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Intensive Cognitive-Behavioral Therapy for Anxiety Disorders in Adolescents: A Case Study

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Abstract

Anxiety disorders are one of the most common psychiatric conditions in youth and can contribute to impairment in social, academic, and family functioning. Cognitive-behavioral therapy (CBT) has been shown to be efficacious in treating youth anxiety disorders; however, for a multitude of reasons, fewer than 20% of adolescents with anxiety disorders receive services for anxiety-related problems. Intensive treatments, which rely on the same traditional components of CBT but are delivered over a shorter period of time or in a fewer number of sessions, may be particularly helpful for anxiety disorders and can offer a number of advantages over standard CBT. Despite emerging evidence supporting the advantages of the intensive approach, there are few established intensive treatment programs for youth with anxiety disorders. Further, no treatment to date has comprehensively targeted the entire spectrum of comorbid adolescent anxiety disorders in a combined intensive and transdiagnostic format, even though non-intensive (i.e., weekly delivered) CBT has been tested using a transdiagnostic approach. We developed an intensive, six-session intervention based on Angelosante and colleagues' 2009 *The Adolescent Panic Control Treatment with In-Vivo Exposures* (Angelosante et al., 2009) and other empirically-supported treatments for youth to target *all* anxiety disorders in adolescents. We present a case study on an adolescent with multiple comorbid anxiety and related disorders who received intensive CBT treatment as a way to illustrate the clinical benefit and utility of an intensive, transdiagnostic approach. Findings support the acceptability and feasibility of transdiagnostic treatment of youth anxiety.

Keywords

anxiety disorders, transdiagnostic, intensive CBT, adolescents

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I Theoretical and Research Basis for Treatment

Anxiety disorders are one of the most common psychiatric conditions in youth, with community prevalence rates ranging from 2.2 to 9.5% and lifetime prevalence rates as high as 31.9% among adolescents (Merikangas et al., 2010). Anxiety disorders are also highly comorbid with each other and with other psychiatric disorders (Essau, 2003). They can cause high levels of impairment in social, academic, and family functioning and can predict later negative outcomes such as substance abuse, poor educational attainment, and “failure to launch” (Booth et al., 2004; Costello et al., 2003; Grills-Taquechel & Ollendick, 2012). In the absence of effective treatment, anxiety disorders can be chronic conditions (e.g., Keller et al., 1992).

Cognitive-behavioral therapy (CBT), which consists of psychoeducation about anxiety, cognitive restructuring, and exposures to anxiety-provoking stimuli, has been shown to be efficacious in treating youth anxiety disorders when administered in an 11–18 weekly session format (e.g., Walkup et al., 2008). Additionally, research has shown that CBT-driven symptom reductions in anxiety are maintained over time (e.g., Kendall & Southam-Gerow, 1996).

Despite strong empirical support for these treatments, fewer than 20% of adolescents with anxiety-related problems receive services (Merikangas et al., 2011). The reasons for such low service utilization among anxious youth are multi-fold. There are often many barriers to accessing quality evidence-based services, including geographic distance from urban centers, minimal availability of trained CBT providers in rural areas, and cost. Additionally, many families are unable to commit to and participate in a weekly, months-long treatment course (Booth et al., 2004; Salloum et al., 2016).

A recent trend in psychotherapy research has been the emergence of briefer or intensive treatment delivery approaches (Öst & Ollendick, 2017). Intensive treatments rely on the same traditional components of CBT but are instead delivered over a shorter period of time or in a fewer number of sessions. Such approaches may be particularly helpful for anxiety disorders, as research demonstrates that the effectiveness of exposures, which are the key component of anxiety treatments, is maximized when exposures are conducted in sessions that are temporally close to each other (Craske et al., 2012).

A handful of studies have examined the efficacy of intensive CBT for youth with anxiety. Utilizing a treatment protocol developed by Angelosante et al. (2009) consisting of six sessions delivered over the course of eight days, a randomized controlled trial for adolescents with panic disorder found that, following treatment, youth showed significant improvements in panic symptoms and general fear ratings (Gallo et al., 2013; Pincus et al., 2014). A second trial investigated the same treatment with the addition of D-Cycloserine (DCS), a partial N-methyl-d-aspartate (NMDA) agonist that may aid fear extinction. Although no effects were found for DCS, 86% of youth no longer met criteria for panic disorder at the 3-month follow-up (Leyfer et al., 2019). Moreover, in both studies, participants not only demonstrated significant improvement in their panic disorder symptomatology and situational avoidance but also in their number of comorbid anxiety diagnoses (Gallo et al., 2013; Leyfer et al., 2019).

Additional studies have examined the efficacy of intensive treatments for other youth anxiety disorders, including social anxiety disorder (Donovan et al., 2015), specific phobia (Davis et al., 2009), and separation anxiety disorder (Santucci & Ehrenreich-May, 2013). Across all these studies, youth often experienced not only symptom reductions or remission of their primary diagnosis but also symptomatic improvement in other comorbid anxiety diagnoses. Finally, a meta-analysis of the existing brief intensive CBT studies for youth anxiety revealed that these treatments have a lower attrition rate than traditional CBT (2.3% for brief intensive treatments vs.

6.5% for traditional CBT), with remission rates and maintenance of effects comparable to weekly CBT (Öst & Ollendick, 2017).

Given these findings, intensive treatments may offer several advantages over standard CBT. The treatment can be delivered over the course of several days, reducing the burden of attending weekly therapy sessions for up to a number of months. This approach can also accommodate the needs of families who live in locations with limited access to CBT-trained therapists. Within the intensive model, these families can travel to the therapist's place of practice and stay in that area for a short period of time to receive services. Additionally, the intensive approach may be a promising treatment for anxious youth who have not responded to traditional CBT, with the potential for yielding robust effects because of its massed exposure structure (Craske et al., 2012). Intensive treatment can provide more immediate relief for families and can assist adolescents in returning to their daily activities more quickly, as it is carried out over a shorter period of time. Intensive sessions can also be conducted at convenient times for families (e.g., school breaks), thereby reducing any longer-term work or school-related disruption the family might experience as part of standard CBT.

