CHAPTER 6

Depressive Disorders

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The Meaning of "Depression"

"Depression" can refer to an emotion, a syndrome, or a diagnosed mental disorder. As an emotion, depression refers to a normal or expectable reaction of sadness to a negative life event, such as a personal loss. Unless this develops into a syndrome, it is not a mental health concern. By contrast, a depressive syndrome constitutes a set of observable signs (sad face, slowed movement) or reported symptoms (sad mood, trouble concentrating, repetitive thoughts of death) that tend to co-occur. In the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; American Psychiatric Association, 2013) mental disorders, including the depressive disorders, are syndromes characterized by clinically significant disturbance in a person's cognitive, emotional, or behavioral functioning. Depressive disorders are mood disturbances characterized by sad, empty, or irritable mood, associated with somatic and cognitive changes and a decline in functioning. Most of the depressive disorders are episodic (i.e., they have an onset and duration of symptoms).

In this chapter we discuss the treatment of depression as a syndrome or a disorder. Given the relatively recent appearance of DSM-5, most of the treatment studies we review used definitions of depression based on earlier iterations of the manual, most commonly DSM-IV (American Psychiatric Association, 1994). Fortunately, for purposes of generalization of treatment outcome findings, the definition of the main depressive disorder, major depressive disorder (MDD), has remained essentially unchanged in DSM-5.

Depressive Disorders in DSM-5

In DSM-5, six depressive disorders are specified, along with residual categories for conditions that do not meet full criteria for any of these six. We describe each of these in turn.

1. *Disruptive mood dysregulation disorder (DMDD).* This diagnosis, first introduced in DSM-5, has the characteristic symptoms of nearly constant irritable mood and temper outbursts that are out of proportion to their precipitants and occur beyond age-appropriate frequency, leading to functional impairment in school, at home, or with peers. The diagnosis is not given to children younger than age 6, and symptoms must be present by age 10. Children with DMDD differ from bipolar children: They do not have clearly demarcated episodes of mood disturbance, and they do not develop adult bipolar disorder (Leibenluft, 2011).

2. *Major depressive disorder (MDD).* MDD is characterized by one or more major depressive episodes (MDEs). An MDE has a core (required) symptom of either (a) depressed (or in youth, irritable) mood or (b) anhedonia, the loss of pleasure or interest. In addition, there are seven other possible symptoms. These include biological symptoms of disturbances in weight (or appetite), sleep, energy, or psychomotor functioning (agitation or retardation); cognitive symptoms of difficulty concentrating or making decisions; cognitive–emotional symptoms of feeling worthless or excessively or inappropriately guilty; and finally, suicidal or morbid ideation, suicide plans, or attempts. At least five of the nine possible symptoms, including disturbed mood and/or anhedonia, must occur most days for at least 2 weeks, with a decline in functioning. Given two possible core symptoms, two possible directions for most of the biological symptoms (e.g., increased or decreased sleep), and nine possibilities to yield five symptoms, MDD describes a clinical group with very heterogeneous symptom presentation. Similarly, there is a very wide range of severity within the category of MDD, from mild cases that just exceed the diagnostic threshold to severe cases that may include psychotic features.

3. *Persistent depressive disorder (dysthymia).* This new category encompasses both dysthymia and chronic MDD. The diagnostic criteria in DSM-5 are identical to those of DSM-IV dysthymia, with an addition that a MDE present for an extended duration also qualifies for this new diagnosis. For children and adolescents, persistent depressive disorder requires depressed or irritable mood most of the day, most days, for at least 1 year, with two or more of the following symptoms: appetite disturbance or overeating; sleep disturbance; low energy; low self-esteem; difficulty concentrating or deciding; or hopeless feelings.

4. *Premenstrual dysphoric disorder.* This diagnosis is defined as a mood disorder occurring in the majority of menstrual cycles during the week before menses, improving and then resolving after onset of menses. The mood disturbance may be labile, irritable, depressed, or anxious mood. Other symptoms may include decreased interest, trouble concentrating, lethargy, disturbed eating, disturbed sleep, feeling out of control, or swelling, pain, or bloating.

5. *Substance- or medication-induced depressive disorder.* This diagnosis refers to episodes of mood disturbance or anhedonia that develop soon after use of a substance or medication that is capable of producing such a reaction. For clinicians working with adolescents, this category is likely most relevant for reactions to alcohol or to prescription or illicit drugs.

6. *Depressive disorder due to another medical condition.* This diagnosis pertains to episodes of depressed mood or anhedonia thought to be a direct physiological consequence of a medical condition. Clinicians working with youth may encounter this disorder in young people who have sustained a traumatic brain injury or a stroke, among other possible conditions.

7. *Subsyndromal depression.* Children and adolescents may present with a set of depressive symptoms that fall short of full criteria for one of the previously mentioned disorders. They might qualify for a DSM-5 diagnosis of adjustment disorder with depressed mood (ADDM) or a diagnosis of other specified or unspecified depressive disorder. ADDM is a primarily sad, tearful, or hopeless reaction to an identifiable stressor that has an onset within 3 months of the stressful event, is out of proportion to the stressor, and involves functional impairment but does not meet criteria for an MDE. The DSM-IV category depression—not otherwise specified (D-NOS) for depressive conditions that fail to meet criteria for any of the above diagnoses has been replaced by other depressive disorders in DSM-5. The clinician can specify why full criteria are not met (e.g., a lack of a sufficient number of symptoms) or if full information is lacking (e.g., in an emergency evaluation), the clinician can decide not to specify.

Several studies have shown that subsyndromal depressed adolescents are at increased risk for subsequent episodes of MDD or dysthymia compared to nondepressed youth (Lewinsohn, Rohde, Klein, & Seeley, 1999; Pine, Cohen, Cohen, & Brook, 1999). Thus, there is sufficient justification to include them in treatment or prevention programs, and many psychotherapy studies have done so.

The studies we review for this chapter focus primarily on DSM-IV defined MDD and, to a lesser extent, dysthymia, ADDM, and D-NOS. We also include studies that select participants based on symptom rating scales rather than diagnostic interviews because these samples demonstrate a depressive syndrome, and many of the participants would likely have met diagnostic criteria if interviews had been conducted. Depressive disorders caused by medications, other substances, or a medical condition are treated by targeting the causal factor, and in some cases by adaptations of treatments for MDD. They are not a focus in this chapter. DMDD is a new diagnosis. The very limited treatment literature on this disorder is at an exploratory phase and has been summarized by Benarous and colleagues (2017).

Depressive Disorders in ICD-11

The 11th revision of the World Health Organization's *International Classification of Diseases* (ICD-11) is under way (Luciano, 2015). To date, the expected classification of depressive disorders in ICD-11 is similar to that in DSM-5, with several exceptions. The term "major depressive disorder" is not used in ICD-11. Instead, "depressive disorder" is classified as single episode or as recurrent; episodes of moderate or severe degree include specific symptoms similar to those listed in DSM-5, but a particular number of symptoms is not required; and episodes with mixed anxious and depressed symptoms that do not meet criteria for a specific depressive or anxious disorder are recognized as a "mixed depressive and anxiety disorder."

Research Domain Criteria and Adolescent Depression

The Research Domain Criteria (RDoC) were developed as an alternative to DSM classification models to address the lack of alignment between clinical diagnostic categories assessed via signs and symptoms, and heterogeneity found at other levels of analysis, such as genetics and neural circuits (Insel et al., 2010). The intention was to develop an alternative nosology, independent of clinical diagnoses, and to advance dimensional understandings of relevant constructs at multiple levels of analysis. The RDoC framework is presented in a matrix, organized by broad domains (tables; e.g., negative valence system) with constructs (e.g., loss) in rows and levels of analysis (e.g., behavior) in columns. Levels of analysis extend upward and downward from neural circuity—upward to clinically relevant variation, and downward to genetic and cellular considerations (Insel et al., 2010).

The RDoC framework may have particular relevance for depression, which, as noted earlier, is markedly heterogeneous in its clinical presentation. Dimensions of depression that have been elaborated in an RDoC framework include loss and rumination within the negative valence domain and anhedonia (i.e., dysfunction of the reward systems) within the positive valence domain. We discuss each in turn.

The negative valence systems domain is conceptualized to include various types of threat, most pertinent to anxiety, and loss, which may be most pertinent to depression. Rumination is highlighted at the behavioral level, but it could also be considered across micro to macro levels of analysis. It has been linked with depression for decades (e.g., Nolen-Hoeksema, 1991). More recently, Woody and Gibb (2015) provided a conceptual overview of research on rumination at multiple levels of analysis. They noted that rumination is somewhat heritable and associated with a polymorphism in the brain-derived neurotrophic factor (genes level), with disruptions in corticolimbic circuitry (circuitry level), with higher levels of cortisol reactivity (physiological level), and with attention and memory biases (behavior level). In this way, rumination acts as an exemplar of how a discrete behavior implicated in depression may be considered at multiple levels of analysis.

Decreased positive affect has been found to be uniquely characteristic of depression, as compared to anxiety (Clark & Watson, 1991). RDoC-relevant research addresses this issue by investigating anhedonia, conceptualized as a dysfunction of the reward system. However, rather than treating the anhedonia as a unitary construct, imaging and brain research, and indeed the framework itself, highlights distinct dysfunctions involved in anhedonia. These include decreased approach motivation, stunted anticipation, and deficits in

reinforcement learning. Distinct brain regions and circuits can be connected with each of these (Dillon et al., 2014). In summary, anhedonia comprises multiple components, which can be studied at multiple levels.

Brief review of these two constructs, rumination and anhedonia, suggests that there is much to be learned about dimensional characteristics of depression at multiple levels of analysis in an RDoC framework. To date, however, research on youth depression and its treatment has been based on DSM descriptive psychiatry models, to which we now return.

Prevalence

Epidemiological studies have reported on the prevalence of individual or combined depressive disorders. Globally, based on a meta-analysis of 41 studies in 27 countries, about 2.6% of 6- to 18-year-olds have a depressive disorder. Thus, depressive disorders are among the most common child or adolescent disorders, but they are less prevalent than anxiety (6.5%) or disruptive behavior disorders (5.7%) or attention-deficit/hyperactivity disorder (ADHD; 3.4%) (Polanczyk, Salum, Sugaya, Caye, & Rohde, 2015).

Costello, Erkanli, and Angold (2006) conducted a meta-analysis of all epidemiological studies that diagnosed MDD or "any depression" using structured diagnostic interviews with children born between 1965 and 1996. Prevalence time frames ranged from point-prevalence through 3, 6, and 12 months. Prevalence of depressive disorder in children under age 13 was 2.8%; for adolescent girls, it was 5.9%, and for adolescent boys, 4.6%, illustrating the consistent finding of greater prevalence in adolescence than in childhood, and in adolescent girls than in boys.

The National Comorbidity Survey—Adolescent Supplement (Avenevoli, Swendsen, He, Burstein, & Merikangas, 2015; Merikangas et al., 2010) reported lifetime and 12-month prevalence rates for MDD, depressive disorder, or their combination. By age 18, 11.7% of adolescents had a lifetime episode of MDD or depressive disorder, making this one of the most common problems in the developmental age range. Other highly prevalent lifetime disorders by age 18 were specific phobia (19.3%), oppositional defiant disorder (ODD; 12.6%); substance use disorder (SUD; 11.4%), social phobia (9.1%), ADHD (8.7%), and separation anxiety (7.6%). By contrast, both dysthymia and bipolar mood disorders (type I or II) had much lower lifetime prevalence (1.8 and 2.9%, respectively). Merikangas and colleagues (2010) reported a greater gender difference than was found in the meta-analysis by Costello and colleagues (2006): Lifetime MDD or depressive disorder occurred in 15.9% of girls and in 7.7% of boys by age 18. Avenevoli and colleagues (2015) found that 12-month prevalence rates for MDD alone were 10.7% for females and 4.6% for males. Severe MDD, with high levels of distress or functional impairment, was nearly four times as prevalent in females compared to males (3.6 vs. 1.0%).

Age of Onset, Course, and Comorbidity

Mood disorders have a median age of onset of 13 years, later than anxiety disorders (6 years) or disruptive behavior disorders (11 years), but earlier than SUDs (15 years). The course of depression is quite variable: Some adolescents experience a single lifetime episode, whereas others experience multiple episodes. In community samples, episode duration is typically 3–6 months, whereas in clinical samples it is about 4–9 months. There is a positive skew to the distribution of episode duration, with longer episodes less frequent (Birmaher, Arbelaez, & Brent, 2002). In the Treatment for Adolescents with Depression Study (TADS), the moderately to severely depressed sample had a median MDE duration of 40 weeks prior to treatment (TADS Team, 2005). In this treated sample, two-thirds of adolescents recovered fully within 1 year, and almost 90% within 2 years. However, almost half (46%) of those who recovered had a recurrent episode over a 5-year period (Curry et al., 2011). Of additional concern, a subset of depressed youth will develop bipolar disorder (5–20% across various community outpatient and inpatient samples; Kovacs, 1996).

Among adolescents with past-year MDD, a large majority (about 64%), also have a comorbid disorder, most often anxiety or behavior disorders (Merikangas et al., 2010). In TADS, where primary SUDs or severe conduct disorder were excluded from the treatment sample, 27.4% of the depressed adolescents had a concurrent anxiety disorder, and 23.5% had a disruptive behavior disorder. The most frequent comorbid diagnoses were generalized anxiety disorder (15.3%), ADHD (13.7%), ODD (13.2%), and social phobia (10.7%) (TADS Team, 2005). Thus, it is important to assess depressed youth for possible concurrent anxiety, disruptive behavior and SUDs, and to assess for bipolar disorder versus unipolar depression.

Developmental Differences

Depression treatment researchers have used the same symptom criteria for MDD or depressive disorder in children, adolescents, and adults. As Weiss and Garber (2003) pointed out, there has been insufficient evidence to confirm or disconfirm the general consensus that the phenomenology of depressive episodes is similar across developmental levels, but their review indicated that several symptoms occur more frequently in older versus younger clinical samples of youth: anhedonia, hypersomnia, weight gain, hopelessness, and associated social withdrawal. Low self-esteem and guilt were more frequent in children than in adolescents.

