

The Effectiveness of Transactional Analysis Treatments and Their Predictors: A Systematic Literature Review and Explorative Meta-Analysis

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Abstract

Objectives: Despite many studies on transactional analysis (TA) psychotherapy, there are no comprehensive reviews or meta-analyses on its effectiveness. We conducted a systematic literature review and meta-analysis on TA psychotherapeutic treatments to examine the extent of psychological and psychosocial change in pre-post studies, the effects compared with other treatments in randomized clinical trials, and factors explaining these effects and differences.

Method: We conducted a systematic literature review and meta-analysis according to Meta-Analysis of Observational Studies in Epidemiology (MOOSE) and Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines in Pubmed, Medline, PsycInfo, Web-of-Knowledge, and scholar.google.com.

Results: Overall, 41 clinical trials of TA treatments had moderate to large effects on psychopathology (Hedges's $g = .66$), social functioning ($g = .62$), self-efficacy ($g = .80$), ego-state functioning ($g = .69$), well-being ($g = .33$), and behavior ($g = .56$). Compared with control conditions, TA had

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moderate to large effects on psychopathology ($g = .61$), social functioning ($g = .69$), self-efficacy ($g = .88$), ego-states ($g = .70$), well-being ($g = .85$), and behavior ($g = .46$). TA was more effective on most outcomes in individuals, groups, and families than in schools or prisons. Psychopathology changes were significantly predicted by improvements in ego-states, self-efficacy, social functioning, and client–practitioner relationship (r^2 range = .27–.43). Treatments were more effective if they included systematic assessment, treatment stages, psycho-education, TA-unique techniques, and an experiential focus (r^2 range = .03–.31).

Conclusions: TA may be considered an effective treatment for many clients.

Keywords

transactional analysis, humanistic therapy, meta-analysis, clinical trial, outcome research

Introduction

This article presents a systematic literature review and meta-analysis of transactional analysis psychotherapy. Transactional analysis (TA) was initially developed by the psychiatrist Eric Berne in the late 1950s. He developed TA as a theory of human personality and social behavior and as a comprehensive form of psychotherapy that emphasized the open and equal dialog between client and therapist (Berne, 1958, 1961). TA treatments were one of the first models of psychotherapy to integrate cognitive-behavioral approaches with psychoanalytic concepts and emphasize behavioral change. TA treatments include the psychodynamic concept of personality, held within a humanistic philosophical framework and philosophy. For example, TA addresses personal growth and autonomy drives, which emphasizes tailoring treatments to individual clients and making overt, shared treatment goals—called “contracts” (Berne, 1961; Sills, 1997).

Based on these generic foundations, different schools have emerged within TA literature and fields of practice. Psychodynamic TA integrated psychodynamic theories and methods (Moiso & Novellino, 2000). Cognitive-behavioral TA (Bergmann, 1981) focused on changing negative thought patterns and behaviors. Redecision TA integrated Gestalt theories and practices and focused on the influence of unfavorable early life messages and decisions on the present and a decisional process of changes (Goulding & Goulding, 1976). Cathexis TA was developed for individuals with severe mental health problems and

included theories and practices of radical reparenting (Schiff, 1975) implemented within therapeutic communities. Radical psychiatry TA integrated theories and practices from radical psychiatry (Steiner, 1971). Integrative TA emphasized the role of the empathic relationship in helping clients reconnect disconnected parts of the self resulting from unfavorable life messages or life experiences (Erskine, 1997). Co-creative TA integrated theories and practices of social constructivism, emphasizing the present-centered nature of the therapeutic relationship and the co-creative nature of clinical, etiological, and therapeutic mechanisms (Summers & Tudor, 2018). Relational TA integrated relational psychoanalysis with TA and focused on the role of transference in the therapeutic relationship (Hargaden & Sills, 2002). All schools of TA used the model of ego states and focused on developing overt therapeutic agreements with clients as the basis for treatment.

Despite its broad, eclectic origins and differences between schools, TA therapists have a well-defined set of theories and practices in common. Figure 1 provides a conceptual overview of the components that all TA treatments and TA schools have in common. We defined TA psychotherapeutic treatment as the synergetic combination of each of these components in the same way as cognitive behavioral and humanistic therapies may be defined by the synergetic combination of particular key ideas and practices ([https://www.ucl.ac.uk > core > competence-frameworks](https://www.ucl.ac.uk/core/competence-frameworks)). This evidence-based conceptual model of transactional analysis psychotherapy is based on a systematic literature review of key TA concepts, an extensive survey among TA practitioners, and a focused literature review of empirical studies supporting each of the conceptual components (Vos & Van Rijn, 2021a, 2021b, 2021c).¹

At the core of the conceptual model of TA psychotherapeutic treatments is the ego-state model of personality, based on the concept of ego states (Parent, Adult, and Child). Parent and Child incorporate archaic experiences and introjects, and Adult is responsive to the current reality. Their behavioral manifestations (or functions) differentiate Critical Parent (e.g., setting boundaries, giving value judgments), Nurturing Parent (e.g., offering support and care), Adult (e.g., thinking, problem-solving), Free Child (e.g., spontaneous emotional expression), and Adapted Child (e.g., behaviors related to external norms and perceived rules). Some TA treatments are based on more advanced versions and elaborations of this ego-state model. Another principal therapeutic mechanism in TA relates to life positions that underpin many human behaviors. Life positions differentiate broad attitudes and beliefs that individuals have about themselves and others on the dimensions of “I am OK/not-OK” (more generally formulated: self-efficacy) and “Others are OK/not-OK” (more generally formulated: social functioning) (Vos & Van Rijn, 2021a, 2021b, 2021c). TA therapists aim to facilitate clients to develop constructive

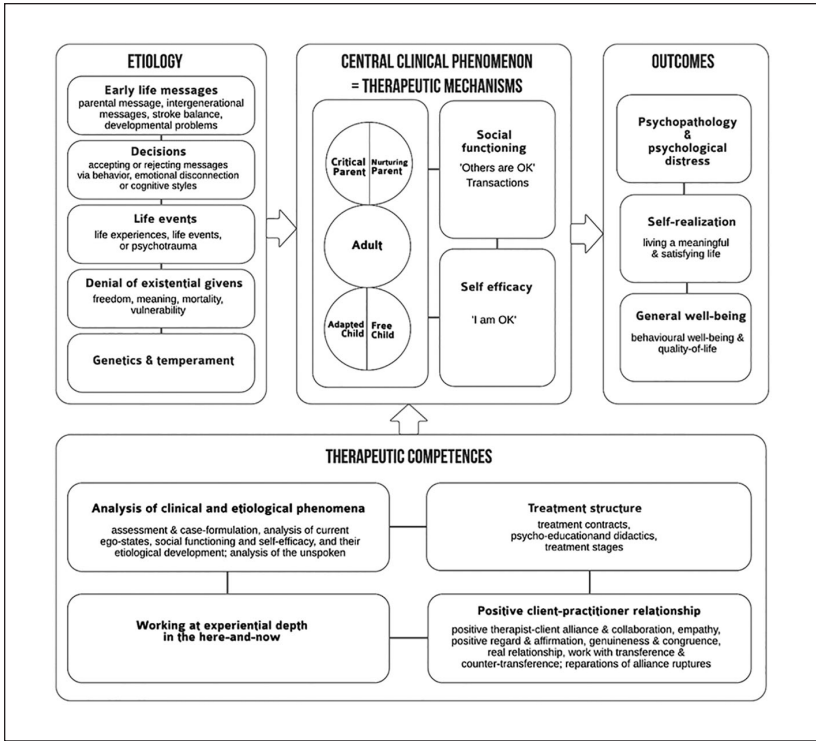


Figure 1. Visual Model of the Evidence-Based Conceptual Model of Transactional Analysis.

