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The Efficacy and Effectiveness of Psychological Treatments for Mood, Anxiety, and Related Disorders

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We provide a narrative review of the extensive evidence that supports the efficacy and effectiveness of psychological treatments, across the life span, for common mental health disorders. To this end, relying primarily on meta-analytic studies, we examine the effects of psychological treatments for depression, bipolar disorder, generalised anxiety disorder, social anxiety disorder, specific phobia, panic disorder, obsessive–compulsive disorder, and posttraumatic stress disorder. Based upon data from hundreds of studies and thousands of participants, there is substantial evidence for both the efficacy and effectiveness of specific forms of psychological intervention for these disorders. Moreover, for most disorders, the clinical impact of specific forms of psychological treatment has been found to be at least equal to that of medication. Accordingly, the research evidence strongly supports the use of a number of specific psychological treatments, most of which are cognitive–behavioural treatments, as first-line interventions for these commonly occurring mental disorders among youth, adults, and older adults.

Keywords: treatment efficacy, treatment effectiveness, mood disorders, anxiety disorders

Based on the results of extensive research on the effects of psychological treatments, the American Psychological Association (2013) passed a resolution recognising the substantial clinical impact of psychotherapy. Although such a global statement about the positive effect of psychotherapy does reflect the general research findings, it glosses over the substantial variability evident in the psychological treatment research literature, including (a) not all treatments have been empirically evaluated, and (b) some treatments are more efficacious than others in the treatment of specific disorders (e.g., Siev & Chambless, 2007). Psychotherapies have been developed to address a broad range of mental health and health conditions, which makes it essential that consumers of the treatment literature have an awareness of the differences in the nature, strength, and scope of evidence supporting the various options available to treat a specific disorder or condition. In particular, it is critical for consumers of the research literature to be able to determine the forms of treatment that have been demonstrated to improve psychosocial functioning for those suffering from prevalent mental disorders. Such information is essential for clinicians delivering psychological treatments, for those developing policies on first-line treatment options, and, of course, for those seeking treatment.

In recent years, an important distinction has been emphasised in the treatment literature with respect to research focused on the outcome of psychological interventions. This distinction between *efficacy research* and *effectiveness research* is central to attempts to transport successful treatments to routine clinical practice in order to have evidence-based psychological services widely available (Hunsley, 2007). Efficacy studies are designed to maximize the internal validity of a study. Most commonly, this involves features such as random assignment to treatment and control conditions, the training of therapists to a specified level of competence in providing the treatment, monitoring treatment fidelity among therapists, and ensuring that all participants have the condition that the treatment was designed to address. In contrast, effectiveness studies are designed to maximize external validity while maintaining an adequate level of internal validity (without which no viable conclusions could be drawn about the impact of the treatment). Most commonly this involves features such as using clinicians who are routinely providing psychological services and clients who have been referred for clinical services.

Once a treatment has been shown to be efficacious through multiple replications, the usual next step is to determine how well the treatment works in typical clinical practice (Rounsaville, Carroll, & Onken, 2001). Evidence demonstrating that treatments evaluated under highly controlled research conditions (i.e., efficacy studies) can have a comparable clinical impact when delivered in regular clinical settings (i.e., effectiveness studies) provides essential support for the routine clinical use of such treatments. Data from both efficacy and effectiveness studies are key to a full understanding of the potential impact of a treatment, a point emphasised in the report of the Canadian Psychological Association Task Force on Evidence-Based Practice of Psychological Treatments (Dozois et al., 2014).

The purpose of the current narrative review is to examine the extensive evidence that supports the efficacy and effectiveness of psychological treatments for common mental disorders. Accordingly, our focus is on the treatment, across the life span, of mood, anxiety, and related disorders. These disorders are the most prevalent

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mental disorders (e.g., World Health Organization World Mental Health Survey Consortium, 2004) and are among the conditions most commonly treated by psychologists (e.g., Hunsley, Ronson, & Cohen, 2013). Our intent with this review is to summarise the evidence for the effects that psychological treatments can have on the most common and most debilitating mental health conditions. Although there are published research summaries for the treatment of these and other mental health conditions (e.g., Australian Psychological Society, 2010; Nathan & Gorman, 2007; Weisz & Kazdin, 2010), it should be noted that such sources emphasise only efficacy research and usually focus on either youth or adult treatment research.

Our strategy for summarising the relevant research literature involves the use of results of published meta-analyses. This emphasis on quantitative literature reviews is commonly found in the development of clinical practice guidelines and is seen as providing the best foundation for evaluating treatment effects. Meta-analyses are likely to provide the most current and thorough overview of a research area, and the use of state-of-the-science statistical techniques (e.g., weighted least squares analyses, random effects modelling) is likely to provide an accurate synthesis of results obtained from multiple studies. For many of the disorders addressed in this review, several meta-analyses have been published in the past decade. Therefore, whenever more than one relevant meta-analysis was available, we chose to include the most comprehensive meta-analyses (i.e., in terms of treatment studies included in the analyses). In most instances, this means that we are presenting information from the most recently published meta-analyses, including, whenever possible, meta-analyses comparing outcomes associated with both psychological treatments and pharmacological interventions. In some cases, especially with effectiveness research, the literature is not sufficiently developed to warrant a meta-analytic review. We therefore will supplement meta-analytic results for effectiveness studies with information from narrative literature reviews or individual studies.

Literature Search

Inclusion Criteria

Meta-analyses were to serve as the primary source of information for our review of treatment efficacy and effectiveness. Over the past 30 years, many meta-analyses of the psychotherapy literature have been published. Indeed, since 2000, Hofmann, Asnaani, Vonk, Sawyer, and Fang (2012) reported that more than 260 meta-analyses examining the treatment efficacy of cognitive–behavioural therapies (CBTs) for a range of adult disorders have been published. However, the treatment effectiveness literature is much more limited than is the treatment efficacy literature and, accordingly, relatively few meta-analytic evaluations of treatment effectiveness have been published. Therefore, although we determined that only meta-analytic results would be included in our review of treatment efficacy, we decided that effectiveness results could be obtained through meta-analyses, narrative literature reviews, or individual empirical studies not included in published meta-analyses or narrative reviews.

To be included in our review, the meta-analysis, narrative literature review, or individual study had to focus on the treatment of mood, anxiety, or related disorders. Therefore, we explicitly focused on the research pertaining to the psychological treatment of depression, bipolar depression, generalised anxiety disorder (GAD), social anxiety disorder (SAD), specific phobia (SP), panic disorder (PD), obsessive–compulsive disorder (OCD), and post-traumatic stress disorder (PTSD). The literature on the treatment of these disorders among youth and older adults is less developed than is the comparable literature for adults. Therefore, because of our intent to review treatments provided across the life span, we also included, when necessary, articles in our review if they reported the results of treatment for anxiety or anxiety disorders, rather than for a specific diagnostic category.

Article Search

We examined the research published from the beginning of 2000 until the end of 2012. A series of PsycINFO and MEDLINE searches were conducted for journal articles published in English. The terms "meta-analysis," "treatment," "effectiveness," and "treatment effectiveness" were combined with each of the following terms: "depression," "bipolar disorder," "anxiety," "anxiety disorder," "generalised anxiety disorder," "obsessive–compulsive disorder," "panic disorder," "phobia," "social anxiety disorder," and "specific phobia." For each potentially relevant article identified via these searches, the abstract, and, if necessary, the entire article was reviewed by the second or third author to determine whether the article met our inclusion criteria. Those retained at this step were then reviewed by the first author, and articles deemed to meet inclusion criteria by both the first and the second or third author were retained for closer examination. This examination focused on the coverage of original studies included in a meta-analysis or narrative literature review (with the most comprehensive article being retained); in the case of an individual empirical study (only for effectiveness studies), the focus was on determining whether the study had been included in one or more of the retained meta-analyses or literature reviews. After all of these steps, we retained 34 meta-analyses, seven narrative literature reviews, and one individual effectiveness study.

Reporting on Treatment Efficacy and Effectiveness

Meta-analysis combines the results of research studies by using a common metric called an effect size. Analyses involving group comparisons typically result in two types of effect sizes. The first involves differences among group means, with the effect size being the difference between the posttreatment means of two groups (e.g., treatment and no-treatment groups) divided by the pooled standard deviation of both groups. The statistic is called *d* or the *standard mean difference* (*SMD*); if an adjustment is made for the inclusion of studies with small sample sizes, it is called *g*. Although these three indices stem from somewhat different statistical traditions, they are essentially equivalent and present group differences in terms of standard deviation units. In reporting the results of meta-analyses, we will use the specific effect size term used in each meta-analysis; we will also report the absolute value of the effect size in order to avoid any potential confusion in how researchers presented their comparisons of randomized controlled trials (RCTs). The second type of effect size involves a comparison of groups in terms of the odds or probability of an outcome. An *odds ratio* (*OR*) is calculated to determine the association between group condition (e.g., treatment and no-treatment) and a binary

outcome variable (e.g., the occurrence or nonoccurrence of an event, such as relapse). A *risk ratio* (*RR*) is calculated to compare the probability of an event occurring in each of the group conditions. Although commonly used in epidemiological research, these effect size indices are not frequently used in psychological research. Therefore, whenever we present findings using this type of effect size, we will provide a brief interpretation of the results.

