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Transdiagnostic Theory and Application of Family-Based Treatment for Youth with Eating Disorders

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Abstract

This paper describes the transdiagnostic theory and application of family-based treatment (FBT) for children and adolescents with eating disorders. We review the fundamentals of FBT, a transdiagnostic theoretical model of FBT and the literature supporting its clinical application, adaptations across developmental stages and the diagnostic spectrum of eating disorders, and the strengths and challenges of this approach, including its suitability for youth. Finally, we report a case study of an adolescent female with eating disorder not otherwise specified (EDNOS) for whom FBT was effective. We conclude that FBT is a promising outpatient treatment for anorexia nervosa, bulimia nervosa, and their EDNOS variants. The transdiagnostic model of FBT posits that while the etiology of an eating disorder is unknown, the pathology affects the family and home environment in ways that inadvertently allow for symptom maintenance and progression. FBT directly targets and resolves family level variables, including secrecy, blame, internalization of illness, and extreme active or passive parental responses to the eating disorder. Future research will test these mechanisms, which are currently theoretical.

Keywords

anorexia nervosa; bulimia nervosa; eating disorder not otherwise specified; family based treatment; transdiagnostic

Transdiagnostic Conceptualizations of Eating Disorders

The DSM-IV (American Psychiatric Association, 2000) eating disorders section includes three diagnoses: anorexia nervosa (AN), bulimia nervosa (BN), and eating disorder not otherwise specified (EDNOS). The cardinal features of AN include refusal to maintain a normal body weight, disturbed experience of shape and weight (e.g., viewing oneself as fat despite emaciation), and an extreme fear of weight gain. BN is characterized by recurrent binge eating and purging in the context of a self-concept that is primarily influenced by shape and weight. EDNOS, a residual category of eating disturbance, encompasses subthreshold and atypical variants of AN and BN as well as distinct disorders such as binge eating disorder (BED). Notably, EDNOS is markedly more prevalent in clinical samples than either AN, BN, or the two combined (Ricca et al., 2001; Turner & Bryant-Waugh, 2004), and there has been much debate in the field as to how to best parse this broad but clinically compelling category (Crow, 2007; Fairburn & Cooper, 2007; Fairburn et al., 2007; Waller, 2008; Wilfley, Bishop, Wilson, & Agras, 2007). Disagreement regarding the optimal disposition of EDNOS and the clinical descriptions therein is embedded in a larger controversy regarding the nosology of eating disorders, with many proposed alternatives to the current DSM system (Wonderlich, Joiner, Keel, Williamson, & Crosby, 2007), including dimensional conceptualizations (e.g., Stice, Killen, Hayward, & Taylor, 1998) explicitly adopting or implicitly supporting a transdiagnostic perspective.

Eating disorders as diagnostic entities - in their current forms - lend themselves to a transdiagnostic framework in several ways (Fairburn, 2008; Fairburn, Cooper, and Shafran, 2003). First, the bounds that distinguish AN, BN, and EDNOS from one another are blurred, both in the manner that DSM-IV criteria capture present state, as well as temporally in the migration between diagnostic categories over the course of illness (Eddy et al., 2008; Fichter & Quadflieg, 2007; Milos, Spindler, Schnyder, & Fairburn, 2005). For instance, binge eating appears across the eating disorders, and it is common over a course of illness for patients to cross over from AN restricting type (AN-R) to AN binge/purge type (AN-BP), and from AN-BP to BN (Eddy et al., 2008; Fichter & Quadflieg, 2007; Fichter, Quadflieg, & Hedlund, 2006; Milos et al., 2005; Tozzi et al., 2005; Wentz, Gillberg, Gillberg, & Rastam, 2001), with only time, weight status, and clinical judgment determining the point at which AN-BP in partial remission becomes BN. In fact, what defines and differentiates AN, BN and EDNOS has changed with each iteration of DSM, with no DSM diagnostic scheme for eating disorders to date reflecting an empirically derived classification system such as taxometric or latent class analysis (Wonderlich, Crosby, Mitchell, & Engel, 2007; Wonderlich et al., 2007). A classic example of this is the classification of individuals who binge eat in the absence of engaging in inappropriate compensatory mechanisms such as purging, who would have received a diagnosis of bulimia in DSM-III (American Psychiatric Association, 1980), no clear diagnosis in DSM-III-R (American Psychiatric Association, 1987), and a designation of binge eating disorder, under EDNOS, in DSM-IV-TR (American Psychiatric Association, 2000).

Second, a “core psychopathology” of eating disorders has been proposed by Fairburn and colleagues (Fairburn, 2008; Fairburn et al., 2003) to both explain mechanisms of symptom maintenance across AN, BN, and EDNOS, and inform a transdiagnostic cognitive

behavioral approach to treatment. This core pathology is thought to underlie the majority of clinically significant eating disorder presentations - regardless of if and how they are formally codified in the DSM - and consists mainly of the cognitive features of over-evaluation of shape and weight and their control, which are expressed in a range of disordered thoughts and behaviors (Fairburn, 2008; Fairburn et al., 2003). A recent randomized controlled trial comparing two versions of the transdiagnostic, “enhanced” cognitive-behavioral therapy (CBT-E) for BN and EDNOS (Body Mass Index > 17.5) (Fairburn et al., 2009) found that patients improved in both treatments and that DSM diagnosis did not moderate treatment effects, even at 60-week follow-up, suggesting that DSM diagnosis has little predictive validity with regard to outcome, and in turn, perhaps limited clinical utility.

Third, eating disorders typically onset in adolescence (Lewinsohn, Striegel-Moore, and Seeley, 2001; Lucas, Beard, & O’Fallon, 1991), with initial presentations frequently appearing subthreshold or atypical relative to DSM-defined AN or BN (WCEDCA, 2007). While for a percentage of these cases, the symptoms may be transient, the subsyndromal state can be associated with marked clinical severity and risk, similar to full-threshold presentations (Binford & Le Grange, 2005; Crow, Agras, Halmi, Mitchell, & Kraemer, 2002; Le Grange et al., 2006; Le Grange, Loeb, Orman, & Jellar, 2004; McIntosh et al., 2004; Ricca et al., 2001; Watson & Andersen, 2003; Wonderlich et al., 2005), and a portion of EDNOS cases will ultimately go on to meet full criteria for an eating disorder (Ben-Tovim et al., 2001; Herzog, Hopkins, & Burns, 1993; Le Grange et al., 2004). One possibility is that we are misdiagnosing AN and BN as EDNOS in younger populations (Le Grange & Loeb, 2007), as DSM makes very few allowances for age-specific manifestations of eating disorders (WCEDCA, 2007). For example, while the DSM-IV anxiety disorders criteria permit behavioral indicators of fear, such as crying in the presence of stimulus, among children, the eating disorders require more direct endorsement of abstract concepts such as intense fear of becoming fat, or undue influence of shape and weight on self evaluation, across the age spectrum. An obvious solution is to improve the developmental sensitivity of the existing DSM criteria for AN and BN, within the current categorical diagnostic system (WCEDCA, 2007). Alternatively, a transdiagnostic framework for classification of eating disorders would not only arguably provide a more valid nosological assignment than EDNOS for such severe and/or potentially prodromal cases, but would also elevate their perceived clinical significance, which could have positive implications for early identification and intervention, and in turn, for improved course of illness and prognosis (Deter & Herzog, 1994; Le Grange & Loeb, 2007; Ratnasuriya, Eisler, & Szmukler, 1991).