Despite the emerging evidence supporting the advantages of this approach, there are very few established intensive treatment programs for youth with anxiety disorders. Moreover, the existing treatments have only targeted *specific* diagnoses. There is a dearth of research that examines the efficacy of a combined intensive and transdiagnostic approach for anxious individuals. The few non-diagnosis specific studies that exist have used either adult samples, youth with subclinical internalizing problems, or have targeted a transdiagnostic mechanism (e.g., growth mindset). For example, one study examined the feasibility and acceptability of a transdiagnostic weekend-long intervention for adult veterans with anxiety, with preliminary results supporting its efficacy in reducing symptoms of anxiety and depression and improving overall functioning (Bautista et al., 2021). Although these recent studies show that a combined intensive and transdiagnostic approach holds promise, they are unable to speak to the acceptability, feasibility, and efficacy of a brief, transdiagnostic treatment for clinically anxious youth with any anxiety disorder. We sought to fill this gap in the literature by developing an intensive intervention for the transdiagnostic treatment of anxiety disorders in adolescents. Our intervention was informed by *The Adolescent Panic Control Treatment With In-Vivo Exposures* (Angelosante et al., 2009) and other empirically supported treatments for youth anxiety disorders. The rationale for modeling the intensive intervention after the Panic Control Treatment was twofold: first, the format of the Panic Control Treatment was already designed for a week-long intensive treatment and second, prior studies demonstrated that adolescents with comorbid anxiety disorders showed improvement both in panic and other anxiety symptomatology following this treatment (Gallo et al., 2013; Leyfer et al., 2019). Other transdiagnostic treatments (e.g., Unified Protocol for Adolescents; Ehrenreich-May et al., 2018) are intended for weekly session frequency and would have been more difficult to adapt to a week-long intensive program. Similar to Angelosante et al. (2009), our treatment program consists of six sessions ranging from 2 to 6 hours in length. It focuses on psychoeducation about anxiety, cognitive restructuring, building awareness of physical sensations, mindfulness, and in-session and independent exposures, as well as skills review and relapse prevention. These components (with the exception of mindfulness) are a part of the panic control treatment, but they have been revised to be delivered in a transdiagnostic manner for any anxiety disorder. Specifically, we modified the language to make it non-panic specific (e.g., psychoeducation focusing on anxiety but not specific diagnoses, cognitive restructuring focusing on ANY anxiety-provoking thoughts, and exposures targeting ANY anxiety-driven avoidance) and modified the content to address anxiety and fear overall. We also added a mindfulness component, based on newer cognitive-behavioral treatments of emotional disorders (e.g., Ehrenreich-May et al., 2018), as mindfulness has been shown to be effective in the treatment of anxiety disorders

(e.g., Hoffman & Gomez, 2017). In this manuscript, we present a case study of an adolescent with multiple comorbid anxiety disorders who received intensive CBT treatment as a way to illustrate the clinical benefit and utility of an intensive, transdiagnostic approach.

2 Case Introduction

Margot (pseudonym) was a 14-year-old white, cisgender female seen through an intensive transdiagnostic anxiety treatment study at a university anxiety clinic. Margot presented with panic symptoms, agoraphobia, generalized anxiety, and depressive symptoms, as well as chronic pain. This study was approved by the university's Institutional Review Board. Margot and her mother provided consent and adolescent assent to participate in the study. Specific case details have been modified to protect the confidentiality of the study participant.

3 Presenting Complaints

Margot's panic symptoms were her primary complaint. On average, she experienced seven to eight panic attacks per day. Her panic attacks had begun four months prior to the pre-treatment evaluation after she had missed approximately two months of school due to participating in intensive behavioral medicine programs to manage pain related to a musculoskeletal pain syndrome and stomach ulcers. The majority of Margot's panic attacks were unexpected, although she described that an increase in stress and anxiety often triggered a panic attack. Margot listed several situations in her daily life that caused increased anxiety, including "cars passing," a "bus coming by," walking outside, car rides, "not having a good day," sensory sensitivities (e.g., seeing glitter, touching scratchy textures), and "certain conversations." She spent multiple hours per day worrying about when a panic attack might occur and experienced chronic stress and anxiety about her safety. Specifically, Margot feared that she would "hurt [her]self" during a panic attack and that she would "not be able to get help" if she were alone while an injury occurred.

Margot's panic symptoms negatively impacted many areas of her life. At the time of the pre-treatment assessment, Margot was significantly behind in her schoolwork and was only able to attend school in person for a few hours per day. Margot was "not able to concentrate" or "engage" in school, and she was constantly "worr [ied] about safety." At school, her panic attacks usually occurred in crowds, in class, and while descending flights of stairs. Margot's family relationships were also negatively impacted. Although her relationships with her mother and sister were very close, her dependence on her mother was described as "exhausting" at times, as Margot's anxiety would increase significantly when she was separated from her mother. To accommodate Margot's fear, her mother made major changes in her life, such as transitioning to primarily working from home and reducing her own social activities. Margot worried that negative events would happen to her when her mother was not present and feared she would be unable to receive assistance if she had a panic attack. Margot and her mother described that Margot's anxiety and panic attacks at home were triggered by "almost anything." For example, Margot had recently experienced a panic attack when her sister became upset and was "being really loud" in another room. Margot described her anxiety and panic as being pervasive, frequent, and significantly interfering.

Margot also experienced significant and pervasive anxiety about a variety of other topics, including her mother's safety and well-being; the completion and quality of her schoolwork; negative evaluation and judgment in interpersonal interactions; perfectionism; and her physical health and safety. She worried about these topics for several hours daily above and beyond her worry about panic attacks, which contributed to concentration difficulties, fatigue, and difficulty completing tasks. Margot's anxious thoughts were accompanied by intense and prolonged physiological arousal and physical symptoms (e.g., aches, muscle tension), which

often exacerbated her pain symptoms and contributed to avoidance and functional impairment.

In addition, increases in pain and anxiety often triggered depressive episodes which were characterized by depressed mood, fatigue, appetite changes, loss of pleasure in enjoyable activities, feelings of worthlessness and hopelessness, and intense sadness. Margot had experienced a number of discrete depressive episodes in the past few years, which further exacerbated her avoidance tendencies, school and interpersonal anxiety, and overall functional impairment. Margot and her mother enrolled in the study to learn evidence-based strategies for how to better manage Margot's varied anxiety concerns, including those related to panic, worry, and situational avoidance.

