

GIV CARE: A GROUP INTERVENTION TO REDUCE ACCOMMODATION AMONG
RELATIVES OF INDIVIDUALS WITH FEAR-BASED DISORDERS

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ABSTRACT

Lillian Reuman: GIV CARE: A group intervention to reduce accommodation among relatives of individuals with fear-based disorders
(Under the direction of Jonathan Abramowitz)

Fear-based disorders (FBDs) occur in an interpersonal context as relatives (e.g., partners, parents) often accommodate symptoms. Symptom accommodation, which is ubiquitous and reinforces FBD behavior, is associated with increased FBD symptom severity and interferes with treatment. Accordingly, reducing accommodation represents a crucial aim for intervention. The current study tested a brief, manualized group intervention to decrease symptom accommodation and caregiver burden among relatives. The study was the first intervention to date that a) jointly included parents *and* partners to target symptom accommodation, and b) used a transdiagnostic group treatment approach. Adult relatives (N=20) participated in an intervention that included five weekly, two-hour sessions, as well as assessments at baseline, post-treatment, and one-month follow-up. Results revealed that a transdiagnostic, relative-only group intervention to reduce symptom accommodation was feasible and acceptable. Participants that completed the intervention ($n = 18$) exhibited reductions in symptom accommodation; however, modifications to improve the effectiveness of the intervention are warranted. Study limitations and future directions are discussed.

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LIST OF ABBREVIATIONS

1MFU	1 Month Follow-Up
ANOVA	Analysis of Variance
AS	Anxiety Sensitivity
BFI	Brief Family Intervention
CBT	Cognitive Behavioral Therapy
CONSORT	Consolidated Standards of Reporting Trials
DSM	Diagnostic and Statistical Manual
EE	Expressed Emotion
ERP	Exposure and Response Prevention
FBD	Fear-Based Disorder
OCD	Obsessive Compulsive Disorder

INTRODUCTION

Fear-based Disorders

Collectively referred to as fear-based disorders (FBDs), DSM 5 anxiety disorders (e.g., specific phobia, social anxiety disorder, panic disorder) and obsessive compulsive disorder (OCD) represent the most prevalent psychiatric disorders among children/adolescents (e.g., lifetime prevalence = 31.9%; Merikangas et al., 2010) and adults (e.g., lifetime prevalence = 28.8%; Kessler et al., 2005). FBDs are characterized by pervasive fear and recurrent catastrophic thoughts, which are accompanied by avoidance and safety-seeking behaviors that serve to reduce anxiety. Given the intrusive and time-consuming nature of said fears and rituals, individuals with FBDs experience significant functional impairment, increased burden, and decreased quality of life relative to the general population (Eisen et al., 2006; Tolin, Gilliam, & Dufresne, 2010).

Although the focus of the anxiety differs across FBDs (e.g., social situations for individuals with social phobia, bees for individuals with a specific animal phobia), all FBDs involve a) heightened arousal due to fear, and b) accompanying avoidance behaviors. Further, cognitive-behavioral theories of development, maintenance, and treatment apply aptly across the FBDs (Clark, 1999). Individuals with FBDs hold distorted beliefs about the danger of a certain stimulus, situation, or mental event (i.e., “activating events”). Specifically, individuals with FBDs mistakenly assume that a feared outcome (e.g., getting stung by a bee) not only is very likely to occur (e.g., “If I go outside, I’ll definitely get stung by a bee”), but also will be very dangerous or threatening when it does occur (e.g., “I’ll have an allergic reaction to the bee sting and die”). These mistaken beliefs (“irrational beliefs”) persist due to several mechanisms,

including safety-seeking behaviors (e.g., rituals such as wearing long-sleeved shirts to prevent a bee sting) and avoidance of feared stimuli (e.g., staying inside to avoid a bee sting). Although such strategies may temporarily relieve distress (e.g., the feared “consequence” of the belief associated with the activating event), they maintain the FBD in the long run by preventing the disconfirmation of feared consequences; that is, individuals with FBDs attribute the non-occurrence of the feared outcome to their safety behaviors rather than revise their negative beliefs (Clark, 1999). Broadly, treatment for FBDs includes cognitive strategies and behavioral experiments so that clients may directly test their negative predictions and see that the feared outcomes are unlikely to materialize. This conceptualization has empirical support and forms the basis for effective psychological treatment (Abramowitz & Deacon, 2005). A transdiagnostic approach to understanding and studying FBDs is appropriate given that a) there is overlap in how the disorders are conceptualized, and b) FBDs are frequently comorbid with one another (Clark, 1999; Farchione et al., 2012).

Individual Treatment of FBDs

To address catastrophic thoughts, maladaptive anxiety-reduction behaviors, and associated distress, individual cognitive behavioral therapy (CBT), such as exposure and response prevention (ERP), is a first-line, evidence-based treatment for FBDs (Higa-McMillan, Francis, Rith-Najarian, & Chorpita, 2016; Mayo-Wilson et al., 2014). Typically, individual CBT for FBD protocols adopt a modular approach that includes psychoeducation, self-monitoring, cognitive restructuring, ERP, and relapse prevention to maintain gains (e.g., Allen et al., 2010; Behar, DiMarco, Hekler, Mohlman, & Staples, 2009; Heimberg, 2002). Multiple meta analyses conclude that CBT for FBDs is efficacious (e.g., Hofmann & Smits, 2008; In-Albon & Schneider, 2006; Olatunji, Cisler, & Deacon, 2010). Although individual CBT is effective, a sizeable

proportion of individuals with FBDs either may not seek or may refuse CBT (e.g., Schruers, Koning, Luermans, Haack, & Griez, 2005), or may terminate treatment prematurely (i.e., drop out; e.g., Choy, Fyer, & Lipsitz, 2007). A variety of reasons – such as a poor insight or dread related to confronting feared stimuli – may account for lower-than-ideal treatment utilization rates (Garcia-Palacios, Botella, Hoffman, & Fabregat, 2007; Lincoln et al., 2005; Santana, Fontenelle, Yuecel, & Fontenelle, 2013). Taken together, individual CBT is the most effective treatment for FBDs, yet room for improvement remains.

Family Involvement in FBDs

Although typically conceptualized and treated from the individual's perspective, FBDs often occur in an interpersonal context. An individual's FBD influences interpersonal relationships, and interpersonal relationships influence an individual's FBD. For example, an FBD can contribute to relationship distress by provoking negative emotions, tension, and stress (Baucom, Stanton, & Epstein, 2003). As tension heightens, couples and families may experience more frustration, anger, and conflict. Families of individuals with FBDs also report significant burden, distress, and decreased quality of life (e.g., Storch et al., 2009; Amir, Freshman, & Foa, 2000). The pervasive burden negatively affects myriad domains of functioning (e.g., physical and emotional intimacy; Senaratne, Van Ameringen, Mancini, & Patterson, 2010). FBDs – and family involvement in FBDs – incur costs for families. Specifically, families encounter direct costs (e.g., healthcare, medication) and indirect costs (e.g., caregiver burden, decreased parental/spousal productivity due to missed work; Bodden, Dirksen, & Bögels, 2008).

Relatives (e.g., partners, parents) of individuals with FBDs also behave in various ways that maintain the disorder. For example, relatives may engage in arguments about the seeming illogic of their loved one's concerns or attempt to alleviate their loved one's distress. Symptom

accommodation refers to behaviors performed by another person that are designed to prevent or immediately relieve their loved one's anxiety, even if it means going out of their way and sacrificing the family routine. For example, family members may modify their daily routine in order to accommodate their loved one's anxiety (e.g., arrive late to work in order to drive their partner to work), participate in rituals (e.g., check that the doors are locked to prevent their loved one from feeling responsible for potential harm, such as a break-in), or facilitate avoidance (e.g., avoid crowded restaurants or holiday parties that trigger social anxiety). Symptom accommodation, which is ubiquitous across FBDs and across relatives (e.g., Norman, Silverman, & Lebowitz, 2015; Reuman & Abramowitz, 2018; Stewart et al., 2008), is functionally identical to ritual and avoidance strategies performed on behalf of the individual with an FBD.

Further, increased symptom accommodation is associated with poorer treatment outcomes (Lebowitz, Omer, Hermes, & Scahill, 2014). This is not surprising, as symptom accommodation stands in opposition to the goals of ERP. Moreover, symptom accommodation may *decrease* an individual's motivation to seek CBT if treatment does not seem worthwhile given the family member's current help (Abramowitz, Baucom, Wheaton et al., 2013). Further, family members who accommodate often express frustration with a "lose-lose" situation given that altering one's family routine (i.e., providing accommodation) is disruptive, but refraining from accommodation is also stressful as it yields negative consequences such as family conflict (Amir, Freshman, & Foa, 2000). Thus, reducing accommodation represents a crucial aim for family-based treatment for FBDs.

Predictors of Symptom Accommodation

Patient factors. In order to better understand – and, eventually, reduce – symptom accommodation, an emerging body of literature has examined factors that are associated with

and predict this behavior. Not surprisingly, patient-level variables, such as increased FBD symptom severity, are associated with increased patterns of symptom accommodation (Flessner et al., 2011; Merlo, Lehmkuhl, Geffken, & Storch, 2009; Stewart et al., 2008). This association is likely bidirectional: patients with more severe symptoms may elicit more accommodation (i.e., seeking and providing reassurance) from relatives, and symptom accommodation can worsen FBD symptoms by preventing the disconfirmation of feared outcomes. Studies also suggest that internalizing and externalizing symptoms (Caporino et al., 2012) and “oppositional” behavior (Flessner et al., 2011) among children with FBDs are associated with increased symptom accommodation among parents. These findings highlight the need for directly addressing accommodation in treatment.

Relative factors. Scant research has examined relative-specific (i.e., parent, partner) factors (e.g., traits) that predict greater accommodation. Constructs of interest, described next, include trait anxiety and depression, anxiety sensitivity, empathy, and expressed emotion. Understanding these factors is crucial for intervening to reduce accommodation.

Empirical findings have shown that relatives’ distress (i.e., anxiety and depression) is associated with accommodation (Amir, Freshman, & Foa, 2000). Relatedly, some, but not all, studies have found that a relative’s manifestation of anxiety sensitivity (AS) – a ‘fear of fear’ (Taylor, 1999) – is associated with increased symptom accommodation. This makes sense, as anxious parents and partners may hold negative beliefs about anxiety (i.e., “anxiety is bad”) and, in turn, accommodate their loved one’s anxiety in order to reduce their *own* distress. A partner or parent that imagines catastrophic consequences of not accommodating (e.g., “If I don’t help out, they’ll be overcome by anxiety”) aptly demonstrates this construct (Cosentino et al., 2015; Francis, 2014). ERP is designed to increase a patient’s anxiety in the short term, and this increase

could affect a relative's anxiety and lead them to accommodate. Ultimately, reducing accommodation may be particularly important among anxious relatives.

