Objective
To describe an adapted version of Dialectical Behavior Therapy (DBT) for adolescents with bipolar disorder.

Method
The DBT intervention is delivered over one year, and consists of two modalities: Family Skills Training (conducted with individual family units) and Individual Therapy. The acute treatment period (6 months) includes 24 weekly sessions; sessions alternate between the two treatment modalities. Continuation treatment consists of 12 additional sessions tapering in frequency through one year. We conducted an open pilot trial of the treatment, designed as an adjunct to pharmacological management, to establish feasibility and acceptability of the treatment for this population. Participants included 10 patients (mean age = 15.8 + 1.5 years, range 14-18) receiving treatment in an outpatient pediatric bipolar specialty clinic. Symptom...
severity and functioning were assessed quarterly by an independent evaluator. Consumer satisfaction was also assessed post-treatment.

Results
Feasibility and acceptability of the intervention were high, with 9 of 10 patients completing treatment, 90% of scheduled sessions attended, and high treatment satisfaction ratings. Patients exhibited significant improvement from pre- to post-treatment in suicidality, non-suicidal self-injurious behavior, emotional dysregulation, and depressive symptoms.

Conclusions
DBT may offer promise as an approach to the psychosocial treatment of adolescent bipolar disorder.

Key Words:
bipolar disorder, adolescents, therapy, psychosocial treatment
Dear Dr. Dulcan:

We are writing to you with regard to our manuscript #JAACAP-2006-4268, “Dialectical Behavior Therapy for Adolescents with Bipolar Disorder: A One-Year Open Trial.” This paper was accepted for publication contingent upon our ability to adequately address a few minor remaining concerns raised by reviewers. We have addressed each of these items below.

We thank you for your careful attention throughout the review process. Please feel free to contact me with any questions or concerns about this final revision.

Sincerely,

Tina R. Goldstein, Ph.D.
Response to Reviewers: Manuscript # JAACAP-2006-4268
“Dialectical Behavior Therapy for Adolescents with Bipolar Disorder: A One-Year Open Trial”

Editor:
1. You have omitted some of the authors in the Coletti et al., 2005, reference. This reference has been corrected to include all authors. The entire reference list has also been carefully reviewed in order to ensure that all references conform to JAACAP format.

2. Include instructions for how readers can obtain unpublished treatment manuals…you have adapted Miller’s model…extra material can be published on-line. We have included the additional Psychoeducational materials in the “Article Plus” feature and refer to them in the text (page 7).

3. a. Please comment on training and supervision of the therapist in DBT. Prior to conducting the pilot study, the therapist attended a 2-day DBT training and completed a 3-month clinical rotation with a DBT-based Intensive Outpatient Program. During conduct of the study, the therapist participated in a 6-month DBT Training Program conducted by a certified BehavioralTech trainer consisting of a 2-day workshop, weekly DBT seminar, and ongoing clinical supervision in DBT. This information has been added to the Method section (page 5).

   b. Was there consultation from child psychiatrists regarding adolescent BP in general? The therapist collaborated with the child psychiatrists treating the subjects on a regular basis during weekly CABS clinic meetings, at which time each individual subject’s case was reviewed. This format also allowed for ongoing consultation regarding treatment adaptations for adolescent BP in general. This information has been added to the Method section (page 11).

4. How often was skills coaching by phone used? Unfortunately, we did not track the frequency of skills coaching by phone in the pilot study; we now indicate this in the Method section. In future studies, we will document the frequency of coaching calls. However, the editor’s concern that frequent calling may limit the practicality of the model in clinical settings is well-taken. Telephone coaching is a crucial, albeit challenging, aspect of DBT that appears particularly important with adolescent clients (Miller, Rathus, & Linehan, 2006). DBT therapists must identify and observe their own reasonable personal limits for phone calls. Calling the therapist too frequently (as well as too infrequently) is considered therapy-interfering behavior, and is targeted in individual sessions. Discussion of this issue has been added (page 7).

5. Our readers would appreciate a figure demonstrating a sample diary card. A sample diary card has now been included (Figure 1).

Reviewer #1:
1. The Methods section should indicate that there was no assessment of Axis II pathology for which DBT was developed. This statement has been added to the Methods section (page 11).

   2. Page 7, 1st paragraph differs from the explanation for the reason for individual vs family group work. Was the FST to maximize the therapist’s ability or for the future and the therapists? Either way, the authors need to correct.
The Reviewer is correct in that both sections of text explain the authors’ rationale for modifications to the treatment that involve the conduct of the Family Skills Training Sessions. The text on page 7 offers rationale for the decision to include family members in the Skills Training sessions and deliver Family Skills Training to individual family units rather than multi-family groups, whereas the earlier text (pages 5-6) provides rationale for the treatment schedule selected (i.e., bi-weekly for 1 hour).

3. Under Limitations, the authors need to indicate that though these youth are described as severely ill, the mania ratings were never in that severe a range, as noted on page 14 and Table 1. Again, does the intervention work because of borderline pathology of this group of patients or the low rate of comorbid Axis I conditions, particularly substance abuse?

We have re-stated that participants did not demonstrate severe manic symptoms at the baseline evaluation in the Limitations section (page 14), and that this limits our ability to assess manic symptom improvement with DBT treatment in the current sample. However, as stated in the Discussion, it is important to note that as compared with BP youth in the COBY sample, these youth exhibit similar manic symptom severity during both the current and worst past episodes.


Manuscript # JAACAP-2006-4268
“Dialectical Behavior Therapy for Adolescents with Bipolar Disorder: A One-Year Open Trial”

Reviewer #2:

1. It would be helpful to provide more information on the K-SADS Depression Rating Scale and the Mania Rating Scale. How many items from the Depression Scale are included? Relatedly, you list 2 Chambers references, but the page #s are the same for both of them. More information is now included on the DRS and MRS, including the number of items and range of scores for each measure (page 12). The Chambers references have also been corrected.

2. Provide some information about where the adolescents were in their medication treatment when they started the DBT…more information on the other [medication] treatment they received would be useful.
At the baseline assessment, the number of weeks on the prescribed medication regimen varied widely. The eligibility criterion requiring a syndromal mood episode within 3 months of study entry was intended to ensure that at pre-treatment, mood symptoms were not fully stabilized via the current medication regimen alone. Indeed, baseline ratings of mood symptomatology support this assertion. We have added this explanation to the Methods section (page 11).

3. There is a typo on page 5, last paragraph (“intensive”). The typo has been corrected.
Dialectical Behavior Therapy for Adolescents with Bipolar Disorder: A One-Year Open Trial

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2/15/07 Revision

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This research was supported by an American Foundation for Suicide Prevention (AFSP) Pilot Grant, a seed grant from the University of Pittsburgh Advanced Center for Intervention and Services Research for Early-Onset Mood and Anxiety Disorders (MH66371 Dr. Brent), and NIMH training grant MH18951 (Dr. Brent). The authors wish to acknowledge the contributions of the following individuals: Heather Schwrickrath, Colleen Grimm, and Pamala Pyle.
Abstract

Objective

To describe an adapted version of Dialectical Behavior Therapy (DBT) for adolescents with bipolar disorder.

Method

The DBT intervention is delivered over one year, and consists of two modalities: Family Skills Training (conducted with individual family units) and Individual Therapy. The acute treatment period (6 months) includes 24 weekly sessions; sessions alternate between the two treatment modalities. Continuation treatment consists of 12 additional sessions tapering in frequency through one year. We conducted an open pilot trial of the treatment, designed as an adjunct to pharmacological management, to establish feasibility and acceptability of the treatment for this population. Participants included 10 patients (mean age = 15.8 ± 1.5 years, range 14-18) receiving treatment in an outpatient pediatric bipolar specialty clinic. Symptom severity and functioning were assessed quarterly by an independent evaluator. Consumer satisfaction was also assessed post-treatment.

Results

Feasibility and acceptability of the intervention were high, with 9 of 10 patients completing treatment, 90% of scheduled sessions attended, and high treatment satisfaction ratings. Patients exhibited significant improvement from pre- to post-treatment in suicidality, non-suicidal self-injurious behavior, emotional dysregulation, and depressive symptoms.

Conclusions

DBT may offer promise as an approach to the psychosocial treatment of adolescent bipolar disorder.

Key Words:

bipolar disorder, adolescents, therapy, psychosocial treatment
Introduction

Over the last decade, bipolar disorder (BP) in children and adolescents has gained increasing attention. Research suggests BP affects approximately 1% of community adolescents (Lewinsohn et al., 1995), with estimates as high as 6-15% in clinical samples (Biederman et al., 1995; Pavuluri et al., 2006). Adolescents with BP exhibit a difficult illness course characterized by prolonged episodes, substantial inter-episodic symptoms, and marked functional impairment (Birmaher et al., 2006). High rates of psychosis, comorbidity, and hospitalizations have also been reported in this population (Axelson et al., 2006). BP onset in adolescence is particularly pernicious due to its associations with drug and alcohol abuse, unprotected sex, and suicide (Brent and Lerner, 1994; Goldstein et al., 2005; McClellan et al., 1993). Evidence suggests the majority of adolescent-onset BP patients experience a deteriorating course into adulthood, with poor outcomes including chronic functional impairment and treatment resistance (Strober et al., 1995). Given the projected continuity and morbidity associated with adolescent BP, effective early intervention may minimize the long-term debilitating effects of the illness.

While there has been progress in the area of pharmacotherapy for pediatric BP (Kowatch and DelBello, 2005), medications often leave patients with residual symptoms and side effects. Guidelines for the treatment of pediatric BP therefore identify psychosocial intervention that augments pharmacotherapy as a critical component of optimal treatment (Kowatch et al., 2005).