Source. Vos & van Rijn (2021c).

ego-states (e.g., to be able to distinguish between their ego-states, move flexibly between their ego-states, and function predominantly from an Adult ego-state). They also facilitate their clients to develop constructive life positions by using a range of therapeutic competencies: conducting systematic assessments, structuring the treatment, building a positive client–therapist relationship, and working at experiential depth in the here-and-now. The assessment includes, among others, analyses of the currently dominant ego-states and life positions in the light of the client’s life history. This may consist of an etiological analysis of any influential messages the client may have received from previous generations (e.g., family myths or values), life events, genetics/biology, and the individual’s responses to these messages. More explanations and operationalizations of the specific competencies can be found in Figure 1 and Vos and van Rijn (2021c).

Thus, TA therapists focus on helping clients improve their ego states and life positions. TA therapists also assume that these improvements could lead to other positive long-term outcomes (Vos & van Rijn, 2021c). For example, Eric Berne (1964) believed that TA treatment leads to releasing or recovering awareness, spontaneity, and intimacy. TA therapists reported in a large-scale survey in 2020 that TA psychotherapy often had the following outcomes: reduction of psychopathology and psychological distress (e.g., anxiety and depression), self-realization (e.g., being able to fulfill one's potential in the present instead of being hindered by the past), and general well-being (e.g., behavioral well-being and quality-of-life) (Vos & Van Rijn, 2021a). Therefore, this literature review and meta-analysis included all TA therapists' outcomes: ego-states, social functioning, self-efficacy, psychopathology, self-realization, and general well-being.

Study Objectives

Over the years, researchers have conducted many empirical studies into the unique therapeutic concepts and treatments of TA, which have been described generally in several reviews (Elbing, 2007; Khalil et al., 2007; Miller & Capuzzi, 1984; Ohlsson, 2010; Vos & Van Rijn, 2021a, 2021b, 2021c; Widdowson, 2013; Wilson, 1981). However, none of these previous reviews included a systematic review and meta-analysis of all clinical trials. This lack of synthesis may have been one of the reasons that TA is not widely known in the field of psychotherapy research, even though it is widely taught and practiced internationally within recognized academic and professional institutions (Vos & Van Rijn, 2021a). This systematic literature review and meta-analysis could help researchers, therapists, and policymakers decide whether TA is overall effective psychotherapy that could be offered to clients, particularly which specific TA interventions are most effective in which populations. Therefore, this study aimed to address this gap in research by conducting a systematic literature review and an explorative meta-analysis on all clinical trials of TA psychotherapeutic treatments. The term "treatment" was used here to describe all types of psychological sessions with clients by TA professionals. This explicitly included all aforementioned components of the evidence-based conceptual model of transactional analysis psychotherapy, regardless of whether these were individual psychotherapy, workshops, or treatments in groups. This meta-analysis is called "explorative" because we included all clinical trials from all TA schools and all types of experimental study designs and samples. This broad aim contrasts the paradigmatic trend in research on psychological therapies to narrowly focus meta-analyses on particular therapeutic schools within very specific populations. We have not

narrowed our meta-analysis to one specific TA treatment for one particular population because the large-scale survey of representative TA therapists and the focused review of the conceptual assumptions of the different TA schools indicated agreement on the key conceptual model of TA (e.g., the nature of clinical problems, etiology, therapeutic mechanisms, aims/outcomes in therapy, and key therapeutic competencies) (Vos & Van Rijn, 2021a). This conclusion that there were no significant differences between TA schools was only based on the subjective experiences of therapists and the focused literature review. We do not know yet whether clinical trials had different outcomes for different theoretical schools and different samples and which TA-specific therapeutic mechanisms led to which positive change in which clients. Therefore, this systematic literature review and meta-analysis may help examine whether different TA schools have differential effects and which therapeutic mechanisms predict which type of outcomes are within which type of clients. The systematic literature review and explorative meta-analysis are much needed in TA research and practice, as there is little research synthesis, and differences between TA schools seem to be overestimated and commonalities underestimated. This explorative study may help give an overview of the generic status and scope of transactional analysis psychotherapy, which may be relevant for therapists, training institutes, and health care policymakers.

We have split this broadly formulated aim of conducting a systematic literature review and an explorative meta-analysis on TA psychotherapy into three specifically formulated research objectives.

Our first objective was to test the fundamental assumption of TA therapists that clients improve during TA treatment. We tested the hypothesis that the clinical scores of clients were better at the end of treatment than before they started the treatment. We included any studies reporting changes between baseline measurements before the start of treatment and post-treatment measurements (studies with and without control groups). We included any outcomes expected by TA therapists: ego-states, social functioning, self-efficacy, psychopathology, self-realization, and general well-being.

The second objective was to test the fundamental assumption of TA therapists that clients improved to the same extent or more than no treatment and other bona fide treatments. That is, we tested the effects of TA treatment (experimental condition) in comparison with other treatments and waiting lists (control condition). To control for bias by how clients were allocated to either the experimental or control condition, we only included randomized controlled trials (RCTs) for this second objective. RCTs are often considered the gold standard in therapy research and are often used to inform decision-makers on health care policies.

The third objective was to explore the factors that could explain differences between studies, that is, which study characteristics (moderators) and therapeutic processes (mediators) predicted the treatment outcomes. Among other factors, this included differences between the different TA schools and the effects of various therapeutic mechanisms used by therapists (as specified in the methodology section). These differences were analyzed in a meta-regression-analysis of the pre-post changes. This third objective could help understand the differential effects of different approaches within the diverse field of TA and thus understand better which treatment works best for whom (Norcross & Lambert, 2019). As this was an explorative review and meta-analysis, we did not have specific hypotheses, except that we expected that TA had positive effects in different populations, with similar effect sizes to other bona fide humanistic therapies (Elliott, 2002).

Method

Systematic Literature Review

The systematic literature review was conducted in consecutive stages, in line with Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) and Meta-Analysis of Observational Studies in Epidemiology (MOOSE) guidelines (Page et al., 2021; Stroup et al., 2000). However, we have included fewer data in our tables to improve the readability and meet the journal criteria of limited space (tables with details about all included studies and all findings may be requested from the authors). Figure 2 provides an overview of these stages. In October 2019, we used a combination of terms to search for relevant publications in Pubmed, Medline, PsycInfo, APA articles, Web-of-Knowledge, scholar.google.com, and the repository of Metanoia and Middlesex University (see table 1). We decided to use a broad search strategy to make the literature as sensitive as possible not to miss any relevant publications (we prioritized sensitivity over specificity).

Snowballing technique was used to identify relevant references in the included studies and key publications (Clarkson, 2013; Elbing, 2007; Hargaden & Sills, 2002; Khalil et al., 2007; Miller & Capuzzi, 1984; Ohlsson, 2010; Stewart, 1996, 2013; O'Reilly-Knapp & Erskine, 2010; Thunissen, 2015; Widdowson, 2013; Wilson, 1981). We also asked TA practitioners to send us published and unpublished research via emails, newsletters, and the Transactional Analysis Review Survey. Articles were selected in three stages: initial screening for eligibility based on abstracts and titles, followed by reading full-text manuscripts. Several studies were excluded because they did not

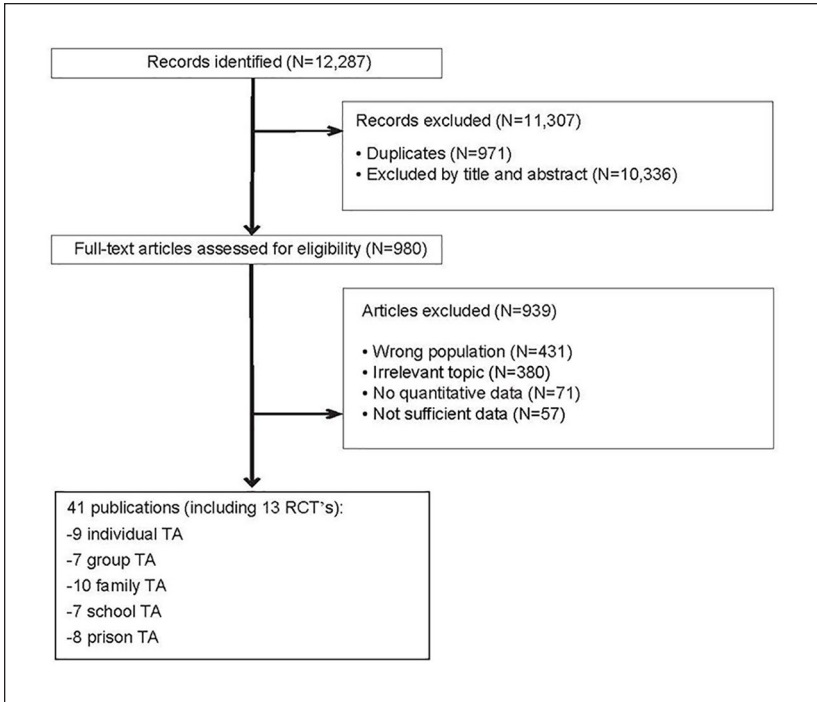


Figure 2. PRISMA Flowchart.