Empathy, the capacity for taking another person's perspective and sharing a congruent emotional reaction, is a multidimensional construct (Davis, 1983). Empathy is comprised of cognitive (i.e., perspective-taking) and emotional (i.e., experiencing shared feelings) components. Relatives with higher levels of empathy are more likely to accommodate FBD symptoms (Caporino et al., 2012). Highly empathic relatives may have a stronger or more sensitive emotional reaction to their loved one's experience with anxiety that in turn may increase urges to accommodate FBD symptoms (Reuman & Abramowitz, 2018). In this sense, symptom accommodation may represent a well-intentioned attempt to show care and concern for their partner or child.

Expressed emotion (EE) refers to how much hostility (i.e., rejection), emotional over-involvement (i.e., overprotective attitude), and criticism a relative displays towards another family member with psychopathology. Relatives of individuals with FBDs show high levels of criticism, over-involvement, and hostility (Hibbs, Hamburger, Kruesi, & Lenane, 1993; Shanmugiah, Varghese, & Khanna, 2002). Symptom accommodation is associated with greater attitudes of rejection towards the individual with an FBD (Calvocoressi et al., 1999). EE (e.g., critical comments) can also arise as a result of distress and, in turn, affect accommodation (Amir, Freshman, & Foa, 2000). Further, results from a longitudinal study revealed that families of patients whose FBD symptoms did not remit over the course of a year reported higher levels of accommodation and EE at baseline in comparison to those whose symptoms did remit (Cherian, Pandian, Bada Math, Kandavel, & Janardhan Reddy, 2014).

Family Involvement in CBT for FBDs

Relative involvement in CBT for FBDs offers a viable alternative to individual treatment. Given the impact of family involvement (e.g., symptom accommodation) on FBDs, it is crucial that family members offer helpful skills and support for managing FBD symptoms. By participating in CBT (either alone or with their affected loved one, i.e., family-based CBT), a parent or partner can learn, use, and model healthy, empirically-supported anxiety management and coping techniques (e.g., communication skills, Abramowitz, Baucom, Wheaton et al., 2013). Further, a knowledgeable, involved relative may help to reduce treatment costs by maintaining or enhancing treatment gains (e.g., Spence, Donovan, & Brechman-Toussaint, 2000). Specifically, the family member can provide motivation/reminders and encourage between-session practice, which may reduce treatment utilization.

Empirical evidence suggests that some family-based CBT interventions for FBDs are not only effective (e.g., Wood & McLeod, 2008), but also can enhance effects observed in individual treatment protocols (e.g., Abramowitz, Baucom, Boeding, et al., 2013). Yet, results from other studies (e.g., Nauta, Scholing, Emmelkamp, & Minderaa, 2003) do not suggest that incorporating family members in CBT for FBDs is incrementally beneficial. This discrepancy may result for several reasons as definitions of “family involvement,” treatment formats (e.g., group versus individual; relative-only versus relative and affected individual) and treatment targets/strategies (e.g., parental/spousal anxiety, contingency management) vary widely across studies of family-based CBT for FBDs. Some shortcomings – and potential remedies – of interventions that include relatives and/or address relatives’ behaviors are discussed in turn.

Although exceptions exist (e.g., Van Noppen, Steketee, McCorkle, & Pato, 1997), the majority of family-based CBT for FBD protocols utilize a single-disorder (i.e., OCD, social

anxiety), single family/dyad approach. This approach often entails disorder-specific manuals to target a single FBD and separate sessions for each family. This single-disorder approach, while effective, may not be adequate given the co-occurring nature of FBDs. For example, a manualized couple-based treatment protocol for OCD may not *also* directly address comorbid concerns related to social anxiety. A single-family approach may also translate to additional costs (money and time) for clients given the potential increased wait time for therapist availability and increased session costs (in comparison to a group treatment).

In contrast, a *transdiagnostic group* treatment approach may offer potential benefits. Given that patients can be treated jointly, a group approach can facilitate scheduling by maximizing therapist availability and decreasing costs for group members (Espejo et al., 2016). Recruiting individuals to participate in a transdiagnostic group is often faster than waiting for a sufficient mass to accrue for an individual disorder; this, in turn, can decrease wait times for treatment (Espejo et al., 2016). Taken together, many individuals can access/receive treatment from fewer providers in a shorter period of time. Further, a transdiagnostic approach offers potential benefits for client care. Given that FBDs are frequently co-morbid, a transdiagnostic approach can target various concerns simultaneously (e.g., social anxiety and OCD). More generally, a group approach offers support for participants in various ways. First, learning about other members' experiences can help to normalize the individual's concerns (e.g., feelings of isolation in caring for a loved one with an FBD). Second, working together in a group setting can provide a supportive, encouraging environment. Third, group members can collectively brainstorm and problem-solve by providing a range of perspectives.

Most relative involvement in CBT for FBDs operates under the assumption that the individual affected by the FBD is willing to seek and participate in family-based CBT (e.g.,

Thompson-Hollands, Abramovitch, Tompson, & Barlow, 2014). Yet, as described earlier, many individuals suffering from FBDs do not engage in treatment. Clinical observations suggest that affected parents and partners are often motivated to seek professional help for their loved one, despite this treatment refusal. Thus, an intervention approach that includes parents and partners of individuals suffering from various FBDs *without the loved one's involvement* is warranted to address this aforementioned shortcoming. Taken together, a transdiagnostic group treatment for relatives has the potential to not only reduce client and therapist costs, but also allow participants to receive social support while simultaneously gaining perspective from others that face similar (yet not identical; i.e., different relationship, different FBD) concerns.

Existing Interventions That Target Symptom Accommodation Reduction

Interventions that help cohabitating parents and partners to modify their accommodation behaviors and beliefs about FBDs may promote adaptive changes (e.g., improved family communication patterns, decreased family distress, and decreased relative burden). First, relatives can learn skills (e.g., self-monitoring, cognitive restructuring, and response prevention) to modify beliefs about anxiety and minimize accommodation. Second, relatives can identify obstacles to successfully reducing accommodation, such as one's own AS or poor communication. Addressing these factors can help to improve the relatives' capacity for coping with the burden of caring for a loved one and, in turn, affect a loved one's FBD symptomatology and quality of life. Third, family members can learn skills for reducing symptom accommodation and replacing these maladaptive patterns with helpful behaviors (e.g., assertive communication).

Only a handful of interventions for FBDs explicitly target symptom accommodation (e.g., Abramowitz, Baucom, Boeding et al., 2013; Freeman et al., 2008; Grunes, Neziroglu, & McKay, 2001; Lebowitz et al., 2014; Thompson-Hollands et al., 2014; Thornicroft, Colson, & Marks,

1991; Waters, Barrett, & March, 2001; Rosa-Alcazar et al., 2017). Although exceptions exist, the majority of accommodation intervention studies have been conducted in an *individual* (i.e., single dyad) format with *parents* of children with *OCD* that are *already in treatment*. The studies, described in turn, wield various strengths yet leave room for improvement.

In Freeman and colleagues' (2008) randomized control trial of family-based CBT versus family-based relaxation training for pediatric OCD, parents were included in "structured, specific ways to address issues of family functioning and parenting" (p. 594). According to the authors, addressing accommodation was one part of the CBT condition's three-part purpose. Results from the completer analysis revealed a significant difference in OCD symptom severity between the two groups (favoring family-based CBT). As is common with interventions for symptom accommodation, this study utilized an individual format with parents of children with OCD that are already in treatment. Findings, therefore, may not generalize to a) children with other FBDs, or b) children who fail to recognize the need for change or are too anxious to attempt treatment (Lebowitz et al., 2014). Further, this study did not explicitly assess or measure changes in accommodation (although accommodation was stated as a treatment target). Therefore, conclusions about the effect of relative involvement on symptom accommodation cannot be drawn from this study.

Lebowitz and colleagues (2014) tested Supportive Parenting for Anxious Childhood Emotions (SPACE), a 10-12 session, manualized parent-only intervention to modify parental behavior. The treatment components, focused on reducing accommodation, included: charting accommodation (i.e., self-monitoring), choosing a target problem, formulating a plan, and reducing accommodation using practical tools (e.g., "modeling self regulation," "accessing support," "coping with disruptive behavior," and "coping with threats to self"), which were

employed based on individual need. Results from an open trial of SPACE with ten parents of anxious children (school-aged and adolescents) revealed statistically significant reductions in family accommodation (Lebowitz et al., 2014). Strengths of the study include a) the explicit measurement of accommodation, b) the inclusion of a spectrum of FBDs, and c) the allowance for treatment delivery without relying upon the child's collaboration. Although the practical tools to reduce accommodation were effective, a group format could further enhance the intervention's feasibility by a) reducing the cost and therapist time required, and b) increasing social support between relatives undergoing treatment. Additionally, research is needed to explore whether this approach works among other relatives (i.e., partners).

Thompson-Hollands and colleagues (2014) conducted a randomized clinical trial of a brief family intervention (BFI) to reduce accommodation in OCD. Participants were 18 cohabitating relatives (i.e., parents, siblings, partners) of individuals receiving weekly outpatient ERP for OCD. The first session of the BFI included psychoeducation about OCD, ERP, and accommodation as well as problem-solving strategies and role-play practice to reduce accommodation. The second session of the BFI included troubleshooting, an opportunity to ask questions, and planning for future obstacles. Participants receiving the BFI reported a) greater reductions in accommodation in comparison to those in the control condition, and b) high levels of satisfaction with the intervention. Strengths of the study include the a) precise assessment of accommodation, and b) inclusion of a variety of cohabitating relatives (i.e., sibling, partner, parent). Although the BFI was delivered in combination with the affected individual receiving ERP for OCD, the sessions were conducted individually with the relative (however, the positive BFI results may have been bolstered by the fact that the individuals with OCD had sought and were receiving treatment). Testing the BFI among relatives of individuals with FBDs other than

OCD could expand study findings. Further, a group format could enhance the intervention's feasibility by reducing the cost and therapist time required. The BFI may be further improved by including interventions that directly target known predictors of accommodation.

