Efficacy and Moderators of Short-Term Psychodynamic Psychotherapy for Depression: A Systematic Review and Meta-Analysis of Individual Participant Data

Frederik J. Wienicke[a]*, Manfred E. Beutel[b], Rüdiger Zwerenz[b], Elmar Brähler[b,c], Peter Fonagy[d], Patrick Luyten[d,e], Matthew Constantinou[d], Jacques P. Barber[f], Kevin S. McCarthy[g,h], Nili Solomonov[i], Peter J. Cooper[j], Leonardo De Pascalis[k,l], Robert Johansson[m], Gerhard Andersson[n,o], Alessandra Lemma[p], Joel M. Town[q], Allan A. Abbass[q], Bita Ajilchi[r], Mary Beth Connolly Gibbons[h], Jaime López-Rodríguez[s], Valerio Villamil-Salcedo[s], Giuseppe Maina[t,u], Gianluca Rosso[t,u], Jos W. R. Twisk[v], William J. Burk[w], Jan Spijker[a, x], Pim Cuijpers[y] †, Ellen Driessen[a, x] †

[a] Department of Clinical Psychology, Behavioural Science Institute, Radboud University, Nijmegen, Netherlands

[b] Department of Psychosomatic Medicine and Psychotherapy, University Medical Center, Johannes Gutenberg University Mainz, Mainz, Germany

[c] Integrated Research and Treatment Center Adiposity Diseases, Behavioral Medicine Research Unit, Department of Psychosomatic Medicine and Psychotherapy, University of Leipzig Medical Center, Leipzig, Germany

[d] Department of Clinical, Educational and Health Psychology, University College London, London, UK

[e] Faculty of Psychology and Educational Sciences, University of Leuven, Leuven, Belgium

[f] Gordon F. Derner School of Psychology, Adelphi University, Garden City, NY, USA

[g] Department of Psychology, Chestnut Hill College, Philadelphia, PA, USA

[h] Department of Psychiatry, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, USA

[i] Weill Cornell Institute of Geriatric Psychiatry, Weill Cornell Medicine, New York, NY, USA

[j] School of Psychology and Clinical Language Science, University of Reading, Reading, UK

[k] Department of Psychological Science, University of Liverpool, Liverpool, UK

[l] Department of Psychology, University of Bologna, Bologna, Italy

[m] Department of Psychology, Stockholm University, Stockholm, Sweden

[n] Department of Behavioural Sciences and Learning, Department of Biomedical and Clinical Sciences, Linköping University, Linköping, Sweden

[o] Department of Clinical Neuroscience, Karolinska Institute, Stockholm, Sweden

[p] Anna Freud National Center for Children and Families, London, UK

[q] Center for Emotions & Health, Dalhousie University, Halifax, Nova Scotia, Canada

[r] Department of Psychology, Faculty of Human Science, Science and Research Branch, Islamic Azad University, Tehran, Iran

[s] National Institute of Psychiatry, Mexico City, Mexico

[t] Department of Neuroscience “Rita Levi Montalcini”, University of Turin, Turin, Italy

[u] Psychiatric Unit, San Luigi Gonzaga University Hospital, Orbassano, Turin, Italy

[v] Department of Epidemiology and Data Science, Amsterdam University Medical Center, Amsterdam, Netherlands

[w] Department of Developmental Psychology, Behavioural Science Institute, Radboud University, Nijmegen, Netherlands

[x] Depression Expertise Center, Pro Persona Mental Health Care, Nijmegen, Netherlands

[y] Department of Clinical, Neuro- and Developmental Psychology, Amsterdam Public Health Research Institute, Vrije Universiteit Amsterdam, Amsterdam, Netherlands

† Joint last authorship

* Corresponding author at:

Department of Clinical Psychology, Behavioural Science Institute, Radboud University, Thomas van Aquinostraat 4, 6525 GD Nijmegen, Netherlands.

Telephone: +31 (0) 24 361 10 92, E-Mail: fritz.wienicke@ru.nl (F. J. Wienicke)

Abstract

Background: Short-term psychodynamic psychotherapy (STPP) is frequently used to treat depression, but it is unclear which patients might benefit specifically. Individual participant data (IPD) meta-analyses can provide more precise effect estimates than conventional meta-analyses and identify patient-level moderators. This IPD meta-analysis examined the efficacy and moderators of STPP for depression compared to control conditions.

Methods: PubMed, PsycInfo, Embase, and Cochrane Library were searched January 1st, 2022, to identify randomized trials comparing STPP to control conditions for adults with depression. IPD were requested and analyzed using mixed-effects models.

Results: IPD were obtained from 11 of the 13 (84.6%) studies identified (n = 771/837, 92.1%). STPP resulted in significantly lower levels of depressive symptom than control conditions at post-treatment (d = -0.62) and follow-up (d = -0.21). STPP was more efficacious for participants with high rather than low baseline depression levels at both post-treatment and follow-up. Age of depression onset was significantly associated with STPP efficacy at post-treatment, such that participants with younger ages of onset benefitted most.

Conclusions: These results support the evidence-base of STPP for depression and indicate baseline severity and age of onset as effect modifiers. Future large-scale trials are needed to prospectively test these moderators.

Keywords: Depression, Efficacy, Outcome, Moderators, Short-Term Psychodynamic Psychotherapy, Individual Participant Data Meta-Analysis

Efficacy and Moderators of Short-Term Psychodynamic Psychotherapy for Depression: A Systematic Review and Meta-Analysis of Individual Participant Data

Affecting more than 264 million adults globally, depression is one of the most prevalent mental disorders (James et al., 2018). Associated with decreased quality of life (Bromet et al., 2011), loss of workforce (Stewart et al., 2003), increased mortality (Cuijpers et al., 2014), and elevated health care costs (Greenberg et al., 2015), depression ranks as the leading cause of disability worldwide (World Health Organization, 2017). While antidepressant medications are most often used to treat depression, many patients prefer psychotherapy (Van Schaik et al., 2004). Next to cognitive behavioral therapy (CBT), short-term psychodynamic psychotherapy (STPP) is a frequently used treatment for depression in clinical practice (Norcross & Rogan, 2013). With two exceptions (Barth et al., 2013; Cuijpers et al., 2021), conventional meta-analyses have found STPP to be superior to control conditions in reducing depressive symptoms (Abbass et al., 2014; Barber et al., 2013; Cuijpers et al., 2020; Driessen et al., 2015). Additionally, moderate to large effects of STPP relative to control conditions have been shown on measures of anxiety, general psychopathology, and quality of life (Driessen et al., 2015). Conventional meta-analyses, however, are limited by their dependence on the quality of study-level information reported in publications, which can lead to an overestimation of treatment effects (Tudur Smith et al., 2016).

Furthermore, there are indications that certain patients may benefit specifically from STPP for their depression, but research is scarce and replications have not yet been conducted (Barber et al., 2012). A conventional meta-analysis of STPP versus control conditions reported larger effect sizes in the subgroup of studies including patients with diagnosed mood disorders than in the subgroup of studies including patients with elevated depressive symptoms scores (Driessen et al., 2015). Moderation analyses alongside conventional meta-analyses, however, are prone to ecological bias, such that the association between study-level

characteristics and effect sizes might not be representative of the true relationships in the data at the individual level (Tudur Smith et al., 2016). Thus, it remains largely unclear which patients might benefit specifically from STPP for depression.

Individual participant data (IPD) meta-analysis is an alternative approach for evidence synthesis that gathers and pools participant-level data from all available studies. IPD meta-analyses have several advantages over conventional meta-analyses: data analysis methods can be standardized across studies, rare outcomes can be examined, results of primary studies can be verified, and data that were not reported in the original studies can be analyzed. Furthermore, IPD meta-analyses allow for examining potential moderators on the participant-level with increased statistical power due to larger sample sizes (Tudur Smith et al., 2016). Because of these advantages and the resulting increased precision of the effect estimates, IPD meta-analyses are considered the current "gold standard" in evidence synthesis (Stewart & Tierney, 2002).

This IPD meta-analysis examined the efficacy and moderators of STPP versus control conditions for adults with depression. More specifically, STPP and control conditions in randomized controlled trials (RCTs) were compared on measures of depression, anxiety, general psychopathology, interpersonal problems, quality of life, and physical health. Furthermore, several baseline participant characteristics were investigated as potential moderators of depressive symptom outcomes.

Methods

Design

This IPD meta-analysis is part of a larger project of which the protocol was published (Driessen et al., 2018) and registered at the PROSPERO International prospective register of systematic reviews (No. CRD42017056029).

Search Strategy

Relevant studies were identified via systematic literature searches in the online databases PubMed, PsycINFO, Embase.com, Web of Science, and Cochrane's Central Register of Controlled Trials. Additionally, databases of grey literature (GLIN) and digital dissertations (ProQuest), and a clinical trial register (ISRCTNR) were searched. The search strings comprised index and free-text terms with synonyms for "Psychodynamic Psychotherapy" and "Depression" (Appendix Table 1). Additionally, relevant studies were identified via references of STPP efficacy reviews, consultations with psychodynamic researchers, and the METAPSY database of randomized depression psychotherapy trials (https://evidencebasedpsychotherapies.shinyapps.io/metapsy/). These searches were performed on June 17th, 2017. More recent studies were identified via the METAPSY database, which is based on systematic searches in the online databases PubMed, PsycINFO, Embase.com, and Cochrane's Central Register of Controlled Trials. These searches were conducted on January 1st, 2022.

Study Selection

Relevant studies were RCTs comparing STPP with a control condition for adults with depression. Studies had to include at least 10 participants and report treatment outcomes on standardized measures. STPP needed to be time-limited *a priori*, based on psychoanalytic/psychodynamic theories, and delivered verbally. Control conditions comprised waitlist, psychoeducation, pill-placebo, and care-as-usual. Participants needed to be at least 18 years old with no upper age restriction. Depression was defined as meeting diagnostic criteria for a unipolar mood disorder or scoring above the 'no depression' cut-off on a standardized measure of depression.