This paper describes the transdiagnostic theory and application of family-based treatment (FBT) for children and adolescents with eating disorders. FBT was developed at the Maudsley Hospital in England and originally tested against individual treatment among adults and adolescents with AN and BN (Eisler, Dare, Russell, Szmukler, Le Grange, & Dodge, 1997; Russell, Szmukler, Dare, & Eisler, 1987). Results from this seminal study favored the application of this approach for patients with less than a three-year duration of AN, and the body of studies to immediately follow therefore focused exclusively on adolescent AN (Eisler, Dare, Hodes, Russell, Dodge, & Le Grange, 2000; Eisler, Simic, Russell, & Dare, 2007; Le Grange, Eisler, Dare, & Russell, 1992). Since the original

collection of randomized controlled trials (RCTs) of FBT was conducted, the approach has been disseminated and tested beyond the Maudsley (Le Grange, Crosby, Rathouz, & Leventhal, 2007; Lock, Agras, Bryson, & Kraemer, 2005; Lock, Couturier, & Agras, 2006; Loeb, Walsh, Lock, Le Grange, Jones, Marcus, Weaver, & Dobrow, 2007; Robin, Siegel, Moye, Gilroy, Dennis, & Sikand, 1999; Schmidt et al., 2007), and is now being adapted for a more transdiagnostic spectrum. There are currently FBT manuals for the treatment of AN (Lock, Le Grange, Agra, & Dare, 2001) and BN (Le Grange & Lock, 2007), which have both been tested in studies that included subthreshold and atypical (i.e., EDNOS) cases (Le Grange et al., 2007; Lock et al., 2005; Lock et al., 2006; Loeb et al., 2007); for the prevention of AN in symptomatic children and adolescents at high risk for developing the full disorder (Loeb, Le Grange, & Lock, 2005); and even for the treatment of adolescent overweight and obesity (Loeb, Celio Doyle, Le Grange, Bremer, Hildebrandt, & Hirsch, 2006), which can be associated with disordered eating but are not categorized as psychiatric disorders. It is also being tested once again with young adult populations (Le Grange & Chen, 2007). The paper will describe the fundamentals of FBT, a transdiagnostic theoretical model of FBT and the literature supporting its clinical application, adaptations across developmental stages and the diagnostic spectrum of eating disorders, and the strengths and challenges of this approach, including its suitability for youth. Finally, we will report a case study of an adolescent female with EDNOS for whom FBT was effective.

Family-Based Treatment (FBT) of Eating Disorders: Clinical Description of the Foundation Approach

FBT is a brief (between 10–20 sessions), outpatient approach for the treatment of youth with eating disorders. It is atheoretical with regard to etiology and maintenance of symptoms of AN and BN, and the family is treated not to uncover an underlying familial pathology expressing itself in the child's eating disorder, but rather to enlist the parents as a resource in the practical resolution of the problem. In fact, FBT incorporates an explicit agenda of blame reduction toward both the parents and patient, and directly targets criticism of the child. The intervention consists of three phases, ideally delivered with the entire family, including siblings, present at each session. The parents' role shifts across the treatment phases, while siblings maintain a supportive role to the patient throughout the course of FBT. In the first phase, parents take charge of their child's eating disorder symptoms much as an inpatient staff might, making decisions about appropriate eating and related behaviors at a stage while the adolescent is too immersed in pathology to engage in adequate self-care in these regards. In fact, the adolescent is explicitly depicted as a distinct entity from the eating disorder, but with the healthy self currently eclipsed by a pernicious disorder. In Phase I, parents essentially rescue their child from this "hostage" situation. In Phase II, as the eating disorder begins to remit, control over eating is gradually transferred back to the child as s/he fully emerges into his/her appropriate developmental stage, unencumbered by the most severe influences of the disorder. Phase III attends to broader issues of adolescent development and family functioning. Inherent in FBT is a belief that the acute symptoms of the eating disorder must be resolved and basic functioning must be restored before the adolescent will experience any relief from the cognitive symptoms of the eating disorder, such as extreme shape and weight concerns. In this sense, food, regular eating, and cessation

of eating disorder behaviors are the potent medicine in FBT, with parents delivering the salve in an authoritative manner that blends firmness, kindness, and resolve. Parents never apply force in FBT, but rather create a zero-tolerance environment for the eating disorder.

FBT is mostly applied in a conjoint format, i.e., all family members who live at home are to attend treatment sessions. Moreover, it is a focused treatment and requires the therapist to ‘stay with’ the symptoms of self-starvation or binge eating and purging until these behaviors begin to dissipate or have been resolved. This focus leaves the therapist with relatively little time to attend to the adolescent in the same way that is possible in more traditional individual psychotherapeutic approaches. Any individual problems the patient may want to address will have to be postponed until the latter part of treatment. It is important to note that FBT has also been studied in separated format (Eisler et al., 2000; Le Grange et al., 1992). Separated family therapy allows for equal time being spent with the adolescent versus his/her parents. Despite this ‘extra’ time available for the adolescent, these studies have shown treatment outcome to be similar across these two treatment formats. However, separated FBT appears to be more effective for families with high levels of expressed emotion, particularly criticism (Eisler et al., 2000; Le Grange et al., 1992).

A Transdiagnostic Model of FBT

As noted above, FBT posits no mechanism by which family or individual variables may have given rise to the eating disorder, nor are maintenance factors directly explored. However, the key interventions and principles of FBT, and their effectiveness in the aggregate (no specific dismantling studies have been conducted to date) suggest the following transdiagnostic model of the approach. This model is designed to explain how the disorder can influence family level variables, which in turn might limit the resolution of the disorder. FBT targets these family variables and mechanisms explicitly, as well as affects individual variables and mechanisms, but only implicitly. This model is depicted in Figure 1.

In summary, we propose that at the family level, the eating disorder elicits secrecy, fear, blame, and a belief that the adolescent has control over his/her symptoms (internalizing the illness). Specifically, the eating disorder often becomes the unacknowledged “elephant in the room,” with the adolescent protecting the symptoms through secrecy, and the parents and siblings unsure how to effectively confront the adolescent. The parents fear exacerbating the condition with active involvement – a fear sometimes reinforced by clinical recommendations to step back, lest their efforts be perceived as intrusive and inadvertently worsen their child’s putative maladaptive attempts at separation and control as expressed through the eating disorder. At the same time, they fear that inaction will lead to their child’s further deterioration. This conflict leads to an extreme but ineffective response on the parents’ part, either active or passive in nature. For example, parents may try to actively convince their child that eating is in the child’s best interest by attempting to mobilize his/her affect (e.g., “Can’t you see what you look like? You have to eat!”); conversely, parents may feel paralyzed to intervene at all, terrified that “pushing” their child will have a deleterious effect on both the parent-child relationship and an already fragile clinical state. Such extreme responses are invariably misguided and ineffective and will likely potentiate

intra-familial blame for the illness (parent toward self, patient toward self, parent toward patient, patient toward parent). They may also reinforce the erroneous belief that the child has direct control over his/her symptoms, heightening criticism.

At the individual level, eating disorder symptoms are reinforced through maladaptive reinforcement. AN, for example, may become chronic via fear conditioning (Hildebrandt, Bacow, Markella, & Loeb, 2008). In BN, negative reinforcement plays a prominent role (e.g., purging reduces immediate fear of weight gain). Across the eating disorders, extreme dietary restriction is negatively reinforcing in that it reduces shape and weight concerns in the short term, and weight loss is directly positively reinforcing. While FBT does not directly assume these individual mechanisms to be operative, the environmental changes FBT imposes promote extinction of some of these behaviors via new associative learning.