4 History

Margot lived with her mother and sister and had a good relationship with her family. Socially, Margot demonstrated significant strengths. She described having "a lot of close friends" who were supportive and shared that she was involved in several school organizations and community-based activities. Margot reported that her "mental and physical health needs" significantly impaired her ability to see her friends outside of school frequently (i.e., once every two to three weeks). She maintained a strong academic performance; however, due to significant anxiety, fatigue, and chronic pain, Margot missed approximately 60 consecutive days of school at the end of the previous academic year and had missed several days during the first semester of the current school year.

Margot had a complex medical history. Between the ages of 11 and 14, she received a tonsillectomy that resulted in a complicated recovery and was diagnosed with a musculoskeletal pain syndrome and stomach ulcers, both of which contributed to high levels of pain and physical distress on a daily basis. She had previously undergone a course of behavioral medicine treatment for her pain condition at a local hospital, which included interventions focusing on both medical and psychological symptoms. Following this course of treatment, Margot briefly continued psychosocial outpatient treatment to target her anxiety and panic, which concluded approximately one year prior to the current treatment. During this time, Margot also received medication management services from a psychiatrist and underwent several psychiatric medication trials to try to identify an effective medication for her constellation of symptoms. At the time of treatment, Margot was on a stable dose of an SSRI (20 mg/day). Given Margot's significant medical history and elevated pain levels, her doctors were consulted to ensure that there were no medical contraindications for engaging in the intensive CBT treatment.

5 Assessment

Anxiety Disorders Interview Schedule for DSM-IV, Parent, and Child Versions (ADIS-IV-C/P; Silverman & Albano, 1996)

The ADIS-IV-C/P is a semi-structured parent- and child-report interview designed for the diagnosis of anxiety and related disorders in children and adolescents. Diagnoses are assigned a clinical severity rating (CSR) on a scale ranging from 0 to 8, with ratings of 4 and above indicating that symptoms meet diagnostic criteria for a disorder. The ADIS-IV-C/P was administered pre-treatment, post-treatment, and 3-month follow-up.

At pre-treatment, Margot received a principal diagnosis of panic disorder (CSR = 6), since she experienced recurrent and frequent uncued panic attacks that caused significant distress and

interference in her daily life. She was also diagnosed with agoraphobia (CSR = 5) due to having cued panic attacks in anticipation of or during feared situations such as in school, restaurants, and crowded environments, as well as her subsequent avoidance of these situations. Additionally, she was given a diagnosis of generalized anxiety disorder (CSR = 5) to account for her pervasive worries about her schoolwork, her family's safety, perfectionism, social interactions, and her health, which were accompanied by several distressing physiological symptoms and related functional impairment. Margot was also diagnosed with major depressive disorder, recurrent, moderate (CSR = 4) to account for her intermittent major depressive episodes that were typically triggered by periods of heightened anxiety and panic or flare-ups in her chronic pain symptoms.

Self-Report Measures

The following measures were administered at pre-treatment, on a weekly basis during the 3-week baseline period, at post-treatment, and at 3-month follow-up with the exception of the Perceptions of Treatment Questionnaire-Adolescent Version, which was administered only at post-treatment.

Multidimensional Anxiety Scale for Children (MASC; March et al., 1997). The MASC is a child- and parent-report measure that assesses a range of anxiety symptoms in youth and has been shown to demonstrate excellent test-retest reliability (March et al., 1997). The MASC provides an estimate of a child's general level of anxiety as well as anxiety in a number of subdomains, including physical symptoms, social anxiety, separation anxiety, and harm avoidance.

Childhood Anxiety Sensitivity Index (CASI; Silverman et al., 1991). The CASI is a child-report measure that is used to assess anxiety sensitivity in youth. Anxiety sensitivity is a well-documented risk factor for anxiety in youth (Joiner et al., 2002) and has been found to be elevated in youth with anxiety disorders (Noël & Francis, 2011). There is ample evidence for the CASI's internal consistency as a measure of youth anxiety sensitivity (Silverman et al., 1991).

Distress Intolerance Index for Youth, Child Report (DII-Y; Keller et al., 2019). The DII-Y assesses youths' ability to tolerate negative mood states and experiential discomfort and has demonstrated strong reliability and convergent and discriminant validity (Keller et al., 2019). Distress intolerance is considered to be a trait-like characteristic that emerges in youth and is associated with anxiety disorder symptomatology in youth and adults (McHugh et al., 2014).

Intolerance of Uncertainty Scale for Children (IUSC; Comer et al., 2009). The IUSC is a parent- and child-report measure that assesses youths' emotional, cognitive, and physical reactions to ambiguous or uncertain situations and events. The IUSC has demonstrated strong internal consistency and convergent validity (Comer et al., 2009). Intolerance of uncertainty has been found to be positively and strongly associated with anxiety and worry in youth (Osmanağaoğlu et al., 2018).

Perceptions of Treatment Questionnaire-Adolescent Version (POTQ-A; Nauphal et al., 2020). The POTQ-A is a self-report instrument that was developed to assess perceptions of treatment in adolescents with panic disorder. The measure was adapted for use in the current study to accommodate a transdiagnostic anxiety presentation among study participants and assessed the acceptability of treatment, perceptions of treatment helpfulness and unhelpfulness, and satisfaction with treatment on a 0–8 scale.

6 Case Conceptualization

In the last several years, Margot navigated significant physical health problems and increased anxiety, which contributed to the development of the following schemas: “The future is not bright” and “I am not safe.” These schemas were particularly activated by her recent experience of missing a significant amount of school due to participating in pain treatment and increase in panic attacks per day. In turn, Margot had many automatic thoughts about her functioning, including “I can’t handle this” and “Things will not get better,” and experienced depression, anxiety, and panic attacks, which she coped with by withdrawing from pleasurable and valued activities, avoiding situations in which she might have a panic attack, and seeking substantial amounts of reassurance from her mother about her wellbeing. These behaviors caused Margot to have difficulty completing academic and daily living tasks, as well as engaging in activities without her mother present, and resulted in increased fatigue, feelings of worthlessness, guilt, sadness, anxiety, and panic symptoms. Further, Margot’s pain caused her to limit her social, academic, family, and self-care activities, which in turn exacerbated her anxiety, panic, and depressive symptoms.

