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Parent Training for Childhood Anxiety Disorders: The SPACE Program

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Anxiety disorders are the most prevalent disorders of childhood and adolescence. Cognitive behavioral therapy (CBT) for anxiety poses a challenge for clinicians as it requires active client participation, and many children either decline or do not adequately comply with treatment. In addition, even after treatment with CBT, up to 50% of children remain symptomatic, and many still meet diagnostic criteria. Parent-directed clinical work has been advocated as a potential enhancer of treatment outcomes, and exclusively parent-based interventions might replace child treatment when the child is reluctant. However, parent involvement has yet to be shown to significantly improve outcomes, relative to child-only therapy. Studies so far have focused mainly on including parents in children's therapy, training parents as lay therapists, or teaching parenting skills. Parent training focused on parental behaviors specific to childhood anxiety, such as family accommodation, may be more effective. In this treatment development report we present the theoretical foundation, structure, and strategies of a novel parent-based intervention for childhood anxiety disorders. We will also present the results of an open trial of the treatment, with an emphasis on feasibility, acceptability, and initial outcomes. Participants in the trial were parents of 10 children, aged 9 to 13. Children had declined individual child treatment. Multiple excerpts from the treatment manual are included with the hope of "bringing the treatment to life" and conveying a rich sense of the therapeutic process. Parents participated in 10 weekly sessions. Significant improvement was reported in child anxiety and family accommodation as well as in the child's motivation for individual treatment. No parents dropped out and satisfaction was high. The SPACE Program (Supportive Parenting for Anxious Childhood Emotions) is a novel, manualized parent-based intervention that is feasible and acceptable and may be effective in improving childhood anxiety.

Anxiety disorders constitute the most prevalent group of child psychiatric disorders (Costello, Egger, & Angold, 2005). Anxiety disorders have negative implications for child development and functioning, create burden for parents and family members, and carry significant societal cost (Creswell & Cartwright-Hatton, 2007; de Abreu Ramos-Cerqueira, Torres, Torresan, Negreiros, & Vitorino, 2008; Essau, Conradt, & Petermann, 2000; Newman, 2000). Cognitive-behavior therapy (CBT) has been strongly supported as an effective treatment for childhood anxiety, but many children continue to meet diagnostic criteria after treatment and many more continue to have significant symptoms of anxiety (Compton et al., 2004; Rapee, Schniering, & Hudson, 2009). CBT involves teaching skills to identify and challenge maladaptive thoughts, self-regulate anxiety, and systematically engage in previously avoided situations. As such, successful CBT requires active collaboration between child and therapist, a degree of participation that is frequently unattainable. Furthermore, many patients decline to participate in treatment altogether (Krebs & Heyman, 2010; Walkup et al., 2008). Some children are too anxious to agree to participate in a treatment that will require them to confront their fears, others are loath to recognize that they have a problem at all and others may be aided in avoiding the anxiety through family accommodation of their symptoms. Oppositional tendencies may also preclude a productive alliance of clinician and child (Garcia et al., 2010).

When child participation in treatment is not possible, or when a child is not responding to treatment, parent training may offer a more viable alternative. Various parent and family factors have been tied to the development and maintenance of childhood anxiety disorders (Dadds, Barrett, Rapee, & Ryan, 1996; Ginsburg, Siqueland, Masia-Warner, & Hedtke, 2004; Rapee, 1997; Siqueland, Kendall, & Steinberg, 1996; Wood, McLeod, Sigman, Hwang, & Chu, 2003), and family variables have been shown to predict outcomes for child treatment

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(Crawford & Manassis, 2001; Southam-Gerow, Kendall, & Weersing, 2001). Parent training has also been effective in the treatment of other disorders. In externalizing disorders, for example, in which child motivation for treatment is often low, parent training has been an effective, evidence-based method of treatment (Eyberg, Nelson, & Boggs, 2008; Kaminski, Valle, Filene, & Boyle, 2008). The evidence supporting a role for family factors in the etiology of child anxiety, the data tying family variables to child outcomes, and the success of parent work in other disorders have all led to a common assumption that parent involvement in treating childhood anxiety would enhance treatment outcomes. However, in the case of anxiety disorders, parent involvement in treatment has not yet produced the desired results. A number of clinical trials have compared child treatment with parental involvement to child only treatment and have failed to convincingly show superior results for the inclusion of parents (Barmish & Kendall, 2005; Breinholst, Esbjorn, Reinholdt-Dunne, & Stallard, 2012; Reynolds, Wilson, Austin, & Hooper, 2012; Silverman, Pina, & Viswesvaran, 2008). Overall, child therapy with parent involvement has been largely equally effective to child-alone treatment, but not more so.

Of the approximately 10 randomized control trials (RCTs) that have compared outcomes for childhood anxiety with and without parental involvement in treatment, one has shown clear benefit of including parents (Barrett, Dadds, & Rapee, 1996), while other have shown nonsignificant trends in this direction (Cobham, Dadds, & Spence, 1998; Heyne et al., 2002; Mendlowitz et al., 1999; Spence, 2000; Wood, Piacentini, Southam-Gerow, Chu, & Sigman, 2006), no effect (Nauta, Scholing, Emmelkamp, & Minderaa, 2001; Nauta, Scholing, Emmelkamp, & Minderaa, 2003; Siqueland, 2005), or even an advantage for child-only treatment (Bodden et al., 2008). Very few studies have tested parent-only interventions for childhood anxiety and among the few existing studies (Cartwright-Hatton et al., 2011; Lyneham & Rapee, 2006; Thienemann, Moore, & Tompkins, 2006) the emphasis has been on training parents as lay therapists to implement CBT with the child.

One explanation for the underwhelming results of including parents in child CBT may be in the lack of theory-driven interventions that target parental behaviors specific to the context of childhood anxiety. Parent inclusion in treatment has so far focused primarily on making parents more involved in the child's treatment (for example, by having parents attend child sessions), training parents as lay CBT therapists, and teaching generic parenting skills such as problem-solving. A recent study of childhood obsessive-compulsive disorder (OCD), which reported significantly improved response rates when including parents in treatment (Peris & Piacentini, 2012), stands out with its theory-driven focus on particular aspects of the parent-child relationship and its concentration on cases that otherwise are likely to be refractory.

