When children face fear: treatment, child, and family factors in cognitive behavioral therapy for childhood anxiety

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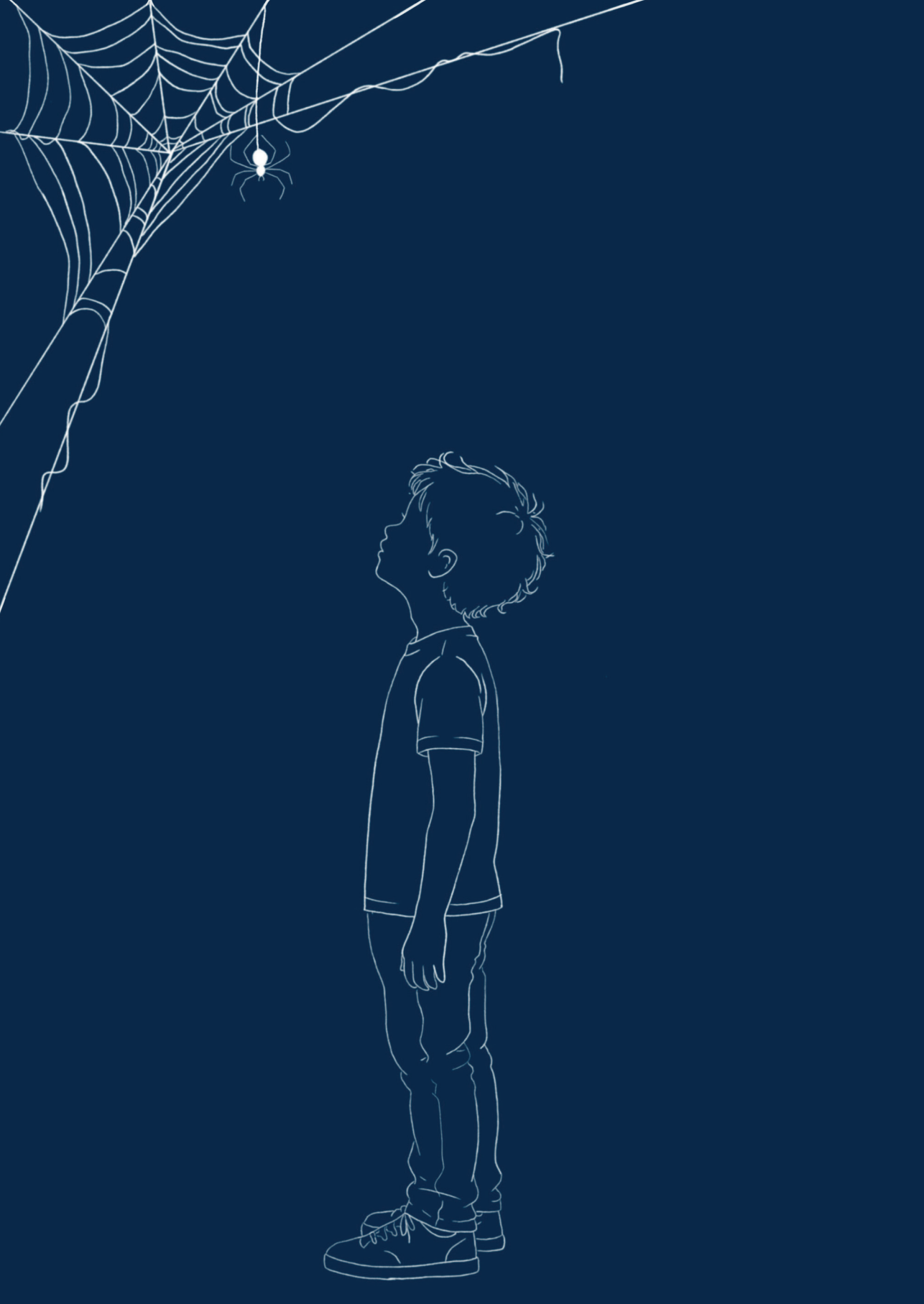

Chapter 1

General introduction

GENERAL INTRODUCTION

Sam is a 10-year-old boy who is terrified of dogs. Even distant encounters make him freeze or run away in panic. His fear affects his family too—they avoid the park, skip visits to relatives with dogs, and have changed daily routines to make sure they don't meet any dogs. Sam wants to go everywhere his friends go and doesn't want to be a burden to his family. He wishes he could be brave enough to pet a dog, but he feels he won't be able to cope. He is afraid something bad might happen and that he just won't be able to handle it.