7 Course of Treatment and Assessment of Progress

The newly developed treatment protocol for clinically anxious adolescents, adapted from *The Adolescent Panic Control Treatment With In-Vivo Exposures* (Angelosante et al., 2009), was utilized to address anxiety symptomatology in a transdiagnostic manner. The program was developed to be delivered in an intensive format, which entailed completing the treatment within a one-week period. The treatment program consisted of six total sessions with session duration ranging from two to six hours. Recommended session lengths were provided but flexibility was encouraged, particularly during exposure sessions when the content and number of exposure activities were tailored to participants’ unique and variable presenting concerns. The first three sessions focused on psychoeducation about the three components of anxiety, cognitive restructuring, mindfulness, and interoceptive exercises. The fourth and fifth sessions involved in-vivo exposures during which Margot experientially tested the accuracy of her negative thoughts and developed new learning around anxiety-provoking situations. The final session focused on relapse prevention and the development of a continued exposure plan for the coming months. Each treatment session included a parent component where Margot’s mother was taught specific strategies that she could use to support Margot in managing anxiety symptoms. Although chronic pain was not specifically targeted in the intensive treatment for transdiagnostic anxiety disorders, we acknowledged its role in Margot’s functioning and adapted session plans accordingly (e.g., ensuring massed exposures were not all physically taxing, taking more frequent breaks, addressing negative beliefs about chronic pain during the cognitive session). The treatment was conducted by a doctoral-level clinician at a clinic in a major metropolitan city specializing in treating anxiety and related disorders. An outline of all sessions is provided in [Table 1](#). See [Appendix A](#) for an overview of parent components per session.

Session 1 (2 hours)

The clinician provided psychoeducation about anxiety from a transdiagnostic perspective, explained the treatment rationale, and introduced the three-component model of anxiety (physiological sensations, cognitions, and behaviors). Margot constructed a hierarchy of feared and/or avoided situations and provided accompanying subjective units of distress scale (SUDS) ratings. Although many of the situations focused on panic attacks, others touched on areas reflective of her

Table 1. By-Session Outline of the Intensive CBT Treatment.

Session #	Treatment day	Session duration	Session content
1	1	2 h	Psychoeducation about anxiety
2	2	2–3 h	Cognitive restructuring
3	3	3 h	Interoceptive exercises; mindfulness
4, 5	4, 5	Variable	In-session exposures
—	6, 7	—	Continued exposure. Adolescent worked independently or with family member(s)
6	8	2–3 h	Review of skills; relapse prevention planning

Note: Independent exposure practice took place for 2 days between sessions 5 and 6.

comorbid anxiety diagnoses (e.g., GAD). For out of session practice, Margot recorded and described examples of anxiety she recently experienced and tracked accompanying thoughts, feelings, behaviors, and SUDS ratings.

Session 2 (2–3 hours)

The clinician provided in-depth psychoeducation regarding the physiological component of anxiety, including an overview of the evolutionary bases of anxiety. Margot showed great insight and self-awareness when identifying the physiological sensations that she typically experienced during a variety of anxiety-provoking situations spanning across GAD, panic, and sensory-related triggers. The session then shifted to address the cognitive component of anxiety (i.e., thinking traps and cognitive restructuring). Margot was open and receptive when engaging in a cognitive restructuring exercise targeting her most common anxiety-provoking thoughts, many of which illustrated long-standing negative beliefs about the future because of her panic attacks, chronic pain, and anxiety. Margot was asked to complete a cognitive restructuring worksheet for out of session practice.

Session 3 (3 hours)

Session three focused on interoceptive exposures. Margot received additional psychoeducation about physical symptoms of anxiety, with an emphasis on the fact that, although physical sensations may feel uncomfortable, they are not harmful and tend to dissipate naturally once a threatening situation is over or when anxious thoughts are no longer present. Margot completed a variety of interoceptive exposures for which she rated her anxiety level and physical symptom severity level (0–8) before and after each exposure trial. In spite of her reported fatigue and physical pain, Margot thoroughly engaged in the exposures and described that they helped her understand that her symptoms “were not dangerous” and diminished quickly once the exposure was over. The clinician then introduced mindfulness and emphasized the importance of being present-focused and nonjudgmental about one’s own thoughts and physical feelings (e.g., [Ehrenreich-May et al., 2018](#)). Margot participated in a five-senses mindfulness exercise, noting that the exercise “helped” her cope with chronic pain and anxiety. The clinician then discussed the upcoming shift to in-vivo exposures and highlighted the role of avoidance in maintaining and exacerbating anxiety. The clinician assigned both Margot and her mother mindfulness practice for out of session practice. Taken together, these techniques (i.e., cognitive restructuring, mindfulness, and interoceptive exposures) were introduced in initial sessions to maximize the potency

of the massed exposures and allow Margot to build up a toolkit of CBT techniques prior to the massed exposure sessions.

Session 4 (Variable)

The session began by reviewing the rationale for exposures, with a focus on not only habituation but also on inhibitory learning that can occur during exposures (i.e., that feared situations are tolerable and manageable; Craske et al., 2008). During this six-hour session, Margot engaged in a variety of exposures designed to target her fears of experiencing overwhelming discomfort, anxiety, and/or panic attacks in different situations. As Margot indicated that her typical baseline distress level was five to six out of eight due to her chronic pain, the clinician and Margot agreed that Margot would try to remain in each feared situation until her anxiety reached her self-reported baseline and SUDS were measured accordingly for all subsequent exposure trials. Margot was also instructed to refrain from engaging in her primary safety behaviors during exposures, which included wearing her hat and noise-canceling headphones. Margot's first set of exposures involved engaging in three increasingly difficult exposure trials centered on handling a dry sponge to target fear and anxiety about uncomfortable sensations and textures. For the first trial, Margot held the sponge and rubbed it gently with her fingers. The second trial involved eliminating safety behaviors (i.e., removing her hat) while rubbing the sponge for 45 seconds; however, at the 45 second mark, her SUDS rating was still elevated. With encouragement from the clinician, Margot continued to hold the sponge until her anxiety decreased to baseline so that the exposure would not be terminated during high levels of anxiety. The final sponge exposure involved breathing through a straw for 30 seconds to induce physical symptoms of anxiety before holding and rubbing the sponge with a firmer touch.