Two raters independently applied the eligibility criteria to the study citations. Full-text papers were requested for studies that could not be definitely excluded and examined by two independent raters. Last, two expert STPP researcher-clinicians independently confirmed that

identified studies fulfilled the STPP criteria. Disagreement between raters was resolved by consensus. If consensus could not be reached a third rater was consulted.

Data Collection

Using a multi-step contact protocol (Driessen et al., 2018), anonymized IPD for all outcome and all potential moderator variables assessed in the studies were requested from the authors. If authors could not be reached after following the complete protocol, declined to share their data, or if IPD had not been retained, the study's data were considered unavailable.

Measures

The pre-specified primary outcome was post-treatment depressive symptoms, defined as the study's primary continuous depression measure assessed at the study's primary end point. Other pre-specified outcomes were post-treatment anxiety, quality of life, and interpersonal functioning (Driessen et al., 2018). Additional measures and follow-up outcomes were included if assessed in at least two studies. Outcomes were transformed into individual z-scores within study and time point if different instruments were used to assess them across studies (Appendix Table 2).

Variables qualified as potential moderators if they were measured before treatment start and were assessed in at least two studies. Pre-specified moderator categories were sociodemographic (e.g., age), clinical (e.g., previous treatment), and psychological (e.g., attachment style) participants characteristics. Continuous moderators were transformed into z-scores within study and categorical moderators were recoded into similar categories, if primary studies used different assessment methods (Appendix Table 3).

Data Integrity

It was checked whether the received IPD matched the data reported in the publications and whether outcome and moderator variables had out-of-range, invalid, or inconsistent scores. Discrepancies were resolved with the original authors, which occurred in five studies.

Risk-of-Bias Assessment

Using the Cochrane risk-of-bias tool for RCTs (Higgins et al., 2011), two independent raters assessed selection bias and detection bias based on the published articles and attrition bias based on the IPD. If necessary information was not reported in the publications, it was requested from the authors. Performance bias was not rated, as it is considered impossible to blind participants and therapists to treatment in psychotherapy research. Selective reporting bias was considered not applicable, as all outcome measures assessed were requested.

Data Analysis

One-stage IPD meta-analyses were conducted in MLwiN (version 3.05), using mixed model analyses with a three-level structure (study, participant, time points) and restricted maximum likelihood estimation. The approach described by Twisk and colleagues (20, equation 2c) was adopted to adequately account for baseline differences in outcome measures and because of its favorable properties of handling missing data. The normality of the residual distribution was checked with histograms and between-study heterogeneity was assessed with the I^2 statistic.

Treatment outcome models included a main effect for time and a time-by-treatment interaction, with a random intercept for study (to account for clustering of participants within studies), a random intercept for participants (to account for clustering of repeated measures within participants), and fixed slopes. A –2-log likelihood change evaluation was used to decide whether to include a random slope for the time-by-treatment interaction on study level. A p-value of $< .05$ for the time-by-treatment interaction's regression coefficient was considered an indication of a significant treatment effect. Effect sizes of ≤ 0.32 were considered small, 0.33-0.55 moderate, and ≥ 0.56 large (Lipsey & Wilson, 1993).

Moderator models included an additional moderator main effect and time-by-moderator-by-treatment 3-way interaction. A significant 3-way interaction after Bonferroni correction for multiple testing ($p < .002$, 21 tests) was considered an indication of a moderator effect. Because 3-way interactions require larger samples and more statistical power to show

significance and therefore have a heightened risk of type II errors (Heo & Leon, 2010), moderators with an associated *p*-value of < .05 were also reported, but interpreted with caution. Lastly, all statistically significant moderators were modeled simultaneously to test whether their effects were independent.

Several pre-specified sensitivity analyses were also performed to investigate the robustness of findings: a) risk of bias items, b) STPP characteristics, c) study design characteristics were added as covariates to the models, and d) analyses were repeated including only studies with low risk of bias scores on all criteria. Additionally, one post-hoc sensitivity analysis was conducted excluding one outlier study (López Rodríguez et al., 2004), which 95% confidence interval (CI) did not overlap with pooled treatment effect's 95% CI.

Data-availability bias was investigated by comparing studies for which IPD were and were not available regarding study characteristics and effect sizes using, respectively, SPSS (version 26.0.0.0) and Comprehensive Meta-Analysis (version 3.0). Effect sizes were calculated based on data extracted from publications or if not reported, were calculated from IPD, and analyzed with a random effects model. Publication bias was investigated by contour-enhanced funnel plots and Egger's test of the intercept using R (version 4.0.3) and the meta package (Balduzzi et al., 2019).

Results

Included Studies

The systematic literature search (Appendix Figure 1) resulted in 13 studies, totaling 837 participants. IPD were obtained for 11 studies (84.6%; 16,24–33) including 771 participants (92.1%). For the remaining two studies (15.4%; 34,35), which were both dissertations conducted more than 40 years ago, the authors indicated that IPD were no longer available.

Study characteristics are shown in Table 1. Ten studies (76.9%) investigated individual face-to-face STPP, one (7.7%) group STPP, and two (15.4%) online STPP. The

majority of studies (76.9%) included participants meeting DSM-IV or ICD-10 criteria for a unipolar mood disorder, although three studies (23.1%) included participants with elevated depressive symptom scores. While eleven studies (84.6%) investigated depressed adults in general, one study (7.7%) researched women with post-partum depression and one (7.7%) investigated women with breast cancer and depression. The studies included 20 to 157 participants and STPP consisted of 6 to 20 sessions. Nine studies (69.2%) conducted follow-up assessments, ranging from 5.5 months to 2 years.

Mean age of the 771 participants for which IPD were available was 40.8 years (*SD* = 13.3), and 592 participants (79.3%) were female. In total, 397 (51.5%) participants received STPP and 374 (48.5%) were in a control condition.

Bias Assessments

The risk of bias assessment is presented in Table 2. While all studies applied adequate random sequence generation, one study (9.1%) did not employ adequate allocation concealment procedures, four studies (36.4%) did not blind outcome assessors to treatment condition, and three studies (27.3%) did not retain the complete intention-to-treat data. Five studies (45.5%) were rated as low risk of bias on all criteria assessed.

The data-availability bias analysis showed no significant effect size differences between studies for which IPD were available (d = -0.595, 95%CI [-0.869, -0.322]) and were not available (d = -1.186, 95%CI [-0.280, 2.652]; Q = 0.603, p = .437). Studies that did not contribute IPD were more likely to be dissertations (χ^2 (1, N = 13) = 11.16, p <.001), but did not differ from studies for which IPD were available on any other sample or study characteristic (Appendix Tables 5 and 6).

Visual inspection of the contour-enhanced funnel plot (Figure 1) showed some degree of asymmetry, which appeared to be driven by one outlier study (López Rodríguez et al., 2004). However, Egger's test of the intercept indicated this asymmetry to be non-significant

(β_0 = -0.032, *SE* = 0.413, *p* = .080). Excluding the outlier study, Egger's test of the intercept was not statistically significant (β_0 = 0.611, *SE* = 0.399, *p* = .851).

Treatment Outcomes

Results of all treatment outcome analyses are summarized in Table 3 (for results of the individual studies see Appendix Table 7). At post-treatment, STPP was significantly more efficacious than control conditions on measures of depression (*d* = -0.62, 95%CI [-0.76, -0.47], *p* <.001), anxiety (*d* = -0.29, 95%CI [-0.45, -0.12], *p* <.001), general psychopathology (*d* = -0.38, 95%CI [-0.59, -0.17], *p* <.001), and quality of life (*d* = 0.44, 95%CI [0.23, 0.64], *p* <.001). No significant treatment effects were found for post-treatment measures of interpersonal problems (*d* = -0.21, 95%CI [-0.44, 0.01], *p* = .062) and physical health (*d* = -0.01, 95%CI [-0.35, 0.33], *p* = .933). At follow-up, STPP was again superior to control conditions on depression outcomes (*d* = -0.21, 95%CI [-0.38, -0.05], *p* = .011), but not more efficacious than control conditions regarding measures of anxiety (*d* = -0.04, 95%CI [-0.23, 0.16], *p* = .708), general psychopathology (*d* = -0.14, 95%CI [-0.40, 0.11], *p* = .264) or quality of life (*d* = 0.09, 95%CI [-0.14, 0.33], *p* = .438). No heterogeneity was present in these analyses (I^2 = 0%).

Adding the risk of bias items, STPP characteristics, and study design characteristics as covariates to the models did not change the pattern of results (Table 3). However, when repeating the analyses in low risk of bias studies only, STPP was no longer more efficacious than control conditions on follow-up measures of depression (*p* = .602).

Moderators

Table 4 shows the STPP versus control condition effect sizes across the different moderator levels. Baseline depression severity significantly moderated treatment effects, such that STPP was more efficacious for participants with high rather than low baseline depression levels at post-treatment (*d* = -0.45, 95%CI [-0.53, -0.37], *p* <.001) and follow-up (*d* = -0.46, 95%CI [-0.56, -0.36], *p* <.001). Furthermore, age of depression onset moderated depressive

symptoms at post-treatment, such that STPP was more efficacious relative to control conditions for participants with younger rather than older ages of depression onset (d = 0.02, 95%CI [0.003, 0.04], p = .021).

None of the sensitivity analyses changed this pattern of findings (Appendix Table 8). When modeled simultaneously (k = 3, N = 165), both baseline depressive symptoms (d = -0.30, 95%CI [-0.48, -0.13], p <.001) and age of onset (d = 0.03, 95%CI [0.01, 0.04], p <.001) remained significant moderators of post-treatment depressive symptoms indicating that effects are independent.