Note. RCT = randomized controlled trials; TA = transactional analysis.

provide enough data when the articles were analyzed to abstract quantitative data to be inserted in Comprehensive Meta-Analysis software.

Given a large number of references, the first author conducted all review cycles. His selection was consistent with the second author, who independently screened and selected a random sample of 500 references (interrater reliability Kappa = .92); independent coding of the study characteristics of these studies also had significant inter-rater reliability (Kappa = .88). The first author has extensive expertise in systematic reviews of humanistic therapies but relatively little initial expertise on TA, so he had a relatively independent perspective on TA. The second author has extensive expertise in TA.

Studies were eligible for inclusion if (a) the psychotherapeutic treatment was explicitly based on TA theory as, for example, indicated by the name of the treatment (e.g., “Transactional Analysis Psychotherapy for Anxiety ‘Disorder’) or explicit reference to TA authors (e.g., Eric Berne); (b) each

Table 1. Search Terms.

Group of search terms	Search terms
Terms operationalizing transactional analysis and its associated unique concepts	“transactional analysis,” “cathexis,” “redcision,” “Transaksiyonel Analiz,” “Transaktionsanalyse,” “Analyse Transactionnelle,” “Transaksijske Analize,” “transakční analýzy,” “Transaktioanalyysi,” “Tranzakcióanalitikus Egyesület,” “Analisi Transazionale,” “Transactionele Analyse,” “Transakciné analizé,” “Transaksijska analiza,” “Трансакциска анализа,” “Transaksjonsanalytisk,” “Analiza Tranzationala,” “Трансакционный анализ,” “Transakcionu Analizu,” “transakcijsko analizo,” “Análisis Transaccional,” “Transaktionsanalytiska,” “Транзакційний аналіз,” “Analistas Transacionais,” “Análisis Transaccional,” “تحليل المعاملات,” “交流分析,” “트랜잭션 분석,” “Redcision,” “cathexis,” “ego state*,” “I am OK,” “You are OK,” “game analysis,” “first degree game,” “second degree game,” “life script,” “script enactment,” “script feeling*,” “script behavior*,” “script re-enactment,” “racket feeling*,” “racket system*,” “existential life position,” “first degree impasse,” “injunction*,” “counter-injunction*,” “injunctive message*,” “counter-injunctive message*,” “stroking,” “complementary transaction*,” “crossed transaction,” “episcript*,” “escape hatch*,” “ulteri, transaction*,” “drama triangle,” “therapy contract*,” “counselling contract*,” “counselling contract*,” “contract in therapy,” “contract in counsel*,” “contract in coach*,” “adult-child alliance,” “deconfusion,” “egogram,” “nurturing parent,” “controlling parent,” “adaptive child,” “natural child,” “creative child,” “free child,” “little profess,” “stop me if you can,” “clever me,” “if it weren’t for you,” “I’m only trying to help,” “let’s you and him fight,” “look how hard I’ve tried,” “Now I’ve got you,” “po, me,” “see what you made me do”
Terms operationalizing research	research, study studies, trial*, eval*, experiment outcome result* effect* change*, interview phenomenology, qualitative, quantitative survey questionnaire experiment, science

Note. Searches were conducted by combining terms operationalizing the treatment approach and terms operationalizing research.

conceptual component from the evidence-based conceptual model of TA was explicitly included in the article and/or the treatment manual (a checklist with each conceptual component was made, and for a study to be included, each component had to be described and included in the treatment; see all conceptual components in Figure 1, and find details in Vos & Van Rijn, 2021a);

(c) the measurement was done with psychometric instruments that have shown in at least two independent studies to have acceptable or good reliability (i.e., test–retest reliability: Cronbach’s $\alpha > .71$), and good validity (i.e., criterion validity: large significant correlations with other relevant scales $R > .50$, $p < .05$, and significant prediction of relevant outcomes, $p < .05$; construct validity: factors are identified via either exploratory or confirmatory factor analysis fulfilling common quality criteria such as number of factors larger than the scree in the scree plot, Eigenvalues > 1 and factor loadings $> .30$, or a structural equation model with good fit characteristics e.g., root mean square error of approximation $< .05$); (d) outcomes were about ego-states, social functioning, self-efficacy, psychopathology, self-realization, or general well-being; (e) the treatment had to include multiple sessions (e.g., not merely be one intervention technique within a session); (f) the treatment could be group-based or individual; (g) the study had to be a pre-post trial (which measures change within the experimental group only, without control groups) or an RCT; (h) to prevent overspecification and to improve generalizability of our findings for the second research objective, we did not limit our meta-analysis to one specific type of treatment in the control condition, and thus we included any type of bona fide therapies in the control groups (a control treatment was considered bona fide if it had shown to be effective in at least two clinical trials published in peer-reviewed journals; e.g., we excluded studies with control conditions that consisted of an artificial therapeutic treatment that was only created for a laboratory study); (i) the publication could be in any language, as long as sufficient information could be derived, for example, via Google Translate and it had sufficient quantitative data.

Meta-Analytical Steps for Objective 1

The studies were coded, and meta-analyses were conducted in consecutive steps in line with the study from Vos and Vitali (2018). To facilitate the article’s readability and limitation to length, we will only give a generic description of these steps; details can be found in a previous publication (Vos & Vitali, 2018) or the protocol of meta-analytical procedures be requested from the authors.

In the first step, we differentiated our analyses of pre-post effects (Review Objective 1) from effects of TA compared with control conditions in RCTs (Review Objective 2) (if a study had a non-randomized control group, the data from this study was only used to measure pre-post change, and not to test differences between control conditions). This decision was made because pre-versus-post effects and experiment-versus-control effects

measure different things. In all subsequent steps, we conducted separate analyses for pre-post effects and RCTs.

In the second step, overall pre-post effects for all trials were calculated. The result showed extensive significant heterogeneity, as indicated by a significant Q-value ($p < .05$) and a large I^2 of 95% (I^2 is interpreted as follows: 0%–40% might not be important; 30%–60% may represent moderate heterogeneity; 50%–90% may represent substantial heterogeneity; 75%–100% considerable heterogeneity). This heterogeneity was not surprising as this calculation included studies with very different populations. Therefore, we created a categorical dummy variable to differentiate between different populations and examined heterogeneity within and between populations. We found that the statistical heterogeneity between these studies was larger than within these studies: TA provided to individuals with mental health problems (individual TA; $I^2 = 41\%$), in groups of individuals with mental health problems (group TA; $I^2 = 39\%$), classes in schools (school TA; $I^2 = 46\%$), family systems (family TA; $I^2 = 38\%$), and groups in prisons (prison TA; $I^2 = 27\%$). There were only three studies conducted in companies (organizational TA) with standardized outcome measures. This number of studies was too small for further meta-analysis, so we have left these out. As the heterogeneity within each of these groups was still relatively large, we examined whether the baseline level of anxiety and depression (i.e., continuous variable) within the studies predicted the outcomes but baseline levels appeared to be non-significant in meta-regression analyses ($p > .05$). Therefore, in all the following steps, we will do separate analyses for each of these five populations: individual, group, school, family, and prison.