Waters and colleagues (2001) tested a 14 week (90-minute weekly sessions) family-based CBT protocol for children with OCD. The sessions consisted of individual CBT for OCD (approximately 45 minutes per session), a parallel parent-training skills intervention (30 minutes), and family review of homework goals (15 minutes). Reducing parental involvement (i.e., accommodation) in the child's symptoms represented a primary goal of the parent training skills intervention. The skills intervention included psychoeducation, addressed blame reduction, and provided behavioral strategies for handling the child's requests for accommodation (e.g., differential reinforcement strategies, techniques for ignoring certain behaviors). Additionally, parents learned anxiety management skills, relaxation skills, problem solving skills, and relapse prevention. All families exhibited a significant reduction in accommodation symptoms over the course of treatment. Strengths of the study include the a) precise assessment of accommodation, and b) inclusion of CBT techniques (e.g., psychoeducation, relapse prevention). Due to a lack of a comparison group, however, it is impossible to ascertain whether the decrease in symptom accommodation can be directly attributed to the parent intervention, the individual CBT intervention (which led to a significant reduction in OCD symptoms, and may, in turn, have resulted in decreased accommodation), or both. Additionally, these findings may not generalize beyond parents of children engaged in individual treatment for OCD. As such, future studies that include various relatives and various FBDs are warranted.

Abramowitz, Baucom, and colleagues (2013) developed and tested an intervention for adult couples in which one partner had OCD. Within the 16-session manualized program,

specific 90-120 minute sessions were dedicated to discussing and reducing symptom accommodation. Couples received psychoeducation about accommodation, jointly made decisions about how to reduce accommodation, practiced couple-based exposure with response prevention (i.e., accommodation), and developed new patterns to replace accommodation and demonstrate care for one another. Results from an open trial of 16 couples revealed a large reduction in partner symptom accommodation from pre- to posttest, which was maintained at follow-up (Abramowitz, Baucom, Boeding et al., 2013). The study was among the first to include partners in a thoughtful, comprehensive approach (i.e., based upon individual ERP for OCD and couple-based CBT techniques). Further, it was the first study to specifically examine and target partner (not parent) accommodation in OCD. Strengths of the study include the a) precise assessment of accommodation, and b) inclusion of CBT techniques (e.g., psychoeducation, relapse prevention) to address accommodation. Further research is necessary to determine whether the techniques employed in the study generalize to partners of individuals with various FBDs.

Limitations of Existing Treatments and Current Study Aims

Although exceptions exist, the majority of accommodation intervention studies have been conducted with parents, in a population of individuals with OCD, and/or in an individual (i.e., single family/couple) format. The aforementioned findings regarding accommodation (i.e., that it negatively impacts FBD symptom severity, treatment outcome, and family members), interventions for accommodation (i.e., that it can be directly targeted in treatment), and predictors of accommodation (described above) call for a group-based, family member-only intervention that specifically targets relative-based constructs (i.e., expressed emotion, AS, burden) in the service of reducing symptom accommodation across FBDs. Given that a)

accommodation occurs across relatives (i.e., not just parents), b) accommodation occurs across FBDs, c) many individuals with FBDs do not seek treatment for various reasons, and d) group formats of CBT can offer benefits (e.g., reduced cost, efficiency, social support), a relative-only group-based protocol to reduce symptom accommodation warrants investigation. The current study aimed to develop and pilot test a relative-only intervention for accommodation reduction that utilizes empirically-based techniques.

To date, the majority of family-based interventions for FBDs have been tested with parents *or* partners in a single disorder (e.g., OCD). Given the ubiquity of symptom accommodation across parents and partners, it may be appropriate to offer common intervention strategies to parents *and* partners. Although clinical observations suggest that parents and partners accommodate for some unique reasons – a parent might accommodate based on the belief that “I must ensure that my child is always safe and happy,” while a partner might accommodate to demonstrate love for their husband/wife – empirical findings suggest that similar traits (e.g., high EE) are associated with accommodation across relatives (Reuman & Abramowitz, 2018). Further, symptom accommodation is common *across* FBDs (Lebowitz et al., 2013). FBDs are not only conceptualized similarly and treated comparably, but also are often comorbid with one another (Abramowitz & Deacon, 2005). Taken together, these findings suggest the plausibility of jointly addressing symptom accommodation across relatives and across FBDs. Thus, the current study adopted an approach of simultaneously addressing various FBDs and various relatives (i.e., parents, partners).

Further, many existing interventions for symptom accommodation occur in the context of individuals already receiving and complying with treatment for FBDs (e.g., Waters et al., 2001). As discussed earlier, many individuals with FBDs do not seek treatment due to poor insight or

practical concerns (e.g., Lincoln et al., 2005). Further, others may decline due to a fear of engaging in ERP or may not adequately comply with treatment. Thus, the majority of family-based CBT interventions for symptom accommodation exclude those who may not recognize a need for change, are too anxious to engage in CBT, or are dependent on a relative's accommodation (Lebowitz et al., 2014). Yet, clinical observations (e.g., frequent, frantic inquiries from relatives of treatment-resistant individuals with FBDs) suggest that relatives are interested in – and could benefit from – an intervention. Given that a relative-only intervention does not rely upon the patient's willingness to participate in treatment, this may represent a viable option. Thus, the current study did not include individuals with FBDs; rather, their relatives participated independently.

The majority of existing family-based CBT for FBD interventions have utilized a single-dyad format (i.e., treating one couple or one family at a time). Although this method is effective and feasible (e.g., Abramowitz, Baucom, Boeding et al., 2013), a group format may foster efficiency with regard to cost and time (i.e., reduced therapist time) and offer added benefits. A group format that includes multiple relatives can help to normalize the experience of caring for an individual with an FBD (thereby helping to reduce isolation) and enhance social support. Further, individuals may learn vicariously from other group members by hearing about their experiences and brainstorming with one another. Empirical evidence (e.g., Van Noppen et al., 1997) suggests that multifamily CBT for FBDs is well-tolerated and offers cost savings. In an era of increased demand and faltering support for mental health services, efficiency is important to consider. Thus, the current study adopted a group format.

To date, the majority of research regarding family-based CBT for symptom accommodation in FBDs has not explicitly addressed *predictors* of accommodation. Rather,

existing studies have used parent training techniques (e.g., contingency management; Waters et al., 2001), anxiety management techniques (e.g., relaxation training; Waters et al., 2001), CBT modules, and/or cognitive-behavioral couple therapy techniques (e.g., communication skills training; Abramowitz et al., 2013). Given that research regarding psychological predictors of symptom accommodation has increased in recent years, there exists a need to explicitly address said constructs (e.g., AS, EE) via empirically-based techniques. Thus, the current study adopted empirically-based techniques to address the aforementioned constructs.

Hypotheses

On the basis of Lebowitz and colleagues' (2014) findings regarding an intervention to reduce accommodation among parents of anxious children, I predicted that participants would find this intervention to be feasible and acceptable. Given that symptom accommodation is modifiable via treatment (e.g., Thompson-Hollands et al., 2014), I hypothesized that participants' self-reported symptom accommodation would decrease over the course of the intervention (e.g., baseline to post-treatment) and that, when benchmarked, these decreases would be comparable to previous relative-only interventions for symptom accommodation. Given that the intervention targeted constructs of interest (e.g., EE, AS, and burden), I hypothesized that participants would report decreases in these related domains (i.e., EE, AS, and burden). Exploratory hypotheses examined whether baseline levels of constructs of interest (i.e., EE, AS, and burden) were associated with baseline levels of symptom accommodation and changes in symptom accommodation.

METHOD

Participants

Participants were recruited through community flyers, referrals from local clinicians, and a mass email listserv at UNC (e.g., UNC Informational listserv). 45 individuals inquired about the study (via email or phone) between August 2017 and February 2018, and 35 individuals were screened by phone for eligibility. Individuals were excluded from participating if any of the following criteria were met: a) previous individual CBT for anxiety; b) inability to communicate fluently in English with study personnel; c) current substance use disorder, mania, or lifetime psychosis; d) current suicidal ideation (as indicated by BDI Item #9 > 1); or e) evidence of current interpersonal violence or domestic abuse. Ultimately, 21 adult relatives (i.e., partner or parent) of individuals suffering from a diagnosed FBD enrolled in the study, and 20 individuals began the group intervention. 18 individuals completed the intervention, 18 completed measures at post-treatment, and 13 completed measures at one month follow up (1MFU). Treatment was provided at no cost, and participants were compensated with a \$10 Visa e-gift card upon completing the 1MFU assessment. For a detailed description of participant flow, please consult the CONSORT chart (Figure 1).

12 parents and 8 partners of individuals with FBDs participated in the study. The majority of participants were White ($n = 19$; 95%), female ($n = 17$; 85%), well-educated ($n = 17$ had a graduate degree; 85%), and married ($n = 16$; 80%). On average, participants were 50.11 years old ($SD = 8.22$; range = 35.33 to 64.66) and had lived with their relatives for 15 years ($SD = 9.94$; range = 1 to 45). Nine participants self-reported psychiatric diagnoses (all mood

disorders; e.g., “seasonal affective disorder” and depression), and the presence of a past major depressive episode (MDE) in all nine participants was confirmed independently by a diagnostic interview. No participants met criteria for current substance use disorder, current mania, or lifetime psychosis. Demographic characteristics of the study sample are presented in Table 1.

Participants reported that their relatives were formally diagnosed (by a psychologist or psychiatrist) with the following FBDs: generalized anxiety disorder (GAD; $n = 8$), panic disorder ($n = 3$), OCD ($n = 3$), post traumatic stress disorder (PTSD; $n = 2$), social anxiety disorder (SAD; $n = 1$), or two FBDs (e.g., GAD and OCD; $n = 3$). Eight participants reported that their relatives also had a comorbid psychiatric diagnosis in addition to an FBD: depression ($n = 4$), ADHD ($n = 2$), autism ($n = 1$), and a sleep-wake disorder ($n = 1$). Of the 20 identified relatives with FBDs, 16 (80%) were currently receiving individual treatment (therapy, medication, or a combination). Of the four participants whose relatives were not currently in treatment, all four (100%) responded “yes” to the question “do you wish your relative would seek treatment for their concerns?”

Measures

The following measure was administered at baseline only:

Mini-International Neuropsychiatric Interview Version 7.0 (MINI; Sheehan et al., 2015). The MINI is a brief, structured diagnostic interview used to determine DSM-5 diagnoses. It exhibits adequate psychometric properties. The MINI was used to ascertain information about exclusionary criteria (e.g., current substance use disorder, current mania, lifetime psychosis).