Discussion

This systematic review and IPD meta-analysis examined the efficacy of STPP for adults with depression compared to control conditions and investigated moderators of treatment effects. STPP was more efficacious than control conditions on post-treatment measures of depression, anxiety, general psychopathology, and quality of life, as well as on follow-up measures of depression. Baseline severity and age of onset moderated depression treatment effects, such that STPP was more efficacious for participants with higher baseline depression severity and earlier age of depression onset.

Previous conventional meta-analyses also found STPP superior to control conditions on post-treatment measures of depression, anxiety, general psychopathology, and quality of life, but reported larger effect sizes (Abbass et al., 2014; Barber et al., 2013; Cuijpers et al., 2020; Driessen et al., 2015). This discrepancy might be explained by the current study working with IPD. This allowed for conducting intention-to-treat analyses for a larger proportion of trials, which have been shown to produce more conservative effect size estimates compared to per-protocol analyses (Tudur Smith et al., 2016). Additionally, the current study included a smaller proportion of studies with waitlist conditions than previous meta-analyses (Abbass et al., 2014; Driessen et al., 2015), which have been associated with increased treatment effects relative to care-as-usual controls (Cuijpers et al., 2013). For these

reasons, the effects reported in this study, albeit smaller, might be considered more valid estimates of STPP for depression's efficacy.

The superiority of STPP on depressive symptom measures at follow-up was not replicated in low risk of bias studies, nor were follow-up effects found on any of the other outcome measures. These results are in line with a previous meta-analysis that did not find STPP more efficacious in reducing depressive symptoms at follow-up compared to control conditions (Abbass et al., 2014). Null findings may be explained by differences in follow-up lengths of primary studies, which potentially confound effect sizes if treatment effects change or deteriorate as a function of time passed (Cuijpers et al., 2013). Alternatively, the inability to control for additional treatment in the follow-up period might have diminished treatment effects.

Moderator analyses revealed that STPP was particularly efficacious relative to control conditions for participants with higher baseline depressive symptom levels. Baseline depression robustly moderated outcomes across time points and sensitivity analyses. Similar findings have been reported for antidepressants (Fournier et al., 2010) and psychotherapy in general (Driessen et al., 2010), but not for CBT (Furukawa et al., 2017). These findings have been taken to indicate that relative to low-severity patients, severely depressed patients require active treatments like STPP (Driessen et al., 2010), though this may not necessarily generalize to all forms of psychotherapy (e.g., CBT).

At post-treatment, STPP was also found particularly efficacious for individuals with younger age of onset. One explanation for this finding is that STPP focuses on early childhood experiences and developmental conflicts, which have been hypothesized to be an etiological factor of mental disorders (Kernberg, 2005). In patients with an older age of onset, other proximal factors (such as social isolation) might be more important contributors to the development of depression, while for patients with early ages of onset developmental factors

might contribute most, which STPP directly targets. Future studies will need to determine whether this finding is specific to STPP.

Strengths and Limitations

This study has two major strengths. First, IPD allowed for conducting intention-to-treat analyses for most studies, standardizing data analysis, and appropriately adjusting for baseline differences in all studies, and including a trial that was excluded from a previous meta-analysis because effect size data were not reported in the publication (Driessen et al., 2015). For these reasons, the current treatment effects estimates might be more reliable than those reported in past conventional meta-analyses. Second, IPD allowed for studying moderators on the participant-level with increased statistical power. To the authors' knowledge, this study is the first to investigate moderators across trials comparing STPP for depression to control conditions.

An important limitation of this study is its midsized sample (comprising predominantly middle-aged women), which was further reduced in analyses of secondary outcomes and clinical moderators due to trials not having assessed the relevant variables. For the same reason, not all potential moderators of interest could be examined (e.g., childhood trauma). While this study was adequately powered to identify baseline severity and age of onset as moderators, it might have been unable to identify weaker moderator relationships. Moreover, not all studies were free from selection, detection, and attrition bias, though the main findings appeared robust against controls for these risks of bias. Included studies also differed with regard to the STPP model used and follow-up length. Regardless of these differences, moderator effects could be identified in the combined studies' data. Another limitation is that IPD were not obtained for two studies, which differed systematically from the other included studies in being dissertations. However, as effect sizes did not differ significantly between studies for which IPD were and were not available, it is unlikely that the treatment effect estimates in this study were biased. Another important limitation is the

observational nature of the moderator findings. This means that the findings need validation in prospective trials before they can be used to guide treatment selection.

Clinical and Research Implications

The findings of the current study indicate that STPP is an efficacious treatment for depression, leading to a reduction in depression, anxiety and general psychopathology, and increased quality of life. Future research is needed to determine the lasting effects of these benefits over time. More severely depressed individuals appear to benefit specifically from STPP, as do individuals with earlier depression onset. However, the findings of this study cannot be taken to imply that such individuals should necessarily receive STPP, as this study does not speak to the effects of STPP versus other well-established depression treatments (e.g., CBT).

Given the limitations of this study, further research examining the efficacy of STPP for depression and moderators of treatment outcome is warranted. More specifically, there is a need for future large-scale rigorously conducted RCTs of STPP for depression compared to control conditions assessing a range of outcome measures at post-treatment, but particularly at follow-up. Additional help-seeking in the follow-up period should be routinely assessed to examine its potential effect on longer-term outcomes. Moreover, a broad range of patient characteristics should be assessed at baseline to facilitate further research of moderator effects. Such future studies and IPD meta-analyses may provide additional support for the evidence base of STPP and offer further insight into which individuals might benefit specifically from this frequently used depression treatment.

References

Abbass, A. A., Kisely, S. R., Town, J. M., Leichsenring, F., Driessen, E., De Maat, S., Gerber, A., Dekker, J., Rabung, S., Rusalovska, S., & Crowe, E. (2014). Short-term psychodynamic psychotherapies for common mental disorders. *Cochrane Database of Systematic Reviews*. https://doi.org/10.1002/14651858.CD004687.pub4

Ajilchi, B., Ahadi, H., Najati, V., & Delavar, A. (2013). The effectiveness of intensive short term dynamic psychotherapy in decrease of depression level. *European Journal of Experimental Biology*, *3*(2), 342–346.

Balduzzi, S., Rücker, G., & Schwarzer, G. (2019). How to perform a meta-analysis with R: a practical tutorial. *Evidence-Based Mental Health*, *22*(4), 153–160. https://doi.org/10.1136/EBMENTAL-2019-300117

Barber, J. P., Barrett, M. S., Gallop, R., Rynn, M. A., & Rickels, K. (2012). Short-term dynamic psychotherapy versus pharmacotherapy for major depressive disorder: A randomized, placebo-controlled trial. *Journal of Clinical Psychiatry*, *73*(1), 66–73. https://doi.org/10.4088/JCP.11m06831

Barber, J. P., Muran, J. C., Mccarthy, K., & Keefe, J. R. (2013). Research on psychodynamic therapies. In M. Lambert (Ed.), *Bergin and Garfield's handbook of psychotherapy and behavior change* (6th ed., pp. 443–494). John Wiley & Sons, Inc.

Barth, J., Munder, T., Gerger, H., Nüesch, E., Trelle, S., Znoj, H., Jüni, P., & Cuijpers, P. (2013). Comparative efficacy of seven psychotherapeutic interventions for patients with depression: A network meta-analysis. *PLoS Med*, *10*(5). https://doi.org/10.1371/journal.pmed.1001454

Beutel, M. E., Weissflog, G., Leuteritz, K., Wiltink, J., Haselbacher, A., Ruckes, C., Kuhnt, S., Barthel, Y., Imruck, B. H., Zwerenz, R., & Brähler, E. (2014). Efficacy of short-term

psychodynamic psychotherapy (STPP) with depressed breast cancer patients: Results of a randomized controlled multicenter trial. *Annals of Oncology*, *25*(2), 378–384. https://doi.org/10.1093/annonc/mdt526

Bromet, E., Andrade, L. H., Hwang, I., Sampson, N. A., Alonso, J., de Girolamo, G., de Graaf, R., Demyttenaere, K., Hu, C., Iwata, N., Karam, A. N., Kaur, J., Kostyuchenko, S., Lépine, J.-P., Levinson, D., Matschinger, H., Mora, M. E. M., Browne, M. O., Posada-Villa, J., … Kessler, R. C. (2011). Cross-national epidemiology of DSM-IV major depressive episode. *BMC Medicine*, *9*(1), 90. https://doi.org/10.1186/1741-7015-9-90

Carrington, C. H. (1979). *A comparison of cognitive and analytically oriented brief treatment approaches to depression in black women.* [Doctoral dissertation, University of Maryland].