In this review, we provide effect size values for both efficacy and effectiveness studies. Usually these values should not be directly compared because they are almost always based on different forms of statistical analysis. Efficacy studies are, by definition, RCTs that compare treatment results with the results from a control condition (e.g., no-treatment, an alternative form of treatment such as medication or treatment as usual [TAU]). In this case, the effect size is based on change that is due only to treatment itself. Few effectiveness studies are RCTs; therefore, meta-analyses of effectiveness studies typically involve a within-group analysis (i.e., pretreatment compared with posttreatment, with no control condition). As a result, an effect size for this type of meta-analysis is based on change that may result from multiple causes: In addition to treatment effects, this may include effects due to maturation, regression to the mean, remission of symptoms due to passage of time, and measurement reactivity. Effectiveness study effect sizes, therefore, are likely to overestimate true treatment effects, resulting in larger values than those obtained in efficacy studies.

Of the 34 meta-analyses included in this review, 14 included procedures to detect the possibility of publication bias in the samples of studies used in a meta-analysis (most commonly funnel plots and/or Egger's test). Within these 14 meta-analyses, results indicated the potential for two meta-analyses to be affected by publication bias. Therefore, for these two meta-analyses, we will include effect size estimates adjusted for possible publication bias.

In order to summarise the general findings reported in this article, Table 1 presents the main meta-analytic findings across disorders. To enhance the utility of these results, in addition to presenting study and effect size details, we have transformed the effect size information into the metric of *number needed to treat* (NNT) using the table provided by Kraemer and Kupfer (2006). NNT is commonly used in epidemiological and health care research, as it allows for comparisons to be made with other health care services. NNT represents the number of people who need to receive a treatment in order for one additional person to improve *who would not have otherwise improved*. NNT values can be based on a comparison of treatment with no-treatment or a comparison of two treatments.

The summary data in Table 1 include several examples comparing evidence-based psychological treatments with no treatment or with TAU. NNT can be easily derived from *SMD*, *d*, and *g* values (although it can also be derived from *OR* and *RR* values, the necessary data for these calculations were not included in the studies included in our review). Generally speaking, the lower the NNT value, the larger the treatment effect. However, a full interpretation of an NNT value necessitates consideration of several additional factors, including the condition for which treatment was sought, the nature of the clinical outcome obtained with treatment, the cost of treatment, possible treatment side effects, and the time frame over which the treatment effects are observed (see http://www.thennt.com/ for examples of NNT values associated with treatments considered to have substantial clinical utility). As a rough

Table 1
Number Needed to Treat (NNT) Values for Main Meta-Analytic Results

Interventions evaluated in meta-analysis of RCT results	ES	NNT
Depression		
Psychotherapy vs. no treatment, effects posttreatment (Cuijpers, Andersson, et al., 2011; Driessen et al., 2010)	d = 0.42 to 0.88	2.2 to 4.5
Psychotherapy vs. no treatment, effects posttreatment for older adults (>55 years) (Peng et al., 2009)	d = 0.92	2.1
Psychotherapy vs. no treatment, effects posttreatment for youth (Weisz et al., 2006)	d = 0.34	5.2
Group CBT vs. no treatment, effects posttreatment (Feng et al., 2011; Huntley et al., 2012)	g = 0.40	4.5
Brief CBT vs. TAU, effects posttreatment (Cape et al., 2010)	d = 0.33	5.2
Bipolar disorder		
Adjunctive psychological treatment vs. medication only, relapse rate (Szentagotai & David, 2010)	*OR* = .53[a]	—
Generalized anxiety disorder		
CBT vs. TAU or no-treatment, effects posttreatment (Hunot et al., 2010)	*SMD* = 0.82	2.3
Social anxiety disorder		
Psychological treatment vs. no treatment, effects posttreatment (Acarturk et al., 2009)	d = 0.45	4.0
CBT vs. no treatment, effects posttreatment for youth (Segool & Carlson, 2008)	d = 0.86	2.2
Specific phobias		
Exposure-based CBT vs. no treatment, effects posttreatment (Wolitzky-Taylor et al., 2008)	d = 1.05	1.9
Panic disorder		
CBT vs. no treatment, effects posttreatment (Sanchez-Meca et al., 2010)	d = 0.78	2.4
Obsessive-compulsive disorder		
CBT vs. no treatment, effects posttreatment (Rosa-Alcázar et al., 2008)	d = 1.08	1.9
CBT vs. no treatment, effects posttreatment for youth (Watson & Rees, 2008)	d = 1.45	1.8
PTSD		
Trauma-focused CBT vs. no treatment, effects posttreatment (Bisson et al., 2007)	d = 1.40 to 1.70	1.7 to 1.8
Prolonged exposure (CBT) vs. no treatment, effects posttreatment (Powers et al., 2010)	g = 1.08	1.9
Trauma-focused CBT vs. no treatment, effects posttreatment for youth (Kowalik et al., 2011)	d = 0.33	5.2

Note. RCT = randomized controlled trial; ES = effect size; NNT = number needed to treat; *OR* = odds ratio; SMD = standard mean difference; CBT = cognitive-behavioural therapy; TAU = treatment as usual; PTSD = posttraumatic stress disorder.
[a] This was associated with a 40% reduction in relapse rate relative to the use of medication monotherapy.

guide to interpreting the information presented in Table 1, NNT values in the range of 3 to 6 are often found when comparing medication with placebos for a range of mental disorders (Pinson & Gray, 2003), and values less than 10 typically indicate a clinically important treatment effect (Cowen, Harrison, & Burns, 2012).

Depression

Depression is the most prevalent mental disorder and is characterised by dysphoria, decreased activity, loss of interest in previously enjoyable activities, social withdrawal, a sense of hopelessness, and self-blame. The Mood Disorders Society of Canada (2011) estimates that 5% to 12% of men and 10% to 25% of women will experience a major depressive episode within their lifetime. Depression is the fourth leading condition related to cause of disability worldwide and is now the leading disease-related cause of disability (Marcus, Yasamy, van Ommeren, Chisholm, & Saxena, 2012). Fortunately, there is a large body of evidence indicating that psychological treatment alone, or in combination with medication, can effectively treat this disorder in children and adolescents, adults, and older adults. This evidence comes from a variety of treatment settings (e.g., primary care, community clinics, and hospitals) and a variety of modalities (e.g., individual therapy, group therapy, brief therapy).

Efficacy Studies

In the past three decades, numerous meta-analyses have demonstrated that psychological treatments are efficacious in the treatment of depression in adults. In the most recent large-scale meta-analysis of psychological treatments for depression, Cuijpers, Andersson, Donker, and Van Straten (2011) examined the overall impact of psychological treatment and the characteristics of patients or treatment that influenced the outcome of the treatment of adult depression. Based on the 147 studies and data from several thousand participants included in their meta-analysis, the overall effect size of psychological treatment versus a no-treatment control group on patient self-reports of depressive symptoms was d = 0.66, 95% confidence interval (CI) [0.60, 0.73]. As the test for possible publication bias was significant, the authors applied a correction that resulted in a reduction of the overall effect size to d = 0.42, 95% CI [0.60, 0.75]. All forms of psychotherapy (i.e., various types of CBT, interpersonal psychotherapy [IPT], short-term psychodynamic therapy, and nondirective supportive therapy) were found to be superior to the outcomes achieved by the control group, with effect sizes ranging from 0.45 to 0.87. Based on studies in which treatment types were directly compared, they found no significant differences among forms of CBT and short-term psychodynamic therapies; on the other hand, IPT was significantly more efficacious than the other treatments (d = 0.21, 95% CI [0.01, 0.42]), and nondirective supportive therapy was significantly less efficacious than the other treatments (d = −0.17, 95% CI [−0.32, −0.03]). Cuijpers, Andersson, et al. reported that there was a small, but significant, effect size favouring individual therapy over group therapy (d = 0.20, 95% CI [0.05, 0.35]), with additional indications that fewer people drop out of individual therapy than from group therapy (OR = 0.56, 95% CI [0.37, 0.86]; i.e., the odds of dropping out of individual therapy is roughly half the odds of dropping out of group therapy). In a meta-analysis focusing on CBT modality options, based on seven studies, Huntley, Araya, and Salisbury (2012) also found a significant effect favouring individual over group CBT at posttreatment (SMD = 0.38, 95% CI [0.09, 0.66]) on self-report or interview-based measures of depression, but this relative advantage disappeared in subsequent follow-up assessments.