In the third step, we tested differences between follow-up measurements moments after the treatment had finished. However, there were not enough studies to summarize the long-term effects; therefore, we decided only to include the short-term outcomes of TA, measured within 4 months after treatment completion.

In the fourth step, we differentiated the effects on different outcomes. That is, we conducted separate analyses for the six different types of outcomes (which were included as a categorical dummy variable): psychopathology (e.g., anxiety, depression), social functioning (e.g., quality of social relationships, empathy), self-efficacy (e.g., locus of control), positive functioning of ego-states (e.g., large scores for Nurturing Parent, small Critical Parent, large Adult, large Free Child, weak Adapted Child), general well-being (e.g., quality-of-life, psychological stress measures), and constructive behavior (e.g., no conduct disorder in young people, no substance abuse). The heterogeneity within each of these six groups of outcomes within each of the five populations was small ($I^2 < 30\%$) (see Tables 3 and 4). Therefore, in all the

following steps, we differentiated these different groups of outcomes. If a study used multiple instruments to measure one category, we calculated average effect sizes; the decision to include or exclude an instrument was made based on similarities of the measured concept and heterogeneity statistics.

Meta-Analytical Steps for Objective 2

Following the meta-analytical steps on all studies (pre-post studies and RCTs together) to achieve Objective 1 (i.e., testing change between pre-treatment and post-treatment), we repeated the same steps for RCTs only to achieve Objective 2 (i.e., testing differences between TA and control groups).

Meta-Analytical Steps for Objective 3

We used meta-regression analysis in Comprehensive Meta-Analysis to test the statistical significance and size of correlations between predictors and the mean pre-post changes in psychopathology (Review Objective 3) to explain the differences between the studies. Correlations of 0.10 are considered small, 0.30 medium, 0.50 large, and 0.70 very large (resp. $r^2 = 0.01, 0.06, 0.14, \text{ and } 0.49$; in regression analyses of a single predictor and a single predicted outcome, the standardized Beta coefficient is equivalent to Pearson's r). We tested four groups of possible predictors.

First, we tested whether the changes in the outcome variables could be predicted by frequently examined study characteristics (see Vos & Vitali, 2018). We knew that testing these predictors could help identify whether the effects were due to study-related factors or other factors such as the TA treatment itself. We developed dummy variables for the following predictors: type of control condition (categorical variable: care-as-usual, waiting list, no treatment, support group, cognitive-behavioral intervention, psycho-education/biblio-therapy, relaxation/mindfulness); the intention of the control group to be therapeutic (categorical: not at all/somewhat/much/completely); continent of study (categorical); individual country (categorical); year of publication (continuous variable). We also tested whether the changes in the outcome variables could be predicted by any of the Cochrane Risk of Bias criteria; to do so, we had assessed each criterion and had summarized the overall risk of bias for each study with the three categories low, high, and unknown risk (categorical variable; Page et al., 2021) (inter-rater reliability Kappa = .88). We also tested the hypotheses that the outcomes were influenced by sample size (continuous variable), year of publication (continuous variable), or precision of effects (Capellini et al., 2012; Dechartres et al., 2014). To test these hypotheses, we analyzed all previous steps again, first

only in studies with the 25% largest sample sizes, second only in studies published since 2000, and third only in studies with the 25% most precise effects. We regarded effects as similar to the original findings if the significance and magnitude of the effects were similar (significant/non-significant; small/moderate/large) and effect sizes did not differ by more than 10% (Vos & Vitali, 2018).

Second, for explorative scoping purposes, we tested the prediction of outcomes by common sample characteristics via meta-regression analyses (Vos & Vitali, 2018): level of psychopathology at baseline (i.e., continuous variable), age (years), gender (proportion of men), an education level (categorical: low/mean/high; continuous: number of years); ethnicity of participants (proportions). Testing these predictors could help understand whether TA psychotherapy has different effects for different types of clients.

Third, for explorative scoping purposes, we tested whether characteristics of the TA treatment significantly predicted the client's short-term improvements in the level of psychopathology (i.e., average change between the baseline level and immediate post-therapy outcomes). Testing these predictors could help answer whether different TA schools and the different therapeutic techniques have different effects. We identified a range of predictors based on the Transactional Analysis Review Survey (Vos & Van Rijn, 2021c); all characteristics that the survey had shown to differentiate therapists from each other significantly were included in these meta-regression analyses. We created categorical dummy variables to test the following: TA approaches (categorical dummy variables: Psychodynamic, Cognitive-Behavioral, Redecision, Cathexis, Radical Psychiatry, Integrative, Co-Creative, and Relational TA; in addition to meta-regression analysis, this was also tested with Cohen's *d*), number of sessions (continuous variable), number of years of experience of the practitioner (continuous), educational level of the practitioner (categorical: low/mean/large), level of structure in the treatment (categorical: low, 1, to high, 5) and level of standardization of the treatment manual (categorical: low, 1, to high, 5). We also operationalized the following characteristics that had emerged from the survey (Vos & Van Rijn, 2021a, 2021b, 2021c) by creating new variables on Likert-type scales (categorical: little, 1, to much, 5), which we tested as predictors of pre-post changes in psychopathology: focus on the client-therapist relationship, the present instead of on the past, experiences (e.g., systematically stimulating client to explore, express, and deepen their flow of experiencing), psycho-education/didactics, assessment, differences between treatment stages, game analysis (e.g., analysis of problematic transference patterns in relationships), structural analysis (e.g., analysis of ego states, in behavior, internal experiences and etiology), life script analysis (e.g., analysis of an unconscious story like pattern with interconnected themes

unique to an individual), stroke analysis (e.g., analysis of a type of social, emotional and physical stimulation in “person” life), life position analysis (see explanation before), analysis of injunctions (e.g., unconscious impact of parental behaviors, experienced as parental messages during childhood), analysis of counter-injunctions (e.g., conscious parental messages, often based on norms of desirable behavior, such as “Be ‘Strong’”), working with the drama triangle (e.g., a method of game analysis helping clients understand the roles they take in these problematic patterns, such as Persecutor, Rescuer, Victim), having a treatment contract (e.g., mutually agreed therapeutic focus), cognitive-behavioral treatment techniques, inner dialog (e.g., structural analysis during problematic exchanges focusing on recognizing and expressing archaic material), and working with transference/countertransference. Further explanations and operationalization of each of these concepts can be found in Vos and Van Rijn (2021c). These rating scales were developed according to previous studies (Vos & Vitali, 2018) and applied reliably (inter-rater reliability $Kappa = .92$).

Fourth, we tested several factors describing the treatment process for explorative scoping purposes. We followed Eric Berne’s treatment model, which states that TA could help to reduce psychopathology, as described in the Introduction section. We tested whether the changes in ego-states, social functioning, and self-efficacy could predict changes in psychopathology. Furthermore, in line with other humanistic therapies (Elliott, 2002; Mearns & Cooper, 2017), we tested whether the level of a positive working alliance between client and practitioner could predict the improvement of psychopathology. Testing these predictors could help confirm or reject TA therapists’ hypothesis that clients improve thanks to the therapeutic mechanism of improving ego-states, social functioning, and self-efficacy (Vos & Van Rijn, 2021a).

Meta-Analytical Statistics

We calculated Hedges’s g and its 95% confidence interval (95% CI) to test the pre-post change in pre-post studies (Objective 1) and to test the comparative effects between the experimental and control conditions in RCTs (Objective 2). Hedges’s g is a robust alternative to Cohen’s d , corrected for biases due to small sample sizes (Hedges & Olkin, 2014). This may be conservatively interpreted with the conventional interpretation of Cohen’s d (1988): small (0.2), medium (0.5), and large (0.8) effect sizes. As studies differed in population and TA type, random effects were calculated, and random effects adequately mirrored heterogeneity in behavioral studies with non-inflated alpha levels (Hunter & Schmidt, 2000). In each meta-analytic step, we identified and discarded spurious outliers using a trimming technique that excluded studies where the 95%

CI was lower than the aggregated CI of all studies (Borenstein & Higgins, 2013). Where outliers are excluded, this is mentioned in the text. We tested publication bias in each step by visually inspecting funnel plots and calculating Egger intercepts, using a trim-and-fill procedure, which provides an estimate of effect size after publication bias has been taken into account (Duval & Tweedie, 2000). As publication bias did not significantly predict any of the findings, these are therefore not further reported in this article. A priori power analyses estimated that four or more studies are required to detect moderately large effect sizes (which we expected to find based on Widdowson, 2013, and Ohlsson, 2010), with power over 0.80 (Borenstein et al., 2009; Valentine et al., 2010). Therefore, the text will not present outcomes with less than four studies.