Connolly Gibbons, M. B., Thompson, S. M., Scott, K., Schauble, L. A., Mooney, T., Thompson, D., Green, P., MacArthur, M. J., & Crits-Christoph, P. (2012). Supportive-expressive dynamic psychotherapy in the community mental health system: A pilot effectiveness trial for the treatment of depression. *Psychotherapy*, *49*(3), 303–316. https://doi.org/10.1037/a0027694

Cooper, P. J., Murray, L., Wilson, A., & Romaniuk, H. (2003). Controlled trial of the short- and long-term effect of psychological treatment of post-partum depression. *British Journal of Psychiatry*, *182*, 412–419. https://doi.org/10.1192/bjp.182.5.412

Cuijpers, P., Vogelzangs, N., Twisk, J. W. R., Kleiboer, A., Li, J., & Penninx, B. (2014). Comprehensive meta-analysis of excess mortality in depression in the general community versus patients with specific illnesses. *The American Journal of Psychiatry*, *171*(4), 453–462. https://doi.org/10.1176/APPI.AJP.2013.13030325

Cuijpers, P., Berking, M., Andersson, G., Quigley, L., Kleiboer, A., & Dobson, K. S. (2013). A meta-analysis of cognitive-behavioural therapy for adult depression, alone and in comparison with other treatments. *Canadian Journal of Psychiatry, 58*(7), 376–385. https://doi.org/10.1177/070674371305800702

Cuijpers, P., Karyotaki, E., de Wit, L., & Ebert, D. D. (2020). The effects of fifteen evidence-supported therapies for adult depression: A meta-analytic review. *Psychotherapy Research, 30*(3), 279–293. https://doi.org/10.1080/10503307.2019.1649732

Cuijpers, P., Quero, S., Noma, H., Ciharova, M., Miguel, C., Karyotaki, E., Cipriani, A., Cristea, I. A., & Furukawa, T. A. (2021). Psychotherapies for depression: A network meta-analysis covering efficacy, acceptability and long-term outcomes of all main treatment types. *World Psychiatry, 20*(2), 283–293. https://doi.org/10.1002/WPS.20860

Driessen, E., Abbass, A. A., Barber, J. P., Connolly Gibbons, M. B., Dekker, J. J. M., Fokkema, M., Fonagy, P., Hollon, S. D., Jansma, E. P., De Maat, S. C. M., Town, J. M., Twisk, J. W. R., Van, H. L., Weitz, E., & Cuijpers, P. (2018). 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. *BMJ Open*, *8*(2). https://doi.org/10.1136/bmjopen-2017-018900

Driessen, E., Cuijpers, P., Hollon, S. D., & Dekker, J. J. M. (2010). Does pretreatment severity moderate the efficacy of psychological treatment of adult outpatient depression? A meta-analysis. *Journal of Consulting and Clinical Psychology, 78*(5), 668–680. https://doi.org/10.1037/a0020570

Driessen, E., Hegelmaier, L. M., Abbass, A. A., Barber, J. P., Dekker, J. J. M., Van, H. L., Jansma, E. P., & Cuijpers, P. (2015). The efficacy of short-term psychodynamic psychotherapy for depression: A meta-analysis update. *Clinical Psychology Review, 42*,

1–15. https://doi.org/10.1016/j.cpr.2015.07.004

Fonagy, P., Lemma, A., Target, M., O'Keeffe, S., Constantinou, M. P., Ventura Wurman, T., Luyten, P., Allison, E., Roth, A., Cape, J., & Pilling, S. (2019). Dynamic interpersonal therapy for moderate to severe depression: A pilot randomized controlled and feasibility trial. *Psychological Medicine*, *50*(6), 1–10. https://doi.org/10.1017/S0033291719000928

Fournier, J. C., DeRubeis, R. J., Hollon, S. D., Dimidjian, S., Amsterdam, J. D., Shelton, R. C., & Fawcett, J. (2010). Antidepressant drug effects and depression severity: A patient-level meta-analysis. *JAMA*, *303*(1), 47–53. https://doi.org/10.1001/jama.2009.1943

Furukawa, T. A., Weitz, E., Shiro, T., Hollon, S. D., Hofmann, S. G., Andersson, G., Twisk, J. W. R., DeRubeis, R. J., Dimidjian, S., Hegerl, U., Mergl, R., Jarrett, R. B., Vittengl, J. R., Watanabe, N., & Cuijpers, P. (2017). Initial severity of depression and efficacy of cognitive-behavioural therapy: Individual-participant data meta-analysis of pill-placebo-controlled trials. *The British Journal of Psychiatry*, *210*(3), 190–196. https://doi.org/10.1192/BJP.BP.116.187773

Greenberg, P. E., Fournier, A.-A., Sisitsky, T., Pike, C. T., & Kessler, R. C. (2015). The economic burden of adults with major depressive disorder in the United States (2005 and 2010). *The Journal of Clinical Psychiatry*, *76*(2), 155–162. https://doi.org/10.4088/JCP.14m09298

Heo, M., & Leon, A. C. (2010). Sample sizes required to detect two-way and three-way interactions involving slope differences in mixed-effects linear models. *Journal of Biopharmaceutical Statistics*, *20*(4), 787–802. https://doi.org/10.1080/10543401003618819

Higgins, J. P. T., Altman, D. G., Gøtzsche, P. C., Jüni, P., Moher, D., Oxman, A. D., Savović, J., Schulz, K. F., Weeks, L., & Sterne, J. A. C. (2011). The Cochrane Collaboration's

tool for assessing risk of bias in randomised trials. *BMJ (Online)*, *343*(7829). https://doi.org/10.1136/bmj.d5928

James, S. L., Abate, D., Abate, K. H., Abay, S. M., Abbafati, C., Abbasi, N., Abbastabar, H., Abd-Allah, F., Abdela, J., Abdelalim, A., Abdollahpour, I., Abdulkader, R. S., Abebe, Z., Abera, S. F., Abil, O. Z., Abraha, H. N., Abu-Raddad, L. J., Abu-Rmeileh, N. M. E., Accrombessi, M. M. K., … Murray, C. J. L. (2018). Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990-2017: A systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*, *392*(10159), 1789–1858. https://doi.org/10.1016/S0140-6736(18)32279-7

Johansson, R., Ekbladh, S., Hebert, A., Lindström, M., Möller, S., Petitt, E., Poysti, S., Larsson, M. H., Rousseau, A., Carlbring, P., Cuijpers, P., & Andersson, G. (2012). Psychodynamic guided self-help for adult depression through the internet: A randomised controlled trial. *PLoS ONE*, *7*(5). https://doi.org/10.1371/journal.pone.0038021

Kernberg, O. F. (2005). Unconscious conflict in the light of contemporary psychoanalytic findings. *Psychoanalytic Quarterly*, *74*(1), 65–81. https://doi.org/10.1002/j.2167-4086.2005.tb00200.x

Lemma, A., & Fonagy, P. (2013). Feasibility study of a psychodynamic online group intervention for depression and anxiety. *Psychoanalytic Psychology*, *30*(3), 367–380. https://doi.org/10.1037/a0033239

Lipsey, M. W., & Wilson, D. B. (1993). The efficacy of psychological, educational, and behavioral treatment: Confirmation from meta-analysis. *American Psychologist*, *48*(12), 1181–1209. https://doi.org/10.1037/0003-066X.48.12.1181

López Rodríguez, J., López Butrón, M. A., Vargas Terrez, B. E., & Villamil Salcedo, V.

(2004). Estudio doble ciego con antidepresivo, psicoterapia breve y placebo en pacientes con depresión leve a moderada [Double-blind study with antidepressant, brief psychotherapy and placebo in patients with mild to moderate depression]. *Salud Mental*, *27*(5), 53–61.

Maina, G., Forner, F., & Bogetto, F. (2005). Randomized controlled trial comparing brief dynamic and supportive therapy with waiting list condition in minor depressive disorders. *Psychotherapy and Psychosomatics, 74*, 43–50. https://doi.org/10.1159/000082026

Morris, N. E. (1975). *A group self-instruction method for the treatment of depressed outpatients*. [Doctoral dissertation, University of Toronto].

Norcross, J. C., & Rogan, J. D. (2013). Psychologists conducting psychotherapy in 2012: Current practices and historical trends among division 29 members. *Psychotherapy*, *50*(4), 490–495. https://doi.org/10.1037/a0033512

Stewart, L. A., & Tierney, J. F. (2002). To IPD or not to IPD? Advantages and disadvantages of systematic reviews using individual patient data. *Evaluation and the Health Professions*, *25*(1), 76–97. https://doi.org/10.1177/0163278702025001006

Stewart, W. F., Ricci, J. A., Chee, E., Hahn, S. R., & Morganstein, D. (2003). Cost of lost productive work time among US workers with depression. *Journal of the American Medical Association*, *289*(23), 3135–3144. https://doi.org/10.1001/jama.289.23.3135

Town, J. M., Abbass, A. A., Stride, C., & Bernier, D. (2017). A randomised controlled trial of intensive short-term dynamic psychotherapy for treatment resistant depression: The Halifax depression study. *Journal of Affective Disorders, 214*, 15–25. https://doi.org/10.1016/j.jad.2017.02.035

Tudur Smith, C., Marcucci, M., Nolan, S. J., Iorio, A., Sudell, M., Riley, R., Rovers, M. M., & Williamson, P. R. (2016). Individual participant data meta-analyses compared with meta-analyses based on aggregate data. *Cochrane Database of Systematic Reviews*, *9*. https://doi.org/10.1002/14651858.MR000007.pub3

Twisk, J. W. R., Bosman, L., Hoekstra, T., Rijnhart, J., Welten, M., & Heymans, M. (2018). Different ways to estimate treatment effects in randomised controlled trials. *Contemporary Clinical Trials Communications*, *10*, 80–85. https://doi.org/10.1016/j.conctc.2018.03.008

van Schaik, D. J. F., Klijn, A. F. J., van Hout, H. P. J., van Marwijk, H. W. J., Beekman, A. T. F., de Haan, M., & van Dyck, R. (2004). Patients' preferences in the treatment of depressive disorder in primary care. *General Hospital Psychiatry*, *26*(3), 184–189. https://doi.org/10.1016/j.genhosppsych.2003.12.001

World Health Organization. (2017). *Depression and Other Common Mental Disorders Global Health Estimates*. Geneva: World Health Organization.

