Published in final edited form as:

Cogn Behav Pract. 2013 November ; 20(4): 485–500. doi:10.1016/j.cbpra.2012.11.001.

A Pilot Study of an Acceptance-Based Separated Family Treatment for Adolescent Anorexia Nervosa

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Abstract

The treatment of adolescent anorexia nervosa (AN) has improved significantly with the increased emphasis on family-based intervention. Yet despite advances, a substantial number of adolescents do not respond optimally to existing treatment models and thus there is a need for treatment alternatives that address barriers to recovery. We developed and piloted an acceptance-based separated family treatment (ASFT) with 6 adolescents with AN or subthreshold AN (eating disorder not otherwise specified, with the primary symptoms of restriction and severe weight loss). Treatment acceptability was adequate. Overall, parents rated the treatment as credible and expected improvement in their child's condition. Five of the 6 adolescents treated with ASFT restored weight to their ideal body mass index as indicated by age, height, and sex and determined by individual growth charts. Many demonstrated improved psychological health and adaptive functioning. There was evidence of broad effects, with parents reporting decreased anxiety and caregiver burden. ASFT holds promise as a treatment option for AN. The efficacy of this therapeutic approach should be tested in larger trials and compared to current family-based interventions to determine unique effects.

Keywords

anorexia nervosa; eating disorders; acceptance and commitment therapy; family therapy

Anorexia nervosa (AN) is the deadliest of the psychiatric disorders, with mortality rates three times higher than other mental health conditions (Birmingham, Su, Hlynsky, Goldner,

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The authors would like to acknowledge Ashley A. Moskovich, M.A., and Lisa K. Honeycutt, M.A., for their contribution to this manuscript.

& Gao, 2005; Herzog et al., 2000; Keel et al., 2003). Premature death, due to medical complications secondary to starvation (e.g., cardiac failure) or suicide, range from 5% to 20% with the aggregate mortality rate approximately 5.6% per decade (Birmingham et al., 2005; Steinhausen, 2002). AN typically emerges in adolescence and may have significant implications for healthy development yielding potentially permanent alternations in growth velocity, bone health, and cerebral volume (Lanes & Soros, 2004; Misra & Klibanski, 2011; Roberto et al., 2011). Early intervention dramatically alters the course of the illness and may circumvent such devastating outcomes (Treasure & Russell, 2011).

Recent years have seen advancement in the treatment of adolescents with AN, with family-based treatment developed at Maudsley Hospital (FBT-M), and refined by Lock, le Grange, Agras, and Dare (2001), showing strong promise. Almost half of the adolescents who receive FBT-M (40% to 50%) restore weight to 95% of ideal for height, age, and sex, and Eating Disorder Examination (EDE) scores are reduced to within one standard deviation of normative samples (Lock et al., 2010). While significant, this leaves a substantial subset of adolescents treated with FBT-M making more modest or no gains; thus, there is a need for treatment alternatives.

FBT-M is a nonetiological, practical family-based solution to undernourishment. The majority of treatment is devoted to reversing weight loss via the parents taking initial control over the adolescent's eating and transferring that control back to the adolescent when appropriate. There is no attempt to build new skills, but rather an emphasis on parents' previous experience caring for their child and an assumption that the adolescent has the capacity to resume a normal developmental trajectory when restriction ceases (Lock et al., 2001; Lock, Agras, Bryson, & Kraemer, 2005; Loeb, Lock, Greif, & le Grange, 2010). Approaching AN in this way has reduced stigma and misplaced blame on caregivers that plagued earlier conceptualizations of the illness. However, it may also decrease therapeutic attention to factors that either maintain illness behaviors or otherwise limit treatment outcome among some adolescents.

Factors That Maintain Illness: Negative Reinforcement Contingencies

Converging evidence indicates significant cognitive and behavioral rigidity among individuals with AN (Abbate-Daga et al., 2011; Egan, Piek, Dyck, & Rees, 2007; Kaye, 1997; Steinglass, Walsh, & Stern, 2006; Tchanturia et al., 2004; Zucker & Losh, 2008). Those with the extreme forms of these features tend to have more severe or persistent symptoms (Tchanturia et al., 2011). There is evidence that some forms of rigidity may have existed premorbidly, while others may have onset or been exacerbated by the starved state. While rigidity may be biologically based, it is also negatively reinforced. Rigid rules to guide action (e.g., dietary prescriptives) reduce anxiety by minimizing uncertainty and eliminating fear of mistakes (Merwin et al., 2011; Zucker et al., 2007). Following rigid dietary rules might also reduce discomfort indirectly via severe weight loss, which is highly valued and thus a source of positive feelings (e.g., pride). Further, because severe weight loss leads to the biological adaptations of starvation, it may also attenuate the somatic constituents of emotion (e.g., heart rate; Damasio, 1995) and thereby decrease the experienced intensity of the anxious state (Pollatos, Gramann, & Schandry, 2007). Thus,

rigid rules are powerful sources of both proximal and distal negative reinforcement—reducing negative emotions and aversive body states.

For individuals with AN who tend to be anxious, highly harm avoidant (Sancho, Arija, & Canals, 2008), and perfectionistic (Egan et al., 2007; Sutandar-Pinnock, Woodside, Carter, Olmstead, & Kaplan, 2003), the reinforcing properties of dietary rules may be an important factor influencing illness intractability. Rigid rule following would also be expected to impact functioning more generally by reducing skill in the use of ongoing, dynamic internal experience to guide action; interfering with the adolescent's ability to navigate other developmentally appropriate challenges (e.g., complex social situations; Zucker et al., 2007). Current interventions for adolescents with AN address reinforcement for dietary restriction by facilitating exposure to food by way of parent-facilitated meals (Loeb et al., 2010). For some adolescents, prognosis may be improved by addressing rigidity more broadly and providing the affected adolescent with the skills necessary to relinquish unhelpful rules and behave effectively despite uncertainty or other psychological discomfort. This would include teaching adolescents with AN to identify and respond adaptively to emotion and experiment with new behaviors that initially increase anxiety.

Negative reinforcement contingencies are also relevant to caregivers who are renourishing their child. Having a child with a severe psychiatric illness is extremely stressful (Zabala, MacDonald, & Treasure, 2009), and parents often experience an array of intense emotions. Intense emotions are known to make parent-facilitated treatment more challenging. For example, in obsessive-compulsive disorder, parental anxiety has been associated with illness accommodation (i.e., allowing the child to engage in checking compulsions; Caporino et al., 2012; Flessner et al., 2011). In the context of an eating disorder (ED), parental anxiety may lead parents to oblige ritualized eating and exercise behavior (e.g., by adopting a rigid mealtime schedule), rather than intervene and risk increased family conflict or causing their child distress. Parental anxiety could also generate inconsistent responses to illness behavior; caregivers may freeze (underrespond) or panic (overrespond) when witnessing their child restrict.

