**Figure A.1**

*PRISMA Individual Participant Data Flowchart for the Study*

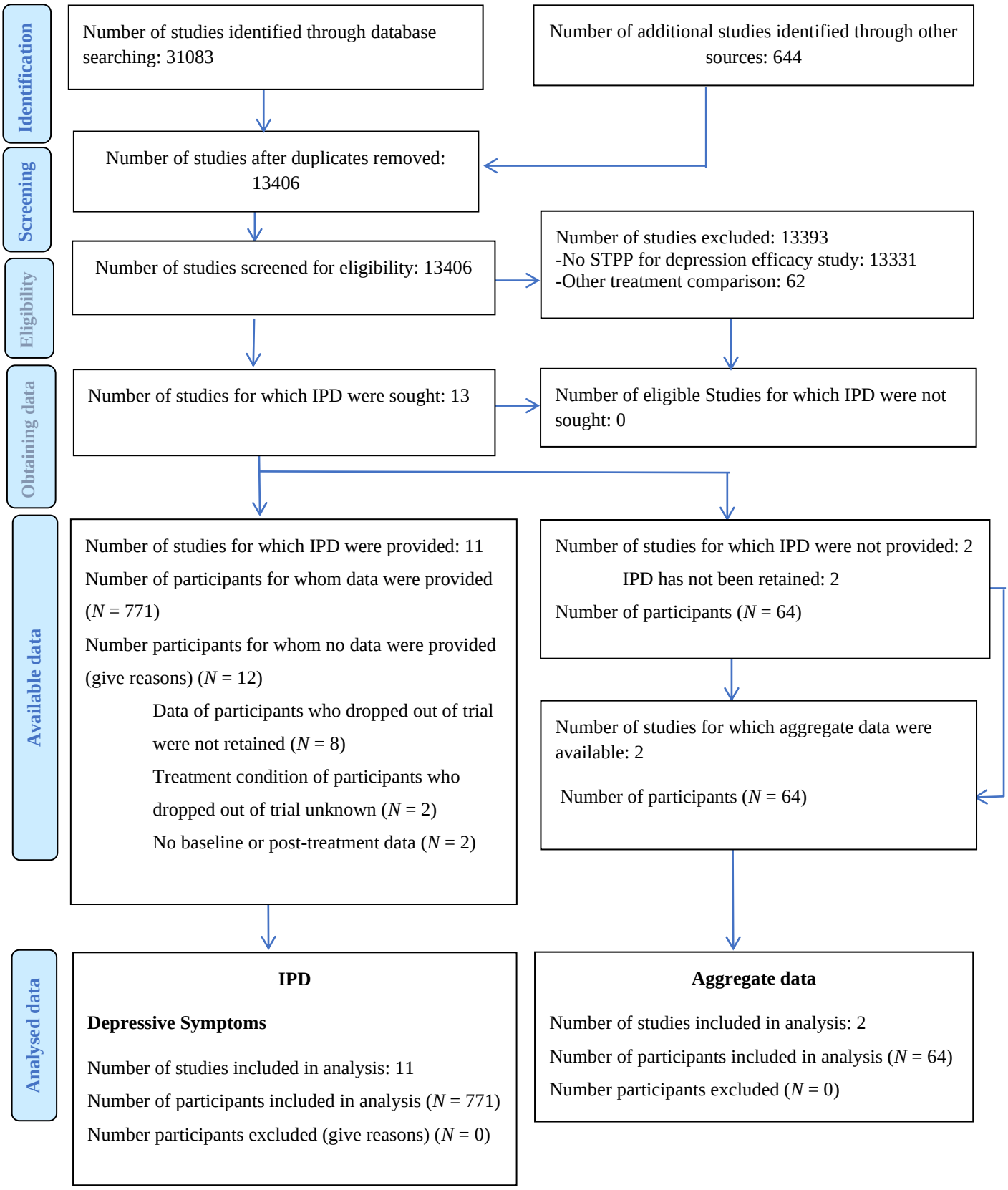
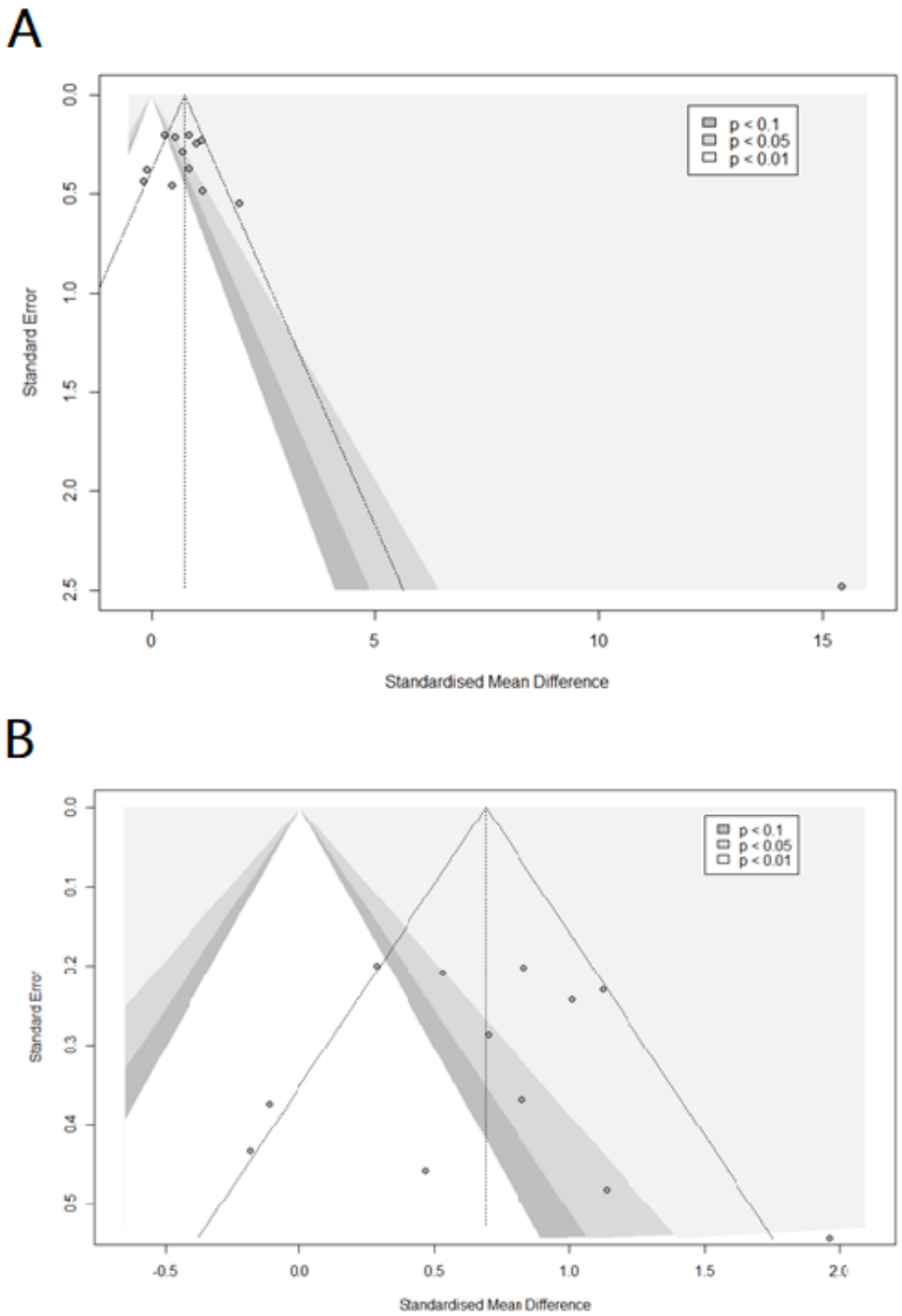