To date, there are no empirically validated psychosocial treatments for BP adolescents. However, several promising approaches are at various stages of treatment development. Miklowitz and colleagues (2004) demonstrated the feasibility of delivering a developmentally modified version of Family Focused Therapy (FFT-A) for BP adolescents in an open treatment development study. This 9-month psychoeducational/skills program was associated with decreases in manic, depressive, and problem behavior rating scores from intake to 1-year
follow-up. Danielson and colleagues (2004) are currently testing a 12-session cognitive-behavioral therapy (CBT) for BP adolescents. For pre-adolescent BP, Fristad and colleagues (2003) tested the efficacy of a multi-family psychoeducational group (MFPG). As compared with a wait-list control condition, parents receiving MFPG were more knowledgeable about their child’s mood disorder and more successful obtaining health services for their child over 6-month follow-up. Pavuluri and colleagues (2004) treated school-aged BP children by combining components of FFT and CBT. In this open trial, treatment was associated with improvement in psychosocial functioning, mood symptoms, and medication adherence.

Dialectical Behavior Therapy (DBT; Linehan, 1993) is an evidence-based psychotherapy developed for adults with borderline personality disorder. The main DBT treatment target is emotional dysregulation, characterized by high sensitivity to emotional stimuli, extreme emotional intensity, and a slow return to baseline emotional state. Not surprisingly, research indicates BP teens exhibit a range of extreme positive and negative emotions (Birmaher et al., 2006). In fact, recent literature posits that the core clinical feature underlying pediatric BP is emotional dysregulation (Leibenluft et al., 2003). Studies indicate that emotion regulatory processes are developmentally acquired, determined by both biological and psychosocial processes, and under consolidation during adolescence (Dahl and Spear, 2004). Yet, none of the interventions for adolescent BP examined to date expressly target this core illness feature. BP in adolescence is also associated with suicidal behaviors (Goldstein et al., 2005; Lewinsohn et al., 1995), interpersonal deficits (Goldstein et al., 2006), and treatment non-adherence (Coletti et al., 2005)—all DBT treatment targets.

As compared with treatment as usual (TAU), DBT has been shown to reduce suicidal behaviors, hospitalizations, and anger, while improving social adjustment and treatment adherence among adults with borderline personality disorder (Linehan et al., 1994). Miller and colleagues (1997) adapted DBT for suicidal adolescents by incorporating age-appropriate language, decreasing treatment length, and involving family members in skills training groups.
In a quasi-experimental design, adolescents receiving DBT had fewer psychiatric hospitalizations and greater treatment adherence than TAU patients. DBT was also associated with decreases in depressive symptoms and suicidal ideation from pre- to post-treatment (Rathus and Miller, 2002). Katz and colleagues (2004) employed DBT on an inpatient unit for suicidal adolescents, reporting decreased behavioral incidents, but not suicidality, as compared with a TAU unit.

In light of the successful adaptation of DBT for adolescents, and the role of emotional dysregulation in BP, we applied DBT to the treatment of BP adolescents. First, we describe clinical methods and treatment adaptations for this population. We then present data from an open trial of DBT and pharmacotherapy in ten BP adolescents.
Method

Treatment Development

The DBT intervention for BP adolescents is based on Miller and colleagues’ (2003; 2006) manual incorporating age-appropriate modifications for suicidal adolescents. We further incorporated illness-specific modifications designed to meet the unique needs of a BP population. In this section, we describe basic principles for applying DBT to adolescent BP.

Treatment Structure

As in standard DBT, we employed two treatment modalities: 1) Skills Training (adapted for individual family units) in which the primary focus was to teach new skills, and 2) Individual Therapy, aiming to aid the adolescent in applying skills in their daily lives. The same therapist (the first author) delivered both modalities. Therapist training prior to conduct of the pilot study included attendance at a 2-day DBT training and completion of a 3-month clinical rotation at a DBT-based Intensive Outpatient Program for suicidal and parasuicidal women. During conduct of the study, the therapist received additional DBT training and supervision via a 6-month DBT Training Program conducted by a certified BehavioralTech trainer consisting of a 2-day workshop, weekly DBT seminar, and weekly individual clinical supervision in DBT.

During the acute treatment period (months 1-6), participants received 24 weekly sixty-minute sessions, alternating between the two modalities: 12 Family Skills Training and 12 Individual Therapy sessions. The continuation phase of treatment (months 7-12) consisted of 12 total sessions (6 Family Skills Training, 6 Individual Therapy; each modality monthly) during which the aim was to consolidate gains and review skills application.

Standard DBT for adults includes one year of weekly skills group (2 hours) and individual therapy (1 hour). The DBT therapy schedule employed by Miller with adolescents is less intensive: 16 weeks of skills group (2 hours) and individual therapy (1 hour). Although our treatment is longer than Miller and colleagues’ (one year versus 16 weeks), the treatment is less intensive because skills training sessions are conducted bi-weekly for 1 hour (versus weekly for
2), and individual therapy sessions are conducted bi-weekly (versus weekly). In sum, our year-long protocol includes 18 hours of skills training and 18 hours of individual therapy (36 total treatment hours), as compared to Miller’s 16-week program that includes 32 hours of skills training and 16 hours of individual therapy (48 total treatment hours). This therapy schedule emerged from considerations specific to this population. Given the cyclical nature of BP, extending treatment over a prolonged period increases the opportunity for skills to be applied across mood states, thereby maximizing clinical benefit. Furthermore, given that many BP adolescents exhibit attentional deficits, abbreviating Skills Training sessions to 1 hour may optimize learning.

**Family Skills Training.** Family Skills Training was conducted with the family unit, and began with psychoeducation (sessions 1-2, see below), then proceeded through the four standard DBT modules: Mindfulness (sessions 3-4), Distress Tolerance (5-7), Emotion Regulation (8-10), and Interpersonal Effectiveness (11-12) (see Linehan 1993b and Miller et al., 2006 for detailed description of skills modules). Content from “Walking the Middle Path,” an additional module developed for parents of adolescents (Rathus and Miller, 2000) was woven throughout treatment and into the continuation phase.

We used handouts to introduce new skills. Participants were guided through exercises and activities for each skill imparted. Homework was assigned for participants to gain practice applying new skills. Family members were encouraged to coach one another in the effective use of skills in their environment.

**Individual Therapy Sessions.** Individual therapy sessions were structured in standard format (Miller et al., 2006), and target behaviors were prioritized in accordance with the DBT hierarchy of treatment targets. Problem-solving strategies were applied, including the conduct of behavioral chain analyses for targeted problems (e.g., medication non-adherence) to understand the function of the behavior, identify constructive alternative solutions, and develop techniques for avoiding future problem behaviors.
Skills Coaching by Phone. The therapist was available to participants by pager for in-vivo skills coaching—a crucial, albeit challenging, aspect of DBT that appears particularly important with adolescent clients (Miller et al., 2006). Participants were educated about appropriate coaching situations. DBT therapists must identify and observe their own reasonable personal limits for phone calls. Calling the therapist too frequently (as well as too infrequently) is considered therapy-interfering behavior, and is targeted in individual sessions. The frequency of skills coaching calls was not documented in the pilot study.

Diary Cards. Patients completed diary cards tailored for this population assessing mood, sleep, suicidality, and medication adherence daily during the study (Figure 1). Patients reported use of specified DBT skills on the diary card; individualized treatment goals were also incorporated.

Treatment Modifications

Family Skills Training. The DBT model for adolescents incorporates family members in Skills Training in a multi-family group format. We similarly felt inclusion of the family would yield the most potential for clinical benefit with BP adolescents based on literature linking stressful family environments with BP relapse (Butzlaff and Hooley, 1998) and poor treatment adherence (Geller and Luby, 1997). Furthermore, relatives of adolescent-onset BP patients have elevated rates of BP (Faraone et al., 2003; Geller et al., 2006). Thus, not only do patients gain in vivo coaches, but family members gain skills for managing their own emotional dysregulation. We elected to deliver Family Skills Training to individual family units in order to maximize DBT therapists’ ability to address issues specific to each family and devote time to skills that addressed areas of greatest need.

Addition of a Psychoeducation Module. Given that psychoeducation is integral to successful BP treatment (Kowatch et al., 2005), we added a psychoeducational module (sessions 1-2) on adolescent BP. Psychoeducational handouts are available on the Journal’s web site at www.jaacap.com through the ArticlePlus feature. Topics included symptoms and
illness course, medication, and vulnerability factors. The adolescent and family were asked to
describe mood states, with prompts for associated cognitions, behaviors, and emotions. These
individualized mood and symptom descriptions were then used as anchor points for diary card
mood ratings.

Psychoeducation about DBT was also provided, with rationale for its application in BP. A
particular emphasis was placed on the importance of balance in the management of BP. A
biosocial model was presented in which BP is conceptualized as a transaction between
biological and environmental influences. In standard DBT, the specific environmental role of
invalidation is stressed. Since little research has examined environmental factors specific to the
onset and maintenance of adolescent BP to date, we presented an inclusive biosocial approach,
with attention to invalidation as one of several potential environmental vulnerabilities.

The three main components of emotional vulnerability were presented (reactivity,
intensity, and duration of affective responses) and applied to the adolescent’s own mood states.
“Triggers” for mood states were then identified, and revisited throughout treatment as they
pertained to skills use.

Tailoring Skills for Bipolar Disorder. Although DBT skills were expressly developed for
individuals prone to emotional dysregulation, we further tailored skills for BP to maximize their
utility. For example, when introducing the Mindfulness concept “States of Mind,” the differential
experience of “emotional mind” associated with depressed, manic, mixed, and euthymic states
were explicitly discussed. These distinctions helped participants identify early warning signs of
pending mood episodes, and distinguish “normal” emotions from illness symptoms in a non-
judgmental fashion.