Tables

Table 1

Characteristics of Identified Studies

Study	Country	Target group	Depression diagnosis	Control	*N*	% Female	M_{Age}	N_{SE}	STPP model [a]	Treatment format	Follow-up
IPD available:											
Ajilchi et al., 2013	Iran	Adults	Major Depressive Disorder (DSM-IV); BDI > 20	WL	40	62.5	-	15	Ghorbani	Individual	1 year
Barber et al., 2012	USA	Adults	Major Depressive Disorder (DSM-IV); HAM-D ≥ 14	PLAC	101	60.8	36.2	20	Luborsky	Individual	2 years
Beutel et al., 2014	Germany	Women with breast cancer	Depressive disorder (ICD-10); HADS-D ≥ 8	TAU	157	100	51.7	18	Haselbacher	Individual	13 months
Connolly Gibbons et al., 2012	USA	Adults	HAM-D ≥ 14	TAU	40	100	41.5	7.4	Luborsky	Individual	-
Cooper et al., 2003	UK	Women with post-partum depression	Major Depressive Disorder (DSM-III-R); EPDS ≥ 12	TAU	102	100	28.1	11	Cramer; Stern	Individual	18 months
Fonagy et al., 2019	UK	Adults	Major Depressive Disorder (DSM-IV); HAM-D ≥ 14; PHQ-9 > 10	LIT	127	67.1	38.1	16	Lemma	Individual	12 months
Johansson et al., 2012	Sweden	Adults	Mood disorder (DSM-IV)	CTRL-NS	92	80.4	45.5	9	Silverberg; Busch	Online	10 months
Lemma & Fonagy, 2013	UK	Adults	PHQ-9 = 5 to 19	CTRL-NS	24	76.0	-	8	Lemma	Online	-
López Rodríguez et al., 2004	Mexico	Adults	Major Depressive Disorder (DSM-IV, ICD-10)	PLAC	20	70.0	32.0	20	Bellak	Individual	5.5 months
Maina et al., 2005	Italy	Adults	Mood Disorder (DSM-IV); HAM-D = 8-15	WL	20	80.0	40.7	19.6	Malan	Individual	6 months
Town et al., 2017	Canada	Adults	Major Depressive Disorder (DSM-IV); HAM-D ≥ 16	TAU	60	56.7	38.9	16.1	Davanloo	Individual	18 months

Study	Country	Target group	Depression diagnosis	Control	*N*	% Female	M_{Age}	N_{SE}	STPP model [a]	Treatment format	Follow-up
IPD unavailable:											
Carrington, 1979	USA	Women	Depressive Syndrome diagnosis (criteria by Feighner et al., 1972); BDI = 20 to 40	WL	20	100	32.7	12	Mann	Individual	-
Morris, 1975	Canada	Women	Diagnosed with neurotic or reactive depression	WL	44	100	35.4 [b]	6	-	Group	-

Note. BDI = Beck Depression Inventory; CTRL-NS = non-specific control condition; DSM = Diagnostic and Statistical Manual; EPDS = Edinburg Postnatal Depression Scale; HADS-D = Hospital Anxiety and Depression Scale, depression subscale; HAM-D = Hamilton Depression Rating Scale; ICD-10 = International Statistical Classification of Diseases and Related Health Problems, 10th edition; IPD = Individual participant data; LIT = Low-intensity treatment; M_{Age} = Mean age of participants in the STPP condition; *N* = number of participants; N_{SE} = number of sessions in the STPP condition; PHQ-9 = 9-item Patient Health Questionnaire; PLAC = pill-placebo control condition; TAU = treatment-as-usual; WL = waitlist control condition.

[a] See supplemental Table 4 for complete references of treatment manuals.

[b] Mean age also include participants of the cognitive behavioral therapy condition.

Table 2

Risk of Bias Assessment of the Primary Studies

Study	Selection bias		Detection bias	Attrition bias
	Random sequence generation	Allocation concealment	Blinding of outcome assessment	Complete outcome data
Ajilchi et al., 2013	+	-	-	-
Barber et al., 2012	+	+	+	+
Beutel et al., 2014	+	+	+	+
Connolly Gibbons et al., 2012	+	+	-	+
Cooper et al., 2003	+	+	+	-
Fonagy et al., 2019	+	+	+	+
Johansson et al., 2012	+	+	-	+
Lemma & Fonagy, 2013	+	+	-	+
López Rodríguez et al., 2004	+	+	+	-
Maina et al., 2005	+	+	+	+
Town et al., 2017	+	+	+	+

Note. + = low risk of bias, - = high risk of bias.

Table 3

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 4

Cohen's d *Effect Sizes on Depressive Symptom Measures of STPP versus Control Conditions for the Different Moderator Levels*

Moderator	Post-treatment					Follow-up				
	k	*N*	*d*	95%CI	*p*	*k*	*N*	*d*	95%CI	*p*
Gender	10	747				9	707			
Male			-0.49	-0.75 to -0.22	<.001			-0.07	-0.39 to 0.25	.675
Female			-0.67	-0.82 to -0.51	<.001			-0.25	-0.42 to -0.07	.005
Education	10	702				9	662			
Completed higher educated			-0.66	-0.84 to -0.49	<.001			-0.26	-0.47 to -0.06	.012
Did not complete higher education			-0.60	-0.79 to -0.41	<.001			-0.10	-0.31 to 0.11	.355
Marital Status	10	739				9	699			
Single, divorced, separated, declined to state			-0.57	-0.75 to -0.39	<.001			-0.27	-0.49 to -0.05	.015
Married, partnered, cohabiting			-0.69	-0.87 to -0.51	<.001			-0.17	-0.37 to 0.03	.090
Ethnicity	5	340				4	300			
White			-0.39	-0.64 to -0.14	.002			0.05	-0.27 to 0.37	.764
Others			-0.24	-0.57 to 0.09	.148			-0.14	-0.75 to 0.47	.655
Employment Status	7	494				6	455			
Working or studying			-0.62	-0.82 to -0.41	<.001			-0.36	-0.60 to -0.12	.003
Sick leave, sick retired			-0.36	-1.13 to 0.04	.357			0.29	-0.55 to 1.13	.501
Searching for work, unemployed			-0.37	-0.73 to 0.00	.048			-0.19	-0.69 to 0.30	.450

Moderator	Post-treatment					Follow-up				
	k	*N*	*d*	95%CI	*p*	*k*	*N*	*d*	95%CI	*p*
Retired			-0.55	-1.00 to -0.10	.016			-0.21	-0.68 to 0.26	.386
Homemaker			-0.76	-1.38 to -0.13	.019			0.25	-0.43 to 0.93	.478
Parental leave			-0.24	-2.13 to 1.66	.805			0.13	-1.70 to 1.96	.890
Financial Situation	3	174				3	174			
Good			-0.65	-0.99 to -0.30	<.001			-0.03	-0.40 to 0.34	.873
Neither good nor bad			-0.98	-1.54 to -0.41	<.001			-0.12	-0.71 to 0.47	.694
Bad			-0.84	-1.25 to -0.42	<.001			-0.32	-0.750 to 0.11	.148
Previous Depression	4	321				4	321			
Yes			-0.55	-0.78 to -0.32	<.001			-0.17	-0.43 to 0.09	.193
No			-0.85	-1.26 to -0.45	<.001			0.03	-0.40 to 0.46	.879
Previous Psychotherapy	4	396				4	396			
Yes			-0.77	-1.05 to -0.49	<.001			-0.15	-0.44 to 0.15	.323
No			-0.75	-0.97 to -0.53	<.001			-0.19	-0.41 to 0.04	.107
Current Antidepressant use	4	278				4	278			
Yes			-0.80	-1.14 to -0.47	<.001			-0.15	-0.50 to 0.19	.388
No			-0.72	-0.99 to -0.45	<.001			-0.19	-0.45 to 0.08	.177
Comorbid Dysthymia	4	409				4	409			
Yes			-0.40	-0.81 to 0.00	.051			-0.11	-0.54 to 0.32	.609
No			-0.65	-0.87 to -0.43	<.001			-0.19	-0.43 to 0.05	.122
Comorbid Personality Disorders	3	177				3	177			

Moderator	Post-treatment					Follow-up				
	k	*N*	*d*	95%CI	*p*	*k*	*N*	*d*	95%CI	*p*
Yes			-0.26	-0.64 to 0.12	.183			-0.27	-0.75 to 0.20	.263
No			-0.01	-0.41 to 0.39	.956			-0.03	-0.55 to 0.50	.924
Comorbid Anxiety Disorders	3	253				3	253			
Yes			-0.66	-0.96 to -0.37	<.001			-0.31	-0.67 to 0.04	.084
No			-0.39	-0.75 to -0.04	.030			-0.03	-0.46 to 0.39	.979
Alcohol Dependence	2	193				2	193			
Yes			-0.61	-1.25 to 0.02	.059			-0.25	-0.98 to 0.48	.503
No			-0.50	-0.82 to -0.19	.002			-0.14	-0.53 to 0.25	.475
Age	9	714				8	674			
Average			-0.62	-0.77 to -0.47	<.001			-0.17	-0.33 to 0.00	.054
Per year increase			0.002	-0.01 to 0.01	.617			0.01	0.00 to 0.01	.317
Age of onset	3	165				3	165			
Average			-0.16	-0.47 to 0.15	.317			-0.17	-0.57 to 0.24	.420
Per year increase			**0.02**	**0.003 to 0.04**	**.021**			0.03	0.00 to 0.05	.054
Baseline Depression (z-score)	11	767				9	703			
Average			-0.65	-0.75 to -0.55	<.001			-0.24	-0.38 to -0.10	<.001
Per SD increase			**-0.45**	**-0.53 to -0.37**	**<.001**			**-0.46**	**-0.56 to -0.36**	**<.001**
Length of current depressive episode	2	150				2	150			
Average			-0.21	-0.55 to 0.13	.232			-0.28	-0.77 to 0.22	.277
Per month increase			-0.003	-0.01 to 0.00	.134			0.001	0.00 to 0.01	.739

Moderator	Post-treatment					Follow-up				
	k	*N*	*d*	95%CI	*p*	*k*	*N*	*d*	95%CI	*p*
DEQ Dependency	3	304				3	304			
Average			-0.47	-0.71 to -0.22	<.001			-0.18	-0.47 to 0.10	.209
Per SD increase			0.01	-0.17 to 0.19	.888			0.10	-0.13 to 0.32	.403
DEQ Self-criticism	3	304				3	304			
Average			-0.47	-0.71 to -0.22	<.001			-0.19	-0.48 to 0.09	.180
Per SD increase			-0.16	-0.34 to 0.03	.093			-0.03	-0.23 to 0.17	.739
DEQ Efficacy	2	205				2	205			
Average			-0.69	-0.97 to -0.41	<.001			-0.18	-0.47 to 0.12	.244
Per SD increase			-0.05	-0.30 to 0.20	.688			-0.14	-0.41 to 0.13	.310

Note. DEQ = Depressive Experience Questionnaire; STPP = Short-term psychodynamic psychotherapy.