Normative Fears and Anxiety Disorders

Experiencing fears is a normative and developmentally appropriate part of childhood. Transient fears—such as fear of the dark, separation from caregivers, animals, or unfamiliar situations—typically emerge and remit as children mature. The content of these fears follow a relatively predictable developmental pattern: early childhood is often characterized by fears of imaginary creatures, darkness, and separation, whereas fears related to physical harm, illness, or injury become more prominent during middle childhood. With further cognitive and social development, worries increasingly shift toward performance, social evaluation, and future-oriented concerns in late childhood and adolescence (Muris & Field, 2011). Across development, fear serves an adaptive function by signaling potential threats and guiding protective behavior. However, these initially normative fear responses can become exaggerated or persist beyond their expected developmental period, thus losing their adaptive value and forming the basis for anxiety disorders.

Anxiety disorders are characterized by excessive and persistent fear or anxiety that is developmentally inappropriate and associated with significant distress or impairment in daily functioning, often resulting in considerable interference in social, academic, and family functioning (American Psychiatric Association [APA], 2022; Rapee et al., 2009). Anxiety disorders are among the most common mental health disorders in childhood and adolescence, with 12-month prevalence estimates typically ranging between 10% and 20% (e.g., Beesdo et al., 2009; Kessler et al., 2005). Recent evidence suggests that the prevalence of anxiety disorders has increased substantially over the past decade (Duffy et al., 2019; Gkitakou et al., 2025; Penninx et al., 2022), indicating that commonly cited prevalence figures may be conservative.

Childhood anxiety disorders are not a homogeneous group but differ substantially in their prevalence, developmental timing, and clinical course. The DSM-5-TR distinguishes several anxiety disorders including separation anxiety disorder, selective mutism, specific phobia, social anxiety disorder, panic disorder, agoraphobia, and generalized anxiety disorder (see Table 1 for diagnostic descriptions). A recent review by Warner and colleagues (2023) highlights clear differences across these disorders in both prevalence and age of onset, consistent with the normative developmental progression of fears described by Muris and Field (2011). Specific phobias are the most prevalent anxiety disorders, with lifetime prevalence

estimates exceeding 10%, and some estimates around 15% (Beesdo et al., 2009; Beesdo-Baum & Knappe, 2012; Kessler et al., 2012; Wardenaar et al., 2017; Warner et al., 2023), followed by social anxiety disorder (up to 10%) and separation anxiety disorder (3–8%; Warner et al., 2023). Agoraphobia, panic disorder, and generalized anxiety disorder are relatively less prevalent, with lifetime prevalence estimates in adolescents between 2-4% (Beesdo-Baum & Knappe, 2012). Selective mutism is the least prevalent anxiety disorder, with prevalence estimates ranging from 0.7% to 2%; however, it should be noted that these figures are often based on point prevalence rather than lifetime prevalence (Bergman et al., 2002; Elizur & Perednik, 2003; Kumpulainen et al., 1998). Anxiety disorders also differ in their typical age of onset. Separation anxiety disorder and specific phobias generally emerge earlier in childhood, with most cases occurring before age 12 (Warner et al., 2023). Mean age-of-onset estimates for separation anxiety disorder cluster around 10–11 years, while specific phobias tend to emerge slightly earlier on average, with mean onset estimates typically ranging between 8 and 11 years (Becker et al., 2007; de Lijster et al., 2017; Wardenaar et al., 2017). Social anxiety disorder typically emerges in late childhood to early adolescence, with age-of-onset estimates commonly ranging between 8 and 14 years (Beesdo et al., 2009; de Lijster et al., 2017; Warner et al., 2023). Agoraphobia, panic disorder, and generalized anxiety disorder generally show later onset patterns, often in later adolescence or adulthood (Beesdo-Baum & Knappe, 2012).