Lamers and colleagues (2012) investigated the structure of MDD in adolescents and adults in the United States. They identified three subtypes of MDD in adolescents and four in adults. The most prevalent adolescent subtype, "moderate typical," included decreased appetite, insomnia and absence of suicidal ideation. The second subtype, "severe typical," had higher overall symptom severity, as well as weight loss. The third subtype, "atypical," included weight gain and increased appetite. Corresponding severe typical and atypical subtypes were found in adults. There were also two "moderate" subtypes: one with moderate levels of symptom severity; the other with weight loss, decreased appetite, and insomnia. Compared to adults, adolescents had a higher rate of the atypical and a lower rate of the severe typical subtypes. A positive family history for depression was more likely among adolescents with the severe typical or atypical subtypes. Those with severe subtypes had more symptoms, more episodes, and more functional impairment.

Suicide attempts are often associated with depression and are much more common among adolescents than among prepubertal children (Rohde, Lewinsohn, Klein, Seeley, & Gau, 2013). Completed suicide is the second leading cause of death for individuals ages 10–24, but is much more frequent after age 14 than earlier in life (Heron, 2016).

Overview and Previous Reviews of Treatments

In reviewing the treatment outcome literature, we included studies in which a psychosocial or somatic intervention was tested as a treatment for current depression. We did not include studies of prevention, with the exception of a treatment continuation study to prevent relapse (Kennard et al., 2014). In practice, the distinction between treatment and prevention can be difficult to make. For example, the major prevention study by Garber and her colleagues (2009) included many subjects who had previously experienced an MDE. For those subjects, the prevention was one of relapse or recurrence rather than of initial onset. Furthermore, the major inclusion criterion for many treatment studies is an elevated self-reported depression score, the same inclusion criterion used in some prevention studies. We included studies designated as treatment studies by their authors and excluded author-designated prevention studies.

We included studies in which the target of treatment was a diagnosed depressive disorder and those in which it was an elevated score on a depression rating scale. We did not include studies of depression in young people with a primarily medical (nonpsychiatric) diagnosis.

In addition to searching databases (PsycINFO; Medline; Turning Research into Practice [TRIP]) for studies on the efficacy of various psychosocial and somatic interventions for child or adolescent depression, we included treatment studies that were listed in three major reviews of evidence-based psychosocial treatments for youth depression published in the past 20 years in the *Journal of Clinical Child and Adolescent Psychology* (David-Ferdon & Kaslow, 2008; Kaslow & Thompson, 1998; Weersing, Jeffreys, Do, Schwartz, & Bolano, 2017) and an evidence-based medicine review published in the *Journal of the American Academy of Child and Adolescent Psychiatry* (Compton et al., 2004). These reviews are notable for systematically discriminating various levels of evidence for the psychological interventions available at the time of review. The reader is referred to them for detailed application of criteria used to document levels of supportive evidence. Rather than repeat a similar analysis, we included a summary of the most recent systematic evidence-based review of psychosocial interventions (Weersing et al., 2017) before conducting a narrative review on specific intervention models.

Psychotherapy for Child and Adolescent Depression

Weisz, McCarty, and Valeri (2006) conducted a meta-analysis of 35 psychotherapy studies targeting depression in children or adolescents. They calculated the effect size as the difference between the means of treatment and control conditions

posttreatment, divided by the standard deviation of the control group. Overall, psychotherapy is an effective intervention. The mean effect size was 0.34, or one-third of a standard deviation, representing a significant but modest effect. When compared to reported effect sizes for psychotherapy targeting other conditions (e.g., disruptive behavior; fears) the depression effect size was significantly smaller. It is notable that a similar pattern has been found regarding the efficacy of antidepressant medications: A modest effect is found for MDD, but stronger effects of antidepressant medication are reported for anxiety disorders (Bridge et al., 2007).

It is beyond the scope of this chapter to evaluate in detail the methodology of each intervention study reviewed. However, it is important to note that results of an intervention trial can be affected by the severity of depression in the study sample; the nature of the comparison condition (e.g., minimal or passive control vs. alternative active treatment); the sample size and resulting statistical power to detect group differences; and data-analytic procedures, as these can involve whether and how treatment dropouts are included in the results.

As noted earlier, Weersing and colleagues (2017) recently reviewed the evidence base on psychosocial treatments for child and adolescent depression. These authors included treatment and prevention studies, and studies that targeted depression in the context of a medical illness. They used formal review criteria to determine whether treatments were (1) well established, (2) probably efficacious, (3) possibly efficacious, or (4) experimental. Five methodological criteria must be met to reach the highest two levels: randomized controlled designs, clear definition of the treatment (typically in a manual), clearly defined subjects, reliable and valid outcome measures, and appropriate data analyses. Given these five criteria, to attain the level of a well-established treatment, an intervention must be demonstrated superior to a control condition or another active treatment, or equivalent to another well-established intervention, in at least two independent settings by different investigators. Probably efficacious treatments are those meeting all five methodological criteria that have at least two studies showing superiority to a passive control condition (wait list). For possibly efficacious status, a treatment must have at least one good study in which the treatment demonstrated superiority to a wait list and met all five methodological criteria; or two or more studies showing superiority to a wait list that met all methodological criteria other than that of a randomized controlled design. Experimental status indicates lack of a randomized controlled trial, or of other possible efficacy criteria.

Weersing and colleagues (2017) found that no interventions reach the level of probable efficacy or well-established treatments for child depression. Group cognitive-behavioral therapy (CBT), technology-assisted CBT, and behavior therapy are possibly efficacious, whereas individual CBT, psychodynamic therapy and family therapy are experimental. For adolescent depression, individual and group CBT and individual interpersonal psychotherapy (IPT) are well-established treatments; group IPT is probably efficacious; bibliotherapy, CBT, and family-based interventions are possibly efficacious; and technology-assisted CBT is experimental.

In Table 6.1, we have presented a summary of the treatments reviewed below and indicated the level of supportive evidence for each. In most cases, our conclusions regarding psychosocial treatments are identical to those of Weersing and colleagues (2017). Exceptions occur in instances in which we interpret new or previous evidence as indicating a stronger level of support or an intermediate level not accurately captured in the formal criteria used by those authors. For medications, we have used the criterion of approval for indicated use by the U.S. Food and Drug Administration (FDA).

Cognitive-Behavioral Therapy

CBT has been by far the most frequently investigated psychotherapeutic intervention for youth depression, as is evident in this review. First, we review studies with children, then studies with adolescents. When samples included elementary schoolchildren, we include them under child studies, even if they also included some adolescents.

Child Studies

Weersing and colleagues (2017) rated CBT as a possibly efficacious treatment for child depression. However, we view the support for this intervention as exceeding that required for possible efficacy and consider it probably efficacious. Most CBT studies with depressed children have been school-based, with treatment delivered in groups, targeting a depressive syndrome. In five of the seven studies we reviewed, CBT proved more effective than a wait-list or no-treatment comparison condition (Asar-

TABLE 6.1. Treatments for Child and Adolescent Depression

Treatment	Level of evidence	Superior to	Moderators
CBT			
Children	Probably efficacious	Wait list Treatment as usual	
Adolescents	Well established	Wait list Supportive psychotherapy	Anxiety disorders Family functioning or conflict
Combined CBT + fluoxetine			
Adolescents	Well established	Fluoxetine (or other SSRI) CBT Pill placebo	Severity of depression Cognitive distortions Child abuse
Interpersonal psychotherapy			
Adolescents	Well established	Clinical monitoring Counseling as usual	Peer or parent relationships Anxiety
Behavioral activation			
Adolescents	Possibly efficacious	No treatment Equivalent to CBT	
Acceptance and commitment therapy			
Adolescents	Experimental	School counseling as usual	
Psychodynamic psychotherapy			
Children	Experimental	Equivalent to family systems therapy	
Adolescents	Experimental to possibly efficacious	Equivalent "medium term" to CBT or brief psychotherapy	
Family therapy			
Children	Experimental	Equivalent to psychodynamic psychotherapy	
Adolescents	Possibly efficacious	Partial wait list Treatment as usual (trend)	
Computerized CBT			
Adolescents	Possibly efficacious	Wait list Treatment as usual	
Fluoxetine			
Children	FDA-approved	Pill placebo	
Adolescents	FDA-approved	Pill placebo	
Escitalopram			
Adolescents	FDA-approved	Pill placebo	
Exercise			
Adolescents	Experimental	Conflicting meta-analytic findings	
Light therapy			
Adolescents	Experimental	Dim light placebo	
Repetitive transcranial stimulation			
Adolescents	Experimental	Case studies only	

now, Scott, & Mintz, 2002; Butler, Miezitis, Friedman, & Cole, 1980; Kahn, Kehle, Jenson, & Clark, 1990; Stark, Reynolds, & Kaslow, 1987; Weisz, Thurber, Sweeney, Profitt, & LeGagnoux, 1997; but not De Cuyper, Timbremont, Braet, De Backer, & Wullaert, 2004; Liddle & Spence, 1990). In a positive study, Weisz and colleagues (1997) compared a CBT based on primary and secondary control training to a wait-list condition in a randomized controlled trial with 48 mildly to moderately depressed children. Primary control involves problem solving when it is feasible; secondary control involves cognitive change when problems cannot be changed by the child (Rothbaum, Weisz, & Snyder, 1982). Treatment comprised eight 50-minute group sessions. At posttreatment and at a 9-month follow-up, the treated group showed a significantly greater reduction in depression.

Comparisons of CBT to other active interventions for child depression have yielded limited support for its superiority. Stark, Rouse, and Livingston (1991) compared CBT to school counseling as usual with 24 children. Group treatments consisted of almost two sessions per week over 14 weeks, supplemented by family meetings. Although both groups improved, CBT surpassed counseling as usual at the end of treatment. At 7-month follow-up, there were no differences in treatment effects. On the other hand, Kahn and colleagues (1990) found that CBT was not superior to relaxation training or self-modeling interventions. Likewise, Vostanis, Feehan, Grattan, and Bickerton (1996a, 1996b) did not find brief individual CBT (averaging six session in 14 weeks) superior to a supportive nonfocused therapy with a diagnosed sample of depressed children and adolescents (age range 8–17 years), although both groups improved.

Next, in a test of CBT for depressed children in clinical settings, Weisz and colleagues (2009) randomly assigned community clinicians to receive training and supervision in CBT or to a usual care condition. They then randomly assigned 57 children and adolescents, ages 8–15 years, with depressive disorders, to treatment with CBT or to the usual care condition. Termination was based on clinical grounds. At termination, there were no differences between treatments on severity of depressive symptoms or on percentage of youth with a depression diagnosis. However, CBT required only two-thirds the duration of usual care and was associated with less use of additional services (e.g., medication).

In summary, CBT for depressed children is a probably efficacious intervention that in most studies surpasses wait-list or no-treatment control conditions. This is especially notable in light of the small sample sizes that limit the power of these studies to detect group differences. Its superiority to other interventions is less consistently demonstrated across studies, but the Weisz and colleagues (2009) project in community clinics indicates superiority in terms of speed of response and reduced need for services.

Adolescent Studies

Both individual and group CBT are well-established treatments for adolescent depression. Given differential prevalence, it is not surprising that the number of adolescent CBT studies, particularly those involving diagnosed participants, surpasses the number of child studies. Reynolds and Coats (1986) were the first to test CBT in a randomized controlled trial with adolescents. They randomized 30 high school students with depressive symptoms to 10 twice-weekly group sessions of CBT or relaxation training over 5 weeks, or to wait list. Both active treatment groups surpassed the wait-list participants, with no difference between the active treatments. Five weeks later, all active treatment participants and nearly half of those wait-listed scored in the nondepressed range. The findings of continued improvement in all conditions after treatment ends foreshadowed future findings. Additional evidence that CBT was superior to a wait-list condition emerged from another small sample study (Ackerson, Scogin, McKendree-Smith, & Lyman, 1998) in which 4 weeks of CBT bibliotherapy was the active intervention.

Comparisons of CBT to one of its components (relaxation training) or to an alternative active intervention, however, have led to mixed evidence of CBT superiority. Wood, Harrington, and Moore (1996) found brief CBT superior to relaxation training after 5–8 weeks but not at 6-month follow-up, whereas Reynolds and Coats (1986) did not report even short-term superiority. Similarly, in two nonrandomized studies, group CBT was either superior to or inferior to supportive group therapy (Fine, Forth, Gilbert, & Haley, 1991; Lerner & Clum, 1990).

Three other studies in the 1990s applied prominent cognitive-behavioral theories to the treatment of adolescents with diagnosed depressive disorders, and paved the way for the multisite studies conducted in the first decade of this century. Lewinsohn and his colleagues applied cognitive-behavioral group treatment to depressed adolescents.

Lewinsohn's Coping with Depression course, a group psychoeducational intervention covering mood monitoring, problem solving, behavioral activation, cognitive restructuring, and social skills, was adapted and tested in two studies with adolescents. Lewinsohn, Clarke, Hops, and Andrews (1990) randomly assigned 59 adolescents with MDD, depressive disorder, or D-NOS to the Adolescent Coping with Depression course (CWD-A), a 7-week, 14-session group intervention; to CWD-A plus a concurrent parent group; or to a wait list. Both treated groups improved more than did the wait-list group on self-reported depression, with 43% (CWD-A) and 48% (CWD-A plus Parent group) versus only 7% of wait-list subjects no longer meeting diagnostic criteria after treatment. Findings were replicated with a larger sample (n = 123) of adolescents with MDD or depressive disorder, and a slightly extended treatment duration (8 weeks) (Clarke, Rohde, Lewinsohn, Hops, & Seeley, 1999).