Other emotions might also have a negative impact on renourishment efforts. Frustration with symptoms or guilt regarding their child's illness, for example, may lead to negative and affectively laden parental communication to compel the child to change. While this behavior may be aimed at reducing painful affect for all family members, such a critical approach would be expected to further escalate a challenging situation and promote “power struggles” that maintain symptomatology. Similarly, parents might worry or experience sadness regarding their child's condition, and in an effort to remediate this experience, unintentionally collude with AN (e.g., not insist on additional food intake at meals for fear of making things worse). Indeed, critical communication and emotional overinvolvement are aspects of expressed emotion (EE), a parental factor that has been found to impact ED prognosis (Eisler et al., 1997; Kyriacou, Treasure, & Schmidt, 2008). Improving parents' ability to recognize and respond effectively to understandable but difficult emotions might allow them to more successfully manage their child's illness with less caregiver burden (Treasure, Murphy, Szmulker, Gavan, & Joyce, 2001).

Acceptance-Based Strategies as a Viable Approach

Over the last decade there has been an emergence of cognitive-behavioral therapies (CBT) that emphasize acceptance of negative or evocative thoughts and feelings as an alternative to avoidance, suppression, or overattachment to compelling private events. These approaches are well-suited to address negative reinforcement contingencies that maintain illness as they target emotional avoidance and emphasize effective action despite emotional upset or competing cognitions. This approach would be expected to not only improve adolescents' ability to eat healthfully despite fear or uncertainty, but also their overall functioning by permitting them to behave in ways that are contrary to ineffective self-imposed rules (e.g., social scripts). Further, by helping parents observe thoughts and feelings without acting on them, acceptance-based treatments may make it easier for parents to respond appropriately to illness behavior *despite* guilt, frustration, fear or worry thoughts. Given the inevitability of negative thoughts and feelings in life generally, but specifically during AN treatment and recovery, this strategy may be more efficient than attempting to change the frequency or intensity of private experiences in order to change behavior.

Acceptance-based approaches are also a novel way to deal with other challenges of AN, a notoriously difficult condition to treat due to the ego-syntonic nature of the symptoms and the influence of such symptom "acceptance" on unwillingness to build a therapeutic alliance (Pereira, Lock, & Oggins, 2006). Strategies to deal with these issues include motivational interviewing (Geller & Dunn, 2011) and using a nonconfrontational style that focuses on the advantages and disadvantages of symptoms rather than their (ir)rationality (Vitousek, Watson, & Wilson, 1998). While not vastly different, acceptance-based treatments (such as Acceptance and Commitment Therapy; ACT) center treatment on an individual's values and highlight the way in which emotional willingness allows engagement in meaningful life activities (e.g., the willingness to experience uncertainty makes it possible to seek and develop friendships). Broadening treatment to other domains of functioning (rather than just nutritional status, the primary focus in FBT-M) would be expected to improve treatment acceptability among adolescents with AN and support long-term health and well-being. Further, by facilitating decreased *attachment to* cognition (e.g., strongly held beliefs about eating or body size/shape), acceptance-based approaches may sidestep problems inherent in challenging cognitions that are resistant to change (Guarda, 2008). Studies suggest that acceptance-based treatments are helpful for ED symptomatology, but might be enhanced with inclusion of the family (Baer, Fischer, & Huss, 2005; Berman, Boutelle, & Crow, 2009; Heffner, Sperry, Eifert, & Detweiler, 2002; Juarascio, Shaw, Forman, Timko, & Herbert, 2012; Wildes & Marcus, 2011).

Piloting an Acceptance-Based Separated Family Therapy (ASFT)

We developed and piloted a family-based treatment for adolescents with AN. The treatment builds upon the strengths of FBT-M (e.g., inclusion of parents in treatment), but also includes direct skill instruction and acceptance-based strategies to target negative reinforcement for symptom expression and increase behavioral flexibility in illness (e.g., mealtimes) and nonillness situations (e.g., social situations). We used a separated format due to data that indicate better outcome for families with a parent who has high EE in separated

family therapies (Eisler et al., 2000). A separated format was also used because it provides caregivers with an opportunity to openly express and address difficult thoughts/feelings without the presence of their child.

As in FBT-M, caregivers assumed initial responsibility for re-nutrition. However, this occurred in the context of interventions directly addressing caregiver barriers (e.g., heightened affect) and skill deficits (e.g., behavior management strategies). Treatment was structured such that caregivers were quickly provided with essential tools to promote increased food intake at the same time that adolescents were learning about the functionality of their symptoms and establishing willingness for change. Unlike FBT-M, adolescent and parent issues were addressed as they emerged, rather than waiting until the final few sessions and after restriction remitted. As such, most sessions included both behavior change plans and interventions targeting maladaptive avoidance or emotional control. The aim was not only to reduce immediate barriers to renourishment, but also improve life quality and adaptive functioning. Siblings or other family members did not attend sessions unless a specific issue arose, in which case they attended 1 to 2 sessions to address concerns.

Therapeutic components were grounded in ACT (Hayes, Strosahl, & Wilson, 1999) rather than dialectical behavior therapy or other acceptance-based approaches. This is because ACT focuses exclusively on effective action in the presence of compelling thoughts and feelings rather than on strategies to down-regulate arousal (which individuals with AN may have already mastered with their symptoms) and explicitly infuses values that may increase treatment acceptability and promote long-term health and well-being (Lundgren, Dahl, & Hayes, 2008). ACT includes 6 core processes that can be consolidated into three domains: (a) acceptance and defusion, which promotes openness to experience, (b) contact with the present moment and self-as-context, which increases awareness of the ongoing and dynamic nature of thoughts and feelings separate from the self, and (c) values and committed action, which encourages articulation of deeply held values and patterns of meaningful activity directly connected to those values (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). While consistent with other ACT-informed treatments, ASFT differed in its focus on a family-based treatment and its adaptation of ACT metaphors and exercises so that they were developmentally appropriate and sensitive to the ego-syntonic nature of AN symptomatology.

Treatment Modules

We organized ASFT into four modules. Modules 1 and 2 set the stage for treatment and included a functional assessment that guided intervention. For adolescents, the functional assessment focused on the way in which AN allowed the adolescent to avoid or escape feelings of uncertainty or other uncomfortable psychological states. Treatment aimed to facilitate flexible behavior in the presence of difficult experiences in both illness situations and in situations that may have been feared but were also life enhancing (e.g., friendships). For caregivers, the functional assessment focused on behaviors that reduced their or their child's distress in the short term but were less effective for renourishment or promoting overall adaptive self-regulation in the long term. Thoughts and feelings that interfered with caregivers modeling healthy behaviors were also identified during the functional assessment

and targeted for intervention. Although functional assessment occurred at the beginning of treatment, assessment continued throughout treatment and targets for intervention were refined.

For the parents, Modules 1 and 2 included a review of the outcome of strategies parents have used to compel their child to eat, and, more unique to an ACT approach, a writing assignment that aimed to highlight the value inherent in this effort and the psychological barriers that interfered with effective action. Although the value guiding parents in this context is clear (i.e., the health and well-being of their child), less obvious are the thoughts and feelings that occur during this difficult task and have the potential to reduce parental effectiveness (e.g., thoughts such as, “If I push her to eat dinner, this may damage our relationship”). During this stage of treatment, parents were introduced to the conceptualization of the ED as an avoidant coping strategy and provided with skills to help facilitate intervention at home (e.g., behavioral strategies such as the use of logical consequences). This early stage of ASFT differs from FBT-M in its focus on parental psychological barriers and the use of psychoeducation and skill development to prepare the family for change.