Table 1

*Descriptions of the Different Anxiety Disorders Based on DSM-5-TR (*APA, 2022)

Disorder	Description
Separation Anxiety	Pervasive anxiety about separation from attachment figures beyond what is developmentally appropriate.
Selective Mutism	Consistent failure to speak in certain situations (e.g., at school) despite speaking elsewhere (e.g., at home).
Specific Phobia	Excessive fear about a specific object or situation (e.g., animals, heights, taking the elevator, or getting an injection).
Social Anxiety Disorder	Marked fear or anxiety about one or more social situations with potential scrutiny by others, leading to avoidance or distress (e.g. giving a speech, meeting new people, or having a conversation).
Panic Disorder	Recurrent unexpected panic attacks with worry about future attacks or behavioral change to avoid them. A panic attack is an intense and acute surge of fear that reaches a peak within minutes.
Agoraphobia	Marked fear or anxiety about ≥2 situations due to concern about escape or help availability (e.g., public transport, open/enclosed spaces, being in a crowd, being outside the home alone).
Generalized Anxiety Disorder	Excessive anxiety or worry occurring more days than not for ≥6 months about a range of events or activities (e.g., school, work, family, world events).

The burden associated with anxiety disorders is often compounded by the fact that they rarely occur in isolation. High rates of comorbidity have been reported among children with anxiety disorders, particularly with other anxiety disorders and depressive disorders (e.g.,

Kendall et al., 2010; Lamers et al., 2011; Ollendick et al., 2008). Anxiety disorders are also highly prevalent among children with neurobiological disorders such as attention-deficit/hyperactivity disorder (ADHD; de la Barra, 2013; Jarrett & Ollendick, 2008; Yüce et al., 2013) and autism spectrum disorder (ASD; Bougeard et al., 2021; Lai et al., 2019; Micai et al., 2023; van Steensel et al., 2011). In this latter group, elevated anxiety is associated with substantial interference in daily functioning including increased avoidance, behavioral difficulties, and reduced quality of life beyond the core symptoms of ASD (Adams & Emerson, 2021; van Steensel et al., 2012). Conversely, children with anxiety disorders often show elevated levels of ASD-related traits and overlap between anxiety and ASD symptoms has prompted growing interest in shared underlying mechanisms (Pine et al., 2008; Towbin et al., 2005; van Steensel et al., 2012).

Anxiety disorders are also associated with an increased risk for the development of other forms of psychopathology later in life (e.g., de Vries et al., 2019; Kendall et al., 2010; Lieb et al., 2016; Rapee et al., 2009). Specific phobias, in particular, given their high prevalence and early onset, have been suggested to function as a "gateway" disorder, increasing vulnerability to other mental health problems over time, including other anxiety disorders, affective disorders, obsessive-compulsive disorder, bipolar disorder, and eating disorders (Davis & Brennan, 2024; Davis et al., 2019; de Vries et al., 2019; Lieb et al., 2016). As such, it is important to treat specific phobias early in life, which is a central topic in this dissertation.

Treatment for Childhood Anxiety

Anxiety disorders remain markedly undertreated despite their early onset, high prevalence, and substantial burden (Bandelow & Michaelis, 2015; Merikangas et al., 2010). Epidemiological evidence indicates that only a minority of individuals with anxiety disorders receive adequate care. For example, one study found that only 31% of children with anxiety disorders received treatment, compared with 40% of children with depressive disorders and 79% of children with ADHD (Chavira et al., 2004). Consistent with this pattern, a recent Dutch study reported that only one in five youth with an anxiety disorder had received professional help (Aydin et al., 2020, 2022). Treatment rates may be even lower for specific phobias. Only about 8% of individuals with a specific phobia report ever having received professional treatment for this disorder (Stinson et al., 2007). Together, these findings highlight a substantial treatment gap for childhood anxiety disorders, which is unfortunate because effective treatment is available and early intervention may help prevent the development of additional mental health problems later in life.