Brent and colleagues (1997) applied Beck's cognitive theory of depression and treatment to adolescents with diagnosed MDD but adapted it for adolescents by placing relatively greater emphasis on psychoeducation, problem solving, social skills, and affect regulation. One hundred seven adolescents with moderate to severe depression were randomly assigned to cognitive therapy (CT), systemic behavior family therapy (SBFT), or nondirective supportive therapy (NST) for 12–16 weeks of treatment. Remission (normalization) rates were 60% for CT, 38% for SBFT, and 39% for NST. A 2-year follow-up indicated no long-term differences between conditions. Adolescents in all conditions continued to improve: 84% remitted; however, 30% had a recurrent episode after recovery (Birmaher et al., 2000).

These three studies confirmed that CBT was superior to no treatment (wait list) and in one case superior in the short-term to alternative psychotherapies. By the end of the 1990s, both CBT and the antidepressant fluoxetine (see below) had demonstrated short-term efficacy for diagnosed depressed adolescents. From a methodological perspective, it therefore became unacceptable to use a wait-list control with adolescents diagnosed with MDD, and subsequent studies used active comparisons, such as clinical monitoring, medical management with pill placebo, or alternative interventions. From a clinical perspective, there was an increased public health interest in how best to select or combine these effective treatments for depressed adolescents.

For that reason the National Institute of Mental Health (NIMH) initiated a study to evaluate the relative short-term and long-term efficacy of psychotherapy (CBT), antidepressant medication (fluoxetine), and their combination in the treatment of significantly depressed adolescents. In the resulting study (TADS), 439 adolescents from 13 sites, with persistent and impairing moderate to severe MDD were randomized to one of four treatments: (1) fluoxetine, (2) CBT, (3) combined fluoxetine and CBT, or (4) medical management with pill placebo. Short-term treatment was 12 weekly sessions; this was followed by 6 weeks of (weekly or biweekly) generalization treatment, then three sessions of maintenance treatment over 18 weeks. At Week 12, only combination treatment surpassed placebo on the primary outcome measure, an independent evaluator interview-based rating of depression severity. Combined treatment and fluoxetine, but not CBT, surpassed placebo on the secondary outcome of percentage of subjects showing clinically significant improvement (71, 61, 43, and 35%, respectively). Combined treatment remained superior at Week 18 (85%), at which point fluoxetine (69%) and CBT (65%) were equivalent on the improvement measure. The TADS Team (2004) recommended combined treatment for moderate to severe MDD.

A second multisite study investigated whether adding CBT for adolescents who had not responded to a selective serotonin reuptake inhibitor (SSRI) would lead to improved outcomes. In the Treatment of SSRI-Resistant Depression in Adolescents (TORDIA; Brent et al., 2008), across six sites, 334 adolescents who had not shown clinically significant improvement after at least 8 weeks of SSRI treatment were randomized to either a different SSRI or to venlafaxine, with or without CBT. Twelve weeks later, the response rate was significantly higher in those who received CBT (54.8%) than in those who did not (40.5%). The difference in medications did not affect outcome. Thus, both TADS and TORDIA supported the advantage of combined treatment for significantly depressed adolescents.

By contrast, the Adolescent Depression Antidepressant and Psychotherapy Trial (ADAPT; Goodyer et al., 2007) did not support adding CBT to fluoxetine. In ADAPT, 208 depressed adolescents in the British health system received fluoxetine and routine specialist counseling; half also received CBT. After 28 weeks, 57% of this sample was significantly improved, but there was no benefit of adding CBT. Given the complex-

ity and severity of the ADAPT sample, which unlike TADS or TORDIA included youth with comorbid conduct disorder, SUD, and psychotic depression, the failure of CBT to improve outcome may point to its limitations with such severely impaired adolescents. This conclusion, however, must be tempered by the finding that CBT (the CWD-A course) proved superior to an alternative treatment (life skills training) for adolescents with MDD and conduct disorder (Rohde, Clarke, Mace, Jorgenson, & Seeley, 2004). Alternatively, ADAPT may simply indicate that CBT does not add incremental effectiveness when added to two other treatments (fluoxetine and routine clinical care) (Curry, 2014).

As noted earlier in the multisite studies that addressed increasingly severe and complex samples of depressed adolescents, a number of other studies tested CBT for adolescent depression in the context of primary care or health maintenance organizations (HMOs). Across two studies, Clarke and colleagues (2002, 2005) found limited incremental benefit when CBT was added to usual clinical care in an HMO. In the first study there was no additional benefit, and in the second, brief CBT plus adolescent and parent psychoeducation, added to usual care and medication, showed benefit on one of two self-report measures of depression and led to less demand for usual treatment visits or medication.

Both Asarnow and colleagues (2005) and Richardson and colleagues (2014) have studied CBT as part of more comprehensive care programs for depressed adolescents in primary care settings. In the study by Asarnow and colleagues, 418 depressed adolescents were assigned to usual care or to a quality improvement program that included expert teams to provide support and education to primary care providers, and case managers trained in CBT and other evidence-based treatment options. Richardson and colleagues tested usual primary care against a collaborative care model that included engaging parent and adolescent in selecting CBT, medication, or both; regular monitoring of progress; and monthly parent contacts. In both studies, the more intensive treatment models that included CBT were superior to usual care in reducing depression.

In summary, tests of CBT in HMO or primary care settings suggest that when used as part of an active, collaborative model involving education about treatment alternatives, CBT contributes to improved depression outcomes. As a single additional modality, evidence is mixed but suggests CBT may reduce the need for additional services. Before moving to the second well-established treatment (IPT), we first discuss predictors and moderators of treatment outcome in the major multisite CBT studies, then CBT-related treatments recently used with adolescents: behavioral activation, and acceptance and commitment therapy.

Predictors and Moderators in Multisite CBT Studies

"Predictors" of treatment response are variables measured at baseline that are then found to be associated with a better outcome. In comparative treatment trials, which, by definition, include more than one intervention or control arm, a predictor variable is linked to better outcomes regardless of the specific treatment received by the participant. By contrast, a "moderator" is a variable present at baseline that predicts differential response to one of several interventions. From a statistical perspective, predictors are "main effects" and moderators are "interaction effects." Because even adequately powered studies include only enough subjects to have the power to detect main effects of the treatments being investigated, virtually no studies are adequately powered to detect interaction effects or moderators.

The initial TADS investigation of predictors and moderators of short-term (Week 12) outcome (Curry et al., 2006) tested a limited number of potential variables in order to minimize the likelihood of chance findings. The selection of variables was based on review of existing literature indicating some probability that they might be predictors or moderators. Results indicated that adolescents who were younger and whose depression was less severely impairing were more likely to benefit from any of the four study arms (fluoxetine, CBT, combined fluoxetine and CBT, pill placebo) than were their older and more severely impaired counterparts. More specifically, less chronic (shorter) index episodes of MDD, less hopelessness, less suicidal ideation, fewer melancholic features, and higher global functioning at baseline predicted better outcome. In addition, adolescents who had fewer comorbid diagnoses, particularly fewer anxiety diagnoses, and those who had higher expectancies for improvement with their subsequently assigned treatment, had better outcomes. A subsequent investigation of multiple family-related variables (Feeny et al., 2009) showed that mother-

reported conflict with the adolescent predicted poorer outcome across TADS interventions.

Three variables moderated short-term depression outcome in TADS. Combined CBT and fluoxetine was superior to fluoxetine alone for adolescents with mild or moderate depression at baseline, but not for severely depressed adolescents. Similarly, combined treatment exceeded medication alone for adolescents with high levels of depressive cognitive distortions, but not for those with low levels of distortions. Finally, CBT alone had results as good as combined treatment for adolescents from families of higher socioeconomic status level (Curry et al., 2006). In the analysis of family-related variables (Feeny et al., 2009), adolescent-reported overall family functioning was a moderator: Adolescents who reported higher levels of overall family functioning did best with combined CBT and fluoxetine, whereas for those with lower levels, combined treatment did not surpass medication monotherapy.

The TADS finding that severity of depression at baseline inversely predicts treatment outcome was replicated both in TORDIA and in ADAPT. In all three studies, adolescents with less severe depression, better global functioning, shorter index MDE episodes, less hopelessness, and less suicidal ideation had better treatment outcomes regardless of study arm. Similarly, fewer comorbid diagnoses at baseline predicted better outcome in all three studies (Emslie, Kennard, & Mayes, 2011). Asarnow and colleagues (2009) reported that number of comorbid disorders and history of abuse were moderators of treatment outcome in TORDIA: The superiority of combined CBT and medication over medication alone was enhanced for adolescents with more comorbid disorders (especially ADHD and anxiety disorders), and for those who did not have a history of abuse.

In summary, results of predictor analyses consistently indicate that less severely depressed/impaired adolescents show better short-term treatment outcomes than those with poorer baseline status. This can be helpful to clinicians, parents, and adolescents themselves in setting realistic treatment expectations. Some of the specific predictors also provide guidance for therapists. For example, hopelessness needs to be addressed early in treatment because it negatively predicts outcome.

Moderator analyses are more limited and less consistent in their findings. In TORDIA, greater comorbidity was associated with greater superiority of combined CBT and medication (compared to medication alone), whereas in TADS, greater comorbidity was a general negative predictor across treatment arms. Perhaps the different findings reflect the different samples, with the TORDIA sample, but not the TADS sample, composed of adolescents who had already failed to respond to medication alone. Considering the conditions under which the addition of CBT to medication is most likely to be beneficial in alleviating depression, the moderator analyses suggest that moderate depression, presence of cognitive distortions, and absence of a history of abuse are associated with added benefit of combined treatment. From a different perspective, the TADS findings indicated that adolescents from higher socioeconomic status backgrounds benefited as much from CBT alone as they did from combined treatment. This finding has not thus far been replicated, however.

We next turn to recent developments applying CBT-related treatments to adolescent depression.

Behavioral Activation

Within traditional CBT, different versions of behavioral activation (BA) serve as one key component. In Lewinsohn and Clarke's model (Lewinsohn et al., 1990), CWD-A, BA takes the form of increasing involvement in pleasant activities, especially social activities, as a means of increasing positive reinforcement and countering depressed mood. In Beck and Brent's CT (Brent et al., 1997), activity scheduling was used to counter passivity and to elicit core dysfunctional thoughts. However, BA in itself has been shown to be an effective treatment for adult depression (Dimidjian et al., 2006). Three studies have now applied it to depressed adolescents. In an 18-week pilot study, Ritschel, Ramirez, Cooley, and Craighead (2016) reported that 20 of 22 adolescents with MDD had a positive treatment response, with 12 fully remitted. Takagaki and colleagues (2016) found that brief, five-session BA for older adolescents (ages 18–19) with elevated self-reported depressive symptoms (but not MDD in the past year) surpassed a no-treatment control in reducing depression.

McCauley and colleagues (2016) completed the first study with adolescents that compared BA to a different active treatment. They randomly assigned 60 adolescents with MDD, depressive disorder, or D-NOS to the Adolescent Behavioral Activation Program (A-BAP) or to an evidence-based treatment comparison condition, consisting of

CBT or IPT. A-BAP consisted of 14 sessions, with at least two including parents. Both groups significantly improved in depression and in functioning, with no difference between the groups.

Taken together, these studies suggest that BA may be as effective as a full "package" of CBT, but evidence to date is limited, and there is no evidence for its superiority. Larger, randomized comparative studies are needed to establish efficacy and identify possible moderators.

Acceptance and Commitment Therapy

Compared to traditional CBT, acceptance and commitment therapy (ACT) places less emphasis on inducing change and more on accepting a full range of emotions and experiences. It encourages psychological and behavioral flexibility in the presence of difficult thoughts, feelings, and bodily sensations. ACT aims to strengthen processes such as awareness of the present moment, acceptance of difficult emotions, articulation of values, and committed action consistent with those values. For depression, it may include emphasizing engagement in meaningful, value-guided activities, even if they are not currently enjoyable or pleasant, similar to BA.

In a pilot study, Petts, Duenas, and Gaynor (2017) treated 11 adolescents with depression who had not responded to brief motivational interviewing with ACT, and reported that eight were significantly improved on a diagnostic interview, but only five on self-report. Hayes, Boyd, and Sewell (2011) conducted the first randomized study of ACT that specifically targeted adolescent depression. Thirty-eight adolescents, ages 12 to 18 years, with self-reported depression were randomly assigned to ACT or to treatment as usual, and the ACT adolescents had greater improvement in depression, although there was no difference on general functioning. Livheim and colleagues (2015) subsequently tested a 12-week, school-based group ACT against monitoring and supportive school counseling with 58 randomly assigned mildly depressed adolescent girls and eight boys who were assigned to ACT, and also reported that ACT led to greater reductions in depression.

Overall, three studies with small sample sizes, varying levels of methodological rigor, and somewhat different versions of ACT offer a preliminary suggestion that ACT may prove effective for treatment of adolescent depression. Larger, randomized controlled trials with clinically depressed youth are needed.

Interpersonal Psychotherapy

IPT is the only psychotherapy other than CBT to attain the level of a well-established treatment for adolescent depression. IPT focuses on improving current interpersonal relationships of depressed patients on the assumption that these are maintaining the depression regardless of its initial cause. Mufson, Moreau, Weissman, and Klerman (1993) adapted IPT for adolescents (IPT-A). We describe the major features of IPT-A below, but in summary, the adolescent's depression is contextualized in one or two of the following four categories, and the treatment focuses on the relevant interpersonal context: (1) loss or grief, (2) role transition, (3) interpersonal role disputes, and (4) interpersonal skills deficits.

In the first controlled trial of IPT-A, Mufson, Weissman, Moreau, and Garfinkel (1999) randomized a largely female, Hispanic sample of 48 adolescents with MDD to IPT-A or to a clinical monitoring control condition. Most of the IPT-A adolescents (21 of 24) completed the 12 weeks of treatment, versus only 11 of the 24 monitoring subjects. IPT-A surpassed monitoring on self-reported and interviewer-rated depression, and led to higher remission rates.

