifth edition); EPSI=Eating Pathology Symptoms Inventory; ESM=Experience Sample Methodology; HTQ= Harvard Trauma Questionnaire; IDS/SR/C=Inventory of Depressive Symptomatology/ Self Report version/ Clinician version; INQUISIT=Cognitive computer task (Millisecond software package); IT= Interpersonal Therapy; ITDS=Interpersonal Dependency Sale; ITQ= International Trauma Questionnaire; LCM-R=Retrospective Life Chart Method; LEC-5=Life Events Checklist for DSM-5; LEDS=Life Events and Difficulties Measure; LM=Laboratory Measures (of attention bias); LSAS=Liebowitz social Anxiety Scale; NEO-FFI=Big Five Personality Questionnaire; NESDA= The Netherlands Study of Depression and Anxiety; PASAT= Paced Auditory Serial Addition Task; PTSD= Posttraumatic Stress Disorder; MDD= Major Depressive Disorder; MT= Mindfulness Therapy; THS=Trauma History Screen; TSIA=Toronto Structured Interview for Alexithymia; TR=Treatment Resistant; TSQ=Trauma Screening Questionnaire; TV=Treatment Responsive; OCD= Obsessive Compulsive Disorder; PANSS=Positive and Negative Syndrome Scale; PCL-C= Posttraumatic Checklist-Civilian (Mandarin Chinese version); PCL-5=Posttraumatic Stress Disorder Checklist from DSM-5; PG-13 = Prolonged Grief-13; PHQ-4=Patient Health Questionnaire-4; PHQ-9=Patient Health Questionnaire-9; PRPWPQ= Penn/RESIST/Peradeniya War Problems Questionnaire; QIDS /SR=Quick Inventory of Depressive Symptomatology/ Self-Report); RCT= Randomised Control Trial; RDQ=Remission of Depression Questionnaire; RS=Resilience Scale; SANS=Scale for the Assessment of Negative Symptoms; SCID=Structured Clinical Interview for DSM; SEDAS: Social expectancies about Depression and Anxiety Scale; SF-8=Short Form-8 Health Survey; SLE= Stressful Life Events; SSI: Beck Scale for Suicide Ideation; STAI=State Trait Anxiety Inventory; STAR\*D= Sequenced Treatment Alternatives to Relieve Depression study; STAXI= State-Trait Anger Expression Inventory; SUDS=Subjective Units of Discomfort Scale; UCLA PTSD-RI= University of California, Los Angeles Posttraumatic Stress Reaction Index for Children; VATSPUD= Virginia Adult Twin Study of Psychiatric and Substance Use Disorder; YMRS=Young Mania Rating Scale.

Table 2. Main characteristics of studies with NA and psychopathology or comorbidity.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Authors,****Year** | **Group(s), N****(% male)** | **Mean age (SD)** | **Network****symptoms or elements** | **Assessment of symptoms or elements**  | **Type of data** | **Network analysis** | **Availability** |
| **AN** | **RPCN** | **DN** | **CA** | **Robustness analysis** | **Syntax** | **Data** |
| Goekoop et al., 2014 | Individuals with acute mental disorders, 192 (39) | 54.3 (6.1) | Psychopathology | CPRS | CS | √ | N/A | N/A | √ | N/A | N/A | √ |
| Boschloo et al., 2015 | General population from the NESARC, 34.653 (42) | 49.1 (17.3) | Major depressive episode, dysthymia, (hypo)mania, GAD, social specific phobia, panic, agoraphobia, PTSD, ADHD and substance disorders | AUDADIS-IV | CS | N/A | √ | N/A | N/A | N/A | N/A | √ |