Over the course of the morning, Margot engaged in a variety of sensory-related exposures in a similar manner. The afternoon portion involved four exposure trials targeting Margot's fear of having a panic attack on staircases, with the ultimate goal of descending an entire flight of stairs without holding the hand railing. These exposures were several minutes in length, reflecting the amount of time it took Margot to reach her baseline anxiety levels. Trial 1 involved descending a long staircase while holding the handrail with one hand; Trial 2 involved descending the staircase while removing the safety behavior of touching the handrail (scaffolded by holding onto her pant legs); Trial 3 involved descending the stairs with her hands at her side without holding on to her pants; and Trial 4 involved descending the bottom half of the staircase while walking in the middle of the stairs (as opposed to near the handrail). During the fourth trial, Margot experienced a full-blown panic attack at the bottom of the staircase. She was encouraged to use the panic attack as evidence that, even when a panic attack *does* occur, she is able to survive, cope, and continue to engage in activities that are important to her. When Margot and the clinician processed the exposures, she stated that her worry and anticipatory anxiety before each exposure was generally "worse" than the exposure itself. She also shared that, for exposures that were repeated several times in a row (e.g., touching/rubbing a sponge), she was "surprised" that her anxiety became lower with each repetition. This realization was then explored and compared with anxious and negative thoughts endorsed during the cognitive-restructuring session, which focused on beliefs related to how Margot's functioning may never improve. No out of session practice was assigned, and Margot was encouraged to relax and engage in relaxation and self-care that evening.

Session 5 (Variable)

Margot and the clinician began by formalizing the exposure plan for the day and agreed to conduct a variety of exposures at a large mall (i.e., an anxiety-provoking location). Margot began by

targeting her fears of crowds and separation from her mother. First, she independently walked into a crowded section of the mall and stood at a kiosk until her anxiety levels reached her baseline. Margot's mother joined for the remainder of the exposures so that she could practice implementing the parenting strategies that had been discussed in previous sessions. Next, Margot tested the fear that she "would not be okay" if she experienced physical sensations of anxiety in a crowd without her mother beside her to "distract" her. To induce distressing physical sensations, Margot hyperventilated for 60 seconds before walking into several crowded areas of the mall; while she walked, her mother followed behind her and refrained from providing reassurance. The next exposure simultaneously targeted Margot's fears of new experiences, loud noises, and crowds. Specifically, Margot agreed to remain in a crowded indoor marketplace without engaging in avoidance or escape behaviors. Margot's mother was encouraged to coach Margot through her anxiety rather than providing reassurance. Immediately upon entering the marketplace, Margot became distressed and began to experience panic-like symptoms (e.g., racing heart and choking sensations). The clinician encouraged her to use cognitive restructuring to reframe the thought that she would "not be able to handle it." She generated a more realistic thought ("I think I can do this") and elected to complete the exposure. During this exposure, Margot's mother provided statements that focused on Margot's competency and ability to face her fear. Both Margot and her mother demonstrated considerable courage during this exposure, and Margot returned to her self-reported baseline after approximately 11 minutes. After a short break, Margot, the clinician, and her mother completed the last exposure, which was to eat a full meal at a restaurant without engaging in safety behaviors. Margot was able to stay at the table for the entire meal without leaving or engaging in any safety behaviors. On the subway ride back to the clinic, Margot's mother continued to practice parenting strategies that effectively assisted Margot in managing her anxiety. During this ride, Margot experienced a full-blown panic attack during which her mother independently engaged in skills coaching, provided compassionate labeling, and downplayed perceived harm associated with physical sensations (without any encouragement from the clinician). Once back at the clinic, Margot, her mother, and the clinician debriefed about the exposure experiences. Margot endorsed that she was "extremely tired" but felt much more confident in her abilities to tolerate anxiety/panic rather than trying to avoid or escape the situation. The team then created an exposure plan for the weekend and identified rewards that Margot could earn after each exposure. Exposures included looking at a strobe light, doing homework, listening to noise makers, going on a bike ride, and walking down various staircases. Margot's out of session practice was to engage in the planned exposures over the weekend. This session lasted approximately 5 hours.

Session 6 (2–3 hours)

Margot's weekend exposures were reviewed. She had engaged in almost all planned exposures and expressed pride regarding her accomplishments. For example, she had watched an entire film in a movie theater without engaging in safety behaviors, which she had not been able to do for several years. The clinician then discussed relapse prevention and costs and benefits associated with improvement (Pincus et al., 2008). Margot identified several costs (e.g., "It will be so tiring") and had some difficulty identifying benefits due to "exhaustion"; therefore, the clinician guided her in exploring strategies that would enhance and sustain motivation, effort, and continued progress. Margot, her mother, and the clinician then created an exposure plan for the next few months. Margot expressed doubts about her ability to complete exposures in the future and was coached in restructuring these thoughts and identifying a more helpful, empowered belief. Margot was then celebrated for facing a multitude of feared situations over the past several days, focusing

on the fact that many of the exposures were activities that she had not engaged in for several years or had avoided altogether. At the end of the session, Margot's strengths and accomplishments throughout the week were identified and praised. Margot and her mother were then thanked for their participation in the treatment program and treatment was terminated.

Post-Treatment Outcomes

Several measurement tools were utilized to demonstrate the clinical outcomes of treatment. The Subjective Unit of Distress Scale (SUDS), ranging from 0 to 8, was used to assess Margot's in-session progress during exposures. A diagnostic interview and self-report questionnaires were used to assess her progress over the course of treatment and at post-treatment.

ADIS-IV-C/P Clinical Severity Ratings, MASC, CASI, and IUSC. At post-treatment, ADIS-IV-C/P Clinical Severity Ratings (CSRs) for all four of Margot's diagnoses had decreased. On the MASC Physical Symptoms Total scale, Margot's raw score remained unchanged. Her score on the MASC Harm Avoidance Total scale decreased by 25%. On the MASC Social Anxiety Total scale, her score decreased by 17%. On the MASC Separation/Panic scale, her score increased by 9%. Margot's CASI score decreased by 10%. On the DII-Y, her score decreased by 28%. On the IUSC, her score decreased by 17%. See Table 2 for measure ratings at pre-treatment, post-treatment, and 3-month follow-up.

Perceptions of Treatment Questionnaire-Adolescent Version (POTQ-A). Margot reported that the treatment was "somewhat helpful" in teaching her how to cope with anxiety. Using a 0–8 scale from "not at all helpful" to "very much helpful," she rated the helpfulness of cognitive restructuring at an 8, out-of-session exposures at a 7, and in-session exposures at a 6. According to

Table 2. Measure Ratings at Pre-Treatment, Post-Treatment, and 3-month Follow-up.