Module 3 aimed to enhance awareness of difficult or compelling private events and increase ability to experience thoughts and feelings nondefensively and separate from chosen action. This module included interventions specifically devoted to openness to experience (*3a. Open*), ongoing awareness of thoughts and feeling separate from the self (*3b. Centered*), and participation in values-consistent action (*3c. Engaged*) for both adolescents and caregivers. Processes of *Open*, *Centered*, and *Engaged* were separated to ensure that all were adequately addressed; however they were also extremely interwoven and present to some degree in all Module 3 sessions. Like other ACT-informed treatments, Module 3 relied heavily on experiential exercise and metaphor. Metaphors were made more accessible for adolescents by using cartoon depictions and developmentally appropriate language and content. Experiential exercises often included acting out metaphor in session (e.g., pulling on a rope to differentiate fighting vs “letting go” of thoughts).

One way to formulate the work of Module 3 is to liken it to exposure and response prevention (ExRP), in which the therapist actively blocks behaviors that provide short-term relief from emotional discomfort but ultimately maintain dysfunction. However, unlike ExRP, the goal in ASFT is not habituation but rather behavioral flexibility, and the therapist facilitates a specific alternative response: ongoing awareness and acceptance of changing internal experience and actions guided by broader life values. Acceptance is conceptualized as different from tolerating negative affect (e.g., distraction strategies), which may be initially helpful for renutrition but would not be expected to change overall experience or encourage additional life building.

The work of Module 3 typically began with helping adolescents and parents articulate and connect emotionally with deeply held values and identify actions consistent with those values (*Engaged*). When thoughts or feelings emerged that interfered with behaving in a value-guided manner (such as fear, confusion, body-related discomfort, or worry about the future), they were targeted with *Openness* interventions (e.g., acceptance, defusion).

Centered interventions served to enhance *openness to experience* and *engagement in value-guided action* by increasing the ability of adolescents and parents to experience thoughts and feelings as dynamic, somewhat arbitrary, and separate from self. See Table 1 for sample exercises.

Module 4 focused on building broader patterns of effective action and consolidating treatment gains as a family. During Module 4, parents and adolescents were seen together. Treatment consisted primarily of in-session practice of openness to experience and engagement in valued activities using events of the week as fodder.

Both adolescent and parent sessions were augmented with homework assignments to practice acceptance and defusion skills and encourage action consistent with values despite painful internal experience. Adolescent homework included “experience diaries,” which required adolescents to identify evocative events from the previous week and to describe corresponding thoughts, feelings, and urges. Parent homework included readings and exercises provided in an ACT-modified version of *Off the C.U.F.F.* (OTC; Zucker, Marcus, & Bulik, 2006). OTC is a parent skills program rooted in the core philosophical tenets of acceptance-based behavioral therapy and designed to help parents manage their child’s ED symptoms using contingencies and addressing trait features in the child that increase vulnerability to symptom relapse (e.g., perfectionism). OTC also encourages parents to be role models of adaptive self-regulation and works to facilitate parental ability to sense the needs of their child by being more attuned to emotional experience more generally.

The inclusion of OTC in ASFT was novel. Not only was the established manual modified to be ACT consistent, but it was also presented in an individual rather than group format (Zucker et al., 2006) and explicitly embedded in an ACT context. The content of parent sessions, referred back to the psychoeducational components of OTC but was focused on acceptance and values to facilitate effective implementation of the skills presented in the text.

Method

The goal of this treatment development study was to develop an ASFT for adolescents with AN and to examine whether the treatment was acceptable, feasible, and resulted in improvements in core pathology and adaptive functioning. Here we describe the process and outcome of the first cohort of participant families ($N = 6$), using Case 1 as an example of the treatment in action. Given the emphasis on acceptance of internal experience in order to facilitate healthy eating, we focused outcome assessment on indices of behavior change (symptoms and engagement in important life domains). Changes in illness-related thoughts and feelings (i.e., body shape concerns) were considered secondary. All procedures were approved by the university medical center institutional review board.

Participants

Participants were recruited primarily through physicians’ offices. Physicians within a 30-mile radius of the university medical center received study brochures, flyers, and emails notifying them of the study. Flyers were placed throughout the community at local

businesses (e.g., grocery stores) and study personnel visited local schools to provide information to school counselors and principals.

Potential participants contacted the study coordinator and completed an initial phone screen to determine whether the adolescent met initial inclusion/exclusion criteria. To be included in the study, adolescents had to be between the ages of 12 and 18, living at home for the duration of the study, and with a caregiver in the home willing to participate in treatment. Adolescents with AN or eating disorder not otherwise specified (ED NOS) with the primary symptom of restriction and weight loss that resulted in the child's body mass index (BMI) dropping two major BMI percentiles within a 6-month period were eligible. All ED NOS participants also had to be less than 90% ideal body weight at study entry. This definition of diagnostic eligibility, while broad, is more reflective of current sensitivity of the developmental variation of AN (Bravender et al., 2007) and the negative impact of subthreshold AN symptoms on functioning (Rome et al., 2003). Acceptable reasons for ED NOS diagnosis included continued menses despite significant weight loss, failure to fall below a BMI of 18.5 (which is increasingly identified as an inappropriate criterion for children/adolescents; Bravender et al., 2007; 2010), and lack of full endorsement of body weight and shape concerns despite an inability to maintain a minimal healthy weight. This latter presentation is consistent with the developmentally sensitive ED diagnosis, Avoidant/Restrictive Food Intake Disorder (ARFID), proposed for the *DSM-5* (Bravender et al., 2010). Diagnosis was determined by a structured diagnostic interview conducted by a master's-level clinician with extensive experience in the assessment and treatment of adolescents with an ED.

All adolescents were medically cleared for participation in an outpatient treatment study. Adolescents with bipolar disorder, current substance abuse, current or past psychosis, or at risk for suicide were ineligible, as were families in which the adolescent or caregiver had mental retardation or a pervasive developmental delay.

Twenty-six adolescents underwent an initial phone screening. Eight did not qualify for the following reasons: they were in college and not living at home with their parents ($n = 3$), the adolescents' weight was not in the target range and/or had not dropped 2 major BMI percentiles ($n = 3$), or symptom presentation was not appropriate for the study ($n = 2$). Of the 18 adolescents who met criteria for the study, 12 continued to the initial baseline assessment. The 6 who did not continue to the assessment either sought regular outpatient treatment ($n = 3$), decided not to pursue treatment at that time ($n = 2$), or never called to schedule ($n = 1$). After the baseline assessment, 3 families chose not to return for treatment and 1 adolescent was found to be inappropriate because her weight exceeded 90% of ideal. A total of 8 families continued to the active treatment phase of the study, 6 of whom formed the final cohort. The 2 families who were not in the final cohort were removed after additional assessment indicated they were inappropriate for the study (1 had psychotic features; the other needed a higher level of care).

Five participants were Caucasian females and one was a female of mixed ethnicity. Five resided with their biological parent(s), with one from a single parent home, and one resided

with relatives. Ten caregivers participated in the study (four adolescents had two caregivers; two had one caregiver who participated).