Participants completed the following self-report measures at the baseline, post-treatment, and 1MFU visits:

Family Accommodation Scale – Anxiety (FAS-A; Lebowitz et al., 2013). The FAS-A is a nine-item measure designed to assess the degree to which family members accommodate a

relative's FBD symptoms (within a one month period). The measure includes two subscales that measure a) participation in symptom-related behaviors, and b) modification of functioning. Items (e.g., "How often did you reassure your relative?") are rated on a five-point Likert Scale from 0 (*Never*) to 4 (*Daily*). The measure also includes four items that assess "distress and consequences," which are rated on a five-point Likert Scale from 0 (*None*) to 4 (*Extreme*). The FAS-A displays good internal consistency and convergent and divergent validity. In the current study, the FAS-A displayed good internal consistency ($\alpha_{\text{baseline}} = 0.82$, $\alpha_{\text{post}} = 0.87$).

Quality of Life Enjoyment and Satisfaction Scale (Q-LES-Q – Short Form; Endicott, Nee, Harrison, & Blumenthal, 1993). The 16-item self-report Q-LES-Q-SF was used to assess participants' overall quality of life during the past week. It is comprised of 14 items, which cover a broad range of life issues (e.g., physical health, leisure time activities, social relationships), plus two items measuring satisfaction with medication (if applicable) and overall life satisfaction and contentment. Each item is rated on a five-point Likert scale ranging from 1 (*Very poor*) to 5 (*Very good*). Higher scores on the Q-LES-Q are indicative of greater enjoyment or satisfaction, and raw summary scores are expressed as a percentage of the maximum possible score (70). The Q-LES-Q displays excellent internal consistency in clinical settings (Stevanovic, 2011). In the current study, the Q-LES-Q displayed acceptable internal consistency ($\alpha_{\text{baseline}} = 0.79$, $\alpha_{\text{post}} = 0.78$)

Family Questionnaire (FQ; Wiedemann, Rayki, Feinstein, & Hahlweg, 2002). The FQ is a 20-item self-report measure that assesses EE (i.e., criticism and emotional over-involvement) among relatives/caregivers. Items (e.g., "I'm often angry with him/her") are rated on a four-point Likert scale ranging from 1 (*Never/Very Rarely*) to 4 (*Very Often*). The FQ exhibits good internal consistency and an acceptable relationship to gold-standard measures (e.g., Camberwell Family

Interview; Vaughn & Leff, 1976). In the current study, the FQ displayed good to excellent internal consistency ($\alpha_{\text{baseline}} = 0.85$, $\alpha_{\text{post}} = 0.91$)

Anxiety Sensitivity Index – 3 (ASI-3; Taylor et al., 2007). The ASI-3 is a shorter version of the original ASI (Reiss, Peterson, Gursky, & McNally, 1986) that measures beliefs about the feared consequences of symptoms associated with anxious arousal (e.g., “I worry that other people will notice my anxiety”). The 18-item questionnaire yields three subscales: fears of social concerns, physical symptoms, and cognitive dyscontrol. Responses are rated on a five-point Likert Scale ranging from 0 (*Very Little*) to 4 (*Very Much*). The measure exhibits excellent psychometric properties. In the current study, the ASI-3 displayed acceptable to good internal consistency ($\alpha_{\text{baseline}} = 0.70$, $\alpha_{\text{post}} = 0.80$).

Interpersonal Reactivity Index (IRI; Davis, 1983). The IRI is a self-report inventory of dispositional empathy that contains four subscales. The perspective taking (PT) scale addresses the cognitive component of empathy (i.e., one’s tendency to adopt the psychological viewpoint of others), and the empathic concern (EC) scale assesses the affective component of empathy (i.e., the tendency to experience feelings of compassion for others). Items (e.g., “Before criticizing somebody, I try to imagine how I would feel if I were in their place”) are rated using a five-point Likert scale ranging from A (*Does not describe me very well*) to E (*Describes me very well*). Multiple studies confirm the measure’s validity and reliability (for a review, see Davis, 1994). In the current study, the IRI displayed acceptable to good internal consistency ($\alpha_{\text{baseline}} = 0.70$, $\alpha_{\text{post}} = 0.81$).

Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996). The BDI-II is a 21-item self-report measure that assesses multiple components (e.g., affective, psychomotor) of depression. Items are rated on a four-point Likert Scale from 0 to 3 (anchors vary), and higher

scores indicate greater depressive symptomatology. A widely used measure, the BDI-II has excellent reliability and validity in clinical research (Beck et al., 1996). In the current study, the BDI-II displayed acceptable to good internal consistency ($\alpha_{\text{baseline}} = 0.88$, $\alpha_{\text{post}} = 0.77$).

State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983). The STAI is a 40-item questionnaire that measures state and trait anxiety. Sample items include “I feel calm” and “I am satisfied with myself,” respectively. Items are rated on a four-point Likert Scale from 1 (*Not at all*) to 4 (*Very much so*), and higher total scores indicate greater levels of anxiety. Twenty items assess state anxiety (STAI-State), and twenty items assess trait anxiety (STAI-Trait). Studies suggest that the STAI is a valid and sensitive predictor of caregiver distress over time (Elliot, Shewchuk, & Richards, 2001). In the current study, the STAI-Trait and STAI-State scales displayed good to excellent internal consistency ($\alpha_{\text{baseline}} = 0.84 - 0.86$, $\alpha_{\text{post}} = 0.85 - 0.95$).

Zarit Burden Interview – Short Version (ZBI – SV; Bedard et al., 2001). The ZBI-SV is a 12-item self-report version of the original 29-item ZBI (Zarit, Reever, & Bach-Peterson, 1980), which measures perceived burden among primary caregivers. Items are rated on a five-point Likert Scale from 0 (*Never*) to 4 (*Nearly Always*) and include questions such as “Do you feel that you don't have as much privacy as you would like because of your relative?” The ZBI – SV exhibits acceptable reliability. In the current study, the ZBI displayed good to excellent internal consistency ($\alpha_{\text{baseline}} = 0.89$, $\alpha_{\text{post}} = 0.93$).

Participants completed a demographic questionnaire during the baseline assessment visit that assessed gender, age, education level, income, race, and ethnicity. The measure was also used to collect details regarding the participant's relationship to their relative with a FBD (i.e., relation, duration of cohabitation) and their relative's diagnosis.

Credibility/Expectancy Questionnaire (CEQ; Devilly & Borkovec, 2000). The CEQ is a six-item self-report inventory of perceived treatment credibility and expectancy for improvement. The first three CEQ items (e.g., “How logical does this type of treatment seem to you?”) assess credibility (CEQ-Credibility) and are rated on a Likert-scale from 1 to 9 (anchors vary). Total possible scores for the CEQ-Credibility subscale range from 3 to 27; higher scores indicate greater credibility beliefs. The final three CEQ items assess expectancy (CEQ-Expectancy), with one item rated from 1 (*Not at all*) to 9 (*Very much*) and two items rated from 0% to 100% (values from 1 to 11). These three items were standardized into z scores before summing to create the total expectancy score. Participants completed the CEQ at the beginning of the second session (after receiving the treatment rationale during the first treatment session). The CEQ demonstrates good internal consistency and validity. Cronbach’s alpha in the current sample was excellent each subscale ($\alpha_{\text{Credibility}} = 1.00$, $\alpha_{\text{Expectancy}} = 0.90$).

Treatment Evaluation Inventory-Short Form (TEI-SF; Kelley, Heffer, Gresham, & Elliott, 1989). The TEI-SF assesses treatment acceptability following completion of a behavioral intervention. Following the final treatment session, participants completed a modified seven-item version (also used by Twohig & Woods, 2004). The modified version removes two child-specific questions and rewords the items to address anxiety rather than oppositional problems. Each question (e.g., “I liked the procedures used in this treatment”) is rated on a five-point scale from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Answers are summed to derive a total score (out of a possible 35 points), and higher scores reflect greater treatment acceptability. Scores over 21 indicate greater acceptability than unacceptability of the intervention. The original TEI-SF has a reliable factor structure and good internal consistency. In the current study, the TEI-SF exhibited acceptable internal consistency ($\alpha = 0.79$).

Clinical Global Impressions – Improvement (CGI; adapted from Busner & Targum, 2007). The CGI was developed for use in clinical trials to provide a brief assessment of the severity and change in a client’s psychopathology prior to and after initiating a study medication. In the current study, a modified version of the measure was used. Participants completed the measure weekly prior to the beginning of each study session. Participants self-reported changes in (a) their relative’s anxiety symptoms, and (b) their relationship with their relative in comparison to both (a) the participant’s baseline assessment visit, and (b) the past week using a seven-point Likert scale ranging from 1 (*Very much improved*) to 7 (*Very much worse*). Responses were used to monitor a potential worsening of anxiety symptoms (and a need to withdraw the relative from the study in the event of consecutive weeks of worsening symptoms); however, such responses were not included in statistical analyses. Treatment completers’ mean response to the second item (“Compared to baseline, how much has your relationship with your relative changed?”) during the final session is summarized in the Results.

Dyadic Adjustment Scale (DAS-4; Sabourin, Valois, & Lussier, 2005). The DAS-4 is an abbreviated four-item version of the Dyadic Adjustment Scale (Spanier, 1976), which assesses relationship satisfaction. Likert-scale responses to items (e.g., “In general, how often do you think that things between you and your partner are going well?”) are summed, resulting in a range of scores from 0 - 21 with high scores reflecting greater relationship satisfaction. A cutoff score of 13 distinguishes distressed couples from non-distressed couples. The DAS-4 demonstrates good reliability. All participants completed the DAS-4; however, the analyses only include *partners* of individuals with FBDs ($n = 8$) given the wording of the measure. In the current study, the DAS-4 exhibited excellent internal consistency ($\alpha_{\text{baseline}} = 0.93$, $\alpha_{\text{post}} = 0.90$).

Homework completion, treatment attendance, and attrition. The therapist rated each participant's homework completion on a dichotomous measure (1 = *Attempted/done* vs. 0 = *Not done*) at the start of each session, beginning with the second session. Thus, each participant obtained a score ranging from 0 to 4 to gauge “# of homework assignments completed.” If participants missed a session, they received a “0” for homework completion for both the missed session and the following session. Although attendance was expected/mandatory, the number of sessions that each participant attended was also recorded. For participants ($n = 2$) that did not complete the intervention, the number of sessions attended prior to termination was recorded. Further, the participant's reason for discontinuation was documented, if known.

Procedure

Overview. After completing a pre-screen via telephone, eligible participants were invited for an in-person, individual baseline assessment visit. During the baseline assessment, participants completed a clinical interview and a series of self-report questionnaires. Following this visit, participants attended five weekly group sessions designed to reduce symptom accommodation. Following the final group session, participants completed a battery of post-treatment self-report measures (administered online via Qualtrics, a secure survey platform). One month after completing treatment, participants completed a second battery of online self-report measures.