FBT directly targets each of the family-level mechanisms that may collectively be creating an environment in which the eating disorder is left unchecked, worsening through individual mechanisms. FBT reverses secrecy by discussing progress and strategies as a family. It empowers parents to channel their efforts in the most effective manner possible, facilitating recovery actively and without criticism, blame, or negotiation with the illness. The eating disorder is externalized, and the therapist draws a Venn diagram to depict the current overlap between the child and eating disorder, and the ultimate goal to separate them. At the individual level, by creating a family environment that curtails symptom expression, FBT implicitly functions as a form of exposure therapy. In fact, for AN, it is hypothesized that FBT accomplishes a full course of exposure to feared eating in the generalized context of the affected individual's home (Hildebrandt et al., 2008).

Empirical Research Supporting FBT as a Transdiagnostic Intervention for Youth with Eating Disorders

There are few systematic treatment studies of eating disorders in children and adolescents (Bulik, Berkman, Brownley, Sedway, & Lohr, 2007). Only six randomized clinical trials with fewer than 400 adolescents studied in adolescent AN and two randomized clinical trials with a fewer than 200 subjects studied in adolescent BN have been published (Eisler et al., 2000; Eisler et al., 2007; Eisler et al., 1997; Le Grange et al., 1992; Russell et al., 1987; Lock et al., 2005; Gowers et al., 2007; Schmidt et al., 2007; Le Grange et al., 2007; Robin et al., 1999). There are no randomized clinical trials for children with eating disorders under the age of 12. However, of the six RCTs in adolescent AN, 5 have employed the form of family-based treatment (FBT) first developed at the Institute of Psychiatry at the Maudsley Hospital, wherein parents are helped to intervene to change excessive dieting, overexercise, and purging behaviors in their children. Similarly, both of the RCTs in adolescent BN, employed a form of FBT as a treatment arm in these comparisons.

Results of the studies of adolescents with AN suggest that FBT is effective in weight restoration and promoting longer improvements for this population. About 60–70% no longer meet diagnostic criteria for AN for weight at the end of treatment and most continue to improve on longer term follow-up (Lock et al., 2005, Le Grange & Lock, 2005). FBT for AN (FBT-AN) appears to be superior to supportive psychotherapy and to individual

psychological therapy in promoting weight restoration at the end of treatment according to the results of the two small comparison studies published to date (Russell et al., 1987; Robin et al., 1999). The studies of FBT for BN (FBT-BN) show a more mixed picture. Schmidt and colleagues (2007) found that there were no differences in abstinence rates for binge eating and purging between FBT and a guided self-help form of cognitive-behavioral therapy, while Le Grange and colleagues (2007) found that adolescents with BN treated with FBT had greater abstinence rates at the end of treatment and follow-up compared to those who received individual supportive therapy.

Studies of adolescent eating disorders inclusion criteria often allow a broader range of cases than in some adult studies. Subjects who did not meet menstrual criteria were randomized in Lock et al.'s study of adolescent AN dose study of FBT (Lock et al., 2005). Adolescents who did not meet the full DSM criteria for BN were admitted to both the Schmidt et al (2007) and Le Grange et al (2007) studies as well. The rationale for including these cases is that adolescents present earlier in the course of their disorder, those with clinically important symptoms require treatment, and this range of symptom presentation is a more accurate sample relevant to the clinical realities of child and adolescent eating disorders (WCEDCA, 2007; Peebles, Wilson, & Lock, 2006). In the studies of FBT-AN, there is no indication that those who did not meet all diagnostic criteria fared better or worse than those that did not (Lock et al., 2005; Le Grange et al., 2004). However, in the studies of FBT-BN those with the least severe psychological and behavioral manifestations of the disorder did better in FBT than individual therapy, while there was no difference in outcome between treatments for those who were most disordered (Le Grange, Crosby, & Lock, 2008).

The age range in most of the RCTs of eating disorders using FBT was 12 to 18 years. This age range covers most of the adolescent developmental period, from physical changes of early puberty to the social and familial developments in middle and late adolescence. One case series examined FBT in children with AN and partial AN 12 years and younger and found the treatment to be effective (Lock, Le Grange, Forsberg & Hewell, 2006). Several of the studies of FBT also included males. In these studies males appeared to respond as well or better than females to the approach (Lock et al., 2005; Le Grange et al., 2007). Taken together, these data suggest that FBT is applicable across the range of ages typical for the onset of eating problems, across diagnostic groups (AN, BN, EDNOS), and for both genders.

Adaptations of FBT Across Developmental Stages and the Diagnostic Spectrum of Eating Disorders

As described above, FBT is based in several main therapeutic principles for intervening with eating disorders that are applicable across the child and adolescent age range and clinical presentations. To review, these principles include the following: no focus on etiology of the disorder, no blame of parents or affected child for causing the disorder, encouraging parents to be responsible for behavioral change in eating disorder symptoms in their children, and explicit and almost exclusive focus on behavioral change in eating disordered behaviors early in treatment, and deferring of other developmental issues or problems until the eating

disorder symptoms have largely abated. The specific therapeutic interventions associated with these principles include:

- empowering parents by education, support, and affirmation;
- separation of the eating disorder from the patient (externalization);
- engendering appropriate levels of anxiety in parents to motivate them to take action; and,
- providing supportive, consultative, and practical reflections about parental efforts to disrupt eating disordered behaviors.

The key tenets of FBT are adhered to and remain relatively uniform for FBT across ages and eating disorder diagnoses (i.e., AN, BN and EDNOS). However, the application of these principles and the interventions associated with them vary somewhat according to developmental stage and primary presenting symptoms. For example, FBT's flexible adherence in terms of these key tenets is perhaps best demonstrated around the issue of parental empowerment. For AN, parental empowerment will imply that parents take charge of weight restoration with no input from the adolescent on *this* issue; for BN, parental empowerment implies a much more collaborative arrangement in that the adolescent's direct cooperation is solicited and encouraged; for EDNOS, parents are also empowered to get a handle on the eating disorder symptoms, but the period of their involvement in this process might be less intensive and time consuming than typically is the case for AN or BN. Put another way, the same skills parents have to master in order to encourage their offspring to eat more than they would wish to (as for AN), are to be employed in supporting regular healthy meals while curtailing binge eating and purging (as for BN). Therefore, it is parental efficacy that is bolstered through FBT and implemented in practice, but tailored toward the adolescent's specific symptom profile depending on their diagnosis.

There are also some adjustments that therapists employ based on the age of patients. For example, the rationale for parental management of eating and exercise is the same for all ages in AN, but parents of younger adolescents find implementation of parental management more natural and consistent with the developmental age of their child than parents who attempt similar behavioral control with older adolescents. In both instances, however, both patients and their parents are reassured that this is a temporary intervention. In the case of FBT-BN, a further modification of the recommendation of parental control is made. Unlike adolescents with AN where parents are strongly cautioned against negotiating control of eating problems with their son or daughter, in BN, the transfer of parental control over eating and exercise is negotiated with the adolescent. This adjustment reflects several differences between the clinical presentation of adolescents with AN and BN. In AN, the symptoms of severe dieting and over exercise are ego-syntonic, making it unlikely that the adolescent will agree to parental intervention. In contrast, adolescents with BN are secretive and shameful about binge eating and purging making it more likely that they will be motivated to change these behaviors when help is offered and therefore consider accepting parental assistance. In addition, adolescents with BN tend to be exercising more developmental autonomy from parents than those with AN when they present for treatment, often making it a practical necessity to seek their agreement to involve their parents. Finally,

adolescents with AN who do not eat and over exercise are easier to detect, but binge eating and purging are secretive behaviors, so in order for parents to help with these behaviors, the adolescent has to be willing to share information about their eating patterns, trigger foods, and periods of high risk for purging.

