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The impact of perfectionism on treatment outcomes of mental health disorders: a systematic review of randomised controlled trials

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ABSTRACT

Perfectionism is associated with multiple mental health disorders, but its role as a prognostic factor in treatment outcomes remains debated. This systematic review assessed the impact of perfectionism on mental health disorder treatment outcomes. Seven databases were searched from to 11 October 2024, for randomised controlled trials that examined the relationship between perfectionism and treatment outcomes. A citation search was also performed. Sixteen randomised controlled trials with 2197 participants were included. Of these, fifteen explored how baseline perfectionism impacted primary mental health disorder treatment outcomes for eating disorders ($N = 4$), anxiety disorders ($N = 3$), obsessive-compulsive disorder ($N = 3$), major depressive disorder ($N = 2$), mixed depressive disorders ($N = 2$) and body dysmorphic disorder ($N = 1$). Nine of these fifteen studies (56%) found higher baseline perfectionism was associated with poorer treatment outcomes, while five (38%) found no significant association, and one (6%) reported mixed findings. Four out of five studies with children and adolescents reported negative impacts of baseline perfectionism. Overall, baseline perfectionism appears to have a mix of negative and non-significant effects on treatment outcomes across age groups. Limitations include the high risk of bias in some studies and the absence of meta-analyses. Clinicians should assess for perfectionism and address it when it hinders progress.

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KEYWORDS

Perfectionism; mental health disorders; treatment outcomes; randomised controlled trials

Introduction

Perfectionism is a transdiagnostic process associated with multiple mental health disorders, including anxiety, depression, obsessive-compulsive disorder (OCD) and eating disorders (Shafran et al., 2023). There is also a strong relationship between perfectionism and suicide (Smith et al., 2018). For example, in a recent meta-analysis of 416 studies with 113,118 participants aged 17 to 90 years, medium-strength correlations were reported between perfectionism and anxiety, OCD and depressive symptoms (pooled $r = .38$ to $.43$) (Callaghan et al., 2024). Similar-sized associations were found in studies focusing on the association between perfectionism and eating disorders in adults (Stackpole et al., 2023). Such associations exist across the age range, with consistent findings of a positive relationship between perfectionism and a range of psychological symptoms from studies with children and young people (CYP; Bills et al., 2023; Lunn et al., 2023).

The existing research on the relationship between perfectionism and psychopathology goes beyond associations. Longitudinal studies have also indicated that perfectionism is a risk factor for the development of mental health disorders, with a meta-analysis of 67 studies providing strong support for perfectionism as a vulnerability factor in the development of depression (Smith et al., 2021), and similar results were discovered for other mental health disorders including eating disorders (Vervaeke et al., 2021). Furthermore, in a systematic review and meta-analysis of 15 randomised controlled trials (RCTs) examining the impact of treatment of perfectionism on mental health disorders, cognitive behavioural therapy for

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perfectionism had a positive medium-sized impact on symptoms of eating disorders and depression and a small-medium effect on anxiety (Galloway et al., 2022).

Several theoretical models have been suggested to account for the relationship between perfectionism and psychopathology and the multiple dimensions of perfectionism (Smith et al., 2022). Over the past decades, the body of work on perfectionism has allowed for an increasingly fine-grained analysis of the different types of perfectionism and their role in psychopathology. However, perfectionism is not a mental health condition recognised by the Diagnostic and Statistical Manual, Fifth Edition (DSM-5; American Psychiatric Association, 2013). As such, despite the strong associations between perfectionism and psychological symptoms, it is often not the focus of intervention when patients present with mental health disorders in the context of perfectionism. Clinicians are often unsure whether the high levels of perfectionism are likely to impede treatment progress or potentially facilitate it.

At present, the literature on how perfectionism influences mental health disorder treatment outcomes appears mixed. While a considerable number of studies reported perfectionism had a significant negative impact on mental health disorder treatment outcomes (Jacobs et al., 2009; J. H. Mitchell et al., 2013; Welch et al., 2020), others did not (de Jong et al., 2020; Fang et al., 2020). Furthermore, several studies have investigated the extent to which perfectionism limits the success of psychotherapy, leading to the development of the Perfectionism Social Disconnection Model (PSDM; Hewitt et al., 2018). Specifically, this model proposed that different dimensions of perfectionism lead to social disconnection in patients, impeding the development of therapeutic alliance (Hewitt et al., 2008, 2018) and harming their interpersonal relationships outside the psychotherapy, such as high-quality friendships (Hewitt et al., 2020), thus negatively influencing treatment outcomes. Additionally, there is also evidence supporting a potentially positive relationship between perfectionism and treatment outcomes for mental health disorders. Blatt et al. (1995) reported that high levels of the “needs for approval” dimension of perfectionism were marginally associated with lower post-treatment depressive symptoms. Moreover, some authors have pointed out a possible mechanism that supports a positive relationship: with the desire to achieve better treatment results, individuals with elevated personal standards and needs for approval could potentially develop higher levels of compliance with treatment plans (Lo & Abbott, 2013) and greater motivation towards treatment goals (Stoeber & Otto, 2006). Overall, we hypothesise that perfectionism has a negative influence on mental health disorder treatment outcomes, but since the evidence is inconsistent, a systematic review is needed.

Carrying out a systematic review of the relationship between perfectionism and mental health disorder treatment outcomes is important for clinical and research implications. From a research perspective, no reviews have been conducted to summarise the mixed findings on the impact of perfectionism on mental health disorder treatment outcomes for any age group. From a clinical perspective, a systematic review could potentially inform clinicians about how to improve mental health disorder treatment outcomes for individuals presenting with perfectionism and whether perfectionism should be included in treatment.

The aim of the current study is to conduct a systematic review of RCTs for mental health disorders where perfectionism has been measured, synthesising the literature to examine the impact of perfectionism on treatment outcomes for mental health disorders across the age range. It is hypothesised that perfectionism at baseline will be negatively associated with treatment outcomes for mental health disorders.

Methods

Guidelines and registration

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines (PRISMA; Page et al., 2021) were adhered to in this review. The review protocol was pre-registered at The International Prospective Register of Systematic Reviews (PROSPERO) with the reference number CRD42024541979 (Jiang et al., 2024) on 10 May 2024.

Eligibility criteria and rationale

The inclusion criteria are:

- (1) Studies that are peer-reviewed journal articles or grey literature in English.
- (2) Studies conducted in or after 1 January 1994.
- (3) Studies with a randomised controlled trial design or are secondary analyses from randomised controlled trials.
- (4) Studies in which participants have a diagnosis of a mental health disorder or score above the threshold on standardised measures of a mental health disorder.
- (5) Studies that include a psychological or pharmacological intervention (or both) for a mental health disorder.
- (6) Studies that include standardised measures of both perfectionism and a mental health disorder.

The exclusion criteria consist of:

- (1) Studies that do not include a comparison group.
- (2) Studies focusing on concepts related to but distinct from perfectionism, such as “‘Not just right’ experiences,” “self-criticism,” and “high expectations on treatment.”

In this review, we restricted studies to designs that were randomised controlled trials (RCTs) or secondary analyses from RCTs. Given the research question concerned whether levels of perfectionism predict treatment outcomes, we wanted evidence from the most robust research design (RCTs). Further, we were not interested in comparing the results between the control and experimental groups on the primary mental health disorder, since the focus of the review was on perfectionism and treatment outcomes.

The PICO framework

This systematic review utilised the PICO (population, intervention, comparison, and outcome) framework. Participants were categorised into two age groups: CYP with a mean age between 4 and 25 years old, and adults with a mean age of 25 or older. Twenty-five years of age was selected as the cut-off age since it has been validated as the average age that individuals reached maturity in physical aspects, especially the development of the prefrontal cortex, and mental aspects, particularly the completion of education and stabilisation of self-identity (Tanner & Arnett, 2016). Additionally, interventions include psychological, pharmacological, or a combination of psychological and pharmacological treatment approaches for mental health disorders. Moreover, comparators could be passive control conditions, such as treatment-as-usual, placebo, waitlist control, and no treatment, or active control conditions, such as another psychological or pharmacological intervention (Freedland et al., 2019). Lastly, the outcome is defined to be the relationship between perfectionism and treatment outcomes of mental health disorders.

Search strategy

A literature search was completed by the primary reviewer (JZ) on 12 April 2024, for the following seven databases: Embase, MEDLINE, ProQuest Dissertations and Theses Global, PsycINFO, PubMed, Scopus, and Web of Science.

The search terms used across the chosen databases were: “((perfection* OR excellence OR ‘high standard*’ OR ‘high expectation*’) AND (impact* OR influenc* OR affect* OR effect* OR outcome* OR mediat* OR predict* OR moderat* OR ‘treat*’ OR ‘therapy’)) AND (anxi* OR depress* OR ‘eating disorder*’ OR stress OR pressure OR wellbeing OR ‘well-being’ OR ‘mental health disorder*’ OR psychopathology OR ‘obsessive-compulsive’ OR ‘obsessive compulsive’ OR ‘psychological disorder*’ OR panic OR ‘specific phobia’ OR psychiatr*)”. It should be noted that these search terms were adapted from the meta-synthesis on perfectionism by Egan et al. (2022). Restrictions were

applied using the database filters to limit the resulting papers to be journal articles or grey literature of RCTs published in English in or after 1994. The year 1994 was chosen as the cut-off time point since the research on correlations between perfectionism and mental health disorders was primarily conducted after this year (Antony et al., 1998; Blatt et al., 1995). To make sure the search is thorough and latest, the primary reviewer also carried out an additional database search from 12 April 2024, to 11 October 2024, for the same seven databases using the same search terms as the first database search.

Additionally, the primary reviewer conducted a citation search based on the reference lists of the eligible studies obtained from databases. A similar data selection process was performed to identify whether there were new eligible studies.

Data selection process

The data selection process was similar for both the database and citation search. Rayyan (Ouzzani et al., 2016), a web-based software tool for systematic reviews, was utilised throughout the data selection process to organise the articles, detect and remove duplicates, and conduct collaborative reviewing. For articles obtained from the databases, the primary reviewer first removed the duplicates both using Rayyan and manually. After this step, the primary reviewer screened all the remaining articles against the eligibility criteria at two levels: the title and abstract level and the full-text level.

Moreover, to reduce subjective bias, two secondary reviewers (Master of Science students FM and MY) each screened 5% of Rayyan's randomly selected articles at the title and abstract level from all the database articles after removing duplicates. The rates of inter-rater agreement were calculated between the primary reviewer and each secondary reviewer, respectively. The studies in which all three reviewers agreed on inclusion and studies where reviewers disagreed were retrieved in full text and reviewed by all the reviewers again. Any remaining disagreements were resolved through discussions with a fourth independent reviewer (RS). The primary reviewer recorded the reasons for exclusion.

Data extraction process

After identification of the included articles, the primary reviewer extracted the data using an Excel spreadsheet. The data extraction form was developed by the primary reviewer and reviewed by the supervisor RS (an expert in perfectionism). Details on the types of data extracted are displayed in Table 1.