The value of group therapy for adults and older adults, however, should not be dismissed. Feng et al. (2011) conducted a meta-analysis of cognitive behavioural group therapy (CBGT), including data from 32 studies (with an age range of 19.5 to 75.2 years). The typical group size was six to 10 participants, with therapy lasting from 8 to 12 weeks of 1-hr weekly sessions. At posttreatment, depression levels based on both self-report and clinician interviews had been significantly reduced (g = 0.40, 95% CI [0.11, 0.68]) compared with a control group, and these levels were maintained at 6-month follow-up (g = 0.38, 95% CI [0.16, 0.60]). Likewise, Huntley et al. (2012) investigated the efficacy of group-based psychological therapies for depression in a primary care setting. Fourteen studies were included (N = 1,217) comparing CBGT plus TAU with TAU. The posttreatment effect size for depression levels based on self-report or clinician interviews was d = 0.55, 95% CI [0.32, 0.78], suggesting a considerable effect for CBGT in this setting.

Although the effects of very brief forms of psychological treatment (i.e., several sessions) appear to be smaller than what is achieved with short-term treatment (i.e., up to 20 sessions), the evidence suggests that they are still efficacious in reducing depressive symptoms. Cape, Whittington, Buszewicz, Wallace, and Underwood (2010) conducted a meta-analysis comparing brief treatments (i.e., six to seven sessions) with TAU in a primary care setting. Thirty-four studies were included in the analyses, with outcome measured by a composite that included depression symptoms and response to treatment. There were significant effects favouring brief CBT over TAU for depression (d = 0.33, 95% CI [0.06, 0.60]; n = 450) and for mixed anxiety and depression (d = 0.26, 95% CI [0.08, 0.44]; n = 479). Significant effects for problem-solving therapy were also found for depression (d = 0.26, 95% CI [0.03, 0.49]; n = 777) and for mixed anxiety and depression (d = 0.17, 95% CI [0.07, 0.41]; n = 579). Nieuwsma et al. (2012) conducted a systematic review and meta-analysis of 15 RCTs evaluating brief forms (eight sessions or fewer) of CBT, including problem-solving therapy, and mindfulness-based cognitive therapy (CT). These brief forms of CBT were more efficacious than control conditions, with a mean effect size for reductions in depressive symptoms (based on self-report and clinician interviews) of d = 0.42, 95% CI [0.10, 0.74]. Although this effect size is smaller than typically found for short-term versions of CBT, these briefer versions of treatment may be well suited to primary care settings or for those who are reluctant to engage in the usual short-term treatments.

Research indicates that psychotherapy is also an efficacious treatment option for older adults. Peng, Huang, Chen, and Lu (2009) conducted a meta-analysis investigating the efficacy of psychotherapy (i.e., CBT, reminiscence therapy, and generic psychotherapy [defined as any form of psychotherapy or counselling other than CBT and reminiscence therapy]) in treating older adults (≥55 years of age). Fourteen studies were included, with a total of 705 participants (607 of whom completed follow-up assessments). Compared with placebo or no intervention, psychotherapy was

efficacious in reducing self-report and interview-based depression levels (*SMD* = 0.92, 95% CI [0.63, 1.21]). Each type of psychotherapy was more efficacious than placebo (for CBT, *SMD* = 1.34, 95% CI [0.79, 1.81]; for reminiscence therapy, *SMD* = 0.64, 95% CI [0.25, 1.04]; for generic psychotherapy, *SMD* = 1.00, 95% CI [0.59, 1.40]).

There have been several meta-analyses examining the impact of psychological treatment on depression in children and adolescents, with the most comprehensive being the work of Weisz, McCarty, and Valeri (2006). Thirty-five RCTs were included in their analyses (n = 2,095), with 60% of the studies comprised of adolescent participants, 20% of child participants, and 20% with a mixed sample. Overall, the effect of treatment (primarily forms of CBT) compared with no treatment was d = 0.34 (CI not reported), with no age-related differences in effects. It is worth noting that the overall effect size combined self-report data from depressed youth and from their parents. When the subsample of six studies that included both youth and parent data was analysed, treatment effects on youth self-report (d = 0.72, CI not reported) were significantly greater than for parent report (d = 0.24, CI not reported). Given the nature of depression and depressive symptoms, and the fact that internalizing problems are typically noticed and reported differently by youth and their parents, this raises an important question about whether data from multiple informants should be combined to yield an overall estimate of youth treatment effects. However, even when focusing on self-report data, there can be considerable variability in treatment effects across studies. For example, in reviewing RCTs published since 1998, David-Ferdon and Kaslow (2008) found that d values could range from as low as 0.17 to as high as 0.92. Nevertheless, these authors found that there is substantial evidence supporting the use of CBT and IPT for depressed children and adolescents.

Treatment of Severe Depression

The American Psychiatric Association (2000) concluded that psychological intervention may be most useful for depressed patients with mild or moderate symptoms. In response to this position, meta-analyses have addressed the question of how efficacious psychological treatment is for more severe and chronic forms of depression. Using metaregression and meta-analysis, Driessen, Cuijpers, Hollon, and Dekker (2010) directly addressed the question of whether pretreatment depression severity was related to psychological treatment outcome compared with control conditions. Participants aged 18 years and older were included in the meta-analysis, and depression scores on the Beck Depression Inventory I and II and Hamilton Depression Rating Scale were used as outcome variables. In total, 132 studies were included (N = 10,134; 5,858 participants in the psychological treatment condition and 4,276 participants in the control condition).When examining initial effects of psychological treatment versus control conditions, without separating levels of severity, 74 studies using the Beck Depression Inventory I as an outcome measure found an effect size of d = 0.80, 95% CI [0.69, 0.91]; 12 studies using the Beck Depression Inventory II found an effect size of d = 0.40, 95% CI [0.16, 0.65]; and 48 studies using the Hamilton Depression Rating Scale as an outcome measure found an effect size of d = 0.88, 95% CI [0.74, 1.01]. There were no significant effects on treatment outcomes when metaregression was used to examine the impact of depression severity. The authors then conducted within-study severity analyses to examine the effect of treatment on both a high-severity group and a low-severity group. At posttreatment, when comparing psychological treatment with control groups, the authors found a significant effect size favouring psychological treatment (d = 0.23, 95% CI [0.02, 0.43]) for the low-severity group. Conducting the same analysis on the high-severity group, the authors found a significantly larger effect (d = 0.39, 95% CI [0.15, 0.64]) for psychological treatment. The authors concluded that depression severity does moderate treatment outcome, but in the reverse of what many assume: Psychological intervention is more efficacious for high-severity patients than it is for low-severity patients. Interestingly, the same pattern of results has been found for antidepressant medications used in the treatment of depressed adults (Fournier et al., 2010).

Cuijpers, Clignet, et al. (2011) examined the effects of psychological treatment on more chronic and severe depression by conducting a meta-analysis on data from inpatients who were treated for depression. Twelve RCTs were included in the study (N = 570; 308 participants in the psychological treatment condition and 262 participants in the TAU condition). In 10 of the RCTs, participants in both conditions received antidepressant medication. The participants were adults and older adults, and the average number treatment sessions ranged from six to 47. The overall mean effect size for self-report and interview-based measures of depression was significant (g = 0.29, 95% CI [0.13–0.44]) in favour of the psychological treatment condition. When the five studies with 12-month follow-up data were examined, there was no significant difference between groups. There was also no significant difference found among types of psychological treatment in this meta-analysis.

Psychotherapy Compared With Antidepressant Medication

A number of studies have examined the effects of psychotherapy compared with pharmacotherapy. Results generally suggest that, for depressed adults, psychological treatment performs (a) as well as pharmacotherapy at posttreatment and (b) better than pharmacotherapy at follow-up (including having lower relapse rates). Interestingly, across the life span, for both women and men, surveys find a clear preference for receiving psychological treatment of depression rather than pharmacotherapy (McHugh, Whitton, Peckham, Welge, & Otto, 2013).

De Maat, Dekker, Schoevers, and De Jonghe (2006) conducted a meta-analysis to investigate the remission and attrition rates of psychological treatment and pharmacotherapy for depression. Ten studies were included which consisted of outpatients diagnosed with depression (19 to 65 years of age; N = 1,233; 640 participants treated with pharmacotherapy and 593 participants treated with psychological treatment). The authors found no difference between psychological treatment and pharmacotherapy in terms of remission, regardless of chronicity or severity of depression. At 1- to 2-year follow-up, however, psychological treatment had a significantly lower rate of relapse than did pharmacotherapy (RR = 0.46; 26.5% vs. 56.6%). Additionally, when examining attrition from pharmacotherapy (n = 182) and psychological treatment (n = 140), the attrition rate was 28.4% for pharmacotherapy versus 23.6% for psychological treatment (RR = 1.29). This difference

was statistically significant, indicating attrition rates are significantly lower in psychological treatment than pharmacotherapy.