A unique aspect of applying DBT principles to BP is that while the same skill set is
appropriate for managing a range of mood states, skill selection and application vary by mood
state. To illustrate skill selection by mood state, the Emotion Regulation skill aiming to build
positive emotions by engaging in pleasant activities may prove effective when depressed, but
may exacerbate difficulties when manic. An example of the differential application of skills by mood state includes the Emotion Regulation skill “PLEASE MASTER” focused on reducing vulnerability to emotional mind. Several participants identified the importance of balancing sleep in reducing vulnerability to emotional mind—too much sleep increased vulnerability to depression, whereas too little sleep increased vulnerability to mania.

To aid the teen in determining which skills to apply when and how, the primary focus was on helping him/her articulate a situation-specific goal in the context of his/her mood state. One participant, when depressed, would isolate in her room and listen to sad music, which would often precede incidents of self-injury. She was able to identify that when in this state, her goal was to “feel less miserable.” Thus, applying the Emotion Regulation skill “Acting Opposite” to change the current emotion may be skillful in this circumstance. Her opposite action included getting active by taking her dog for a walk while listening to upbeat music. Once the patient’s goal was defined, the patient determined which skill(s) may help attain the stated goal. When teaching skills, the therapist posed the question, “when/how do you think this skill could help you?”

During the continuation phase, Family Skills Training sessions were used to review and consolidate skills. Patients created “coping cards” listing helpful skills for frequently encountered situations. Patients were encouraged to divide their lists by mood state (e.g., “skills that work best when I am depressed”).
The Pilot Study

Participants

Participants were recruited from the Child and Adolescent Bipolar Services (CABS) specialty clinic at Western Psychiatric Institute and Clinic, University of Pittsburgh. Twelve patients identified by their psychiatrist as study-eligible were invited to participate. Two declined participation (one cited work demands and the other entered more intensive treatment). The University of Pittsburgh Institutional Review Board approved all study procedures.

Inclusionary Criteria. 1) age between 12 years, 0 months and 18 years, 11 months; 2) a DSM-IV diagnosis of Bipolar Disorder I, II, or Not Otherwise Specified (NOS; operationalized criteria, see Diagnostic Evaluation) with an acute manic, mixed, or depressive episode in the 3 months preceding study entry; 3) engaged in a pharmacotherapy regimen; 4) at least one parent/guardian willing to participate in family sessions; 5) no evidence of mental retardation or organic central nervous system disorder; and 6) not receiving other outpatient psychotherapy.

Demographics. Sample demographics, illness characteristics, and treatment at intake are presented in Table 1. On average, participants were 16 years old (range 14-18); eight were female. Seven patients met criteria for BPI. Eight participants had at least one comorbid Axis I diagnosis (anxiety, behavioral, and substance use disorders). Eight patients had a history of at least one suicide attempt, and 7 had at least one psychiatric hospitalization.

Procedures

Diagnostic Evaluation. Psychiatric diagnoses were established via the Schedule for Affective Disorders and Schizophrenia for School-Aged Children-Present and Lifetime Version (K-SADS-PL; Kaufman et al., 1997) and the K-SADS Mania Rating Scale (MRS; Axelson et al., 2003). Operationalized criteria for the diagnosis of BP NOS were adopted from the Course and Outcome of Bipolar Youth Study (see Birmaher et al., 2006). Diagnostic evaluation at CABS consisted of a 4-hour assessment process during which: 1) a CABS-trained interviewer (psychiatric nurse or social worker with a minimum of 5 years experience with BP youth)
administered the K-SADS, first to the parent/guardian and subsequently to the adolescent. Summary scores were based on a consensus between information provided by the adolescent and parent; 2) the attending psychiatrist conducted a clinical interview with the adolescent and parent; and 3) the evaluator and the attending used all available information to come to a consensus on the patient’s diagnosis. No formal assessment of Axis II pathology was conducted.

**Pharmacotherapy.** CABS psychiatrists managed the pharmacological treatment of participants according to treatment guidelines established by an expert panel on pediatric BP (Kowatch et al., 2005). Standard pharmacological management in CABS consisted of follow-up visits weekly to biweekly for the first month of treatment. Assuming adequate treatment response, medication management visits were scheduled monthly thereafter. When patients were actively symptomatic, appointments were scheduled more frequently. The DBT therapist collaborated with subjects’ treating psychiatrists on a regular basis during weekly CABS clinic meetings, at which time each subject’s case was reviewed. CABS clinic meetings also offered the opportunity for consultation regarding treatment adaptations for adolescent BP in general.

At the baseline assessment, the number of weeks on the prescribed medication regimen varied widely. The eligibility criterion requiring a syndromal mood episode within 3 months of study entry was intended to ensure that at pre-treatment, mood symptoms were not fully stabilized via the current medication regimen alone.

**Outcome Measures.** Outcome measures were obtained at baseline and every 3 months during the one-year protocol by a master’s level independent evaluator trained to an acceptable level of reliability on all outcome measures (kappa > 0.80). Interrater reliability between the first author and the independent evaluator conducted on a random sample of 5 interviews yielded 80% exact item agreement on the K-SADS-P Depression Section (DRS; Chambers et al., 1985a), 88% on MRS, and 100% on the Modified Scale for Suicidal Ideation (MSSI; Miller et al.,
Participants received twenty dollars compensation following completion of each interview. Outcome variables were assessed in the following domains:

**Suicidality.** Suicidality was assessed via the MSSI (Miller et al., 1986); items are rated on a 0-3 scale indicating extent of suicidal ideation and intent. Research indicates the MSSI has good internal consistency, and correlates highly with experienced clinicians’ ratings of patients' suicidal ideation. Suicidality and non-suicidal self-injurious behavior were also assessed using five K-SADS-DRS items (Chambers et al., 1985a).

**Emotional Dysregulation.** Parents completed the Children’s Affective Lability Scale (CALS; Gerson et al., 1996) designed to measure behavior reflective of emotional dysregulation. Items are rated on a 4-point scale indicating frequency of each behavior. Reliability has been demonstrated among controls, outpatient, and inpatient psychiatric samples.

**Mood Symptomatology.** Manic symptoms were assessed via the K-SADS-MRS (Axelson et al., 2003; Chambers et al., 1985b), a 13-item semi-structured interview designed to elicit symptoms associated with mania in pediatric populations. The scale yields scores ranging from 0 to 64. The original MRS psychometric study demonstrated the scale to be a reliable measure of manic symptoms that is sensitive to changes in manic symptom severity with treatment.

Depressive symptoms were assessed using the Depression section of the K-SADS-P semi-structured interview, on which depressive symptoms are rated on a 6-point scale from none to severe. The scale has good internal consistency and inter-rater reliability (Chambers et al., 1985a). The 12-item K-SADS Depression Rating (DRS) was extracted from the K-SADS-P semi-structured interview. The 12-item K-SADS-DRS has been shown to be a reliable measure of depressive symptom severity (Ambrosini et al., 1989), and yields scores ranging from 0 to 63.

The evaluator conducted separate interviews with the patient and parent. Final symptom ratings were based on summary scores incorporating information from both sources; in the event of conflicting information, clinical judgment guided summary ratings.
Interpersonal Functioning. Participants completed the self-rated Matson Evaluation of Social Skills with Youngsters (MESSY; Matson et al., 1983) on which subjects rate social behaviors on a 5-point scale according to behavioral frequency. The MESSY correlates highly with other measures of social competence and directly observed social behaviors (Matson et al., 1986). Parents completed the parent-rated version (T-MESSY).

Treatment Satisfaction. Post-treatment, patients and parents completed a Treatment Satisfaction Questionnaire assessing acceptability and satisfaction with treatment, each rated on a 7-point scale.

Data Analysis

Statistical analyses were performed using the Statistical Package for the Social Sciences Version 13 (SPSS). A series of paired comparison t-tests were conducted to determine whether significant changes occurred in each of the domains of interest from pre- to post-treatment. Statistical significance was set at $\alpha = 0.05$. 
Results

Feasibility

DBT was highly feasible to administer to adolescent BP patients and their families. Of the 10 patients who consented to participate, 9 successfully completed the entire treatment study; one patient terminated prematurely because she moved out of state. Attendance at treatment was high, with over 90% of scheduled sessions attended. Over the one-year treatment period, patients received $33.2 \pm 7.5$ total sessions (the protocol calls for 36 sessions; Family Skills Training session mean $= 15.3 \pm 6.0$, Individual Therapy session mean $= 17.9 \pm 3.3$).

Patient Satisfaction

Post-treatment satisfaction questionnaires indicate the intervention was acceptable and appropriate to participants’ needs. Both patients and parents reported the frequency of visits was acceptable (likert scale rating 1-7 where 1= too infrequent, 4 = acceptable, and 7 = too frequent; patient mean $= 4.7 \pm 1.0$, parent mean $= 3.7 \pm .8$), as was treatment length (likert scale rating 1-7 where 1= too short, 4 = acceptable, and 7 = too long; patient mean $= 3.8 \pm .4$, parent mean $= 3.4 \pm .8$). Satisfaction ratings show patients and parents were highly satisfied with the DBT treatment approach, as well as with the adolescents’ gains made during treatment (Figure 2).

Treatment Response

Suicidality. Although 80% of participants had a history of attempted suicide, and mean suicidal ideation ratings on both the MSSI and K-SADS-DRS (item 25) reflected the presence of suicidal ideation at intake, none of the participants reported attempting suicide (defined as a self-injurious act with minimal or greater intent to die via the MSSI and/or K-SADS-DRS) during the year-long study. Evaluator ratings of suicidality showed statistically significant improvement over the course of treatment (MSSI paired $t = 2.5$, $p = .04$, Cohen’s $d = 1.2$; DRS paired $t = 2.4$, $
Dialectical Behavior Therapy 15

$p = .04$, Cohen’s $d = .9$), and ratings reflect the absence of suicidality by the conclusion of treatment (Figure 3). Similarly, at intake, 4 participants endorsed a history of non-suicidal self-injurious behavior. Decreases in non-suicidal self-injury on the K-SADS-DRS (item 30) were not statistically significant (paired $t = 2.1, p = .06, d = .8$), but it is noteworthy that no non-suicidal self-injurious acts were reported during the final study assessment period.