Risk of bias and quality assessment

The primary reviewer conducted the risk of bias and quality assessment using the Cochrane Risk of Bias (RoB 2) tool (Eldridge et al., 2016) and the Critical Appraisal Skills Program for randomised controlled trials (CASP for RCTs, 2021), respectively. The overall judgements for the RoB 2 were made based on the judgements for its six sub-sections. Specifically, RCTs were considered to have an overall "low" risk of bias if all its sub-sections had a low risk of bias; RCTs with one or several sub-sections of some concerns were considered to have overall "some concerns" in risk of bias; RCTs with at least one sub-section of high risk of bias, or several sub-sections of some concerns with significant impacts, were considered to have an overall "high" risk of bias.

The CASP for RCTs was used following the examples of O'Shaughnessy et al. (2023) and Shaheen et al. (2023). Overall judgements were made based on the answers to 11 questions, which reflects the number and severity of the limitations regarding the study quality. For each question, the answer "yes" was considered as having no limitations, "can't tell" was considered as a non-critical limitation, and "no" was considered as a critical limitation. Hence, RCTs with no or one non-critical limitation were considered "high" quality; RCTs with several non-critical limitations were considered "moderate" quality; RCTs with one or more critical limitations, regardless of the number of non-critical limitations, were considered "low" quality.

Table 1. Details on the types of data extracted for this systematic review.

General study details	Author(s) and publication year	Publication type	Sample size	Dropout rate(s)	Age (age group, range, mean and SD)	Sex ratio (% female) ¹	Country of study and sample ethnicities
Mental health disorders (primary one and others)	Type(s)	Diagnosis criteria	Standardised measures assessing elevated symptoms	Threshold scores above the standardised measure	Comorbidities	/	/
Treatment interventions	Intervention type (e.g. psychological)	Intervention name (e.g. group CBT)	Duration(s)	Group assignment	Group details (e.g. sample size, exposure, content)	/	/
Measures	Perfectionism measures (primary one and others)	Mental health disorder treatment outcome measures (primary one and others)	Types of informants	/	/	/	/
Score(s) at time points (baseline, post-treatment, and follow-up)	Perfectionism scores (primary and others; for each group)	Mental health disorder treatment outcome scores (primary and others; for each group)	/	/	/	/	/
Results	Statistical analysis types	Effect statistics (e.g. <i>p</i> values, <i>R</i> ² Change, and Δ variance explained)	Findings	/	/	/	/

Data synthesis strategy

Meta-analyses were not conducted since the studies obtained from the initial search lacked sufficient data; for instance, most target studies did not report effect sizes. Hence, a narrative synthesis was applied for the outcome variables following the Synthesis Without Meta-analysis (SWiM) reporting guidelines (Campbell et al., 2020). The data was synthesised, categorised, and presented in tables with different focuses.

Results

Study selection

The detailed data selection process was shown in a PRISMA flow chart (see Figure 1). Notably, among the 82 articles excluded at the full-text level, ten were eliminated for being multiple analyses from the same datasets, suggesting that they were removed because only the most relevant study utilising one particular dataset was included. For example, the search strategy yielded nine studies that were all secondary analyses (analyses of a dataset from another study) of a widely acknowledged study, the Treatment of Depression Collaborative Research Program (TDCRP) from the National Institute of Mental Health (Elkin et al., 1989), but only the study by Blatt et al. (1998) was included since it contained both data analyses at the post-treatment and the 18-month follow-up.

In addition to the database search, the citation search produced a result of 686 papers. However, no studies were included after the citation search because they either did not meet the eligibility criteria or were repetitions of the studies identified from databases.

Regarding the 5% random screening (655 articles each) done by two secondary reviewers, respectively, there were three conflicts between the primary and the secondary reviewers in total. All the conflicts were resolved in the follow-up discussions. According to the standards set by Landis and Koch (1977), inter-rater agreement of the inclusion of RCTs was moderate ($K_1 = .50$) between the primary reviewer and one secondary reviewer (FM), and the primary reviewer and the other secondary reviewer (MY) reached full consensus ($K_2 = 1$). Finally, 16 RCTs were included in this systematic review.

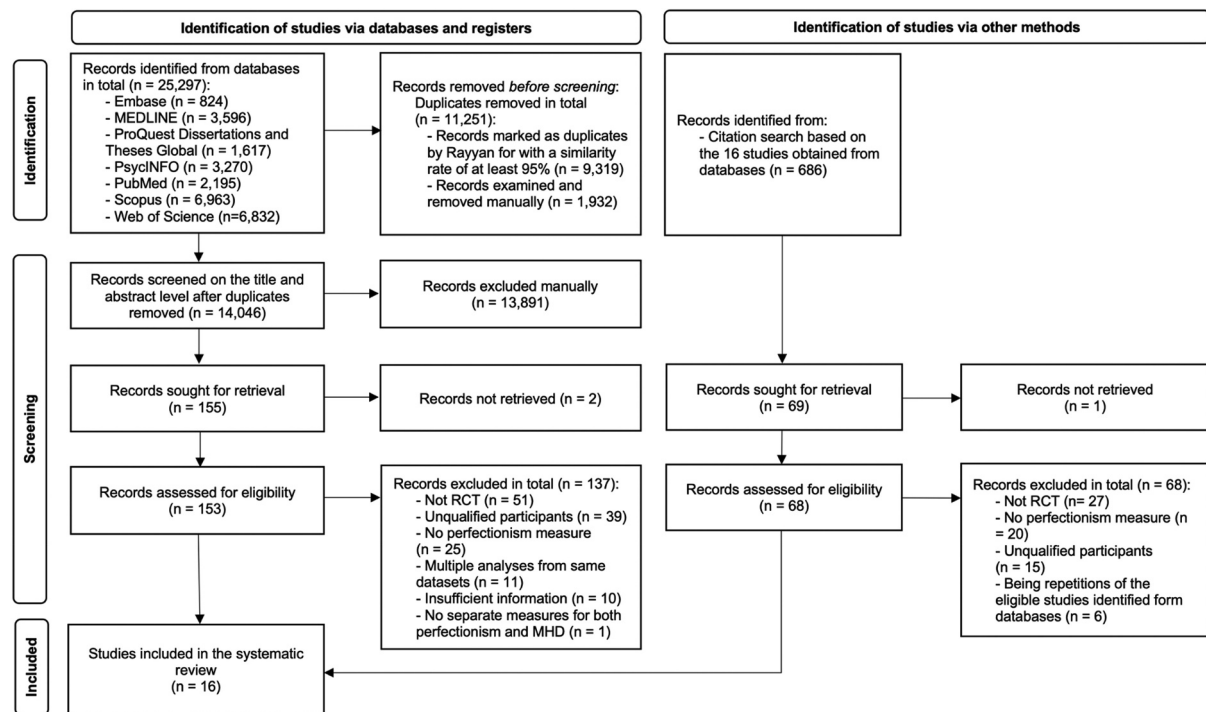


Figure 1. The PRISMA chart of the data selection process (Page et al., 2021). *Notes.* Abbreviations: MHD = mental health disorder(s), RCT = randomised controlled trial(s). Derailed references for excluded RCT records in full-text screening stage can be found in the supplementary materials.

Study characteristics

The descriptive characteristics of the included RCTs are shown in Table 2. This systematic review involved 16 RCTs with a total of 2197 participants (average sample size = 137, age range = 6–70, $M = 25.12$, $SD = 8.42$). There were five studies with CYP (average sample size = 169, age range = 6–18, $M = 13.69$, $SD = 2.40$) and 11 studies with adults (average sample size = 122, age range = 16–70, $M = 32.31$, $SD = 10.58$).

Among the 16 RCTs, 15 were journal articles, and one study was from the grey literature (Trotter, 2008). Half of them were conducted in the U.S. ($n = 8$, 50%), followed by Australia ($n = 3$, 18.75%), Canada ($n = 2$, 12.5%), Norway ($n = 1$, 6.25%), Netherlands ($n = 1$, 6.25%), and Germany ($n = 1$, 6.25%). In terms of ethnicity, all 16 studies recruited 70%–95% of participants from the White ethnic group. Participants from other ethnic groups, such as Hispanic, Asian, and African, were underrepresented—only accounting for 5–10% each in all studies. Regarding the sex ratio, six of 16 studies (37.5%) had 70% or more females in their samples.

Five categories of mental health disorders were examined in the eligible studies: five RCTs focused on depression (Major Depressive Disorder = 3, mixed depressive disorders = 2), four explored eating disorders (BN = 2, AN = 1, mixed eating disorders = 1), four examined OCD, three concentrated on anxiety disorders (mixed anxiety disorders = 2, Public Speaking Anxiety = 1) and one focused on Body Dysmorphic Disorder (BDD).

Various treatment approaches were applied in the included studies. Each of the 16 RCTs used at least one type of psychological intervention, encompassing ten categories, in which CBT ($n = 10$), exposure therapy ($n = 5$), and cognitive therapy ($n = 3$) were the three most used. In contrast, only three RCTs involved pharmacological interventions: fluoxetine for depression (10–40 mg/day), risperidone for OCD (dosage not mentioned), and imipramine for depression (on average 185 mg/week). Regarding the comparators, most studies used another psychological or pharmacological intervention ($n = 13$), followed by pill placebo ($n = 3$), treatment-as-usual ($n = 2$), and waitlist control ($n = 2$). Moreover, 11 of 16 studies also conducted follow-up assessments (range = 3–18 months, frequency = 1–3 times) in addition to post-treatment assessments.

Table 2. Descriptive characteristics of the included studies.