In the case of most anxiety disorders, a relatively small number of programs have focused on modifying parental behavior specific to the context of a child's anxiety symptoms. Among these are such programs as Timid to Tiger (Cartwright-Hatton, 2010; Merry, 2011) and modifications of Parent Child Interaction Therapy (PCIT) for use with anxiety disorders (Pincus, Santucci, Ehrenreich, & Eyberg, 2008; Puliafico, Comer, & Pincus, 2012). These interventions integrate the parent training know-how developed in the areas of parent management and treatment of disruptive behaviors within the framework of a therapy for childhood anxiety. However, these interventions are aimed primarily at younger children. PCIT modifications such as the CALM program (Puliafico et al., 2012) are aimed at children up to age 7, and Timid to Tiger is geared to children through age 8. PCIT relies on child participation in the treatment sessions, and although this can be difficult, it is a challenge that can generally be overcome with young children. Timid to Tiger does not actively involve children, but it is a group intervention and also focuses on younger ages.

This report presents a manualized parent-based treatment intervention (Lebowitz & Omer, 2013). The SPACE Program (Supportive Parenting for Anxious Childhood Emotions) moves away from teaching parents specific sets of skills and aims to target the fundamental dynamics underlying the interaction between parents and anxious children. SPACE has shown promise in parent-based treatment of childhood and adolescent OCD (Lebowitz, 2013). SPACE is designed to be implemented with school-age children and adolescents and is exclusively parent-based, allowing for treatment delivery without the need for child collaboration.

Theoretical Foundation

Anxiety as a Systemic Phenomenon

Like most mammals, children are born physically and psychologically unprepared to contend with danger. Rather, they rely on caretakers (typically, though not exclusively, "biological parents" as we will henceforth refer to them) for many of the basic functions involved in dealing with threat. Parents provide protection from threat, reassurance of safety when appropriate, and aid in the regulation of inner states of arousal. Various theoretical perspectives, such as attachment theory have described the bond between parents and children, and the ways in which anxiety "activates" those bonds, causing children to seek parental soothing or protection and parents to provide them (J. Bowlby, 1969; R. Bowlby & King, 2004). In Harlow's seminal experiments on primate

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attachment, for instance, fear was used to trigger the attachment response in young monkeys (Harlow & Zimmermann, 1959).

Elements of the anxiety response are generally adaptive and desirable when an individual is faced with actual threat, but become maladaptive when repeatedly activated by realistically innocuous stimuli in the context of an anxiety disorder. This is generally accepted to be true of elements of the anxiety response—for example, physiological and cognitive shifts that occur within the individual (e.g., Beck, Emery, & Greenberg, 2005)—but the principle can also be applied to the interpersonal and systemic aspects of anxiety. Parental responses to a child's anxiety could be characterized as repeated "triggering" of the attachment system, leading parents to act protectively, provide reassurance, aid in regulation of arousal and negative affect, and assist in avoiding anxiety-provoking stimuli.

However, these responses are mostly counter to the cognitive and behavioral principles of overcoming anxiety and may impede progress in CBT. Where CBT aims to promote coping, minimize avoidance, encourage deliberate exposure, and decatastrophize the experience of anxiety (Lebowitz & Omer, 2013), parents' protective responses may do the opposite. Children with anxiety disorders also typically exhibit difficulty with the self-regulation of emotion (Suveg, Sood, Comer, & Kendall, 2009; Suveg & Zeman, 2004), and protectiveness may encourage the ongoing reliance on parents for regulating or avoiding their inner affective state. The SPACE Program aims to address these core aspects of the parent-child relationship shaped by the recurring anxiety. One concept that captures many of the ways in which parents are "drawn in" to their child's anxiety is *family accommodation*.

Family Accommodation

Family accommodation, which was first studied in relation to OCD (Calvocoressi et al., 1995; Lebowitz, Panza, Su, & Bloch, 2012; Storch et al., 2007) and more recently across anxiety disorders (Lebowitz et al., 2013), describes parental behaviors aimed at helping a child to avoid the distress caused by their disorder. Accommodation can include both active participation in the child's anxious symptoms, and modification to the parents' or family's routines caused by the child's anxiety. Examples of participation include answering reassurance-seeking questions for a child with generalized anxiety or sleeping next to a child with separation anxiety. An example of modifications would be not inviting guests to the home when a child has social phobia. Family accommodation has been shown to be a significant predictor of poor treatment outcomes (Crawford & Manassis, 2001; Garcia et al., 2010). In one study (Storch et al., 2010), family-based treatment for childhood OCD that targeted parental accommodation to the child's symptoms was effective in reducing the accommodation and improving OCD symptoms even among children who were classified as medication nonresponders. In another study, using the SPACE approach described here, parent-based treatment aimed at reducing accommodation led to significant improvement in children who resisted individual therapy (Lebowitz, 2013).

Nonviolent Resistance and Parents' Ability to Take Action

A child who is very anxious or who has come to rely extensively on family accommodation may resist or actively oppose any changes that threaten to reduce the accommodation. Reports on children with OCD have indicated that children often forcefully impose accommodation on their parents. Many children even react violently, with physical or verbal aggression, to "infringements" of the accommodation (Lebowitz, Omer, & Leckman, 2011; Lebowitz, Vitulano, Mataix-Cols, & Leckman, 2011; Lebowitz, Vitulano, & Omer, 2011). These outbursts can be conceptualized as "extinction bursts" and present a serious challenge to parents attempting to limit the accommodation to the child's symptoms. Other children may respond with dramatic displays of distress, threats toward themselves, or accusatory remarks toward parents (e.g., "You don't love me"). Parents' ability to modify their responses is therefore often contingent on their ability to act without the child's collaboration, and even in the face of significant opposition. However, equally important is the need to avoid escalating the aggression or responding in kind—for instance, becoming entrenched in shouting matches, arguments, power struggles, or physical altercations.