Results

Overview of Results

Figure 2 provides a flowchart of the study selection. From the initially 12,287 identified records, most were excluded as these were duplicates ($n = 971$), irrelevant because they did not describe a clinical trial into TA ($n = 10,336$), had a wrong population ($n = 431$), described an irrelevant topic ($n = 380$), or had no quantitative data ($n = 71$), or not sufficient data ($n = 57$). We included 41 studies, of which 13 are RCTs: nine studies on individual TA, seven on group TA, 10 on family TA, seven on school TA, and eight on prison TA. Table 2 provides an overview of the main characteristics of the included studies. On average, participants were 47.6 years old ($SD = 15.6$), and 67% were women. Of all studies, 26 were conducted in the United States, 15 in Iran, six in the United Kingdom, four in Europe other than the United Kingdom, and three in South-East Asia. On the baseline, the average level of psychopathology was moderately large ($M = 3.5$, $SD = 1.2$ on a standardized scale ranging from 1, *no pathology*, to 5, *large pathology*). On average, participants had received 12.5 years of education ($SD = 4.3$), which reflected an average level of high school graduation to the first years of further education.

Objective 1. Treatment Outcomes in Pre-Post Studies

Table 3 describes the pre-post treatment outcomes. The following findings had sufficient power (i.e., including four or more studies). The effect sizes described the change between measurements before and immediately after the treatment. Across all groups, TA created small to large (on average large) positive changes in the sense of self-efficacy (Hedges's $g = .80$; 95% CI =

Table 2. Study Characteristics and Effect Sizes (Hedges's g).

Study	Study type	Treatment format	Country	Sample	Sample size	Overall risk of bias	Psychopathology functioning	Social	Self-efficacy	Ego states	General well-being	Behavior
Alkasir, 2017	Randomized controlled trial	Couples	Iran	Couples	40	Moderate	n/a	3.1	3.2	n/a	n/a	2.01
Allwood, 1981	Randomized controlled trial	Group	USA	Students	30	Small	n/a	n/a	0.57	n/a	0.59	0.45
Amundson & Sawatzky, 1976	Randomized controlled trial	Individual	USA	Students	30	Small	n/a	0.62	0.45	n/a	n/a	n/a
Bader, 1982	Randomized controlled trial	Family/partner	USA	Family	38	Small	n/a	0.26	0.45	n/a	0.97	0.3
Bekaouche, 1975	Pre/post	Group	USA	Juvenile delinquents	13	Small	n/a	1.07	1.36	n/a	1.1	1.39
Bloom, 1978	Pre/post	Group	USA	General population	22	Small	n/a	0.87	0.6	n/a	0.37	n/a
Boholst, 2003	Randomized controlled trial	Group	USA	Students	28	Small	n/a	n/a	n/a	1.39	n/a	n/a
Bossenmayer, 2011	Pre/post	Individual	Romania	Students	38	Large	n/a	n/a	n/a	0.58	n/a	n/a
Carusi, 1983	Randomized controlled trial	Group	USA	Children	342	Large	n/a	n/a	0.25	n/a	n/a	n/a
Chance, 1982	Randomized controlled trial	Group	USA	Male prisoners	79	Small	n/a	0.18	0.19	n/a	0.2	0.9
Chrysafidou & Van Rijn, 2018	Pre/post	Individual TA psychotherapy	United Kingdom	General community-based care	53	Small	0.64	n/a	n/a	n/a	n/a	n/a
Clark, 1983	Randomized controlled trial	Group	USA	Students	73	Small	n/a	0.86	n/a	n/a	n/a	n/a
Collins, 1985	Pre/post	Group	USA	Prisoners	58	Large	0.17	0.31	0.17	n/a	0.6	n/a
Cragg, 1978	Randomized controlled trial	Group	USA	Teachers	20	Small	n/a	0.42	0.44	0.31	0.35	0.34

(continued)

Table 2. (continued)

Study	Study type	Treatment format	Country	Sample	Sample size	Overall risk of bias	Psychopathology functioning	Social	Self-efficacy	Ego states	General well-being	Behavior
Dindoost et al., 2019	Quasi-experimental	Group	Iran	Married women	30	Moderate	n/a	n/a	1.38	n/a	n/a	n/a
Ebrahimisani et al., 2012	Randomized controlled trial	Group	Iran	Soldiers	30	Large	n/a	n/a	2.1	n/a	n/a	n/a
Elbing et al., 2015	Pre/post	Individual	Germany	Clinical outpatients	17	Large	0.63	n/a	n/a	0.63	n/a	n/a
Elmore, 1976	Randomized controlled trial	Couples	USA	Couples	52	Small	0.47	0.34	0.53	n/a	n/a	n/a
Erskine & Maisenbacher, 1975	Pre/post	Individual	USA	Students	20	Large	0.91	n/a	n/a	n/a	n/a	1.07
Etemadi-Chardah et al., 2017	Randomized controlled trial	Group	Iran	Addiction	40	Large	n/a	0.35	n/a	n/a	1.01	1.71
Fanger, 1978	Randomized controlled trial	Group	USA	Clinical and non-clinical volunteers	28	Small	n/a	0.49	n/a	n/a	n/a	n/a
Fetsch, 1980	Randomized controlled trial	Group	USA	Depression	19	Small	1.9	n/a	n/a	1.3	n/a	n/a
Forghani & Abadi, 2016	Randomized controlled trial	Group	Iran	Substance abuse	30	Moderate	n/a	n/a	2.01	n/a	n/a	n/a
Harford, 2013	Pre/post	Group	United Kingdom	Veterans with post-traumatic stress disorder	8	Small	1	n/a	n/a	n/a	n/a	n/a
Horn et al., 2015	Matched controlled trial	Group	Netherlands	Personality disorder	67	Small	0.28	0.22	n/a	n/a	0.4	n/a

(continued)

Table 2. (continued)

Study	Study type	Treatment format	Country	Sample	Sample size	Overall risk of bias	Psychopathology	Social functioning	Self-efficacy	Ego states	General well-being	Behavior
Iashani	Randomized controlled trial	Group	Iran	Female students	30	Large	1.17	1.49	1.3	n/a	n/a	n/a
Intarakumnerd, 1976	Pre/post	Group	USA	Students	50	Small	n/a	n/a	1.56	n/a	n/a	n/a
Jenness, 1975	Randomized controlled trial	Group	USA	Delinquents	599	Small	0.16	0.13	0.08	n/a	n/a	n/a
Johnson, 1974	Randomized controlled trial	Group	USA	Workshop	77	Large	n/a	n/a	n/a	n/a	0.29	n/a
Kafi et al., 2011	Randomized controlled trial	Group	Iran	Addiction	30	Small	n/a	n/a	1.2	n/a	n/a	n/a
Keshavarzi et al., 2016	Randomized controlled trial	Group	Iran	Adolescents	38	Small	n/a	0.97	0.39	n/a	n/a	0.09
Martinko & Luthans, 1981	Randomized controlled trial	Group	USA	Employees	41	Large	n/a	n/a	n/a	n/a	n/a	0.36
McNeel, 1975	Pre/post	Group	USA	Workshop	20	Small	0.56	0.49	0.71	n/a	0.68	0.4
Mei, 2010	Pre/post	Group	China	Students	85	Large	n/a	n/a	0.31	n/a	n/a	n/a
Naderi et al., 2014	Randomized controlled trial	Group	Iran	Married women	30	Small	n/a	n/a	n/a	n/a	1.2	n/a
Nayeri et al., 2014	Randomized controlled trial	Couples	Iran	Couples	30	Small	n/a	1.42	n/a	n/a	n/a	n/a
Novey, 1999	Randomized controlled trial	Family/partner	USA	Wide range of TA psychotherapy clients	246	Small	0.49	n/a	n/a	n/a	n/a	n/a
O'Donnell, 1978	Randomized controlled trial	Group	USA	Students	107	Small	0.5	n/a	0.08	n/a	0.23	n/a
Olson et al., 1981	Pre/post	Group	USA	Alcohol addiction	113	Small	0.5	n/a	n/a	n/a	n/a	0.42