Spielmans, Berman, and Usitalo (2011) conducted a meta-analysis to update and extend the literature in comparing the efficacy of psychological treatment and antidepressants. Fifteen studies were included in the meta-analysis (n = 1,014 receiving psychological treatment; n = 961 receiving antidepressants). At posttreatment, there were no significant differences in efficacy between psychological treatment and medication on either continuous depression scales or categorical measures, including response, remission, or treatment completion rates. At follow-up, psychological treatment was significantly superior to medication on a composite index of effect size (d = 0.26, CI not reported). The authors pointed out, however, that in 11 studies, participants in the medication arm of the trials were allowed to increase dosage when needed, whereas only three studies allowed a similar increase in intensity for psychological treatment. Additionally, three studies allowed a complete change in medication for nonresponders, whereas no studies allowed a change in psychological treatment for nonresponders, suggesting the designs may have slightly favoured medication. In their meta-analysis, which included 30 studies of adult depression comparing psychological treatment with pharmacotherapy, Cuijpers, Andersson, et al. (2011) also found no significant difference between treatments. In 18 studies combined, psychological treatment and pharmacotherapy were compared with psychological treatment alone, with a resulting effect size of d = 0.35 (CI not reported) favouring the combined treatment; similarly, in 25 studies the combined treatment was superior to pharmacotherapy alone, with an effect size of d = 0.31, 95% CI [0.20, 0.43].

Taken collectively, these meta-analyses suggest that pharmacotherapy and psychological treatment have comparable success rates in treating depression, with better results at follow-up for psychological treatment. These results provide substantial evidence that both psychological treatments and antidepressant medication work for many depressed adults, thus providing those suffering from depression a viable choice of treatment options. There is also evidence that combining the two treatments can yield greater effects than is obtained with either treatment on its own.

Effectiveness Studies

In a meta-analysis of effectiveness studies for depression in adults, Hans and Hiller (2013) investigated the effect size associated with CBT for adult depression in routine clinical practice (i.e., referred through usual clinical routes and treated by practicing therapists and therapists in training). Additional subgroup analyses were conducted to examine whether group CBT was as effective as individual CBT. A total of 34 studies were included in the meta-analysis, with 1,880 patients in the completer group and 1,629 patients in the intention-to-treat group (ITT). Completer analyses include data only from participants who completed all treatment sessions. ITT analyses include data from all participants who began treatment but may not have finished a full course of treatment, and use the data provided by participants in their last treatment session to estimate treatment outcome results. The majority of participants in both groups were women (M = 68.6% in the completer group; 66.4% in the ITT group), with the mean age being 38.6 years in the completer group and 37.4 years in the ITT group. On average, those in the completer group received 21.7 individual sessions of CBT or 11.2 sessions of group CBT. The mean attrition rate was 24.6%. Outcome was assessed via self-report and clinician interviews.

CBT was effective in reducing depression in completer (d = 1.13, 95% CI [1.02, 1.24]) and ITT (d = 1.06, 95% CI [0.94, 1.18]) samples. For completer analyses, there were significant reductions posttreatment in dysfunctional cognitions, general anxiety, psychological distress, and functional impairment (d values ranged from 0.67 to 0.88). The authors reported that, based on 6- and 12-month follow-up assessment, treatment gains were maintained or improved. Differences between individual CBT and group CBT failed to reach significance; however, power calculations indicated the statistical power was insufficient to detect small or moderate effects. The authors therefore urged caution in interpreting these nonsignificant results. Overall, the results provide compelling evidence that depression in adults can be effectively treated with CBT in typical clinical settings.

Compared with the literature on depression in adults, there are fewer effectiveness studies on the treatment of depression in youth. Hunsley and Lee (2007) and Lee, Horvath, and Hunsley (2013) reviewed the effectiveness research, focusing on studies that reported rates of clinically significant change and attrition. There were seven samples reported in six effectiveness studies of the treatment of depression in youth (two samples received IPT, four samples received CBT, and one sample received CBT and medication). In five samples, there were reported improvement rates that met or surpassed the improvement benchmark reported in the efficacy literature. Six of the seven samples had treatment completion rates that were comparable with, or superior to, what is typically reported in the efficacy literature on the treatment of youth depression. These results suggest that treatments for youth depression delivered in routine clinical settings can achieve the level of outcomes reported in efficacy trials.

Bipolar Disorder

Bipolar disorder is a mood disorder that consists of both a manic episode (i.e., expansive, elevated or irritable mood) and usually one or more depressive episodes. There are several forms of bipolar disorder, with differentiation based on the severity of the manic/hypomanic and depressive/dysthymic episodes. Bipolar disorder has a lifetime prevalence of 1% to 2%. Psychosocial factors (e.g., life events, family environment, cognitive style, and social support) play an important role in the risk of onset, the course of the disorder, and overall expression of the illness (Zaretsky, Rizvi, & Parikh, 2007). It is common for the social networks of people with bipolar disorder to be adversely affected, with only 30% of people achieving their previous levels of social and professional functioning 1 year after the first episode (Szentagotai & David, 2010).

Given the seriousness of this disorder, treatment is of paramount importance. However, mood-stabilizing medication appears to prevent relapse in relatively few patients, as 70% to 85% of patients relapse within 5 years; additionally, 30% to 50% of patients do not adhere to their medication treatments and/or continue to experience significant residual symptoms while on the medications (Szentagotai & David, 2010). Although psychotherapy alone cannot successfully treat this disorder, increasing evidence suggests

that, as an adjunct to mood-stabilizing medication, it can significantly reduce relapse rates and improve overall functioning and well-being in youth, adults, and older adults. One area most frequently studied in the treatment literature is the impact of psychotherapy on preventing relapses into manic and/or depressive phases of the disorder. Several meta-analyses have been conducted on relapse prevention, with the general results being favourable when psychological treatment is an adjunct to pharmacotherapy for adults with bipolar disorder.

Efficacy Studies

In addition to psychoeducation (PE), several types of psychological treatment have been studied in treating bipolar disorder, including CBT, family-focused therapy (FFT), and interpersonal and social rhythm therapy (IPSRT). To date, there is no evidence that one form of psychological treatment is superior to another, provided they all are tailored toward the needs of those with bipolar disorder. Scott, Colom, and Vieta (2007) conducted a meta-analysis on eight RCTs of various psychotherapies (e.g., CBT, IPSRT, FFT, and PE) used as an adjunct to pharmacotherapy versus standard psychiatric treatment alone of people with bipolar disorder. There were 147 participants included in the treatment arm and 220 participants included in the control arm of the meta-analytic study. A significant reduction in relapse was found with adjunctive psychological treatment (OR = 0.53, 95% CI [0.37, 0.73]; i.e., the odds of relapse were almost halved with adjunctive therapy). Additional analyses suggested that the number of prior relapses may moderate the effect found in combination therapy. To address this finding more fully, Lam, Burbeck, Wright, and Pilling (2009) conducted a meta-analysis to directly investigate whether prior relapses moderated the effects of adjunctive psychological treatment. Nine RCTs were included in their meta-analysis, with 153 participants in the treatment arm of the study and 228 in the control group (mean ages were reported as being from the mid-30s to mid-40s). Contrary to Scott et al.'s findings, they found no evidence of a moderation effect based of the number of prior episodes on relapse prevention, suggesting adjunctive psychological treatment is likely to be beneficial regardless of the number of prior episodes of mania or depression.

Psychological treatment and PE have shown strong effects in both treatment adherence and reducing the subjective burden of disease (including reduced suicide rates) in several systematic reviews (Vieta & Colom, 2004; Zaretsky et al., 2007). In a meta-analysis on the efficacy of CBT as an adjunctive psychological treatment, Szentagotai and David (2010) included 10 RCTs (a total of 770 participants). CBT had no significant effect on relapse prevention beyond what was achieved with medication; however, there were significant effects in other domains, such as enhancing medication adherence (d = 0.53, 95% CI [0.35, 0.71]), diminishing clinical symptoms (d = 0.44, 95% CI [0.29, 0.59]), and enhancing quality of life and social adjustment (d = 0.36, 95% CI [0.18, 0.54]). The effect on medication adherence is an extremely important result, given the high rates of nonadherence that typically occurs among patients with this condition.

The constellation of depressive symptoms found in bipolar disorder is an important target for treatment, as the evidence suggests that (a) these symptoms are different from what is experienced in unipolar depression, and (b) those who experience these symptoms have considerable periods of time in which they experience syndromal or subsyndromal symptoms of depression (Scott et al., 2007). In a systematic review, Zaretsky et al. (2007) examined eight RCTs and concluded that, compared with TAU, CBT designed specifically for bipolar disorder showed the same rates of decrease in depression (based on self-report and clinician interviews) experienced within bipolar disorder, as found with CBT for unipolar depression. These findings provide very important clinical information, as a depressive episode in an individual diagnosed with bipolar disorder is very hard to treat medically, given that antidepressants can induce manic episodes and are therefore not ideal in treating this component of the disorder (Dumlu et al., 2011).

Effectiveness Studies

Miklowitz et al. (2007) conducted what is probably best described as a hybrid efficacy–effectiveness study of adjunctive psychological treatments for bipolar disorder. As in an efficacy study, the 293 adult participants from 15 clinics were randomly assigned to conditions (a collaborative care condition or one of three efficacious treatment conditions: CBT, IPSRT, or FFT), and therapists received ongoing supervision for the treatments they provided. However, the supervision was much less than what is typically provided in an efficacy study, and the study participants were more representative of patients in acute care than is typically the case in efficacy studies. On average, participants in the three efficacious treatment conditions received 14 sessions of treatment over a period of 7 months. The 1-year recovery rate was significantly higher in the entire efficacious treatment condition (64.4%) than it was for the collaborative care condition (51.5%), but there were no significant differences among the three treatments.