**Figure A.2**

*Contour-Enhanced Funnel Plots for Studies on STPP Compared to Control Conditions for Depression*




*Note*. A: Plot of all identified studies; B: Plot of identified studies, excluding outlier study. Statistical significance of studies is indicated be the grey shaded regions, the white colored region corresponds to *p* values of > .10.

**Table A.1**

*Search String Applied in PubMed*

| Search | PubMed query | Hits |
|---|---|---|
| 1. | Search "Psychoanalytic Therapy"[Mesh] OR "Psychotherapy, psychodynamic"[Mesh] OR psychodynamic*[tiab] Sort by: Relevance | 20 177 |
| 2. | Search ("Psychotherapy"[Mesh:noexp] OR "Animal Assisted Therapy"[Mesh] OR "Art Therapy'(Mesh) OR "Bibliotherapy"[Mesh] OR "Psychotherapy, Group"[Mesh] OR "Psychotherapy, Brief"[Mesh] OR "Psychotherapy, Multiple"[Mesh] OR "Counselling"[Mesh:NoExp] OR "Directive Counselling"[Mesh:NoExp] OR ((psychotherap*[tiab] OR therap*[tiab] OR counselling[tiab]) NOT medline[sb])) | 380 901 |
| 3. | Search dynamic*[tiab] OR STPP[tiab] OR BDT(tiab] OR DIT[tiab] OR insight*[tiab] OR interpretive[tiab] OR interpretative[tiab] OR analytic*[tiab] OR psychoanalytic*[tiab] | 1073 217 |
| 4. | Search #2 AND #3 | 21 435 |
| 5. | Search #1 OR #4 | 39 841 |
| 6. | Search Depressive disorder[Mesh] OR depression[Mesh] OR ((depress*[tiab] OR melancholia*[tiab] OR dysphoria*[tiab] OR dysthymi*[tiab] OR "seasonal affective disorder"[tiab]) NOT medline[sb]) | 223 737 |
| 7. | Search #5 AND #6 | 2350 |
| 8. | Search #7 NOT ("addresses"[Publication Type] OR "biography"[Publication Type] OR "comment"[Publication Type] OR "directory"[Publication Type] OR "editorial"[Publication Type] OR "festschrift"[Publication Type] OR "interview"[Publication Type] OR "lectures"[Publication Type] OR "legal cases"[Publication Type) OR "legislation"[Publication Type) OR "letter"[Publication Type) OR "news"[Publication Type) OR 'newspaper article"[Publication Type) OR 'patient education handout"[Publication Type] OR "popular works"[Publication Type] OR "consensus development conference'[Publication Type] OR "consensus development conference, nih"[Publication Type]) | 2285 |

*Note*. Adapted from "Which patients benefit specifically from short-term psychodynamic psychotherapy (STPP) for depression? Study protocol of a systematic review and meta-analysis of individual participant data", by Driessen et al., 2018, BMJ Open 8(2).