Mufson and colleagues (2004) subsequently tested the effectiveness of IPT-A delivered by school-based clinicians, compared to school counseling as usual. Participants were 63 predominantly female, Hispanic adolescents with MDD, depressive disorder, D-NOS, or ADDM. Treatments were 16 weeks in duration, with IPT-A surpassing counseling as usual in reducing depression.

IPT was tested in two studies using a somewhat different model of IPT with depressed Puerto Rican adolescents and compared it to CBT. Rosselló and Bernal (1999) found that both IPT and CBT were superior to a wait-list control with 71 adolescents with MDD. IPT, but not CBT, also improved self-esteem and social functioning. No treatment differences remained at the 3-month follow-up. Rosselló, Bernal, and Rivera-Medina (2008) subsequently compared group and individual modalities of IPT and CBT with 112 adolescents who had diagnosed or self-reported depression. All four conditions were associated with improvement in depression, with no group-versus-individual modality differences. In this study, CBT was superior to IPT in reducing depression and improving self-esteem. In a further test of IPT for adolescents was conducted in Taiwan (Tang, Jou, Ko, Huang, & Yen, 2009), an abbreviated and intensified model

of IPT-A (two individual sessions and a 30-minute telephone contact each week for 6 weeks) proved superior to school counseling as usual with 73 depressed, suicidal adolescents on measures of depression, suicidal ideation, and hopelessness.

Recently a family-based version of IPT (FB-IPT) was tested with depressed preadolescents, ages 7–12 years (Dietz, Weinberg, Brent, & Mufson, 2015). FB-IPT includes back-to-back sessions, first with the child, then with the parent or both parent and child. Forty-two children with MDD or D-NOS were randomized to receive FB-IPT (n = 29) or supportive, nondirective therapy (n = 13). Those in the IPT condition demonstrated significantly greater reduction in depression symptoms, higher rates of remission, and better social functioning than those in the comparison condition, with no treatment differences in parent–child conflict.

In summary, IPT has been shown to be superior to minimal contact and to counseling as usual. Data on the relative efficacy of CBT and IPT are limited and mixed. IPT has not been compared to medication management with active drug or pill placebo, or tested in combination with medication. There is little follow-up information available on IPT.

Moderators of IPT-A

Some information is available regarding moderators of treatment outcome with IPT-A. In the IPT-A school-based effectiveness study (Mufson et al., 2004), which included MDD and subsyndromal adolescents, the superiority of IPT-A over school counseling as usual was evident for older (ages 15–18), but not for younger (ages 12–14) adolescents and for those with more severe depression or impairment at baseline, but not for the more mildly depressed adolescents. Further moderator analyses from this study indicated that the advantage of IPT-A over school counseling as usual was enhanced for those adolescents reporting higher levels of conflict with their mothers, or higher levels of peer relationship problems (Gunlicks-Stoessel, Mufson, Jekal, & Turner, 2010). These findings are consistent with the theoretical basis of IPT-A. Regarding comorbid anxiety, Young, Mufson, and Davies (2006) found that the anxious–depressed adolescents in the same study had more severe depression at baseline and poorer depression outcomes; however, there was a trend suggesting that IPT-A was more effective for them than counseling as usual, but not for non-anxious youth. In general, the IPT-A moderator analyses suggest that this evidence-based intervention is superior to supportive counseling with the relatively more depressed and complex cases.

Psychodynamic Psychotherapy

To our knowledge, the first comparative study of psychodynamic psychotherapy (PP) for internalizing children was a quasi-experimental investigation in which 58 outpatients, ages 6–11 years, with depressive disorder (n = 38) or anxiety disorders were assigned to an 11-week psychodynamic treatment that included individual child or conjoint parent–child sessions, or to community treatment as usual, based on availability of PP therapists (Muratori, Picchi, Bruni, Patarnello, & Romagnoli, 2003). PP included emotional labeling and expression, and a focus on a core conflictual theme. PP led to better global functioning at 6 months and to fewer parent-reported internalizing symptoms at 2 years.

Subsequently, a depression-specific randomized controlled trial compared focused individual psychodynamic psychotherapy (FIPP) to systems integrated family therapy (SIFT) (Trowell et al., 2007). FIPP addresses problems in interpersonal relationships and attachment problems; SIFT focuses on family-level dysfunction and does not attend to intrapsychic conflicts. Seventy-two youth, ages 8–15 years, with MDD, depressive disorder, or both, were randomized to one of these active treatments. FIPP included up to 30 weekly individual psychotherapy sessions and 15 biweekly parent sessions. SIFT constituted up to fourteen 90-minute sessions (some with parent only) every 2–3 weeks. After treatment, MDD diagnoses dropped significantly in both conditions, with continued improvement at 9-month follow-up. Depressive disorder also improved in both treatments from baseline to end of treatment. On self-reported depression, SIFT surpassed FIPP at the end of treatment, with no differences by follow-up.

On the basis of the equivocal results of the Trowell and colleagues (2007) study, Weersing and colleagues (2017) classified PP as an experimental treatment for child depression. Most recently, PP has been tested with depressed adolescents. Goodyer and colleagues (2017) compared CBT, short-term PP, and a brief psychosocial intervention for adolescent MDD, in a multisite randomized controlled trial. Their study assessed "medium term" outcome effects on reduced depression rather than immediate posttreatment effects, using

self-reported depression at Weeks 36, 52, and 86. The actual number of sessions delivered in each treatment was quite similar, averaging between nine and 11. There were no significant differences in outcome.

In summary, different versions of PP have been tested in one quasi-experimental study and two randomized controlled trials. The latter studies showed mixed results on self-reported depression, with inferiority (to family therapy) at the end of treatment in one study, but equivalence to CBT and brief intervention at 9-month assessment in the other. The most recent study suggests that a particular model of psychodynamic treatment is a possibly efficacious intervention with depressed adolescents, although there is as yet no evidence of superiority of PP to passive or active control conditions.

Family Therapies

As noted earlier, SIFT yielded positive short-term results in the study by Trowell and colleagues (2007); this resulted in Weersing and colleagues (2017) rating it as an experimental treatment for child depression. Earlier, Brent and colleagues (1997) had found SBFT, a model initially developed to address parent–adolescent conflict, inferior to CT. The first family therapy developed specifically to treat adolescent depression was attachment-based family therapy (ABFT), which targets excessive criticism in the family, and aims to restore trust and improve adolescent–parent relationships. Diamond, Reis, Diamond, Siqueland, and Isaacs (2002) randomized 32 adolescents with MDD to 12 weeks of ABFT or a 6-week wait list. Loss of diagnosis was significantly more frequent with ABFT (81 vs. 47%).

Subsequently, in a study primarily targeting suicidal ideation, Diamond and colleagues (2010) randomly assigned 66 adolescents to ABFT or to enhanced treatment as usual (ETAU), which supplements treatment as usual (TAU) with efforts to facilitate connecting with a provider. After 12 weeks, ABFT was superior to ETAU in reducing suicidal ideation, a difference maintained at 24-week follow-up. Self-reported depression also tended to decline more in the ABFT condition ($p = .06$).

An adjunctive family psychoeducation (FPE), consisting of twelve 90-minute psychoeducational meetings with families in their homes, was tested as an supplement to TAU (psychotherapy and/or medication) with 31 adolescents with MDD (Sanford et al., 2006). Both groups improved on self-reported depression, with no difference between them. FPE led to significantly greater improvements in adolescent–parent relationships.

In summary, family therapy is a possibly efficacious treatment for adolescent depression given its limited evidence base. To our knowledge, one study has investigated treatment moderators with family intervention. Diamond, Creed, Gillham, Gallop, and Hamilton (2012) tested history of sexual abuse as a potential moderator in a relatively small sample of adolescents ($n = 66$) for whom ABFT proved superior to ETAU. They did not find that it moderated (lessened) outcome, as it had in CBT studies. This could be an important finding, but it requires replication with a larger sample to provide a more adequately powered test of moderation.

Innovations to Address Common Challenges

As tests of psychotherapy for child and adolescent depression have progressed, several challenges have become evident (Curry, 2014): (1) Most young people with depression also have comorbid disorders, and these are not directly addressed in treatments focused only on depression; (2) time to treatment response varies greatly, suggesting individual differences in need for treatment duration or type; (3) most depressed youth improve with short-term treatment, but rates of relapse are high; and (4) evidence-based treatments for youth depression can be difficult to access due to geographic or financial constraints. In this section we review innovations to address these challenges.

Modular, Sequential, and Transdiagnostic Treatment Approaches: Addressing Comorbidity, Differential Response Rates, and Relapse

Modular CBT was initially proposed as a method to increase therapist flexibility when treating a single disorder, such as MDD (Curry & Reinecke, 2003). In a modular approach, the therapist maintains a consistent session structure but varies the content of sessions according to an overall individualized case formulation. In this way, various "modules" can be inserted into a consistent structure. For example, CBT sessions may consistently involve a mood check, review of the previous week, review of between-session practice assignment, work on a shared agenda, training in a skill, and formulation of a new practice assignment. However, content of the skill training or focus of the agenda discussion varies across sessions (e.g., focusing on problem solving vs. cognitive restructuring).

More recently a modular approach has been used to address comorbidity. In their Modular Approach to Therapy for Children (MATCH), Chorpita and colleagues (2013) and Weisz and colleagues (2012) treated children presenting with depression, anxiety, and/or conduct problems. Children were randomized to one of three conditions: (1) manualized CBT that addressed one or more disorders; (2) algorithm-guided modular treatment, in which the therapist could select any of 31 CBT procedures to treat a child; (3) usual care. Modular treatment proved superior to disorder-focused intervention after treatment and superior to usual care then and 2 years later.

Varieties of sequential treatment have been used to address comorbidity or individual differences in treatment response. Rohde, Waldron, Turner, Brody, and Jorgensen (2014) treated 170 adolescents with comorbid depression and substance abuse, using a treatment for depression (CWD-A) and one for substance abuse (functional family therapy [FFT]; Alexander & Parsons, 1982). Participants randomly received 24 sessions of CWD-A followed by FFT; FFT followed by CWD-A; or a coordinated intervention. FFT followed by CWD-A was more effective than coordinated intervention on substance abuse outcomes at 6 and 12 months overall. However, for participants with MDD, CWD-A followed by FFT was most effective on this outcome. Depression declined early and equally across the three conditions.

A second type of sequential treatment is adaptive treatment. In an adaptive treatment, participants begin with one treatment, then increase the dose, add another treatment, or switch to another treatment depending on their response to the initial treatment. Gunlicks-Stoessel, Mufson, Westervelt, Almirall, and Murphy (2016) conducted a pilot adaptive treatment study of IPT with 32 adolescents with depressive disorders. They investigated the optimal time point to decide on need for treatment augmentation (more IPT sessions or medication) and response rates depending on this time point and the type of augmentation. They found that assessing response and deciding on augmentation at Week 4 was superior to doing so at Week 8. They also identified a number of critical issues that arise in the course of adaptive treatment, including participant and parent attitudes toward medication, and therapist attitudes toward increasing session frequency or adding medication.

A third type of sequential treatment has been developed to prevent relapse. Standard versions of CBT for depression include a relapse prevention component near the end of short-term treatment. Often this includes reviewing the skills and strategies learned during treatment; identifying which ones proved most helpful; anticipation of upcoming potential stressful events; increasing awareness of early signs of relapse; and creation of a plan of action should such signs occur. Recently, Kennard and colleagues (2014) tested a novel relapse prevention-CBT (RP-CBT) with children and adolescents who had responded well to fluoxetine without CBT. RP-CBT included not only standard CBT components, such as mood monitoring and problem solving, but also elements of positive psychology such as self-care, spiritual and values-based practices, and self-acceptance. Over 30 weeks (six to 11 sessions), RP-CBT plus medication management led to a dramatic reduction in MDD relapse rates (9%) compared to medication management only (26.5%).

A transdiagnostic approach to treatment targets underlying processes that are common to two or more disorders. Barlow, Allen, and Choate (2004) developed a unified protocol for the treatment of anxiety and depression, focusing on avoidance, maladaptive cognitions, and poor emotional regulation. Two randomized controlled studies of two different transdiagnostic interventions for young people have recently been published. Chu and colleagues (2016) randomly assigned 35 adolescents (ages 12–14) to a school-based group BA plus exposure intervention or to a wait list. As noted earlier, behavioral activation has been utilized to treat depression; exposure is considered the major ingredient in effective anxiety disorder treatment. However, BA may also reduce anxiety by countering worry and avoidance behaviors, and exposure may reduce depression by helping young people to tolerate distress and practice other CBT skills. In their study, adolescents had to have a principal diagnosis of either a depression disorder (MDD, depressive disorder, D-NOS) or general, social, or separation anxiety disorder. A minority of the 35 subjects had a principal depression diagnosis. The intervention consisted of 10 weekly 60-minute sessions plus two individual meetings. Active treatment surpassed wait list on anxiety disorder remission posttreatment, but not on depression disorder remission. There were no differences on parent-reported or youth-reported symptom ratings, but evaluator ratings showed more global improvement with active treatment.

Ehrenreich-May and colleagues (2017) tested a transdiagnostic protocol emphasizing emotional awareness, preventing emotional avoidance, in-

creasing cognitive flexibility, challenging negative threat appraisals, and modifying behavior through BA and exposure. They randomized 51 adolescents with a primary anxiety or depression diagnosis to 16 weeks of active treatment or to an 8-week wait list. Concurrent, stable pharmacological treatment was permitted. Anxiety disorders were more often the principal diagnosis, but 76% had both an anxiety and a depression diagnosis. At midtreatment (Week 8), active treatment participants had lower diagnostic and global severity scores than those on the wait list, with no differences on self- or parent-reported symptom severity scales.