GAD

GAD is a highly prevalent condition, characterised by excessive worry or anxiety about everyday events and problems to the point that the individual experiences considerable distress and difficulty in performing day-to-day tasks. Studies of the lifetime prevalence for GAD in the general population have provided estimates ranging from 4% to 7% (Kessler & Wittchen, 2002), whereas in older individuals, prevalence estimates range from 0.7% to 9% (Flint, 2005). Several meta-analyses have found that psychological treatments and pharmacotherapy are equally efficacious in the treatment of GAD; the lower attrition rates associated with psychological interventions suggest that these treatments are better tolerated by most patients (Mitte, 2005).

Efficacy Studies

In a recent meta-analysis, Hunot, Churchill, Teixeira, and Silva de Lima (2010) examined the efficacy of psychological therapies for adult patients with GAD. The review included 25 studies involving a total of 1,305 participants diagnosed with GAD and aged between 18 and 75 years (M = 47.2 years); 68.6% of participants were women. All of the studies compared CBT with TAU or participants on a waiting list (WL; 13 studies), or to another psychological therapy (12 studies). Results indicated that patients with GAD provided with CBT were more likely to have

significant reductions in anxiety symptoms, based on self-report measures or clinician interviews (*SMD* = 1.00, 95% CI [0.77, 1.24]) and to be rated by clinicians as having demonstrated clinically meaningful reductions in anxiety at posttreatment than were patients assigned to TAU/WL (*RR* = 0.64, 95% CI [0.55, 0.74]; i.e., the probability of achieving a clinically meaningful reduction in anxiety for those in TAU/WL was approximately two thirds of that for patients who received CBT). Among those receiving CBT, 46% showed clinical improvement; in contrast, only 14% of the TAU/WL participants showed clinical improvement. There was a higher rate of attrition from psychological treatments for older adults (26.4%) compared with younger adults (9.2%). Because of considerable heterogeneity in the comparisons between specific forms of psychological treatment (due, in part, to variability in the number of treatment sessions available in the 12 relevant studies), the researchers cautioned that it was not possible to draw firm conclusions regarding the relative efficacy of the various psychological treatments.

Although the empirical literature addressing the efficacy of nonpharmacological treatment of late-life anxiety is limited, reviews have examined the impact of psychological interventions on anxiety symptoms and diagnosed anxiety disorders, in general, among older adults (e.g., Stanley et al., 2003). Nordhus and Pallesen (2003) conducted a meta-analytic review of nonpharmacological interventions for late-life anxiety (mainly forms of CBT) and included studies in which a comparison was made either with a control condition or another treatment. A total of 15 outcomes studies were included, involving 495 participants and providing 20 separate treatment interventions. The mean age of participants ranged from 63.2 to 76.5 years, with an overall mean of 69.5 years. The percentage of female participants in the studies ranged from 50% to 100%, with an overall mean of 76.7%. In six of seven studies involving participants diagnosed with an anxiety disorder, the predominant diagnosis was GAD; the other eight studies involved nondiagnosed participants who reported moderate to severe anxiety levels. The authors reported that psychological interventions produced significant improvements in self-reported anxiety when compared with a no-treatment control group (d = 0.55, 95% CI [0.38, 0.72]).

To our knowledge, there is no published meta-analysis that specifically examines the efficacy of psychological treatment for youth with GAD, but some systematic reviews and meta-analyses have examined the efficacy of psychological treatment for childhood anxiety disorders and identified CBT as an effective psychological treatment. In-Albon and Schneider (2007) examined the efficacy of treatments for a range of childhood anxiety disorders and reviewed 24 studies involving a total of 1,275 patients aged between 6 and 18 years (mean age = 10.9 years). In all 24 studies, the treatment condition was CBT, which was compared with a waiting-list control group. Based on the combination of self-report and clinical interview data, treatment had a significant effect on anxiety symptoms (d = 0.66, 95% CI [0.36, 0.96]). Of the youth who completed treatment, 68.9% recovered to the extent that they no longer met criteria for their principal anxiety diagnosis, whereas only 12.9% of waiting-list participants recovered. More recently, Reynolds, Wilson, Austin, and Hooper (2012) examined the efficacy of treatments for childhood anxiety disorders, basing their analyses on 55 studies involving a total of 2,434 youth in the treatment condition and 1,824 youth in the control condition (all participants were under 19 years of age). Based on self-report measures of anxiety, the overall effect of psychological treatment was g = 0.65, 95% CI [0.48, 0.82]. Psychological treatment was found to be superior to no treatment (g = 0.76, 95% CI [0.55, 0.97]; in 39 studies) and to active control groups (such as PE or supportive counselling; g = 0.35, 95% CI [0.11, 0.59]; in 19 studies). Most treatments were a form of CBT, and the effect size for treatments that were not variants of CBT was not significantly different from zero. These reviews confirm the efficacy of CBT treating a wide range of anxiety disorders in youth.

Effectiveness Studies

Stewart and Chambless (2009) reviewed the effectiveness of CBT for treating adults with anxiety disorders. Fifty-six effectiveness studies of CBT for adult anxiety disorders were identified, 11 of which focused on the treatment of GAD. Results suggested that pretest to posttest effect sizes for self-reported GAD symptom measures were substantial (g = 0.92, 95% CI [0.77, 1.07]), suggesting that patients treated with CBT for GAD in clinically representative studies improved significantly from pretest when they completed treatment. In addition, CBT for GAD produced significant pretest to posttest reductions in depression symptoms (g = 0.89, 95% CI [0.70, 1.07]). In their review, Hunsley and Lee (2007) identified four effectiveness studies for GAD in adults; results were synthesized and showed treatment completion rates and improvement rates comparable with those reported in RCTs of treatment efficacy. Therefore, it appears that CBT for adult GAD is likely to be effective when used in a typical clinical setting. Although not specific to GAD, data from nine effectiveness studies for a range of pediatric anxiety disorders were synthesized by Hunsley and Lee, and also showed completion and improvement rates comparable with those reported in RCTs of treatment efficacy.

SAD

SAD is characterised by the significant and persistent fear of one or more social or performance situations, which is expressed through the experience of marked difficulty or distress, including physiological arousal and agitation, and feelings of fear, embarrassment, or humiliation upon entering feared social situations. SAD is one of the most common anxiety disorders, with a prevalence rate of around 7% in both children and adults (Hudson & Dodd, 2011). SAD typically begins early in life, with approximately half of socially anxious adults reporting onset before the age of 11, and 75% before the age of 16 (Hudson & Dodd, 2011). In the past 20 years, several meta-analyses have shown that both pharmacological and psychological interventions are efficacious in treating SAD. The majority of studies have evaluated the efficacy of CBT approaches and found them to be useful in treating both youth and adults with SAD.

Efficacy Studies

The meta-analysis conducted by Acarturk, Cuijpers, van Straten, and de Graaf (2009) is the most complete and up-to-date review available. The review included 30 studies involving a total of 1,628 adult participants (979 in the treatment condition and 649 in

the control condition) diagnosed with SAD and aged between 18 and 65 years. In 14 comparisons, the psychological treatment was delivered in individual format, whereas in 15 comparisons, a group format was used (in one study, both formats were combined). Almost all psychological treatments included in the meta-analysis were forms of CBT. Results confirmed the findings of earlier meta-analyses, yielding a substantial effect of psychological treatment on self-report measures of social anxiety (d = 0.77, 95% CI [0.60, 0.94]). However, as the test for possible publication bias was significant, the authors applied a correction that reduced the effect size to d = 0.45, 95% CI [0.30, 0.60]. Effect sizes indicating the difference between posttest and follow-up in the treatment conditions were calculated for 20 studies (follow-up periods ranged from 1 to 18 months), and indicated that the effects of psychological interventions on social anxiety symptoms remain stable over time and may even improve somewhat. This was true for a range of follow-up periods, including 10 studies with 1 to 3 months follow-up (d = 0.19, 95% CI [0.02, 0.36]), eight studies with 4 to 6 months follow-up (d = 0.37, 95% CI [0.12, 0.63]), and nine studies with 7 to 18 months follow-up (d = 0.15, 95% CI [0.01, 0.29]). On the basis of six RCTs in which psychological treatment was compared with antidepressant medications, Canton, Scott, and Glue (2012) concluded that there was little difference in the efficacy of these two broad classes of treatment. They noted, however, that in all three trials in which long-term follow-up data were collected, compared with patients who received medication, those who received psychological treatment were more likely to maintain their treatment gains.