Cognitive behavioral therapy (CBT) is widely considered to be the most effective treatment method for childhood anxiety disorders (e.g., Higa-McMillan et al., 2016; Warwick et al., 2017). Its efficacy and effectiveness have been demonstrated across numerous studies, showing robust effects across a broad range of anxiety disorders, developmental stages, and clinical presentations (e.g., James et al., 2020). CBT has also been shown to be effective for

children with comorbid conditions, including additional anxiety or mood disorders, as well as for neurodivergent populations such as children with ASD or ADHD (Bodden et al., 2008; Connolly et al., 2011; James et al., 2020; Ollendick et al., 2010; Perihan et al., 2020; Reynolds et al., 2012).

CBT for childhood anxiety is best conceptualized as an integrative treatment approach (see Power, 2002), comprising multiple therapeutic components that can be adapted to the child's age, symptom profile, and family context. Common elements include psychoeducation, cognitive restructuring, exposure exercises, relaxation techniques, skills training, and varying degrees of parent involvement, depending on the specific protocol (e.g., Bögels et al., 2025; Kendall et al., 1990; Rapee et al., 2006; Spence et al., 2006). Some examples of widely used generic child CBT programs for anxiety disorders include Coping Cat (Kendall & Hedtke, 2006a), the Friends program (Barrett et al., 2000), Cool Kids (Rapee et al., 2006), Think Good–Feel Good (Stallard, 2005), Discussing + Doing = Daring (Bögels et al., 2025), the BRAVE program (Spence et al., 2006), and the CHILLED program (Schniering & Rapee, 2020). These interventions are designed to target a broad range of anxiety disorders. However, there are also interventions that focus on specific anxiety disorders. One example is One-Session Treatment (OST), which is a highly exposure-focused approach developed for specific phobias and is a main focus of the present dissertation (Öst, 1989; Öst & Ollendick, 2001).

Although treatment protocols differ in their emphasis on cognitive versus behavioral strategies, they share a common focus on reducing avoidance and promoting approach behavior. This focus is important because, among the various CBT components, exposure has consistently been identified as the central mechanism of change in the treatment of anxiety disorders (e.g., Craske et al., 2014; Öst & Ollendick, 2017; Whiteside et al., 2015, 2020). Exposure involves systematic confrontation with feared stimuli or situations while minimizing avoidance and safety behaviors, thereby allowing patients to learn that anticipated catastrophic outcomes do not occur or are more manageable than expected (Craske et al., 2022; Waters & Craske, 2016). From an inhibitory learning perspective, exposure facilitates the formation of new, non-threatening associations that compete with existing fear memories. Because original fear associations remain accessible, newly learned associations are sensitive to contextual changes, increasing the risk of fear renewal. Repeated exposure across a range of contexts is therefore considered essential for promoting generalization and reducing relapse (Craske et al., 2014, 2022).

OST is one of the most specifically exposure-based CBT protocols. It has been successfully applied to a wide range of phobias in both adults and children (Davis et al., 2019) and consists of a single, intensive exposure session lasting approximately three hours, during which the child is gradually and collaboratively confronted with the feared stimulus or situation. The massed exposure session is preceded by a cognitive behavioral assessment to gather informa-

tion needed to plan the session, and is followed by guidance for continued self-exposure at home (Davis et al., 2019; Öst & Ollendick, 2001). Specific phobias are particularly well suited to this format because they are typically discrete, identifiable, and hierarchically organized, allowing for systematic in vivo confrontation of the feared stimulus. The format of OST is explicitly designed around this structure, integrating gradual exposure in a tightly sequenced series of behavioral experiments targeting a single fear (Davis et al., 2019; Öst & Ollendick, 2001). Brief interventions such as OST require relatively few therapist-led sessions, reducing the burden of repeated clinic visits for families while still producing robust clinical outcomes (Öst & Ollendick, 2017; Wright et al., 2023). This brief, intensive format also makes OST a particularly attractive option for early intervention and scalable implementation, addressing the need for effective, accessible treatments for childhood phobias.