(continued)

Table 2. (continued)

Study	Study type	Treatment format	Country	Sample	Sample size	Overall risk of bias	Psychopathology functioning	Social	Self-efficacy	Ego states	General well-being	Behavior
Patton, 1974	Randomized controlled trial	Group	USA	Students	45	Small	0.44	n/a	0.11	n/a	0.51	0.57
Rajabi & Nikpoor, 2018	Randomized controlled trial	Group	Iran	Love trauma syndrome	44	Large	n/a	n/a	n/a	n/a	2.31	n/a
Saberinia & Niknejadi, 2019	Randomized controlled trial	Family/partner	Iran	Mothers	30	Small	1.72	2.12	1.15	n/a	n/a	1.26
Sakaki & Hassan, 2017	Randomized controlled trial	Family/partner	Iran	Female students	24	Small	n/a	1.1	n/a	n/a	0.91	n/a
Sheikhmoonesi et al., 2013	Randomized controlled trial	group	Iran	Nurses	25	Large	n/a	0.45	n/a	n/a	n/a	n/a
Soltani et al., 2012	Randomized controlled trial	Couples	Iran	Couples	60	Small	n/a	1.15	n/a	n/a	n/a	n/a
Stasiw, 1977	Randomized controlled trial	group	USA	Male offenders	30	Small	0.33	n/a	1.26	n/a	n/a	n/a
Sundah, 2018	Randomized controlled trial	group	Indonesia	Students	39	Large	n/a	n/a	0.94	n/a	n/a	n/a
Talob, 1994	Randomized controlled trial	group	Philippines	Students	146	Large	n/a	n/a	n/a	0.6	n/a	n/a
Thunnissen, 2015	Pre/post	group	Netherlands	Personality disorder		Small	1.56	n/a	n/a	n/a	n/a	n/a
Torkaman et al., 2020	Randomized controlled trial	group	Iran	Imprisoned women	76	Large	n/a	n/a	3.79	n/a	n/a	n/a
Van Rijn et al., 2014	Pre/post	Individual TA psychotherapy	United Kingdom	General community-based care	30	Small	0.72	n/a	n/a	n/a	n/a	n/a

(continued)

Table 2. (continued)

Study	Study type	Treatment format	Country	Sample	Sample size	Overall risk of bias	Psychopathology	Social functioning	Self-efficacy	Ego states	General well-being	Behavior
Van Rijn, 2011	Pre/post	Individual TA psychotherapy	United Kingdom	General community-based care	38	Small	0.75	n/a	n/a	n/a	n/a	n/a
Van Rijn, 2017	Pre/post	Individual TA psychotherapy	United Kingdom	General community-based care		Small	1.09	n/a	n/a	n/a	n/a	n/a
Walters, 1983	Randomized controlled trial	Group	USA	Students	35	Large	n/a		0.49	n/a	n/a	n/a
Widdowson et al., 2016	Pre/post	Group	United Kingdom	Students	49	Large	n/a	0.29	0.67	n/a	n/a	n/a
Wissink, 1994	Randomized controlled trial	Family/partner	USA	Students and university staff	10	Small	n/a		1.25	n/a	n/a	n/a
Woodward, 1974	Randomized controlled trial	Group	USA	Students	180	Large	n/a	5.12	7.49	n/a	n/a	n/a

Note. n/a = not applicable; TA = transactional analysis.

Table 3. Objective 1. Treatment Outcomes in Pre-Post Studies.

Type of TA	Psychopathology			Social functioning			Self-efficacy			Ego-states			General well-being			Behavior	
	<i>n</i> of studies	Effect size (95% CI)	<i>n</i> of studies	Effect size (95% CI)	<i>n</i> of studies	Effect size (95% CI)	<i>n</i> of studies	Effect size (95% CI)	<i>n</i> of studies	Effect size (95% CI)	<i>n</i> of studies	Effect size (95% CI)	<i>n</i> of studies	Effect size (95% CI)	<i>n</i> of studies	Effect size (95% CI)	
Overall	25	.66 [.50, .82]	26	.62 [.45, .78]	34	.80 [.10, 1.61]	7	.69 [.44, .95]	6	.33 [.10, .56]	17	.56 [.35, .76]					
Individual TA	9	.66 [.55, .76]	1	.87 [.37, 1.36]	3	.30 [.09, .52]	2	.55 [.20, .89]	0	n/a	1	.61 [.14, 1.20]					
Group TA	6	1.06 [.47, 1.65]	4	.35 [.12, .57]	7	1.11 [.60, 1.62]	3	.85 [0, 1.75]	2	.39 [.09, .69]	2	.36 [.05, .67] ^a					
Family TA	2	1.3 [.10, 2.4] ^a	10	1.00 [.63, 1.40] ^a	8	.94 [.56, 1.32] ^a	1	.99 [.39, 1.59] ^a	2	1.35 [0.60, 2.10] ^a	6	1.21 [.84, 1.59] ^a					
School TA	1	0.91 [.18, 1.65]	2	1.90 [−.51, 4.72] ^a	7	.67 [.37, .98]	1	.71 [.38, 1.04]	0	n/a	3	1.10 [.41, 1.80] ^a					
Prison TA	5	.24 [.05, .48]	5	.22 [.06, .37]	8	.34 [.11, .57]	0	n/a	5	.17 [−.09, .43] ^b	3	.11 [.01, .21]					

Note. Findings in bold have sufficient statistical power (i.e., four or more studies). TA = transactional analysis; n/a = not applicable.

^aFindings are heterogeneous. ^b Overall study effects not significant $p(Z) > .05$.

[.10, 1.61]) and medium to large positive changes (on average medium) in the functioning of ego-states (Hedges's $g = .69$; 95% CI = [.44, .95]), in the level of psychopathology (Hedges's $g = .66$; 95% CI = [.50, .82]), and social functioning (Hedges's $g = .62$; 95% CI = [.45, .78]); overall, TA was also associated with small to medium improvements (on average medium) in general well-being (Hedges's $g = .33$; 95% CI = [.10, .56]). Individual TA created a medium to a large reduction in the level of psychopathology (on average medium) (Hedges's $g = .66$; 95% CI = [.55, .76]). Group TA was associated with medium to large improvements (on average large) in self-efficacy (Hedges's $g = 1.11$; 95% CI = [.60, 1.62]) and psychopathology (Hedges's $g = 1.06$; 95% CI = [.47, 1.65]); group TA was also associated with small to medium improvements in social functioning (on average small) (Hedges's $g = .35$; 95% CI = [.12, .57]). Family TA caused large to very large improvements (on average large) in social functioning (Hedges's $g = 1.00$; 95% CI = [.63, 1.40]) and self-efficacy (Hedges's $g = .94$; 95% CI = [.56, 1.32]). In schools, TA led to medium to large improvements (on average medium) in self-efficacy (Hedges's $g = .67$; 95% CI = [.37, .98]). In prisons, TA was associated with small to medium positive improvements (on average medium) on self-efficacy (Hedges's $g = .34$; 95% CI = [.11, .57]), social functioning (Hedges's $g = .22$; 95% CI = [.06, .37]), psychopathology (Hedges's $g = .24$; 95% CI [0, .48]), and general well-being (Hedges's $g = .17$; 95% CI = [.09, .43]).