In FBT- AN, there is a family meal where parents are asked to bring a meal that they believe will help their child gain weight and then to help her eat it. Weight gain is seldom a goal in FBT-BN, so parents are asked to bring a food that the adolescent says will typically trigger a binge and purge episode. The adolescent is asked to eat this food and allow her parents to help her avoid binge eating and purging. In the second stage of FBT-AN, parents gradually transfer control of eating related issues back to adolescent according to what would be expected for the child's age. Younger adolescents would likely still eat most meals, except lunch, with the family; while older adolescents would spend more time eating away from home. In FBT-BN, this transition to adolescent control of eating is similar in design, but often proceeds more quickly than in adolescent AN because the adolescent with BN is typically somewhat older, more independent, and more socially engaged with peers.

In the later phases of FBT- AN, there is a gradual shift in focus to other adolescent issues that may be affecting the adolescent and the family. Typical issues that might arise are accepting an adult body shape, developing social relationships outside the family, exploring adolescent developmental issues around dating, alcohol and drug use, sexual behaviors, and anticipating leaving home for school or work. In FBT-BN, these adolescent issues tend to arise earlier in treatment because adolescents with BN are often exploring these issues prior to or in the context of BN. On a practical level, adolescents with AN typically spend more time in the first phase of treatment which is focused on weight restoration and parental control, while adolescents with BN spend more time in the other phases of treatment. Both treatments can be delivered in about 6 months, though a subgroup of adolescents with AN who come from non-intact families or who have the highest levels of obsessional thinking appear to need longer treatment (Lock et al., 2007).

Strengths and Challenges of FBT

FBT versus Other Treatments

There is a dearth of treatment studies for adolescents with eating disorders and consequently, few treatment approaches for this patient population are available (Le Grange & Lock, 2005). With the exception of the most recent RCT for adolescent AN (Gowers et al., 2007), all other published RCTs utilized FBT or a variant of it. Only a few of these studies compared FBT to another treatment, e.g., individual psychotherapy (Le Grange et al., 2007; Russell et al., 1987; Robin et al., 1999; Schmidt et al., 2007). In these comparisons, FBT proved to be superior in AN, and in BN, superior to individual supportive psychotherapy (Le Grange et al., 2007) but not to a cognitive behavioral guided self-help (Schmidt et al., 2007). However, most of the available studies have been quite modest in sample size, which renders findings somewhat inconclusive. Notwithstanding the small number of studies and their methodological shortcomings, FBT is a therapeutic approach for which a relatively substantial body of evidence for its promise relative to other interventions is beginning to emerge.

Therapeutic Alliance and Treatment Acceptability

A small number of studies have examined therapeutic alliance and acceptability of FBT for adolescents with AN (Krautter & Lock, 2004; Le Grange & Gelman, 1998; Pareira, Lock, & Oggins, 2006) and BN (Zaitsoff et al., 2008). A primary goal in FBT is to empower parents to play a significant role in addressing their offspring's eating disorder making this a highly demanding therapy. Early on in treatment the adolescent is not allowed to make independent decisions about eating and weight related behaviors. This is especially true for AN, where most adolescents become quite resistant to their parents' efforts. Whether this treatment is acceptable for both adolescents and parents is therefore particularly salient. An early qualitative description of FBT in a modest sample of adolescents with AN (Le Grange & Gelman, 1998) demonstrated that this form of therapy was ultimately acceptable for adolescents and their families. Additional empirical support for this notion was provided in a larger study of patient satisfaction in FBT for AN in which both quantitative and qualitative evaluations were employed (Krautter & Lock, 2004). In this study, treatment effectiveness as well as therapeutic alliance were rated quite highly. However, almost a third (30%) of participants expressed a desire for individual therapy in addition to FBT they received. In the most sophisticated study of therapeutic alliance in FBT conducted to date (Pareira et al., 2006), independent assessors scored early and late therapeutic alliances for patients and parents using recorded sessions from an RCT for adolescent AN. Therapeutic alliance throughout treatment was strong for both adolescents and their parents. A strong early alliance with adolescents predicted early treatment response in terms of weight gain. A strong early alliance with parents prevented dropout while a strong late parental alliance predicted their child's total weight gain over the course of treatment. This study concluded that therapeutic alliance in both patients and parents treated with FBT is generally strong and likely contributes to treatment retention and treatment response. The only study that examined the therapeutic alliance and treatment acceptability across FBT and individual supportive psychotherapy (SPT), revealed no differences between these two treatments (Zaitsoff et al., 2008). Contrary to the AN study (Krautter & Lock, 2004), being assigned to an individual psychotherapy as opposed to FBT did not appear to confer any additional benefits in terms of therapeutic alliance or treatment acceptability.

Dissemination and Implementation

The dissemination of FBT has been well documented (Loeb et al., 2006). Several factors support the dissemination of FBT; first, detailed clinician manuals are available for both AN (Lock et al., 2001) and BN (Le Grange & Lock, 2007), with regular workshops being conducted to train clinicians in these manuals (www.train2treat4ed.com). Second, as noted above, FBT is theoretically agnostic. From an implementation perspective, this agnosticism enables therapists from a variety of backgrounds to practice FBT relatively free from any specific theoretical prerequisites. Third, FBT has a substantial behavioral and educational focus, especially for the first part of therapy. Consequently, interventions are relatively straightforward to describe in these treatment manuals, and the process of implementing and mastering these therapeutic techniques can therefore be rehearsed and scrutinized during the training of aspiring therapists.

Barriers to Successful Treatment

Therapist variables—In this behaviorally focused treatment, addressing the eating disorder symptoms (i.e., behavioral intervention) precedes attending to psychosocial concerns. FBT is therefore a here-and-now therapy and insight is not a prerequisite for change. This does remove the almost insurmountable challenge for the therapist to uncover the ‘underlying issues’ that explain the starvation in AN or the binge eating and purging in BN. Instead, FBT requires the therapist to remain focused on the eating disorder symptoms until they have dissipated. Some therapists may find the emphasis on symptomatic behavior easy to manage because they are able to compartmentalize or postpone any ‘distractions’ and retain their focus on the eating disorder. Others, of course, may find it irresistible not to attend to the myriad of psychological ‘happenings’ that occur during the course of any one psychotherapeutic encounter. Therapists who feel unduly tempted to respond to these stimuli may find FBT a challenge.

Even though the therapist in FBT joins the family in a non-authoritarian role, his/her task as consultant to the family is multi-faceted. This complex task, which requires stamina or therapeutic endurance, expert knowledge of eating disorders, basic human nutrition, team leader and liaison, among others, calls for the therapist to take on quite an authoritative stance. While such a stance is not the prerogative of FBT, it is probably quite important in the successful implementation of this therapy and can be seen by some therapists as either too arduous or even unnecessary.