| Wigman et al., 2015 | Past diagnosis and current mild depression, 129 (24);psychotic disorder, 263 (68);CG, 207 (48) | 44.1 (9.3);35.5 (11.0);34.3 (11.6) | Negative and positive affect, psychosis | ESM | L | N/A | N/A | √ | √ | N/A | N/A | √ |
| Beard et al., 2016 | Mood, anxiety, personality and psychotic disorders, 1029 (48) | 35 (13.8) | MDD, GAD | MINI, PHQ-9, GAD-7 | L | N/A |  √ | N/A | √ | √ | N/A |  √ |
| Bekhuis et al., 2016 | 918 prior history of depressive and/or anxiety disorder (N/A); 1441 with past diagnosis (N/A); | 41.7 (13.1) | GAD, MDD, Somatisation | IDS-SR, 4DSQ | CS | N/A | √ | N/A | N/A | N/A | N/A | √ |
| Bringmann et al., 2016 | General population students from two datasets:95 (38);79 (37) | 19 (1);24 (8) | Positive and negative affect, neuroticism | ESM, NEO-FFI | L | N/A | N/A | √ | √ | N/A | N/A | N/A |
| Curtiss et al., 2016 | GAD, 70 (27);MDD, 41 (39) | 35.1 (12.3);33.2 (14.4) | MDD, GAD | BDI-II, STAI-T, CSR | CS | N/A | √ | N/A | √ | N/A | N/A | N/A |
| Guloksuz et al., 2016 | EDSP, 3021 (50.7); NAMESIS-1, 7076 (46.6) | 18.26 (3.3)41.16 (12.1) | Psychopathology, environment exposure | SCL-90-R, CIDI (1 item) | L | N/A | N/A | √ | N/A | N/A | N/A | N/A |
| Knefel et al., 2016 | (Complex) PTSD, borderline personality disorder, MDD, GAD, and alcohol-related disorders, 219 (59.8) | 57.9 (9.5) | PTSD, borderline personality disorder | ICD-TQ, CTQ/SF, LEC-5, SCID | CS | N/A | √ | N/A | √ | √ | N/A | N/A |
| **Authors,****Year** | **Group(s), N****(% male)** | **Mean age (SD)** | **Network****symptoms or elements** | **Assessment of symptoms or elements**  | **Type of data** | **Network analysis** | **Availability** |
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| Jaya et al., 2017 | General population from MTurk:time 1, 289 (32.5);time 2, 155 (53.5);time 3, 151 (58.9);time 4, 171 (42.7) | 37.6 (12.7)36.5 (11.6)34.07 (11.3)37.06 (12.6) | Psychosis, MDD, loneliness | R-UCLA (3 items), CES-D, subscale of CAPE | CS | N/A | √ | N/A | √ | N/A | N/A | N/A |
| Afzali et al., 2017 | PTSD and MDD, 909 (28) | 43.8 (15.1) | PTSD, MDD | WMH CIDI | CS | N/A | √ | N/A | √ | N/A | N/A | N/A |
| Anker et al., 2017 | Alcohol dependence and anxiety disorder, 362 (62) | 39.3 (10.2) | GAD, depression, social anxiety, panic, agoraphobia, perceived stress, drinking to cope, coping self-efficacy, alcohol craving and drinking behaviour | PSWQ, BDISPS, PDSS, MIA, OCDS, TLFBI PSS, IDS-100, SCQ  | CS | N/A | √ | N/A | √ | √ | N/A | N/A |
| Bernstein et al., 2017 | General population, 91 (43) | 23.48 (4.5) | Rumination and executive control | N-back task, emotional flanker task, internal shift task, stressor task, 5 state rumination questions | L | N/A | √ | √ | √ | √ | N/A | √ |
| Choi, K. et al., 2017 | HIV negative, 296 (100) | 38.0 (11.7) | PTSD, depression and sexual risk behaviour | CES-D, DTS, self-report of sexual risk behaviour | CS | N/A | √ | N/A | N/A | √ | N/A | N/A |
| de Vos et al., 2017 | MDD, 27 (26);CG, 27 (26) | 34.7 (9.9);34.0(9.0) | Positive and negative affect | 14 self-report items of positive and negative affect | L | N/A | N/A | √ | √ | N/A | N/A | N/A |