EE in caregivers (as assessed by the Family Questionnaire; Fam-Q; Wiedemann, Rayki, Feinstein, & Hahlweg, 2002) ranged from 13 to 34 ($M = 21.20 \pm 6.88$) for criticism and 19 to 35 ($M = 26.00 \pm 5.48$) for emotional overinvolvement. Three (33%) caregivers scored above the suggested cutoff score for high criticism, and four (40%) were at or above the high emotional overinvolvement cutoff score (Kyriacou et al., 2008). This is consistent with what has been observed in recent treatment trials for adolescents with AN (Le Grange, Hoste, Lock, & Bryson, 2011).

Materials and Procedure

Therapists—The primary therapists for this study are authors on this paper (RM and NZ). Both therapists are clinical psychologists with expertise in AN and contemporary behavior therapies, including ACT.

Treatment Delivery—ASFT was a 20-session treatment conducted over 24 weeks. Caregivers (or the parental dyad) and the adolescent were scheduled to be seen separately on a weekly basis for the first 16 weeks (with an optional conjoint session at Session 8). Sessions 17 to 20 were conjoint (the caregivers and adolescent were seen together) and occurred every other week. Sessions during the first 16 weeks lasted 1.5 hours and a session was typically split between the adolescent and caregivers; the final 4 sessions were approximately 1 hour/week every other week.

In this treatment development study, ASFT was delivered in an iterative fashion with feedback used to make minor adaptations to the treatment delivery. This resulted in some edits to adolescent supplemental worksheets and to the frequency of some assessment measures. Consistency in the intervention was maintained by using trained clinicians as therapists, weekly conference calls to discuss cases and resolve issues that arose in session, and random tape screening.

Assessments—The Credibility and Expectancy Questionnaire (Deville & Borkovec, 2000) was administered at Session 2. This measure was used to assess parent's experience of the credibility of the treatment and expectancy for improvement in their child's illness.

Adolescent height/weight measurements were collected throughout treatment. Adolescents were weighed at each session with outer clothing layers removed and without shoes. Height was measured periodically (3 to 5 times over the course of treatment). Adolescents completed a structured diagnostic interview of ED symptoms (EDE; Cooper, Cooper, & Fairburn, 1989; Cooper & Fairburn, 1987) at baseline and posttreatment, and the questionnaire format at midtreatment and 3-month follow-up (Eating Disorder Examination-Questionnaire 6.0 [EDE-Q]; Carter, Stewart, & Fairburn, 2001; Fairburn & Bèglin, 1994). Adolescents also completed an assessment of secondary psychopathology and adaptive functioning (Behavior Assessment System for Children-2 Adolescent Version; BASC-2; Reynolds & Kamphaus, 2004) and quality of life (Youth Quality of Life-Revised; YQOL-R; Edwards, Huebner, Connell, & Patrick, 2002; Patrick, Edwards, & Topolski, 2002).

Collateral data were obtained from the parents who completed a parent version of the diagnostic interview for ED symptoms along with a self-report measure of AN behavior (Anorectic Behavior Observation Scale; ABOS; Vandereycken, 1992) and the BASC scales (Behavior Assessment System for Children-2; Parent Version; BASC-2; Reynolds & Kamphaus, 2004). The Avoidance and Fusion Questionnaire for Youth (AFQ-Y; Greco, Lambert, & Baer, 2008) was included as a preliminary test of the impact of the intervention on hypothesized processes of change.

Treatment aimed not only to improve symptoms and functioning in the adolescent, but also to decrease caregiver burden and psychological distress and improve caregiver functioning. To assess this, we administered Szmukler et al.'s (1996) Experience of Caregiving Inventory (ECI), the Brief Symptom Inventory (BSI; Derogatis & Fitzpatrick, 2004; Derogatis & Melisaratos, 1983) and Quality of Life Inventory (QOLI; Frisch, Cornell, Villanueva, & Retzlaff, 1992). Parents also completed a measure of acceptance (Acceptance and Action Questionnaire-II; AAQ-II; Bond, et al., 2011) given its relevance to the treatment model.

Results

Treatment Credibility and Expectancy

Parent treatment credibility scores, on average, were neutral to positive, $M = .345$, $SD = 3.66$ (ranged from -7.15 to 3.85) as were expectancy scores, $M = 1.67$, $SD = 4.74$ (ranged from -6.58 to 6.42). This is a wider range of scores than what is sometimes seen in other psychiatric populations, but is anecdotally consistent with the variability of families presenting with treatment with a child with AN.

In order to place these scores in context, we calculated credibility and expectancy scores in a manner consistent with Byrne, Fursland, Allen, and Watson (2011), the only ED study that we are aware of that has assessed this variable. Rather than using the standard scoring (Deville & Borkovec, 2000), this study summed the raw scores of CEQ Items 1–3 (credibility) and 4–6 (expectancy) and reported the percent expected improvement items separately. Using this method, parent credibility scores ranged from 16 to 27, with a mean of 23.5 ± 3.66 . This is slightly higher than the credibility scores reported for enhanced CBT for EDs (CBT-E; $M = 22.28 \pm 4.98$; Byrne et al., 2011). Parent expectancy subscale scores for ASFT were higher than CBT-E, with a mean of 27.25 ± 4.74 (range 19–32) compared to 19.06 ± 5.52 (Byrne et al.). Parents reported an average expected 82.5% improvement in their child's condition by the end of treatment.

Retention

Of the 6 families, one terminated midtreatment due to early symptom remission. This was considered a positive treatment outcome. Two adolescents (33%) were removed for other reasons: need for a higher level of care, and reported desire for a male therapist.

Treatment Process and Outcome

We provide a detailed description of a straightforward representative case to illustrate the principles of the treatment, followed by descriptions of issues that arose when treating the

other five adolescents. We focus our discussion on *openness* and *engagement* (rather than *centeredness*), given that awareness of ongoing thoughts and feelings and issues of self-definition are also embedded in the openness and engagement interventions. As is apparent from the case description, ACT processes are highly interdependent and these are somewhat arbitrary distinctions for illustrative purposes. Parents' assumption of initial control over eating and giving that control back to the adolescent is not described because no case had an unusual course. Rather, attention is given to the unique aspects of this alternative or enhanced treatment approach.

Preliminary quantitative outcomes are presented in Tables 2 and 3. Table 2 presents number of sessions completed and pre- and posttreatment assessments for the adolescents who participated in the study. Table 3 provides indicators of treatment impact on the parent. Figure 1 provides individual BMI trajectories and includes information regarding BMI before the onset of symptoms (premorbid) and 6 and 3 months prior to screening and treatment initiation (baseline). BMI history, provided by the parents, is included to illustrate the precipitous drop in weight that qualified adolescents for the study and should be considered when interpreting outcomes. Average weight change (final weight – baseline weight) for adolescents treated with ASFT was 8.28 lbs $\pm$ 7.09 lbs. All but one adolescent restored weight to ideal based on age, sex, and individual growth curve. Four either resumed ($n = 3$) or began regular menses ($n = 1$). One adolescent, who was on birth control, restored weight to ideal; however, menses remained regular throughout treatment. Adolescents who were not withdrawn from the study ($n = 4$) had posttreatment EDE scores that were within one standard deviation of mean scores of healthy controls (EDE; Fairburn & Beglin, 1994; EDE-Q; Carter et al., 2001).