Study number	Citation	Country of study	Sample size	Age (years): range, mean (SD)	Types of mental health disorder	Intervention name(s)	Intervention duration(s)	Notes
1	Blatt et al. (1998)	U.S.	250	M = 35 (SD = 8.5); no info on range	MDD	IPT, CBT, imipramine plus clinical management, and placebo plus clinical management	16–20 sessions for 16 weeks (pharmacotherapy session: 45–60 minutes, other sessions: 20–30 minutes)	Diagnosed sample; 6-, 12-, and 18-month follow-ups; 70% females
2	Chik et al. (2008)	U.S.	118	18–65, Individual CBT, $M = 35.57$ (SD = 9.67); Individual ERP $M = 34.24$ (SD = 11.31); Group CBT and ERP $M = 35$	OCD	Individual CT, individual ERP, group CT, and group ERP	12 weekly 1-hour sessions for individual treatment; weekly 2.5-hour sessions for group treatment	Diagnosed sample
3	Claus et al. (2023)	Germany	61	19–63, $M = 38.3$ (SD = 10.1)	OCD	MCT-OCD and MBCT	1 x 2-hour session per week for 8 weeks	Diagnosed sample; 3- (MCT-OCD-only), 6- (MBCT-only), 12-month (MBCT-only) follow-ups
4	de Jong et al. (2020)	Netherlands	143	CBT-E group, $M = 28.9$ (SD = 8.6); TAU group, $M = 26.2$ (SD = 6.9)	Eating disorders	CBT-E and TAU	CBT-E: 21 sessions per 20 weeks; TAU: 1 to multiple sessions per week for 20 weeks	Diagnosed sample; 20-, 40-week follow-ups; 95.8% females
5	Fang et al. (2020)	U.S.	45	$M = 35$ (SD = 10.1)	BDD	CBT-BDD and waitlist control	One 1-hour session per week for 12 weeks	Diagnosed sample; a 12-week follow-up only for the CBT group
6	Jacobs et al. (2009)	U.S.	439	12–17, $M = 14.6$ (SD = 1.5)	MDD	CBT, FLX, a combination of CBT and FLX, and pill placebo	15 1-hour sessions for 12 weeks	Diagnosed sample; 54% female
7	Kahlon et al. (2024)	Norway	100	13–16, $M = 14.2$ (SD = 0.99)	PSA	1) VR + NA, 2) VR + online EXP, 3) online PE + EXP, 4) waitlist + online PE	VR: At least 5 tasks and 3 practices for 6 weeks; online PE and online EXP: Three modules with 1 module delivered per week	Symptom-elevated sample; a 3-month post baseline follow-up; 84% female
8	Kay-Lambkin et al. (2017)	Australia	274	17–70, $M = 40$ (no info on SD)	Depression and Substance Use Problems	Therapist-delivered CBT/MI, SHADE CBT/MI, therapist-delivered PCT	One 1-hour session per week for 9 weeks after initial face to face session	Symptom-elevated sample; comorbid alcohol and/or cannabis consumption; 3-, 6-, 12-month post baseline follow-ups; 43% female
9	J. H. Mitchell et al. (2013)	Australia	67	6–13, $M = 9.75$ (SD = 0.20)	Anxiety disorders	GCBT and GCBT+GPAM	10 weeks: GCBT (a 2-hour-session per week); GPAM (5 additional parent sessions)	Diagnosed sample; a 6-month follow-up; 51% female

(Continued)

Table 2. (Continued).

Study number	Citation	Country of study	Sample size	Age (years): range, mean (SD)	Types of mental health disorder	Intervention name(s)	Intervention duration(s)	Notes
10	Mussell et al. (2000)	U.S.	143	18–50, group A-1, $M = 25.8$ (SD=6.8); group A-2, $M = 25.6$ (6.0); group B-1, $M = 26.4$ (5.7); group B-2, $M = 25.7$ (6.8)	BN	4 GCBT groups: early abstinence (high vs. low) and treatment intensity (high vs. low frequency of visits)	12 weeks. Two high frequency groups: 45 hours; two low frequency groups: 22.5 hours	Diagnosed sample; 1-, 6-month follow-ups; 100% female
11	Nobel et al. (2012)	Canada	78	8–11, $M = 9.08$ (SD = 1.08)	Anxiety disorders and depression	CBT and an activity group (control condition)	1.5 hours for 5 days per week for 12 weeks	Symptom-elevated sample; 46% female
12	Pinto et al. (2011)	U.S.	49	19–70, $M=37.4$ (SD=13.5)	OCD	EX/RP and stress management training	Two 90- to 120-minute-long sessions per week for 8 weeks	Diagnosed sample; exclusively EX/RP group patients were included; 35% female
13	Steele et al. (2011)	Australia	87	$M=26$ (SD=6.3)	BN	Five GSH interventions: CBT, CT, combined CBT and CT, perfectionism, and mindfulness	8 40-minute (average) sessions over 6 to 8 weeks	Diagnosed sample; a 6-month follow-up; 98% female
14	Su et al. (2016)	U.S.	70	18–65, $M=32.6$ (SD=11.0)	OCD	ERP, risperidone, and pill placebo	90-minute sessions, twice a week, for 8 weeks; 90-minute or 45-minute sessions for 16 weeks (numbers varied by need)	Diagnosed sample; stably on SRI pre-study; 1-, 4-month follow-ups; cross-over design; only the final ERP group was included; 49% female
15	Trotter (2008)	Canada	66	21–65, $M=41.5$ (SD=10.82)	MDD	CBT and PET	16 1-hour sessions per week for 16 weeks	Diagnosed sample; grey literature; 67% female
16	Welch et al. (2020)	U.S.	164	12–18, $M = 15.3$ (SD = 1.8)	AN	FBT and SyFT	16 1-hour sessions over 36 weeks	Diagnosed sample; 6-month and 12-month follow-ups; 89% female sample

Notes. Abbreviations. Mental health disorders: OCD=obsessive-compulsive disorder, BN=bulimia nervosa, AN=anorexia nervosa, MDD=major depressive disorder, PSA=Public Speaking Anxiety, BDD=body dysmorphic disorder. Treatment interventions: CBT=cognitive behaviour therapy, IPT=interpersonal psychotherapy, FLX=fluoxetine, GCBT=group cognitive behaviour therapy, GPAM=Group Parent Anxiety Management, FBT=Family Based Treatment, SyFT=Systemic Family Therapy, VR=self-guided Virtual Reality Exposure Therapy, online EXP=online exposure program, online PE=online psychoeducation, PET=Process-Experiential Therapy, CT=cognitive therapy, ERP = exposure and response prevention, EX/RP = exposure and ritual prevention, GSH=guided self-help, MCT-OCD=metacognitive training for obsessive-compulsive disorder, MBCT=mindfulness-based cognitive therapy, CBT-E=enhanced cognitive behaviour therapy, TAU=treatment as usual, PCT=person-centred therapy, CBT/MI=cognitive behaviour therapy/motivational interviewing, SHADE CBT/MI=computer-delivered CBT/MI with brief therapist assistance.

Risk of bias and quality of the included studies

To assess the risk of bias and quality, the RoB 2 (Eldridge et al., 2016) and the CASP for RCTs (CASP, 2021) were used. Judgements for the 16 studies can be found in the supplementary materials. Only one RCT (Su et al., 2016) presented a difference between the two tools' overall judgements. Overall, the majority of the studies (10 of 16) were considered to have both low to medium risk of bias (low = 7 and medium = 3) and medium to high study quality (high = 7 and medium = 2).

Syntheses of mental health disorder treatment outcomes

Baseline perfectionism

All 16 RCTs showed significant improvements in primary mental health disorder treatment outcomes from baseline (pre-treatment) to post-treatment. Primary mental health disorder treatment outcomes refer to outcomes that directly correspond to the primary mental health disorder(s) that the participants were diagnosed with or have increased symptoms. For instance, in the RCT by Claus et al. (2023), participants were diagnosed with OCD. In this case, the primary mental health disorder treatment outcome was "OCD symptoms". Specifically, 15 of the 16 studies investigated the impact of baseline perfectionism on primary mental health disorder treatment outcomes, whereas one only examined perfectionism as a mediator of OCD symptom change during treatment (Su et al., 2016). Baseline perfectionism was found to exert a significant negative impact on the primary mental health disorder treatment outcomes in nine of the 15 included RCTs (Blatt et al., 1998; Chik et al., 2008; Jacobs et al., 2009; J. H. Mitchell et al., 2013; Nobel et al., 2012; Pinto et al., 2011; Steele et al., 2011; Trotter, 2008; Welch et al., 2020). One of the 15 studies reported mixed findings—baseline perfectionism had a significant negative impact in the therapist-delivered cognitive behaviour therapy/motivational interviewing (CBT/MI) group but vice versa in the computer-delivered CBT/MI group (Kay-Lambkin et al., 2017). Five of the 15 studies did not find a significant relationship (Claus et al., 2023; de Jong et al., 2020; Fang et al., 2020; Kahlon et al., 2024; Mussell et al., 2000). No study reported only a significant positive impact between baseline perfectionism and mental health disorder treatment outcomes. Detailed information about measures, outcomes, and the effect statistics of the included studies can be found in Table 3.

For the nine RCTs reporting a significant negative impact of baseline perfectionism, higher baseline perfectionism was linked with poorer primary mental health disorder treatment outcomes at post-treatment (all nine RCTs) and/or follow-ups (three of the nine RCTs, Kahlon et al., 2024; J. H. Mitchell et al., 2013; Welch et al., 2020) after controlling for the baseline primary mental health disorder treatment outcome level. It is notable that four of the five studies on children and young people (mean age <25 years) reported a negative impact of baseline perfectionism on primary mental health disorder treatment outcomes across depression ($n = 2$; Jacobs et al., 2009; Nobel et al., 2012), anxiety disorders ($n = 1$; J. H. Mitchell et al., 2013), and Anorexia Nervosa ($n = 1$; Welch et al., 2020), while one found no significant impact on Public Speaking Anxiety (Kahlon et al., 2024). Moreover, three studies with CYP found that Self-Oriented Perfectionism ($n = 2$; J. H. Mitchell et al., 2013; Nobel et al., 2012) and the overall level of concern over mistakes, parental expectations, parental criticism, and doubts about actions ($n = 1$; Welch et al., 2020) were the dimensions within baseline perfectionism that established its negative influence.

On the contrary, among the 10 studies with adults (mean age ≥ 25 years) that explored the impact of baseline perfectionism on primary mental health disorder treatment outcomes, six reported a significant impact, and five of these six studies consistently found a negative association across depression ($n = 2$; Blatt et al., 1998; Trotter, 2008), OCD ($n = 2$; Chik et al., 2008; Pinto et al., 2011), and eating disorders ($n = 1$; Steele et al., 2011). In two of these studies, the authors suggested that Concern over Mistakes (Steele et al., 2011) and Doubts about Actions (Chik et al., 2008) were critical. In contrast to the five RCTs that discovered negative impacts of baseline perfectionism, the RCT conducted by Kay-Lambkin et al. (2017) reported a mix of potentially significant positive and negative impacts of baseline perfectionism on depression treatment outcomes. Specifically, while higher baseline perfectionism was associated with higher depressive symptoms in the CBT/MI group, it was the opposite in a computer-delivered CBT/MI with little therapist assistance.

The negative influence of baseline perfectionism on treatment outcomes was discovered across four of five categories of mental health disorders: depression (four of all the five RCTs; Blatt et al., 1998; Jacobs

Table 3. Measures and outcomes of the included studies.