Patient and family variables—There is no denying that FBT requires a considerable time/effort commitment on the part of the parents. Especially, the first part of treatment requires parents to be available for constant supervision of their adolescent at a time when s/he will not be attending school and every meal is eaten at home. Mealtimes are almost uniformly experienced as stressful by both the parents and their family. Compounding this potential barrier to successful treatment, parents who are critical of their teen with an eating disorder (as measured by Expressed Emotion), and who embark on a course of FBT, could be at risk to drop out of treatment prematurely (Szmukler, Eisler, Russell, & Dare, 1985). Should such critical parents remain in treatment, there is increased probability that they will fare less well in terms of symptomatic relief compared to non-critical parents (Le Grange et al., 1992). In such instances it has been shown that a separated format of FBT (meeting with the adolescent and the parents, but not together) may be more advantageous (Eisler et al., 2000).

Single parents are particularly at risk for being taxed beyond their capacity and might require more treatment than their two-parents counterparts (Lock et al., 2005). While this might be the case for AN, we have not found single parents of adolescents with BN to be at a particular disadvantage when compared to their two-parent counterparts (Celio-Doyle, McLean, Washington, Reinecke Hoste, & Le Grange, 2009). Finally, it has also been shown that adolescents with AN who present with high levels of obsessive and/or compulsive traits may require more treatment than those with moderate levels of these characteristics (Lock et al., 2005).

Suitability for Youth

FBT was developed for youth as opposed to being adapted for the treatment of youth. While several reasons can be put forward to explain the development of FBT specifically for youth with eating disorders, the main driving force that gave rise to this therapy is probably twofold. First, the Maudsley team of clinical researchers in London (e.g., Dare, 1983) argued that hospitalization of one's child for *any* reason is almost always experienced as traumatic and therefore should be avoided if possible. Second, such a hospitalization almost always, albeit inevitable, causes the parents to feel disempowered, i.e., they have 'failed' in taking care of their child around eating, a relatively simple task that almost all parents succeed in. Such a disempowerment puts parents at a considerable disadvantage when they face the crisis of the eating disorder and need to take care of their offspring once s/he is discharged from inpatient care. FBT tries to prevent hospitalization if it is medically appropriate, and instead, seeks to bolster parental skills around taking charge of their offspring's weight restoration and/or curtailing binge eating and purging. From a developmental perspective these strategies may come across as out of place given that the patients seen in FBT are teens. However, these interventions are only temporary and the ultimate goal of course is to encourage the adolescent's independence and support them on their developmental trajectory but unencumbered by the eating disorder.

It is fair to argue that most adolescents are embedded in their families FBT which provides parents with a certain degree of leverage over their offspring. It would therefore seem appropriate to expect of parents to utilize this advantageous position, in conjunction with their caretaking skills and affection for their child, to 'apprehend' the eating disorder from their child. This intervention is time-limited as FBT is ultimately most respectful of the adolescent and his/her nascent independence. Separating the illness from the adolescent (externalization) is perhaps the most tangible way in which respect for the adolescent is demonstrated. In addition, this separation also allows for parents to view the eating disorder as something that has overtaken their teen and allows them (the parents) to be effective in their interventions. Therefore, mobilizing parents in this specific manner renders FBT most appropriate for youth and their families.

Case Study

This portion of the article will describe the implementation of FBT for a 13-year old female, M., who presented with a 6-month history of an eating disorder. The family provided permission for deidentified case information to be used in this paper; in addition, aspects of descriptive and clinical data have been altered to protect the anonymity of the family. This case will highlight the transdiagnostic implementation of FBT, as M. presented with features of AN (e.g. refusal to maintain a healthy weight; highly restrictive diet) and BN (e.g. binge eating and purging), yet did not meet the DSM-IV diagnostic criteria for either disorder. This patient was seen as part of a federally-funded RCT comparing FBT to individual supportive psychotherapy in the prevention of AN among children and adolescents at high risk for the development of the disorder.

Referral Information

M.'s mother sought treatment for M. out of concern that her daughter had lost 10 pounds in the past 6 months. Furthermore, M.'s mother suspected that over the past few months, M. had started to consume and purge large amounts of food in secret (typically after dinner).

Assessment and Diagnosis

M., her mother and father, were present for the assessment. M.'s assessment included a psychiatric intake, the Eating Disorder Examination, Version 16.0 (Fairburn, Cooper, & O'Conner, 2008) and the Kiddie Schedule of Affective Disorders (Kaufman et al., 1997), plus standardized questionnaires. M.'s mother and father were also interviewed about their daughter's eating disorder symptoms using the Parent-Eating Disorder Examination (Loeb, 2008).

M. and her parents reported that she had lost 10 pounds in the past 6 months, dropping from 105 lbs at 64.25" (representing a BMI of 17.9, within normal range, a percentile of 31.2, and a percentage expected body weight of 93.3%) to her current weight of 94.2 lbs (BMI of 16.1, 8th percentile, 83.73% expected body weight). When asked about her eating habits, M. stated that she "just wanted to be healthier," however both she and her parents reported that M. had eliminated almost all fat from her diet, and no longer ate many of the foods she had previously enjoyed, such as chocolate. Furthermore, M. confirmed her mother's suspicions that for the past two months, at a frequency of approximately once per week, she would steal excessive amounts of "forbidden foods" from the kitchen, such as brownies and chocolate bars, eat them in secret in her room, and then self-induce vomiting. M.'s parents reported that they were afraid to confront their daughter about their concerns, given her irritable mood.

Based on the information obtained from M. and her parents, it was determined that M. met two of the four DSM diagnostic criteria of AN, namely Criterion A (refusal to maintain body weight at or above a minimally normal weight for age and height) and Criterion C (feelings of fatness). M. did not meet Criterion B (fear of weight gain), and she had not yet menstruated, making diagnostic criterion D (absence of three consecutive menstrual cycles) inapplicable. Furthermore, M. met three of the five DSM diagnostic criteria for Bulimia Nervosa, namely Criterion A (recurrent episodes of binge eating), Criterion B (inappropriate compensatory behaviors), and Criterion D (excessive influence of body shape/weight on self worth). However, she did not meet Criterion C (the binge eating and purging must occur on average twice per week over the past three months and Criterion E (the disorder occurs at times other than during episodes of Anorexia Nervosa). Thus, M. was assigned a diagnosis of Subthreshold Anorexia Nervosa, Binge/Purge Subtype.

Course of Treatment

Phase I

Session 1: At the beginning of each session of FBT, the therapist weighs the patient alone and asks the adolescent whether there are any issues that she would like help discussing with her family during the session. The weight is then reported to the parents however the adolescent can decide whether she or the therapist will disclose the weight. At Session 1, M.

had gained 1.4 pounds since her assessment.. After M. was weighed, her parents were present for the remainder of the session. (Neither M.'s brother nor sister attended the session, because they were away at college). The therapist marked M.'s new weight on the graph, and stated that the weight gain was positive, yet emphasized that she still needed to gain a significant amount of weight. Per the FBT manual, the therapist greeted the family in a somber manner, and obtained a history of M.'s eating disorder from the entire family, using a circular style of questioning. Both of M.'s parents expressed deep concern about M., who had always been the "angel child" of the family, prior to the onset of her eating disorder. M.'s parents explained that one year ago, they noticed that M. had cut out almost all fat in her diet, (leading to a weight loss of about 10 lbs), and then approximately two months ago, they started to suspect that M. might occasionally eat food in secret, and vomit afterwards. They also expressed concern about M.'s depressed mood, which onset approximately 9 months ago, and had recently been exacerbated when M. (a competitive swimmer) was banned from the swim team, due to her low weight. Next, the therapist explained the grave nature of M.'s eating disorder, and simultaneously externalized the illness from M.. Specifically, the therapist emphasized the medical and psychological risks of M.'s AN symptoms (e.g. the risks of low weight, a highly restrictive diet, etc) as well as the risks associated with binge eating and purging. Furthermore, the therapist highlighted that M. was at risk for developing AN, which is a very serious and potentially fatal disorder, as well as BN, which is also associated with severe health consequences. The therapist explained to M.'s parents that the cause of AN is unknown, and therefore they should not blame themselves for M.'s eating disorder.