Baseline assessment. Upon arriving for the baseline assessment, participants were given an overview of the study and an opportunity to ask questions prior to providing written informed consent. Participants completed a clinical interview (MINI) to determine whether criteria for any exclusionary diagnoses (e.g., current mania) were met. Afterwards, participants completed

demographic and self-report questionnaires via Qualtrics. Baseline assessments took place within one week of the first intervention session.

Group intervention. The intervention consisted of five, 90-120-minute weekly group sessions (see Table 2 for an overview of session content). I ran four groups of variable size (range: 3-6 participants) during the Fall 2017 and Spring 2018 terms. The session content is briefly described below. The treatment manual includes standardized phrasing suggestions, timing estimates for each session, and participant handouts.

Session 1 served as an introduction to the group and provided psychoeducation about FBDs, the maintenance and treatment of FBDs, and family responses to FBDs (i.e., symptom accommodation). Participants developed group guidelines (i.e., confidentiality, mutual respect), learned the purpose and rationale of the program (i.e., to learn strategies to skillfully reduce symptom accommodation) and set personal goals. Psychoeducation served a critical role to describe potential advantages of anxiety (to assuage high levels of AS) and provide context for fear-based rituals and avoidance (to help relatives develop a more accurate understanding of the complexity of their loved one's suffering). Lastly, participants learned about self-monitoring to track maladaptive accommodation behaviors and were instructed to complete self-monitoring for homework (Craske & Tsao, 1999). This evidence-based CBT strategy allowed relatives bring awareness to accommodation patterns in order to make subsequent changes.

Session 2 provided a rationale for ceasing accommodation behaviors (i.e., response prevention; Merlo, Lehmkuhl, Geffken, & Storch, 2009). Further, participants set specific accommodation reduction treatment goals. (Each subsequent session began with a discussion of progress towards and strategies for accommodation reduction.) Participants also discussed strategies for informing their relatives of their participation in the group (and impending

behavioral shifts) and developed a plan accordingly. The session also included skills for reducing high levels of AS (e.g., psychoeducation about anxiety sensitivity and cognitive restructuring to modify maladaptive beliefs about anxiety). Cognitive restructuring is an effective, empirically-based CBT technique to test unhelpful beliefs about anxiety (e.g., “My loved one can’t handle anxiety”) and develop rational responses (Clark, 1999). Further, cognitive restructuring was used to help relatives identify thinking errors (e.g., catastrophizing; “My partner will hate me forever if I don’t help them out”) while problem-solving around alternatives for accommodation. For homework, participants were instructed to continue self-monitoring, practice cognitive restructuring, and begin addressing their first accommodation reduction goal.

Session 3 focused on communication skills to: a) address family conflict that may result from decreasing accommodation, and b) reduce critical and hostile comments that are typical of high EE (Morris, Miklowitz, & Waxmonsky, 2007). Specifically, participants received assertiveness training (e.g., Abramowitz, 2012) to learn communication skills that can replace reassurance and overly-empathic comments with more constructive statements that do not directly reinforce the anxiety. Further, communication training was used to help family members replace EE (e.g., critical and hostile comments) with kinder remarks (i.e., rebalance expression of praise versus criticism; Miklowitz & Chung, 2016). For homework, participants were instructed to continue self-monitoring, practice assertive communication skills, and address their second accommodation reduction goal.

Session 4 offered an opportunity to continue practicing the skills learned in earlier sessions (e.g., self-monitoring, cognitive restructuring, communication) and discuss problem-solving strategies to replace accommodation behaviors. Group members learned problem-solving steps and identified the advantages and disadvantages of different solutions (Milkowitz & Chung,

2016). Given the high levels of distress that relatives of individuals with FBDs experience (Bodden, Dirksen, & Bögels, 2008), this session also provided psychoeducation about caregiver burden and introduced self-care strategies. For homework, participants were instructed to address their third accommodation reduction goal and practice self care.

During *Session 5*, participants continued skills practice. Participants also learned about the transtheoretical model of change to set future expectations, ascertain strategies for relapse prevention and maintaining gains, and summarize their progress. Lastly, participants provided feedback as a group.

Post-treatment and follow-up assessments. The post-treatment and 1MFU assessments included a series of self-report measures administered via Qualtrics. Participants received an email with an anonymous link and instructions to complete the study measures within 48 hours of receipt. During the post-treatment assessment, participants completed the TEI-SF to rate their satisfaction with the intervention.

Standardization procedures. A single therapist delivered all therapy sessions ($n = 20$). The intervention followed a treatment manual (developed by me), which included suggested scripts and handouts. All assessment and intervention sessions were recorded and reviewed for treatment fidelity. Dr. Jonathan Abramowitz listened to all intervention sessions and provided weekly supervision. All intervention sessions were rated for adherence by at least one trained undergraduate research assistant ($n = 4$).

Data analytic strategy. First, descriptive statistics were computed for the sample (i.e., demographics) and all study measures (e.g., FAS-A) at baseline, post-treatment, and 1MFU. To test for differences in clinical measures across time (baseline, post-treatment, 1MFU), I conducted repeated measures ANOVAs. Follow-up paired sample t-tests were used to compare

baseline clinical measures to post-treatment and 1MFU measures. Within-group effect sizes were also computed to evaluate the magnitude of change in the continuous primary outcome variable (i.e., FAS-A) and continuous constructs of interest (e.g., FQ, ASI-3, ZBI-SV) from baseline to post-treatment and baseline to 1MFU (Lancaster, Dodd, & Williamson, 2004). Using procedures outlined by Jacobson and Truax (1991), I examined the extent to which participants achieved reliable change in FAS-A. Further, benchmarking procedures were used to compare the magnitude of FAS-A effect sizes observed in the current study to the magnitude of FAS-A effect sizes from two previous relative-only interventions that targeted symptom accommodation. Bivariate correlations were computed to examine relationships among study variables [i.e., between FAS-A and constructs of interest (e.g., ASI-3, FQ, ZBI-SV)] at baseline. Partial correlations between post-treatment FAS-A scores and constructs of interest, controlling for baseline FAS-A, were also computed.

RESULTS

Descriptive statistics. Descriptive statistics for study measures at baseline, post-treatment, and 1MFU are presented in Table 3. Data regarding the ability to recruit the desired sample size (i.e., number of participants referred, phone screened, enrolled, and completed) can be found in the CONSORT Chart (Figure 1). Descriptive statistics pertaining to credibility, acceptability, adherence, and engagement are described below.

¹Repeated measures ANOVAs and paired samples t-tests. Repeated measures ANOVAs revealed a main effect of time (baseline, post-treatment, 1MFU) for FAS-A [$F(2, 24) = 6.63, p < .01, \eta^2 = 0.36$], FAS-A Modification [$F(2, 24) = 3.72, p = 0.04, \eta^2 = 0.24$], FAS-A Participation [$F(2, 24) = 4.74, p = 0.02, \eta^2 = 0.28$], and ZBI-SV [$F(2, 24) = 3.55, p = .045, \eta^2 = 0.23$]. Follow-up paired samples t-tests were used to compare baseline measures to post-treatment measures and baseline measures to 1MFU measures. There were no statistically significant differences between baseline and post-treatment for any constructs. Significant differences emerged between baseline and 1MFU for FAS-A [$t(12) = 3.22, p < 0.01$], FAS-A Modification [$t(12) = 2.34, p < 0.05$], FAS-A Participation [$t(12) = 2.64, p = 0.02$], ZBI-SV [$t(12) = 2.16, p = 0.05$], and DAS-4 [$t(7) = -3.58, p < 0.05$]. There were no statistically significant differences between baseline and 1MFU scores for other study measures. Results are summarized in Table 4.

¹Independent samples t-tests confirmed that there were no significant differences on any baseline measures between individuals who completed the 1MFU assessment ($n = 13$) and participants who did not complete the 1MFU assessment (all $ps > 0.05$).

Within-group effect sizes. Within-group effect sizes were computed to evaluate the magnitude of baseline to post-treatment and baseline to 1MFU changes in FAS-A and constructs of interest. Effect sizes were calculated by dividing the mean difference (baseline to post-treatment and baseline to 1MFU) by the baseline standard deviation and accounting for dependence (Lakens, 2013; Morris & DeShon, 2002). Effect sizes were assessed according to Cohen's (1988) recommendations: small ($d = .20$), medium ($d = .50$), and large ($d = .80$). The within-group baseline-post-treatment FAS-A effect size was moderate ($d = 0.40$), and the within-group baseline-1MFU FAS-A effect size was large ($d = 1.02$). Overall, within-group baseline-post-treatment effect sizes ranged in magnitude from small (0.12) to large (1.88), and within-group baseline-1MFU effect sizes also ranged from small (0.23) to large (2.58). The largest effect sizes were observed among the DAS-4, FQ, and DAS-4 measures, in addition to the FAS-A. The within-subjects effect sizes for the FAS-A and constructs of interest (e.g., ASI-3, FQ, ZBI-SV) are displayed in Table 4.

Clinically significant change. Methods described by Jacobson and Truax (1991) were used to determine the extent to which participants attained reliable improvement (i.e., decreases) in symptom accommodation. The reliable change index (RCI) indicates whether change is attributable to the intervention or imprecision in FAS-A measurement. FAS-A baseline data ($SD = 7.39$) and test-retest reliability ($r_{xx} = 0.80$; personal correspondence with E. Lebowitz) were used to calculate the empirically derived FAS-A change value (9.16) for the RCI. Two participants (11% of treatment completers) achieved reliable change (i.e., decreases in FAS-A scores > 9.16) between baseline and post-treatment, and an additional two participants (cumulative percentage = 22% of treatment completers) achieved reliable change by 1MFU. No participants evidenced reliable deterioration following the end of treatment.