Measure	Pre-treatment	Post-treatment	3-month Follow-Up
CSR (Range: 0–8)			
Panic disorder	6	4	3
Agoraphobia	5	4	3
Generalized anxiety disorder	5	4	5
MDD, recurrent, moderate	4	2	3
MASC			
Soc (range: 0–27)	6	5	12
Sep (range: 0–27)	11	12	16
HA (range: 0–27)	20	15	17
PS (range: 0–36)	29	29	26
CASI (range: 18–54)			
Total score	42	38	36
DIIY (range: 10–50)			
Total score	47	34	33
IUSC (range: 27–135)			
Total score	81	67	58

Note: CSR = Clinical Severity Rating; MASC = Multidimensional Anxiety Scale for Children (Subscales: Soc = Social Anxiety; Sep = Separation/Panic; HA = Harm Avoidance; PS = Physical Symptoms); CASI = Childhood Anxiety Sensitivity Index; DII-Y = Distress Intolerance Index for Youth; IUSC = Intolerance of Uncertainty Scale for Children.

Margot, the most important aspect of the treatment was “learning how to do the exposures correctly” and the best session was the one focusing on “real life exposures” (i.e., Session 5).

Exposure Trials. Subjective units of distress scale scores on selected exposure trials from Session 4 are presented in Figures 1 and 2 to highlight the ways in which the massed exposure sessions promoted both inhibitory learning and habituation.

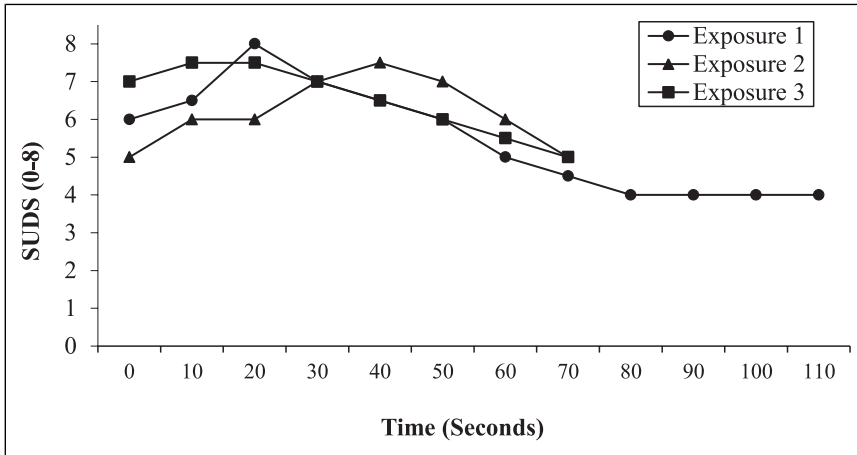


Figure 1. Session 4 exposure trials with dry sponge.

Note. Exposure 1 involved holding and rubbing a dry sponge. Exposure 2 involved removing her hat and holding/rubbing the sponge. Exposure 3 involved breathing through a straw for 30 seconds and then holding/rubbing the sponge more firmly.

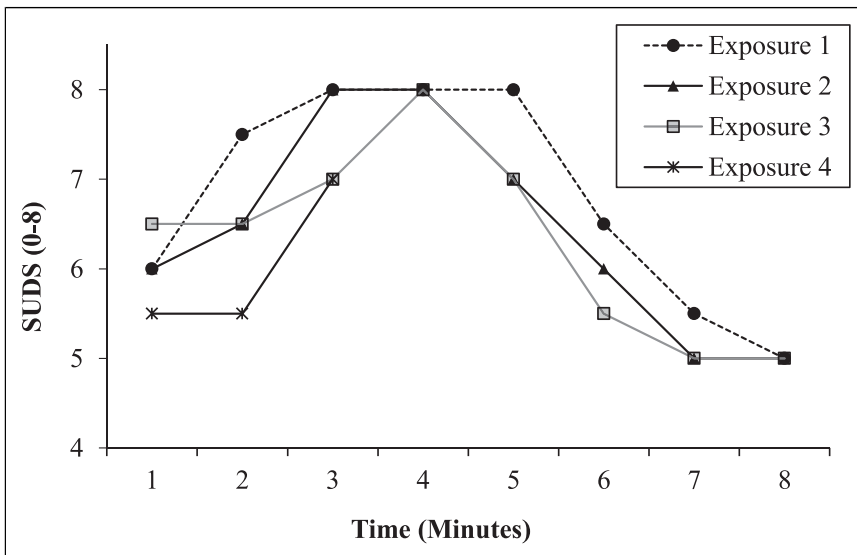


Figure 2. Session 4 exposure trials on staircase.

Note. Exposure 1 involved holding the handrail with one hand. Exposure 2 involved removing safety accessories and descending the stairs while holding on to pant legs. Exposure 3 involved descending the stairs with hands by her side without holding on to her pants. Exposure 4 involved descending the bottom half of the staircase by walking in the middle of the stairs.

8 Complicating Factors

Despite Margot's progress, there were several complicating factors during treatment. First, as expected in cases with medical comorbidities, Margot's pain levels and physical health problems affected her mood, energy levels, and thoughts about her ability to function after treatment terminated. Although Margot's medical team approved of her involvement in the intensive treatment, she reported experiencing a great deal of fatigue after engaging in the exposure sessions as a result of the physically challenging nature of the exposures. Her exhaustion and pain were most notable in the last session after engaging in self- and family-led exposures over the weekend. Second, school-related concerns were considerable contributing factors to Margot's anxiety presentation. Given the brief, intensive nature of the treatment, it was not possible to consult with teachers and focus on interventions designed to facilitate behavioral changes at school. This issue was reflected in the 3-month follow-up interview during which Margot reported continued anxiety about school as well as difficulty engaging in schoolwork and communicating with school personnel. Although the relative lack of time dedicated to school consultation and school-related exposures may be seen as a disadvantage to the intensive transdiagnostic treatment approach, this concern may have been particularly specific to the structure of the research study, whereas clinically it may be more feasible for a therapist to incorporate school consultation and school-related exposures into the flexible session plans (especially with telehealth).