At the end of the session, the therapist charged the parents with the primary tasks of FBT: refeeding their child, while ensuring that she does engage in bingeing and purging behaviors. The therapist emphasized that M.'s brother and sister should not assist their parents in these tasks, but rather serve to support M. during the treatment. The therapist explained that in addition to restoring M.'s weight, the parents should focus on overall normalization of M.'s eating behaviors, such as re-incorporating now-forbidden foods that M. had historically enjoyed. Finally, the parents were instructed to bring in a picnic meal for the next session.

Session 2: M. gained 0.6 lbs between session 1 and session 2. The patient's mother, father, and older sister (who was home from college) attended the second session. A primary goal of session 2 is to observe the family process when eating meals. The family had brought dry turkey sandwiches on whole wheat bread and a side salad without dressing for everyone. When the therapist inquired about how the meal had been chosen, the mother explained that she liked to prepare "wholesome, nutritious food" for the whole family, and that everyone liked "to eat healthfully." The mother handed out the sandwiches to everyone, and each person served themselves salad. M. ate her sandwich slowly, but finished it. The therapist gave feedback to the parents regarding their chosen meal, explaining that this amount of food was not sufficient to help their daughter gain weight, and that refeeding their child with low calorie foods would make the process lengthier and more difficult. Per the manual, the therapist then instructed the parents to get M. to eat an extra bite of food. M.'s sister had a granola bar with her, which the parents instructed M. to eat. M. refused, and her mother (at

the instruction of the therapist) unwrapped the granola bar, and held it to M.'s mouth. M. ate a few bites, and then stated that she needed to go to the bathroom. The therapist explained that M.'s mother would have to escort M. to the bathroom to ensure she was not vomiting. M.'s sister volunteered to escort her sister to the bathroom, and the therapist restated that her role was to support her sister, whereas refeeding and monitoring of purging behavior was only appropriate for M.'s parents.

Session 3 – 8: During the remainder of phase 1, M. grew 0.25" and gained 10.8 lbs, rendering her at 106.4 lbs (a BMI of 18, growth curve percentile of 32.7, and percent ideal body weight of 93.84%). During session 3, M. reported that she had noticed that her mother, who was very thin, ate a restrictive diet, consisting of almost no carbohydrates. The therapist explained to M.'s parents that in addition to refeeding M., they themselves must also model healthy eating behavior, which included eating a broad range of foods. M.'s mother initially had difficulty doing this, but by the end of phase 1, M. and her mother reported that everyone in the family was eating a more balanced diet. Furthermore, during phase 1, M.'s father was often away from home on business trips. M.'s father participated in several treatment sessions via phone, and he helped his wife determine what food to serve M. at each meal. In addition, M.'s parents enlisted the help of a school aid, who ensured that M. did not purge after lunch. Furthermore, one parent was assigned to monitor M. for one hour after breakfast and dinner each day.

Phase II (sessions 9–12)—These four sessions took place biweekly. M.'s fluctuated within one pound during these four weeks. By session #12, her weight was 106.0 lbs and she had grown 0.5". At her new age of 14, her BMI was 17.7 (growth curve percentile = 25.6; 91.33% expected body weight). A primary goal in this phase of treatment is the gradual transfer of control over eating and associated behaviors from parents to child. Initially, M. was allowed to choose her lunch each day, while her parents retained control over her breakfast and dinner. It was explained to M. that if she lost weight during the week and/or binged and purged, they would have to assess whether she needed more parental assistance again. M. continued to gain weight, and therefore control over breakfast was gradually transferred to M.. M.'s mother continued to prepare dinner for the entire family, as was customary. M. also reported that she was able to eat chocolate on her own, without feeling guilty or binge eating and purging. M. and her parents reported a significant improvement in her mood, though M. stated her strong desire to exercise. Thus, it was decided that M. could swim twice per week, if she agreed to eat an extra snack on those days, and did not purge afterwards. M. agreed to this, and reported feeling significantly less depressed as a result of exercising.

Phase III (sessions 12–14)—These two sessions took place one month apart from each other, per the FBT protocol. The patient's weight remained stable during these two months, and at the end of treatment she weighed 106.4 lbs. Thus, she ended treatment at a BMI of 17.7 (growth curve percentile = 26.6; 91.68% expected body weight). M. reported that she was socializing more with her friends, and had a crush on a boy in her class. She had not yet menstruated, and stated she was upset about that. The therapist validated the patient's experience, and stated that it was a positive sign that M. wanted to menstruate, because it

demonstrated that the eating disorder no longer had control over her. Furthermore, M. and her parents reported that their conversations no longer focused on food, and that they were able to relate to each other as they had prior to the onset of her eating disorder.

Six-month follow-up: At her six month follow up, M. had grown 1.25” and gained 15.4 lbs, placing her at 66.25”, 121.8lbs (BMI = 19.6; growth curve percentile = 52.7; 101.08% expected body weight). M. and her mother both reported that she was doing well and navigating participation on the swim team without relapse.

Conclusions

FBT is a promising outpatient treatment for AN, BN, and their EDNOS variants. The transdiagnostic model of FBT posits that while the etiology of an eating disorder is unknown, the pathology affects the family and home environment in ways that inadvertently allow for symptom maintenance and progression. FBT directly targets and resolves family level variables, including secrecy, blame, internalization of illness, and extreme active or passive parental responses to the eating disorder. Future research will test these mechanisms, which are currently theoretical.

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References

- American Psychiatric Association. Diagnostic and Statistical Manual for Mental Disorders, Third Edition (DSM-III). Washington DC: American Psychiatric Association; 1987.
- American Psychiatric Association. Diagnostic and Statistical Manual for Mental Disorders, Third Edition, Revised (DSM-III-R). Washington DC: American Psychiatric Association; 1987.
- American Psychiatric Association. Diagnostic and Statistical Manual for Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR). Washington DC: American Psychiatric Association; 2000.
- Ben-Tovim DI, Walker K, Gilchrist P, Freeman R, Kalucy R, Esterman A. Outcome in patients with eating disorders: A five-year study. *Lancet*. 2001; 357:1254–1257. [PubMed: 11418150]
- Bulik CM, Berkman ND, Brownley KA, Sedway JA, Lohr KN. Anorexia nervosa treatment: A systematic review of randomized controlled trials. *International Journal of Eating Disorders*. 2007; 40:310–320. [PubMed: 17370290]
- Celio Doyle A, McLean C, Washington BN, Rienecke Hoste R, Le Grange D. Are single-parent families different from two-parent families in the treatment of adolescent bulimia nervosa using family-based treatment? *International Journal of Eating Disorders*. 2009; 42:153–157. [PubMed: 18720474]
- Crow S. Eating disorder not otherwise specified: Next steps. *International Journal of Eating Disorders*. 2007; 40:S104–S106. [PubMed: 17879285]
- Crow SJ, Agras WS, Halmi K, Mitchell JE, Kraemer HC. Full syndromal versus subthreshold anorexia nervosa, bulimia nervosa, and binge eating disorder: A multicenter study. *International Journal of Eating Disorders*. 2002; 32:309–318. [PubMed: 12210645]
- Dare, C. Family therapy for families containing an anorectic youngster. Ohio, Columbus: Ross Laboratories; 1983.