Electronic or Computerized CBT

Electronic or computerized CBT (cCBT) holds great promise as a means to more widely disseminate a well-established psychotherapy for youth depression. Two reviews of cCBT for treating youth depression have appeared in this decade. A review by Richardson, Stallard, and Velleman (2010) included three intervention studies, with adolescents reporting mild to moderate depression, but none were randomized trials comparing cCBT to a control condition. Evidence suggested that retention could be a challenge, but that there was improvement with intervention.

Pennant and colleagues (2015) completed a more recent comprehensive review of computerized therapies for anxiety and depression in participants, ages five to 25 years. Their review included three computerized programs for depression and two for anxiety and depression. Clarke and colleagues (2009) randomized depressed adolescents/emerging adults (ages 18–24 years) to MoodHelper plus HMO TAU (n = 83) or to TAU alone (n = 77). cCBT showed a small but significant advantage in reduced symptoms after 32 weeks. Stasiak, Hatcher, Frampton, and Merry (2014) found a different cCBT (The Journey) superior to an attention control computerized program in a small sample of mildly depressed adolescents. Likewise, Fleming, Dixon, Frampton, and Merry (2012) found 5 weeks of intervention with another cCBT (SPARX) superior to a wait-list control in a small sample of 13- to 16-year-olds with depression symptoms. Improvements were retained at 10 weeks. In a larger study, Merry and colleagues (2012) tested SPARX against TAU in a multisite randomized noninferiority trial with 187 adolescents seeking help for depression. The 1- to 2-month treatments were equivalent in reducing symptoms, and improvements were retained at a 3-month follow-up.

Three additional studies found cCBT (1) superior to a wait-list condition (Smith et al. (2015) with depressed adolescents, (2) not superior to no treatment with late adolescents (Sethi 2013), and (3) equivalent to a monitoring control condition with female adolescents (Poppelaars et al., 2016). cCBT has also demonstrated mixed results when compared to face-to-face CBT. Sethi (2013) found face-to-face CBT superior to cCBT, but Poppelaars and colleagues (2016) found the conditions equivalent. In summary, research on cCBT is at a relatively early stage and shows inconsistent results. Compared to wait list or no treatment, cCBT has been shown to be superior in two of three comparisons; compared to monitoring or attention controls, it has been superior in one of two comparisons. It has attained equivalence to TAU and an incremental advantage when added to TAU.

Medications for Child and Adolescent Depression

Approved Medications

There are currently two medications with FDA approval for treatment of depression in young people (Strawn, Dobson, & Giles, 2017). Fluoxetine is approved for youth ages 8 and older, as is escitalopram for ages 12 and older. We first discuss the studies involving these medicines, then briefly summarize broader medication reviews. The first randomized controlled psychotropic medication study to show an advantage for active medication versus placebo in pediatric MDD was published by Emslie and colleagues in 1997. Ninety-six children and adolescents, ages 7–17 years, diagnosed with MDD, were randomized to receive fluoxetine or pill placebo for 8 weeks. On an interviewer-rated scale, the fluoxetine group was significantly less depressed than the placebo group at the end of treatment, with the difference first emerging at Week 5 of the study. In the fluoxetine group, 56% were responders (*much better* or *very much better*) versus 33% in the placebo condition. In a second study, Emslie and colleagues (2002) randomized a larger sample (122 children and 97 adolescents) to receive either 20 mg. of fluoxetine or a pill placebo after a 1-week placebo lead-in period to minimize inclusion of placebo responders. In this study, fluoxetine separated significantly from placebo by the end of the first week of the 8-week comparison, and this difference was maintained. In TADS, fluoxetine did not surpass placebo on the primary outcome measure (slope of interviewer-

rated symptoms change) at Week 12, but it did so on the secondary outcome of treatment response (61 vs. 35%) (TADS Team, 2004).

Three studies have investigated escitalopram. Wagner, Jonas, Findling, Ventura, and Saikali (2006) compared it to placebo with 264 children and adolescents across 25 sites. After 8 weeks, the group differences in depression severity and response rates were not statistically significant. A secondary analysis showed that the drug surpassed placebo for adolescents but not for children.

Emslie, Ventura, Korotzer, and Tourkodimitris (2009) tested escitalopram with 316 adolescents with MDD, seen at any of 40 sites. Escitalopram significantly surpassed placebo at 8 weeks. Most recently, at Week 24, escitalopram maintained superiority to placebo in a maintenance treatment sample of 165 adolescents (Findling, Robb, & Bose, 2013).

Broader reviews of the antidepressant literature (Usala, Clavenna, Zuddas, & Bonati, 2008; Whittington et al., 2004) have concluded that the evidence of efficacy is strongest for fluoxetine. Most recently, Cipriani and colleagues (2016), reported a systematic review and meta-analysis, which included studies of any antidepressant compared to placebo or to another antidepressant in children and adolescents. Overall, the studies included 5,260 patients comparing 14 antidepressants or placebo. Fluoxetine was the only drug that performed better than placebo, and it was also the drug best tolerated by study participants.

Suicidal Risk

Concerns that frequently used antidepressant medications might be associated with an increase in suicidal thinking or behavior led the FDA to conduct a meta-analysis of 24 studies involving over 4,500 subjects (Hammad, Laughren, & Racoosin, 2006). Of the 24 studies, 16 focused on MDD, seven on anxiety disorder, and one on ADHD. The drugs that were investigated included fluoxetine (the only drug with FDA approval at that time), sertraline, paroxetine, fluvoxamine, citalopram, bupropion, venlafaxine, nefazodone, and mirtazapine. The studies included in the meta-analysis had treatment durations of 1–4 months. Results were reported as odds ratios. The overall risk ratio for suicidal behavior or ideation in MDD studies of the SSRIs (fluoxetine, sertraline, paroxetine, fluvoxamine, and citalopram) was 1.66 (95% confidence interval [CI], 1.02–2.68). Considering all of the medications and all of the indications (MDD, anxiety disorder, ADHD), the risk ratio was 1.95 (CI, 1.28–2.98). The reviewers concluded that there is a modest increase in risk for suicidality in pediatric patients treated with antidepressants. In terms of percentages, the findings indicate that there is about a 2% risk of suicidal ideation or behavior associated with pill placebo treatment versus about a 4% risk with antidepressant treatment. This review led to the "Black Box" warning that alerted providers to the increased risk and the need to monitor child and adolescent patients taking antidepressant medications.

In 2007, Bridge and colleagues published another meta-analysis that considered both benefit and risk of antidepressant use in patients under age 19 years. This meta-analysis included 27 studies, of which 15 focused on MDD, six on obsessive–compulsive disorder (OCD), and six on other anxiety disorders. In the MDD studies, the rate of suicidal ideation or attempt with active medication was 3% (95% CI, 2–4%) versus 2% with placebo (95% CI, 1–2%). The authors attribute the difference between their findings on overall risk with active medication (3%) and that of the earlier meta-analysis (4%) to inclusion of additional studies and to different statistical analyses. Also of interest was the finding that antidepressants had their greatest efficacy with non-OCD anxiety disorders (69% response) when compared to placebo (39% response). For MDD, antidepressants had an overall response rate of 61 versus 50% for placebo. For OCD, the medication response rate was 52% versus only 32% with placebo.

Most recently, Cipriani and colleagues (2016), in their extensive network meta-analysis of antidepressant efficacy and tolerability, reported that absence of reliable data on many antidepressants precluded comprehensive assessment of suicidal risk for all of the drugs they studied. However, they reported strong evidence of increased risk for suicidal behavior or ideation with venlafaxine.

In terms of clinical practice, the findings of the meta-analyses reviewed here indicate that there is a statistically significant risk of modest magnitude for increased suicidal ideation or behavior in pediatric patients treated with antidepressant medications compared to treatment with placebo. The review by Bridge and colleagues (2007) supports the interpretation that the benefits of these medicines outweigh the risk. Cipriani and colleagues (2016) did not find an overall advantage of antidepressants for pediatric MDD, but they concluded that fluoxetine is probably the best option among the antidepressants when pharma-

cological intervention is needed. Providers, parents, and youth need to be aware of the suicidality risk. Prescribers should monitor children and adolescents beginning antidepressant treatment for onset of new or increased suicidal ideation and of any suicidal behavior. (In TADS, the prescribing physician or nurse practitioner monitored the adolescents in six 20- to 30-minute visits across 12 weeks.) The TADS study found that combining CBT with medication reduced the risk of suicidality (TADS Team, 2007), but this finding has not been replicated in studies with treatment-resistant depression (Brent et al., 2008) or the more complex comorbid participants in the ADAPT study (Goodyer et al., 2007)

Other Somatic Treatments for Child or Adolescent Depression

Exercise

"Exercise" refers to planned, repetitive, and purposeful physical activity intended to maintain or improve fitness (Carter, Morres, Meade, & Callaghan, 2016). The literature on exercise for depressive symptoms in children and adolescents has been reviewed several times within the past decade. In a Cochrane database review, Larun, Nordheim, Ekeland, Hagen, and Heian (2006) reviewed 16 studies involving children or adolescents. Five general population studies comparing exercise to no intervention found a significant difference favoring exercise in reducing depression scores but were judged to be of low methodological quality. One study of a treatment sample showed no significant effect. Two studies that compared vigorous to low-intensity exercise for the general population and two studies with clinical samples showed no differential effect. Nor did such a differential effect emerge in comparisons with psychosocial treatment in two community studies or two clinical studies. Overall, the effect of exercise appeared to be small but positive; however, the evidence base was too limited and heterogeneous to support any conclusion.

Brown, Pearson, Braithwaite, Brown, and Biddle (2013) conducted a meta-analysis with nine studies of exercise in 5- to 19-year-old subjects, only five of which were randomized controlled trials. None could be accurately described as a depression treatment study. Overall, these authors reported a statistically significant but small effect of exercise.

In the most recent and most clinically relevant review, Carter and colleagues (2016) conducted a meta-analysis of nine randomized controlled trials with adolescents, in which exercise was compared to a variety of control conditions, including wait list/no treatment, TAU, or attention control. Overall, exercise had a moderate, statistically significant effect on depression symptoms; this was also the case when focusing only on five of the nine studies that had exclusively clinical samples As an example, Hughes and colleagues (2013) tested an aerobic exercise protocol against a low-intensity stretching condition with 30 nonmedicated adolescents with mild to moderate MDD. Mean depression scores improved in both groups, with no difference at the end of the 12-week intervention; however, during treatment, exercise led to faster reductions at Week 6 and at Week 9.

To date, most exercise studies for treatment of depression have been limited by relatively small sample sizes. Meta-analyses have come to discrepant conclusions, but there is some evidence supporting effects of exercise on depressive symptoms in clinical samples. Methodologically strong trials with larger sample sizes are needed to strengthen conclusions about the effectiveness of exercise, and particularly to identify optimal types and intensity. In addition, more work is needed to determine whether exercise can enhance response to evidence-based psychosocial treatments.

Light Therapy

Light therapy, a treatment for depression in adults whose depression has a seasonal pattern, has been investigated in a few youth depression studies. Issues including the intensity of the bright light, the time of day used for light exposure, and whether to couple bright light exposure with other sleep cycle-related interventions are technical details that vary across studies and are beyond the scope of this brief review. To our knowledge, the first light therapy study with children was conducted by Sonis, Yellin, Garfinkel, and Hoberman (1987), who found it more effective than relaxation training for five children with seasonal affective disorder. Swedo and colleagues (1997) enrolled 28 children and adolescents (ages 7–17 years) with seasonal affective disorder in a double-blind, placebo-controlled, crossover trial of light therapy. Active light therapy was 1 hour per day of bright light in the afternoon plus 2 hours of dawn simulation in the morning for 1 week. The placebo condition was 1 hour wearing clear goggles plus 5 minutes of low-intensity dawn simulation per day. The light therapy regimen surpassed the placebo condition

in reducing depression symptoms by parent report, with a similar trend by child report.

Niederhofer and von Klitzing (2012) completed a randomized crossover study of bright light therapy versus low-intensity light with 28 adolescents (ages 14–17 years) with mild (nonseasonal) depressive disorder (D-NOS), who were also free to continue receiving psychotherapy and/or antidepressant medication during the 5-week trial. Active treatment led to modest but statistically significant reductions in depression.

Two studies have been conducted with moderately to severely depressed adolescent psychiatric inpatients concurrently receiving multimodal intervention but not medication. Both included a 2-week comparison of bright light versus dim light exposure five mornings per week. Both studies showed not only no difference between conditions at the end of treatment, but also that the bright light group had more continued improvement at 2- or 3-week follow-up (Bogen, Legenbauer, Gest, & Holtmann, 2016; Gest et al., 2016). In both studies, the effects were very modest, suggesting that light therapy may have a role as an adjunctive treatment.

Repetitive Transcranial Magnetic Stimulation

Repetitive transcranial magnetic stimulation (rTMS), an FDA-approved intervention for adult MDD, has begun to be applied to adolescents. It involves inducing electrical current in the left dorsolateral prefrontal cortex through a noninvasive mechanism: repeated alternating magnetic pulses delivered with a magnetic coil. rTMS is used for treatment-resistant depression in adults, thus warranting a review of its efficacy in adolescents. Donaldson, Gordon, Melvin, Barton, and Fitzgerald (2014) summarized the results of seven rTMS studies for youth depression. None were randomized controlled trials; rather they included an open-label pilot study, a case series study, or a single case. The latter was a report of one case in which treatment had to be discontinued due to a serious side effect (a seizure). Other sample sizes ranged from two to nine, with one study of 25 subjects that targeted Tourette syndrome with depressive symptoms as a secondary outcome. Number of treatment sessions in the studies varied from 10 to 30, across 2–8 weeks. Aside from the discontinued treatment case report, all six studies reported improvement in depression scores in some or all of the study subjects. Most side effects involved transient mild headache or scalp discomfort. The authors concluded that rTMS has promise as an effective treatment.