**Emotional Dysregulation.** As seen in Figure 4, total CALS scores decreased significantly (paired $t = 3.0, p = .02, d = .3$) from mean pre-treatment values comparable to those reported among inpatient samples, to post-treatment values below those reported for outpatient samples (see Gerson et al., 1996).

**Mood Symptoms.** Adolescents showed significant improvement in depressive symptomatology. Total K-SADS-DRS summary scores dropped from the moderate range at intake (mean = 23.1 ± 12.0) to the mild range at 12-month follow-up (mean = 14.9 ± 10.6; paired $t = 2.6, p = .03, d = .7$). We did not find significant differences between pre- (mean = 13.3 ± 12.1) and post- (mean = 12.2 ± 14.2; paired $t = .3, p > .05, d = .1$) treatment K-SADS-MRS mania ratings. However, mean intake MRS scores reflected very mild manic symptomatology.

**Interpersonal Functioning.** Improvements in interpersonal functioning with treatment were not statistically significant (teen-report MESSY paired $t = 1.2, p > .05, d = .4$; parent-report T-MESSY paired $t = .9, p > .05, d = .2$). Mean pre-treatment teen-report scores were elevated as compared with norms for healthy controls (Matson, 1994), whereas post-treatment self-ratings fell within the normal range. In contrast, post-treatment parent-ratings remained elevated when compared with norms for this age group; they were, however, below those reported for other outpatient samples of BP adolescents engaged in treatment (Goldstein et al., 2006).

**Pharmacotherapy.** There were no differences in the number of medications prescribed for participants from pre- to post-treatment (pre-treatment mean = 2.2 ± 1.3, post-treatment mean 2.6 ± 1.7, paired $t = -.8, p > .05, d = -.2$). At the conclusion of the protocol, 7 of the 10 patients were maintained on the same number of medications as at intake, 1 was prescribed
fewer medications, and 2 were prescribed more medications. Adherence to medication regimen was not assessed.
Discussion

Results from this open trial provide initial support for the feasibility and clinical efficacy of DBT for BP adolescents in a highly symptomatic sample. Significant improvement from pre- to post-treatment was evident in suicidality, non-suicidal self-injurious behavior, emotional dysregulation, and depressive symptoms.

Nine of the ten enrolled families completed this year-long treatment. Over 90% of scheduled sessions were attended, which is consistent with high acceptability and satisfaction ratings from participants. Conduct of skills training with individual family units was well-received by participants, and may have further contributed to the high attendance rates. Furthermore, both patients and parents indicated they were highly satisfied with the DBT treatment approach and gains made during treatment. In fact, following the 12-month program, many parents expressed a desire for continued DBT treatment. These satisfaction ratings come from highly experienced consumers of mental health services: 8 of 10 participants had at least one prior course of psychotherapy, 7 of whom had multiple courses.

This patient sample exhibited a high degree of illness severity. Eighty percent of participants had a history of attempted suicide, as compared with 20-44% of other pediatric BP samples (Lewinsohn et al., 2003; Strober et al., 1995). Seventy percent of the sample had a history of psychiatric hospitalization, as compared with 41-52% in other well-characterized pediatric BP samples (Axelson et al., 2006; Findling et al., 2001). With respect to mood symptomatology at intake, DBT participants had more severe depressive, but not manic, symptom scores compared with COBY participants; similarly, DBT participants endorsed more severe symptoms during their worst lifetime episode of depression, but not mania (Axelson et al., 2006). The illness profile of the study sample taken with their treatment response raises the possibility that BP illness severity, and particularly that of the depressive pole, moderates the effects of DBT for this population; this may occur via numerous pathways. One possibility is that families of more severely ill teens are more willing to commit to and attend treatment, thereby
maximizing the efficacy of the intervention. Perhaps severely ill teens are more motivated to practice skills application, and thus derive more benefit from a skills-based approach. Alternatively, given that BP and borderline personality disorder frequently co-occur (Magill, 2004), it is possible that illness severity in this sample is indicative of comorbid borderline features that served to moderate treatment response.

Clinical gains from pre- to post-treatment were evident in the domains of suicidality, non-suicidal self-injurious behavior, emotional dysregulation, and depressive symptoms. It is noteworthy that the domains of improvement we document are similar to those reported in randomized controlled trials of DBT for adults, as well as those reported in the quasi-experimental DBT study with suicidal adolescents (Rathus and Miller, 2002). These findings may lend support to the emerging view of pediatric BP as a disorder of emotional dysregulation, and DBT as a viable treatment approach targeting this core feature.

Limitations

These findings are from a small open trial, and therefore should be viewed as preliminary. Given that we do not have data from a comparison group, we cannot conclude that DBT was responsible for the observed improvement. That is, improvement could be attributable to other factors including natural course of illness, medications, or nonspecific therapeutic elements like attention. Additionally, given that patients exhibited only mild manic symptomatology at pre-treatment, we have limited ability to assess manic symptom improvement with DBT treatment in the current sample. Furthermore, elements of DBT overlap with other efficacious interventions for BP (e.g., Cognitive-Behavioral therapy, Social Rhythm therapy, Family-Focused therapy) rendering it possible that the “active ingredient” in DBT for BP adolescents is common to other therapies. Nonetheless, there is a logical link between the treatment modules delivered and the areas of clinical improvement observed. Namely, skills focused on improving emotion regulation and distress tolerance, and improvements were noted in related areas of mood lability and suicidality. Finally, because the first author was the only
DBT-trained clinic staff member, the consultation team (a central DBT element to provide therapist support and improve adherence) was not employed. This omission may have caused higher levels of therapist burnout resulting in reduced effectiveness. Without data on treatment adherence, we are unable to determine whether absence of the consultation team compromised adherence to the DBT model.

Clinical Implications

Clinicians providing treatment to adolescent BP patients encounter a myriad of treatment challenges. DBT's emphasis on skill-building and improving emotion regulation provide a coherent framework well-suited for addressing the cyclicity and chronicity associated with BP. This study demonstrates the feasibility of implementing DBT with adolescent BP patients and their families by incorporating adaptations for age and illness. Preliminary data from a highly ill sample of BP adolescents suggest the intervention was well-accepted by patients and their families, and was associated with improvement from pre- to post-treatment in multiple domains including suicidality, non-suicidal self-injury, emotional dysregulation, and depressive symptomatology.

Future Directions

Conduct of a randomized controlled trial incorporating a comparison condition will be an important future direction in order to demonstrate treatment efficacy. Furthermore, identification of factors (e.g., Axis I or II comorbidity) predicting treatment response within this highly heterogeneous group may prove beneficial, such that we may match patients with treatments from which they are most likely to derive benefit.

Future studies should also aim to understand the mechanisms of treatment-related improvement. For example, we plan to add post-treatment measures assessing participants' knowledge of DBT skills in order to determine to what extent clinical improvement is related to skills acquisition.
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*Hollingshead Redlich criteria

# Schedule for Affective Disorders and Schizophrenia for School-Aged Children Depression Rating Scale (K-SADS-DRS); Range 0-61

* Schedule for Affective Disorders and Schizophrenia for School-Aged Children Mania Rating Scale (K-SADS-MRS); Range 0-63
Abstract

Objective

To describe an adapted version of Dialectical Behavior Therapy (DBT) for adolescents with bipolar disorder.

Method

The DBT intervention is delivered over one year, and consists of two modalities: Family Skills Training (conducted with individual family units) and Individual Therapy. The acute treatment period (6 months) includes 24 weekly sessions; sessions alternate between the two treatment modalities. Continuation treatment consists of 12 additional sessions tapering in frequency through one year. We conducted an open pilot trial of the treatment, designed as an adjunct to pharmacological management, to establish feasibility and acceptability of the treatment for this population. Participants included 10 patients (mean age = 15.8 ± 1.5 years, range 14-18) receiving treatment in an outpatient pediatric bipolar specialty clinic. Symptom severity and functioning were assessed quarterly by an independent evaluator. Consumer satisfaction was also assessed post-treatment.

Results

Feasibility and acceptability of the intervention were high, with 9 of 10 patients completing treatment, 90% of scheduled sessions attended, and high treatment satisfaction ratings. Patients exhibited significant improvement from pre- to post-treatment in suicidality, non-suicidal self-injurious behavior, emotional dysregulation, and depressive symptoms.

Conclusions

DBT may offer promise as an approach to the psychosocial treatment of adolescent bipolar disorder.

Key Words:
bipolar disorder, adolescents, therapy, psychosocial treatment
Introduction

Over the last decade, bipolar disorder (BP) in children and adolescents has gained increasing attention. Research suggests BP affects approximately 1% of community adolescents (Lewinsohn et al., 1995), with estimates as high as 6-15% in clinical samples (Biederman et al., 1995; Pavuluri et al., 2006). Adolescents with BP exhibit a difficult illness course characterized by prolonged episodes, substantial inter-episodic symptoms, and marked functional impairment (Birmaher et al., 2006). High rates of psychosis, comorbidity, and hospitalizations have also been reported in this population (Axelson et al., 2006). BP onset in adolescence is particularly pernicious due to its associations with drug and alcohol abuse, unprotected sex, and suicide (Brent and Lerner, 1994; Goldstein et al., 2005; McClellan et al., 1993). Evidence suggests the majority of adolescent-onset BP patients experience a deteriorating course into adulthood, with poor outcomes including chronic functional impairment and treatment resistance (Strober et al., 1995). Given the projected continuity and morbidity associated with adolescent BP, effective early intervention may minimize the long-term debilitating effects of the illness.