- Deter HC, Herzog W. Anorexia nervosa in a long-term perspective: Results of the Heidelberg-Mannheim study. *Psychosomatic Medicine*. 1994; 56:20–22. [PubMed: 8197311]
- Eddy KT, Dorer DJ, Franko DL, Tahlilani K, Thompson-Brenner H, Herzog DB. Diagnostic crossover in anorexia nervosa and bulimia nervosa: Implication for DSM-V. *American Journal of Psychiatry*. 2008; 165:245–250. [PubMed: 18198267]
- Eisler I, Dare C, Hodes M, Russell G, Dodge E, Le Grange D. Family therapy for adolescent anorexia nervosa: The results of a controlled comparison of two family interventions. *Journal of Child Psychology and Psychiatry and Allied Disciplines*. 2000; 41:727–736.
- Eisler I, Dare C, Russell GFM, Szmukler G, Le Grange D, Dodge E. Family and individual therapy in anorexia nervosa: A five-year follow-up. *Archives of General Psychiatry*. 1997; 54:1025–1030. [PubMed: 9366659]
- Eisler I, Simic M, Russell GFM, Dare C. A randomised controlled treatment trial of two forms of family therapy in adolescent anorexia nervosa: A five-year follow-up. *Journal of Child Psychology and Psychiatry*. 2007; 48:552–560. [PubMed: 17537071]
- Fairburn, CG. *Cognitive behavior therapy and eating disorders*. New York: Guilford Press; 2008.
- Fairburn, CG.; Cooper, Z.; O'Conner, M. The eating disorder examination (Edition 16.0D). In: Fairburn, CG., editor. *Cognitive Behavior Therapy and Eating Disorders*. New York: Guilford Press; 2008. p. 265-308.
- Fairburn CG, Cooper Z. Thinking afresh about the classification of eating disorders. *International Journal of Eating Disorders*. 2007; 40:S107–S110. [PubMed: 17868130]
- Fairburn CG, Cooper Z, Bohn K, O'Conner ME, Doll HA, Palmer RL. The severity and status of eating disorder NOS: Implications for DSM-V. *Behavior Research and Therapy*. 2007; 45:1705–1715.
- Fairburn CG, Cooper Z, Doll HA, O'Conner ME, Bohn K, Hawker DM, Wales JA, Palmer RL. Transdiagnostic cognitive-behavior therapy for patients with eating disorders: A two-site trial with a 60-week follow up. *American Journal of Psychiatry*. 2009; 166:311–319. [PubMed: 19074978]
- Fairburn CG, Cooper Z, Shafran R. Cognitive behaviour therapy for eating disorders: A “transdiagnostic” theory and treatment. *Behaviour Research and Therapy*. 2003; 41:509–528. [PubMed: 12711261]
- Fichter MM, Quadflieg N. Long-term stability of eating disorder diagnoses. *International Journal of Eating Disorders*. 2007; 40:S61–S66. [PubMed: 17702021]
- Fichter MM, Quadflieg N, Hedlund S. Twelve-year course and outcome predictors of anorexia nervosa. *International Journal of Eating Disorders*. 2006; 39:87–100. [PubMed: 16231345]
- Gowers SG, Clark A, Roberts C, Griffiths A, Edwards V, Bryan C, et al. Clinical effectiveness of treatments for anorexia nervosa in adolescents: Randomised controlled trial. *British Journal of Psychiatry*. 2007; 191:427–435. [PubMed: 17978323]
- Herzog DB, Hopkins JD, Burns CD. A follow-up study of 33 subdiagnostic eating disordered women. *International Journal of Eating Disorders*. 1993; 14:261–267. [PubMed: 8275062]
- Hildebrandt T, Bacow T, Markella M, Loeb KL. Theoretical mechanisms of action in family-based treatment for anorexia nervosa: Is there overlap with exposure therapy?. 2008 Manuscript submitted for publication.
- Kaufman J, Birmaher B, Brent D, Rao U, Flynn C, Moreci P, Williamson D, Ryan N. Schedule for affective disorders and schizophrenia for school-age children—present and lifetime version (K-SADS-PL): Initial reliability and validity data. *Journal of the American Academy of Child and Adolescent Psychiatry*. 1997; 36:980–988. [PubMed: 9204677]
- Krautter T, Lock J. Is manualized family-based treatment for adolescent anorexia nervosa acceptable to patients? Patient satisfaction at end of treatment. *Journal of Family Therapy*. 2004; 26:65–81.
- Le Grange D, Binford R, Peterson C, Crow S, Crosby R, Klein M, Bardone-Cone A, Joiner T, Mitchell J, Wonderlich S. DSM-IV threshold versus sub-threshold bulimia nervosa. *International Journal of Eating Disorders*. 2006; 39:462–467. [PubMed: 16715488]
- Le Grange, D.; Chen, E. *Family-based treatment for young adults with anorexia nervosa*. University of Chicago; 2007. Unpublished Manual