Citation	Age (years): range, mean (SD)	Perfectionism measure(s)	Primary mental health disorder treatment outcome(s) and measure(s)	Statistical analysis type(s)	Findings
Blatt et al. (1998)	M=35 (SD=8.5), no info on range	DAS-P	BDI and HRDS (MDD symptoms)	Predictor analysis, (Analysis of Covariance, correlations)	(1) At post-treatment, participants with higher baseline perfectionism presented significantly higher levels of MDD symptoms (BDI: $\beta = 0.294$, $SE = 0.006$, $t = 2.92$, $p = .004$; HDRS: $\beta = 0.220$, $SE = 0.006$, $t = 2.17$, $p = .032$). (2) At the 18-month follow-up, baseline perfectionism was not significantly correlated with MDD symptoms ($r = 0.11$)
Chik et al. (2008)	18–65, Individual CBT, $M = 35.57$ (SD=9.67); Individual ERP $M = 34.24$ (SD=11.31); Group CBT and ERP $M = 35$	FMPS (CM, DA, PS, PE, PC, O)	Y-BOCS: obsessions, compulsions subscales (OCD symptoms)	Predictor analysis (hierarchical regressions)	(1) Higher baseline DA predicted poorer OCD compulsions ($R^2 = .23$, $F(1, 99) = 8.95$, $p < .01$) and overall symptoms ($R^2 = .23$, $F(1, 99) = 6.03$, $p = .02$) at post-treatment, but was not a significant predictor for OCD obsessions ($R^2 = .19$, $F(1, 99) = 3.00$, $p = .09$). (2) The interaction between CM and DA predicted poorer OCD symptoms in the ERP condition at week 12 post treatment (approached significance, $R^2 = .19$, $\beta = -0.18$, $p = 0.06$). (3) Higher baseline CM was not a significant predictor for OCD compulsions ($R^2 = .17$, $F(1, 99) = 0.75$, $p = .79$), OCD obsessions ($R^2 = .16$, $F(1, 99) = 0.17$, $p = .68$), and overall symptoms ($R^2 = .19$, $F(1, 99) < 0.01$, $p = .98$) at post-treatment.
Claus et al. (2023)	19–63, $M = 38.3$ (SD=10.1)	FMPS (CM); CPQ	Y-BOCS: obsessions and compulsions subscales and OCI-R (both for OCD symptoms)	Predictor analysis, multi-level modelling, hierarchical linear modelling, linear mixed models	(1) Reductions in clinical perfectionism (CPQ) from baseline to post-treatment predicted decreases in OCD symptoms (Y-BOCS) at the 3-month follow-up, $\beta = 0.50$, $SE = 0.19$, $t = 2.64$, $p = 0.01$. (2) Baseline CM was not a significant predictor for OCD symptoms at post-treatment (Y-BOCS: $\beta = -0.03$, $SE = 0.08$, $t = 1.71$, $p = 0.75$; OCI-R: $\beta = 0.23$, $SE = 0.13$, $t = 2.64$, $p = 0.25$) or 3-month follow-up (Y-BOCS: $\beta = 0.18$, $SE = 0.15$, $t = 1.18$, $p = 0.09$; OCI-R: $\beta = 0.37$, $SE = 0.32$, $t = 5.50$, $p = 0.26$).
de Jong et al. (2020)	CBT-E group, $M = 28.9$ (SD=8.6); TAU group, $M = 26.2$ (SD=6.9)	FMPS (CM, DA, PS, PE, PC, O)	EDE-Q (ED symptoms)	Moderator analysis (moderated mixed-effects model)	(1) Changes in ED symptoms were not significantly moderated by the degree of baseline perfectionism ($F(4, 446) = 1.71$, $p = .15$).
Fang et al. (2020)	$M = 35$ (SD=10.1)	HMPs	YBOCS-BDD (BDD symptoms)	Mediator analysis (between- and within-subject mediation analyses with bootstrap method and sensitivity test)	(1) Baseline self-oriented perfectionism was not a significant moderator for BDD symptoms at post-treatment (between-subject mediation: indirect effect (SE)=1.1(1.0), 95% CI= [-4.3, 0.1]; within-subject mediation: indirect effect (SE)=0.9 (0.6), 95% CI= [-0.6, 2.3]). (2) Change in self-oriented perfectionism was not a significant mediator for BDD symptoms at the 12-week follow-up, indirect effect (SE)=0.4 (0.4), 95% CI= [-0.2, 1.3]. [-0.05, 2.3]).

(Continued)

Table 3. (Continued).

Citation	Age (years): range, mean (SD)	Perfectionism measure(s)	Primary mental health disorder treatment outcome(s) and measure(s)	Statistical analysis type(s)	Findings
Jacobs et al. (2009)	12–17, <i>M</i> = 14.6 (SD = 1.5)	DAS-P	CDRS-R (MDD symptoms)	Predictor and moderator analyses (random regression model); mediator analyses (Kruskal-Wallis test and random regression model)	(1) At post-treatment, higher baseline perfectionism is correlated with higher MDD symptoms ($r = -0.36, p < .05$); also, during the 12-week treatment, higher baseline perfectionism consistently predicted higher MDD symptoms, $F(1, 425) = 10.1, p < .002$. (2) At post-treatment, baseline perfectionism was not a significant moderator for MDD symptoms, since the main effect was significant ($F(1, 425) = 10.1, p < .002$) while the interaction effects were not: perfectionism $\times$ treatment, $F(3, 413) = 1.5, p = .215$; perfectionism $\times$ treatment $\times$ time, $F(3, 405) = 0.7, p = .579$. (3) Reductions in perfectionism during the 12-week treatment partially mediated decreases in MDD symptoms, reducing the treatment $\times$ time interaction for MDD symptoms, from $F(3, 411) = 9.1, p < .001$ to $F(3, 402) = 3.6, p = .014$.
Kahlon et al. (2024)	13–16, <i>M</i> = 14.2 (SD = 0.99)	EDI-P	PSAS (PSA symptoms)	Moderator and predictor analyses (Unconditional and Multivariate Latent Growth Curve models)	(1) At post-treatment, reductions in perfectionism moderated the relationship between treatment and decreases in PSA ($b = 0.85, p = .013$) symptoms at the 3-month follow-up, with greater symptom reductions seen in those with reduced perfectionism. (2) Higher baseline perfectionism was not significantly correlated with PSA symptoms at post-treatment (VR only: $b = 0.13, p = .109$; Online PE+EXP: $b = -0.09, p = .203$; VR+Online EXP: $b = -0.02, p = .814$) and the 3-month follow-up (VR only: $b = 0.02, p = .675$; Online PE+EXP: $b = 0.02, p = .706$; VR+Online EXP: $b = 0.04, p = .372$).
Kay-Lambkin et al. (2017)	17–70, <i>M</i> = 40 (no info on SD)	DAS-P 2	BDI-II (depression symptoms)	Moderator analysis (linear mixed modelling)	(1) The authors pointed out that the findings were exploratory, and they employed $p < 0.2$ as the threshold to detect potentially meaningful interactions for further analyses in the future. (2) SHADE CBT/MI: higher baseline perfectionism was potentially associated with greater reductions in depression symptoms from post-treatment to the 12-month follow-up, $p = 0.0671$. (3) Therapist CBT/MI: lower baseline perfectionism was potentially associated with greater reductions in depression symptoms, while higher baseline perfectionism was linked to increased depression symptoms from post-treatment to the 12-month follow-up, $p = 0.1951$.
J. H. Mitchell et al. (2013)	6–13, <i>M</i> = 9.75 (SD = 0.20)	Child and parent versions of CAPS (SOP and SPP)	Child and parent versions of SCAS (anxiety symptoms); ADIS-C/P (anxiety clinician severity ratings)	Predictor analyses (hierarchical multiple regressions)	(1) Higher baseline self-rated SOP predicted poorer mother-rated anxiety symptoms at post-treatment ($R^2_{\text{change}} = .07, p = .013$) and 6-month follow-up ($R^2_{\text{change}} = .09, p = .008$). (2) Higher baseline mother-rated SOP predicted poorer self-rated anxiety symptoms at 6-month follow-up ($R^2_{\text{change}} = .18, p = .004$).

(Continued)

Table 3. (Continued).

Citation	Age (years): range, mean (SD)	Perfectionism measure(s)	Primary mental health disorder treatment outcome(s) and measure(s)	Statistical analysis type(s)	Findings
Mussell et al. (2000)	18–50, group A-1, $M = 25.8$ (SD=6.8); group A-2, $M = 25.6$ (6.0); group B-1, $M = 26.4$ (5.7); group B-2, $M = 25.7$ (6.8)	EDI-P&I	EB—III (BN symptoms)	Predictor analysis (logistic regression analyses)	(1) Baseline perfectionism was not a significant predictor at any time point for BN symptoms ^b .
Nobel et al. (2012)	8–11, $M = 9.08$ (SD = 1.08)	CAPS (SOP and SPP)	MASC (anxiety symptoms) and CDI (depression symptoms)	Predictor analyses (hierarchical multiple regressions)	(1) Higher baseline SOP predicted poorer depression symptoms at post-treatment over and above baseline depression symptoms, B (SE)=0.22 (0.11), $\beta = 0.19$, R^2 change = .03, F change (1, 71) = 3.9, $p < .05$, but did not predict anxiety symptoms over and above baseline anxiety symptoms, B (SE) = 0.09 (0.16), $\beta = 0.05$, R^2 change = .003, $p > .05$. (2) Baseline SPP was not a significant predictor for post-treatment depression (B (SE) = 0.10 (0.09), $\beta = 0.09$, R^2 change = .01, F change (1, 71) = 1.10, $p > .05$) and anxiety symptoms (B (SE) = 0.03 (0.14), $\beta = 0.02$, R^2 change = .00, $p > .05$) over and above baseline depression and anxiety symptoms respectively.
Pinto et al. (2011)	19–70, $M = 37.4$ (SD=13.5)	DSM-4 for perfectionism as one OCD symptom; SCID-II	Y-BOCS: obsessions, compulsions subscales (OCD symptoms)	Predictor analysis (individual linear regression models)	(1) Higher baseline perfectionism significantly predicted poorer OCD symptoms at post-treatment ($\beta = 0.029$, $t = 2.24$, F change = 5.02, R^2 change = .06, $p = .031$) in OCD patients who also had comorbid OCD.
Steele et al. (2011)	$M = 26$ (SD=6.3)	FMPS (CM, PS)	EDE (BN symptoms)	Predictor analysis (univariate, multivariate, and hierarchical regression analyses)	(1) Higher baseline CM predicted higher BN symptoms at post-treatment ($\beta = 0.33$, $p < .001$, effect size = 0.75), but did not at 6-month follow-up ($\beta = -0.02$, $p = .93$, effect size = 0.03). (2) Higher baseline PS did not predict higher BN symptoms at post-treatment ($\beta = -0.01$, $p = .90$, effect size = 0.03) and follow-up ($\beta = 0.03$, $p = .86$, effect size = 0.05).
Su et al. (2016)	18–65, $M = 32.6$ (SD=11.0)	OBQ-PIU	Y-BOCS: obsessions, compulsions subscales (OCD symptoms)	Mediator analysis (lagged panel mediation analyses and sensitivity test)	(1) Reductions in perfectionism were not a mediator for OCD symptoms: reductions in perfectionism was significant over time (path a: $B = -14.23$, $t(69) = -6.75$, $p < .001$), (path b: $B = -0.02$, $t(69) = -0.83$, $p = .413$), however was not significantly correlated with OCD symptoms ($\beta = -0.01$, $p = .90$, $ES = 0.03$), and the indirect effect was not significant ($ab = 0.24$; 95% CI [-0.334, 0.846]).
Trotter (2008)	21–65, $M = 41.5$ (SD=10.82)	DAS-P	BDI (depression symptoms)	Predictor Analysis (Linear regression analyses)	(1) Higher baseline perfectionism in males significantly predicted poorer depression symptoms at post-treatment, $B = -7.48$, $p = .004$, accounting for 37% of the change in variance. Among the female sample, higher baseline perfectionism did not predict poorer depression symptoms at post-treatment (statistics were not reported).