While there has been progress in the area of pharmacotherapy for pediatric BP (Kowatch and DelBello, 2005), medications often leave patients with residual symptoms and side effects. Guidelines for the treatment of pediatric BP therefore identify psychosocial intervention that augments pharmacotherapy as a critical component of optimal treatment (Kowatch et al., 2005).

To date, there are no empirically validated psychosocial treatments for BP adolescents. However, several promising approaches are at various stages of treatment development. Miklowitz and colleagues (2004) demonstrated the feasibility of delivering a developmentally modified version of Family Focused Therapy (FFT-A) for BP adolescents in an open treatment development study. This 9-month psychoeducational/skills program was associated with decreases in manic, depressive, and problem behavior rating scores from intake to 1-year
follow-up. Danielson and colleagues (2004) are currently testing a 12-session cognitive-behavioral therapy (CBT) for BP adolescents. For pre-adolescent BP, Fristad and colleagues (2003) tested the efficacy of a multi-family psychoeducational group (MFPG). As compared with a wait-list control condition, parents receiving MFPG were more knowledgeable about their child’s mood disorder and more successful obtaining health services for their child over 6-month follow-up. Pavuluri and colleagues (2004) treated school-aged BP children by combining components of FFT and CBT. In this open trial, treatment was associated with improvement in psychosocial functioning, mood symptoms, and medication adherence.

Dialectical Behavior Therapy (DBT; Linehan, 1993) is an evidence-based psychotherapy developed for adults with borderline personality disorder. The main DBT treatment target is emotional dysregulation, characterized by high sensitivity to emotional stimuli, extreme emotional intensity, and a slow return to baseline emotional state. Not surprisingly, research indicates BP teens exhibit a range of extreme positive and negative emotions (Birmaher et al., 2006). In fact, recent literature posits that the core clinical feature underlying pediatric BP is emotional dysregulation (Leibenluft et al., 2003). Studies indicate that emotion regulatory processes are developmentally acquired, determined by both biological and psychosocial processes, and under consolidation during adolescence (Dahl and Spear, 2004). Yet, none of the interventions for adolescent BP examined to date expressly target this core illness feature. BP in adolescence is also associated with suicidal behaviors (Goldstein et al., 2005; Lewinsohn et al., 1995), interpersonal deficits (Goldstein et al., 2006), and treatment non-adherence (Coletti et al., 2005)—all DBT treatment targets.

As compared with treatment as usual (TAU), DBT has been shown to reduce suicidal behaviors, hospitalizations, and anger, while improving social adjustment and treatment adherence among adults with borderline personality disorder (Linehan et al., 1994). Miller and colleagues (1997) adapted DBT for suicidal adolescents by incorporating age-appropriate language, decreasing treatment length, and involving family members in skills training groups.
In a quasi-experimental design, adolescents receiving DBT had fewer psychiatric hospitalizations and greater treatment adherence than TAU patients. DBT was also associated with decreases in depressive symptoms and suicidal ideation from pre- to post-treatment (Rathus and Miller, 2002). Katz and colleagues (2004) employed DBT on an inpatient unit for suicidal adolescents, reporting decreased behavioral incidents, but not suicidality, as compared with a TAU unit.

In light of the successful adaptation of DBT for adolescents, and the role of emotional dysregulation in BP, we applied DBT to the treatment of BP adolescents. First, we describe clinical methods and treatment adaptations for this population. We then present data from an open trial of DBT and pharmacotherapy in ten BP adolescents.
Method

Treatment Development

The DBT intervention for BP adolescents is based on Miller and colleagues’ (2003; 2006) manual incorporating age-appropriate modifications for suicidal adolescents. We further incorporated illness-specific modifications designed to meet the unique needs of a BP population. In this section, we describe basic principles for applying DBT to adolescent BP.

Treatment Structure

As in standard DBT, we employed two treatment modalities: 1) Skills Training (adapted for individual family units) in which the primary focus was to teach new skills, and 2) Individual Therapy, aiming to aid the adolescent in applying skills in their daily lives. The same therapist (the first author) delivered both modalities. Therapist training prior to conduct of the pilot study included attendance at a 2-day DBT training and completion of a 3-month clinical rotation at a DBT-based Intensive Outpatient Program for suicidal and parasuicidal women. During conduct of the study, the therapist received additional DBT training and supervision via a 6-month DBT Training Program conducted by a certified BehavioralTech trainer consisting of a 2-day workshop, weekly DBT seminar, and weekly individual clinical supervision in DBT.

During the acute treatment period (months 1-6), participants received 24 weekly sixty-minute sessions, alternating between the two modalities: 12 Family Skills Training and 12 Individual Therapy sessions. The continuation phase of treatment (months 7-12) consisted of 12 total sessions (6 Family Skills Training, 6 Individual Therapy; each modality monthly) during which the aim was to consolidate gains and review skills application.

Standard DBT for adults includes one year of weekly skills group (2 hours) and individual therapy (1 hour). The DBT therapy schedule employed by Miller with adolescents is less intensive: 16 weeks of skills group (2 hours) and individual therapy (1 hour). Although our treatment is longer than Miller and colleagues’ (one year versus 16 weeks), the treatment is less intensive because skills training sessions are conducted bi-weekly for 1 hour (versus weekly for
2), and individual therapy sessions are conducted bi-weekly (versus weekly). In sum, our year-long protocol includes 18 hours of skills training and 18 hours of individual therapy (36 total treatment hours), as compared to Miller’s 16-week program that includes 32 hours of skills training and 16 hours of individual therapy (48 total treatment hours). This therapy schedule emerged from considerations specific to this population. Given the cyclical nature of BP, extending treatment over a prolonged period increases the opportunity for skills to be applied across mood states, thereby maximizing clinical benefit. Furthermore, given that many BP adolescents exhibit attentional deficits, abbreviating Skills Training sessions to 1 hour may optimize learning.

**Family Skills Training.** Family Skills Training was conducted with the family unit, and began with psychoeducation (sessions 1-2, see below), then proceeded through the four standard DBT modules: Mindfulness (sessions 3-4), Distress Tolerance (5-7), Emotion Regulation (8-10), and Interpersonal Effectiveness (11-12) (see Linehan 1993b and Miller et al., 2006 for detailed description of skills modules). Content from “Walking the Middle Path,” an additional module developed for parents of adolescents (Rathus and Miller, 2000) was woven throughout treatment and into the continuation phase.

We used handouts to introduce new skills. Participants were guided through exercises and activities for each skill imparted. Homework was assigned for participants to gain practice applying new skills. Family members were encouraged to coach one another in the effective use of skills in their environment.

**Individual Therapy Sessions.** Individual therapy sessions were structured in standard format (Miller et al., 2006), and target behaviors were prioritized in accordance with the DBT hierarchy of treatment targets. Problem-solving strategies were applied, including the conduct of behavioral chain analyses for targeted problems (e.g., medication non-adherence) to understand the function of the behavior, identify constructive alternative solutions, and develop techniques for avoiding future problem behaviors.
Skills Coaching by Phone. The therapist was available to participants by pager for in-vivo skills coaching—*a crucial, albeit challenging, aspect of DBT that appears particularly important with adolescent clients* (Miller et al., 2006). Participants were educated about appropriate coaching situations. DBT therapists must identify and observe their own reasonable personal limits for phone calls. Calling the therapist too frequently (as well as too infrequently) is considered therapy-interfering behavior, and is targeted in individual sessions. The frequency of skills coaching calls was not documented in the pilot study.

Diary Cards. Patients completed diary cards tailored for this population assessing mood, sleep, suicidality, and medication adherence daily during the study (*Figure 1*). Patients reported use of specified DBT skills on the diary card; individualized treatment goals were also incorporated.

**Treatment Modifications**

Family Skills Training. The DBT model for adolescents incorporates family members in Skills Training in a multi-family group format. We similarly felt inclusion of the family would yield the most potential for clinical benefit with BP adolescents based on literature linking stressful family environments with BP relapse (Butzlaff and Hooley, 1998) and poor treatment adherence (Geller and Luby, 1997). Furthermore, relatives of adolescent-onset BP patients have elevated rates of BP (Faraone et al., 2003; Geller et al., 2006). Thus, not only do patients gain in vivo coaches, but family members gain skills for managing their own emotional dysregulation. We elected to deliver Family Skills Training to individual family units in order to maximize DBT therapists’ ability to address issues specific to each family and devote time to skills that addressed areas of greatest need.

Addition of a Psychoeducation Module. Given that psychoeducation is integral to successful BP treatment (Kowatch et al., 2005), we added a psychoeducational module (sessions 1-2) on adolescent BP. *Psychoeducational handouts are available on the Journal’s web site at www.jaacap.com through the ArticlePlus feature.* Topics included symptoms and
illness course, medication, and vulnerability factors. The adolescent and family were asked to describe mood states, with prompts for associated cognitions, behaviors, and emotions. These individualized mood and symptom descriptions were then used as anchor points for diary card mood ratings.

Psychoeducation about DBT was also provided, with rationale for its application in BP. A particular emphasis was placed on the importance of balance in the management of BP. A biosocial model was presented in which BP is conceptualized as a transaction between biological and environmental influences. In standard DBT, the specific environmental role of invalidation is stressed. Since little research has examined environmental factors specific to the onset and maintenance of adolescent BP to date, we presented an inclusive biosocial approach, with attention to invalidation as one of several potential environmental vulnerabilities.

The three main components of emotional vulnerability were presented (reactivity, intensity, and duration of affective responses) and applied to the adolescent’s own mood states. “Triggers” for mood states were then identified, and revisited throughout treatment as they pertained to skills use.

**Tailoring Skills for Bipolar Disorder.** Although DBT skills were expressly developed for individuals prone to emotional dysregulation, we further tailored skills for BP to maximize their utility. For example, when introducing the Mindfulness concept “States of Mind,” the differential experience of “emotional mind” associated with depressed, manic, mixed, and euthymic states were explicitly discussed. These distinctions helped participants identify early warning signs of pending mood episodes, and distinguish “normal” emotions from illness symptoms in a non-judgmental fashion.