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.

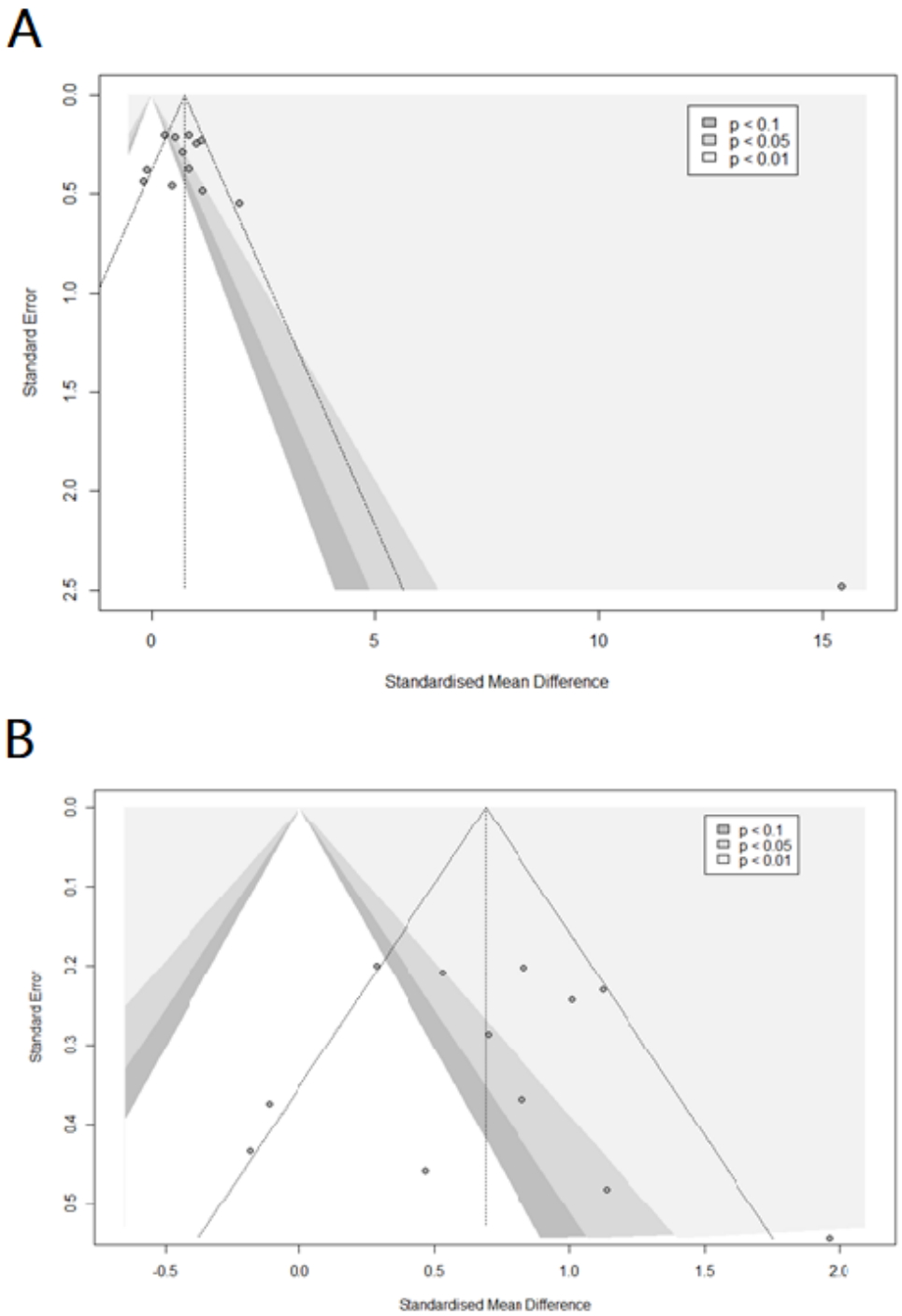
For categorical moderators, significance indicates differential treatment efficacy between the moderator levels.

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.

Figures

Figure 1

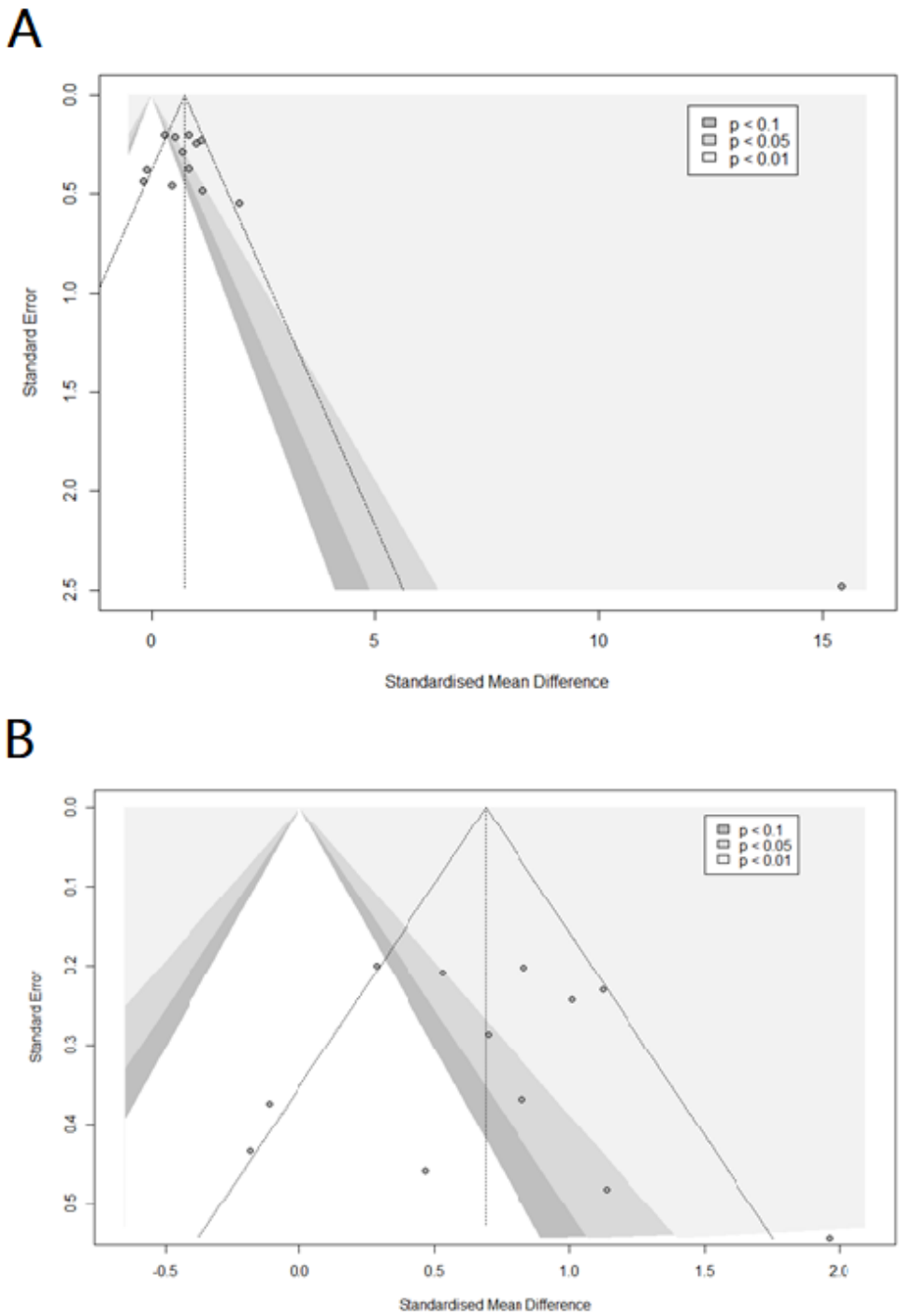
Contour-Enhanced Funnel Plots for Studies on STPP Compared to Control Conditions for Depression



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.

Figure 1

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.