Objective 2. Effects Compared With Randomized Control Conditions

Table 4 describes the RCTs. The following findings had sufficient power (i.e., four or more studies). The effect sizes described the differences between TA and control groups. Overall in comparison with control conditions, TA treatment was on average associated with large to very large positive effects (on average large) in self-efficacy (Hedges's $g = .88$; 95% CI = [.64, 1.11]); TA was also associated with large to very large effects (on average large) on general well-being (Hedges's $g = .85$; 95% CI = [.38, 1.31]), functioning of ego-states (Hedges's $g = .70$; 95% CI = [.23, 1.19]), and social functioning (Hedges's $g = .69$; 95% CI = [.48, .90]); TA was associated with medium to very large effects (on average medium) in the level of psychopathology (Hedges's $g = .61$; 95% CI = [.38, 1.44]). Individual TA treatment had small to large effects (on average medium) on the level of psychopathology (Hedges's $g = .54$; 95% CI = [.28, .82]), and group TA treatment had medium to very large effects on self-efficacy (Hedges's $g = 1.13$; 95%

Table 4. Objective 2. Treatment Effects of Transactional Analysis Compared With Alternative Conditions in Randomized Controlled Trials.

Type of TA	Psychopathology			Social functioning			Self-efficacy			Ego-states			General well-being			Behavior		
	<i>n</i> of studies	Effect size (95% CI)	<i>n</i> of studies	Effect size (95% CI)	<i>n</i> of studies	Effect size (95% CI)	<i>n</i> of studies	Effect size (95% CI)	<i>n</i> of studies	Effect size (95% CI)	<i>n</i> of studies	Effect size (95% CI)	<i>n</i> of studies	Effect size (95% CI)	<i>n</i> of studies	Effect size (95% CI)	<i>n</i> of studies	Effect size (95% CI)
Overall	13	.61 [.38, 1.44]	21	.69 [.48, .90]	27	.88 [.64, 1.11]	4	.70 [.23, 1.19]	5	.85 [.38, 1.31]	12	.46 [.23, .68]						
Individual	5	.54 [.28, .82]	0	n/a	1	.10 [-.32, .52]^a	0	n/a	0	n/a	1	.57 [.12, 1.02]						
TA																		
Group TA	2	1.00 [.58, 1.59]	1	.32 [.07, .56]	5	1.13 [.44, 1.78]^b	3	.85 [.07, 1.75]	2	.36 [.07, .65]	1	.34 [.07, .72]						
Family TA	2	1.10 [.07, 1.72]	9	.98 [.55, 1.41]^b	7	.83 [.41, 1.25]	0	n/a	2	1.26 [.61, 1.90]	2	.70 [.07, 1.64]						
School TA	0	n/a	2	1.84 [-.63, 4.31]^b	7	.55 [.29, .82]	1	.60 [.23, .97]	0	n/a	2	1.22 [-.30, 2.78]^b						
Prison TA	4	.64 [.07, 1.26]^b	4	.17 [-.07, .36]	7	.96 [.47, 1.45]^b	0	n/a	0	n/a	3	.08 [-.01, .17]						

Note. Findings in bold have sufficient statistical power (i.e., four or more studies). TA = transactional analysis. n/a not applicable.

^aOverall study effects not significant $p(Z) > .05$. ^b Findings are heterogeneous.

Table 5. Predictors of the Mean Change in Psychopathology.

Predictor group	Predictors	<i>n</i> of studies	<i>r</i> (<i>p</i>)
Transactional analysis characteristics	Focus on the client–practitioner relationship	34	.55 (.01)
	Focus on experiences	34	.48 (.01)
	Focus on assessment	34	.44 (.02)
	Clear stages	34	.36 (.01)
	Focus on psycho-education/didactics	34	.34 (.02)
	Focus on the present	34	.34 (.03)
	Life script analysis	34	.28 (.02)
	Analysis of injunctions and counter-injunctions	34	.22 (.04)
	Therapeutic contract	34	.17 (.03)
Treatment process characteristics	Positive ego state functioning	6	.66 (.01)
	Social functioning	24	.58 (.01)
	Self-efficacy	31	.57 (.01)
	Positive working alliance	7	.52 (.01)

CI = [.44, 1.78]). Family TA treatment had medium to very large effects (on average large) in social functioning (Hedges's $g = .98$; 95% CI = [.56, 1.41]) and self-efficacy (Hedges's $g = .83$; 95% CI = [.41, 1.25]). In schools, TA treatment leads to small to large effects (on average medium) in self-efficacy (Hedges's $g = .55$; 95% CI = [.29, .82]), and in prisons, it leads to medium to very large effects (on average large) in self-efficacy (Hedges's $g = .96$; 95% CI = [.47, 1.45]), very small to very large effects (on average large) in psychopathology (Hedges's $g = .64$; 95% CI = [.05, 1.26]), and very small to medium effects (on average small) in social functioning (Hedges's $g = .17$; 95% CI = [0.07, .36]).

Objective 3. Predictors of Change in Psychopathology in Pre-Post Studies

We examined which variables could significantly predict the short-term improvements in the client's level of psychopathology (i.e., change from baseline to immediate post-therapy measurements). Detailed results can be found in table 5. The clients' changes were not significantly predicted by characteristics of the studies and the samples, different TA schools, number of sessions, number

of years of experience, and educational level of the practitioners. There were also no significant differences between the different TA schools.

The clients had significantly larger improvements in their level of psychopathology if the treatments had a larger focus on the client–practitioner relationship ($r = .55, p < .01$), and on the client's experiences ($r = .48, p < .01$) and systematic assessment ($r = .44, p < .05$). Clients also improved more in their psychopathology, with moderately strongly effects, if the treatments had a more precise differentiation of stages ($r = .36, p < .05$), a stronger focus on psycho-education/didactics ($r = .34, p < .01$), and a stronger focus on the present ($r = .34, p < .05$). Furthermore, clients improved more in their level of psychopathology, with small effects, if the treatment had a stronger focus on life script analysis ($r = .28, p < .05$), analysis of injunctions and counter-injunctions ($r = .22, p < .05$), and the treatment contract ($r = .17, p < .05$).

We also tested the hypothesis that clients reduced their level of psychopathology and improved functioning due to learning TA-specific skills during treatment. That is, the survey among TA practitioners suggested that clients improved due to ego state development and improvements in social functioning and self-efficacy (Vos & Van Rijn, 2021a). The survey also indicated that clients might have achieved personal change due to developing a strong working alliance with their practitioners. The meta-analyses showed that improvements in the level of psychopathology positively correlated with better functioning of ego states ($r = .66, p < .01$), improved social functioning ($r = .58, p < .01$), and self-efficacy ($r = .57, p < .01$), and the strength of the working alliance between client and practitioner ($r = .52, p < .01$).

Discussion

This meta-analysis suggested that TA psychotherapeutic treatment for individuals, in groups, in families, and in prisons, improved the clients' levels of psychopathology and self-efficacy, also when compared with control conditions. In addition, TA in groups and in prisons improved social functioning. The only finding with enough power for school-based TA indicated that it led to increased self-efficacy. These findings were in line with outcomes reported in several qualitative studies on TA (Benelli & Zanchetta, 2019).

Overall, the large effect sizes were similar to the findings of meta-analyses on other humanistic psychotherapies (Elliott, 2002; Vos et al., 2015; Vos & Vitali, 2018). The sizes of these effects were also in line with other evidence-based psychotherapies, such as cognitive behavior therapy (Goodheart et al., 2006). It has been argued that all psychological treatments have relatively similar positive effects—the so-called Dodo Bird Hypothesis (Wampold, 2013). This has been explained by the fact that most treatments have many

factors in common, such as creating a positive client–practitioner relationship (Norcross & Wampold, 2019).