9 Access and Barriers to Care

Overall, findings support the acceptability and feasibility of transdiagnostic intensive treatment of youth anxiety for complex and comorbid anxiety presentations; however, there were limitations and barriers that should be considered. First, it is possible that intensive treatment targeting transdiagnostic anxiety may not allow for adequate generalization to a variety of situations, particularly with presentations as complex as Margot's. Prior research on panic-focused intensive treatment has shown decreases in comorbid anxiety diagnoses at post-treatment and at 3-month follow up, suggesting that disorder-specific interventions can generalize to a broader range of anxiety presentations (Leyfer et al., 2019); however, more research is needed to extend these findings. In addition, given the severity of Margot's anxiety, mood, and pain symptoms, she likely would have benefitted from continued weekly treatment to monitor gains and target aspects of her presentation that were not able to be fully explored in six sessions (e.g., sensory sensitivities, further exposures and cognitive restructuring about school-related anxiety). This was apparent not only through clinical observation but also through Margot's self-report when describing what was least helpful about treatment. Specifically, she indicated that "talking more about the aftermath of treatment" would have helped her navigate the challenges of continuing to implement the skills and strategies. Despite the time-limited nature of the intensive treatment, this approach allowed Margot to jumpstart her recovery process and make significant gains in the span of a few sessions. For a case as complex as Margot's, it is likely that weekly sessions would have been less effective given that over 25 hour-long sessions would have been required to accomplish what was covered in the intensive treatment. Overall, in spite of the limitations discussed, self-report, mother-report, and diagnostic assessment at 3-month follow-up by an independent rater suggest that they did not appear to pose significant barriers to the considerable improvements in Margot's functioning. Finally, in terms of access to care, it is notable that because this treatment was provided as part of a research study there was no cost to the family. A treatment of this nature outside of the research realm would likely incur significant costs, which may provide barriers to families using insurance with specific stipulations about session length and treatment timeline.

10 3-Month Follow-Up

A follow-up assessment was completed with Margot and her mother three months post-treatment during which all assessment measures were re-administered. Please see [Table 2](#) for measure ratings at pre-treatment, post-treatment, and 3-month follow-up.

ADIS-IV-C/P CSRs for panic disorder and agoraphobia fell below clinically diagnostic levels. The CSR for MDD, recurrent, moderate remained below clinical threshold while that of GAD increased. On the MASC Physical Symptoms Total scale, there was a 10% decrease from pre-treatment levels. Her score on the MASC Harm Avoidance Total scale reduced by 15% from pre-treatment. On the MASC Social Anxiety Total scale, her score reflected a 100% increase from pre-treatment. On the MASC Separation/Panic scale, her score increased by 45% from pre-treatment. Her CASI score decreased by 14%. Her score on the DII-Y decreased by 30%. On the IUSC, her score decreased by 28% from pre-treatment.

11 Treatment Implications of the Case

This case example lends initial support to transdiagnostic intensive treatment of anxiety for youth. The treatment was feasible to conduct and was acceptable to the family, as evidenced by Margot's and her mother's adherence to the treatment protocol and completion of treatment, including post-treatment and 3-month follow-ups. Margot presented with multiple comorbid anxiety and depressive disorder diagnoses as well as a significant medical history. At post-treatment and 3-month follow-up, Margot demonstrated reductions in the clinical severity of her anxiety diagnoses and showed symptom improvement in domains that were not directly targeted in treatment.

In terms of Margot's panic disorder (PD) diagnosis, her CSR decreased by two points at post-treatment and by the 3-month follow-up she no longer met clinical criteria for PD. Similar results were observed with regard to her agoraphobia diagnosis. These findings demonstrate that Margot's symptoms continued improving even after the termination of treatment, which may be the result of continued independent exposure practice. Margot did not meet the clinical threshold for MDD at either follow-up timepoint, which is likely due to her increased engagement in activities previously avoided because of panic and agoraphobia. At the 3-month follow-up, the severity of her GAD symptoms had increased by one point, which was hypothesized to relate to specific circumstances at the time of the follow-up, including the beginning of the COVID-19 pandemic, increased chronic pain, and a recent move to another state.

On the MASC, few changes were noted following the treatment. Margot's scores showed the largest reduction on the Harm Avoidance subscale, which may reflect changes in her level of experiential avoidance. The increases on her Social Anxiety and Separation/Panic subscale scores at 3-month follow-up may have related to moving to another state in which she did not know many people and was not as comfortable with her surroundings and community. For example, she reported increases on items measuring fear of negative evaluation from others and anxiety about being alone or away from a parent. Most panic-specific items were endorsed at a fairly consistent level across the three time points. Notably, for individuals with severe presentations, it is possible that subscale interpretations are limited by the four-point Likert response scale. Specifically, the highest level of severity one can select is "Often true about me," which may not sensitively differentiate between experiences at higher levels of severity. To illustrate this point, Margot went from having seven panic attacks per day pre-treatment to two per week at the 3-month follow-up. Although that was a significant change from a diagnostic and functional perspective, having two panic attacks per week could still conceivably

be considered “often” when filling out self-report measures. As such, these scores should be considered in the context of the severity of her presentation and are best interpreted in conjunction with other measures, such as her increased distress tolerance and decreased anxiety sensitivity.

On the CASI, Margot reported a reduction in anxiety sensitivity at both post-treatment and 3-month follow-up. This negative trend in anxiety sensitivity during and following treatment aligns with reports obtained from the post-treatment diagnostic interviews in which both she and her mother endorsed enhanced tolerance of the physical symptoms of anxiety. Additionally, the reduction in anxiety sensitivity was complemented with the experience of fewer panic attacks at the post-treatment timepoints.

Similarly, on the DII-Y, Margot demonstrated a 30% decrease in distress intolerance, suggesting that the treatment increased her ability to cope with uncomfortable emotional states as opposed to avoiding them. Distress intolerance has been hypothesized as a potential vulnerability factor for the development of a range of psychological disorders (e.g., [Leyro et al., 2010](#)). Margot’s reported reductions in distress intolerance align with findings from an adult CBT trial whereby 45% of participants reported more than a 20% reduction in distress intolerance scores from pre-treatment ([McHugh et al., 2014](#)).

Finally, on the IUSC, Margot reported a 17% reduction at post-treatment and a 28% reduction at 3-month follow-up. This reduction is likely related to completion of various anxiety-provoking exposures in which both the experience and outcome were uncertain. These repeated practices likely enabled the fortification of her ability to tolerate uncertain and anxiety-inducing situations, which is consistent with findings in the adult literature suggesting that intolerance of uncertainty decreases following transdiagnostic treatment for emotional disorders (e.g., [Paulus & Norton, 2016](#)).