Treatment Response and Variability

Many children with anxiety disorders show substantial symptom reduction and functional improvement after receiving CBT, with about 60% of children being anxiety diagnosis free after CBT (James et al., 2020; Silverman et al., 2008; Warwick et al., 2017), and remission rates between 50% to 70% for children with specific fears who have received OST (Ollendick et al., 2009; Ollendick & Davis, 2013; Öst & Ollendick, 2017; Wright et al., 2023). These findings highlight the effectiveness of both CBT in general and OST in particular as powerful interventions for childhood anxiety. Nevertheless, there remains meaningful variability in treatment response between children. Approximately 40% of youth continue to experience clinical levels of impairment following CBT (James et al., 2020; Silverman et al., 2008; Warwick et al., 2017), and even among children who initially respond well, relapse is a concern, with a recent meta-analysis estimating relapse rates of 10.5% after successful treatment (Levy et al., 2022). For OST, a substantial minority of children—approximately 30–40%—continue to meet diagnostic criteria following treatment (Ollendick et al., 2009; Ollendick & Davis, 2013), underscoring the need to better understand sources of variability and avenues for further optimization.

This variability in outcomes has motivated extensive research aimed at both optimizing treatment protocols and identifying predictors and moderators of treatment response, with the overarching goal of improving outcomes and clarifying for whom and under what conditions CBT is most effective. Efforts to improve outcomes have targeted multiple levels, including modifications to treatment delivery (e.g., format, intensity, and specific components), child-level characteristics (e.g., clinical presentation and individual differences), and family-level factors (e.g., parental involvement). To date, a wide range of treatment-, child-, and family-related factors have been examined, yet few single factors have emerged as strong or consistently predictive of outcome across studies. The following sections provide a brief overview of existing evidence on treatment-related, child-level, and family-level factors associated with variability in CBT outcomes and introduce the specific factors that are the focus of the present dissertation.

Treatment-Related Factors

A considerable body of research has examined how characteristics of the treatment itself may influence outcomes in CBT for childhood anxiety. Research has explored factors such as treatment delivery (e.g., individual versus group formats, face-to-face versus online), parental involvement, and therapeutic alliance (Bögels et al., 2025). To date, findings indicate that group and individual formats yield comparable outcomes (Levy et al., 2022), and online or blended treatments are generally as effective as face-to-face delivery, although youth tend to prefer in-person sessions (Csirmaz et al., 2023; Smart et al., 2023; Sweeney et al., 2019). Similarly, including parents more actively in treatment does not consistently improve outcomes at the group level (In-Albon & Schneider, 2006; Manassis et al., 2014; Peris et al., 2021; Reynolds et al., 2012), and although stronger therapeutic alliance is sometimes associated with modestly better outcomes, findings are not consistent across alliance dimensions (Hudson et al., 2014).

As discussed before, exposure remains the most reliably identified effective component of CBT treatment, yet many children do not receive sufficient exposure in their anxiety treatment (e.g., de Jong et al., 2020; Higa-McMillan et al., 2017; Whiteside et al., 2016). And while effective exposure during therapy sessions is necessary, practicing exposure at home and in daily routines is also crucial for generalizing learning to real-world contexts. Repeated engagement with feared stimuli across multiple situations allows children to develop, non-catastrophic associations and reduces the likelihood of relapse (Craske et al., 2014, 2022). From this perspective, a critical issue is not only whether exposure is delivered effectively within sessions, but also how consistently children engage in exposure beyond the therapy setting. Because consistent practice outside of therapy sessions is considered crucial for treatment success, homework is a core component of CBT, designed to extend treatment gains into children's everyday lives (Kendall et al., 1990; Kazantzis et al., 2016). By encouraging repeated practice of approaching feared stimuli across contexts, homework is thought to promote the generalization of exposure learning and strengthen adaptive fear-related associations. However, despite its theoretical importance, relatively little is known about how homework is implemented in routine practice, how children and families engage with it, or the extent to which it contributes to treatment outcomes in childhood anxiety. For example, most CBT programs include workbooks to support children in practice at home (e.g., Discussing + Doing = Daring, Bögels et al., 2025; Coping Cat, Kendall & Hedtke, 2006b; Cool Kids, Rapee et al., 2006), but research examining its contribution to treatment effectiveness, or the engagement in homework, is lacking. Moreover, several barriers to homework completion have been identified, including motivational difficulties, lack of interest, and insufficient self-guidance (Merry et al., 2012; Nock & Kazdin, 2005; Tang & Kreindler, 2017). Addressing these challenges is important for improving the generalization of skills learned in therapy.