Benchmarking. To examine the effectiveness of the current intervention relative to existing relative-only interventions that target symptom accommodation, I benchmarked the results from the present study with findings reported by two previous studies that (a) had a pre-post design, (b) did not include the identified patient with an FBD, and (c) used a version of the FAS-A (as no published meta-analytic findings exist). Two studies fit these criteria; however, both studies were individual interventions (10-12 sessions) with parents of young children. In one study (Lebowitz et al., 2013), 10 parents of children with various DSM-IV anxiety disorders attended 10-12 sessions designed to “chart and reduce accommodation in supportive ways.” Symptom accommodation, as calculated by the FAS-A, was reduced post-treatment by an average of 11 points. In another study (Rosa-Alcazar et al., 2017), 10 mothers of children with OCD attended twelve weekly individual parent training sessions with explicit instructions to reduce accommodation and facilitate exposure for their young children. Symptom accommodation, as measured by the Spanish version of the Family Accommodation Scale for OCD (Otero & Rivas, 2007), decreased by an average of 6.6 points between baseline and post-treatment. Based on the data presented (i.e., baseline and post-treatment means and baseline standard deviations), the benchmarked effect size estimated from the two existing studies was large ($d_B = 1.59$). Using Minami, Serlin, Wampold, Kircher, and Brown’s (2008) formula for testing differences between effect sizes, the current study’s baseline-post-treatment FAS-A effect size did not exceed $d_{crit} = 0.96$, the critical value necessary [determined by the 95th percentile of the noncentral t distribution, $t(19, 6.22)$] to claim clinical indifference to the clinical trials benchmark (d_B).

Zero-order and partial correlations between FAS-A and constructs of interest. Zero-order correlations revealed that baseline FAS-A scores were not significantly associated with any

baseline measures of constructs of interest (i.e., ASI-3, FQ, ZBI-SV; all $ps > 0.12$). Further, post-treatment FAS-A scores were not significantly associated with baseline measures of constructs of interest (all $ps > 0.05$) when controlling for baseline FAS-A scores with the exception of one measure, the DAS-4 (described below). Zero-order and partial correlations are presented in Table 5.

Relationship satisfaction. Among partners ($n = 8$), the DAS-4 was negatively associated with the FAS-A at baseline ($r = -0.60, p = 0.11$), suggesting that higher levels of accommodation were associated with lower levels of relationship satisfaction. Baseline DAS – 4 scores, however, were significantly positively associated with post-treatment FAS-A scores when controlling for baseline FAS-A ($r = 0.92, p < .01$). This strong, positive correlation may be spurious or may have occurred for other reasons. First, this correlation may represent suppression whereby baseline FAS-A suppresses the relationship between DAS-4 and post-treatment FAS-A, because baseline FAS-A is positively correlated with one measure (post-treatment FAS-A) and negatively correlated with the other (DAS – 4). Additionally, multicollinearity between the baseline FAS-A and post-treatment FAS –A, in combination with a small sample size (partners only, $n = 8$), may have led to a restriction of range in DAS-4 after partialling out the FAS-A baseline. Thus, this result should be interpreted with caution. Of note: at the final session, the mean score on the second item of the CGI (“Compared to baseline, how much has your relationship with your relative changed?”) was 2.88 ($SD = 0.93$) indicating improvement.

Treatment Integrity/Adherence, Acceptability, Credibility, and Engagement. To assess the level of therapist adherence to the protocol as written in the treatment manual, all sessions were coded for adherence by at least one undergraduate research assistant. The research assistants rated each session on four items (e.g., “The therapist presented the material, worked to

lead the discussions, assigned the homework, etc., that were scheduled for the current session”) using a seven-point Likert scale ranging from 1 (*Not true at all*) to 7 (*Very true*). Across all sessions, the therapist was rated as having high adherence to the planned session material ($M = 6.44$, $SD = 0.67$), low rates of presenting additional information ($M = 1.97$, $SD = 0.78$), and appropriate responses to deviations in the event that they did occur ($M = 6.41$, $SD = 0.67$). Research assistants had 91% concordance (i.e., difference in item ratings ≤ 1) in adherence ratings for double-coded sessions ($n = 11$).

To assess treatment credibility and acceptability, participant feedback (i.e., CEQ and TEI-SF) were examined. The mean CEQ-Credibility subscale score was 21.16 ($SD = 2.79$), where higher scores (out of a total possible 27) indicated higher perceived credibility. The mean standardized CEQ-Expectancy subscale score was -0.03 ($SD = 2.76$). CEQ-Expectancy scores were not significantly associated with changes in FAS-A from baseline to post-treatment ($r = 0.44$, $p = 0.07$) or baseline to 1MFU ($r = 0.14$, $p = 0.70$). All participants scored above 21 (range 22 – 35) on the TEI-SF, and average scores ($M = 29.5$, $SD = 3.20$) indicated acceptability. The modal answers for the first (“I find this treatment to be an acceptable way of dealing with my relative’s anxiety”) and last (“Overall, I have had a positive reaction to this treatment”) items were 5 (“*Strongly agree*”), the highest possible score.

To assess engagement, attendance and homework completion rates were calculated. Among the 18 individuals that completed treatment, the attendance rate was 93.3% [84 sessions attended out of a total possible 90 sessions ($18 * 5$)]. No single participant missed more than one session. Two individuals (both female partners of individuals with PTSD) did not complete treatment; one individual discontinued after the first session due to a death in the family, and another individual discontinued after the second session (reason unknown, was not available for

contact). On average, participants completed their homework for three out of four sessions in which homework was assigned ($M = 2.95$, $SD = 1.11$; mode = 4; range = 1 – 4).

DISCUSSION

FBDs occur in an interpersonal context, as relatives' often accommodate their loved one's FBD symptoms. Given that symptom accommodation maintains FBDs and is associated with poorer treatment outcome, it is a worthy intervention target. To date, the majority of accommodation intervention studies have been conducted with parents of individuals with OCD, and/or in an individual (i.e., single family/couple) format. Given that (a) accommodation occurs across relatives (i.e., not just parents), (b) accommodation occurs across FBDs, (c) many individuals with FBDs do not seek treatment for various reasons, and (d) group formats of CBT can offer benefits, the aim of the current study was to test the feasibility, acceptability, and effectiveness of a transdiagnostic, relative-only group intervention to reduce symptom accommodation.

Overall, hypotheses regarding the intervention's feasibility and acceptability were supported. The ability to recruit and enroll the desired sample size within a six month period suggested that there is an interest in this type of service (i.e., "skills for living with an anxious loved one") when offered at no cost. Individuals were willing and able to attend the weekly evening group sessions; high session attendance and homework completion rates lent further support to the feasibility of the intervention. Additionally, participant feedback (i.e., total scores on measures of credibility and acceptability) suggested that the intervention was both credible and acceptable. Despite these promising initial findings, two participants did not complete the intervention. Both attriters were female partners of individuals with PTSD diagnoses (and the only two relatives of individuals with PTSD enrolled in the study). Although this observation is

based on a very small sample and may be spurious, this attrition might suggest that modifications are needed to enhance the acceptability of this type of group intervention for partners of individuals with PTSD. Alternatively, factors unrelated to the participants' partners' diagnoses (e.g., individual circumstances such as a death in the family, demographic characteristics) may have contributed to the attriters' decisions to discontinue the intervention.

The second hypothesis was partially supported, as participants' self-reported symptom accommodation scores (FAS-A) decreased over the course of the intervention (e.g., baseline to post-treatment) and over the follow-up period (e.g., baseline to 1MFU). Although participants consistently exhibited decreases in symptom accommodation, ultimately only 22% of participants evinced reliable change in symptom accommodation. Further, the effect size observed at post-treatment in the current study was smaller than the very large effect sizes found in two existing studies of parent-only interventions to reduce symptom accommodation. Unique participant characteristics and study methodology may help to explain the differences in observed effect sizes between the existing relative-only interventions and the current study. First, the current study included half as many sessions as the existing interventions (i.e., 5 versus 10-12 sessions). Although this abbreviated length may have fostered the current study's feasibility, it may have been an "insufficient dose" or prematurely stifled participants' opportunities to further reduce accommodation across repeated sessions. Indeed, participants in the current study, on average, appeared to continually report reduced symptom accommodation behaviors during the 1MFU period. Second, both comparison interventions utilized an *individual* format for parents of *young* children. An individual format affords more opportunities for personalized attention to accommodation reduction targets. In the current study, the average age (17.6 years old, $SD = 5.58$, range = 8 - 28) of participants' children ($n = 12$) in the current study was older than

comparison studies and may represent a more difficult target for accommodation reduction (Lebowitz, Dolberger, Nortov, & Omer, 2012). Further, accommodation was not particularly high/frequent among all participants. Although all participants responded to the study advertisement to “learn skills for living with an anxious loved one” and met inclusion criteria, the inclusion criteria did not specify a cutoff for relationship distress or accommodation frequency. Studies suggest that a FAS-A score above 13 indicates significant family accommodation; 6 participants (30%) scored *at or below* this cutoff (at baseline) in the current study. This floor effect limits variability and the extent to which individuals who accommodate infrequently can further decrease their behaviors as a result of the intervention.

Notably, participants exhibited slightly greater decreases in symptom accommodation related to participation in symptom-related behaviors than modification of family routines. This may reflect the notion that a single-person approach (such as the current study) is better able to target an individual’s “participation” in rituals, which includes behaviors that are in the individual’s control (e.g., cutting back on providing reassurance). The “modification” domain of symptom accommodation addresses behaviors related to adjusting the family routine. In order to evince larger shifts in the “modification” domain of symptom accommodation, both individuals in the dyad may need to be present/engaged in the intervention.

The third hypothesis was partially supported, as participants, on average, exhibited decreases in EE (as indicated by large within-subjects effect sizes by 1MFU) and increases in quality of life and relationship satisfaction (as indicated by medium to large within-subjects effect sizes by 1MFU). Aspects of the intervention that targeted EE (e.g., psychoeducation about the complexity of anxiety, communication training) may have directly affected these changes. Further, non-specific factors related to the intervention (e.g., social support derived from the

group format, motivation/accountability offered by the structured weekly sessions) – in addition to benefits related to reduced involvement in FBD symptoms – may have contributed to observed improvements in quality of life. Given the open trial nature of the study, however, it is not possible to conclude whether these results are due to the intervention or natural fluctuations in constructs of interest. This, and other study limitations, is discussed in detail further below. Despite the shifts in EE and quality of life, however, participants, on average, did not demonstrate large shifts in AS or burden by post-treatment. The intervention may not have allotted enough time or emphasis on these constructs to evince reliable change. Repeated practice of AS-reduction strategies (e.g., cognitive restructuring) may be necessary throughout the intervention.

Exploratory hypotheses were not supported, as baseline levels of constructs of interest (e.g., AS) were not associated with baseline levels of accommodation or changes in accommodation over the course of the intervention (i.e., post-treatment accommodation after controlling for baseline levels). These findings were somewhat surprising, as previous research has demonstrated associations between AS and accommodation (e.g., Amir, Freshman, & Foa, 2000). A number of factors may have contributed to the statistically non-significant results. For example, a small sample size may wield insufficient power to detect statistically significant results. Additionally, the intervention only allotted one session to a given construct of interest (e.g., AS); a stronger, repeated emphasis may be necessary to evoke change.