(Continued)

Table 3. (Continued).

Citation	Age (years): range, mean (SD)	Perfectionism measure(s)	Primary mental health disorder treatment outcome(s) and measure(s)	Predictor analyses (Linear regression models)	Statistical analysis type(s)	Findings
Welch et al. (2020)	12–18, <i>M</i> = 15.3 (<i>SD</i> = 1.8)	FMPs (CM, DA, O, PC, PE, PS)	EDE (AN symptoms)			(1) Higher baseline overall levels of CM, DA, PC, and PE predicted poorer AN symptoms at post-treatment (<i>B</i> (<i>SE</i>) = 0.017 (0.003), $\beta = 0.517$, $R^2_{change} = 0.267$, $p < .001$), the 6-month (<i>B</i> (<i>SE</i>) = 0.014 (0.004), $\beta = 0.371$, $R^2_{change} = 0.137$, $p < .001$) and 12-month follow-up (<i>B</i> (<i>SE</i>) = 0.011 (0.003), $\beta = 0.311$, $R^2_{change} = 0.097$, $p = .001$). (2) Baseline overall levels of O and PS did not predict AN symptoms at post-treatment (<i>B</i> (<i>SE</i>) = 0.008 (0.006), $\beta = 0.133$, $R^2_{change} = 0.018$, $p = .188$), 6-month (<i>B</i> (<i>SE</i>) = 0.001 (0.007), $\beta = 0.017$, $R^2_{change} < 0.001$, $p = .870$) and 12-month follow-ups (<i>B</i> (<i>SE</i>) = 0.008 (0.007), $\beta = 0.123$, $R^2_{change} = 0.015$, $p = .211$).

Notes. Abbreviations. Mental health disorders: AN=anorexia nervosa, BDD=body dysmorphic disorder, BN=bulimia nervosa, ED=eating disorders, MDD=major depressive disorder, PSA=public speaking anxiety, OCD=obsessive-compulsive disorder. subtypes/subscales of perfectionism: CM=Concern over Mistakes, DA=Doubts about Actions, O=Organization, PC=Parental Criticism, PE=Parental Expectations, PIU=Perfectionism/Intolerance of uncertainty, PS=Personal Standards, SOP=self-oriented perfectionism. Perfectionism measure(s): Child-Adolescent Perfectionism Scale (CAPS, Flett et al., 2016), Clinical Perfectionism Questionnaire (CPQ, Fairburn et al., 2003), Dysfunctional Attitude Scale — Perfectionism Subscale (DAS-P, Weissman & Beck, 1978), Dysfunctional Attitude Scale 2 (DAS-P 2; Imber et al., 1990), Eating disorder inventory – perfectionism (EDI-P; Garner et al., 1983), Eating Disorder Inventory – perfectionism and ineffectiveness (EDI-P&I; Garner et al., 1983), Frost Multidimensional Perfectionism Scale (FMPs, Frost et al., 1990), Hewitt-Flett Multidimensional Perfectionism Scale (HMPS; Hewitt et al., 1991), Obsessive Beliefs Questionnaire – Perfectionism/Intolerance of uncertainty (OBQ-PIU; OCCWG, 2005), Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II; First et al., 1997), Primary mental health disorder treatment outcome measure(s): Anxiety Disorders Interview Schedule for DSM-IV, Parent and Child Versions (ADIS-C/P; Silverman & Albano, 1996), Beck Depression Inventory (BDI, Beck & Beamesderfer, 1974), Beck Depression Inventory-II (BDI-II, Beck et al., 1996), Children's Depression Inventory (CDI, Saylor et al., 1984), Children's Depression Rating Scale-Revised (CDRS-R, Poznanski & Mokros, 1996), Eating Behaviors-III (EB-III; J. Mitchell et al., 1985), Eating Disorder Examination (EDE, Cooper & Fairburn, 1987), Eating Disorder Examination-Questionnaire (EDE-Q, Fairburn & Beglin, 1994), Hamilton Depression Rating Scale (HDRS; Hamilton, 1960), Multidimensional Anxiety Scale for Children (MASC, March et al., 1997), Obsessive-Compulsive Inventory Revised (OCI-R; Foa et al., 2002), Public Speaking Anxiety Scale (PSAS, Bartholomay & Houlihan, 2016), Spence Children's Anxiety Scale (SCAS; Spence et al., 2003), Yale-Brown Obsessive Compulsive Scale (Y-BOCS; Goodman, Price, Rasmussen, Mazure, Delgado, et al., 1989; Goodman, Price, Rasmussen, Mazure, Fleischmann, et al., 1989), Yale-Brown Obsessive Compulsive Scale Modified for BDD (YBOCS-BDD; Phillips et al., 2014)^a = statistics taken from Blatt et al. (1995) article reporting on same sample. ^b = we could not extract the statistics for the Mussell et al. (2000) study since its tables were small and vague. In this case, this is a statement made by the authors rather than based on us being able to extract the original statistics and report on them.

et al., 2009; Nobel et al., 2012; Trotter, 2008), OCD (two of all the four RCTs; Chik et al., 2008; Pinto et al., 2011), eating disorders (two of all the five RCTs; Steele et al., 2011; Welch et al., 2020), and anxiety disorders (one of all the three RCTs; J. H. Mitchell et al., 2013). Additionally, the negative influence of baseline perfectionism did not appear to vary with treatment durations or frequencies. Third, regarding treatment conditions and participant characteristics, seven of the nine RCTs reported that the negative impact of baseline perfectionism was consistently significant regardless of these factors, while in the other two RCTs, the authors pointed out that this relationship only existed in certain circumstances. Specifically, Trotter (2008) found that higher baseline perfectionism only negatively predicted depressive symptoms in males. Additionally, the RCT conducted by Pinto et al. (2011) reported that baseline perfectionism negatively predicted OCD symptoms only for OCD patients with comorbid Obsessive Compulsive Personality Disorder.

Furthermore, across the 16 RCTs, eight perfectionism measures were used. Among the nine RCTs where a significant negative influence of baseline perfectionism was demonstrated, five studies (Chik et al., 2008; J. H. Mitchell et al., 2013; Nobel et al., 2012; Steele et al., 2011; Welch et al., 2020) utilised four perfectionism measures to further subdivide baseline perfectionism and explored which specific dimension was associated with the negative impact. Four sub-dimensions of baseline perfectionism were discovered to exert a negative impact on primary mental health disorder treatment outcomes: Self-Oriented Perfectionism ($n = 2$; Child-Adolescent Perfectionism Scale, Flett et al., 2016), the overall level of concern over mistakes, parental expectations, parental criticism, and doubts about actions ($n = 1$; Frost Multidimensional Perfectionism Scale, FMPS, Frost et al., 1990), Doubts about Actions ($n = 1$; FMPS, Frost et al., 1990), and Concern over Mistakes ($n = 1$; FMPS, Frost et al., 1990).

Change in perfectionism

In addition to the findings of baseline perfectionism, we also considered the potential role of change in perfectionism. Among the 16 RCTs, five examined the impact of change in perfectionism during treatment or from post-treatment to follow-up (Claus et al., 2023; Fang et al., 2020; Jacobs et al., 2009; Kahlon et al., 2024; Su et al., 2016), whereas the other ten did not. Of these five studies, three found that reductions in perfectionism were associated with improvements in primary mental health disorder treatment outcomes (Claus et al., 2023; Jacobs et al., 2009; Kahlon et al., 2024), while the other two found no such association. Notably, the results of these three RCTs presented differences in defining the nature of this correlation. First, Jacobs et al. (2009) reported that reductions in perfectionism during the 12-week treatment partially mediated for decreases in Major Depressive Disorder symptoms during post-treatment. Second, Kahlon et al. (2024) found that reductions in perfectionism from post-treatment to a 3-month follow-up moderated public speaking anxiety symptoms during follow-up. Third, Claus et al. (2023) discovered reductions in clinical perfectionism (assessed by the Clinical Perfectionism Questionnaire, Fairburn et al., 2003) during the 8-week treatment predicted smaller improvements in OCD symptoms for participants in a metacognitive training intervention during 3-month follow-up. Specifically, two of these three RCTs found reductions in perfectionism were significant from baseline to post-treatment (Claus et al., 2023; Jacobs et al., 2009), and the other RCT reported significant individual differences in reductions of perfectionism during treatment and from post-treatment to 3-month follow-up (Kahlon et al., 2024).

Discussion

Overall findings

Upon synthesising the evidence on the impact of perfectionism on mental health disorder treatment outcomes across the age range, it was found that, overall, baseline perfectionism seems to exert a mix of negative and non-significant effects on mental health treatment outcomes, across a range of mental health disorders. Nine of the 15 included RCTs showed that higher baseline perfectionism was negatively associated with primary mental health disorder treatment outcomes across depression, anxiety disorders, eating disorders, and OCD. In two of the nine RCTs, this relationship was

only established under specific conditions, while other authors pointed out that the negative influence of baseline perfectionism was consistent regardless of treatment conditions. In five of the 15 RCTs, there was no significant relationship, and in one of the 15 RCTs, there was a mix of potentially positive and negative impacts of baseline perfectionism. Of the five RCTs that also investigated the influence of change in perfectionism, three reductions in perfectionism during treatment or during follow-up were associated with reductions in primary mental health disorder treatment outcomes.

In this systematic review, differences were found between CYP and adults in the impact of baseline perfectionism on primary mental health disorder treatment outcomes. Among the 15 studies that explored baseline perfectionism, there was a higher consistency in reporting significant findings among studies with CYP (four of the five RCTs showing a negative impact) than with adults (six of the ten RCTs finding a negative impact). In this case, it appears that for CYP, baseline perfectionism is more likely to negatively influence treatment outcomes, while its impact on adults is more likely to be mixed. Additionally, regarding the sub-dimensions of baseline perfectionism, in studies with CYP, Self-Oriented Perfectionism and the overall level of concern over mistakes, parental expectations, parental criticism, and doubts about actions were the critical components; however, in studies with adults, Concern over Mistakes, Doubts over Actions, and their interaction were most important. Furthermore, the types of mental health disorders examined differ between the two groups: anxiety disorders were only examined in CYP, and OCD was only included in the adult studies.

Why and how is the impact of perfectionism mixed?