A unique aspect of applying DBT principles to BP is that while the same skill set is appropriate for managing a range of mood states, skill selection and application vary by mood state. To illustrate skill selection by mood state, the Emotion Regulation skill aiming to build positive emotions by engaging in pleasant activities may prove effective when depressed, but
may exacerbate difficulties when manic. An example of the differential application of skills by mood state includes the Emotion Regulation skill “PLEASE MASTER” focused on reducing vulnerability to emotional mind. Several participants identified the importance of balancing sleep in reducing vulnerability to emotional mind—too much sleep increased vulnerability to depression, whereas too little sleep increased vulnerability to mania.

To aid the teen in determining which skills to apply when and how, the primary focus was on helping him/her articulate a situation-specific goal in the context of his/her mood state. One participant, when depressed, would isolate in her room and listen to sad music, which would often precede incidents of self-injury. She was able to identify that when in this state, her goal was to “feel less miserable.” Thus, applying the Emotion Regulation skill “Acting Opposite” to change the current emotion may be skillful in this circumstance. Her opposite action included getting active by taking her dog for a walk while listening to upbeat music. Once the patient’s goal was defined, the patient determined which skill(s) may help attain the stated goal. When teaching skills, the therapist posed the question, “when/how do you think this skill could help you?”

During the continuation phase, Family Skills Training sessions were used to review and consolidate skills. Patients created “coping cards” listing helpful skills for frequently encountered situations. Patients were encouraged to divide their lists by mood state (e.g., “skills that work best when I am depressed”).
The Pilot Study

Participants

Participants were recruited from the Child and Adolescent Bipolar Services (CABS) specialty clinic at Western Psychiatric Institute and Clinic, University of Pittsburgh. Twelve patients identified by their psychiatrist as study-eligible were invited to participate. Two declined participation (one cited work demands and the other entered more intensive treatment). The University of Pittsburgh Institutional Review Board approved all study procedures.

Inclusionary Criteria. 1) age between 12 years, 0 months and 18 years, 11 months; 2) a DSM-IV diagnosis of Bipolar Disorder I, II, or Not Otherwise Specified (NOS; operationalized criteria, see Diagnostic Evaluation) with an acute manic, mixed, or depressive episode in the 3 months preceding study entry; 3) engaged in a pharmacotherapy regimen; 4) at least one parent/guardian willing to participate in family sessions; 5) no evidence of mental retardation or organic central nervous system disorder; and 6) not receiving other outpatient psychotherapy.

Demographics. Sample demographics, illness characteristics, and treatment at intake are presented in Table 1. On average, participants were 16 years old (range 14-18); eight were female. Seven patients met criteria for BPI. Eight participants had at least one comorbid Axis I diagnosis (anxiety, behavioral, and substance use disorders). Eight patients had a history of at least one suicide attempt, and 7 had at least one psychiatric hospitalization.

Procedures

Diagnostic Evaluation. Psychiatric diagnoses were established via the Schedule for Affective Disorders and Schizophrenia for School-Aged Children-Present and Lifetime Version (K-SADS-PL; Kaufman et al., 1997) and the K-SADS Mania Rating Scale (MRS; Axelson et al., 2003). Operationalized criteria for the diagnosis of BP NOS were adopted from the Course and Outcome of Bipolar Youth Study (see Birmaher et al., 2006). Diagnostic evaluation at CABS consisted of a 4-hour assessment process during which: 1) a CABS-trained interviewer (psychiatric nurse or social worker with a minimum of 5 years experience with BP youth)
administered the K-SADS, first to the parent/guardian and subsequently to the adolescent. Summary scores were based on a consensus between information provided by the adolescent and parent; 2) the attending psychiatrist conducted a clinical interview with the adolescent and parent; and 3) the evaluator and the attending used all available information to come to a consensus on the patient's diagnosis. No formal assessment of Axis II pathology was conducted.

Pharmacotherapy. CABS psychiatrists managed the pharmacological treatment of participants according to treatment guidelines established by an expert panel on pediatric BP (Kowatch et al., 2005). Standard pharmacological management in CABS consisted of follow-up visits weekly to biweekly for the first month of treatment. Assuming adequate treatment response, medication management visits were scheduled monthly thereafter. When patients were actively symptomatic, appointments were scheduled more frequently. The DBT therapist collaborated with subjects’ treating psychiatrists on a regular basis during weekly CABS clinic meetings, at which time each subject’s case was reviewed. CABS clinic meetings also offered the opportunity for consultation regarding treatment adaptations for adolescent BP in general.

At the baseline assessment, the number of weeks on the prescribed medication regimen varied widely. The eligibility criterion requiring a syndromal mood episode within 3 months of study entry was intended to ensure that at pre-treatment, mood symptoms were not fully stabilized via the current medication regimen alone.

Outcome Measures. Outcome measures were obtained at baseline and every 3 months during the one-year protocol by a master’s level independent evaluator trained to an acceptable level of reliability on all outcome measures (kappa ≥ 0.80). Interrater reliability between the first author and the independent evaluator conducted on a random sample of 5 interviews yielded 80% exact item agreement on the K-SADS-P Depression Section (DRS; Chambers et al., 1985a), 88% on MRS, and 100% on the Modified Scale for Suicidal Ideation (MSSI; Miller et al.,
Participants received twenty dollars compensation following completion of each interview. Outcome variables were assessed in the following domains:

**Suicidality.** Suicidality was assessed via the MSSI (Miller et al., 1986); items are rated on a 0-3 scale indicating extent of suicidal ideation and intent. Research indicates the MSSI has good internal consistency, and correlates highly with experienced clinicians' ratings of patients' suicidal ideation. Suicidality and non-suicidal self-injurious behavior were also assessed using five K-SADS-DRS items (Chambers et al., 1985a).

**Emotional Dysregulation.** Parents completed the Children's Affective Lability Scale (CALS; Gerson et al., 1996) designed to measure behavior reflective of emotional dysregulation. Items are rated on a 4-point scale indicating frequency of each behavior. Reliability has been demonstrated among controls, outpatient, and inpatient psychiatric samples.

**Mood Symptomatology.** Manic symptoms were assessed via the K-SADS-MRS (Axelson et al., 2003; Chambers et al., 1985b), a 13-item semi-structured interview designed to elicit symptoms associated with mania in pediatric populations. The scale yields scores ranging from 0 to 64. The original MRS psychometric study demonstrated the scale to be a reliable measure of manic symptoms that is sensitive to changes in manic symptom severity with treatment.

Depressive symptoms were assessed using the Depression section of the K-SADS-P semi-structured interview, on which depressive symptoms are rated on a 6-point scale from none to severe. The scale has good internal consistency and inter-rater reliability (Chambers et al., 1985a). The 12-item K-SADS Depression Rating (DRS) was extracted from the K-SADS-P semi-structured interview. The 12-item K-SADS-DRS has been shown to be a reliable measure of depressive symptom severity (Ambrosini et al., 1989), and yields scores ranging from 0 to 63.
The evaluator conducted separate interviews with the patient and parent. Final symptom ratings were based on summary scores incorporating information from both sources; in the event of conflicting information, clinical judgment guided summary ratings.

*Interpersonal Functioning.* Participants completed the self-rated Matson Evaluation of Social Skills with Youngsters (MESSY; Matson et al., 1983) on which subjects rate social behaviors on a 5-point scale according to behavioral frequency. The MESSY correlates highly with other measures of social competence and directly observed social behaviors (Matson et al., 1986). Parents completed the parent-rated version (T-MESSY).

*Treatment Satisfaction.* Post-treatment, patients and parents completed a Treatment Satisfaction Questionnaire assessing acceptability and satisfaction with treatment, each rated on a 7-point scale.

**Data Analysis**

Statistical analyses were performed using the Statistical Package for the Social Sciences Version 13 (SPSS). A series of paired comparison *t*-tests were conducted to determine whether significant changes occurred in each of the domains of interest from pre- to post-treatment. Statistical significance was set at $\alpha = 0.05$. 
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Results

Feasibility

DBT was highly feasible to administer to adolescent BP patients and their families. Of the 10 patients who consented to participate, 9 successfully completed the entire treatment study; one patient terminated prematurely because she moved out of state. Attendance at treatment was high, with over 90% of scheduled sessions attended. Over the one-year treatment period, patients received 33.2 ± 7.5 total sessions (the protocol calls for 36 sessions; Family Skills Training session mean = 15.3 ± 6.0, Individual Therapy session mean = 17.9 ± 3.3).

Patient Satisfaction

Post-treatment satisfaction questionnaires indicate the intervention was acceptable and appropriate to participants’ needs. Both patients and parents reported the frequency of visits was acceptable (likert scale rating 1-7 where 1= too infrequent, 4 = acceptable, and 7 = too frequent; patient mean = 4.7 ± 1.0, parent mean = 3.7 ± .8), as was treatment length (likert scale rating 1-7 where 1= too short, 4 = acceptable, and 7 = too long; patient mean = 3.8 ± .4, parent mean = 3.4 ± .8). Satisfaction ratings show patients and parents were highly satisfied with the DBT treatment approach, as well as with the adolescents’ gains made during treatment (Figure 2).

Treatment Response

Suicidality. Although 80% of participants had a history of attempted suicide, and mean suicidal ideation ratings on both the MSSI and K-SADS-DRS (item 25) reflected the presence of suicidal ideation at intake, none of the participants reported attempting suicide (defined as a self-injurious act with minimal or greater intent to die via the MSSI and/or K-SADS-DRS) during the year-long study. Evaluator ratings of suicidality showed statistically significant improvement over the course of treatment (MSSI paired $t = 2.5$, $p = .04$, Cohen’s $d = 1.2$; DRS paired $t = 2.4$, $p = .03$, Cohen’s $d = 1.0$).
and ratings reflect the absence of suicidality by the conclusion of treatment (Figure 3). Similarly, at intake, 4 participants endorsed a history of non-suicidal self-injurious behavior. Decreases in non-suicidal self-injury on the K-SADS-DRS (item 30) were not statistically significant (paired $t = 2.1$, $p = .06$, $d = .8$), but it is noteworthy that no non-suicidal self-injurious acts were reported during the final study assessment period.