Taken together, study findings suggest that a transdiagnostic, relative-only group intervention to reduce symptom accommodation is feasible and acceptable; however, modifications to improve the effectiveness of the intervention are warranted. For example, a greater number of sessions that specifically target AS may be beneficial. Further, a number of

study limitations related to study design and sample characteristics temper the conclusions drawn from this study. Additionally, future directions to incorporate participants' qualitative feedback and address study limitations merit consideration. Study limitations and future directions are discussed in turn.

Limitations

Study design. The pre-post, single-group design permitted all resources (i.e., time) to flow towards treatment development and pilot-testing and facilitated an examination of the study's primary aims (e.g., examining feasibility and acceptability). Although the pre-post design permitted an analysis of change in symptom accommodation over time, this design precluded conclusions about causality, as other factors (e.g., regression to the mean) may have explained shifts in symptom accommodation. Given the open trial design, the current study also lacked a comparison condition. Therefore, results were not able to illuminate the absolute or relative efficacy of the given intervention in comparison to other existing interventions (e.g., family-based CBT that includes a family member or a psychoeducation-only intervention for relatives). Although benchmarking procedures were used to compare the effect sizes from the current study with the effect sizes from published relative-only interventions that targeted symptom accommodation, the differences in methodology ultimately limited the conclusions that could be drawn.

Although the current study format may have maximized the appeal and feasibility of participants' enrollment and engagement in the study, the intervention's relative brevity may compromise effectiveness. A five-session intervention may not permit enough time to learn, practice, and implement new dyadic behavioral patterns. Indeed, participants exhibited continued decreases in symptom accommodation between the post-treatment and 1MFU assessment time

points. Further, multiple participants commented upon the potential value of an added “booster session” to promote accountability, offer motivation, and maintain gains in accommodation reduction during the months after the intervention ended.

The same therapist, who was highly invested in the outcome of this study, conducted all phone screens, baseline assessments, and intervention sessions. Although the therapist’s qualities (i.e., young, female graduate student) were consistent across all sessions, they are likely not representative of therapists of varying ages, genders, and experience offering “treatment as usual” in the community. Further, the therapist’s status as a student may have affected the perceived credibility of the intervention.

Although the assessment measures included in the study were carefully selected and exhibited sound psychometric properties, it is possible that the instruments did not capture features of change as identified by participants’ verbal comments or written feedback (e.g., reduced feelings of isolation due to social support, knowledge about anxiety, self-efficacy to make changes). In future studies, additional measures that address related constructs of interest (e.g., perceived social support, self-efficacy) may help to capture the intervention’s secondary benefits. Further, the dichotomous measurement of constructs of interest (e.g., homework compliance) minimized variability in the data and complicated the analysis of the variable’s relationship with other constructs. Continuous measurement (e.g., percent completed per week) of variables of interest (e.g., homework completion/compliance) or assessments of the *quality* of homework completion may improve the nuanced conclusions that can be drawn from the study findings.

The small sample size was not sufficient to detect moderators of change. Certain individuals may have benefitted more or less from the intervention, and a larger sample size

would permit moderation analyses. Such analyses could explore which relative characteristics (e.g., insight, motivation to change, baseline level of accommodation) make someone the best fit for a group intervention and which group compositions are ideal with regard to participant characteristics. For example, researchers could explore whether group homogeneity (i.e., the presence of fellow participants with a very similar identity) influences improvement in outcome measures.

Sample characteristics. The study sample was rather homogenous (i.e., primarily educated White women); therefore, study findings may not generalize to demographically diverse family contexts. Recruitment materials did not include culturally-sensitive anxiety-related lingo (e.g., “*ataques de nervios*”), which may have unintentionally limited interest in the study. Additionally, the cognitive-behavioral intervention did not include any cultural adaptations (e.g., culturally-specific proverbs about anxiety; Hinton & Patel, 2017), which have demonstrated utility in cognitive-behavioral interventions for anxiety. Given that this pilot study can only examine feasibility, acceptability, and outcomes amongst the type of participants included in the study, findings related to feasibility may not extend beyond the inclusion/exclusion criteria and sample demographics of the current study. Further, the study may not be accessible for single parents or individuals of lower socio-economic status who might rely upon childcare or subsidized transportation, which were not provided as components of this study. Although the intervention was provided at no cost (given the context of the research study), this no-cost structure does not generalize to community settings.

Additionally, there were no exclusionary criteria for participants’ relative’s comorbid diagnoses. Participants reported that their loved ones had comorbid psychiatric diagnoses (e.g., depression, autism, sleep-wake disturbances) and/or chronic medical conditions (e.g., diabetes),

which may have interfered with readily making changes to accommodation patterns. For example, some participants expressed concern about cutting back on “medically-related accommodation” or aggravating their loved one’s depression symptoms. The current intervention was not designed to adequately address these comorbid concerns; this shortcoming may have impeded the behavioral changes that participants were willing to implement.

Future directions

Several future directions warrant consideration to not only address limitations listed above, but also potentially improve the efficacy of the intervention. First, replication of the study with a larger sample may be beneficial to examine moderators of change. Such analyses may afford the opportunity to examine whether a brief, relative-only, group intervention is beneficial for some, but not all, cohabitating relatives, as participants exhibited a range of responses to the current intervention. Relatedly, a randomized control trial would permit a direct comparison of the current intervention to existing family-based interventions that include the identified patient or other relative-only interventions for accommodation (e.g., a brief psychoeducational intervention; Thompson-Hollands et al., 2014) to examine their relative effects. A larger sample and rigorous comparison group would allow for more nuanced conclusions about the efficacy of the current intervention.

An extension of the current study with additional measures would be warranted, as the primary outcome measure (FAS-A) may not have been sensitive to weekly changes. The FAS-A asks respondents to rate the *frequency* of accommodation behaviors during the *past month* and may not sensitively capture shifts within the past week (as the past month would entail study participants rating their experiences beginning with session 2, at which point instructions to shift accommodation behaviors had not yet been introduced). Such temporal sensitivity may be

crucial for the given study given the intervention's brief duration (five weeks). Further, measuring accommodation *frequency* alone may not sufficiently capture the scope and interference associated with symptom accommodation. A more recently-developed Family Accommodation Checklist and Interference Scale (FACLIS; Thompson-Hollands, Kerns, Pincus & Comer, 2014) not only addresses the scope and interference associated with accommodation, but also asks specific questions about accommodation scenarios within the past two weeks. Thompson-Hollands and colleagues offer the example, "a parent who routinely prepares a different meal for their child than the rest of the family because of the child's anxious rigidity might respond 'no' to the FAS-A item 'Have you modified your family routine because of your child's symptoms?' but when asked specifically 'Did you let your child have a different meal from the rest of your family so as to avoid distressing your child?' the parent might respond 'yes.'" In validating their measure, Thompson-Hollands and colleagues (2014) also found that the most frequent accommodation behaviors (e.g., answering a question for the relative) were not necessarily the most interfering (e.g., letting the child take a mental health day). Thus, a more time-sensitive and specific measure may better capture shifts in symptom accommodation in the future studies.

Additionally, the intervention may have contributed to beneficial outcomes that were not captured by the administered questionnaires. For example, several participants remarked about their increased knowledge about anxiety, renewed sense of motivation to shift interaction patterns with their anxious relative, increased capability to change (i.e., self-efficacy), and perceived sense of social support (i.e., reduced isolation). Thus, measures that capture changes in these domains may be beneficial to systematically collect information about helpful aspects of

the intervention (with the acknowledgement that any observed shifts are distinct from the primary aim of reducing symptom accommodation).

As acknowledged earlier, the intervention was led by a single therapist who not only designed the intervention and conducted all assessments, but also was highly invested in the study outcome. In order to test the generalizability of the results, replication of the study with multiple therapists in a community setting may be warranted to test generalizability. Further, implementing the study with a variety of therapists would allow for an examination of any potential differences in credibility/expectancies (i.e., greater perceived credibility by a more senior, licensed professional).

Future iterations of this intervention may include elements to enhance homework compliance (i.e., frequency and quality) and accountability. For example, automated e-mail/text reminders may help participants to complete their homework more regularly both during the intervention and after the final session. Additionally, booster sessions (as requested by several group members) may facilitate longer-term gains. Eventually, the use of technology via app-based lessons or online platforms may (a) promote peer-to-peer networking within online psychosocial interventions, and (b) make broader dissemination to harder-to-reach populations (e.g., rural areas, low socioeconomic status relatives) more feasible.

Table 1.

Sample descriptive statistics for participants that initiated treatment (N = 20)

	<i>M / N</i>	<i>SD / %</i>	Range
Female	17	85.00	
White	19	95.00	
Relation to relative with FBD			
Parent	8	40.00	
Partner	12	60.00	
Marital Status			
Married	16	80.00	
Divorced	2	10.00	
Never married	2	10.00	
Age	50.11	8.22	35.33-64.66
Years of cohabitation	15.00	9.94	1.00 – 45.00
Education			
Some college	1	5.00	
Associate's Degree	1	5.00	
Bachelor's Degree	1	5.00	
Master's Degree	12	60.00	
Doctorate Degree	5	25.00	
Income (<i>n</i> = 19)			
< \$39,999	2	10.00	
\$40,000 – \$79,999	2	10.00	
\$80,000 – \$100,000	4	20.00	
> \$100,000	11	55.00	

Table 2.

Description of study visits

Session	Duration	Components
-	15 min	Telephone screen to assess initial eligibility
Baseline	30 min	Informed consent, MINI
	30 min	Self-report questionnaires via Qualtrics
1	120 min	<ul style="list-style-type: none"> • Welcome • Ground rules • Overview of intervention • Psychoeducation (anxiety, treatment, accommodation) • Introduction to self-monitoring • Homework: Read handout, practice self-monitoring
2	120 min	<ul style="list-style-type: none"> • Review homework, self-monitoring • Discuss strategies, goal-setting to reduce accommodation • Address dysfunctional beliefs about anxiety via cognitive restructuring (CR) • Test dysfunctional beliefs about anxiety via interoceptive exposure • Homework: Self-monitoring, practice CR, reduce accommodation
3	120 min	<ul style="list-style-type: none"> • Review homework, self-monitoring, CR • Discuss communication skills to address potential conflict re: accommodation • Assertiveness training (to replace criticism) • Homework: Self monitoring, practice communication skills, reduce accommodation
4	120 min	<ul style="list-style-type: none"> • Review homework, self-monitoring, communication skills • Problem solving re: hostility, stopping accommodation • Psychoeducation about caregiver burden & strategies for self-care • Homework: Self monitoring, reduce accommodation, self care
5	120 min	<ul style="list-style-type: none"> • Review homework • Discuss stages of change • Wrap up: Review and relapse prevention • Feedback • Goodbyes
-	30 min	Post-treatment self-report questionnaires via Qualtrics
-	30 min	1MFU self-report questionnaires via Qualtrics <i>(followed by participant remuneration via email)</i>

Table 3.