However, we considered it more relevant to examine which factors contributed to the treatment effectiveness than merely reporting overall treatment outcomes (Norcross et al., 2006; Roth & Fonagy, 2006; Wampold & Imel, 2015). Therefore, we did not only report the overall effects but also examined several moderators and mediators. We found that the outcomes of TA treatment could be explained by the improvements in ego-states, self-efficacy, and social functioning. The improvement of ego-states could mean that individuals experienced a decrease in their internalized self-criticism (e.g., called “Critical Parent” in the ego state model). The improvement of the ego-states may also imply that individuals can accept the multiplicity of internal experiences and thus they may become more flexible in accessing different parts of themselves (i.e., ego-states). The TA treatments centered around the clinical model of ego-states; the concept of “ego-states” has been linked to the broader concept of mentalization, which has shown to be related to psychological health and functioning (Fonagy, et al., 2018). This outcome of TA treatment is related to the sense of self-efficacy and social well-being. That is, individuals develop better skills to cope flexibly with problems in daily life and social contexts and feel more positively connected with others. This leads to a more positive life position toward themselves and others: “I am OK and you are OK” (Boholst et al., 2005). Thus, these findings seem to confirm the fundamental assumption from TA therapists that clients may benefit from TA psychotherapeutic treatments thanks to the improvement of ego-states and life position.

Finally, in line with other meta-analyses on psychotherapy effectiveness (Norcross & Wampold, 2019), we found that the client–practitioner relationship was another strong predictor of therapy effectiveness. The other significant moderators found in our meta-analysis have also been reported in other studies: TA seemed to be more effective when the practitioner focused on the clients’ experiences, assessment, treatment stages, psycho-education/didactics, and working in the present (Vos & Van Rijn, 2021c). Some TA-unique techniques created minor additional effects: life script analysis, analysis of injunctions and counter-injunctions, and an explicit agreement about the aims and methods of the treatment (called “contract” in TA). These techniques may have stimulated the creation of a positive client–practitioner relationship, as did the analysis and change of the clients’ ego-states, self-efficacy, and social functioning. Overall, the findings regarding significant moderators and mediators may be interpreted tentatively to suggest that TA could be effective due to an optimal focus on common factors, shown to be effective in evidence-based treatments in general (Norcross & Wampold, 2019; Norcross et al., 2006; Roth & Fonagy, 2006; Wampold & Imel, 2015).

Limitations

This study is limited by the relative lack of studies for all outcomes in each context where TA is applied. For example, there were relatively few studies on individual TA treatment and school TA treatment. Most trials tested semi-structured treatment manuals and not fully structured manuals. Consequently, some studies might have lacked standardization, which could explain some of the variations in the study effects. However, the extent of standardization of the treatment did not significantly affect the outcomes.

Furthermore, several studies were relatively old, from the 1970s (although the age of the studies did not significantly predict the outcomes). New studies are needed to understand whether TA is currently similarly effective. There was not enough information across the studies to analyze the effects of therapist pre-training, supervision and caseload, researcher/therapist allegiance, client preferences, and sample representativity. As is often the case in psychotherapy research, blinding was impossible due to the nature of the treatment. We included a variety of control conditions in the RCTs; future studies should focus on control conditions that are considered the gold standard treatments in the field, to improve the comparability and generalizability of the study findings (although we did not find differences between the different types of control conditions).

We have only included treatments that addressed each of the components of the evidence-based conceptual model of transactional analysis (Vos & van Rijn, 2021c). This seems to suggest that the effects in the studies can be attributed to the TA treatment and not to other non-TA interventions. However, like in many meta-analyses of psychological therapies, most studies included in our meta-analysis did not report formal procedures to examine how the therapists adhere to the treatment manual and used non-TA techniques. Future studies should explore the effects of adherence to the TA treatment manual. However, one may argue that studies without clear adherence procedures may represent the clinical reality that 80% of all TA therapists use TA alongside other therapeutic approaches (Vos & Van Rijn, 2021a).

We explored a range of possible predictors in the meta-regression analyses. These findings should be interpreted cautiously, as the risk of statistical errors increases with an increased number of statistical tests. However, we decided not to do any statistical corrections for the number of statistical estimations. These meta-regression analyses aimed to be merely explorative and generate clinical hypotheses and suggestions for future studies. To increase statistical power, future trials should include formal moderation/mediation analysis or structural equation modeling. Another limitation is that these predictors were broad, and therefore future studies should, for example, measure the process and effects for each treatment session.

Implications

There have not been any systematic reviews and meta-analyses of all clinical trials on TA until now. Consequently, there has been an unclarity about the status of the evidence basis of TA. This may have led in the past to mental health services and health insurances to exclude TA from their standard policies; our findings may guide future decision-making by policymakers.

Our review and meta-analysis seem to indicate that TA may be considered bona fide psychotherapy that may be used efficaciously in various clinical settings. With the term “bona fide” we refer to the widely used definition by Wampold, Mondin, Moody, Stuch, Benson & Ahn (1997; see also Wampold, 2015) of bona fide therapies as being “delivered by trained [professionals] and [being] based on psychological principles, [being] offered to the psychotherapy community as viable treatments (e.g., through professional books or manuals), [and being] contained by specified components.”

The findings also suggested that TA treatment may be considered effective according to the criteria of Chambless and Hollon (1998), as the effects are shown in more than two controlled trials from different research teams. According to the criteria of the Division 12 Task Force of the American Psychological Association (APA), TA treatment may also be considered a well-established treatment, as there are more than at least two between-group design experiments conducted by independent research teams which indicated equivalence or superiority to other already established treatments and waiting lists. TA psychotherapy meets the criteria of a well-established treatment (Chambles & Ollendick, 2001) based on a previously published synthesis of 11 single case studies (Benelli, 2020). Although the current body of evidence seems to justify these conclusions, a comparison with the APA criteria also suggested that the TA research could be further strengthened by developing more structured treatment manuals for specific populations and testing adherence to the model.

TA treatment explicitly focuses on therapeutic mechanisms which the American Psychotherapy Association [APA] (2013) considers to be evidence based: “[evidence-based psychotherapy is] rooted in and enhanced by a therapeutic alliance between therapist and client/patient that involves a bond between the psychologist and the client/patient as well as agreement about the goals and tasks of the treatment” (see also Cuijpers et al., 2008; Karver et al., 2006; Lambert, 2004; Norcross, 2011; Shirk & Karver, 2003; Wampold, 2007). The positive outcomes of TA in this meta-analysis also indicated that TA achieved the generic purpose of psychotherapy of

providing symptom relief and personality change, reducing future symptomatic episodes, enhancing the quality of life, promoting adaptive functioning in work/school and relationships, increasing the likelihood of making healthy life

choices, and offering other benefits established by the collaboration between client/patient and psychologist. (APA Presidential Task Force on Evidence-Based Practice, 2006; cf. Burlingame et al., 2003; Carr, 2009a, 2009b; Kösters et al., 2006; Shedler, 2010; Wampold, 2015)

Thus, this systematic review and meta-analysis seems to tentatively suggest that TA is a bona fide and evidence-based psychotherapy that therapists may consider in a wide range of settings, although further research is warranted.

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Note

1. As the Method section will describe, a study was excluded from this review and meta-analysis if the treatment did not include each component of this Conceptual Model.

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Biljana van Rijn is a TSTA (Psychotherapy), UKCP registered psychotherapist and HCPC registered counseling psychologist. She is a faculty head of Research and Doctoral Programmes at Metanoia Institute and is involved in the development of research both as a chair of the EATA Theory Development and Research committee, and as a chair of research committees within Metanoia Institute. She is a chair elect of the SPR UK Chapter. One of her main interests lies in developing high-quality research and publication in TA and developing its impact in the wider field. As well as teaching TA psychotherapy for many years, she has developed a research clinic at Metanoia Institute and engaged in projects with research partners from other universities, and organizations within the United Kingdom and internationally. She has published many research papers, as well as chapters and books on reflective practice, clinical assessment, and formulation. She is involved with many psychotherapy research journals as a reviewer and has served on editorial boards. She is also a recipient of the 2019 ITAA research award for her contributions to research in transactional analysis.