Most recently, Wall and colleagues (2016) treated 10 adolescents with treatment-resistant MDD who were currently receiving antidepressant medication and who had no recent changes in psychotherapy. Localization of the rTMS coil was guided by magnetic resonance imaging. Thirty rTMS treatments were delivered 5 days per week over 6–8 weeks. Six of the 10 participants were rated as treatment responders; three dropped out of treatment. Average depression scores were severe at baseline and reduced to mild by Session 30, with retention of benefit out to 6-month follow-up. The most common adverse event was transient scalp discomfort. As noted by Donaldson and colleagues (2014) and Wall and colleagues, larger studies and randomized controlled trials are needed before any conclusions can be reached about rTMS efficacy for adolescent MDD.

Description of Well-Established Psychotherapies

The Therapeutic Relationship

In this section we describe key aspects of the two psychotherapies that are considered well established for treatment of adolescent depression. Implementation of any evidence-based psychotherapy requires a therapeutic relationship. The therapeutic relationship provides the context in which the more technical components of the specific treatment can be implemented. Beck, Rush, Shaw, and Emery (1979) emphasized the need for the therapist to create an atmosphere in which the client feels accepted and free to express thoughts and emotions. Shirk, Karver, and Brown (2011) noted that the therapeutic relationship requires an emotional bond, a shared agreement on the goals of the treatment, and a shared understanding of the nature of the work that will be involved in the treatment. Clinical work with children and adolescents requires a working alliance with the adolescent and a parallel relationship with the parent(s). Hawley and Weisz (2005), in a community clinic study of youth with a variety of presenting problems, showed that the working alliance with the youth predicted symptomatic improvement, whereas the alliance with the parent predicted more consistent attendance at treatment sessions, greater family participation, and greater agreement on when to terminate treatment. With specific reference to adolescent depression, Shirk, Gudmundsen, Kaplinski, and McMakin (2008)

measured the therapeutic alliance after the third treatment session in a manual-guided CBT. The adolescent report of the alliance was significantly related to treatment outcome, whereas the therapist's report of the alliance was associated with the number of treatment sessions subsequently completed. The overall correlation between alliance and outcome was modest but significant (r = .26).

Interpersonal Psychotherapy for Depressed Adolescents

Interpersonal psychotherapy for adolescents (IPT-A) is based on the interpersonal theory of depression, situating depression in the context of significant relationships. This theory does not assume that relationship problems are necessarily the cause of depression, although that is one possibility; rather, it focuses more broadly on how depression is maintained by such problems. In what follows, we rely on a chapter by Mufson, Verdeli, Clougherty, and Shoum (2009) describing how to use IPT-A.

In addition to a family, psychiatric, and developmental history, assessment to determine whether an adolescent is a good candidate for IPT-A includes assessing the depressive episode and any events that seemed to trigger it, including significant interpersonal losses (e.g., death of a parent), disruptions (e.g., relationship breakup), or transitions (e.g., moving to a new school). A course of IPT-A includes approximately 12 weekly sessions and proceeds in three phases. Each session includes mood monitoring through self-report of depression symptoms, including suicidal ideation or events, or through a global mood rating. In the early phase of IPT-A, session content includes psychoeducation about depression, conveying to the adolescent and parent that depression is a medical illness. This leads to assigning the "limited sick role" to the adolescent and explaining to adolescent and parent that to some extent the adolescent is not currently able to fulfill all aspects of the typical adolescent role, such as working to full academic potential or engaging in a full range of social activities. The expectation is conveyed that these areas will improve as the adolescent's mood recovers. The interpersonal model of depression is also explained to the adolescent and parent, conveying hope for improvement as the adolescent becomes better able to cope with relationship challenges or changes. An interpersonal inventory is completed with the adolescent to obtain a comprehensive view of the important relationships in the adolescent's life, and how conflict or problems in any of them may be contributing to depression, and what changes the adolescent may want in any important relationships.

In the middle part of IPT-A, the therapist works with the adolescent on one or two key problem areas that have been identified early in treatment, from a set of four possible categories: grief, interpersonal role disputes, role transitions, and interpersonal deficits. *Grief* refers to the death of a significant person or a pet; *role disputes* are conflicts or disagreements; *role transitions* include significant life changes, whether positive or negative; and *interpersonal deficits* are skills deficits reflected in social isolation and difficulty forming relationships. The IPT-A therapist helps the adolescent learn how to express emotions, expectations, and hopes related to the problem area. Similar to CBT, IPT-A may include training in communication skills and problem solving.

In cases involving grief, the therapist helps the adolescent to express emotions about the loss, along with the range of emotions and memories in the context of the adolescent's relationship with the deceased. This is followed by work on developing new relationships or sources of support after the loss. In cases of role disputes, the therapist may help the adolescent to review interpersonal expectations and any contributions the adolescent may be making to the conflict. An emphasis is likely to be placed on communication, problem-solving, and negotiation skills. Work with role transitions is similar to grief work in several ways: accepting the loss of the old role, then developing new relationships or sources of support. Helping the adolescent to see what has been lost and what has been gained in the transition is another component of the treatment in this area. In the fourth area of interpersonal deficits, following a review of any similar past experiences of isolation, IPT-A emphasizes social skills training to enable the adolescent to form new friendships.

The final phase of IPT-A includes continued work on the problem areas that were the focus of the middle phase, along with a review of changes in the adolescent's mood and interpersonal problems since treatment began. There is an emphasis on helping the adolescent to see what he or she contributed to positive change. Review of progress with parents and any impact on the family are included during this phase. Relapse prevention in IPT-A is similar to that in CBT: becoming aware of any factors that may increase risk for future depression, and of what skills the adolescent can use when these occur. Feelings about ending the treat-

ment are discussed, along with the possibility for future treatment if problems recur.

Cognitive-Behavioral Therapy

CBT has its roots in learning theory, the branch of psychology that investigates how humans (and other organisms) learn, unlearn, and relearn how to respond under various conditions. "First-wave" behavior therapy emphasized basic learning processes of classical and operant conditioning, or learning by association and learning by reinforcement. Elements of CBT for youth depression, including BA and relaxation training, are "first-wave" methods. BA is designed to reignite the process and experience of positive reinforcement, including social reinforcement, on the assumption that depression is being maintained by a lack of such reinforcement. Relaxation training reduces physiological arousal that interferes with exploring and learning new ways to respond.

CBT is mainly, however, a product of the "second wave" of behavior therapy, which emphasized social learning processes such as learning by observation, imitation, modeling, and social reinforcement; and emphasized cognitions as mediating processes and learned products. Lewinsohn's CBT for depression emphasizes not only BA but also increasing social interactions, improving social skills, communication skills, and social problem solving, and learning to counter negative, depressing thoughts with more realistic counterthoughts (Clarke, Lewinsohn, & Hops, 1990).

In Beck's cognitive therapy model (Beck et al., 1979), there is an emphasis on cognitions such as automatic thoughts, dysfunctional attitudes, and core beliefs. If an adolescent is ignored by some peers at a social event, this experience could trigger automatic thoughts such as "Nobody likes me." In turn, this automatic thought may be interpreted through the lens of a dysfunctional attitude (a maladaptive if–then belief) such as "Unless everyone likes me, I cannot be happy," in turn confirming a core negative belief, such as "I am unlovable." CT seeks to discover the cognitions that are causing or maintaining depression, then help the adolescent modify them in a more realistic and adaptive direction. A kind of behavioral activation, activity scheduling, can be used to counter depressive passivity, but more importantly, to uncover depressive thoughts. Both first- and second-wave therapies, then, may be viewed as oriented toward overcoming depression by helping adolescents to change the behaviors and thoughts that maintain it.

"Third-wave" therapies, such as dialectical behavior therapy (DBT) and ACT, include aspects of first- and second-wave treatments, but place relatively greater emphasis on acceptance (as compared to change) or on the dialectic between acceptance and change. They emphasize emotion regulation, distress tolerance processes, mindful awareness, and openness to experience.

Most of the current evidence supporting the efficacy of CBT for adolescent depression is from interventions based in the first and second waves of behavioral therapy. A number of previous authors have delineated the specific components of successful CBT for youth depression. Kazdin and Weisz (1998) and Kaslow and Thompson (1998) noted that such interventions included BA, social skills training, problem solving, reducing physiological tension, and identifying and modifying depressive cognitions. In a more recent article, McCarty and Weisz (2007) reviewed effective models of CBT and IPT, and found that an emphasis on achieving measurable goals (thus promoting a sense of competency), on self-monitoring, and on learning relationship skills, along with psychoeducation for the child, were very common techniques included in effective depression treatments. BA and cognitive restructuring were core elements of CBT across effective models, with problem solving and relaxation training often, but not universally, included. Surprisingly, psychoeducation of the parent(s) was not often included in the treatment packages they studied.

The Structure of CBT Sessions

CBT assumes that learning will take place both within and between sessions. Consequently, part of almost every session is typically devoted to learning or practicing a skill that addresses the target problem. In addition, most sessions include creating "practice" assignments to complete before the next session and a review of the agreed-upon practice assignment at the previous session. The beginning of each session includes a check on the adolescent's current and recent mood, monitoring of any suicidal or harm-related thoughts or actions, review of the practice assignment, and collaboratively setting an agenda for the session. Across sessions, the therapist should check on how the adolescent is doing in pursuit of the treatment goals. The agenda for a given session may include topics or issues that the adolescent wants to discuss and work on, as well as any specific skills training that the therapist wishes to introduce or review. A key

challenge in CBT is for the therapist to balance skills training with the supportive and expressive aspects of psychotherapy. A consistent session structure, as well as attention to the therapeutic relationship, may help in this regard.

The Sequence of CBT Sessions

In Table 6.2, we present an example of typical sequencing within CBT for adolescent depression. However, the therapist should retain the flexibility to rearrange the order in which the component skills of CBT are addressed, and to focus more extensively on certain components than on others, depending on the needs of the specific adolescent and the case formulation. The outline begins with a thorough assessment of depression, possible comorbid conditions, and relevant cognitive and behavioral treatment targets to enable the therapist, adolescent, and parents to develop a shared understanding of the adolescent's depression.

Psychoeducation, Goal Setting, and Safety Planning

At the beginning of treatment, the therapist relates the treatment (CBT) to the adolescent's problem (depression). Even though some CBT approaches do not seem to emphasize it, we recommend including parents in the psychoeducation as a matter of course: At a minimum it enhances the alliance with the parents, and it may help the parents to understand and support the adolescent in implementing therapeutic change. The essence of psychoeducation is to explain the CBT model of depression and the ways that CBT will address the depression. For example, the therapist can use Lewinsohn's triangular schema of depression affecting thoughts, behaviors, and affect (emotion), resulting in a downward spiral, then explain that CBT will help the adolescent to improve emotions (upward spiral) by helping the adolescent learn new ways to behave and think when faced with stress. More cognitively oriented CBT therapists can place greater emphasis on the information-processing model of depression and the importance of identifying and modifying depressive cognitions.

Setting goals appears to be an essential element of effective treatment, regardless of modality. The therapist can elicit the adolescent's goals by asking how the adolescent would like things to be better; what would be different if the treatment works; or what changes he or she would like to see in family life, school, or relationships with peers. Once goals have been articulated, the therapist can help the adolescent to break them down into subgoals that are smaller, more observable, and more quickly attainable. This in itself represents an important skill. The therapist then monitors progress toward goals at opportune times during treatment.

Suicidal ideation is a frequent symptom of adolescent depression, and the therapist needs to be sensitive not only to fluctuations in ideation but also to the risk of any suicidal behavior. For that reason, safety planning should be conducted

TABLE 6.2. Core Components of CBT for Adolescent Depression

Session	Component
Pretreatment	Complete assessment of depression diagnosis and severity, functional impairment, comorbid diagnoses, and potential treatment targets
Session 1	Review of assessment results; psychoeducation for adolescent and parents about depression and CBT; treatment goal setting; safety plan for suicidal ideation or behavior
Session 2	Mood monitoring; explore changes in mood; provide a rating scale or emotions thermometer; introduce daily mood monitoring
Session 3–5	Behavioral activation; explore the link between activities and mood; use pleasant activity or valued activity scheduling; establish a baseline and set a target for increased activity; explore possible barriers to success
Sessions 6–8	Problem solving; identify problems and assessing whether they can be solved (vs. accepted) by the adolescent; relaxing, brainstorming possible solutions; evaluating and choosing a solution to attempt; self-reinforcement and encouragement
Sessions 9–11	Cognitive restructuring; explore the link between thoughts and mood; identify depressing thoughts and their patterns; Socratic questioning; realistic counterthoughts; build positive self-schema
Sessions 12–18	Supplemental components tailored to the individual and/or parents; relapse prevention planning: review of helpful skills; anticipate future challenges; anticipate steps to take if symptoms recur

with depressed adolescents at the outset of treatment. We recommend the approach developed by Stanley and Brown that was used as part of a comprehensive suicide prevention approach in the Treatment of Adolescent Suicide Attempters (TASA) study (Stanley et al., 2009). A safety plan comprises a set of coping responses and a network of possible sources of social support on which to rely in the face of increased suicidal ideation or urges. The plan moves from individual (internal) coping responses to responses that involve seeking support, and also includes restriction of any means that might be used in an attempt. Further details are included in the article by Stanley and colleagues (2009) referenced earlier.

Once psychoeducation, goal setting, and safety planning have been addressed, CBT moves into strategies for behavioral and/or cognitive change. In this chapter, we emphasize three of the strategies that seem most relevant to the treatment of adolescent depression: BA, problem solving, and cognitive restructuring. Prior to introducing these strategies, however, it is necessary for the adolescent to learn a method of self-monitoring, so that both the adolescent and therapist can determine how the change strategies are working.