One theoretical and conceptual framework uniquely suited to overcoming this difficulty is that of Non-Violent Resistance (NVR). NVR was pioneered in the geopolitical sphere by movements such as those led by Gandhi and Martin Luther King, Jr. (Gandhi, 1951; King, 2003) and has been adapted to the family context by Omer (2004, 2011). The core principle of NVR is that in a situation of conflict or disagreement, the choice to focus on *changing the other* leads to obstinate resistance and escalation, and causes the individual to miss opportunities to act productively by shaping *their own behavior*. In an NVR process the question of "How can I make you do this" is replaced with 'How can I stand by *my own* beliefs, without attacking or giving in?" Abiding resolutely to this principle may help parents avoid being drawn in by the child's strong affect or impulsive acts, allowing them to diffuse many otherwise explosive situations. NVR responses can include the deliberate ignoring of undesirable behaviors

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similar to that used in other behavioral programs, but can also include other, more "active" steps taken to resist unacceptable behaviors.

Translations of the NVR approach have shown initial effectiveness in helping parents to cope with self-destructive or aggressive behaviors of youth (Weinblatt & Omer, 2008), as well as with demands of highly dependent young adults (Lebowitz, Dolberger, Nortov, & Omer, 2012). Like child anxiety disorders, these situations present complex dilemmas in which behavioral approaches aimed at directly changing the child's behavior may lead to counterproductive and rapidly escalating results. The SPACE Program applies the principles of NVR to help parents reduce their own accommodating behavior in the context of a child's anxiety and to cope with the child's distress or resistance, while maintaining a supportive stance toward the child.

The SPACE Program integrates this theoretical foundation in an attempt to operationalize a conceptual shift in parent-based interventions for childhood anxiety. It does not focus on teaching parents specific skills such as positive reinforcement or problem solving, nor does it attempt to use parents as lay therapists in order to modify the child's behavior. Rather, it explicitly focuses on changing *parent* responses to the child's anxious states, gradually withdrawing the accommodating behaviors on which the child has come to rely. In doing so it adopts a systemic rather than purely individual view of childhood anxiety. The program adopts principles and tools developed in other contexts, such as NVR, to provide parents with practical tools for acting in a unilateral fashion, neither encouraging maladaptive behavior nor acquiescing to it. Like PCIT for anxiety and similar programs (Cartwright-Hatton, 2010; Comer et al., 2012; Puliafico et al., 2012), SPACE integrates tools that are useful for dealing with externalizing behaviors into a treatment for anxiety. However, it provides a framework for dealing with the developmentally distinct challenges of older children. It also does not rely on the child's participation in treatment, which can be harder to achieve with children beyond early childhood. The increased focus on family accommodation in SPACE expands on the systemic conceptualization of anxiety by targeting the core attachment dynamic: children's need for, and parents' tendency to provide, protection and regulation of negative affect. Parents learn to anchor themselves more effectively in the face of the child's distress and provide the child with an anchor to withstand their own powerful emotions (Omer, Steinmetz, Carthy, & von Schlippe, 2013).

Treatment Procedure and Clinical Vignettes

The SPACE Program treatment manual is both structured and flexible. Treatment proceeds along a series of steps that are consistent across cases. Treatment modules are implemented as needed during the course of therapy to address particular issues or difficulties. The first step in treatment is an introductory phase during which parents are introduced to the systemic conceptualization of childhood anxiety and to the rationale and principles of treatment. During this phase many parent questions (e.g., Why am I here and not my child? Does this mean that it is my fault?) are addressed. The following are two excerpts from The SPACE Program manual introducing the notion of parent change as a tool for treatment, and the idea of acting without a child's collaboration:

> *Ask parents to describe prior attempts at directly changing child behavior, thought, or emotion and the results that this had. Discuss the reasons that this approach has not been successful and help parents to see that it is not because they have been "doing it wrong."*
>
> "It is important that you understand that those attempts did not fail because you didn't think of the right thing to say, or because the wrong person said them. We simply can't make someone different, unless they ask us to help them change. That is why in this treatment we have something better. We have a tool so powerful that if we use it your child will almost certainly start to get better. And the wonderful thing is that this tool is one you actually can control. What is it? It is your own behavior! We know that if you can change your own behavior in some important ways then you can help your child to cope much better with anxiety!
> Some children may feel compelled to resist the changes you make, because of their anxiety. This is normal and to be expected. If children were able to take the long view and act in their own long-term best interests all the time they wouldn't be children at all. They would be quite remarkable adults. However, it is important that you remind yourself that you are acting in your children's best interests and that the steps you take will not harm them. As we plan the steps you take, we will also talk about how to respond in a productive and supportive way to your child's reactions to the process."

The next step involves parents and therapist meticulously reviewing the family's daily schedule and habits, identifying accommodating behaviors, systematically charting and monitoring these over the course of the week, and then choosing particular target problems to address. Then, parents are advised on how to inform the child that they will be working to change their behavior in the targeted domain. Below is an excerpt from the manual describing how parents might inform the child:

> *Find a time when you and your child are both calm and relaxed. It is important to have both of you present for this discussion, so make sure to pick a time when you are both free of other obligations and distractions. You may need to arrange for someone to watch the other siblings while you are having this conversation, or perhaps choose a time when they are out of the home. This part of the process should never be done at the moment at which your child's anxiety has been triggered. In other words, if your child is afraid of going down into the basement alone and has just come up after a failed attempt to go*

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there, don't take that moment as the opportunity to say, "You know, we really need to talk about that—we are going to be working on that very fear." Rather, wait for a time when your child is not acting fearful and you are not feeling frustrated by his avoidance.
Sit down with him in a relaxed way and say, "We know how difficult it is for you to do _____ (fill in as appropriate). We understand it makes you feel really anxious or afraid. We want you to know that this is perfectly natural and everyone feels afraid some of the time. But we also want you to know that it is our job as your parents to help you get better at things that are hard for you, and we have decided to do exactly that. We are going to be working on this for a while and we know it will probably take time, but we love you too much not to help you when you need help. Soon we'll talk about it again and we will have some ideas for things to do that will make you get better at handling _____. We are really very proud of you!"

Parents are often encouraged to use written rather than verbal communication. This is particularly useful when relations are strained or they anticipate a hostile reaction. The treatment manual includes specific instructions on formulating the written message and dealing with children's reactions to it. For parents who have not yet informed the child that they are participating in treatment, this step will also serve that purpose. Throughout the SPACE Program parents are encouraged to be open and transparent with the child about their plans.