Sample Case: Adolescent 1

Adolescent 1 was a 15 year-old female who, at the worst point in illness, had adopted a diet that included only one vegetable and condiment. Her parents managed her ED for several months before initiating treatment. At the time of treatment initiation, Adolescent 1 had increased her intake and was consuming 8 to 10 safe foods, but was still very restrictive, not gaining weight, and socially isolated and withdrawn. Adolescent 1's BMI at study entry was 17.5 (16.4 percentile), up from her lowest BMI of 16 (3.3 percentile). She lived with her biological parents and younger sibling.

Setting the Stage for Treatment—Adolescent 1 presented as motivated for treatment. She insisted that she was “over” the ED and had little insight regarding why she had not been able to fully restore weight. As part of *Setting the Stage for Treatment*, the adolescent was invited to express thoughts/feelings about treatment. Adolescent 1 described considerable guilt about “being a burden” to her family who now had to invest time and energy surrounding her health, and the sense that she was a “lab rat” (i.e., being analyzed, having a loss of free will). Rather than disputing these thoughts, the therapist modeled acceptance of all reported private events and reinforced the adolescent's willingness to present for treatment despite these compelling thoughts/feelings. The therapist also highlighted the adolescent's values of family and personal autonomy inherent in these concerns. A rationale for treatment that specifically focused on these values, but also the

adolescent's values more broadly (i.e., that treatment is about what the adolescent wants in her life, rather than just reversing restriction/starvation), was presented. These interventions provided a foundation for future work on *openness* and *engagement*. Module 1 ended with an invitation for the adolescent to bring in something that was meaningful to her. Adolescent 1 brought in a book from her personal library. The choice of this item was explored to further enhance rapport, firmly establish interest in the adolescent beyond the ED, and reinforce a broader adolescent self-definition. This activity provided the foundation for the *centeredness* interventions of Module 3.

During Module 1, Adolescent 1's parents completed exercises that highlighted their common value (i.e., supporting the health and well-being of their daughter), and identified thoughts and feelings that emerged when trying to enact this value in challenging illness situations. Adolescent 1's mother reported a desire to have someone else require their daughter to eat so that she would not be responsible for causing her daughter discomfort or pain. Adolescent 1's father described feeling ostracized from the family in a way that made it difficult for him to participate fully in the renourishment process (as well as other aspects of coparenting). At this stage, these painful thoughts and feelings were welcomed and described as unavoidable as the parents worked to renourish their daughter. Later interventions aimed to further decrease the extent to which these thoughts and feelings were experienced as powerful determinants of action.

One of the primary goals of *Setting the Stage for Treatment* was for parents to establish agreement of how to intervene. Adolescent 1's mother wanted to be less intrusive, whereas her father believed that his daughter needed more “hands-on” intervention. This discrepancy was addressed by describing the nature of the illness (e.g., risks and complications) and the phenomenology of AN (i.e., how ED thoughts can be loud and demanding), and providing a nonblaming conceptual framework (i.e., ED as coping) and strategies for intervention (e.g., behavioral interventions to block restriction and facilitate more healthy responding). The therapist also highlighted parents' individual strengths and opportunities to maximize these strengths to meet their common goals. These interventions were delivered in session and further reinforced through readings and exercises in the OTC manual.

Parent Modules 1 and 2 ended with a written plan for intervention that included specific targets (e.g., increasing frequency of consuming breakfast) and behavioral management strategies to facilitate effective implementation. Parents were encouraged to have a family meeting to discuss the plan and adjust it as appropriate given the adolescent's suggestions. The family meeting was to be delivered in an ACT-format (with acknowledgment of difficult thoughts and feelings that have interfered with effective action in the past and prescribed change couched in parental values) and C.U.F.F. style (Zucker et al., 2006), e.g., We love you, and as your parents will protect your health and well-being which cannot be compromised. In some cases, our fear has gotten in the way of us pushing you when the eating disorder is loud and demanding. This has to change. If you are too ill to eat breakfast, we will insist that you stay home from school and regain your strength.

Functional Assessment—The time-line exercise (a key Module 2 intervention) was implemented at the end of Session 2. The adolescent was invited to choose from an array of

art supplies and craft a graphical depiction of the events preceding and following her symptom onset and periods of exacerbation or remittance. The therapist was active during the exercise, providing prompts to identify key events and, more important, corresponding thoughts and feelings during these events. During the time-line exercise, Adolescent 1 described a shift in peer relationships and an end to dance (which had been self-defining). Both events increased feelings of insecurity and self-doubt regarding whether she was good at things, liked by others, and generally acceptable. She also described increasing sadness, which she did not understand, and tension with her father. Adolescent 1 reported feeling anxious, “smothered” (due to her father's hovering and constant “correction” of her behavior), and being unclear about what she was doing wrong or how to please him. This disclosure was difficult for the adolescent, as she felt extremely guilty and shameful about these feelings toward her father. She also felt badly about being sad given that she “has everything she could want or need.” Adolescent 1 described trying to ignore and suppress these feelings.

During the time line, the therapist helped Adolescent 1 identify all the ways in which she had tried to “solve” the problem with her father (being perfect in house upkeep, leaving the room, talking to him a lot, listening quietly), but also more generally to “fix” things that were not “working” in her life, including friendships and other activities like dance. She identified the ED as the one thing that was “working” to diminish feelings of ineffectiveness (i.e., losing weight was something she could do well) and isolation (she no longer cared about time with friends and whether she was accepted by them). The time line exercise culminated in an acknowledgment of how the ED was a “gift” to the adolescent in her time of need, and a gentle inquiry into how it interfered with other things she values.

Adolescent 1's parents identified other behaviors that they observed in their daughter that may have been part of the same repertoire of managing feelings (e.g., behavioral inhibition, such as holding back in social situations, and overpreparing for academic tasks). Over time, it became clear that thinking about the future also functioned to decrease the extent to which the adolescent had to think about not being accepted or fitting in now. Given our conceptualization, goals for treatment included helping the adolescent accept difficult thoughts and feelings (about her father, or general sadness), communicate her emotional experience and needs directly, and engage in uncertain situations (e.g., less structured activities with peers, taking exams with less preparation).

Adolescent 1's difficulty with negative thoughts and feelings was made more challenging by her parents' reaction to seeing their daughter upset and their desire to minimize family conflict. Adolescent 1's parents reported that, rather than encourage her open expression, they often tried to “talk [their daughter] out of” her emotions or “fix” their daughter's affect. The way in which parental discomfort with affect or conflict functioned to maintain less optimal parental responses was targeted in Module 3.

Increasing Openness—Openness interventions aimed to change the adolescent's relationship to emotion, rather than changing the intensity or the frequency of the emotion itself. This included framing emotions as a natural, nontoxic and even valuable part of life. It also included disconnecting emotion from overt action (e.g., differentiating feeling afraid

from running away). Metaphor and experiential exercises used with Adolescent 1 illustrated that accepting emotions is sometimes more helpful than fighting with them (Tug of War With a Monster, Table 1; Hayes et al., 1999, p. 109), and facilitated an observational stance to compelling thoughts and feelings to increase behavioral options (Bad News Radio, Table 1; Leaves on a Stream modified to Clouds in the Sky because this was more familiar to the adolescent; Strosahl, Hayes, Wilson, & Gifford, 2004, pp. 44). Openness to emotion was also facilitated by tying willingness to experience psychological discomfort with meaningful life activities (e.g., the ability to experience anxiety in uncertain social situations and still persist in the activity allows for the development or deepening of relationships).