Mood Monitoring

A rating scale may be used to help adolescents attend to and evaluate their current or recent mood. For example, using a 0–10 range, the therapist can ask the adolescent to recall a recent circumstance when he or she felt extremely sad, depressed, or empty (a "0") and one in which they felt great or extremely happy (a "10"). If recent experiences fail to yield examples, then the therapist can inquire about past experiences associated with very high or low mood. Exploring other recent circumstances, events, or interactions with the adolescent can then lead to several intermediate ratings between these extreme points. With younger adolescents, a rating scale might be replaced by an "emotions thermometer" depicting degrees of positive versus negative mood in a pictorial form. Over the course of CBT, the adolescent learns to attend to and monitor mood, to link mood with behaviors, and then with negative or positive thoughts.

Behavioral Activation

In one form or another, BA is a component of every depression treatment approach in the CBT framework, with somewhat different emphases in the more behavioral versus the more cognitive models. From a behavioral perspective, the key skill for a depressed person to learn is that engaging in activities, especially those that are enjoyable, social, and/or in line with the individual's goals, independent of mood state, is a powerful tool to counter depression. The relevance of mood state is that these activities can be effective whether or not the person is "in the mood" to engage in them. Below we discuss BA from the perspective of a more behavioral model.

Behavior, cognition, and affect are three reciprocally influential factors in depression and recovery. For example, a depressed adolescent may withdraw from usual social activities, thus reducing the opportunities to experience enjoyment (positive reinforcement) in the company of friends, and risking social neglect or rejection. Reduced behavior may also occur in the school context, in the form of not completing assignments. This would likely lead to declining grades, a form of punishment. Successful treatment involves interrupting and reversing such processes.

The CWD-A (Clarke, Lewinsohn, & Hops, 1990) includes BA in the form of pleasant activity scheduling. After learning daily mood monitoring, adolescents select a set of activities they enjoy, used to enjoy, or might enjoy, then create a baseline of how many of these activities they have recently done. For depressed adolescents, the number is typically low. Adolescents then work with the therapist to set a target of how many they will do in the coming week. This constitutes an agreement or contract that the adolescent essentially makes with him- or herself. A final step is to select a self-reward for contract completion, which may be a particularly reinforcing activity or a tangible reward.

Selecting target pleasant activities can be accomplished in a number of ways. The adolescent may be asked to complete a pleasant activities schedule, a detailed list of activities that people frequently enjoy. Alternatively, the adolescent may be asked to generate potential activities with questions probing what he or she might enjoy as social activities, success or achievement activities, or solitary activities. The therapist should help the adolescent to generate about 10 potential activities, and work with the adolescent to ensure they are feasible, as well as truly active and not harmful. Feasibility is assessed in terms of whether the adolescent can actually do the activity without requiring a good deal of cooperation from others. Activities that fail the "active" criterion include sleeping, and those that involve potential harm include substance use.

After having generated about 10 activities, the therapist works with the adolescent to select a smaller number of activities that can serve as targets to increase over the following week. The adolescent is asked to complete, on a daily basis, a chart including the activities completed each day, and an overall mood rating for the day. At subsequent sessions, the therapist reviews with the adolescent his or her progress in carrying out these activities and the association between doing so and his or her daily mood. The adolescent can see how well he or she attained the goal number of events, and what challenges arose, including negative, depressive thinking. As treatment progresses, the number of pleasant activities can increase and the process is repeated.

As noted earlier, McCauley and colleagues (2016) recently tested an adolescent BA program as a comprehensive treatment for depression. In this model, BA is not identical with increasing pleasant activities, but is expanded to include value-congruent activities. An individual case conceptualization and a functional analysis guide the treatment. As adolescents learn the skill of BA, the distinction is made between goal-directed and mood-directed activities. They are guided to engage in activities according to their short-term and long-term goals, and not according to how they feel in the moment. Thus, goal setting is an integral part of the treatment. Other components are problem solving, identification of barriers to being active, and overcoming avoidance. Frequent barriers consist of mood-dependent behaviors, which are likely to be more passive and avoidant.

In this model, at least four (of about 14) sessions are designated as practice and application sessions, in which previously introduced skills can be practiced without the need to introduce new skills. In addition, even though the model is primarily behavioral, an allowance is made to deal with cognitive barriers such as rumination (McCauley, Schloredt, Gudmundsen, Martell, & Dimidjian, 2011). Regardless of the specific model of BA, in the course of implementation, therapist and adolescent also engage in problem solving, and likely in identifying and working to modify negative cognitions.

Problem Solving

In his model of depression, Nezu (1987) proposed that effective problem solving enhances perceived competence and a sense of personal control. Problem solving involves a systematic approach whereby a problem is identified and approached (not avoided), and potential solutions are generated and then evaluated, so that relatively more effective solutions can be implemented. This can serve to counter both hopelessness and counterproductive rumination, as well as the low levels of perceived control and competence that are characteristic of depressed adolescents (Weisz et al., 1989). By contrast, ineffective problem solving raises the likelihood of decreased positive reinforcement, decreased motivation, and increased social problems.

Problem solving is incorporated into all of the major models of CBT for adolescent depression (Brent et al., 1997; Clarke et al., 1999; TADS Team, 2004) and has proved to be an effective component in TORDIA (Kennard et al., 2009). It is likewise a key component of the recently developed A-BAP (McCauley et al., 2016).

Using the triangle of affect, behavior, and cognition, the therapist can explain problem solving as a method that includes both cognitive and behavioral aspects. The cognitive aspects are problem recognition, solution generation, and solution evaluation. The behavioral aspects consist of actively addressing a problem and trying out potential solutions. In this sense, problem solving increases both cognitive and behavioral flexibility.

The therapist can also help the adolescent to determine the circumstances under which active problem solving (primary control) versus cognitive restructuring (secondary control) makes most sense. Accepting and adapting to a chronic illness, for example, enhances secondary control in a circumstance in which primary control is not possible. While introducing problem solving, the therapist must also attend to the affective side of the personality triangle. Attempting to utilize problem solving when the adolescent is not emotionally ready is a recipe for failure. It is necessary to allow adolescents time to "vent" in response to problems that are perceived as unfair, frustrating, or attributable to the misguided efforts of parents or other authority figures.

The systematic approach to solving problems, which is typically emphasized as a skill in CBT, is referred to as rational problem solving. Other relevant aspects of the problem-solving construct are problem orientation and style. Positive problem orientation is similar to perceived competence, reflecting the belief that when the person encounters a problem, he or she believes it can be resolved. Negative problem orientation, by contrast, reflects less hopefulness and lower perceived competence, resulting in greater likelihood of giving up when

faced with a problem. Two problem-solving styles are also potentially important to assess and address in treatment. An impulsive problem-solving style, as the name suggests, is one marked by quick, nonreflective responses. An avoidant style is one in which the individual does not deal actively with the problem, but puts it out of mind. Becker-Weidman, Jacobs, Reinecke, Silva, and March (2010) studied problem solving in the TADS sample. They found that negative problem orientation and avoidant style before treatment predicted greater depression after treatment regardless of treatment modality (fluoxetine, CBT, or combined treatment). Positive problem orientation, by contrast, predicted lower levels of depression regardless of treatment. Both avoidant and impulsive style at baseline predicted higher levels of suicidal ideation at the end of treatment. Of particular interest to CBT therapists, all three treatments were equally effective in reducing suicidal ideation in adolescents with high levels of negative problem orientation. With less negatively oriented adolescents, however, CBT was most effective in reducing suicidal ideation. Thus, problem orientation, problem-solving style, and rational problem solving may all need to be addressed in CBT for adolescent depression.

The therapist can introduce problem solving with reference to a problem that the adolescent has brought up in treatment, explaining that it as a general way to cope with problems. Whether to begin implementing problem solving with one of the adolescent's problems depends on the degree of difficulty the therapist expects the problem to present. If the adolescent is highly upset about the problem, it is better to practice the problem-solving steps initially with an example that does not come from the adolescent's current direct experience. This could include past problems that were successfully resolved, problems experienced by one of the adolescent's peers, or problems depicted in TV shows or movies. We have also used realistic or representative adolescent problems written in fictional advice-seeking messages for this purpose.

The therapist uses didactic instruction, modeling, and role playing to demonstrate effective problem solving. Across various treatment manuals, CBT therapists have used different acronyms (or no acronym) to help the adolescent remember the steps of the problem-solving approach.

We use the RIBEYE acronym for this purpose. This acronym begins with Relax because it is much harder to solve problems when intense emotions are getting in the way. It may even be necessary at this point for the therapist to help the adolescent learn how to relax before proceeding further.

The second step is to Identify the problem, then to Brainstorm possible solutions. Frequently it is difficult for adolescents to brainstorm without quickly judging or negating options. Thus, they must Evaluate each possible solution in a separate, subsequent step. To fit into the acronym, we use "Yes" to represent choosing one possible solution to try out. Although most problem-solving models follow this point with another evaluative step, in the case of depressed adolescents the evaluative skill is sometimes overdeveloped. For that reason, we prefer that the last step in the RIBEYE method should be to Encourage oneself for having completed this process. After the potential solution is tried, there will be opportunity to evaluate it in subsequent sessions.

After completing one or more problem-solving exercises in the session, therapist and adolescent can collaboratively identify a problem to be addressed before the next session. As treatment progresses, problem solving should be applied frequently to ensure the adolescent's incorporation of this basic and broadly generalizable skill.

Cognitive Restructuring

"Cognitive restructuring" generally refers to changing the way we think about or interpret events. Cognitive restructuring emphasizes enhanced flexibility in cognitive–perceptual processing. In the treatment of depression, cognitive restructuring is typically introduced after the more behaviorally focused treatment strategies. Different CBT therapists have different opinions about how early in treatment the adolescent's depression-related thoughts should be challenged. Early work by Wilkes and Rush (1988) advised not challenging the adolescent's point of view too early because of the difficulty young people may have in gaining some distance from or perspective on their own thinking.

In addition to the question of timing, the CBT therapist needs to decide how directive to be during cognitive restructuring, or conversely, how much to rely on the adolescent to generate new ways of viewing stressful events or situations. Among the approaches to cognitive restructuring in the adolescent depression CBT literature, both more structured and less structured methods have been represented in successful interventions. Brent and colleagues (1997) followed a CT model in which more nondirective Socratic questioning

was emphasized. Lewinsohn and colleagues (1990) used a more structured approach, in which adolescents could be provided more realistic counterthoughts after they had identified their depressive thoughts in reaction to triggering events. These differences reflect somewhat different theories about cognition and depression. The CT model assumes that thinking that is closer to the surface reflects deeper beliefs that require more time to identify and modify. The more behavioral model views nondepressive thinking as a skill in itself. In practice, the therapist may decide how to approach cognitive restructuring based on individual differences in the degree to which a given adolescent is able to engage in and benefit from less structured Socratic questioning.

The key concept for the adolescent to learn and then implement through this strategy is that changing the way he or she thinks about a situation or event is a powerful way to combat depression. Referring back to the initial triangle model of depression, the therapist can use examples that the adolescent has already brought up in treatment to show how depressing thoughts are linked to depressed affect, and how changing the thoughts might lift mood and increase active coping.

When cognitive restructuring is introduced as a strategy or skill, the initial step is to help the adolescent see that there is almost always more than one way to look at a given situation or problem. We prefer to ask the adolescent to identify two or more emotions he or she might have in a particular situation, then to point out that the different feelings are linked to different ways of looking at the event. Next the therapist can work with the adolescent to identify negative thoughts that occur in reaction to real events and in the "here and now" of the treatment session. These become the target for cognitive restructuring.

Negative automatic thoughts can be probed using classic questions, such as "Is there any other way to look at it?"; "What is the evidence for and against that thought?"; or "What are the advantages and disadvantages of believing that thought?" As alternative thoughts are generated, their impact on the adolescent's emotions can be related to mood monitoring. As adolescents are able to benefit from this type of Socratic questioning, treatment can proceed to identify patterns of negative thoughts as reflections of dysfunctional attitudes and core beliefs.

Probing negative thoughts during treatment may unearth consistent interpretive barriers or blinders ("dark sunglasses") such as all-or-none thinking, discounting the positive, unrealistic self-blaming, or always expecting the worst outcome. Noting and labeling these patterns can significantly aid generalization during cognitive restructuring.

A somewhat more directive approach to cognitive restructuring, used in the CWD-A course, is to link a mood change to a triggering event, identify the associated thought, then select a "realistic counterthought" that will be associated with better mood. In the original CWD-A (Clarke et al., 1990), adolescents were provided a list of possible realistic counterthoughts, an approach that may be very helpful for adolescents who have more difficulty generating these on their own. There is no essential conflict between the more and less structured approaches, and therapists using the CWD-A model can readily help adolescents to learn the kinds of questions to ask in order to generate their own modified thoughts.

In addition to modifying depressive thoughts, cognitive restructuring can focus on increasing access to positive thoughts, particularly regarding the self-schema (Stark, Curry, Goldman, & the Integrated Psychotherapy Consortium, 2004). A relatively more differentiated and complex self-schema can serve as a protective factor against depression because it enables the adolescent to balance failure or loss in one domain against positive experiences in other domains of the self-schema. Self-mapping across several treatment sessions can be used to build up the self-schema. The mapping includes multiple roles and areas of the adolescent's life (e.g., as a student in school, as a team member in sports, as a friend in a peer group, as a child or sibling in a family). The adolescent is asked to identify and write down positive aspects of the self in each of these roles, including any that generalize across domains. Over the course of treatment, the map can be further developed and differentiated.

Supplemental Social, Emotion Regulation, and Family Interaction Strategies

An understanding of the individual case is likely to indicate factors contributing to the adolescent's depression, in addition to those addressed by BA, problem solving, and cognitive restructuring: Social isolation or interpersonal ineffectiveness, difficulty regulating intense anxiety or controlling impulses, or problematic family interaction patterns represent three sets of such factors. Treatment sessions focused on these additional factors

can be viewed as supplemental components. An outline of supplemental strategies is included in Table 6.3.

Basic social skills training is part of the CWD-A program (Clarke et al., 1990), which is implemented in adolescent groups. These skills include making eye contact, appropriate self-disclosure, showing interest and friendliness in peer interactions, meeting new people and initiating conversations, joining and leaving a group conversation, and nonverbal communication. More complex social skills are also included, such as active listening, avoiding judgmental responses, expressing positive and negative emotions, assertion, and interpersonal negotiation. These treatment elements can be adapted for individual CBT and practiced using role-play rehearsals and between-session assignments.