In the next step the therapist and parents plan specific changes to the targeted parental behavior and inform the child of the particular changes they will make. Below is an example of a plan formulated for a child with generalized and separation anxiety who was calling her mother's phone multiple times per day. Included is the suggested text for informing her of the planned changes:

Plan:

- *Mother and father will each not respond to more than one phone call a day.*
- *Mother and father will each call child one time per day. Mother will call at 2 P.M. and father will call at 4 P.M.*
- *Child will be rewarded—one Disney princess card—for every day they do not call each parent more than one time.*
- *Child will be informed of this in advance.*
- *Child will be instructed to send a text message in case of urgent need to communicate with parents. The text message must include the specific reason for calling. Any other messages will not be responded to.*

Text:

"Monica, last week we told you we were going to be thinking about ways to help you get better at handling the worry-thoughts you have every day. We know those thoughts make you really scared and are proud of you for doing so well at school and dance despite the thoughts. Even though you think you really need to talk to us on the phone when you have those thoughts, we are sure that you will actually be okay even if you don't talk to us. We believe that 100%. That's why from now on Mom and Dad are not going to answer the phone when you call us at work more than one time. You can talk to each of us one time and after that we will not answer any more. Because we know how hard it might be for you we will also call you one time every day. Mom will call you at 2 and Dad will call you at 4. When you manage not to call each of us more than one time you will get a prize—one Disney princess card. If it is too hard for you one day and you call us more often than one time you can always try again the next day. But even if you do call we will not answer after the first time. If you have something that is really urgent to tell us you can send mom or dad a text message and tell us what the matter is. We will decide if we should call you or not. We know this could be hard and we are not trying to punish you or hurt you. We love you and want to help.

Note that although the gradual steps described in this plan are similar to those constructed in other treatments for anxiety, the SPACE plan focuses entirely on the parents' behavior. The child is not required to change her behavior (although she is rewarded if she does) and therefore the plan's success does not hinge on the child's cooperation. Instead, the parents make it clear that they will change *their* behavior (not answering the phone) and only they are responsible for the implementation.

Over the remainder of treatment additional target problems are addressed and parents are encouraged to increasingly take initiative in choosing the problems and formulating the plans. The actual accommodation is carefully monitored and difficulties in accomplishing the planned changes are discussed. At the end of treatment the overall changes are reviewed and the parents plan for dealing with similar problems in the future.

Supplemental Modules and Tools for Troubleshooting the SPACE Program

Increasing Collaboration Between Parents

This module includes tools for overcoming difficulties in creating a collaborative process that engages both parents, addressing differing points of view, and maintaining a unified stance with regard to the child. One common challenge occurs when one parent focuses on accepting the child's difficulties and providing warm empathy while the other feels strongly that accommodating the symptoms encourages the child's avoidance. The therapist integrates both parents' points of view and emphasizes that supporting the child requires both empathic acceptance *and* reducing accommodation in a way that conveys confidence in the child's abilities. The therapist introduces exercises such as role-play and creating dedicated times for communication. Below is an example of the way role-playing is used to increase collaboration:

For one night I would like to ask you to "change places," to switch roles. You, Mom, have been working so hard to make sure that Kyle feels comforted at night and that he can rely on you. You will be responsible—for just this one night—for helping Kyle to see that he can handle being anxious even if he doesn't sleep next to you.

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Remember, this is only for just the one night. You, Dad, have been trying hard to make sure Kyle overcomes his fear and does not rely too much on your presence or reassurance. Just for tonight, you will have another job—you will simply try to help him to feel loved, accepted, and comforted. For this one night you will not try to make him better, only make him feel better.

Accessing Support

The SPACE Program encourages parents to enlist the support of others from outside the immediate nuclear family who can bolster the parents' efforts, reinforce their messages to the child, act as mediators when a child responds with hostility, encourage and aid the child in coping with the changes, and support the parents in dealing with the difficult process. Parents create a list of potential supporters and are guided in asking for their help and assigning specific roles they can play. The manual includes suggested texts for addressing parents' inhibitions around engaging others in the process, such as the fear of condemnation, trepidation about the child's reactions, or embarrassment at "washing their dirty laundry in public."

Dealing With Disruptive Behavior

This session module is deployed when parents fear a child will respond aggressively to the planned changes, or when this has occurred over the course of treatment. Extinction bursts brought on by the reduced accommodation can challenge the parents' determination and the aim of this module is to equip with the parents with effective tools for weathering these episodes. The tools draw on other helpful implementations of NVR for destructive and explosive behaviors of youth. They include teaching parents to delay their response lowering the likelihood of impulsive reactions parents may regret later, to utilize supporters in order to ensure the child's behavior is "publicized" outside of the immediate family, to convey to the child the severity of the behavior in a serious but not accusatory way, and to demonstrate the determined but nonviolent opposition to these behaviors. Below are two excerpts of sample texts that supporters can use to convey to the child their response to violent or explosive behaviors:

"Fiona, I really like you and think you're a great kid. I heard from your mom and dad that you acted violently the other day. You hit them and used words like 'asshole.' I want you to know that even if you were feeling bad that kind of behavior is not something that's ever okay. I know your parents are trying to help you get better at handling things and I really support them. I also would really like to help you if I can. If there is any way I might help at all please let me know."

"Gary, I know you are a good boy. The past few nights I have heard from my house the way you have been acting. I even saw you run into the street after your parents. I know you must have been really upset but that kind of behavior is not good. It is dangerous. I think your parents are doing their job, trying to help you, but if I can help in some way I would love to try. Perhaps there is something you'd like me to tell them?"

Coping With Threats to Self

This module instructs parents on maintaining safety and responding appropriately when a child expresses threats toward himself as a result of the parents' actions. Parents learn the importance of not disregarding such threats and of not allowing the threat to undermine their determination to help the child overcome anxiety. What follows is an example of text used by parents to inform a child of the seriousness with which they are taking threats of self-injury and of their plans to act in order to protect the child from harm.

"What you said earlier, about killing yourself, is very serious. We love you very much and as your parents it is always our job to keep you safe. We will do anything we can to make sure you do not get hurt, even from yourself. We have decided that we must supervise you to make sure nothing bad happens to you. We will watch you for 24 hours and then decide how to proceed. Because we need to keep you absolutely safe we will get help from relatives or friends who care about you and will help us to protect you. For the next 24 hours you will not be alone. This is not a punishment and you should definitely tell us if you think about suicide so that we can help you to stay safe and get better."