Search performed on June 19th 2017.

**Table A.2**

*Outcome Measures of Included Studies*

See accompanying excel document.

**Table A.3**

*Categorical Moderators of Included Studies and Their Transformations*

See accompanying excel document.

**Table A.4**

*References of STPP Models Used in Primary Studies*

| Study | Reference |
|---|---|
| Ajilchi et al., 2013 | Ghorbani N: Intensive short term dynamic psychotherapy: basics and techniques. Tehran, Iran, SAMT Publication [Persian], 2003 |
| Barber et al., 2012 | Luborsky L: Principles of psychoanalytic psychotherapy: a manual for supportive-expressive treatment. New York, Basic Books, 1984 |
| Beutel et al., 2014 | Haselbacher A, Barthel Y, Brähler, E. et al: Psychoanalytisch-orientierte Fokaltherapie der Depression bei Krebskranken. Psychotherapeut. 2010;55(4), 321–328 |
| Connolly Gibbons et al., 2012 | Luborsky L: Principles of Psychoanalytic Psychotherapy: A manual for supportive-expressive treatment. New York, Basic Books, 1984<br>Connolly Gibbons MB, Crits-Christoph K, Crits-Christoph, P: Psychodynamic psychotherapy for depression in community mental health settings. In: Kealy D, Ogrodnichuk J, editors. Contemporary psychodynamic psychotherapy: Evolving clinical practice. 1st ed. Cambridge, MA: Elsevier; 2019 |
| Cooper et al., 2003 | Cramer B, Robert-Tissot C, Stern DN, et al: Outcome evaluation in brief mother-infant psychotherapy: a preliminary report. Infant Mental Health Journal. 1990;11(3).<br>Stern DN: The motherhood constellation: a unified view of parent-infant psychotherapy. Basic Books; 1995 |
| Fonagy et al., 2019 | Lemma A, Target M, Fonagy P: Manual for dynamic interpersonal therapy (DIT). In: Qualitative research in psychology. 2nd ed. London, UK: Anna Freud National Centre for Children and Families; 2017 |
| Johansson et al., 2012 | Silverberg F: Make the leap: a practical guide to breaking the patterns that hold you back. New York (NY): Marlowe and Company; 2005<br>Busch F, Rudden M, Shapiro T: Psychodynamic treatment of depression. Washington DC (DC): American Psychiatric Pub; 2004 |
| Lemma & Fonagy, 2013 | Lemma A, Target M, Fonagy P: Brief dynamic interpersonal therapy: a clinician's guide. Oxford, Oxford University Press; 2011 |

| | |
|---|---|
| López Rodríguez et al., 2004 | Bellak L, Manual de psicoterapia breve, intensiva y de urgencia. Mexico: Manual Moderno; 1993<br>Bellak L, Manual para la evaluación de las funciones del yo. Mexico: Manual Moderno; 1994 |
| Maina et al., 2005 | Malan DH: Toward the validation of dynamic psychotherapy. a replication. Boston, MA: Springer; 1976 |
| Town et al., 2017 | Davanloo H: Intensive short-term dynamic psychotherapy: selected papers of Habib Davanloo, M.D. New-York, NY: John Wiley & Sons, Inc.; 2000 |
| Carrington, 1979 | Mann J: Time-limited psychotherapy. Cambridge, MA: Harvard University Press; 1973 |
| Morris, 1975 | - |

**Table A.5**

*Comparison of Categorical STPP and Study Characteristics by IPD Availability*

| Variable | IPD | | $\chi^2$ | df | *p* |
|---|---|---|---|---|---|
| | Available | Unavailable | | | |
| Recruitment | | | 1.315 | 2 | .518 |
| Community | 2 | 1 | | | |
| Clinical | 7 | 1 | | | |
| Other | 2 | 0 | | | |
| Depression diagnosis | | | 4.432 | 2 | .109 |
| MDD | 6 | 0 | | | |
| Other mood disorder | 3 | 2 | | | |
| Elevated depression score | 2 | 0 | | | |
| Target | | | 0.731 | 2 | .694 |
| Adults | 9 | 2 | | | |
| Women with PPD | 1 | 0 | | | |
| General medical | 1 | 0 | | | |
| Treatment format | | | 4.661 | 2 | .097 |
| Individual | 9 | 1 | | | |
| Group | 0 | 1 | | | |
| Online | 2 | 0 | | | |
| Treatment manual used | | | 1.688 | 1 | .194 |
| Yes | 10 | 1 | | | |
| No | 1 | 1 | | | |
| Integrity check | | | 0.349 | 1 | .555 |
| Yes | 10 | 2 | | | |
| No | 1 | 0 | | | |
| Therapist training | | | 0.731 | 1 | .392 |
| Yes | 9 | 2 | | | |
| No | 2 | 0 | | | |
| Dissertation | | | **11.162** | **1** | **<.001** |
| Yes | 0 | 2 | | | |
| No | 11 | 0 | | | |
| ADM use | | | 1.154 | 1 | .283 |