Opportunities were created in session to practice behaving flexibly in the presence of heightened affect in order to enhance this skill. For example, rather than withdrawing to minimize guilt, the adolescent practiced communicating openly with the therapist when she was experiencing guilt, and this was openly discussed as a goal and reinforced in session. These activities, while similar to in-session exposure, did not aim to decrease arousal, but rather to increase the adolescent's ability to accept internal experience for what it was and act in accordance with deeply held values. The Emotional Wave (Table 1) was assigned as homework to encourage observing emotions as they rise and fall, without trying to change them in any way and while choosing effective action.

Similar strategies were employed with Adolescent 1's parents, but with different target thoughts and feelings. In session and for homework, Adolescent 1's mother practiced acceptance of her own discomfort associated with setting limits with her daughter. Adolescent 1's father practiced acceptance of emotions that presented when he did not micromanage his daughter or attempt to control aspects of their relationship. Both parents also practiced openness to their *daughter's* emotion; allowing her to express difficult thoughts and feelings more openly and in an environment that supported these disclosures.

Increasing Engagement—Adolescent 1 was insightful and able to articulate that she valued relationships with her friends and family, and her personal autonomy. Commitment to these values was enhanced with the Tombstone exercise (Strosahl et al., 2004, pp. 48; modified for younger adolescents as a bumper sticker) and actions consistent with each of these values were identified using a compass metaphor (i.e., If your value of family is West, what are actions that move you in that direction? What are actions that take you East?). Adolescent 1 monitored her behavior on a weekly basis and rated the degree to which she was guided by these values, as well as times when she was guided by avoidance of fear, guilt, or self-doubt. Weekly challenges to increase values engagement were set by the adolescent.

Engaging in value-guided action required the adolescent to have moments of sadness, guilt, anxiety, or self-doubt while initiating conversations or fully participating in social activities. After facing discomfort in less challenging circumstances, the adolescent employed these skills with her peers, and eventually, with her father.

As before, parent work paralleled that of the adolescent, with different targets for behavior change. Adolescent 1's mother practiced setting limits despite urges to step back. She also modeled social engagement despite her own fears about being rejected. Adolescent 1's father

practiced changing behaviors that contributed to discord within the family. For example, he practiced praising his daughter without additional correction and leaving some things in the home in disarray.

Final work centered on a significant conflict at mealtime in which father was setting high and strict limits on Adolescent 1's behavior. The therapist met individually with the father and adolescent to facilitate openness and to help each individual orient to his or her own personal values in order to motivate participating in an uncomfortable conversation to discuss and resolve the conflict. Adolescent 1 and her father were then brought together for a conjoint session. During this session, Adolescent 1 expressed feelings she had been suppressing (i.e., that she experienced her father as critical, unpredictable, difficult to be around). Adolescent 1's father practiced openly receiving this information and communicated his feelings of being ostracized from the family. This was a highly emotional session that ended with a family plan and commitment to change.

Over the course of treatment, Adolescent 1 became increasingly skilled at approaching uncomfortable interpersonal situations and was less withdrawn and more genuine in her expression of emotion. She gained weight steadily over the course of treatment. Her anxiety and depression decreased, falling within normal limits; her interpersonal relations and social stress scores were no longer clinically significant. Self-reliance and personal adjustment improved. The family withdrew from treatment at Session 8 due to early symptom remission. At this point, the adolescent's weight was fully restored and her menses were regular.

Other Cases

Variability in Age and Presentation—Six adolescents participated in this initial pilot study and each presented unique challenges. While Adolescent 1 was very psychologically aware and moderately willing to engage treatment, Adolescent 2 lacked awareness of thoughts and feelings. This variation in presentation, potentially due to developmental differences (Adolescent 2 was 14 years old; Adolescent 1 turned 16 during the study), was addressed with additional skills training in identifying ongoing thoughts and feelings. This included additional practice using monitoring forms (*experience diaries*) and playful in-session activities in which the therapist and adolescent described ongoing thoughts and feelings, and imagined thoughts of others using cartoons and other prompts. These interventions were employed before execution of *Openness* to ensure the most relevant thoughts and feelings were targeted. This approach was successful, and Adolescent 2 was able to articulate fears about the future, fears of being overweight and unhappy, and general concerns about “not being good enough.” More progress may have been made had it not been necessary to spend several sessions on more basic skills.

Adolescent 5 was highly socially anxious and unwilling to participate in treatment. We attempted to address this issue by empathizing with how difficult it was to participate due to concerns about opening up to others and employing strategies that made treatment more accessible (e.g., using pictures rather than verbal discourse). We also emphasized values interventions to increase the extent to which treatment was experienced as addressing adolescent concerns. Difficulties with Adolescent 5 were compounded by the frustration and

exhaustion of the parents at baseline, and lower-than-average belief in the credibility of the treatment or the expectancy for improvement. Intervention did not result in greater participation or weight gain in a period of time tolerable given the dire consequences of continued underweight. As a result, this adolescent was removed by investigators and referred to a higher level of care.

Parental Psychopathology—Several of our parents reported significant symptomatology that had the potential to interfere with treatment. For example, Adolescent 2's mother had considerable eating and body image issues and comorbid depression. Adolescent 3's mother reported posttraumatic stress disorder and a recent history of major depression. Adolescent 6's father was depressed with features of obsessive-compulsive personality disorder. Parental affect emerging from these comorbid conditions was treated in the same manner as difficult or compelling thoughts and feelings related to their child's illness. As such, they were included in the functional assessment. In instances where depressive affect was associated with behaviors inconsistent with deeply held values (e.g., withdrawal), these thoughts and feelings became the target of Module 3 interventions.

Issues of Values Clarification—Adolescent 4 presented a unique challenge with regards to values. This adolescent maintained that her primary value was to look and be beautiful in order to be more powerful than other females. In an effort to not reinforce symptoms, the therapist worked to expand the definition of beauty to encompass other human qualities (e.g., strength not defined by beauty, kindness) that could support a broader range of adaptive behavior. The therapist also engaged the adolescent in supportive discussions in which physical beauty was honored. The adolescent identified a healthy lifestyle as another strategy to embody her value and work proceeded to find flexible ways in which to engage in healthy eating and exercise. Despite progress, Adolescent 4 requested a male therapist at midtreatment. This was conceptualized as related to her initial difficulty of being with other females and a core issue for future therapeutic work.

Rigid Beliefs About Emotional Experience—The family of Adolescent 6 presented several challenges: Both parents expressed disdain for emotional experience as they viewed emotions as largely distractions from productivity. The mother also expressed guilt about her own difficulties expressing warmth and the fact that she lacked capacities to comfort her children. Specific homework was given in which increases in the daughter's symptoms were met with expressions of playful warmth by both the mother and siblings (“Everybody, let's go snuggle on the couch— X is struggling”). The enthusiasm of the family for this strategy was a pivotal moment for the mother and, over time, she was able to more freely engage in leisure activities and other activities that actively provoked positive emotional experiences. Over time, the therapist worked with the adolescent to more directly express the need for warmth and playfulness, and with the parents to respond effectively to this request.