Teaching and Modeling Self-Regulation

Parents learn cognitive and physiological tools and practice them with the child. Relaxing breathing and progressive muscle relaxation target the need for somatic regulation. Cognitive restructuring, self-talk, and the use of imagery target the cognitive and emotional aspects of anxiety. The use of these tools in SPACE is different from that in CBT for anxiety and in other parent interventions. In SPACE, the tools are only implemented when a child is receptive, and the treatment relies primarily on the reduced accommodation in the parents' behavior. This is in contrast to CBT for anxiety, which relies primarily on modifying the child's behavior through the use of these skills and through exposures. In accordance with the parental emphasis of the SPACE Program, parents are encouraged to model the use of self-regulation skills to better cope with the child's distress. By applying the tools to themselves, when feeling overwhelmed by the child's anxiety, the cycle linking parent and child anxiety can be interrupted. A therapist can introduce this goal in the following way:

"In the past, you often reacted very anxiously when your child became fearful. That's normal, but reacting like that can actually increase your child's fear as well. He can sense that you are afraid of his fear. It would be helpful for you to learn to control your own reactions, so you can better withstand his anxiety. We will learn some simple exercises that will help you do that. Then you can say to your child: 'I didn't used to think that you can cope with anxiety. I would get very afraid for you, and I know that made you more afraid as well. Now I understand that you are stronger than I thought. I have become sure that you can cope. So now, when I feel afraid for you I take a deep breath and that helps me to calm down. I tell myself that you are strong. I would like to help you to use tools like that as well.'"

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Open Trial of the Space Program

We now present results from an open trial and feasibility study of the SPACE Program. In accordance with accepted guidelines for the development of evidence-based interventions, we conducted this open pilot before undertaking more systematic, larger or controlled trials of the program in order to gauge its feasibility, acceptability, and potential efficacy, as well as to allow for fine-tuning of the manual, which had been largely developed in earlier piloting stages (Rounsaville, Carroll, & Onken, 2001). The goals therefore were to assess treatment integrity, adherence, and acceptability, as well the changes in child symptomatology. We chose to focus, for the purposes of this trial, on parents of children who had refused individual treatment because this is a population of anxious children much in need of novel interventions.

Materials and Methods

Participants

This study was conducted at the Yale Child Study Center Program for Anxiety Disorders. Participants were the parents of 10 children, aged 9 to 13, (*M* age = 11.2; 50% male). Inclusion criteria included (a) primary DSM-IV-TR (American Psychiatric Association, 2000) diagnosis of either generalized anxiety disorder (GAD), separation anxiety disorder (SAD), social phobia (SoP) or OCD; (b) a score of 13 or more on the Pediatric Anxiety Rating Scale (PARS) (RUPP Anxiety Study Group, 2002) to reflect clinically significant anxiety; (c) child was offered the opportunity to participate in individual CBT and refused, *or* child refused to attend the assessment per parent report; (d) significant family accommodation as indicated by a score above 13 on the items from the Family Accommodation Scale–Anxiety (FASA; Lebowitz et al., 2013); (e) child had not been diagnosed with and did not meet criteria for a bipolar disorder or schizophrenia spectrum disorder or pervasive development disorder; (f) child was either not taking psychotropic medication or was kept on a stable dose for the duration of the trial. Parents of 14 children were offered participation, 11 completed all baseline assessments and were eligible. Parents of 10 children chose to participate. Of these children, 4 were taking psychotropic medication (4 SSRI and of these 1 also was taking an atypical antipsychotic), 90% were identified as Caucasian and 10% as Latino, 70% came from intact marriages (with both parents participating in all sessions) and 30% from single-parent homes (with only the mother participating). Of these 3 cases, 1 was a divorced mother (child had contact with father but father chose not to participate) and in the remaining 2 cases there was no identified biological father. Eight families were of medium to medium-high socioeconomic situations, based on income and parent education, and two families of low to medium-low situation. Four of the children (40%) had previously participated in psychotherapy without significant improvement (treatment was described as CBT but we were not able to adequately establish treatment content). Five (50%) children met criteria for SAD, 1 (10%) for SoP, 5 (50%) for GAD, 4 (40%) for OCD, 2 (20%) for panic disorder. In addition, 2 children (20%) met DSM-IV-TR criteria for Tourette Syndrome and the same number met criteria for an attention-deficit disorder or for oppositional-defiant disorder.

Measures

Diagnosing anxiety disorders. The Anxiety Disorders Interview Schedule (ADIS)–Parent Version was the main tool for establishing diagnosis and eligibility (Silverman, Saavedra, & Pina, 2001). The ADIS is a semistructured diagnostic interview that has repeatedly shown reliability and good psychometric qualities. We relied on the parent version because this study focused on children who refused treatment and could also refuse to participate in assessment of anxiety symptoms. Raters were at the postgraduate level and had been trained by experienced senior team members on the use of the ADIS.

Assessing severity of anxiety symptoms. The Pediatric Anxiety Rating Scale (PARS) (RUPP Anxiety Study Group, 2002) and the Clinical Global Impression Scale (CGI) severity/improvement (Guy W Editor, 1985) were the primary outcome measures. The PARS has adequate internal consistency (α .64–.91) and interrater reliability (ICCs .78–.97), sensitivity to change in treatment studies, and convergent validity (RUPP Anxiety Study Group, 2002; Walkup et al., 2008). Following established procedure (Walkup et al.), scores were calculated based on the summation of the six items for anxiety severity, frequency, distress, avoidance, and interference during the previous week. Total scores can range from 0 to 30, with scores above 13 indicative of clinically meaningful anxiety. Reductions of 35% to 50% posttreatment have been shown to be optimally associated with remission (Caporino et al., 2013). The CGI is a global measure of symptom severity widely used as an outcome measure in clinical trials and shown to be sensitive to treatment effects. Scores range from 1 to 7, with scores of 1 or 2 reflecting clinically meaningful improvement.