Of the several meta-analyses that have examined the efficacy of psychological intervention in the treatment of youth SAD, Segool and Carlson (2008) is the most complete and up to date. The researchers compared the efficacy of two major forms of treatments for SAD in children: CBT and selective serotonin reuptake inhibitor (SSRI) drug treatment. The review included 14 studies involving a total of 332 participants diagnosed with SAD and aged between 5 and 19 years. The seven CBT studies were group-administered programs lasting an average of 11.9 weeks, and the seven SSRI treatment studies were all individually administered programs lasting an average of 11.1 weeks. Outcome data were based on self-report, parent report, and clinician interviews. CBT produced significant reductions in social anxiety symptoms (d = 0.86, 95% CI [0.75, 0.97]), general anxiousness (d = 0.75, 95% CI [0.67, 0.83]), and impairment related to social anxiety symptoms (d = 1.56, 95% CI [1.42, 1.70]). On all of these outcome measures, SSRIs were found to be significantly more efficacious than CBT in reducing symptoms. However, this pattern of findings must be considered in light of the well-known concerns about the potential side effects of SSRIs on youth.

Effectiveness Studies

In the Stewart and Chambless (2009) effectiveness review described previously, 11 studies involved the treatment of adults with SAD. Results suggested that pretest to posttest effect sizes for self-reported social anxiety symptom measures were substantial (d = 1.04, 95% CI [0.79, 1.29]), suggesting that patients treated with CBT for SAD in clinically representative studies improved significantly when they completed treatment. In addition, CBT for SAD produced significant pretest–posttest reductions in depression symptoms (d = 0.73, 95% CI [0.55, 0.91]). In Hunsley and Lee's (2007) review, two effectiveness studies for SAD in adults were examined; both showed treatment completion rates and improvement rates comparable with those reported in RCTs of treatment efficacy. These findings indicate that CBT for adult SAD can be effective in typical clinical settings.

SP

SP is characterised by a marked and excessive irrational fear of a specific object or situation that creates significant life interference or distress. SPs are common, with lifetime prevalence estimates of 10% (Del Casale et al., 2012). Despite the low proportion of phobia sufferers who seek treatment, specific phobia is among the most treatable of disorders. Those who seek treatment can choose from a number of different forms of CBT with considerable research support, including CT, virtual reality exposure, and in vivo exposure. Of all available therapies, exposure-based CBT appears to be the most commonly used and is often considered the first line of treatment for specific phobias (Barlow, Raffa, & Cohen, 2002). Research on pharmacotherapy options does not support the use of medication as a first-line treatment for SP (e.g., Van Ameringen, Mancini, & Patterson, 2009).

Wolitzky-Taylor, Horowitz, Powers, and Telch (2008) conducted a meta-analysis that examined, among adults diagnosed with SP, the efficacy of exposure treatments relative to no treatment, a placebo control, and psychotherapies that did not include an exposure component. Treatments were classified as exposure treatment if they included direct or indirect confrontation with the feared stimulus (e.g., in vivo exposure, imaginal exposure, systematic desensitization, eye movement desensitization and reprocessing [EMDR], virtual reality exposure) and nonexposure treatments were defined as any active treatment (i.e., not placebo) that did not include confrontation with the phobic target as a procedural element. These involved treatments that included relaxation and CT. The review included 33 studies involving a total of 1,193 participants. Results indicated that exposure-based treatment showed marked benefit relative to untreated participants when a combination of self-report and behavioural phobia measures were examined (d = 1.05, 95% CI [0.91, 1.20]). Exposure-based treatment also outperformed other active psychotherapeutic approaches on the combined phobia measures (d = 0.44, 95% CI [0.28, 0.60]). Overall, the findings are consistent with literature reviews that have concluded exposure-based treatments are the most potent and durable of the evidence-based treatments for SP (e.g., Choy, Fyer, & Lipsitz, 2007).

Because virtual reality exposure therapy (VRET) has gained a great deal of attention for the treatment of various phobias, it is worth noting that Parsons and Rizzo (2008) conducted a meta-analysis of published studies that examined anxiety symptoms before and after VRET treatment of anxiety disorders. The review included 21 studies involving 300 participants. Results revealed that VRET had statistically significant effects on self-reported anxiety symptoms (d = 0.95, 95% CI [0.69, 1.21]).

PD

PD is characterised by recurring and severe panic attacks, a period of intense fear, or discomfort associated with symptoms

such as palpitations, sweating, shortness of breath, and chest pains. Pollack, Smoller, Otto, Hoge, and Simon (2010) reported a lifetime prevalence of 5% for PD with or without agoraphobia. The most widely used treatments for PD are CBT and pharmacological therapies. Early meta-analyses tended to report results favouring the efficacy of psychological treatment over pharmacotherapy (e.g., Gould, Otto, & Pollack, 1995), but these analyses contained few direct comparisons of the two classes of treatment, thus limiting any comparative conclusions that could be drawn (Klein, 2000). It is perhaps most accurate to conclude that, at present, there is little direct evidence to suggest that one class of treatment is superior to the other in the treatment of PD.

Efficacy Studies

Several meta-analyses have examined the efficacy of psychological intervention in the treatment of PD in adults, with the meta-analysis conducted by Sánchez-Meca, Rosa-Alcázar, Marín-Martínez, and Gómez-Conesa (2010) being the most complete and up-to-date review available. The review included 65 comparisons between a treated and a control group, obtained from 42 studies involving adult participants diagnosed with PD. Results suggested that, based on data from self-report measures and clinician ratings, psychological interventions were more efficacious than control conditions in reducing panic symptoms ($d = 0.78$, 95% CI [0.66, 0.91]). The results for specific treatments were: exposure therapy alone ($d = 1.53$, 95% CI [0.93, 2.13]), relaxation alone ($d = 0.86$, 95% CI [0.20, 1.52]), combined relaxation and exposure therapy ($d = 1.84$, 95% CI [1.27, 2.41]), exposure and CT ($d = 1.29$, 95% CI [1.04, 1.53]), and a combination of exposure therapy, CT, and relaxation ($d = 0.83$, 95% CI [0.61, 1.06]). Gould, Coulson, and Howard (2012) examined the efficacy of CBT for late-life anxiety disorders and reviewed 12 RCTs involving patients diagnosed with PD, GAD, agoraphobia, specific phobia, PTSD, OCD, or anxiety not otherwise specified. Based on outcome results using self-report and clinician interview measures of anxiety symptoms, their review confirmed the efficacy of CBT for anxiety and related disorders in older adults, and efficacy in treating late-life PD when compared with TAU ($d = .20$, 95% CI [0.01, 0.42]) and when compared with waiting-list controls ($d = 0.66$, 95% CI [0.38, 0.94]).

Effectiveness Studies

Stewart and Chambless's (2009) effectiveness review included 17 studies focused on the treatment of PD. Results suggested that pretest to posttest effect sizes were substantial for self-reports of panic attacks ($d = 1.01$, 95% CI [0.77, 1.25]) and avoidance ($d = 0.83$, 95% CI [0.60, 1.06]), suggesting that patients treated with CBT for PD in clinically representative studies improved significantly from pretest when they completed treatment. In the Hunsley and Lee (2007) effectiveness review, data from seven studies for PD in adults were synthesized and showed treatment completion rates and improvement rates comparable with those reported in RCTs of treatment efficacy. Therefore, it appears that CBT for adult PD is effective when used in a typical clinical setting.

OCD

OCD is a chronic and disabling disorder characterised by recurrent (a) obsessions that result in anxiety, and (b) compulsions such as hand washing, checking, and ordering. Ruscio, Stein, Chiu, and Kessler (2010) estimated 12-month prevalence rates to be 1.2% in an adult outpatient population, and a similar prevalence has been identified in primary care settings (e.g., Veldhuis et al., 2012). Prevalence estimates among children and adolescents range from 2% to 4% (Merlo, Storch, Adkins, Murphy, & Geffken, 2007). The prevalence of OCD decreases significantly above age 65 and has been reported to be as low as 0.02% (Fireman, Koran, Leventhal, & Jacobson, 2001). Efficacious treatments for OCD include psychological treatment, pharmacotherapy, and the combination of the two (O'Connor et al., 2006).

Efficacy Studies

Among the various psychotherapies, CBT with exposure and response prevention (ERP) has achieved the highest degree of empirical support, and is generally considered the treatment of choice for children, adolescents, and adults with OCD. Because the efficacy of ERP has been so widely accepted, some investigators have examined the incorporation of cognitive components to determine whether they provide additional benefit compared with ERP alone.