Figure 1

PRISMA Individual Participant Data Flowchart for the Study

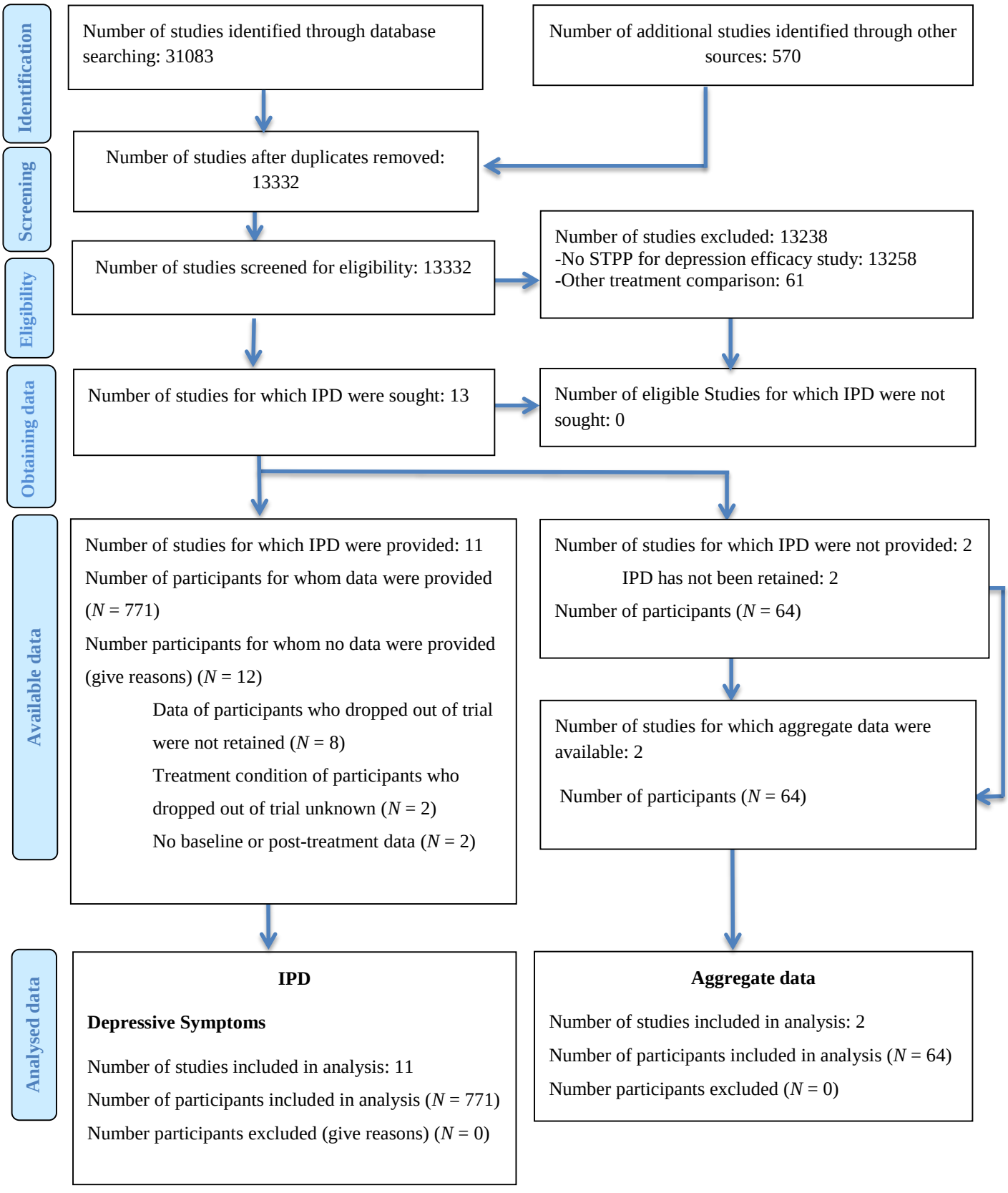


Figure 1

PRISMA Individual Participant Data Flowchart for the Study

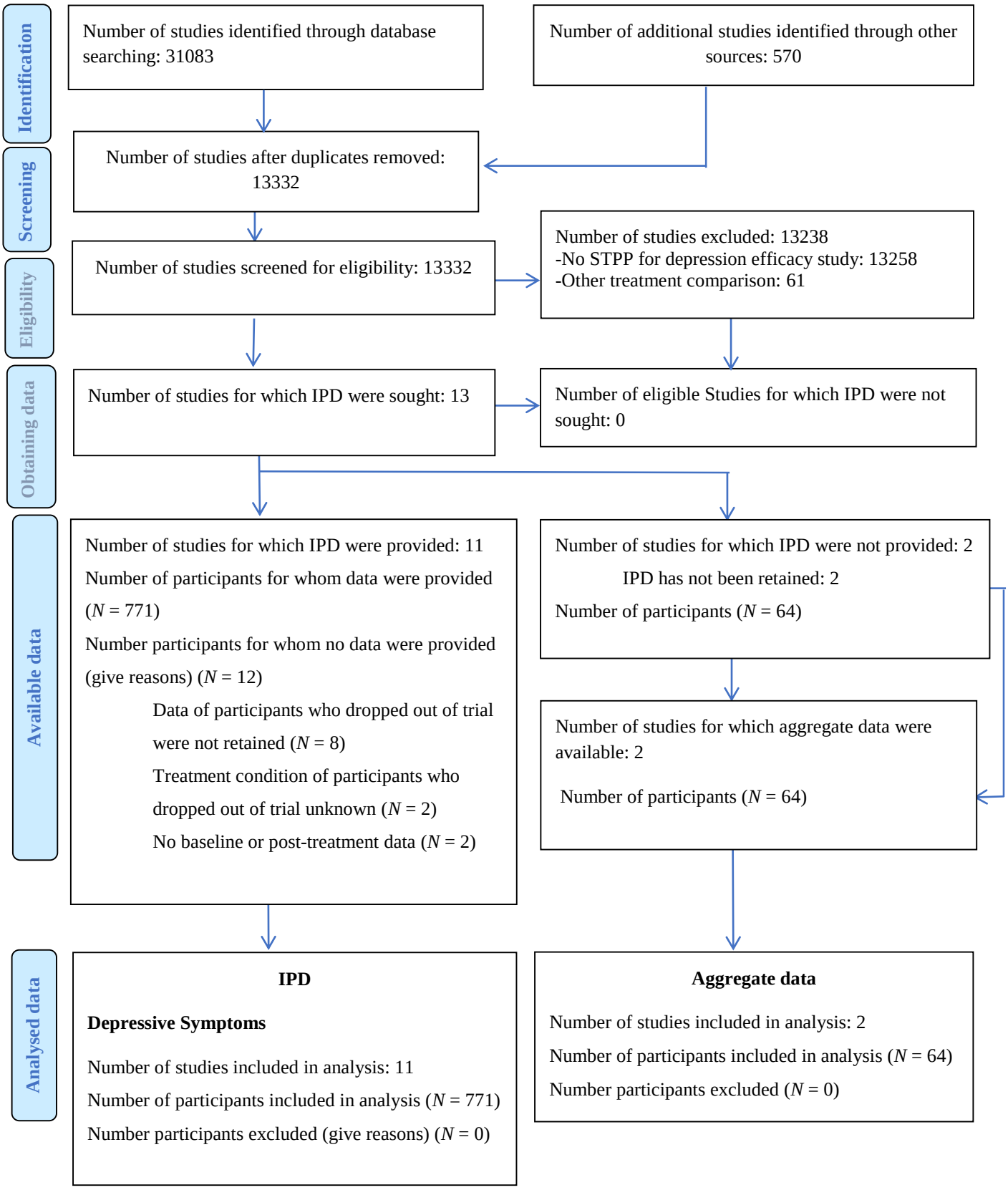


Table 1.

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 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 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). 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 Busch F, Rudden M, Shapiro T: Psychodynamic treatment of depression. Washington DC (DC): American Psychiatric Pub; 2004
Lemma & Fonagy, 2013	Lemma A: (unpublished)
López Rodríguez et al., 2004	Bellak L, Manual de psicoterapia breve, intensiva y de urgencia. Mexico: Manual Moderno; 1993 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 5

Comparison of Categorical STPP and Study Characteristics by IPD Availability

Variable	IPD		χ^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 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 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 8

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

Assessment moment	Moderator	*k*	*N*	*d*	95% CI	*p*
Post-treatment	Baseline Depression					
	Low RoB studies only	5	465			
	Average			-0.52	-0.66 to -0.38	<.001
	Per SD increase			**-0.44**	**-0.54 to -0.33**	**<.001**
	RoB as covariates	11	767			
	Average			-0.65	-0.75 to -0.55	<.001
	Per SD increase			**-0.45**	**-0.53 to -0.37**	**<.001**
	STPP characteristics covariate	11	767			
	Average			-0.65	-0.75 to -0.55	<.001
	Per SD increase			**-0.45**	**-0.53 to -0.37**	**<.001**

Study characteristics covariate	11	767			
Average			-0.65	-0.75 to -0.55	<.001
Per SD increase			**-0.45**	**-0.53 to -0.37**	**<.001**
Age of onset					
Low RoB studies only	3	165			
Average			-0.16	-0.47 to 0.15	.314
Per year increase			**0.02**	**0.00 to 0.04**	**.021**
RoB as covariates	3	165			
Average			-0.16	-0.47 to 0.15	.314
Per year increase			**0.02**	**0.00 to 0.04**	**.021**
STPP characteristics covariate	3	165			
Average			-0.16	-0.47 to 0.15	.311
Per year increase			**0.02**	**0.00 to 0.04**	**.021**
Study characteristics covariate	3	165			

	Average			-0.16	-0.47 to 0.15	.311
	Per year increase			**0.02**	**0.00 to 0.04**	**.021**
Follow-up	Baseline Depression					
	Low RoB studies only	5	465			
	Average			-0.08	-0.26 to 0.10	.368
	Per SD increase			**-0.55**	**-0.68 to -0.41**	**<.001**
	RoB as covariates	9	703			
	Average			-0.24	-0.38 to -0.10	<.001
	Per SD increase			**-0.46**	**-0.56 to -0.36**	**<.001**
	STPP characteristics covariate	9	703			
	Average			-0.24	-0.38 to -0.10	<.001
	Per SD increase			**-0.46**	**-0.56 to -0.36**	**<.001**
	Study characteristics covariate	9	703			
	Average			-0.24	-0.38 to -0.10	<.001

Per SD increase	**-0.46**	**-0.56 to -0.36**	**<.001**

Note. RoB = Risk of bias items.

Baseline depression as z-score.

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 categorical moderators, significance indicates differential treatment efficacy between the moderator levels.

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.	7-8
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 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

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): • Use of a one-stage or two-stage approach. • How effect estimates were generated separately within each study and combined across studies (where applicable). • Specification of one-stage models (where applicable) including how clustering of patients within studies was accounted for. • Use of fixed or random effects models and any other model assumptions, such as proportional hazards. • How (summary) survival curves were generated (where applicable). • Methods for quantifying statistical heterogeneity (such as I^2 and τ^2). • How studies providing IPD and not providing IPD were analysed together (where applicable). • How missing data within the IPD were dealt with (where applicable).	9-10
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

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.	10-11
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, 25-26
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 1 & Table 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, 28-34
		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 heterogeneity. State whether the analysis was pre-specified. State whether any interaction is consistent across trials.	