| Fisher et al., 2017 | MDD, GAD or both 40 (35) | 18-60 (N/A) | MDD, GAD, positive and negative affect, rumination, behavioural avoidance and reassurance seeking | HARS, HRSD, ESS | L | N/A | √ | √ | √ | N/A | N/A | N/A |
| McNally et al., 2017 | OCD and MDD, depression or dysthymia, 408 (47.3) | 31.1 (12.2) | OCD, MDD | Y-BOCS-SR, QIDS-S-SR | CS | N/A | √ | √ | √ | √ | √ | √ |
| **Authors,****Year** | **Group(s), N****(% male)** | **Mean age (SD)** | **Network****symptoms or elements** | **Assessment of symptoms or elements**  | **Type of data** | **Network analysis** | **Availability** |
| **AN** |  **RPCN** | **DN** | **CA** |  **Robustness analysis** | **Syntax** | **Data** |
| Pereira-Morales et al., 2017 | General population, 334 (25.4) | 21.7 (4.8) | Psychological distress, sleep problems, alcohol use, perceived self-efficacy/coping, childhood trauma, suicidal ideation and personality traits | PHQ-9; HADS-D; PSS; item 9 of the OSQ; AUDIT; CTQ-brief version; BFI-S | CS | N/A | √ | N/A | √ | √ | N/A | N/A |

*Note*. SD= Standard Deviation; **Network analysis initials**: AN=Association Network; CA=Centrality Analysis; CS = Cross-Sectional; Data = sharing database; DN = Directed Network; L = Longitudinal; N/A = Not Applicable; Robustness analysis = stability and/or accuracy; RPCN = Regularised Partial Correlation Network; Syntax = sharing analysis codes**. Rest of initials:** ADHD= Attention Deficit/Hyperactivity Disorder; AUDADIS-IV= The Alcohol Use disorder and Associated Disabilities Interview Schedule; AUDIT=Alcohol Use Disorders Identification Test; BDI=Beck Depression Inventory; BFI-S = Big Five Inventory; CAPE=Community Assessment of Psychic Experiences; CES-D = Center for Epidemiologic Studies Depression Scale; CG= Control Group; CIDI = Composite International Diagnostic Interview; CPRS=Comprehensive Psychopathological Rating Scale; CSR=Clinical Severity Rating; CTQ = Childhood Trauma Questionnaire; CTQ/SF=Childhood Trauma Questionnaire/Short Form; DTS = Davidson Trauma Scale; EDSP= the Early Developmental Stages of the Psychopathology study; ESM=Experience Sample Methodology; ESS=Experience Sample Survey; GAD= Generalised Anxiety Disorder; GAD-7=Generalised Anxiety Disorder Scale; HADS-D= Hospital Anxiety and Depression Scale; HARS= Hamilton Anxiety Rating Scale; HRSD=Hamilton Rating Scale for Depression; ICD-TQ=International Classification of Disorders Trauma Questionnaire; IDS-SR=Inventory of Depressive Symptomatology/ Self Report version; IDS-100=Inventory of Drinking Situations; LEC-5=Life Events Checklist for DSM-5; MDD= Major Depressive Disorder; MIA=Mobility Inventory for Agoraphobia; MINI=Mini-International Neuropsychiatric Interview; MTurk= the Amazon´s Mechanical Turk;NAMESIS-1= the Netherlands Mental Health Survey and Incidence Study; NEO-FFI=Big Five Personality Questionnaire; NESARC= The National Epidemiologic Survey on Alcohol and Related Conditions study, OCD= Obsessive compulsive disorder; OCDS=Obsessive Compulsive Drinking Scale; OSQ = Oviedo Sleep Questionnaire; PDSS=Panic Disorder Severity Scale; PHQ-9=Patient Health Questionnaire-9; PSS=Perceived Stress Scale; PSWQ=Penn State Worry Questionnaire; PTSD= Posttraumatic Stress Disorder; QIDS /SR=Quick Inventory