| | | | | | |
|---|---|---|---|---|---|
| Yes | 8 | 2 | | | |
| No | 3 | 0 | | | |
| Control condition | | | 5.617 | 2 | .060 |
| Waitlist | 2 | 2 | | | |
| Care-as-usual | 5 | 0 | | | |
| Other | 4 | 0 | | | |
| Blinding | | | 0.130 | 1 | .718 |
| Yes | 7 | 1 | | | |
| No | 4 | 1 | | | |
| Supportive vs. expressive | | | 0.922 | 2 | .631 |
| Supportive | 3 | 1 | | | |
| Expressive | 6 | 1 | | | |
| Both | 2 | 0 | | | |
| Emotion-focused vs interpretive | | | 1.154 | 1 | .283 |
| Emotion-focused | 3 | 0 | | | |
| Interpretive | 8 | 2 | | | |

*Note*. IPD = Individual participant data; ADM = Antidepressant medication; MDD = Major depressive disorder; PPD = Postpartum depression.

Statistical significance ($p < .05$) marked by bold printed numbers.

**Table A.6**

*Comparison of Continuous STPP and Study Design Characteristics by IPD Availability*

| Variable | IPD available | | IPD unavailable | | *t* | df | *p* | 95% CI |
|---|---|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | | | | |
| Age | 40.08 | 6.87 | 34.10 | 1.83 | 1.172 | 8 | .275 | -5.79 to 17.76 |
| % Women | 78.38 | 15.43 | 100 | 0 | -1.906 | 10 | .086 | -46.89 to 3.65 |
| Baseline BDI | 27.82 | 3.69 | 25.32 | 3.27 | .806 | 4 | .466 | -6.13 to 11.15 |
| *N* Sessions | 14.56 | 4.89 | 9.00 | 4.24 | 1.495 | 11 | .163 | -2.62 to 13.73 |

*Note*. IPD = Individual participant data; BDI = Beck's Depression Inventory.

Means and standard deviations used in the analyses are of the STPP conditions only.

Statistical significance ($p < .05$) marked by bold printed numbers.

**Table A.7**

*Treatment Effects of STPP for Depression Compared to Control Conditions on Post-Treatment Depressive Symptoms in Each of the Included Studies*

| Study | *N* | *d* | 95% CI | *p* |
|---|---|---|---|---|
| Ajilchi et al., 2013 | 32 | -0.98 | -1.48 to -0.48 | <.001 |
| Barber et al., 2012 | 101 | 0.19 | -0.29 to 0.67 | .440 |
| Beutel et al., 2014 | 157 | -0.70 | -1.04 to -0.36 | <.001 |
| Connolly Gibbons et al., 2012 | 40 | -0.04 | -0.75 to 0.67 | .916 |
| Cooper et al., 2003 | 98 | -0.55 | -0.91 to -0.19 | .003 |
| Fonagy et al., 2019 | 127 | -0.65 | -1.01 to -0.28 | <.001 |
| Johansson et al., 2012 | 92 | -1.00 | -1.37 to -0.62 | <.001 |
| Lemma & Fonagy, 2013 | 24 | 0.06 | -0.89 to 1.02 | .896 |
| López Rodríguez et al., 2004 | 20 | -1.94 | -2.57 to -1.31 | <.001 |
| Maina et al., 2005 | 20 | 0.18 | -0.54 to 0.90 | .628 |
| Town et al., 2017 | 60 | -0.67 | -1.14 to -0.19 | .006 |

*Note*. Negative effect sizes indicate a superiority of STPP over control conditions. Effect size estimates were calculated with two-level (participant, time points) mixed-effects models, with a random intercept for participants and fixed slopes, using z-scores as outcome. Due to differences in the statistical approaches these effect sizes might differ from those reported in the original publications.

**Table A.8**

*Sensitivity Analyses: Treatment Effects of STPP for Depression Compared to Control Conditions at Post-Treatment and Follow-Up*

| Assessment moment | Outcome | *k* | *N* | *d* | 95% CI | *p* | $I^2$ |
|---|---|---|---|---|---|---|---|
| Post-treatment | Depression | 11 | 771 | -0.62 | -0.76 to -0.47 | <.001 | 0 |
| | Low RoB studies only | 5 | 465 | -0.49 | -0.69 to -0.30 | <.001 | 0 |
| | Excluding outlier study | 10 | 751 | -0.57 | -0.71 to -0.42 | <.001 | 0 |
| | RoB as covariates | 11 | 771 | -0.62 | -0.76 to -0.47 | <.001 | 0 |
| | STPP characteristics covariate | 11 | 771 | -0.62 | -0.76 to -0.47 | <.001 | 0 |
| | Study characteristics covariate | 11 | 771 | -0.62 | -0.76 to -0.47 | <.001 | 0 |
| | Anxiety | 7 | 546 | -0.29 | -0.45 to -0.12 | <.001 | 0 |
| | Low RoB studies only | 5 | 430 | -0.28 | -0.48 to -0.09 | .005 | 0 |
| | RoB as covariates | 7 | 546 | -0.29 | -0.45 to -0.12 | <.001 | 0 |
| | STPP characteristics covariate | 7 | 546 | -0.29 | -0.46 to -0.12 | <.001 | 0 |
| | Study characteristics covariate | 7 | 546 | -0.29 | -0.46 to -0.12 | <.001 | 0 |
| | General Psychopathology | 6 | 462 | -0.38 | -0.59 to -0.17 | <.001 | 0 |
| | Low RoB studies only | 5 | 422 | -0.40 | -0.62 to -0.18 | <.001 | 0 |
| | RoB as covariates | 6 | 462 | -0.38 | -0.59 to -0.17 | <.001 | 0 |
| | STPP characteristics covariate | 6 | 462 | -0.38 | -0.59 to -0.17 | <.001 | 0 |
| | Study characteristics covariate | 6 | 462 | -0.38 | -0.59 to -0.17 | <.001 | 0 |
| | Interpersonal Problems | 4 | 321 | -0.21 | -0.44 to 0.01 | .062 | 0 |
| | Low RoB studies only | 3 | 281 | -0.21 | -0.44 to 0.03 | .083 | 0 |