		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, 36, Appendix Table 8
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.	13
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.	15-16
Conclusions	26	Provide a general interpretation of the findings in the context of other evidence.	13-15
Implications	A4	Consider relevance to key groups (such as policy makers, service providers and service users). Consider implications for future research.	16
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 statement document

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.

Outcome	Ajilchi 2012	Barber 2012	Beutel 2014	Conolly Gibbo
Depression				
EPDS				
HAM-D - 21-items				
HAM-D - 17-items		X		X
BDI-II				
PHQ-9				
BDI	X			
HADS - Depression subscale			X	
Anxiety				
HAM-A				
BAI		X		
GAD-7				
HADS - Anxiety subscale			X	
BSI - Anxiety subscale				
General psychopathology				
BASIS-24				X
SF-12 - Mental component		X		
BSI				
PHQ-9				
CGI-S				
GAF			X	
Interpersonal problems				
IIP -64-items		X		
IIP -32-items				
Quality of Life				
QOLI				
QLESQ		X		
QLQ-C30 - Global health subscale			X	
EQ-5D - Visual analogue scale				
Physical health				
SF-12 - Physical component				
QLESQ - Physical health subscale		X		

Note. BAI = Beck Anxiety Inventory; BASIS-24 = Behavior and Symptom Identification Scal

Cooper 2003	Fonagy 2019	Johansson 20	Lemma, 2013	López Rodrigu	Maina 2005	Town 2017
X						
				X		
	X				X	X
		X				
			X			
					X	
		X				
			X			X
	X					
	X					
						X
					X	
	X					
						X
		X				
	X					
						X

e; BDI-II = Beck's Depression Inventory; BSI = Brief Symptom Inventory; CGI-S = Clinical

Global Impression-Severity; EPDS = Edinburg Postnatal Depression Scale; EQ-5D = EuroQO

L-5 Dimension; GAD-7 = Generalized Anxiety Disorder Scale; GAF = Global Assessment of

Functioning; HADS = Hospital Anxiety and Depression Scale; HAM-A = Hamilton Rating Sc

:ale for Anxiety; HAM-D = Hamilton Depression Rating Scale; IIP = Inventory of Interperson

al Problems; PHQ-9 = Patient Health Questionnaire; QLESQ = Quality of Life, Enjoyment, ar

ıd Satisfaction Questionnaire; QLQ-C30 = Cancer Quality of Life Questionnaire; QOLI = Qua

ılity of Life Inventory; SF-12 = Short Form Health Survey.

Variable	Ajilchi 2012	Barber 2012	Beutel 2014
Age	-	Years	Years
Gender	Male (0) Female (1)	Male (0) Female (1)	Female (1)
Education	Diploma (0) Bachelor (1) MA (1) Doctorate (1)	College (1) HS or less (0)	Apprenticeship (0) University (1) None (0)
Marital Status	Single (0) Married (1) Divorced (0)	Single (0) Seperated (0) Divorced (0) Married (1) Cohabitate (1) Widow (0)	Single (0) Married (1) Seperated, divorced, widowed (0)
Ethnicity	-	Indian (1) Latino (1) Asian (1) White (0) Af. American (1)	-
Employment Status	Student (0) Specialist (0) Self-employed (0)	Full-time work (0) Part-time student (0) Disability (1) Part-time work (0) Unemployed <6mths (2) Retired (3) Full-time student (0) Unemployed >6mths (2) Homemaker(4)	Full time (0) Part time (0) Training (0) Household (4) Unemployed (2) Pension (3)

Financial Difficulties	-	No (3) Yes (1)	-
Baseline Depression score	Z-score within study	Z-score within study	Z-score within study
Previous Depression	-	Number of lifetime episodes: <1 (0) ≥1 (1)	-
Previous Psychotherapy	-	-	No (0) Yes (1)
Current ADM	-	-	No (0) Yes (1)
Age of onset	-	Years	-
Length Current Episode	-	Months	-
DEQ	-	Z-score within study	Z-score within study

Dysthymia	-	No (0) Yes (1)	ICD-10 diagnoses F34.1 (1)
Personality Disorders	-	No (0) Yes (1)	-
Anxiety Disorders	-	Social Phobia (1) Simple Phobia (1) Agoraphobia (1) Panic (1) PTSD (1) OCD (1) Somatoform (0) Drug abuse (0) Eating d/o (0) Other (0) Anxieties NOS (1)	-
Substance Dependence	-	No alcohol dependence (0) Alcohol dependence (1)	-

Note . Number in parentheses after moderator levels indicate the recoding according to the final codes.
ADM = Antidepressant medication; DEQ = Depressive Experiences Questionnaire.

Conolly Gibbons 2012	Cooper 2003
Years	Years
Male (0)	
Female (1)	Female (1)
	No public examinations (0)
	O-Levels/CSEs/GCSEs (0)
	A-Levels (0)
Education years:	Futher qual (eg secretarial, nursing) (0)
≤12 years education (0)	Degree (1)
>12 years education (1)	Higher Degree (1)
Single (0)	
Married (1)	Single, never married (0)
Divorced (0)	Married (1)
Seperated (0)	Single through divorce/seperation (0)
Widowed (0)	Widowed (0)
Cohabiting (1)	Living with partner but not married (1)
American Indian (1)	
Black (1)	
White (0)	
Asian (1)	
Pacif (1)	
Other (1)	-
Full-time (0)	
Part-time (0)	
Homemaker (4)	
Unemployed (2)	
Student (full-time) (0)	
Student (part-time) (0)	-

	No difficulties at all (3) To some extend (1) A moderate amount (1)
-	A great deal (1)
Z-score within study	Z-score within study
	No (0)
-	Yes (1)
	No treatment or not applicable (0) From GP (0) Psychotherapist (1)
-	From other (family, friend etc) (0)
-	-
-	-
-	-
-	-

-

-

-

-

-

-

Fonagy 2019	Johansson 2012	Lemma, 2013
Years	Years	-
Male (0) Female (1)	Male (0) Female (1)	-
		-
Did not complete higher education (0) Completed higher education, university degree or equivalent (1)	EG1 (1) EG2 (1) FB (1) FG1 (0) FG2 (0) G1 (0) G2 (0)	
Single, divorced, seperated, declined to state (0) Married, cohabiting, partnered (1)	Married, patner, In a stable Relationship (1) Divorced, widowed (0) Single (0) Other (0)	-
		-
Caucasian (0) All other (1)	-	
		-
-	Working or studying (0) Sick leave/sick retired (1) Searching for work (2) Retired (3) Housewife (4) Parental leave (5)	

	Very bad (1) Bad (1) Neither good nor bad (2) Good (3) Very good (3)	-
-		
Z-score within study	Z-score within study	Z-score within study
	Number of lifetime episodes: <1 (0) ≥1 (1)	-
-	No experience (0) Current psychological tx (e.g. support sessions), not interferring with ICBT (1) Previous psychological tx (1)	-
-	No experience (0) Current medical tx (1) Previous medical tx (0)	-
-	-	-
-	-	-
-	-	-

	No current Dysthymia (0)	
-	Current Dysthymia (1)	-
-		-
	No (0)	
-	Currently having an anxiety disorder (any) according to the MINI (1)	-
	AUDIT score:	
	<8 (0)	
-	≥8 (1)	-

López Rodriguez 2004	Maina 2005	Town 2017
Years	Years	Years
Male (0)	Male (0)	Male (0)
Female (1)	Female (1)	Female (1)
	Education years:	
	≤13 years	Primary (0)
Education years:	education (0)	High School (0)
≤12 years education (0)	>12 years	University (1)
>12 years education (1)	education (1)	Higher (1)
		Single (0)
Single (0)	Married (1)	Married (1)
Married	Single (0)	Divorced (0)
Divorced, seperated	Widowed (0)	Seperated (0)
	Divorced (0)	Other (0)
	European (0)	Caucasian (0)
	Indigenous (1)	African-American (1)
	Asian (1)	Asian (1)
	African (1)	Native American (1)
-	Hispanic (1)	Other (1)
	Employed full time	Employed (0)
	(0)	Student (0)
	Unemployed (2)	WCB (1)
	Retired (3)	CPP (3)
	Student (0)	EI (2)
-	Housewife (4)	Private Insurance (2)

-	-	-
Z-score within study	Z-score within study	Z-score within study
-	-	Number of lifetime episodes: <1 (0) ≥1 (1)
-	-	Number of psychotherapy trials: <1 (0) ≥1 (1)
-	No (0) Yes (1)	No (0) Yes (1)
-	Years	Years
-	-	Months
-	-	Z-score within study

		No (0)
-	-	Yes (1)
	No (0)	Not diagnosed (0)
-	Yes (1)	Diagnosed with disorder (1)
		No (0)
-	-	Yes (1)
-	-	-

Final coding
Years
Male (0)
Female (1)

Did not complete higher education (0)
Completed higher education, university degree or equivalent (1)

Single, divorced, seperated, declined to state (0)
Married, cohabiting, partnered (1)

Caucasian (0)
All other (1)

Working or studying (0)
Sick leave, sick retired (1)
Searching for work, unemployed (2)
Retired (3)
Homemaker (4)
Parental leave (5)

Bad (1)
Neither good nor bad (2)
Good (3)

Z-score within study

No prior depression (0)
Prior depression (1)

No prior psychotherapy (0)
Prior psychotherapy (1)

No current ADM (0)
Current ADM (1)

Years

Months

Z-score within study

No Dysthymia (0)
Current Dysthymia (1)

No comorbid Personality Disorder (0)
Comorbid Personality Disorder (1)

No comorbid Anxiety Disorder (0)
Comorbid Anxiety Disorder (1)

No alcohol dependence (0)
Alcohol dependence (1