Discussion

We presented the rationale and clinical method for ASFT for adolescents with AN. Although not entirely uniform, preliminary outcomes for ASFT were promising. All but one adolescent restored weight and were menstruating at the end of treatment. Most adolescents

demonstrated a clear reduction in attempts to restrain eating and increases in adaptive functioning, including: interpersonal relations, self-reliance, self-esteem, and personal adjustment. Some adolescents reported improvements in quality of life and comorbid symptomatology (although the effect of treatment on comorbid anxiety and depression cannot be parsed from the effects of renourishment on mood), as well as decreased avoidance and fusion. Broad effects were also seen in the mental health and functioning of the caregiver. For many caregivers, anxiety decreased as did negative experiences of caregiving.

ASFT did not have a consistent effect on body weight and shape concerns. This is not surprising given that acceptance-based treatments aim to change how one *relates* to thoughts and feelings (in this case, about the body), and the extent to which these thoughts/feelings dictate action. This is in contrast to other approaches that might aim to change the frequency, intensity, or content of the thoughts/feelings themselves in order to decrease problem behaviors. Consistent with the emphasis of acceptance-based behavioral therapies, the majority of adolescents in ASFT had increases in BMI and made important steps towards increasing participation in valued life domains (e.g., improving relationships) despite the presence of aversive thoughts of weight and shape. It is expected that with additional exposure to a healthy weight and the continued engagement in other meaningful life domains, distress and overvaluation of body weight and shape will diminish naturally over time. Administering measures that assess change in how one *relates or responds* to body related thoughts/feelings (e.g., Body Image–Acceptance and Action Questionnaire; BI-AAQ) (Sandoz, Wilson, Merwin, & Kellum, 2010) would indicate whether this is in fact the case, particularly if follow-up assessment continues over longer periods of time.

ASFT builds upon FBT-M, which uses parent-guided meal support as a primary intervention. However, ASFT seeks to enhance the effectiveness and generalizability of parent-facilitated exposure (Loeb et al., 2010) by embedding exposures within an ACT framework and broadening the targets of exposure beyond food/eating. Parents are encouraged to approach emotionally evocative situations (e.g., mealtimes) and are given the tools to cease or persist flexibly and effectively in their efforts to renourish their child despite the presence of heightened affect. Concurrently, the adolescent is provided with skills to engage in distressing situations and their motivation is enhanced by connecting practice to the adolescent's personally chosen values. The skills of ASFT are expected to allow the adolescent to take an open, observer stance to thoughts and feelings so that he or she can engage more fully in developmentally appropriate adolescent activities (e.g., friendship building) even when they are uncomfortable.

Additional work is needed to clarify and understand the effects of ASFT for adolescents with AN. It may be necessary to further adapt strategies focused on increasing engagement. In the current version of this treatment, processes of values and committed action relied more on abstract thinking and the ability to project in the future. Further adaptations might be necessary for adolescents who are not cognitively developed enough for this level of abstract thought or to encourage adolescents with extreme reluctance (e.g., Adolescent 5) to participate in treatment. With additional development, an acceptance-based model may provide an alternative treatment for some families. Future research should test effects of this

or similar treatments in a larger sample. If effects are robust, this would warrant comparing ASFT to FBT-M to assess overlapping and unique effects.

A few studies have identified predictors of remission and treatment completion in adolescent AN. For example, studies have found older adolescents and those with comorbid psychiatric conditions tend to drop out of treatment prematurely (Lock, Couturier, Bryson, & Agras, 2006). In the current study, parent ratings of treatment credibility and expectancy for recovery seemed to be a prognostic indicator. Families with caregivers with low to negative scores ended treatment prematurely, before 20 sessions and before adequate change had occurred (Adolescents 4 and 5). This suggests the need to devise strategies to improve parent confidence in the treatment and their child's potential for recovery.

One adolescent was referred to a higher level of care. This adolescent was highly socially anxious, uninterested in participating in treatment, and nearly nonverbal in session. The caregivers of the adolescent had the lowest credibility and expectancy scores for treatment. They also had the highest criticism, although emotional overinvolvement was similar to several other families with good outcome. Establishing rapport and increasing the willingness of the adolescent, or increasing the extent to which the caregivers believed in the potential utility of treatment, could have improved outcome. However, given the time-sensitive nature of AN and the lack of sufficient weight gain, it was not advisable to wait to determine whether this was the case. Parental belief in the treatment may have affected adolescent willingness to participate, and this is a potentially important area in need of further study. Although hospitalization is common in the course of treatment for AN, additional treatment strategies may need to be developed to address these issues if ASFT is to have broad applicability and appeal. Alternatively, it may be that ASFT is best suited for adolescents who have achieved some degree of weight stabilization prior to initiation of this outpatient intervention. Given the preliminary nature of this intervention, future work will need to explore both individual features and treatment timing to achieve the most optimal outcome.

This preliminary study had some important limitations. First, this intervention specifically targets negative reinforcement contingencies (attenuation of negative affect in parents and adolescents). However, the etiology of AN is multifaceted and includes biologically based vulnerabilities and sociocultural influences that increase the likelihood of disorder expression, as well as biobehavioral factors that contribute to symptom maintenance (e.g., effects of starvation). Thus, it may be that other factors not targeted in ASFT are equally or more important in facilitating recovery from AN. Second, as with many treatment studies, missing data was an issue. Most notably, only a few parents completed the AAQ-II at multiple time points, thus making it impossible to provide any meaningful information (data not shown) and discern whether the treatment affected their acceptance of difficult or compelling thoughts and feelings. Although acceptance was observed in session and in parent reports of evocative situations outside of session, a standardized measure of this change is important. Future studies should employ strategies to minimize loss of data. Third, we did not include a measure of adolescent rigidity surrounding eating and weight or acceptance of body image concerns. In future tests of acceptance-based treatment, this should be assessed for the purposes of understanding which families respond to this

treatment option, and by what mechanism. Finally, future studies should employ more lengthy and complete follow-up assessment to determine the long-term effectiveness of the intervention.

Despite these limitations, the acceptability, feasibility, and preliminary outcomes of this treatment development study are encouraging and suggest additional research testing the efficacy of an acceptance-based treatment for adolescents with AN. This might include first conducting a larger open trial (as we have already done; Timko, Zucker, Herbert, Rodriguez, & Merwin, in preparation) and second, a randomized controlled trial assessing common and unique effects of this therapeutic approach relative to FBT-M. Subsequent work should include dismantling studies to determine active treatment components and inform further treatment development. Changes to the intervention based on these findings might then increase efficiency of the treatment and help specify psychological processes of AN illness and recovery.

Acknowledgments

Portions of the investigators' salary were supported by 1 R21 MH085975-01 (Timko) and 1 K23 MH070418-01 (Zucker).

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Highlights

The current study describes an ACT-informed separated family treatment for adolescent anorexia nervosa

The treatment was found to be credible by parents who reported a high expectancy for improvement in their child's condition

Five of the 6 adolescents demonstrated decreased restriction, improvements in body-mass index and normalization of menses

Many adolescents demonstrated improvements in adaptive functioning

Many parents reported decreased anxiety and decreased negative experiences in caregiving

Figure 1.