| Assessment moment | Outcome | *k* | *N* | *d* | 95% CI | *p* | $I^2$ |
|---|---|---|---|---|---|---|---|
| | RoB as covariates | 4 | 321 | -0.21 | -0.44 to 0.01 | .062 | 0 |
| | STPP characteristics covariate | 4 | 321 | -0.21 | -0.44 to 0.01 | .060 | 0 |
| | Study characteristics covariate | 4 | 321 | -0.21 | -0.44 to 0.01 | .060 | 0 |
| | Quality of Life | 4 | 451 | 0.44 | 0.23 to 0.64 | <.001 | 0 |
| | Low RoB studies only | 3 | 359 | 0.43 | 0.18 to 0.68 | <.001 | 0 |
| | RoB as covariates | 4 | 451 | 0.44 | 0.23 to 0.64 | <.001 | 0 |
| | STPP characteristics covariate | 4 | 451 | 0.44 | 0.24 to 0.64 | <.001 | 0 |
| | Study characteristics covariate | 4 | 451 | 0.44 | 0.23 to 0.64 | <.001 | 0 |
| | Physical Health | 2 | 156 | -0.01 | -0.35 to 0.33 | .933 | 0 |
| | Low RoB studies only | 2 | 156 | -0.01 | -0.35 to 0.33 | .933 | 0 |
| | RoB as covariates | 2 | 156 | -0.01 | -0.35 to 0.33 | .933 | 0 |
| | STPP characteristics covariate | 2 | 156 | -0.02 | -0.35 to 0.32 | .929 | 0 |
| | Study characteristics covariate | 2 | 156 | -0.02 | -0.35 to 0.33 | .929 | 0 |
| Follow-up | Depression | 9 | 707 | -0.21 | -0.38 to -0.05 | .011 | 0 |
| | Low RoB studies only | 5 | 465 | -0.06 | -0.29 to 0.17 | .602 | 0 |
| | Excluding outlier study | 8 | 687 | -0.13 | -0.30 to 0.04 | .119 | 0 |
| | RoB as covariates | 9 | 707 | -0.21 | -0.38 to -0.05 | .011 | 0 |
| | STPP characteristics covariate | 9 | 707 | -0.21 | -0.38 to -0.05 | .011 | 0 |
| | Study characteristics covariate | 9 | 707 | -0.21 | -0.38 to -0.05 | .011 | 0 |
| | Anxiety | 5 | 437 | -0.04 | -0.23 to 0.16 | .708 | 0 |

| Assessment moment | Outcome | *k* | *N* | *d* | 95% CI | *p* | $I^2$ |
|---|---|---|---|---|---|---|---|
| | Low RoB studies only | 4 | 345 | -0.01 | -0.24 to 0.22 | .924 | 0 |
| | RoB as covariates | 5 | 437 | -0.04 | -0.23 to 0.16 | .701 | 0 |
| | STPP characteristics covariate | 5 | 437 | -0.04 | -0.23 to 0.16 | .701 | 0 |
| | Study characteristics covariate | 5 | 437 | -0.04 | -0.23 to 0.16 | .701 | 0 |
| | General Psychopathology | 4 | 335 | -0.14 | -0.40 to 0.11 | .264 | 0 |
| | Low RoB studies only | 4 | 335 | -0.14 | -0.40 to 0.11 | .264 | 0 |
| | RoB as covariates | 4 | 335 | -0.14 | -0.40 to 0.11 | .264 | 0 |
| | STPP characteristics covariate | 4 | 335 | -0.15 | -0.40 to 0.11 | .261 | 0 |
| | Study characteristics covariate | 4 | 335 | -0.15 | -0.40 to 0.11 | .261 | 0 |
| | Quality of Life | 3 | 359 | 0.09 | -0.14 to 0.33 | .438 | 0 |
| | Low RoB studies only | 2 | 267 | 0.06 | -0.24 to 0.37 | .682 | 0 |
| | RoB as covariates | 3 | 359 | 0.09 | -0.14 to 0.33 | .438 | 0 |
| | STPP characteristics covariate | 3 | 359 | 0.09 | -0.14 to 0.33 | .433 | 0 |
| | Study characteristics covariate | 3 | 359 | 0.09 | -0.14 to 0.33 | .438 | 0 |

*Note*. RoB = Risk of bias items; STPP = Short-term psychodynamic psychotherapy.