Many depressed adolescents have comorbid problems related to emotional or behavioral self-regulation. For example, depressed adolescents may also experience intense anxiety or demonstrate nonsuicidal self-injury under stressful circumstances. Relaxation methods are often used in treating depressed adolescents and may be coupled with graduated exposures when dealing with social anxiety. For adolescents with self-harm behaviors, an action plan can be constructed that is similar to a safety plan for suicidal adolescents. Such a plan might include self-monitoring to increase awareness of shifts toward more intense affect, personal actions to take to reduce distress (e.g., pleasant or self-soothing activities), and interpersonal actions for the same purpose (e.g., contacting supportive family members or other adults). When nonsuicidal self-injury is a major component of the adolescent's presenting problem, however, a DBT approach may prove more helpful than traditional CBT (Rathus & Miller, 2014).

Finally, parent–adolescent interactions may need to be addressed in CBT for depressed adolescents, particularly if the clinical picture suggests that excessive parental criticism, low levels of positive parent–adolescent interaction, poor communication, or inability for parent and adolescent to work together to resolve relationship problems seem to be driving or maintaining the depression.

TABLE 6.3. Supplemental Components of CBT for Adolescent Depression

Adolescent sessions	
Emotion regulation	Relaxation methods; mindfulness; coping plan for dealing with intense or self-destructive urges; incorporation of skills from dialectical behavior therapy
Social engagement	Basic social skills to increase peer interactions
Communication	Active listening skills; expressing positive and negative emotions; assertion
Family or parent sessions	
Family communication	Increasing positive parental communication to adolescent; decreasing hostile or critical parent–adolescent communication
Family problem solving	Generalize problem-solving skill to parent–adolescent conflicts
Parental engagement	Rekindle parental attachment and concern for adolescent

Case Description and CBT Session Transcript

Bryan (a composite subject) is a 14-year-old European American male who presented to the clinic with symptoms of depression and increased verbal conflict with his parents and younger sister. He had been depressed for about 4 months, and the depression was precipitated by an injury that interfered with his ability to play competitive baseball. His symptoms included irritability, listlessness, hypersomnia, and weight gain, as well as withdrawal from friends, decreased school performance, and having become more oppositional at home. Bryan expressed some suicidal ideation during the most intense arguments with his parents but did not have suicidal intent, plans or behavior. He played on a competitive baseball team prior to his injury. His teammates were an important social group, but he had lost touch with them, having decided it was "pointless" to go to practices while injured. By the time he began treatment, he had been cleared to return to an active role in practice, but he feared he would not be good enough.

The following transcript is from his third session with the therapist. Previous sessions included meeting with Bryan and his parents, psychoeducation about depression and CBT, goal setting, and helping Bryan to learn how to monitor his mood. Portions excerpted from this session include a brief review of mood monitoring, then work on increasing pleasant activities.

Beginning of Session

THERAPIST: How are you doing, Bryan?

BRYAN: I'm fine.

THERAPIST: How's your mood been over the last week?

BRYAN: It's been fine. I mean, not great but fine.

THERAPIST: OK. What's been going on for you?

BRYAN: Not much. Pretty much hanging out around the house all day every day—not much to do.

THERAPIST: Did you get out and about at any point?

BRYAN: Yeah. On Saturday, my parents insisted on what they called a "family day," which really just meant lunch out and a trip to the mall for my mom and sister to shop. I just wasn't in the mood. They wouldn't let me stay home though. I got through it as best I could.

THERAPIST: How'd you do that?

BRYAN: Well I had my headphones in whenever I could. If I am forced to be at the mall, music makes it nearly tolerable. We're doing this "family day" all over again this coming weekend, which I'm sure won't be any better.

THERAPIST: Wow, you really seem to anticipate that spending time with your family won't be any fun, that the future will be as negative as the past.

BRYAN: Well, yeah. Most days are kind of "blah," but having to go to the mall added an extra dose of annoying. My parents are constantly checking in, asking me how I'm feeling. I wish they would just leave me alone.

THERAPIST: Did you notice yourself feeling down or irritable even before you started to spend time with your family?

BRYAN: Umm, yeah I guess. But they just make it worse.

THERAPIST: I see. What I'm hearing is you were feeling down before you even went out. I'm wondering if we can practice a skill we talked about last week. Do you remember talking about the emotions thermometer?

BRYAN: Yeah.

THERAPIST: So you remember that a rating of 0 is the most depressed you've ever been and a rating of 10 is the happiest you've ever been. So, how down were you right after you woke up on Saturday morning?

BRYAN: Probably like a 5.

THERAPIST: What happened during the morning?

BRYAN: Not much, just hung around the house.

THERAPIST: And how were your emotions right before you left for lunch?

BRYAN: Probably still a 5.

THERAPIST: So about the same. And how did you feel after you finished lunch?

BRYAN: A little better—like a 7. We went to a place I liked, for once.

THERAPIST: Nice. And then how about after you went shopping with your mom and sister?

BRYAN: I got more grumpy; maybe like a 3. I was tired and it took too long for them to decide on what they wanted.

THERAPIST: OK, what I'm hearing is that even though you were feeling down during most of the day, your mood changed based somewhat on what you were doing.

BRYAN: Kind of. It still wasn't a great day, but I guess it got a little better when we went out to eat.

THERAPIST: Thanks for walking me though your day. Paying attention to your mood in connection with what you're doing will be very important for the skill we are discussing today.

The therapist proceeds to reviewing the teen's previous week, checking to see how he did on any homework practice from the last session, and asking what things he would like to talk about in the session. The therapist also adds to the session agenda, in this case, by explaining that one way to improve mood is to increase involvement in pleasant activities. We pick back up in the part of the session in which the therapist and Bryan transition to discussing that skill.

Increasing Pleasant Activities

THERAPIST: Today we are going to practice another new skill. It builds on the one we just went over, monitoring your mood to see how it connects with what you are doing. This new skill involves becoming more active, especially by doing things that are, or could be, enjoyable. I think this is going to helpful for you, based on what you were telling me earlier that there isn't much to do around your house.

BRYAN: OK.

THERAPIST: Do you remember that we talked about the triangle of behavior, thoughts, and emotions?

BRYAN: Yeah.

THERAPIST: That's great. What do you remember about it?

BRYAN: It means thoughts, feelings, and behaviors often all go together.

THERAPIST: You got it. And that triangle applies to this skill as well. The thing about depression, which you have experienced, is that it often means feeling irritable and down; then we usually are not doing as many active, enjoyable activities. It sounds like you may have been doing this recently. You've stopped being involved with your baseball team, and you mentioned that there is not much to do around your house.

BRYAN: Well, yeah. There isn't anything to do.

THERAPIST: Yep. When we're feeling depressed, we may often lie around, or stay in our rooms. Even when we are doing activities, we may not be totally into it. All this can play a role making us feel worse.

BRYAN: OK.

THERAPIST: One powerful way to fight off depression is to purposefully engage in pleasant activities. Even if we do not feel like doing anything when depressed—and many times we won't. If we do things we enjoy, or used to enjoy, we can change our emotions for the better.

BRYAN: But it doesn't matter whether I'm hanging out with my friends or out and about, it's just not fun. I don't want to be there and then when I get back, I regret that I ever dragged myself out. It just takes too much energy.

THERAPIST: I can certainly appreciate that. It takes a lot of energy to be active when feeling sad and irritable. And it's often harder at the beginning as we try to build momentum towards doing enjoyable things.

BRYAN: Yeah.

THERAPIST: Sometimes, even if we're working really hard to increase pleasant activities, it may be that negative thoughts get in the way. If that's true, and we'll, of course, have to test it out, then we can work on identifying and questioning those thoughts. Would you at least be willing to give trying to increase pleasant activities a try?

BRYAN: I guess.

THERAPIST: Thanks for being willing to give it a shot. If we're going to try to increase pleasant activities, the first thing to do is think about things you enjoy, or used to enjoy. These can include things you used to do to keep from being bored or activities that you do with your friends. So tell me, what do you like to do, for example, when you're with your friends?

BRYAN: I like hanging out.

THERAPIST: Yeah? What do you do when you hang out with your friends?

BRYAN: We don't get together very often—everyone lives so far away. Occasionally though, we will play video games or go paintballing.

THERAPIST: Nice. So playing video games and paintballing with friends. Do you have other hobbies?

BRYAN: No.

THERAPIST: Some teens I know play music or mix music, or do other types of art. Anything like that?

BRYAN: Nope. Just listen to music.

THERAPIST: What's your favorite music?

BRYAN: Mostly rap, hip hop. Occasionally some R&B.

THERAPIST: Nice. I know you mentioned listening to music this past weekend. How about movies?

BRYAN: No. I don't do that.

THERAPIST: Did you enjoy going to movies before? I ask this just because sometimes when we're depressed, things may stop being fun for a while, even if they were fun before.

BRYAN: We live pretty far from the movie theater, but occasionally, I used to go the theater near where my grandparents live. It was sometimes fun. I like the horror type of films.

THERAPIST: Nice. What about outdoor activities? I know you like baseball? How about hiking? Soccer? Pick-up games of basketball?

BRYAN: I used to play baseball, but then I got injured and so I don't want to play next year. It would suck to be worse than my teammates because I've missed so much practice and the games.

THERAPIST: Sure, that can be a bit daunting. Still, baseball was something that you used to enjoy?

BRYAN: Yeah.

THERAPIST: Do you ever practice at home when you're not with teammates or coach?

BRYAN: Not too much. I got a pitching machine for my birthday a few years ago, but haven't used it for a long time.

THERAPIST: So it's something you haven't done for a while, sure. But it's one possibility of something fun or enjoyable.

BRYAN: Maybe.

THERAPIST: When you were playing, what were your baseball workouts like?

BRYAN: Pretty intense—a lot of weightlifting and some cardio.

THERAPIST: Nice. I wonder if we should write down "workouts." Of course, we would want to be thoughtful about activities that wouldn't exacerbate your injury.

BRYAN: Yeah, don't want to get injured again.

THERAPIST: What about texting or calling friends?

BRYAN: Yeah, I used to text them a lot.

THERAPIST: OK, let's write that down as well.

The therapist can continue with this process until eight or 10 pleasant activities have been generated. It is preferable to attend to some that build mastery and some that are social.

THERAPIST: If we look at this list we've put together, we can see different kinds of pleasant activities that can help us to feel better. In my experience, one kind that is especially important in overcoming depression are social activities we do with other people, such as friends, teammates, or family members. Another kind is activities that give us a sense of pride or accomplishment. Are there activities on this list that we've made that are social?

BRYAN: Well, the baseball team was important to me. But then I got injured and had to take so much time off. Now I've lost my edge. I guess other than that, playing video games with friends or just texting friends.

THERAPIST: Those sound good. Let's keep an eye on those. And what might you do to try to get back involved with your team? Are you able to practice at all or work out?

BRYAN: Yeah, I guess so.

After the teen and the therapist have identified some social activities and some mastery activities, the next step is to identify a limited number of activities to increase.

THERAPIST: We've already listed out a bunch of activities, but sometimes it can be helpful to zoom in on just a few. Our task now is to pick these pleasant activities that we will try to increase over the next week, until I see you again.

BRYAN: OK.

THERAPIST: You seem to enjoy music quite a bit. You also said that texting with friends and playing video games with friends are enjoyable. And you mentioned that batting practice and working out are pretty important to you. Would you agree?

BRYAN: Yeah, probably.

THERAPIST: How much have you done each of those over the past 3 days?

BRYAN: I listened to music yesterday and the day before. I haven't texted anybody or played video games with friends.

THERAPIST: What about hitting practice with your pitching machine?

BRYAN: I haven't done that for 6 months.

THERAPIST: What about working out?

BRYAN: No. I went for a quick run a couple weeks ago. But nothing else.

THERAPIST: OK, so of these three activities, the number of times you have done them over the last 3 days are two for the music, but zero for the others.

BRYAN: That sounds right.

THERAPIST: OK. So if we were to set a goal for increasing three activities in the next week, how often feels realistic to you? Let's say texting, listening to music, and practicing hitting

BRYAN: I think I can probably practice batting once, text a friend three times.

THERAPIST: Nice. And what about listening to music?

BRYAN: I already do that almost every day.

THERAPIST: Nice—so maybe just increase that a little, so you do it each day.

BRYAN: That's a lot of stuff.

THERAPIST: It seems like that, but it is important to try to do them even if you don't feel like it at the moment and then see how that makes you feel. What might help now is to choose something that you can use to reward yourself if you are able to meet this goal.

The therapist then works with the adolescent to make an agreement on a realistic target, to plan

the logistics of completing and recording activities, and to identify a reward the adolescent can self-administer for accomplishing the goal. In coming sessions, the skill can be broadened, and barriers to completion can be identified and targeted.

Conclusion

Depression is a common disorder of childhood and adolescence, especially the latter developmental period. Systematic attempts to develop and test interventions for youth depression began in the 1980s. Since then, an impressive body of literature has accumulated to guide clinical intervention. CBT has been by far the most extensively tested intervention. CBT, IPT-A, a small number of SSRI medications, and combined CBT and fluoxetine are well-established treatments. A number of other psychotherapies are emerging, including computerized or electronic models that could increase access to care, and may become better established in the near future. The role of exploratory treatments such as exercise and other somatic interventions may become clear as larger, randomized controlled trials with clinical samples of youth are conducted. Given the current rates of treatment response in clinically impaired depressed youth, there continues to be a need for newer, more effective interventions, and a need to explore optimal treatment combinations. Most depressed youth continue to improve after a course of short-term treatment. As noted elsewhere (Curry, 2014), interventions that accelerate response and prevent relapse would be particularly important in the treatment of depressive disorders.

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