Parent-reported body mass index (BMI) (percentile) for adolescents premorbidly, 6 and 3 months prior to treatment, during a telephone screening for study eligibility, and for each subsequent session. Baseline denotes BMI percentile at Session 1. Weight data were missing for 4 sessions, randomly distributed across participants and across sessions. In these cases, the last weight was carried forward.

Table 1

Metaphors and Experiential Exercises Used in Module 3

Metaphor or Experiential Exercise	Purpose	In Action
Tug of War with a Monster (Hayes et al., 1999, p. 109)	Illustrates the futility of avoidance and control and suggests acceptance as an alternative	Clinical context: Adolescent is describing how she tries to suppress feelings of sadness but they keep coming. Therapist: <i>It's almost like playing tug of war with a monster... there you are pulling and pulling but this monster is strong and it doesn't give up and so you pull harder... and there you are sort of stuck in this game. What do you think would happen if you dropped the rope?</i>
Bad News Radio (a developmentally sensitive variation of Leaves on a Stream; Strosahl et al., 2004, p. 44)	Teaches observing thoughts without acting on them	Clinical context: Adolescent is experiencing intense body image thoughts and is struggling to complete an in-session food challenge. Therapist: <i>The thoughts you're experiencing are like a radio that is stuck on a bad news channel!</i> [Therapist leads the adolescent in a playful exercise. They use an announcer's voice to report the adolescent's thoughts, e.g., "Thank you for tuning in to Bad News Radio! We've got a fantastic show for you tonight!! It's all fat, all the time!..."] <i>Do you ever listen to music while you are doing other things, like cleaning your room or doing your homework? I wonder if your thoughts could be like that, like a radio, like background noise... while you do what you choose based on your values.</i>
Surfing the Wave	Helps individuals observe emotions and practice effective behavior at variations in emotional intensity	Clinical context: Parent describes feeling highly anxious when setting healthy limits with her daughter. Therapist: <i>I'd like you to practice observing your anxiety; taking inventory of what is going on in your mind and body as your emotion rises and falls, like a wave. It is often at the top of the wave that you describe giving in to the demands of the eating disorder. If you can notice when you are on the top of the wave, this awareness can help you to stay firm and consistent with your daughter...</i>
Bumper Sticker (a developmentally sensitive variation of the Tombstone exercise; Strosahl et al., 2004, p. 48)	Facilitates authorship of personally chosen values that can guide behavior in a meaningful way	Clinical context: Therapist is asking the adolescent to practice acceptance of psychological discomfort (e.g., guilt). Therapist: <i>Let's slow down and take a moment to reflect on why you would do this hard thing... why you would choose to feel this difficult emotion without trying to change it. I would like you to imagine that this paper is a bumper sticker—not for your car, but for your life. What do you want it to say? What do you want to be about as you drive?</i>

Table 2

Pre-Post Assessments for Adolescents Receiving an Acceptance-Based Separated Family Treatment (ASFT)

Adolescent (No. sessions completed)	01 (8)		02 (20)		03 (20)		04 (13)		05 (10)		06 (20)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
	Symptom Indices											
BMI	17.6	19.3	16.4	18.5	20.5	21.5	18.9	19.2	16.3	15.8	16.4	19
EDE Restraint*	2.2	.5	3.8	0	4	1.2	5.8	5.2	1.4	3.4	2.6	0
EDE Eating Concern*	0.2	.6	1.2	0	1.2	0	1.5	4.6	.4	3	0	.4
EDE Weight Concern*	0	0	3.6	5.6	3.2	2	3	4.2	0	2.2	0	.8
EDE Shape Concern*	.38	.75	2.63	2.38	3.88	.63	4.63	4.38	1.13	4.13	1.13	1.5
EDE Global Score*	.69	.39	2.81	1.99	3.07	0.96	3.36	4.59	0.73	3.13	0.93	0.68
P-EDE Global Score	2.64	---	2.99	0.47	2.68	0.31	3.19	---	3.16	---	2.63	0.36
Anorectic Behavior	34	8	31	8	30	4	34	26	38	---	32	6
Anxiety	62	55	58	48	57	68	70	65	60	61	39	54
Depression	62	48	54	44	65	50	81	54	62	66	41	44
Social Stress	78	56	35	43	80	53	53	58	59	62	37	39
Avoidance and Fusion	17	16	22.31	14	39	24	29	5	25	28	9	13.81

Adaptive Functioning

Adolescent (No. sessions completed)	01 (8)		02 (20)		03 (20)		04 (13)		05 (10)		06 (20)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Interpersonal Relations	10	45	38	47	35	51	32	41	28	27	61	53
Self-Esteem	45	52	37	41	45	52	52	52	44	31	54	---
Self-Reliance	55	61	47	47	9	33	47	55	45	32	47	55
Personal Adjustment	38	55	40	44	35	40	40	50	37	26	52	---
Quality of Life	43.86	55.66	48.87	48.83	39.28	39.80	35.98	46.66	31.24	26.17	58.63	50.01

Note. BMI = Body mass index; Percentile = BMI percentile based on age and sex; Restraint, Eating Concern, Weight Concern, Shape Concern = Subscale scores from the Eating Disorder Examination (EDE)*For adolescents who completed less than 20 sessions, EDE subscale scores are from the EDE-Q administered at mid-treatment; Anorectic Behavior = Anorectic Behavior Observation Scale; Anxiety, Depression, and Social Stress = Symptom Subscales from the Behavior Assessment System for Children-2 Adolescent Version (BASC-2), T-scores provided; Interpersonal Relations, Self-Esteem, Self-Reliance, Personal Adjustment = Adaptability Subscales from the BASC-2, T-score provided; Quality of Life = Youth Quality of Life-Revised (YQOL-R). For all symptom scales, higher scores reflect greater pathology. For all adaptability scales, higher scores indicate superior functioning. For 804, the same score is provided for the post treatment assessment and the 3 month follow-up. This is because the family completed the post assessment close to the 3 month date. This score represents the time period post treatment to 3 months more broadly. "—" = data are unavailable (missing/incomplete). Note: Follow-up data are available one of the adolescents. These data indicate continued improvement in secondary psychopathology and adaptive functioning. Adolescent 3 at 3-months post treatment: Anxiety 47; Depression 42; Social stress 45; Interpersonal relations 61; Self-esteem 56; Self-reliance 39; Personal adjustment 51; Quality of life 56.59.

Table 3

Pre-Post Assessments for Caregivers Participating in Acceptance-Based Separated Family Treatment (ASFT)

Family (No. sessions completed)	1 (8)		2 (20)		3 (20)		4 (13)		5 (10)		6 (20)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Withdrawal	Pre	Withdrawal	Pre	Post
Anxiety												
Mother	38	55	62	55	52	46	70	64	52	---	60	52
Father	55	---	50	41	n/a	n/a	n/a	n/a	41	---	55	50
Caregiving-Negative												
Mother	59	12	57	---	43	14	58	62	61	---	83	13
Father	33	---	55	34	n/a	n/a	n/a	n/a	61	---	52	---

Note. Anxiety = Anxiety Subscale from the Brief Symptom Inventory (BSI), t-scores provided; Caregiving – Negative Experiences in Caregiving as assessed by the Experience in Caregiving Inventory (ECI). n/a = not applicable (i.e., no male caregiver in home or participating in treatment. “---” = data are not available (missing/incomplete)).