Negative effect sizes indicate a superiority of STPP over control conditions, except for Quality of Life where positive effect sizes indicate superiority of STPP over control conditions.

**Table A.9**

*Meta-Regression and Conventional Meta-Analysis Subgroup Analyses Examining Post-Treatment Depression Effect Size as a Function of Study-Level Characteristics*

| Therapy characteristic | *k* | | | β | 95%CI | *p* |
|---|---|---|---|---|---|---|
| Number of STPP sessions | 11 | | | | | |
| Intercept | | | | -0.32 | -1.58 to 0.94 | .623 |
| Slope | | | | -0.02 | -0.10 to 0.06 | .667 |
| | *k* | *Q* | df | *d* | 95%CI | *p* |
| STPP format | 11 | 0.00 | 1 | | | 972 |
| Individual | 9 | | | -0.58 | -0.98 to -0.18 | .004 |
| Online | 2 | | | -0.56 | -1.58 to 0.46 | .282 |
| Control Condition | 11 | 0.24 | 4 | | | .994 |
| Non-specific | 2 | | | -0.56 | -1.58 to 0.46 | .282 |
| Low-intensity treatment | 1 | | | -0.65 | -1.01 to -0.28 | <.001 |
| Pill-placebo | 2 | | | -0.86 | -2.95 to 1.22 | .417 |
| Treatment-as-usual | 4 | | | -0.58 | -0.79 to -0.38 | <.001 |
| Waitlist | 2 | | | -0.43 | -1.56 to 0.70 | .456 |

*Note.* STPP = Short-term psychodynamic psychotherapy.

Negative effect sizes indicate a superiority of STPP over control conditions.

**Table A.10**

*Cohen's* d *Effect Sizes on Depressive Symptom Measures of STPP Versus Control Conditions for the Different Patient Moderator Levels – Sensitivity Analyses*

| Moderator estimates per time point | *k* | *N* | *d* | 95% CI | *p* |
|---|---|---|---|---|---|
| Post-treatment | 2 | 145 | | | |
| Average | | | -0.13 | -0.49 to 0.24 | .498 |
| Episode duration per month increase | | | **-0.006** | **-0.01 to -0.001** | **.013** |
| Age of onset per year increase | | | 0.03 | -0.01 to 0.06 | .149 |
| Follow-up [a] | 2 | 145 | | | |
| Average | | | -0.01 | -0.56 to 0.53 | .962 |
| Episode duration per month increase | | | -0.005 | -0.01 to 0.001 | .096 |
| Age of onset per year increase | | | 0.05 | -0.01 to 0.10 | .093 |

*Note*. [a] Episode duration was not a significant moderator at follow-up, however, since it did confound the moderation effect of age of onset at post-treatment it was also modeled together with age of onset at follow-up.

Negative effect sizes indicate a superiority of STPP compared to control conditions.

Statistical significance ($p < .05$) of the time-by-moderator-by-treatment 3-way interaction is marked by bold printed numbers.

For continuous moderators, significance of the "Per … increase" indicates the added effect of each unit increase in baseline values, while "Average" reflects the treatment effect for participants who score at the average of the study sample

**Table A.11**

*Cohen's* d *Effect Sizes on Depressive Symptom Measures of STPP Versus Control Conditions for the Different Patient Moderator Levels – Sensitivity Analyses*

| Moderator | *k* | *N* | *d* | 95% CI | *p* |
|---|---|---|---|---|---|
| Age of onset (post-treatment) | | | | | |
| Low RoB studies only | 3 | 165 | | | |
| Average | | | -0.17 | -0.48 to 0.15 | .304 |
| Per year increase | | | **0.03** | **0.01 to 0.05** | **.013** |
| RoB as covariates [a] | 3 | 165 | | | |
| Average | | | - | - | - |
| Per year increase | | | - | - | - |
| STPP characteristics covariate | 3 | 165 | | | |
| Average | | | -0.16 | -0.47 to 0.14 | .306 |
| Per year increase | | | **0.03** | **0.01 to 0.05** | **.017** |
| Study characteristics covariate | 3 | 165 | | | |
| Average | | | -0.16 | -0.47 to 0.15 | .306 |
| Per year increase | | | **0.03** | **0.01 to 0.05** | **.017** |
| Length of current depressive episode (post-treatment) | | | | | |
| Low RoB studies only | 2 | 150 | | | |
| Average | | | -0.17 | -0.51 to 0.19 | .353 |