Means and standard deviations on study measures at baseline (n = 20), post (n = 18), and follow-up (n = 13)

Measure	M	SD	Range	Skew	Kurtosis
FAS-A					
Baseline	17.50	7.39	7 – 36	1.08	1.01
Post	14.06	7.82	3 – 34	0.87	1.06
1MFU	10.77	4.17	4 – 18	0.19	-0.54
FAS-A Modification					
Baseline	10.80	4.02	3 – 20	0.52	0.55
Post	8.78	4.76	1 – 20	0.43	0.42
1MFU	7.62	2.93	4 – 14	0.71	0.32
FAS-A Participation					
Baseline	6.70	4.27	1 – 16	0.95	-0.16
Post	5.28	3.79	1 – 14	1.27	0.84
1MFU	3.15	2.08	0 – 6	0.02	-0.93
QLESQ (% Maximum)					
Baseline	0.72	0.10	0.50 – 0.95	-0.16	0.64
Post	0.74	0.11	0.45 – 0.93	-1.13	2.73
1MFU	0.77	0.09	0.61 – 0.96	-0.26	0.49
FQ					
Baseline	46.85	2.13	33 - 63	0.31	-1.11
Post	43.61	2.39	27 - 58	-0.15	-1.38
1MFU	44.10	3.74	28 - 60	0.06	-1.68
ASI-3					
Baseline	9.90	5.43	2 - 19	0.46	-0.91
Post	9.06	5.91	3 - 28	2.19	5.72
1MFU	6.77	3.88	3 - 15	1.02	-0.08
ZBI-SV					
Baseline	38.15	14.17	15 – 66	0.47	-0.60
Post	35.61	14.87	9 – 69	0.30	0.29
1MFU	30.85	13.99	6 – 54	-0.08	-0.33
BDI-II					
Baseline	8.45	7.90	0 – 31	1.71	2.98
Post	7.67	6.58	0 – 19	0.45	-1.12
1MFU	6.46	5.01	0 – 15	0.39	-1.30
STAI - State					
Baseline	1.74	0.39	1.15 – 2.70	0.49	0.50
Post	1.64	0.55	1.00 – 2.80	0.90	0.16
1MFU	1.56	0.44	1.00 – 2.45	0.71	-0.07
STAI - Trait					
Baseline	1.86	0.37	1.30 – 2.90	0.94	1.87
Post	1.78	0.34	1.10 – 2.10	-0.77	-0.75
1MFU	1.68	0.32	1.05 – 2.05	-0.54	-0.58
DAS-4					
Baseline (n = 8)	13.25	4.37	8 - 19	-0.01	-1.79
Post (n = 6)	14.17	6.05	6 - 22	-0.34	-1.13
1MFU (n = 4)	16.00	4.32	10 - 20	-1.19	1.50
IRI					
Baseline	61.40	9.02	44 – 79	-0.29	-0.12
Post	57.72	11.05	37 – 73	-0.57	-0.78
1MFU	58.76	9.07	35 – 69	-1.66	3.17

Note. FAS-A = Family Accommodation Scale – Anxiety; Q-LES-Q = Quality of Life Enjoyment and Satisfaction Questionnaire; FQ = Family Questionnaire; ASI-3 = Anxiety Sensitivity Index – 3; ZBI-SV = Zarit Burden Interview – Short Form; BDI-II = Beck Depression Inventory; STAI = State Trait Anxiety Inventory; DAS-4 = Dyadic Adjustment Scale – 4; IRI = Interpersonal Reactivity Index.

Table 4.

Repeated measures ANOVA F statistics, paired-samples t-test statistics, and within-subjects effect sizes (d) for study measures

Measure	F (2,24)	Baseline – Post		Baseline – 1MFU	
		t (17)	d	t (12)	d
FAS-A-Total	6.63*	1.75	0.40	3.22*	1.02
FAS-A-Modification	3.72*	1.51	0.37	2.34*	0.78
FAS-A-Participation	4.74*	1.91	0.41	2.64*	0.87
Q-LES-Q SF	0.98	-0.77	-0.19	-1.06	-0.63
FQ	2.78	1.77	1.88	1.92	1.17
ASI-3	1.61	0.30	0.12	1.90	0.55
ZBI-SV	3.55*	1.14	0.25	2.16*	0.56
BDI-II	0.20	0.75	0.12	0.43	0.23
STAI – State	0.37	0.36	0.19	0.76	0.36
DAS – 4 ^a	4.90	-1.47	-0.88	-3.58*	-2.58
IRI	1.37	1.50	0.47	1.79	0.52

* $p < 0.05$

^adf = (2,6)

Note. ANOVA = Analysis of Variance; FAS-A = Family Accommodation Scale – Anxiety; Q-LES-Q = Quality of Life Enjoyment and Satisfaction Questionnaire; FQ = Family Questionnaire; ASI-3 = Anxiety Sensitivity Index – 3; ZBI-SV = Zarit Burden Interview – Short Form; BDI-II = Beck Depression Inventory; STAI = State Trait Anxiety Inventory; DAS-4 = Dyadic Adjustment Scale – 4; IRI = Interpersonal Reactivity Index.

Table 5.

Zero-order and partial correlations (r) among study measures

Baseline measure	Baseline FAS-A	Post FAS-A ^a
Q-LES-Q SF	-0.09	-0.29
FQ	0.36	0.38
ASI-3	-0.07	-0.24
ZBI-SV	0.29	0.46
BDI-II	0.33	0.11
STAI – State	0.24	-0.02
STAI - Trait	0.33	0.07
DAS – 4 ^b	-0.60	0.92*
IRI	0.27	-0.39

* $p < .05$

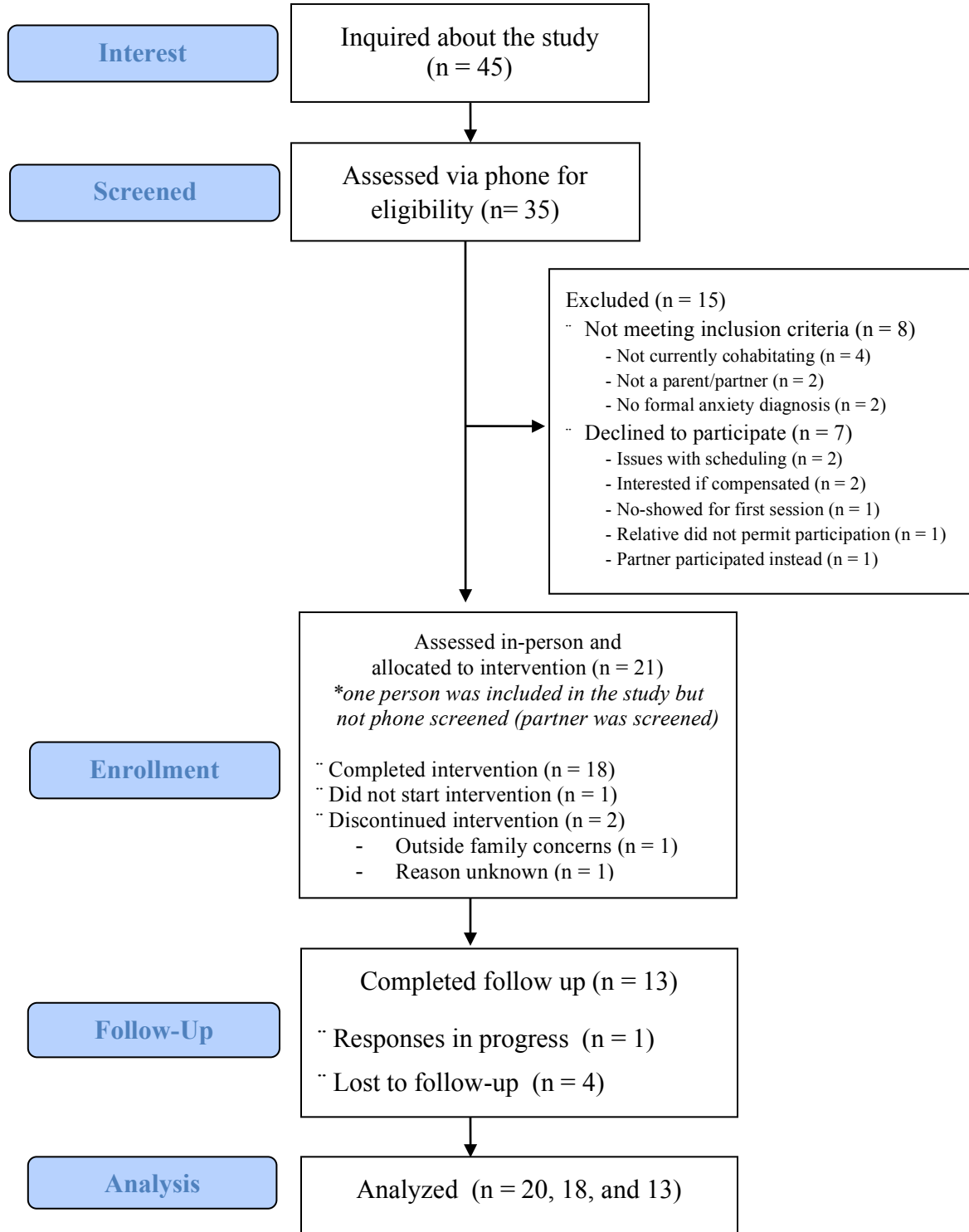
^a Controlling for baseline FAS-A

^b Among partners only ($n = 8$)

Note. FAS-A = Family Accommodation Scale – Anxiety; Q-LES-Q = Quality of Life Enjoyment and Satisfaction Questionnaire; FQ = Family Questionnaire; ASI-3 = Anxiety Sensitivity Index – 3; ZBI-SV = Zarit Burden Interview – Short Form; BDI-II = Beck Depression Inventory; STAI = State Trait Anxiety Inventory; DAS-4 = Dyadic Adjustment Scale – 4; IRI = Interpersonal Reactivity Index.

Figure 1.

CONSORT Chart



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