of Depressive Symptomatology/ Self-Report.; R-UCLA=Loneliness scale;; SCID=Structured Clinical Interview for DSM; SCL-90-R = Symptom Checklist-90-Revised; SCQ=Situational Confidence Questionnaire; SPS=Social Phobia Scale; STAI=State Trait Anxiety Inventory; TLFBI=Time Line Follow-Back Interview; WMH CIDI=World Mental Health Composite International Diagnostic Interview; Y-BOCS-SR=Yale Brown Obsessive Compulsive Scale Self Report; 4DSQ=Four Dimensional Symptom Questionnaire

Table 3. Main characteristics of network analysis studies in childhood and adolescent related disorders.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Authors,****year** | **Group(s), N****(% male)** | **Mean age (SD)** | **Network****symptoms or elements** | **Assessment of symptoms or elements**  | **Type of data** | **Network analysis** | **Availability** |
| **AN** | **RPCN** | **DN** | **CA** | **Robustness analysis** | **Syntax** | **Data** |
| Anderson et al., 2015 | PDD, 301 (82.4);CG, 176 (68.8) | 114.8 (49.6);127.9 (43.1) | Autism | ADOS | CS | N/A | √ | N/A | √ | N/A | N/A | N/A |
| Ruzzano et al., 2015 | Autism, OCD, ADHD, Tourette syndrome, ODD, conduct disorder, 213 (86) | 9.2 (1.9) | Autism, OCD | ADI-R, PCR-SP-DISC-IV | CS | √ | N/A | √ | √ | N/A | N/A | N/A |
| Boschloo, Schoevers et al., 2016 | Community sample of preadolescents, 2175 (49.1) | 11.1 (0.55) | Internalising and externalising behaviour, attention, thought and social problems | YSR | CS | N/A | √ | N/A | N/A | N/A | N/A | √ |
| Martel et al., 2016 | Preschoolers, 109 (64):ADHD, 61, CG, 48;Children, 548 (59):ADHD, 302, CG, 246;Adolescents, 357 (59):ADHD, 144, CG, 213;Adults, 406 (49):ADHD, 145, CG, 261 | 3-6 (N/A)6-12 (N/A)13-17 (N/A)18-37 (N/A) | ADHD | ADHD-RS | CS | √ | N/A | N/A | √ | N/A | N/A | N/A |
| Hasmi et al., 2017 | Population-based twin pairs and siblings, 704 (40) | 17.6 (3.7) | Positive and negative affect | ESM | L | N/A | N/A | √ | √ | N/A | N/A |  N/A |
| Smith et al., 2017 | Preschoolers with:ADHD, 18 (N/A);ODD, 18 (N/A);both, 43 (N/A);CG, 30 (N/A) | 4.34 (1.08) | ODD, ADHD | DBRS, K-DBDS | CS | √ | N/A | N/A | √ | N/A | N/A | N/A |

*Note*. SD= Standard Deviation; **Network analysis initials**: AN=Association Network; CA=Centrality Analysis; CS = Cross-Sectional; Data = sharing database; DN = Directed Network; L = Longitudinal; N/A = Not Applicable; Robustness analysis = stability and/or accuracy; RPCN = Regularised Partial Correlation Network; Syntax = sharing analysis codes**. Rest of initials:**  ADHD = Attention Deficit Hyperactivity Disorder; ADHD-RS = Attention Deficit Hyperactivity Disorder Rating Scale; ADI-R = Autism Diagnostic Interview-Revised; ADOS=Autism Diagnostic Observation Schedule; DBRS = Disruptive Behavior Rating Scale; ESM = Experience Sampling Method; HCG= Healthy comparison group; K-DBDS = Kiddie Disruptive Behavior Disorders Schedule; OCD = Obsessive Compulsive Disorder; ODD = Oppositional Defiant Disorder; PCR-S = Perceived Causal Relationships Scale; PDD= Pervasive Developmental Disorder; P-DISC-IV = Diagnostic Interview Schedule for Children for DSM-IV, parent version’s = Youth Self-Report