| | | | | | |
|---|---|---|---|---|---|
| Per year increase | | | **-0.006** | **-0.01 to -0.001** | **.023** |
| RoB as covariates [a] | 2 | 150 | | | |
| Average | | | - | - | - |
| Per year increase | | | - | - | - |
| STPP characteristics covariate | 2 | 150 | | | |
| Average | | | -0.17 | -0.51 to 0.19 | .354 |
| Per year increase | | | **-0.006** | **-0.01 to -0.001** | **.023** |
| Study characteristics covariate | 2 | 150 | | | |
| Average | | | -0.17 | -0.51 to 0.19 | .354 |
| Per year increase | | | **-0.006** | **-0.01 to -0.001** | **.023** |
| Age of onset (follow-up) | | | | | |
| Low RoB studies only | 3 | 165 | | | |
| Average | | | -0.20 | -0.61 to 0.22 | .346 |
| Per SD increase | | | **0.03** | **0.003 to 0.06** | **.030** |
| RoB as covariates [a] | 3 | 165 | | | |
| Average | | | - | - | - |
| Per SD increase | | | - | - | - |
| STPP characteristics covariate | 3 | 165 | | | |
| Average | | | -0.19 | -0.60 to 0.22 | .359 |
| Per SD increase | | | **0.03** | **0.003 to 0.06** | **.033** |
| Study characteristics covariate | 3 | 165 | | | |

| | | | |
|---|---|---|---|
| Average | -0.19 | -0.60 to 0.22 | .359 |
| Per SD increase | **0.03** | **0.003 to 0.06** | **.033** |

*Note*. RoB = Risk of bias items.

[a] Studies did not differ regarding their risk of bias items scores and could therefore not be compared against them.

Negative effect sizes indicate a superiority of STPP compared to control conditions.

Statistical significance ($p < .05$) of the time-by-moderator-by-treatment 3-way interaction is marked by bold printed numbers.

For continuous moderators, significance of the "Per … increase" indicates the added effect of each unit increase in baseline values, while "Average" reflects the treatment effect for participants who score at the average of the study sample

**PRISMA-IPD Checklist of items to include when reporting a systematic review and meta-analysis of individual participant data (IPD)**

| PRISMA-IPD Section/topic | Item No | Checklist item | Reported on page |
|---|---|---|---|
| Title | | | |
| Title | 1 | Identify the report as a systematic review and meta-analysis of individual participant data. | 1 |
| Abstract | | | |
| Structured summary | 2 | Provide a structured summary including as applicable: | 4 |
| | | Background: state research question and main objectives, with information on participants, interventions, comparators and outcomes. | |
| | | Methods: report eligibility criteria; data sources including dates of last bibliographic search or elicitation, noting that IPD were sought; methods of assessing risk of bias. | |
| | | Results: provide number and type of studies and participants identified and number (%) obtained; summary effect estimates for main outcomes (benefits and harms) with confidence intervals and measures of statistical heterogeneity. Describe the direction and size of summary effects in terms meaningful to those who would put findings into practice. | |
| | | Discussion: state main strengths and limitations of the evidence, general interpretation of the results and any important implications. | |
| | | Other: report primary funding source, registration number and registry name for the systematic review and IPD meta-analysis. | |
| Introduction | | | |
| Rationale | 3 | Describe the rationale for the review in the context of what is already known. | 5-6 |
| Objectives | 4 | Provide an explicit statement of the questions being addressed with reference, as applicable, to participants, interventions, comparisons, outcomes and study design (PICOS). Include any hypotheses that relate to particular types of participant-level subgroups. | 6 |
| Methods | | | |

| | | | |
|---|---|---|---|
| Protocol and registration | 5 | Indicate if a protocol exists and where it can be accessed. If available, provide registration information including registration number and registry name. Provide publication details, if applicable. | 6 |
| Eligibility criteria | 6 | Specify inclusion and exclusion criteria including those relating to participants, interventions, comparisons, outcomes, study design and characteristics (e.g. years when conducted, required minimum follow-up). Note whether these were applied at the study or individual level i.e. whether eligible participants were included (and ineligible participants excluded) from a study that included a wider population than specified by the review inclusion criteria. The rationale for criteria should be stated. | 7 |
| Identifying studies - information sources | 7 | Describe all methods of identifying published and unpublished studies including, as applicable: which bibliographic databases were searched with dates of coverage; details of any hand searching including of conference proceedings; use of study registers and agency or company databases; contact with the original research team and experts in the field; open adverts and surveys. Give the date of last search or elicitation. | 7 |
| Identifying studies - search | 8 | Present the full electronic search strategy for at least one database, including any limits used, such that it could be repeated. | Appendix Table A.1 |
| Study selection processes | 9 | State the process for determining which studies were eligible for inclusion. | 7-8 |
| Data collection processes | 10 | Describe how IPD were requested, collected and managed, including any processes for querying and confirming data with investigators. If IPD were not sought from any eligible study, the reason for this should be stated (for each such study). | 8 |
| | | If applicable, describe how any studies for which IPD were not available were dealt with. This should include whether, how and what aggregate data were sought or extracted from study reports and publications (such as extracting data independently in duplicate) and any processes for obtaining and confirming these data with investigators. | |
| Data items | 11 | Describe how the information and variables to be collected were chosen. List and define all study level and participant level data that were sought, including baseline and follow-up information. If applicable, describe methods of standardizing or translating variables within the IPD datasets to ensure common scales or measurements across studies. | 8 |