Assessing family accommodation. The Family Accommodation Scale–Anxiety (FASA) (Lebowitz et al., 2013) includes 9 items that query the frequency of participation in child symptoms (5 items) and modification of schedules and routines (4 items). Items are rated from 0 (*never*) to 4 (*daily*). The accommodation score is calculated as the sum of these 9 items. The scale also includes 1 item about parent

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distress relating to the accommodation and 3 items that address child response to parents not accommodating. FASA has good internal consistency (α = .9) as well as convergent and divergent validity (Lebowitz et al., 2013).

Assessing additional symptoms. The Child Behavior Checklist (CBCL) parent report was completed at baseline and is a widely used and well-established screening instrument that covers the range of childhood psychopathology and functioning (Achenbach, 1994). The Child Depression Inventory: Parent Version (CDI:P; Kovacs, 1992) is a 17-item instrument for assessing depression in children between the ages of 7 to 17 and has good internal reliability (Feng et al., 2012). Parents also completed a self-report of their own anxiety, the Beck Anxiety Inventory (BAI; Steer & Beck, 1997). The BAI includes 21 anxiety-related items, has good internal reliability (α > .92) and good test-retest reliability (Beck, Epstein, Brown, & Steer, 1988). Child OCD symptoms were assessed using the Child Yale Brown Obsessive Compulsive Scale (CYBOCS; Scahill, Riddle, McSwigginHardin, & Ort, 1997), a clinician-administered rating of obsessive-compulsive symptoms and their severity. The Coercive and Disruptive Behavior Scale for Pediatric OCD (CD-POC; Lebowitz, Omer, et al., 2011) is an 18-item parent report checklist that assesses coercive imposition of accommodation by the child on the parents. The CD-POC has good internal reliability (α = .87; Lebowitz, Omer, et al., 2011).

Treatment integrity. To assess the degree to which treatment adhered to the session outline, the therapist completed a form describing the planned and actual focus of each session. For each session goal the therapist indicated whether it had been adhered to on a scale of 0 (*not addressed*) to 5 (*completely accomplished*). The sessions were also reviewed and outlines were revised if necessary to contribute to the final manualization process.

Attendance and satisfaction. Parent satisfaction was assessed with the Client Satisfaction Questionnaire (CSQ; Attkisson & Zwick, 1982), a 12-item questionnaire rated 1 to 4 with items such as "*If a friend were in need of similar help, would you recommend this service to him or her?*"; "*Have the services you received helped you to deal more effectively with your problems?*"; "*In an overall, general sense, how satisfied are you with the service you received?*" Attendance was measured by calculating the total number of sessions attended by parents. The number of rescheduled appointments was also calculated. All families completed treatment.

Procedure

Recruitment, assessment and consent. The study was carried out with the approval of the Institutional Review Board. Subjects were recruited through ongoing referrals to the clinic. Potential subjects were introduced to the study design and rationale and then signed informed consent forms before completing the baseline assessment including interviews and self-report measures. All interviews and ratings, including the administration of the self-report measures, were done by independent raters trained on the respective procedures and no assessments were conducted in the presence of a therapist. Parents completed a midtreatment assessment after 5 treatment sessions and a final assessment after the 10th weekly session.

Treatment. The SPACE Program is a parent-only intervention designed for 10 to 12 weekly sessions and is intended to be both consistent across cases as well as flexible enough to allow for individual treatment tailoring. These goals are achieved through a manualized treatment process that includes eight *treatment parts,* which are consistent across all cases, and an additional five *session modules,* which are implemented as needed in accordance with therapist judgment (Lebowitz & Omer, 2013). The treatment parts focus on charting and reducing accommodation in supportive ways: (1) setting the stage, (2) charting accommodation, (3) choosing a target problem, (4) formulating a plan, (5) reducing accommodation–continued, (6) additional targets, parents take the lead, (7) additional targets–continued, (8) summary and termination. The session modules provide practical tools for overcoming difficulties that might hamper this process: (1) teaching and modeling self-regulation, (2) coping with disruptive behavior, (3) coping with threats to self, (4) accessing support, (5) improving collaboration between parents. See Figure 1 for a graphic representation of the sequential and flexible elements of the SPACE Program. The treatment focuses explicitly on modifying parent behavior with the goal of helping parents to assume a less protective and accommodating stance toward the child and replacing it with a supportive one that fosters the child's ability for coping and self-regulation.

Results

Treatment Integrity, Attendance, Dropout, and Satisfaction

All participants completed all 10 sessions. Out of 100 sessions (10 sessions × 10 cases) 13 had to be rescheduled due to participant request (an average of 1.3 per family). Of these, 6 were rescheduled for another day within the same week (and then the next session was completed on time) and 7 had to be rescheduled for the following week (skipped week). This does not include planned absences or holidays. Therapist post-session forms showed overall high adherence to the session outlines across sessions and patients. The average score for each session goal overall was 4.1 (4 reflected the statement *Goal mostly accomplished;*