**Emotional Dysregulation.** As seen in Figure 4, total CALS scores decreased significantly (paired $t = 3.0$, $p = .02$, $d = .3$) from mean pre-treatment values comparable to those reported among inpatient samples, to post-treatment values below those reported for outpatient samples (see Gerson et al., 1996).

**Mood Symptoms.** Adolescents showed significant improvement in depressive symptomatology. Total K-SADS-DRS summary scores dropped from the moderate range at intake (mean $= 23.1 \pm 12.0$) to the mild range at 12-month follow-up (mean $= 14.9 \pm 10.6$; paired $t = 2.6$, $p = .03$, $d = .7$). We did not find significant differences between pre- (mean $= 13.3\pm 12.1$) and post- (mean $= 12.2 \pm 14.2$; paired $t = .3$, $p > .05$, $d = .1$) treatment K-SADS-MRS mania ratings. However, mean intake MRS scores reflected very mild manic symptomatology.

**Interpersonal Functioning.** Improvements in interpersonal functioning with treatment were not statistically significant (teen-report MESSY paired $t = 1.2$, $p > .05$, $d = .4$; parent-report T-MESSY paired $t = .9$, $p > .05$, $d = .2$). Mean pre-treatment teen-report scores were elevated as compared with norms for healthy controls (Matson, 1994), whereas post-treatment self-ratings fell within the normal range. In contrast, post-treatment parent-ratings remained elevated when compared with norms for this age group; they were, however, below those reported for other outpatient samples of BP adolescents engaged in treatment (Goldstein et al., 2006).

**Pharmacotherapy.** There were no differences in the number of medications prescribed for participants from pre- to post-treatment (pre-treatment mean $= 2.2 \pm 1.3$, post-treatment mean $2.6 \pm 1.7$, paired $t = -.8$, $p > .05$, $d = -.2$). At the conclusion of the protocol, 7 of the 10 patients were maintained on the same number of medications as at intake, 1 was prescribed
fewer medications, and 2 were prescribed more medications. Adherence to medication regimen was not assessed.
Discussion

Results from this open trial provide initial support for the feasibility and clinical efficacy of DBT for BP adolescents in a highly symptomatic sample. Significant improvement from pre- to post-treatment was evident in suicidality, non-suicidal self-injurious behavior, emotional dysregulation, and depressive symptoms.

Nine of the ten enrolled families completed this year-long treatment. Over 90% of scheduled sessions were attended, which is consistent with high acceptability and satisfaction ratings from participants. Conduct of skills training with individual family units was well-received by participants, and may have further contributed to the high attendance rates. Furthermore, both patients and parents indicated they were highly satisfied with the DBT treatment approach and gains made during treatment. In fact, following the 12-month program, many parents expressed a desire for continued DBT treatment. These satisfaction ratings come from highly experienced consumers of mental health services: 8 of 10 participants had at least one prior course of psychotherapy, 7 of whom had multiple courses.

This patient sample exhibited a high degree of illness severity. Eighty percent of participants had a history of attempted suicide, as compared with 20-44% of other pediatric BP samples (Lewinsohn et al., 2003; Strober et al., 1995). Seventy percent of the sample had a history of psychiatric hospitalization, as compared with 41-52% in other well-characterized pediatric BP samples (Axelson et al., 2006; Findling et al., 2001). With respect to mood symptomatology at intake, DBT participants had more severe depressive, but not manic, symptom scores compared with COBY participants; similarly, DBT participants endorsed more severe symptoms during their worst lifetime episode of depression, but not mania (Axelson et al., 2006). The illness profile of the study sample taken with their treatment response raises the possibility that BP illness severity, and particularly that of the depressive pole, moderates the effects of DBT for this population; this may occur via numerous pathways. One possibility is that families of more severely ill teens are more willing to commit to and attend treatment, thereby
maximizing the efficacy of the intervention. Perhaps severely ill teens are more motivated to
develop skills application, and thus derive more benefit from a skills-based approach.

Alternatively, given that BP and borderline personality disorder frequently co-occur (Magill, 2004), it is possible that illness severity in this sample is indicative of comorbid borderline
features that served to moderate treatment response.

Clinical gains from pre- to post-treatment were evident in the domains of suicidality, non-
suicidal self-injurious behavior, emotional dysregulation, and depressive symptoms. It is
noteworthy that the domains of improvement we document are similar to those reported in
randomized controlled trials of DBT for adults, as well as those reported in the quasi-
experimental DBT study with suicidal adolescents (Rathus and Miller, 2002). These findings
may lend support to the emerging view of pediatric BP as a disorder of emotional dysregulation,
and DBT as a viable treatment approach targeting this core feature.

Limitations

These findings are from a small open trial, and therefore should be viewed as
preliminary. Given that we do not have data from a comparison group, we cannot conclude that
DBT was responsible for the observed improvement. That is, improvement could be attributable
to other factors including natural course of illness, medications, or nonspecific therapeutic
elements like attention. Additionally, given that patients exhibited only mild manic
symptomatology at pre-treatment, we have limited ability to assess manic symptom improvement
with DBT treatment in the current sample. Furthermore, elements of DBT overlap with other
efficacious interventions for BP (e.g., Cognitive-Behavioral therapy, Social Rhythm therapy,
Family-Focused therapy) rendering it possible that the “active ingredient” in DBT for BP
adolescents is common to other therapies. Nonetheless, there is a logical link between the
treatment modules delivered and the areas of clinical improvement observed. Namely, skills
focused on improving emotion regulation and distress tolerance, and improvements were noted
in related areas of mood lability and suicidality. Finally, because the first author was the only
DBT-trained clinic staff member, the consultation team (a central DBT element to provide therapist support and improve adherence) was not employed. This omission may have caused higher levels of therapist burnout resulting in reduced effectiveness. Without data on treatment adherence, we are unable to determine whether absence of the consultation team compromised adherence to the DBT model.

**Clinical Implications**

Clinicians providing treatment to adolescent BP patients encounter a myriad of treatment challenges. DBT’s emphasis on skill-building and improving emotion regulation provide a coherent framework well-suited for addressing the cyclicity and chronicity associated with BP. This study demonstrates the feasibility of implementing DBT with adolescent BP patients and their families by incorporating adaptations for age and illness. Preliminary data from a highly ill sample of BP adolescents suggest the intervention was well-accepted by patients and their families, and was associated with improvement from pre- to post-treatment in multiple domains including suicidality, non-suicidal self-injury, emotional dysregulation, and depressive symptomatology.

**Future Directions**

Conduct of a randomized controlled trial incorporating a comparison condition will be an important future direction in order to demonstrate treatment efficacy. Furthermore, identification of factors (e.g., Axis I or II comorbidity) predicting treatment response within this highly heterogeneous group may prove beneficial, such that we may match patients with treatments from which they are most likely to derive benefit.

Future studies should also aim to understand the mechanisms of treatment-related improvement. For example, we plan to add post-treatment measures assessing participants’ knowledge of DBT skills in order to determine to what extent clinical improvement is related to skills acquisition.
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Goldstein TR, Mullen K, Miklowitz DJ (2006), Social skills knowledge and performance among adolescents with bipolar disorder. *Bipolar Disord* 8:350-361


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Disclosure

The authors have no financial relationships to disclose.
Figure 1. Sample Diary Card

Figure 2. Post-Treatment Satisfaction Ratings for DBT Treatment

Figure 3. Mean Ratings of Suicidality Decrease with DBT Treatment

Figure 4. Ratings of Emotional Dysregulation Normalize with DBT Treatment
<table>
<thead>
<tr>
<th>Date</th>
<th>Mood</th>
<th>Mood Switches</th>
<th>Sleep</th>
<th>Meds as prescribed</th>
<th>Suicidality</th>
<th>Self-injury</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-10</td>
<td># per day</td>
<td># hours</td>
<td>AM PM Thoughts Actions</td>
<td>0-5 Y/N</td>
<td>0-5 Y/N</td>
</tr>
<tr>
<td>Mon 11/12</td>
<td>3</td>
<td>0</td>
<td>10</td>
<td>Y</td>
<td>Y</td>
<td>4</td>
</tr>
<tr>
<td>Tues 11/13</td>
<td>3</td>
<td>0</td>
<td>11</td>
<td>Y</td>
<td>Y</td>
<td>2</td>
</tr>
<tr>
<td>Wed 11/14</td>
<td>7</td>
<td>0</td>
<td>5</td>
<td>Y</td>
<td>N</td>
<td>0</td>
</tr>
<tr>
<td>Thurs 11/15</td>
<td>7/5</td>
<td>1</td>
<td>7</td>
<td>Y</td>
<td>Y</td>
<td>0</td>
</tr>
<tr>
<td>Fri 11/16</td>
<td>5</td>
<td>0</td>
<td>8</td>
<td>Y</td>
<td>Y</td>
<td>0</td>
</tr>
<tr>
<td>Sat 11/17</td>
<td>5</td>
<td>0</td>
<td>8</td>
<td>Y</td>
<td>Y</td>
<td>0</td>
</tr>
<tr>
<td>Sun 11/18</td>
<td>4</td>
<td>0</td>
<td>9</td>
<td>Y</td>
<td>Y</td>
<td>1</td>
</tr>
</tbody>
</table>

**Rating scale anchors for mood:**
1 = Severe depression (the most depressed I get)
5 = Stable mood (not depressed, not hypomanic)
10 = Severe hypomania (the most hypomanic I get)