During her exposures, despite reporting and exhibiting very high levels of distress, Margot was able to remain in each situation until her SUDS score returned to baseline. She was able to build on these successes during the independent exposures over the weekend and following treatment completion. The intensive format of the treatment helped maximize learning from exposures in several ways. First, Margot engaged in several hours of back-to-back exposures ([Craske et al., 2012](#)). Second, emphasis was placed on inhibitory learning in addition to habituation ([Craske et al., 2008](#)). If delivered weekly, these exposures would have taken several weeks or even months to complete. The intensive approach also allowed for several hours of exposures in naturalistic settings, which would have been too cumbersome to carry out during weekly sessions. In addition, several other naturalistic exposures took place while Margot targeted her primary fears during the exposure sessions (e.g., public transportation on the way to the mall), which likely helped Margot generalize her learning to other settings. In fact, when asked to describe the best treatment session in post-treatment questionnaires, Margot indicated, “Friday, when we went to the mall, there [were] a lot more exposures and it was good to have them in everyday life.” Finally, Margot’s mother received additional reinforcement of effective parenting strategies during the exposures, which also potentially increased her ability to use these strategies during independent exposures and after treatment completion. Margot’s motivation and continued willingness to participate in exposures was not only a personal strength but also an additional potential advantage of the intensive approach in that the massed exposures quickly increased her confidence, agency, and ability to cope. This observation is consistent with previous qualitative research in which adolescents undergoing intensive treatment for OCD reported valuing the high pressure and fast-paced nature of intensive treatments and the daily support from their therapist, which they felt enhanced their motivation and engagement in treatment ([Bevan et al., 2010](#)).

Although data collection is ongoing for this pilot study, this report demonstrates that the intensive treatment was acceptable and feasible for an adolescent with significant functional impairment associated with comorbid anxiety symptomatology. Future work will focus on further examining the advantages and potential disadvantages associated with intensive CBT for adolescents presenting with various anxiety disorders, as well as settings in which intensive treatments may be most effective and implementable. For example, it will be important to examine whether intensive treatments of this nature would be more feasible in outpatient or private practice settings where clinicians may have more scheduling flexibility versus settings in which clinicians have larger caseloads and may not be able to clear their schedules for a week-long intensive. It will also be important to monitor the extent to which families are able to be reimbursed for intensive versus standard weekly treatment approaches.

In summary, the intensive nature of this treatment allowed for Margot to experience immediate, measurable gains that would likely have been difficult to carry out in a weekly format due to the considerable distress and impairment that was reported and observed at pre-treatment. Margot demonstrated significant improvement in her overall functioning as well as in specific mechanism-related domains that underlie panic and anxiety, such as decreased anxiety sensitivity and increased distress tolerance. Additionally, Margot and her mother both reported that this treatment format was acceptable to them even when taking into account Margot's significant psychological and medical comorbidities and some of the treatment limitations. Lastly, Margot's and her mother's reports of her post-treatment functioning, combined with the decreased severity of her primary diagnoses and mood symptoms over time, illustrate that the transdiagnostic and intensive nature of this treatment was effective.

12 Recommendations to Clinicians and Students

This case study highlights the utility of intensive CBT for anxiety disorders in adolescents and supports the premise that an intensive approach can allow for significant gains in a short period of time. Based on this case, it is recommended that clinicians consider an intensive CBT approach when working with an adolescent who is experiencing significant impairment related to anxiety in order to make progress more quickly than with a weekly outpatient model. Such treatment delivery allows for the introduction and repeated practice of skills within sessions in realistic and varied exposure environments, all conducted within a condensed period of time for maximal and generalized learning. The benefits of massed exposure observed within this case are supported by previous research showing that exposures conducted in temporal proximity to each other produced stronger gains (Craske et al., 2012). For cases with significant impairment in multiple areas of life, intensive treatment may need to be supplemented with a booster program to maintain and extend gains in areas that may not have been targeted within the short-term intensive. School consultations and/or school-based exposures may also be appropriate for such cases, which could be conducted within or outside the context of an intensive program to promote the generalization of gains to the school setting.

Appendix A

Parent Components Per Session.

Session number	Parent component
Session 1	<ul style="list-style-type: none"> • Parents are debriefed on session topics: Function of anxiety, three-component model, development of fear hierarchy • Clinician reviews common parenting traps related to youth anxiety (e.g., providing reassurance)
Session 2	<ul style="list-style-type: none"> • Parents are debriefed on session topics: Education about the physiological component of anxiety and overview of cognitive restructuring • Clinician reviews behavioral principles for parenting anxious youth, which summarizes concepts such as positive reinforcement, active ignoring, labeled praise, and mindful parenting
Session 3	<ul style="list-style-type: none"> • Parents are debriefed on session topics: Principles and application of mindfulness and basics and practice of interoceptive exposures • Clinician reviews additional parenting strategies such as limit setting, allowing for natural consequences in response to anxiety-related child avoidance, and strategies for countering parent anticipation and accommodation of anxiety-provoking situations for their child
Session 4	<ul style="list-style-type: none"> • Child shares with parent the exposure practices they completed during the session • Clinician normalizes that child may be more tired, anxious, or irritable after a long day of exposures. Clinician encourages parental empathic responding to child and reframes these symptoms as positive signs of the child's bravery in confronting their fears • Clinician reviews parent-focused "downward spiral traps" that could undermine exposure effectiveness after child exposure completion. Clinician outlines more optimal strategies for parents to use with their child following exposure completion (e.g., labeled praise for bravery, encouragement of skill use, parental modeling of calm behavior)
Session 5	<ul style="list-style-type: none"> • Child shares with parent all the exposure practices they completed during the session • Clinician normalizes that child may be more tired, anxious, or irritable after a long day of exposures (perhaps even more so than the day before). Clinician encourages parental empathic responding to child and praise for all the child's accomplishments and effort over the past two exposure days • Clinician, parent, and child collaboratively develop an exposure plan for the weekend to help child extend gains made during the exposure sessions. Focus on elimination of safety behaviors or objects, including the parent's presence during exposures. Remind parent to reward child for exposure completion over the weekend
Session 6	<ul style="list-style-type: none"> • Child shares with parent what they learned during the session about relapse prevention • Child and clinician share exposure plan for next few months with parent. Parent provides feedback on feasibility and provides additional ideas for items to add • Clinician reviews possible changes in family dynamics or roles as adolescent's anxiety symptoms improve and how parents can find new ways to bond with child outside of helping them with anxiety • Parent shares the things they are most proud of the child accomplishing over the course of the week

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