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| IPD integrity | A1 | Describe what aspects of IPD were subject to data checking (such as sequence generation, data consistency and completeness, baseline imbalance) and how this was done. | 8 |
| Risk of bias assessment in individual studies. | 12 | Describe methods used to assess risk of bias in the individual studies and whether this was applied separately for each outcome. If applicable, describe how findings of IPD checking were used to inform the assessment. Report if and how risk of bias assessment was used in any data synthesis. | 8-9 |
| Specification of outcomes and effect measures | 13 | State all treatment comparisons of interests. State all outcomes addressed and define them in detail. State whether they were pre-specified for the review and, if applicable, whether they were primary/main or secondary/additional outcomes. Give the principal measures of effect (such as risk ratio, hazard ratio, difference in means) used for each outcome. | 8 |
| Synthesis methods | 14 | Describe the meta-analysis methods used to synthesise IPD. Specify any statistical methods and models used. Issues should include (but are not restricted to):<br>• Use of a one-stage or two-stage approach.<br>• How effect estimates were generated separately within each study and combined across studies (where applicable).<br>• Specification of one-stage models (where applicable) including how clustering of patients within studies was accounted for.<br>• Use of fixed or random effects models and any other model assumptions, such as proportional hazards.<br>• How (summary) survival curves were generated (where applicable).<br>• Methods for quantifying statistical heterogeneity (such as $I^2$ and $\tau^2$).<br>• How studies providing IPD and not providing IPD were analysed together (where applicable).<br>• How missing data within the IPD were dealt with (where applicable). | 9-11 |
| Exploration of variation in effects | A2 | If applicable, describe any methods used to explore variation in effects by study or participant level characteristics (such as estimation of interactions between effect and covariates). State all participant-level characteristics that were analysed as potential effect modifiers, and whether these were pre-specified. | 9-10 |
| Risk of bias across studies | 15 | Specify any assessment of risk of bias relating to the accumulated body of evidence, including any pertaining to not obtaining IPD for particular studies, outcomes or other variables. | 10-11 |

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| Additional analyses | 16 | Describe methods of any additional analyses, including sensitivity analyses. State which of these were pre-specified. | 10 |
| Results | | | |
| Study selection and IPD obtained | 17 | Give numbers of studies screened, assessed for eligibility, and included in the systematic review with reasons for exclusions at each stage. Indicate the number of studies and participants for which IPD were sought and for which IPD were obtained. For those studies where IPD were not available, give the numbers of studies and participants for which aggregate data were available. Report reasons for non-availability of IPD. Include a flow diagram. | 11 |
| Study characteristics | 18 | For each study, present information on key study and participant characteristics (such as description of interventions, numbers of participants, demographic data, unavailability of outcomes, funding source, and if applicable duration of follow-up). Provide (main) citations for each study. Where applicable, also report similar study characteristics for any studies not providing IPD. | 10-11, Table 1 |
| IPD integrity | A3 | Report any important issues identified in checking IPD or state that there were none. | 8 |
| Risk of bias within studies | 19 | Present data on risk of bias assessments. If applicable, describe whether data checking led to the up-weighting or down-weighting of these assessments. Consider how any potential bias impacts on the robustness of meta-analysis conclusions. | 11-12 |
| Results of individual studies | 20 | For each comparison and for each main outcome (benefit or harm), for each individual study report the number of eligible participants for which data were obtained and show simple summary data for each intervention group (including, where applicable, the number of events), effect estimates and confidence intervals. These may be tabulated or included on a forest plot. | Appendix Figure A.1 & Table A.7 |
| Results of syntheses | 21 | Present summary effects for each meta-analysis undertaken, including confidence intervals and measures of statistical heterogeneity. State whether the analysis was pre-specified, and report the numbers of studies and participants and, where applicable, the number of events on which it is based. | 12-13, Table 3, Appendi |
| | | When exploring variation in effects due to patient or study characteristics, present summary interaction estimates for each characteristic examined, including confidence intervals and measures of statistical | |

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| | | heterogeneity. State whether the analysis was pre-specified. State whether any interaction is consistent across trials. | x Table A.8 |
| | | Provide a description of the direction and size of effect in terms meaningful to those who would put findings into practice. | |
| Risk of bias across studies | 22 | Present results of any assessment of risk of bias relating to the accumulated body of evidence, including any pertaining to the availability and representativeness of available studies, outcomes or other variables. | 11-12, Appendix Figure A.2, Appendix Table A.11 |
| Additional analyses | 23 | Give results of any additional analyses (e.g. sensitivity analyses). If applicable, this should also include any analyses that incorporate aggregate data for studies that do not have IPD. If applicable, summarise the main meta-analysis results following the inclusion or exclusion of studies for which IPD were not available. | Appendix Table 5 & 6 |
| Discussion | | | |
| Summary of evidence | 24 | Summarise the main findings, including the strength of evidence for each main outcome. | 14 |
| Strengths and limitations | 25 | Discuss any important strengths and limitations of the evidence including the benefits of access to IPD and any limitations arising from IPD that were not available. | 15-17 |
| Conclusions | 26 | Provide a general interpretation of the findings in the context of other evidence. | 14-15 |
| Implications | A4 | Consider relevance to key groups (such as policy makers, service providers and service users). Consider implications for future research. | 17-18 |
| Funding | | | |
| Funding | 27 | Describe sources of funding and other support (such as supply of IPD), and the role in the systematic review of those providing such support. | Included in statemen |

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A1 – A3 denote new items that are additional to standard PRISMA items. A4 has been created as a result of re-arranging content of the standard PRISMA statement to suit the way that systematic review IPD meta-analyses are reported.