Rosa-Alcázar, Sánchez-Meca, Gómez-Conesa, and Marín-Martínez (2008) completed the most comprehensive meta-analysis to date. Their review included 19 studies involving a total of 752 individuals (431 forming the treatment group and 321 forming the control group) diagnosed with OCD with a mean age of 24 years. A total of 24% of participants were men. Overall, the results suggest that ERP, CT, and a combination of both techniques are efficacious treatments. Based on self-report and clinician evaluations, these treatments were found to reduce obsessive–compulsive symptoms ($d = 1.08$, 95% CI [0.84, 1.31]), general anxiety ($d = 0.67$, 95% CI [0.33, 1.01]), and depression ($d = 0.58$, 95% CI [0.26, 0.90]), and to improve social adjustment ($d = 0.76$, 95% CI [0.35, 1.17]) in patients with OCD. Bearing in mind that there are few RCTs in which psychological treatment and medication is directly compared, ERP ($d = 0.97$, 95% CI [0.89, 1.08]) has been found to have significantly greater effect sizes posttreatment than SSRIs ($d = 0.82$, 95% CI [0.76, 0.88]), with no differences in attrition rates evident across studies (Kobak, Greist, Jefferson, Katzelnick, & Henk, 2004). In a study focused on CBT interventions, Olatunji, Davis, Powers, and Smits (2013) examined 16 RCTs involving participants across the life span. Substantial effects compared with placebo and wait-list control conditions were found on self-reported OCD symptoms posttreatment ($g = 1.39$, 95% CI [1.04, 1.74]) and at follow-up ($g = 0.43$, 95% CI [0.12, 0.74]). Interestingly, they found that effect sizes were significantly smaller for RCTs involving adults ($g = 1.08$, 95% CI [0.85, 1.32]) than they were for RCTs involving youth ($g = 2.50$, 95% CI [1.94, 3.05]).

Watson and Rees (2008) completed the most complete meta-analysis investigating the efficacy of psychotherapy on youth OCD. The review included 13 studies (containing 10 pharmacotherapy-to-control comparisons and five CBT-to-control comparisons) involving a total of 1,177 participants diagnosed with OCD and with a mean age of 12 years. Results suggest that

both pharmacotherapy (d = 0.48, 95% CI [0.36, 0.61]) and CBT (d = 1.45, 95% CI [0.68, 2.22]) were significantly superior to control groups on measures of self-reported OCD symptoms, with CBT yielding a significantly larger treatment effect. These results are consistent with other meta-analyses (e.g., Barrett, Farrell, Pina, Peris, & Piacentini, 2008) and suggest that CBT should comprise the first-line treatment for youth with OCD.

Effectiveness Studies

Stewart and Chambless (2009) reviewed 11 effectiveness studies dealing with the treatment of OCD in adults. Results suggested that pretest to posttest effect sizes for self-reported OCD symptoms were considerable (d = 1.32, 95% CI [1.19, 1.45]), indicating that patients treated with CBT for OCD in clinically representative studies improved significantly when they completed treatment. Lee et al. (2013) reviewed two effectiveness studies of youth OCD and found that both completion and outcome data were comparable with the benchmarks derived from efficacy trials.

PTSD

PTSD is a disorder that is rooted in the experience of events involving actual or threatened death or serious injury, and involves intense fear, helplessness, or horror following the event. Although a lifetime trauma incidence of 40% to 90% has been reported in the general population, the overall lifetime prevalence for PTSD ranges between 7% and 12% (Mehta & Binder, 2012). The prevalence of youth PTSD has been found to be lower (5%; Merikangas et al., 2010). Many studies have documented the efficacy of pharmacotherapy and psychological treatment for PTSD in the adult population. Although a recent meta-analysis reported much larger effects sizes for psychological treatment than for pharmacotherapy, the very limited research comparing pharmacotherapy with psychological treatment led the study authors to conclude that it is not possible to draw firm conclusions regarding the relative efficacy of these two classes of treatment (Jonas et al., 2013).

Efficacy Studies

Bisson and colleagues (2007) examined the efficacy of different psychological treatments for chronic PTSD. Most studies used trauma-focused CBT (TFCBT) or EMDR to treat symptoms of PTSD in an adult population. The review included 38 studies and compared TFCBT and EMDR with a waiting-list control or another psychological intervention (stress management, Group CBT, and other types of therapies were examined, but we do not report the results because of the small numbers of studies involved). Results indicated that TFCBT showed clinical benefit over wait-list and usual care controls on both clinician-rated measures of PTSD symptoms (SMD = 1.40, 95% CI [0.91, 1.89]) and self-rated measures of PTSD symptoms (SMD = 1.70, 95% CI [1.24, 2.17]). In addition, there was evidence that it also had a clinical effect on reducing self-reported symptoms of general anxiety (SMD = 0.99, 95% CI [0.78, 1.20]) and depression (SMD = 1.26, 95% CI [0.82, 1.69]) when compared with wait-list and usual-care controls. The efficacy of EMDR was also generally supported by the meta-analysis, for both clinician-rated PTSD symptoms (SMD = 1.51, 95% CI [1.15, 1.87]) and self-reported PTSD symptoms (SMD = 1.13, 95% CI [0.13, 2.13]), and for self-reported symptoms of general anxiety (SMD = 1.20, 95% CI [0.85, 1.54]) and depression (SMD = 1.48, 95% CI [1.12, 1.84]).

Exposure-based therapy has also been shown to be an efficacious treatment for PTSD. The efficacy of prolonged exposure has been established in a number of controlled studies. Powers, Halpern, Ferenschak, Gillihan, and Foa (2010) conducted a meta-analysis to estimate the overall efficacy of prolonged exposure for PTSD relative to control conditions. The review included 13 studies, including 658 participants diagnosed with PTSD. All the studies used prolonged exposure and compared it with a psychological placebo (six studies), a wait-list control group (five studies), or both psychological placebo and wait-list controls (two studies). Results indicated that, based on effects on PTSD symptom data obtained from self-report and clinician interviews, prolonged exposure performed significantly better than all control conditions at posttreatment (g = 1.08, 95% CI [0.69, 1.46]) and follow-up (g = 0.68, 95% CI [0.27, 1.10]). Similarly, prolonged exposure treatment was associated with significantly better outcomes on secondary outcomes symptom measures (mainly self-report and clinician interviews for symptoms of anxiety and depression) at posttreatment (g = 0.77, 95% CI [0.53, 1.01]) and at follow-up (g = 0.41, 95% CI [0.03, 0.78]).

Researchers have studied the use of pharmacotherapy and psychological treatment in the youth population, with the majority of studies evaluating the efficacy of CBT approaches (TFCBT) and EMDR. The most up-to-date meta-analysis reviewing the efficacy of CBT in this population was conducted by Kowalik, Weller, Venter, and Drachman (2011). The review included eight studies involving a total of 708 participants aged between 5 and 17 years. All studies used a CBT approach, and compared CBT with an active control group (e.g., unstructured psychotherapy, nondirective supportive treatment, or child-centered therapy). As the Child Behavior Checklist (CBCL) was the only measure utilized with some consistency across studies, it was used as the primary outcome measure. Results indicated that for the Total Problem (d = 0.33, 95% CI [0.11, 0.54]), Internalizing (d = 0.31, 95% CI [0.12, 0.51]) and Externalizing (d = 0.19, 95% CI [0.01, 0.38]) indices, effect sizes were statistically significant in favour of CBT over active control conditions. The fact that participants in the comparison groups received active treatment strengthens the conclusion that TFCBT is efficacious for the treatment of youth PTSD.

Rodenburg, Benjamin, de Roos, Meijer, and Stams (2009) examined the efficacy of EMDR in children with PTSD symptoms. Their review included seven studies involving 221participants (aged 4 to 18 years) treated for posttraumatic stress reactions. Based on self-report and parent reports of PTSD symptoms, the results indicated that the posttreatment effect size for EMDR was significant (d = 0.56, 95% CI [0.42, 0.70]), thus demonstrating that children receiving EMDR benefitted from treatment. Although this is consistent with the results from meta-analytic studies of EMDR in adults (Bisson et al., 2007), it is worth noting that there continue to be questions about the (a) scientific validity of the theory underlying EMDR, and (b) the extent to which the treatment elements other than exposure are responsible for the clinical impact of EMDR (Herbert et al., 2000).

Effectiveness Studies

Stewart and Chambless (2009) reviewed six studies focused on the treatment of PTSD in adults. Results suggested that pretest to posttest effect sizes for self-report PTSD symptom measures were substantial (d = 2.59, 95% CI [2.06, 3.13]), suggesting that patients treated with CBT for PTSD in clinically representative studies improved significantly when they completed treatment.

General Conclusions

As demonstrated repeatedly by the results of many treatment studies, there is considerable evidence indicating that psychological interventions can lead to substantial improvements in functioning for those suffering from mood, anxiety, and related disorders. In most cases, these conclusions are based on the results of treatment research involving hundreds of participants and conducted by researchers in many different countries. For most of these disorders, the supporting evidence is more extensive for adults than it is for youth or for older adults, but, even so, many treatment studies (both efficacy and effectiveness studies) support the value of psychological treatment for these age groups.

Our conclusions are based primarily on the results of meta-analyses that were conducted within the past decade. Meta-analytic evidence is typically viewed as the strongest form of empirical evidence for guiding professional practice, especially when derived from systematic reviews of the literature (e.g., Australian Psychological Society, 2010). There can be considerable variability across meta-analyses in both the quality of studies included for analysis and the rigour with which the meta-analysis is conducted. For example, almost one third of the meta-analyses included in our review appear to have used a fixed effects model rather than the preferred random effects model (a fixed effects model is likely to generate higher effect size estimates and to yield less generalisable results than a random effects model). Additionally, as already reported, less than half of the meta-analyses included a test to determine the possible presence of publication biases in the results of studies included in the meta-analysis. It is likely, therefore, that the magnitude and precision of the effect sizes (and their associated confidence intervals) reported in our narrative review will change as standards improve for conducting and publishing meta-analytic research. With these caveats in mind, we turn now to an examination of evidence for the treatment of each disorder covered in this review.