- Le Grange D, Crosby RD, Lock J. Predictors and moderators of outcome in family-based treatment for adolescent bulimia nervosa. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2008; 47:464–470. [PubMed: 18388765]
- Le Grange D, Crosby RD, Rathouz PJ, Leventhal BL. A Randomized controlled comparison of family-based treatment and supportive psychotherapy for adolescent bulimia nervosa. *Archives of General Psychiatry*. 2007; 64:1049–1056. [PubMed: 17768270]
- Le Grange D, Eisler I, Dare C, Hodes M. Family criticism and self-starvation: A study of expressed emotion. *Journal of Family Therapy*. 1992; 14:177–192.
- Le Grange D, Eisler I, Dare C, Russell GFM. Evaluation of family treatments in adolescent anorexia nervosa: A pilot study. *International Journal of Eating Disorders*. 1992; 12:347–357.
- Le Grange D, Gelman T. The patient's perspective of treatment in eating disorders: A preliminary study. *South African Journal of Psychology*. 1998; 28:182–186.
- Le Grange D, Lock J. The dearth of psychological treatment studies for anorexia nervosa. *International Journal of Eating Disorders*. 2005; 37:79–91. [PubMed: 15732072]
- Le Grange, D.; Lock, J. Treating bulimia in adolescence: A family-based approach. New York: Guilford Press; 2007.
- Le Grange D, Loeb KL. Early identification and treatment of eating disorders: Prodrome to syndrome. *Early Intervention in Psychiatry*. 2007; 1:27–39. [PubMed: 21352106]
- Le Grange D, Loeb KL, Van Orman S, Jellar CC. Bulimia nervosa in adolescents: A disorder in evolution? *Archives of Pediatrics & Adolescent Medicine*. 2004; 158:478–482. [PubMed: 15123482]
- Lewinsohn PM, Striegel-Moore RH, Seeley JR. Epidemiology and natural course of eating disorders in young women from adolescence to young adulthood. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2001; 39:1284–1292. [PubMed: 11026183]
- Lock J, Agras WS, Bryson S, Kraemer HC. A comparison of short- and long-term family therapy for adolescent anorexia nervosa. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2005; 44:632–639. [PubMed: 15968231]
- Lock J, Couturier J, Agras WS. Comparison of long term outcomes in adolescents with anorexia nervosa treated with family therapy. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2006; 46:666–672. [PubMed: 16721316]
- Lock, J.; Le Grange, D.; Agras, WS.; Dare, C. Treatment manual for anorexia nervosa: A family-based approach. New York: Guilford Press; 2001.
- Lock J, le Grange D, Forsberg S, Hewell K. Is family therapy useful for treating children with anorexia nervosa? Results of a case series. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2006; 45:1323–1328. [PubMed: 17075354]
- Loeb, KL. Eating Disorder Examination – Parent Version. Unpublished measure based on Fairburn, C.G., Cooper, Z., & O'Conner, M. (2008). The eating disorder examination (Edition 16.0D). In: Fairburn, CG., editor. *Cognitive Behavior Therapy and Eating Disorders*. New York: Guilford Press; 2008. p. 265–308.
- Loeb, KL.; Celio Doyle, A.; Le Grange, D.; Bremer, J.; Hildebrandt, T.; Hirsch, A. Family-based treatment for child and adolescent overweight: A transdevelopmental approach. Mount Sinai School of Medicine; 2006. Unpublished Manual
- Loeb, KL.; Le Grange, D.; Lock, J. Family-based treatment for the prevention of anorexia nervosa. Mount Sinai School of Medicine; 2005. Unpublished Manual
- Loeb KL, Walsh BT, Lock J, Le Grange D, Jones J, Marcus S, Weaver J, Dobrow I. Open trial of family-based treatment for full and partial anorexia nervosa in adolescence: Evidence of successful dissemination. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2007; 46:792–800. [PubMed: 17581443]
- Lucas AR, Beard CM, O'Fallon WM. 50-year trends in the incidence of anorexia nervosa in Rochester, Minn: A population-based study. *American Journal of Psychiatry*. 1991; 148:917–929. [PubMed: 2053633]
- McIntosh VV, Jordan J, Carter FA, McKenzie JM, Luty SE, Bulik CM, Joyce PR. Strict versus lenient weight criterion in anorexia nervosa. *European Eating Disorders Review*. 2004; 12:51–60.

- Milos G, Spindler A, Schnyder U, Fairburn CG. Instability of eating disorder diagnoses: Prospective study. *British Journal of Psychiatry*. 2005; 187:573–578. [PubMed: 16319411]
- Peebles R, Wilson JL, Lock JD. How do children with eating disorders differ from adolescents with eating disorders at initial evaluation? *Journal of Adolescent Health*. 2006; 39:800–805. [PubMed: 17116508]
- Pereira T, Lock J, Oggins J. The role of therapeutic alliance in family therapy for adolescent anorexia nervosa. *International Journal of Eating Disorders*. 2006; 39:677–684. [PubMed: 16937386]
- Ratnasuriya R, Eisler I, Szmukler GI. Anorexia nervosa: Outcome and prognostic factors after 20 years. *British Journal of Psychiatry*. 1991; 156:495–456. [PubMed: 2054565]
- Ricca V, Mannucci E, Mezzani B, Di Bernardo M, Zucchi T, Paionni A, Placidin GP, Rotella CM, Faravelli C. Psychopathological and clinical features of outpatients with an eating disorder not otherwise specified. *Eating and Weight Disorders*. 2001; 6:157–165. [PubMed: 11589418]
- Robin AL, Siegel PT, Moye AW, Gilroy M, Dennis AB, Sikand A. A controlled comparison of family versus individual therapy for adolescents with anorexia nervosa. *Journal of the American Academy of Child and Adolescent Psychiatry*. 1999; 38:1482–1489. [PubMed: 10596247]
- Russell GFM, Szmukler GI, Dare C, Eisler I. An evaluation of family therapy in anorexia nervosa and bulimia nervosa. *Archives of General Psychiatry*. 1987; 44:1047–1056. [PubMed: 3318754]
- Schmidt U, Lee S, Beecham J, Perkins S, Treasure J, Yi I, et al. A randomized controlled trial of family therapy and cognitive behavior therapy guided self-care for adolescents with bulimia nervosa and related disorders. *American Journal of Psychiatry*. 2007; 164:591–598. [PubMed: 17403972]
- Stice E, Killen JD, Hayward C, Taylor CB. Support for the continuity hypothesis of bulimic pathology. *Journal of Consulting and Clinical Psychology*. 1998; 66:784–790. [PubMed: 9803697]
- Szmukler GI, Eisler I, Russell GFM, Dare C. Anorexia nervosa, parental 'expressed emotion' and dropping out of treatment. *British Journal of Psychiatry*. 1985; 147:265–271. [PubMed: 4063593]
- Tozzi F, Thornton LM, Klump KL, Fichter MM, Halmi KA, Kaplan AS, Kaye WH. Symptom fluctuation in eating disorders: Correlates of diagnostic crossover. *American Journal of Psychiatry*. 2005; 162:732–740. [PubMed: 15800146]
- Waller G. A “trans-transdiagnostic” model of the eating disorders: A new way to open the egg? *European Eating Disorders Review*. 2008; 16:165–172. [PubMed: 18383203]
- Watson TL, Andersen AE. A critical examination of the amenorrhea and weight criteria for diagnosing anorexia nervosa. *Acta Psychiatrica Scandinavica Supplement*. 2003; 108:175–182.
- Wentz E, Gillberg C, Gillberg I, Rastam M. Ten-year follow-up of adolescent anorexia nervosa: psychiatric disorders and overall functioning scales. *Journal of Child Psychology and Psychiatry*. 2001; 42:613–622. [PubMed: 11464966]
- Wilfley DE, Bishop ME, Wilson GT, Agras WS. Classification of eating disorders: Toward DSM-V. *International Journal of Eating Disorders*. 2007; 40:S123–S129. [PubMed: 17685383]
- Wonderlich S, Crosby R, Joiner T, Peterson CB, Bardone-Cone A, Klein A, Vrshek S. Personality subtyping and bulimia nervosa: psychopathological and genetic correlates. *Psychosomatic Medicine*. 2005; 35:649–657.
- Wonderlich SA, Crosby RD, Mitchell JE, Engel SE. Testing the validity of eating disorder diagnoses. *International Journal of Eating Disorders*. 2007; 40:S40–S45. [PubMed: 17683095]
- Wonderlich SA, Joiner TE, Keel PK, Williamson DA, Crosby RD. Eating disorder diagnoses: empirical approaches to classification. *American Psychologist*. 2007; 62:167–180. [PubMed: 17469896]
- Workgroup for Classification of Eating Disorders in Children and Adolescents (WCEDCA). Classification of child and adolescent eating disturbances. *International Journal of Eating Disorders*. 2007; 40:S117–S122. [PubMed: 17868122]
- Zaitsoff S, Celio-Doyle A, Hoste R, Le Grange D. Therapeutic alliance and treatment acceptability with adolescents with bulimia nervosa: A comparison between individual and family based treatments. *International Journal of Eating Disorders*. 2008; 41:390–398. [PubMed: 18306343]

Figure 1.

Transdiagnostic model of family-based therapy for youth with eating disorders.