It is important to note that not all studies found a negative impact of perfectionism on treatment outcomes. This aligns with clinical observations and may be due to several factors. First, from a theoretical perspective, in some cases, perfectionism may be a secondary symptom of the mental health disorder rather than a maintaining factor. For these individuals, perfectionism tends to improve alongside the primary disorder and does not significantly hinder treatment progress. Second, from a methodological perspective, the variation in measurement tools and sample characteristics across studies may have contributed to the inconsistent findings. Different studies assessed perfectionism using diverse scales and included participants with varying diagnoses, severity levels, and demographic profiles. Moreover, the studies employed a range of therapeutic approaches, which may differ in the efficacy of treatment of perfectionism. Some therapies might be more effective at mitigating the negative influence of perfectionism than others. However, due to the limited number of studies per therapy type, it is not yet possible to determine which treatments are more effective for perfectionism. However, it should be noted that CBT specifically designed to target perfectionism has been demonstrated to reduce perfectionism, along with symptoms of anxiety, depression and eating disorders (Galloway et al., 2022). These explanations highlight the need for further research to determine the effects of perfectionism on treatment outcomes.

Given that over half of the included studies found a negative impact of baseline perfectionism, it is important to consider possible mechanisms underlying this influence. Various explanations have been proposed. For example, Zuroff et al. (2000) considered that the negative relationship between baseline perfectionism and depression treatment outcomes was mediated by the therapeutic alliance. Specifically, patients with higher baseline perfectionism developed weaker treatment alliances, which impeded the treatment efficacy (Zuroff et al., 2000). Alternatively, Shahar et al. (2007) suggested patients diagnosed with depression with satisfactory social relationships might experience reduced negative impacts caused by high baseline perfectionism. Moreover, one possible mechanism for anxiety disorders and OCD may lie in the strong correlation between certain dimensions of perfectionism and ineffective coping styles (Park et al., 2010). Specifically, the overall level of concern over mistakes, parental expectations, parental criticism, and doubts about actions, which was found to be the key dimensions that build up the negative impact of baseline perfectionism, could result in ineffective or even harmful coping strategies, such as avoidance behaviours (Weiner & Carton, 2012) and emotional dysregulation (Malivoire et al., 2019). In this case, those maladaptive coping styles could potentially impede the mental health disorder treatment process and lead to worse outcomes.

The number of studies included in the review is too small to draw any firm conclusions about the differences between CYP and adults. However, these two age groups significantly differ in developmental characteristics, psychopathology, and mental health disorder treatment approaches (Reale & Bonati, 2015). Thus, CYP might be more sensitive to the influence of perfectionism than adults since their cognition, emotional regulation, and other essential capabilities are still developing. Additionally, research has shown that the ideal self-image of CYP was more unstable and unrealistic (Alsaker & Kroger, 2006), which might lead to higher levels of Self-Oriented Perfectionism and the overall level of concern over mistakes, parental expectations, parental criticism, doubts about actions, along with corresponding harmful effects.

Strengths and limitations

As the first attempt to synthesise the influence of perfectionism on mental health disorder treatment outcomes, this systematic review has some strengths. First, we employed a rigorous methodology. Specifically, numerous studies were screened from seven databases encompassing both published and unpublished literature, and no additional studies were identified in the citation search, thus giving confidence to the comprehensive nature of the search strategy. Second, we attempted to reduce potential bias throughout the process, including limiting the eligible studies to RCTs, following the PRISMA checklist, having 5% of independent randomly selected studies screened by two secondary reviewers each, and utilising the RoB 2 and CASP for RCTs for risk of bias and quality assessments. Third, we carried out a comparison between CYP and adults, identifying the similarities and differences between those two age groups. Moreover, our review also provides further evidence of perfectionism as a transdiagnostic process across various mental health disorders.

On the contrary, several important limitations should also be noted. Except for databases and citation searches, this review did not search for studies from other media, such as websites. Another limitation was that only English studies were considered. Further, we did not include meta-analyses. It should also be noted that a majority of the included RCTs (11 of all the 16 RCTs) were secondary analyses of other RCTs that originally aimed to assess the efficacy of certain mental health disorder treatment approaches rather than the impact of perfectionism. There was also substantial heterogeneity. Given different perfectionism measures have distinct operational definitions, there were varying dimensions based on different definitions of perfectionism that exert effects on treatment outcomes, meaning it is difficult to draw conclusions about a unified perfectionism construct. Additionally, all the eligible CYP studies focused on participants with a mean age of less than 15, leading to uncertainty on whether the findings are applicable to older adolescents. Moreover, the generalisability of the findings is also limited by the unbalanced sex ratio and predominant White ethnic group, with all studies conducted in high-income countries.

Furthermore, the reliability and validity of the synthesised findings are limited by the risk of bias and the quality of the included studies. Based on the results of the RoB 2 and CASP for RCTs, while the overall findings of the 16 studies are relatively reliable, the synthesis for adult studies is significantly less reliable than that of CYP studies and should thus be interpreted more cautiously. In addition, the RCTs included in this review employed a variety of perfectionism measures with varying validity, and they also used different kinds of statistics to report the relationship between perfectionism and treatment outcomes, such as correlations, *f* test statistics, and R^2_{change} , which may result in challenges in summarising and interpreting the magnitude of the impact of baseline perfectionism on treatment outcomes.

Clinical implications

Since baseline perfectionism is likely to negatively impact mental health treatment outcomes, our findings have important clinical implications for mental health disorder treatment. First, assessing baseline perfectionism before commencing mental health disorder treatment is important. Second, if perfectionism appears to be an obstacle to change when delivering evidence-based interventions for mental health disorders, clinicians can justifiably change focus to deliver a brief, evidence-based treatment for perfectionism, such as cognitive-behaviour therapy for perfectionism (Galloway et al., 2022). At the very least, it is recommended to incorporate ongoing monitoring of both perfectionism and mental health disorder treatment outcomes throughout the treatment, to observe their relationship and identify any adjustments

needed. Finally, there is a need for research to consider incorporating the measurement of perfectionism into the design of RCTs from the start to allow conclusions to be drawn about the temporal order of reductions in perfectionism and reductions in mental health disorder treatment outcomes, which remained unclear in this systematic review. Embedding session-by-session assessment for both perfectionism and mental health disorder treatment outcomes can be considered an effective method for monitoring their relationship and identifying their timeframe sequence (Lutz et al., 2022).

Conclusion

In summary, this systematic review is the first attempt to summarise the evidence on the impact of perfectionism on mental health disorder treatment outcomes. The main finding is that baseline perfectionism has a mix of negative and non-significant effects on mental health disorder treatment outcomes. In nine of the 16 included studies, higher baseline perfectionism was negatively associated with primary mental health disorder treatment outcomes across depression, anxiety disorders, eating disorders, and OCD. However, five of the 16 studies found no significant impact. Additionally, change in perfectionism might act as a barrier to change in mental health disorder treatment, and reductions in perfectionism during treatment or from post-treatment to follow-up might be significantly correlated with improvements in mental health disorder treatment outcomes.

While providing a starting point, the research is still preliminary. Further studies are needed to explore a wide range of more in-depth directions, including conducting meta-analyses to quantify the impact of perfectionism on treatment outcomes, investigating the underlying mechanisms accounting for the influence of perfectionism on treatment across various mental health disorders, and examining the effect of treating perfectionism on mental health disorder treatment outcomes.

Note

1. “Sex (male or female)” rather than “gender” is the more commonly used term in the included studies.

Disclosure statement

Sarah J. Egan and Roz Shafran receive royalties for the books *Cognitive Behavioral Treatment of Perfectionism* and *Overcoming Perfectionism: A Self-Help Guide Using Scientifically Supported Cognitive Behavioural Techniques*. Other authors report there are no competing interests to declare.

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Data availability statement

The data that support the findings of this study are available from the corresponding author, Zhaohong Jiang, upon reasonable request.

References

- Alsaker, F. D., & Kroger, J. (2006). Self-concept, self-esteem and identity. In S. Jackson & L. Goossens (Eds.), *Handbook of adolescent development* (pp. 90–113). Psychology Press.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.).
- Antony, M. M., Purdon, C. L., Huta, V., & Richard, P. S. (1998). Dimensions of perfectionism across the anxiety disorders. *Behaviour Research and Therapy*, 36(12), 1143–1154. [https://doi.org/10.1016/s0005-7967\(98\)00083-7](https://doi.org/10.1016/s0005-7967(98)00083-7)