There are multiple forms of efficacious psychological treatments for depression. For the treatment of depression in adults, CBT, IPT, and short-term psychodynamic therapies have all been found to reduce symptoms of depression in meta-analytic research. The evidence supporting CBT for depression is far more extensive than for the other treatments, and includes efficacy evidence for individual, group, and brief versions of CBT. For older adults, both CBT and reminiscence therapy have considerable efficacy evidence, and there is some indication that other forms of treatment may also be beneficial. For the treatment of depression in youth, there is efficacy evidence for both CBT and IPT. When effectiveness research is considered, there is substantial support for the effect of CBT for youth and adults, and for IPT for youth. Although it is encouraging that several types of treatment are likely to benefit depressed individuals, there is clearly more need for efficacy research on other forms of treatment frequently provided and for effectiveness research on psychological therapies other than CBT.

The situation is similar when psychological treatments for bipolar disorder are considered, as there is efficacy and effectiveness research supporting the use of several forms of psychological interventions as adjunctive treatments. PE, CBT, IPSRT, and FFT all have supporting evidence for use for adults with bipolar disorders. At this point, however, there is little systematic evidence with respect to the impact of psychological treatments for youth (probably because of controversies regarding the nature and diagnosis of the disorder in youth).

With respect to GAD, forms of CBT have been found to be efficacious across the life span, with evidence of effectiveness for both youth and adults. Other types of psychological treatment may be efficacious when treating adults and older adults, but more research is needed to determine what specific types of treatments are likely to be beneficial. There is also extensive efficacy evidence for CBT in the treatment of SAD with youth and adults, but supporting effectiveness evidence is only available for the use of CBT with adults. Efficacy evidence supports the use of CBT for the treatment of specific phobias, but almost all of the evidence is for the treatment of adults. Given the apparent widespread acceptance in the field for the use of CBT for phobias, it is surprising that there appears to be no effectiveness research supporting the treatment. For the treatment of panic disorder, CBT appears to be efficacious for both adults and older adults, with effectiveness evidence supporting its use with adults. Forms of CBT have also been found to be both efficacious and effective in treating OCD in youth and adults. Finally, both CBT and EMDR appear to be efficacious in the treatment of PTSD in youth and adults, with effectiveness data supporting the use of CBT among adults with PTSD. Although encouraging that there is more than one form of psychological intervention that is likely to aid those diagnosed with PTSD, the controversies in the field regarding the extent to which exposure is the active ingredient in the effects of EMDR raise questions about the value of the other components of EMDR treatment.

Given the strength and scope of the evidence we have summarised, there can be little doubt that there are a number of psychological treatments that should be considered first-line interventions for the disorders covered in this review. Decades of psychological research, both basic and applied, have contributed to this important conclusion. There is more work to be done to ensure that these treatments provide maximal clinical benefits for as many people as possible, as recovery rates are well below 100%, even when these treatments are used. In the meantime, though, we suggest that clinicians should be providing treatments with proven efficacy and effectiveness to their clients with mood, anxiety, and related disorders. Such efforts would be consistent with a growing number of clinical guidelines for the treatment of mental disorders that reflect the extent of evidence for the impact of psychological treatment. For example, clinical guidelines for adults with GAD have long recommended CBT as a first-line treatment (e.g., Ballenger et al., 2001), and most PTSD treatment guidelines suggest that trauma-focused psychotherapy should be considered as the first-line treatment (e.g., Foa, Keane, Friedman, & Cohen, 2009).

The finest examples of the impact of psychological treatment research on clinical guideline development can be found in the work of the National Institute for Health and Care Excellence

Table 2
NICE First-Line Treatment Recommendations for Selected Mental Disorders

Disorder	Treatment
Depression (youth)	Supportive counselling or group CBT for mild depression Individual CBT, individual IPT, or short-term family therapy for moderate to severe depression http://publications.nice.org.uk/depression-in-children-and-young-people-cg28/guidance
Depression (adult)	Group CBT for mild depression Individual or couple CBT, individual IPT, or antidepressants for moderate to severe depression http://publications.nice.org.uk/depression-in-adults-cg90/guidance#step-2-recognised-depression-persistent-subthreshold-depressive-symptoms-or-mild-to-moderate
Bipolar disorder	Structured psychological treatment emphasizing psychoeducation, effective coping, and monitoring of activities and moods for adults taking mood-stabilizing medication http://publications.nice.org.uk/bipolar-disorder-cg38/guidance#the-treatment-and-management-of-bipolar-disorder
Generalized anxiety disorder	Individual CBT or SSRIs for adults with marked functional impairment http://publications.nice.org.uk/generalised-anxiety-disorder-and-panic-disorder-with-or-without-agoraphobia-in-adults-cg113/guidance
Social anxiety disorder	Individual or group CBT for youth; CBT or SSRIs for adults http://publications.nice.org.uk/social-anxiety-disorder-recognition-assessment-and-treatment-cg159/key-priorities-for-implementation#interventions-for-children-and-young-people-with-social-anxiety-disorder
Specific phobia	No treatment guidance provided
Panic disorder	CBT or antidepressants for adults http://publications.nice.org.uk/generalised-anxiety-disorder-and-panic-disorder-with-or-without-agoraphobia-in-adults-cg113/guidance
Obsessive-compulsive disorder	CBT involving exposure for youth; CBT involving exposure or SSRIs for adults http://publications.nice.org.uk/obsessive-compulsive-disorder-cg31/guidance#steps-35-treatment-options-for-people-with-ocd-or-bdd
PTSD	Trauma-focused CBT for youth; trauma-focused CBT or EMDR for adults http://publications.nice.org.uk/post-traumatic-stress-disorder-ptsd-cg26

Note. NICE = National Institute for Health and Care Excellence; PTSD = posttraumatic stress disorder; CBT = cognitive-behavioural therapy; IPT = interpersonal psychotherapy; SSRIs = selective serotonin reuptake inhibitors; EMDR = eye movement desensitization and reprocessing.

(NICE). The National Health Service (NHS) in England and Wales relies on NICE to provide guidance to health care professionals and patients in making decisions about health care treatment options. Indeed, NICE has become one of the most respected organisations in the world for their work on clinical guidelines. Independent from the NHS, NICE conducts extensive consultations with professional and consumer stakeholder organisations in developing and revising their evidence-based clinical guidelines. All guidelines are reviewed and updated after several years to ensure their accuracy and completeness. Based upon the review of research evidence—primarily evidence for treatment efficacy—there are clinical guidelines for assessment and treatment services for numerous mental health disorders. As summarised in Table 2, and consistent with the research reviewed in this article, psychological interventions are recommended as first-line treatment options for all mood, anxiety, and related disorders.

As with any research review, limits to the generalisabilty of results must be considered—most importantly, evidence that some major forms of psychological treatment are likely to yield positive treatment outcomes does not mean that the same results would occur for all forms of psychotherapy, and no treatment is likely to be equally effective for all individuals who have a given disorder. Relatedly, as indicated in several of the meta-analyses we presented, for specific conditions, there may be types of psychological treatment that are more efficacious than other types—this should be considered when determining first-line treatment options. To this end, clinicians are strongly encouraged to practice in an evidence-based manner, as outlined by the Canadian Psychological Association Task Force on Evidence-Based Practice of Psychological Treatments (Dozois et al., 2014). Similarly, we suggest that any policies established for health care settings or health care providers with respect to the provision of psychological interventions should be developed with full consideration of the relevant treatment research. Taking these steps will ensure that those who need psychological interventions are likely to receive optimal benefits from their treatment.

Résumé

Nous présentons une revue narrative des preuves approfondies qui confirment l'efficacité et l'utilité des traitements psychologiques, au cours des diverses étapes de la vie, pour les troubles de santé mentale courants. À cette fin, au moyen essentiellement de méta-analyses, nous examinons les effets des traitements psychologiques pour la dépression, le trouble bipolaire, le trouble d'anxiété généralisé, le trouble d'anxiété sociale, les phobies précises, le trouble panique, le trouble obsessionnel-compulsif et le syndrome de stress post-traumatique. Selon les données tirées de centaines d'études regroupant des milliers de participants, il existe des preuves substantielles tant de l'efficacité que de l'utilité des interventions psychologiques précises pour ces troubles. En outre, pour la plupart, l'effet clinique de traitements psychologiques précis s'est révélé au moins équivalent à celui de la médication. Ainsi, les résultats des recherches appuient fortement l'usage de certains traitements psychologiques précis, dont la plupart sont des thérapies cognitivo-comportementales, en tant qu'intervention de

première ligne pour ces troubles mentaux qui sont courants parmi les jeunes, les adultes et les aînés.

Mots-clés : efficacité d'un traitement, utilité d'un traitement, troubles de l'humeur, troubles anxieux.

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