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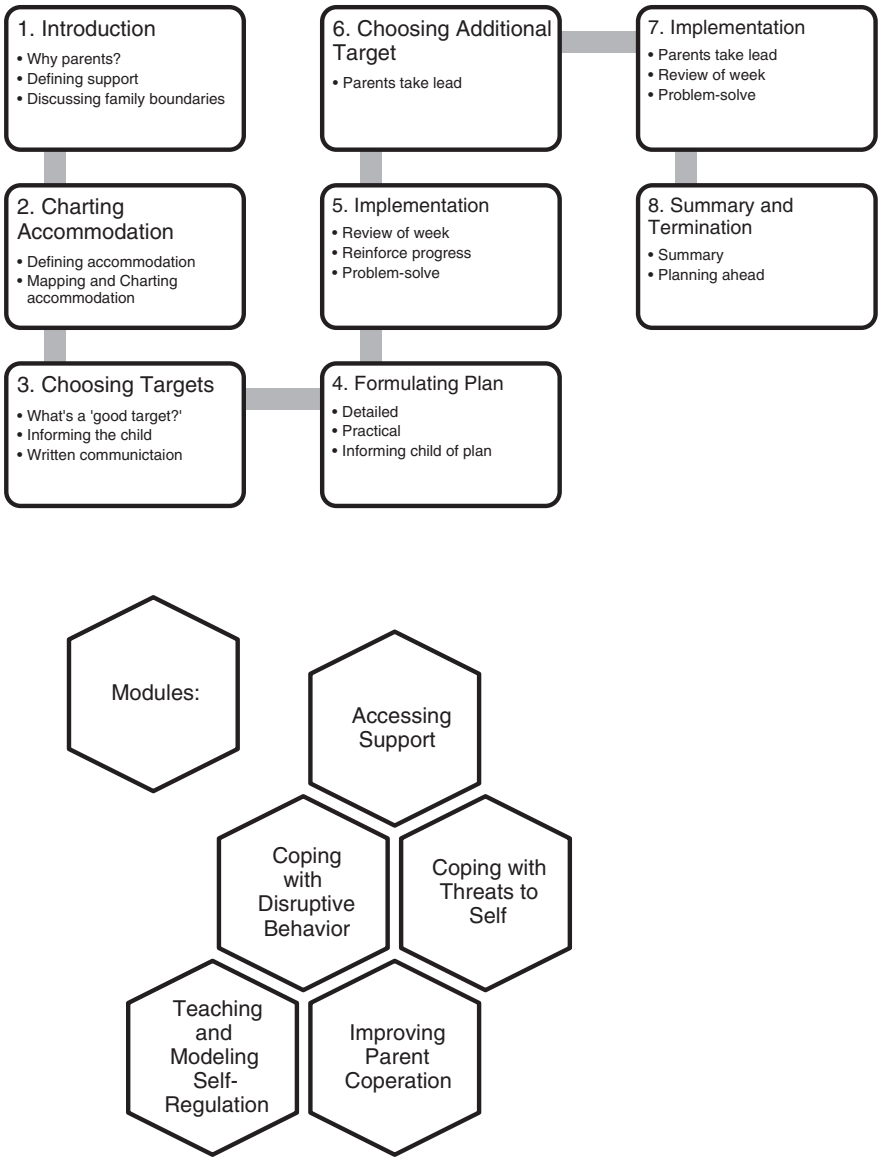

Figure 1. Treatment Sequence and Flexible Modules.

5 reflected *Completely accomplished)*. Client satisfaction as reported through the CSQ was exceedingly high for this open trial. Average ratings per item on the scale ranged from 3.8 to the maximum of 4 and the average total rating was 59.1 out of a maximum of 60.

Session Module Deployment

Following the SPACE Program manual, all treatments included the eight treatment parts. Session modules were deployed based on the needs of individual cases, as assessed by the therapist. Table 1 summarizes the frequency with which each module was implemented and the average session number in which it was employed.

Table 1
Frequency and Timing of the Implementation of Session Modules

Session Module	N (%) [a]	Average Session Number [b]
Teaching and modeling self-regulation	4(40%)	8.3
Coping with disruptive behavior	6(60%)	4
Coping with threats to self	2(20%)	5.5
Accessing support	9(90%)	3.5
Improving collaboration between parents	5(50%)	6

[a] Number (%) of cases in which each module was implemented.
[b] Average session number (out of 10) when each module was implemented.

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Clinical outcomes

Six children (60%) were designated as responders based on CGI-Improvement scale score of either 1 (*very much improved*; 20%) or 2 (*much improved*; 40%). The remaining four children all had a score of 3 (*minimally improved*). Paired sample *t* tests were used to compare clinical measure before and after treatment. The average change on PARS score at post- compared to pretreatment was a significant improvement of 8.2 points (*SD* 7.0), $t_{(df = 9)} = 3.7$, $p < 0.01$. This was equal to an average improvement of 38.4% on PARS, a degree of improvement indicative of response or remission (Caporino et al., 2013). Family accommodation, as calculated by the 9 accommodation items on FASA, was reduced posttreatment by an average of 11 points (*SD* 6.4) out of the maximum possible 36 points, $t_{(df = 9)} = 5.4$, $p < 0.01$. Child depressive symptoms showed a small improvement of 2.8 points (*SD* 4.6), which approached significance, $t_{(df = 9)} = 1.9$, $p = 0.086$. Parent self-reported anxiety manifested a nonsignificant reduction of an average 4.1 points (*SD* 7.63) on BAI total score, $t_{(df = 9)} = 1.7$, $p = 0.12$. See Table 2 for a summary of clinical measures at each of the three time points. Following treatment, 70% of parents reported increased motivation and willingness for individual treatment on the part of the child, relative to before treatment.

Discussion

This report presents the theoretical foundation, structure, and strategies of a novel parent-based intervention for childhood anxiety disorders. The report also presents results of an open trial of the treatment, with an emphasis on feasibility, acceptability, and initial outcomes. We include multiple excerpts from the treatment manual with the hope of bringing the treatment "to life" and conveying a rich sense of the therapeutic process. Participants in the trial were the parents of children with moderate to severe anxiety who had declined individual therapy (or refused to attend the evaluation). We chose to specifically target treatment-refusing children because this is a significant population for whom there is very little to offer outside of pharmacotherapy, and some children refuse medication as well. In our experience, parents of children who decline treatment feel frustrated and exasperated but helpless to take action to help their child. Additionally, parents are typically engaged in significant accommodation, unwittingly or unwillingly contributing to the perpetuation of the anxiety. Parent treatment that empowers parents to replace this situation with the ability to actively support their child's improvement may be very welcome. However, the treatment piloted in this trial is not exclusive to treatment-refusing children and could be equally beneficial in less exigent circumstances.

The treatment approach piloted in this study was developed to address parental behavior specific to the interaction with anxious children, and to target core aspects of the dyadic and systemic dynamics at play in the families of children suffering from anxiety. Earlier attempts to involve parents in the treatment of childhood anxiety have focused, with some notable exceptions, on teaching more generic parenting skills such as problem solving, training parents as lay CBT therapists, or simply increasing the involvement of parents in their child's individual treatment (Barmish & Kendall, 2005; Silverman, Kurtines, Jaccard, & Pina, 2009). Empirical evidence has not supported the hypothesis that this approach enhances outcomes beyond what is achieved by treating a child individually (Barmish & Kendall, 2005; Breinholst et al., 2012; Reynolds et al., 2012). Moreover, these approaches are predicated on the child participating in and complying with the therapeutic process, a condition that excludes treatment of children who do not recognize the need for change, are too anxious to attempt it, or have come to rely on parent accommodation. By focusing on parent rather than child behavior, the SPACE Program