- Bartholomay, E. M., & Houlihan, D. D. (2016). Public speaking anxiety scale: Preliminary psychometric data and scale validation. *Personality & Individual Differences*, 94, 211–215. <https://doi.org/10.1016/j.paid.2016.01.026>
- Beck, A. T., & Beamesderfer, A. (1974). Assessment of depression: The depression inventory. In P. Pichot (Ed.), *Modern problems in pharmacopsychiatry* (pp. 151–169). Karger.
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Beck depression inventory-II (BDI-II)* [database record]. APA PsycTests. <https://doi.org/10.1037/t00742-000>
- Bills, E., Greene, D., Stackpole, R., & Egan, S. J. (2023). Perfectionism and eating disorders in children and adolescents: A systematic review and meta-analysis. *Appetite*, 187, 106586. <https://doi.org/10.1016/j.appet.2023.106586>
- Blatt, S. J., Bondi, C. M., Sanislow, I. C. A., Zuroff, D. C., & Pilkonis, P. A. (1998). When and how perfectionism impedes the brief treatment of depression: Further analyses of the National Institute of Mental Health Treatment of Depression Collaborative Research Program. *Journal of Consulting & Clinical Psychology*, 66(2), 423–428. <https://doi.org/10.1037/0022-006X.66.2.423>
- Blatt, S. J., Quinlan, D. M., Pilkonis, P. A., & Shea, M. (1995). Impact of perfectionism and need for approval on the brief treatment of depression: The National Institute of Mental Health Treatment of Depression Collaborative Research Program revisited. *Journal of Consulting & Clinical Psychology*, 63(1), 125–132. <https://doi.org/10.1037/0022-006X.63.1.125>
- Callaghan, T., Greene, D., Shafran, R., Lunn, J., & Egan, S. J. (2024). The relationships between perfectionism and symptoms of depression, anxiety and obsessive-compulsive disorder in adults: A systematic review and meta-analysis. *Cognitive Behaviour Therapy*, 53(2), 121–132. <https://doi.org/10.1080/16506073.2023.2277121>
- Campbell, M., McKenzie, J. E., Sowden, A., Katikireddi, S. V., Brennan, S. E., Ellis, S., Hartmann-Boyce, J., Ryan, R., Shepperd, S., & Thomas, J. (2020). Synthesis without meta-analysis (SWiM) in systematic reviews: Reporting guideline. *British Medical Journal*, 16890. <https://doi.org/10.1136/bmj.l6890>
- Chik, H. M., Whittal, M. L., & O'Neill, M. L. (2008). Perfectionism and treatment outcome in obsessive-compulsive disorder. *Cognitive Therapy and Research*, 32(5), 676–688. <https://doi.org/10.1007/s10608-007-9133-2>
- Claus, N., Miegel, F., Jelinek, L., Landmann, S., Moritz, S., Külz, A. K., Rubel, J., & Cludius, B. (2023). Perfectionism as possible predictor for treatment success in mindfulness-based cognitive therapy and metacognitive training as third-wave treatments for obsessive-compulsive disorder. *Cognitive Therapy and Research*, 47(3), 439–453. <https://doi.org/10.1007/s10608-023-10361-0>
- Cooper, Z., & Fairburn, C. (1987). The eating disorder examination: A semi-structured interview for the assessment of the specific psychopathology of eating disorders. *International Journal of Eating Disorders*, 6(1), 1–8. [https://doi.org/10.1002/1098-108X\(198701\)6:1<1::AID-EAT2260060102>3.0.CO;2-9](https://doi.org/10.1002/1098-108X(198701)6:1<1::AID-EAT2260060102>3.0.CO;2-9)
- Critical Appraisal Skills Programme. (2021). *CASP (randomised controlled trial) checklist*. Retrieved April 24, 2024, from <https://casp-uk.net/checklists/casp-rct-randomised-controlled-trial-checklist.pdf>
- de Jong, M., Spinhoven, P., Korrelboom, K., Deen, M., van der Meer, I., Danner, U. N., van der Schuur, S., Schoorl, M., & Hoek, H. W. (2020). Effectiveness of enhanced cognitive behavior therapy for eating disorders: A randomized controlled trial. *International Journal of Eating Disorders*, 53(5), 717–727. <https://doi.org/10.1002/eat.23239>
- Egan, S. J., Wade, T. D., Fitzallen, G., O'Brien, A., & Shafran, R. (2022). A meta-synthesis of qualitative studies of the link between anxiety, depression and perfectionism: Implications for treatment. *Behavioural and Cognitive Psychotherapy*, 50(1), 89–105. <https://doi.org/10.1017/S1352465821000357>
- Eldridge, S., Campbell, M., Campbell, M., Dahota, A., Giraudeau, B., Higgins, J., Reeves, B., & Siegfried, N. (2016). Revised Cochrane risk of bias tool for randomized trials (RoB 2.0): Additional considerations for cluster-randomized trials. *Cochrane Methods Cochrane Database Systematic Reviews*, 10(suppl 1) [Suppl]. <https://doi.org/10.1002/14651858.CD201601>
- Elkin, I., Shea, M. T., Watkins, J. T., Imber, S. D., Sotsky, S. M., Collins, J. F., Glass, D. R., Pilkonis, P. A., Leber, W. R., Docherty, J. P., Fiester, S. J., & Parloff, M. B. (1989). National institute of mental health treatment of depression collaborative research program: General effectiveness of treatments. *Archives of General Psychiatry*, 46(11), 971–982. <https://doi.org/10.1001/archpsyc.1989.01810110013002>
- Fairburn, C. G., & Beglin, S. J. (1994). Assessment of eating disorders: Interview or self-report questionnaire?. *International Journal of Eating Disorders*, 16(4), 363–370. [https://doi.org/10.1002/1098-108X\(199412\)16:4<363::AID-EAT2260160405>3.0.CO;2-%23](https://doi.org/10.1002/1098-108X(199412)16:4<363::AID-EAT2260160405>3.0.CO;2-%23)
- Fairburn, C. G., Cooper, Z., & Shafran, R. (2003). *Clinical perfectionism questionnaire (CPQ)* [database record]. APA PsycTests. <https://doi.org/10.1037/t59141-000>
- Fang, A., Steketee, G., Keshaviah, A., Didie, E., Phillips, K. A., & Wilhelm, S. (2020). Mechanisms of change in cognitive behavioral therapy for body dysmorphic disorder. *Cognitive Therapy and Research*, 44(3), 596–610. <https://doi.org/10.1007/s10608-020-10080-w>
- First, M. B., Gibbon, M., Spitzer, R. L. W., W, J. B., & Benjamin, L. S. (1997). *Structured clinical interview for DSM-IV axis II personality disorders, (SCID-II)*. American Psychiatric Association.
- Flett, G. L., Hewitt, P. L., Besser, A., Su, C., Vaillancourt, T., Boucher, D., Munro, Y., Davidson, L. A., & Gale, O. (2016). The child-adolescent perfectionism scale: Development, psychometric properties, and associations with stress, distress, and psychiatric symptoms. *Journal of Psychoeducational Assessment*, 34(7), 634–652. <https://doi.org/10.1177/0734282916651381>

- Foa, E. B., Huppert, J. D., Leiberg, S., Langner, R., Kichic, R., Hajcak, G., & Salkovskis, P. M. (2002). The obsessive-compulsive inventory: Development and validation of a short version. *Psychological Assessment*, 14(4), 485. <https://doi.org/10.1037/1040-3590.14.4.485>
- Freedland, K. E., King, A. C., Ambrosius, W. T., Mayo-Wilson, E., Mohr, D. C., Czajkowski, S. M., Thabane, L., Collins, L. M., Rebok, G. W., Treweek, S. P., Cook, T. D., Edinger, J. D., Stoney, C. M., Campo, R. A., Young-Hyman, D., & Riley, W. T. (2019). The selection of comparators for randomized controlled trials of health-related behavioral interventions: Recommendations of an NIH expert panel. *Journal of Clinical Epidemiology*, 110, 74–81. <https://doi.org/10.1016/j.jclinepi.2019.02.011>
- Frost, R. O., Marten, P., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. *Cognitive Therapy and Research*, 14(5), 449–468. <https://doi.org/10.1007/bf01172967>
- Galloway, R., Watson, H., Greene, D., Shafran, R., & Egan, S. J. (2022). The efficacy of randomised controlled trials of cognitive behaviour therapy for perfectionism: A systematic review and meta-analysis. *Cognitive Behaviour Therapy*, 51(2), 170–184. <https://doi.org/10.1080/16506073.2021.1952302>
- Garner, D. M., Olmstead, M. P., & Polivy, J. (1983). Development and validation of a multidimensional eating disorder inventory for anorexia nervosa and bulimia. *International Journal of Eating Disorders*, 2(2), 15–34. [https://doi.org/10.1002/1098-108X\(198321\)2:2<15::AID-EAT2260020203>3.0.CO;2-6](https://doi.org/10.1002/1098-108X(198321)2:2<15::AID-EAT2260020203>3.0.CO;2-6)
- Goodman, W. K., Price, L. H., Rasmussen, S. A., Mazure, C., Delgado, P., Heninger, G. R., & Charney, D. S. (1989). The Yale-Brown Obsessive Compulsive Scale: II. Validity. *Archives of General Psychiatry*, 46(11), 1012–1016. <https://doi.org/10.1001/archpsyc.1989.01810110054008>
- Goodman, W. K., Price, L. H., Rasmussen, S. A., Mazure, C., Fleischmann, R. L., Hill, C. L., Heninger, G. R., & Charney, D. S. (1989). The Yale-Brown obsessive compulsive scale: I. Development, use, and reliability. *Archives of General Psychiatry*, 46(11), 1006–1011. <https://doi.org/10.1001/archpsyc.1989.01810110048007>
- Hamilton, M. (1960). A rating scale for depression. *Journal of Neurology, Neurosurgery & Psychiatry*, 23(1), 56. <https://doi.org/10.1136/jnnp.23.1.56>
- Hewitt, P. L., Flett, G. L., Mikail, S. F., Kealy, D., & Zhang, L. C. (2018). Perfectionism in the therapeutic context: The perfectionism social disconnection model. In J. Stoeber (Ed.), *The psychology of perfectionism* (pp. 306–329). Routledge.
- Hewitt, P. L., Flett, G. L., Turnbull-Donovan, W., & Mikail, S. F. (1991). The multidimensional perfectionism scale: Reliability, validity, and psychometric properties in psychiatric samples. *Psychological Assessment: A Journal of Consulting and Clinical Psychology*, 3(3), 464. <https://doi.org/10.1037/1040-3590.3.3.464>
- Hewitt, P. L., Habke, A. M., Lee-Baggey, D. L., Sherry, S. B., & Flett, G. L. (2008). The impact of perfectionistic self-presentation on the cognitive, affective, and physiological experience of a clinical interview. *Psychiatry: Interpersonal & Biological Processes*, 71(2), 93–122. <https://doi.org/10.1521/psyc.2008.71.2.93>
- Hewitt, P. L., Smith, M. M., Deng, X., Chen, C., Ko, A., Flett, G. L., & Paterson, R. J. (2020). The perniciousness of perfectionism in group therapy for depression: A test of the perfectionism social disconnection model. *Psychotherapy*, 57(2), 206–218. <https://doi.org/10.1037/pst0000281>
- Imber, S. D., Pilkonis, P. A., Sotsky, S. M., Elkin, I., Watkins, J. T., Collins, J. F., Shea, M. T., Leber, W. R., & Glass, D. R. (1990). Mode-specific effects among three treatments for depression. *Journal of Consulting & Clinical Psychology*, 58(3), 352. <https://doi.org/10.1037/0022-006X.58.3.352>
- Jacobs, R. H., Silva, S. G., Reinecke, M. A., Curry, J. F., Ginsburg, G. S., & Kratochvil, C. J. (2009). Dysfunctional attitudes scale perfectionism: A predictor and partial mediator of acute treatment outcome among clinically depressed adolescents. *Journal of Clinical Child and Adolescent Psychology*, 38(6), 803–813. <https://doi.org/10.1080/15374410903259031>
- Jiang, Z., Shafran, R., Egan, S., Frost, M., & Ma, Y. (2024). CRD42024541979 Available from: The impact of perfectionism on treatment outcomes of mental health disorders: A systematic review. *Prospero*. https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42024541979
- Kahlon, S., Gjestad, R., Lindner, P., & Nordgreen, T. (2024). Perfectionism as a predictor of change in digital self-guided interventions for public speaking anxiety in adolescents: A secondary analysis of a four-armed randomized controlled trial. *Cognitive Behaviour Therapy*, 53(2), 152–170. <https://doi.org/10.1080/16506073.2023.2281243>
- Kay-Lambkin, F. J., Baker, A. L., Palazzi, K., Lewin, T. J., & Kelly, B. J. (2017). Therapeutic alliance, client need for approval, and perfectionism as differential moderators of response to eHealth and traditionally delivered treatments for comorbid depression and substance use problems. *International Journal of Behavioral Medicine*, 24(5), 728–739. <https://doi.org/10.1007/s12529-017-9676-x>
- Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, 33(1), 159–174. <https://doi.org/10.2307/2529310>
- Lo, A., & Abbott, M. J. (2013). The impact of manipulating expected standards of performance for adaptive, maladaptive, and non-perfectionists. *Cognitive Therapy and Research*, 37(4), 762–778. <https://doi.org/10.1007/s10608-013-9528-1>
- Lunn, J., Greene, D., Callaghan, T., & Egan, S. J. (2023). Associations between perfectionism and symptoms of anxiety, obsessive-compulsive disorder and depression in young people: A meta-analysis. *Cognitive Behaviour Therapy*, 52(5), 460–487. <https://doi.org/10.1080/16506073.2023.2211736>