*Used Skills*
0 = Not thought about or used
1 = Thought about, not used, didn’t want to
2 = Thought about, not used, wanted to
3 = Tried but couldn’t use them
4 = Tried, could use them, but they didn’t help
5 = Tried, could use them, helped
6 = Didn’t try, used them, didn’t help
7 = Didn’t try, used them, helped

**Instructions:** Circle the days you worked on each skill.

<table>
<thead>
<tr>
<th>Skill Description</th>
<th>Mon</th>
<th>Tues</th>
<th>Wed</th>
<th>Thurs</th>
<th>Fri</th>
<th>Sat</th>
<th>Sun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wise Mind</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observe (Just notice what's going on inside)</td>
<td>Mon</td>
<td>Tues</td>
<td>Wed</td>
<td>Thurs</td>
<td>Fri</td>
<td>Sat</td>
<td>Sun</td>
</tr>
<tr>
<td>Describe (Put words on the experience)</td>
<td>Mon</td>
<td>Tues</td>
<td>Wed</td>
<td>Thurs</td>
<td>Fri</td>
<td>Sat</td>
<td>Sun</td>
</tr>
<tr>
<td>Participate (Enter into the experience)</td>
<td>Mon</td>
<td>Tues</td>
<td>Wed</td>
<td>Thurs</td>
<td>Fri</td>
<td>Sat</td>
<td>Sun</td>
</tr>
<tr>
<td>Don’t judge (Nonjudgmental stance)</td>
<td>Mon</td>
<td>Tues</td>
<td>Wed</td>
<td>Thurs</td>
<td>Fri</td>
<td>Sat</td>
<td>Sun</td>
</tr>
<tr>
<td>Stay focused (Onemindfully; in the moment)</td>
<td>Mon</td>
<td>Tues</td>
<td>Wed</td>
<td>Thurs</td>
<td>Fri</td>
<td>Sat</td>
<td>Sun</td>
</tr>
<tr>
<td>Do what works (Effectiveness)</td>
<td>Mon</td>
<td>Tues</td>
<td>Wed</td>
<td>Thurs</td>
<td>Fri</td>
<td>Sat</td>
<td>Sun</td>
</tr>
<tr>
<td>Identifying and labeling emotions</td>
<td>Mon</td>
<td>Tues</td>
<td>Wed</td>
<td>Thurs</td>
<td>Fri</td>
<td>Sat</td>
<td>Sun</td>
</tr>
<tr>
<td>PLEASE (Reduce vulnerability to emotion mind)</td>
<td>Mon</td>
<td>Tues</td>
<td>Wed</td>
<td>Thurs</td>
<td>Fri</td>
<td>Sat</td>
<td>Sun</td>
</tr>
<tr>
<td>MASTER (Building mastery, feeling effective)</td>
<td>Mon</td>
<td>Tues</td>
<td>Wed</td>
<td>Thurs</td>
<td>Fri</td>
<td>Sat</td>
<td>Sun</td>
</tr>
<tr>
<td>Engaging in pleasant activities</td>
<td>Mon</td>
<td>Tues</td>
<td>Wed</td>
<td>Thurs</td>
<td>Fri</td>
<td>Sat</td>
<td>Sun</td>
</tr>
<tr>
<td>Working toward long-term goals</td>
<td>Mon</td>
<td>Tues</td>
<td>Wed</td>
<td>Thurs</td>
<td>Fri</td>
<td>Sat</td>
<td>Sun</td>
</tr>
<tr>
<td>Building structure (time, work, play)</td>
<td>Mon</td>
<td>Tues</td>
<td>Wed</td>
<td>Thurs</td>
<td>Fri</td>
<td>Sat</td>
<td>Sun</td>
</tr>
<tr>
<td>Acting opposite to current emotion</td>
<td>Mon</td>
<td>Tues</td>
<td>Wed</td>
<td>Thurs</td>
<td>Fri</td>
<td>Sat</td>
<td>Sun</td>
</tr>
<tr>
<td>Other:</td>
<td>Emotions</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Drinking</td>
<td>Lying</td>
<td>Anger</td>
<td>Fear</td>
<td>Happy</td>
<td>Nervous/Anxious</td>
<td>Sad</td>
<td>Shame/Guilt</td>
</tr>
<tr>
<td># &amp; what</td>
<td># lies told</td>
<td>0-5</td>
<td>0-5</td>
<td>0-5</td>
<td>0-5</td>
<td>0-5</td>
<td>0-5</td>
</tr>
<tr>
<td>0</td>
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<td>2</td>
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<td>2</td>
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<td>2</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3 beers</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>1</td>
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<tr>
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<td>1</td>
<td>3</td>
<td>1</td>
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<td>1</td>
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<tr>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Rating scale for emotions and urges:
0 = Not at all     1 = A bit     2 = Somewhat     3 = Rather strong     4 = Very strong     5 = Extremely strong

Urge to quit therapy: 2

Instructions: Circle the days you worked on each skill.

<table>
<thead>
<tr>
<th>Interpersonal Effectiveness</th>
<th>Distress Tolerance</th>
<th>Walking the Middle Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>15. DEAR MAN (Getting what you want)</td>
<td>Mon</td>
<td>Tues</td>
</tr>
<tr>
<td>16. GIVE (Improving the relationship)</td>
<td>Mon</td>
<td>Tues</td>
</tr>
<tr>
<td>17. FAST (Feeling effective &amp; keeping your selfrespect)</td>
<td>Mon</td>
<td>Tues</td>
</tr>
<tr>
<td>18. Cheerleading statements for worry thoughts</td>
<td>Mon</td>
<td>Tues</td>
</tr>
<tr>
<td>19. ACCEPTS (Distract)</td>
<td>Mon</td>
<td>Tues</td>
</tr>
<tr>
<td>20. Self-soothe (Five senses)</td>
<td>Mon</td>
<td>Tues</td>
</tr>
<tr>
<td>21. Pros and cons</td>
<td>Mon</td>
<td>Tues</td>
</tr>
<tr>
<td>22. Radical acceptance</td>
<td>Mon</td>
<td>Tues</td>
</tr>
<tr>
<td>23. Positive Reinforcement</td>
<td>Mon</td>
<td>Tues</td>
</tr>
<tr>
<td>24. Validate Self</td>
<td>Mon</td>
<td>Tues</td>
</tr>
<tr>
<td>25. Validate someone else</td>
<td>Mon</td>
<td>Tues</td>
</tr>
<tr>
<td>26. Think dialectically (not in black and white)</td>
<td>Mon</td>
<td>Tues</td>
</tr>
<tr>
<td>27. Act dialectically (walk the middle path)</td>
<td>Mon</td>
<td>Tues</td>
</tr>
</tbody>
</table>
Modified Scale for Suicidal Ideation (MSSI; Miller et al., 1986)
Intake 12 months
Mean CALS Score
Childhood Affective Lability Scale (CALS; Gerson et al., 1996)
Symptoms of Bipolar Disorder in Adolescents

Mania/ Hypomania (High)
- Elated, super-happy mood
  OR
- Irritable, angry, cranky mood
- Acting silly or goofy
- Feeling really good about yourself
- Talking fast or too much
- Thoughts go quickly through your head
- Lots of thoughts or ideas that can jump around
- Don’t need much sleep
- Tons of energy, feeling hyper
- Less hungry
- Hard to focus
- Doing risky or dangerous things

Depression (Low)
- Sad mood
  OR
- Irritable, angry, cranky mood
- Less interested in things you used to like to do
- Feeling guilty
- Getting down on yourself (appearance, intelligence, personality)
- Need more sleep OR have trouble sleeping but still feel tired
- Less energy
- Moving slower, talking slower
- Less hungry OR more hungry than usual
- Craving sweets or carbohydrates
- Crying
- Hard to think or concentrate
- Having thoughts about self-harm and/or suicide
# Medications Used to Treat Bipolar Disorder

<table>
<thead>
<tr>
<th>Class of Medication</th>
<th>What do they do?</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Generic Name</td>
</tr>
<tr>
<td>Mood Stabilizers</td>
<td>• Stabilize mood swings (between mania and depression)</td>
<td>Lithium Carbonate</td>
</tr>
<tr>
<td></td>
<td>• Protect against recurrences of mood swings</td>
<td>Valproate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Carbamazepine</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lamotrigine</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Atypical Antipsychotics</td>
<td>• Decrease irritability and agitation</td>
<td>Quetiapine</td>
</tr>
<tr>
<td></td>
<td>• Treat manic and depressive symptoms</td>
<td>Aripiprazol</td>
</tr>
<tr>
<td></td>
<td>• Control psychosis</td>
<td>Risperidone</td>
</tr>
<tr>
<td></td>
<td>• Help normalize sleep</td>
<td>Ziprasidone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Olanzapine</td>
</tr>
<tr>
<td>Antidepressants</td>
<td>• Treat depressive symptoms</td>
<td>Fluoxetine</td>
</tr>
<tr>
<td></td>
<td>• Decrease anxiety</td>
<td>Sertraline</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Paroxetine</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Citalopram</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Escitalopram</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bupropion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Venlafaxine</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>• Decrease anxiety and agitation</td>
<td>Alprazolam</td>
</tr>
<tr>
<td></td>
<td>• Help improve sleep</td>
<td>Lorazepam</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clonazepam</td>
</tr>
</tbody>
</table>
Emotional Vulnerability

1) Sensitivity to emotions:
   Things bother you that may not bother other people. Your emotional reactions are easily triggered.

2) Intensity of emotions:
   When something bothers you, your emotional reaction is more intense or extreme than it might be for other people. You feel things very strongly.

3) Duration of emotions:
   When you have an emotional reaction, it lasts longer for you than it might for other people. Your emotions take longer to come back down to baseline.

Emotional Vulnerability + Difficulty Regulating Emotions = Emotional Dysregulation