Table 2
Clinical Measures at Baseline, Mid- and Posttreatment

Measure	Pre Treatment *Week 0*		Mid Treatment *Week 5*		Post Treatment *Week 10*	
	Mean	SD	Mean	SD	Mean	SD
PARS	20.3	3.9	15.5	4.7	12.1	5.9
CGI-S	4.9	1.3	4.2	1.6	3	1.2
FASA Total Score	31.2	13.6	20.1	11.4	14.8	8.5
FASA 9 Item Accommodation Score	20.5	8.7	11.8	8.4	9.5	5.6
CYBOCS *	27.4	3.6	23.7	5.8	16	6.6
CDI:P	23.1	4.9	20.8	3.5	20.3	4.2
BAI	8.3	6.3	4.2	3.3	4.2	4.8

Note. PARS = Pediatric Anxiety Rating Scale; CGI-S = Clinical Global Impression Scale – Severity; FASA = Family Accommodation Scale Anxiety; CYBOCS = Child Yale-Brown Obsessive Compulsive Scale; CDI:P = Child Depression Inventory: Parent; BAI = Beck Anxiety Inventory.

* CYBOCS scores are calculated only for children with obsessive-compulsive disorder (N = 4).

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avoids the axiom of child collaboration making it a welcome, but not crucial, aspect of the therapeutic process. The focus on parent-specific aspects of the dynamic typically surrounding an anxious child can increase the unique contribution of parent training for childhood anxiety.

The SPACE Program is not the first to address systemic aspects of childhood anxiety disorders, nor is it unique in aiming to reduce accommodation. However, other programs that share these characteristics differ in two important ways. First, they have been aimed almost exclusively at young children, typically younger than school age. Undertaking the challenge of modifying the interaction patterns of parents with older children requires different tools. The child's presence in treatment cannot be taken for granted and tools such as sticker charts, time-out, and special time are hard to implement with older children or adolescents. The SPACE Program uses the NVR framework to equip parents with tools for addressing the challenges in developmentally appropriate ways. This approach is supported by the finding that parent training utilizing an NVR approach can be effective even with highly dependent adult children, many of whom suffer from anxiety disorders (Lebowitz, Dolberger, et al., 2012). Second, SPACE places a stronger emphasis on reducing parent accommodation than earlier programs. By making accommodation the central theme of treatment, the focus shifts away from the child and on to the parents—potentially paving the way for treatment in cases that do not lend themselves to CBT or other child-focused treatments.

Limitations

The results of this study should be interpreted in light of all the limitations typical of this stage of research, such as the small sample size, the absence of any control condition, and the fact that therapy in all cases was conducted by a single clinician. These limitations are offset, but not corrected, by the employment of independent raters, the combination of reliable structured interviews and parent self-report, and the fact that the main goal at this stage is more to pilot feasibility than to demonstrate efficacy. Despite the limitations, this study is unique in reporting on a novel parent-based intervention targeting specific parent factors with known importance for the development and course of childhood anxiety disorders.

Conclusions and Clinical Implications

Despite the limitations discussed above, the results of this study support the feasibility and acceptability of the SPACE Program. No parents dropped out after beginning treatment and satisfaction was very high following treatment. This is particularly important as the treatment not only focuses on parents, who might naturally prefer that the child be the patient, but requires that they make significant changes in their own behavior. The improvement reported by parents in child symptomatology and their own accommodating behavior following treatment supports the importance of future investigations and more controlled studies of this program. These preliminary results are unique in highlighting the possibility of a promising treatment for children who otherwise are the least likely candidates to benefit from traditional forms of treatment for anxiety. The increased willingness and motivation for treatment on the part of the children whose parents participated in the study is a promising outcome. Given that the participants in this study had been recruited based on their children's choice to decline treatment, the SPACE Program points to the potential of focused parent training to improve the likelihood of children benefiting from their own individual therapy.

Reducing parental accommodation may act to increase motivation in various ways. First, children who have relied on accommodation to avoid feeling anxious may feel this is no longer a viable alternative, thereby leading to increased desire to learn skills that would help them to cope with feelings of anxiety. In addition, the decreased accommodation may have created opportunities for the child to experience themselves as better able to cope than they had believed. By diminishing the reliance on parental regulation of anxious states, children may discover themselves more capable of self-regulation than they had thought.

Additional and more controlled studies are necessary to further investigate the efficacy of this program. Further research could also address the question of which families are most likely to benefit from a parent-based approach of the kind piloted here. It seems likely that children whose parents are highly accommodating would benefit more than those whose parents accommodate less. Incorporating a measure of family accommodation (Lebowitz et al., 2013) into assessment procedures and using detailed charting of accommodation such as those in the SPACE manual could help to identify likely patients. Children who either refuse to participate in other treatment such as CBT or have not sufficiently benefited from them, such as those included in the current sample, are also likely candidates to benefit from SPACE. On the other hand, children whose anxiety symptoms do not manifest at home, or do not appear to significantly involve their parents, are probably less likely to benefit from this kind of intervention. Additional moderators of outcome will emerge through further research. The SPACE Program is intended for use with school-age children in the K–12 grade range. Our clinical experience indicates that it is suitable across this range but research is needed to

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confirm this empirically. Parent and family variables, such as parent anxiety and other psychopathology, could also potentially impact the ability to benefit from SPACE. Reports so far have indicated that while parent anxiety can moderate the effect of family-based CBT, the long-term outcomes may not actually be moderated (Cobham, Dadds, Spence, & McDermott, 2010). The SPACE Program does not directly target reducing parent anxiety as an objective of treatment, and though parent anxiety in the pilot sample did decrease, the change was not statistically significant. Given the relatively low baseline anxiety level in this small sample size, however, it is still unclear to what extent SPACE brings about reductions in parent anxiety.

An additional direction for future research relates to the neurobiology of parental behavior, especially parental responses to child distress. The neural circuitry and neuroendocrinology involved in parental responsiveness is only slowly becoming familiar (Strathearn, Fonagy, Amico, & Montague, 2009; Swain, 2011). As the relation between the neurobiology of parental responsiveness to child distress, and patterns of family accommodation of childhood anxiety becomes clearer, biomarkers moderating treatment outcomes for interventions targeting those patterns may emerge.

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