- Lutz, W., Schwartz, B., & Delgadillo, J. (2022). Measurement-based and data-informed psychological therapy. *Annual Review of Clinical Psychology*, 18(1), 71–98. <https://doi.org/10.1146/annurev-clinpsy-071720-014821>
- Malivoire, B. L., Kuo, J. R., & Antony, M. M. (2019). An examination of emotion dysregulation in maladaptive perfectionism. *Clinical Psychology Review*, 71, 39–50. <https://doi.org/10.1016/j.cpr.2019.04.006>
- March, J. S., Parker, J. D. A., Sullivan, K., Stallings, P., & Conners, C. K. (1997). The multidimensional anxiety scale for children (MASC): Factor structure, reliability, and validity. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36(4), 554–565. <https://doi.org/10.1097/00004583-199704000-00019>
- Mitchell, J., Hatsukami, D., Eckert, E., & Pyle, R. (1985). Eating disorders questionnaire. *Psychopharmacology Bulletin*, 21(4), 1025–1043.
- Mitchell, J. H., Newall, C., Broeren, S., & Hudson, J. L. (2013). The role of perfectionism in cognitive behaviour therapy outcomes for clinically anxious children. *Behaviour Research and Therapy*, 51(9), 547–554. <https://doi.org/10.1016/j.brat.2013.05.015>
- Mussell, M. P., Mitchell, J. E., Crosby, R. D., Fulkerson, J. A., Hoberman, H. M., & Romano, J. L. (2000). Commitment to treatment goals in prediction of group cognitive-behavioral therapy treatment outcome for women with bulimia nervosa. *Journal of Consulting & Clinical Psychology*, 68(3), 432. <https://doi.org/10.1037/0022-006X.68.3.432>
- Nobel, R., Manassis, K., & Wilansky-Traynor, P. (2012). The role of perfectionism in relation to an intervention to reduce anxious and depressive symptoms in children. *Journal of Rational-Emotive and Cognitive-Behavior Therapy*, 30(2), 77–90. <https://doi.org/10.1007/s10942-011-0133-5>
- Obsessive Compulsive Cognitions Working Group. (2005). Psychometric validation of the obsessive belief questionnaire and interpretation of intrusions inventory-part, 2: Factor analyses and testing of a brief version. *Behaviour Research and Therapy*, 43(11), 1527–1542. <https://doi.org/10.1016/j.brat.2004.07.010>
- O'Shaughnessy, Í., Fitzgerald, C., Hayes, C., Leahy, A., O'Connor, M., Ryan, D., Shchetkovsky, D., Steed, F., Carey, L., Quinn, C., Shanahan, E., Galvin, R., & Robinson, K. (2023). Stakeholders' experiences of comprehensive geriatric assessment in an inpatient hospital setting: A qualitative systematic review and meta-ethnography. *British Medical Journal Geriatrics*, 23(1). <https://doi.org/10.1186/s12877-023-04505-w>
- Ouzzani, M., Hammady, H., Fedorowicz, Z., & Elmagarmid, A. (2016). Rayyan-a web and mobile app for systematic reviews. *Systematic Reviews*, 5(1), 210. <https://doi.org/10.1186/s13643-016-0384-4>
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S. ... Whiting, P. (2021). The PRISMA, 2020 statement: An updated guideline for reporting systematic reviews. *British Medical Journal*, 372, n71. <https://doi.org/10.1136/bmj.n71>
- Park, H. J., Heppner, P. P., & Lee, D. G. (2010). Maladaptive coping and self-esteem as mediators between perfectionism and psychological distress. *Personality & Individual Differences*, 48(4), 469–474. <https://doi.org/10.1016/j.paid.2009.11.024>
- Phillips, K. A., Hart, A. S., & Menard, W. (2014). Psychometric evaluation of the Yale-Brown obsessive-compulsive scale modified for body dysmorphic disorder (BDD-YBOCS). *Journal of Obsessive-Compulsive and Related Disorders*, 3(3), 205–208. <https://doi.org/10.1016/j.jocrd.2014.04.004>
- Pinto, A., Liebowitz, M. R., Foa, E. B., & Simpson, H. B. (2011). Obsessive compulsive personality disorder as a predictor of exposure and ritual prevention outcome for obsessive compulsive disorder. *Behaviour Research and Therapy*, 49(8), 453–458. <https://doi.org/10.1016/j.brat.2011.04.004>
- Poznanski, E. O., & Mokros, H. B. (1996). *Children's depression rating scale-revised (CDRS-R)*. Western Psychological Services.
- Reale, L., & Bonati, M. (2015). Mental disorders and transition to adult mental health services: A scoping review. *European Psychiatry*, 30(8), 932–942. <https://doi.org/10.1016/j.eurpsy.2015.07.011>
- Saylor, C. F., Finch, A. J., Spirito, A., & Bennett, B. (1984). The children's depression inventory: A systematic evaluation of psychometric properties. *Journal of Consulting & Clinical Psychology*, 52(6), 955. <https://doi.org/10.1037/0022-006X.52.6.955>
- Shafran, R., Egan, S. J., & Wade, T. D. (2023). Coming of age: A reflection of the first 21 years of cognitive behaviour therapy for perfectionism. *Behaviour Research and Therapy*, 161, 104258. <https://doi.org/10.1016/j.brat.2023.104258>
- Shahar, G., Blatt, S. J., & Zuroff, D. C. (2007). Satisfaction with social relations buffers the adverse effect of (mid-level) self-critical perfectionism in brief treatment for depression. *Journal of Social & Clinical Psychology*, 26(5), 540–555. <https://doi.org/10.1521/jscp.2007.26.5.540>
- Shaheen, N., Shaheen, A., Ramadan, A., Hefnawy, M. T., Ramadan, A., Ibrahim, I. A., Hassanein, M. E., Ashour, M. E., & Flouty, O. (2023). Appraising systematic reviews: A comprehensive guide to ensuring validity and reliability. *Frontiers in Research Metrics and Analytics*, 8. <https://doi.org/10.3389/frma.2023.1268045>
- Silverman, W. K., & Albano, A. M. (1996). *The anxiety disorders interview schedule for DSM-IV-child and parent versions*. Physiological Corporation.
- Smith, M. M., Sherry, S. B., Chen, S., Saklofske, D. H., Mushquash, C., Flett, G. L., & Hewitt, P. L. (2018). The perniciousness of perfectionism: A meta-analytic review of the perfectionism-suicide relationship. *Journal of Personality*, 86(3), 522–542. <https://doi.org/10.1111/jopy.12333>

- Smith, M. M., Sherry, S. B., Ge, S. Y., Hewitt, P. L., Flett, G. L., & Baggle, D. L. (2022). Multidimensional perfectionism turns 30: A review of known knowns and known unknowns. *Canadian Psychology / Psychologie Canadienne*, 63(1), 16. <https://doi.org/10.1037/cap0000288>
- Smith, M. M., Sherry, S. B., Ray, C., Hewitt, P. L., & Flett, G. L. (2021). Is perfectionism a vulnerability factor for depressive symptoms, a complication of depressive symptoms, or both? A meta-analytic test of 67 longitudinal studies. *Clinical Psychology Review*, 84, 101982. <https://doi.org/10.1016/j.cpr.2021.101982>
- Spence, S. H., Barrett, P. M., & Turner, C. M. (2003). Psychometric properties of the Spence children's anxiety scale with young adolescents. *Journal of Anxiety Disorders*, 17(6), 605–625. [https://doi.org/10.1016/S0887-6185\(02\)00236-0](https://doi.org/10.1016/S0887-6185(02)00236-0)
- Stackpole, R., Greene, D., Bills, E., & Egan, S. J. (2023). The association between eating disorders and perfectionism in adults: A systematic review and meta-analysis. *Eating Behaviors*, 50, 101769. <https://doi.org/10.1016/j.eatbeh.2023.101769>
- Steele, A. L., Bergin, J., & Wade, T. D. (2011). Self-efficacy as a robust predictor of outcome in guided self-help treatment for broadly defined bulimia nervosa. *International Journal of Eating Disorders*, 44(5), 389–396. <https://doi.org/10.1002/eat.20830>
- Stoeber, J., & Otto, K. (2006). Positive conceptions of perfectionism: Approaches, evidence, challenges. *Personality and Social Psychology Review*, 10(4), 295–319. https://doi.org/10.1207/s15327957pspr1004_2
- Su, Y.-J., Carpenter, J. K., Zandberg, L. J., Simpson, H. B., & Foa, E. B. (2016). Cognitive mediation of symptom change in exposure and response prevention for obsessive-compulsive disorder. *Behavior Therapy*, 47(4), 474–486. <https://doi.org/10.1016/j.beth.2016.03.003>
- Tanner, J. L., & Arnett, J. J. (2016). The emergence of emerging adulthood: The new life stage between adolescence and young adulthood. In A. Furlong (Ed.), *Routledge handbook of youth and young adulthood* (pp. 50–56). Routledge.
- Trotter, E. L. (2008). Unpublished results. *Impact of pre-treatment perfectionism on therapeutic alliance and outcome in the short-term treatment of depression* [Unpublished master's thesis]. Department of Adult Education and Counselling Psychology, University of Toronto.
- Vervaet, M., Puttevils, L., Hoekstra, R. H., Fried, E., & Vanderhasselt, M. A. (2021). Transdiagnostic vulnerability factors in eating disorders: A network analysis. *European Eating Disorders Review*, 29(1), 86–100. <https://doi.org/10.1002/erv.2805>
- Weiner, B. A., & Carton, J. S. (2012). Avoidant coping: A mediator of maladaptive perfectionism and test anxiety. *Personality & Individual Differences*, 52(5), 632–636. <https://doi.org/10.1016/j.paid.2011.12.009>
- Weissman, A. N., & Beck, A. T. (1978). Development and validation of the dysfunctional attitude scale: A preliminary investigation. Annual Meeting of the American Educational Research Association, Toronto. <https://eric.ed.gov/?id=ED167619>
- Welch, H. A., Agras, W., Lock, J., & Halmi, K. A. (2020). Perfectionism, anorexia nervosa, and family treatment: How perfectionism changes throughout treatment and predicts outcomes. *International Journal of Eating Disorders*, 53(12), 2055–2060. <https://doi.org/10.1002/eat.23396>
- Zuroff, D. C., Blatt, S. J., Sotsky, S. M., Krupnick, J. L., Martin, D. J., Sanislow, C. A., III, & Simmens, S. (2000). Relation of therapeutic alliance and perfectionism to outcome in brief outpatient treatment of depression. *Journal of Consulting & Clinical Psychology*, 68(1), 114. <https://doi.org/10.1037/0022-006X.68.1.114>