Recently, digital tools have been developed to support therapy, including the facilitation of homework, offering potential solutions to some of the barriers that limit engagement. These

tools, such as app-based programs, can structure exercises, provide guidance, assist with preparation, tailor tasks to the individual child, send reminders, incorporate motivational features, and offer therapists insight into home practice (Berry & Lai, 2014; Muroff & Robinson, 2022; Tang & Kreindler, 2017). Several mHealth apps for childhood anxiety have been developed within academic and clinical contexts—including MindClimb (Newton et al., 2020), REACH (Stoll et al., 2017), SmartCAT 2.0 (Silk et al., 2020), and Anxiety Coach (Carper, 2017; Whiteside, 2016; Whiteside et al., 2019)—primarily functioning as adjuncts to face-to-face or online CBT. These apps incorporate features such as self-monitoring (MindClimb, REACH, and Anxiety Coach), contingency management (point systems in MindClimb and SmartCAT 2.0), and individualized exercises suggested by the therapist (Pramana et al., 2018; Whiteside et al., 2019). Apps might offer additional practical advantages over online platforms, including offline accessibility, user-friendly interfaces, and local storage of content, which can enhance privacy and ease of use. However, empirical evaluation remains limited. In addition, reviews indicate that many childhood anxiety apps include only a subset of evidence-based components, and few have been systematically tested for effectiveness (Bry et al., 2018; Higa-McMillan et al., 2016). Importantly, the integration of these digital tools with therapist-led sessions is critical: the quality and impact of homework support appear to depend on how well therapists link in-session exposure with guided practice at home (e.g., Berry & Lai, 2014; Muroff & Robinson, 2022; Tang & Kreindler, 2017). To address this gap, the present dissertation focuses on optimizing homework within CBT for childhood anxiety by combining a structured homework program with digital support (see Chapters 2, 3, and 4).

Child-Level Factors

Certain characteristics of the child may shape how they engage with and benefit from CBT. Most existing studies have focused on demographic and baseline clinical characteristics, such as age, gender, type of anxiety disorder, symptom severity, and comorbidity (Norris & Kendall, 2021). Meta-analytic and review evidence suggests that age and gender are generally weak or inconsistent predictors of treatment outcome, with most studies reporting small or nonsignificant effects (e.g., Knight et al., 2014; Nilsen et al., 2013; Norris & Kendall, 2021). Regarding diagnostic and clinical characteristics, children with social anxiety disorder tend to show poorer outcomes, whereas those with generalized anxiety disorder may respond more favorably (Evans et al., 2021; Hudson et al., 2015). Specific phobias, while not always included in trials comparing treatment response across disorders (e.g., Kodal et al., 2018), generally show outcomes that are comparable to, or slightly better than, those observed for childhood anxiety disorders more broadly (e.g., Hudson et al., 2015). Higher baseline anxiety severity and the presence of comorbid internalizing disorders, such as an additional anxiety disorder or depression, have also been associated with less favorable outcomes, though effect sizes are generally modest (Ginsburg et al., 2011; Hudson et al., 2015). While it is often assumed that children with neurodevelopmental conditions, such as ASD and ADHD, may respond less favorably to CBT, available evidence suggests that treatment outcomes are largely

comparable to those of typically developing children (e.g., Bodden et al., 2008; Connolly et al., 2011; Gould et al., 2018; James et al., 2020; Perihan et al., 2020; Reynolds et al., 2012). CBT is often slightly adapted for these groups, with additional structure and visual supports being particularly helpful (Bögels et al., 2025). Some adaptations may be especially relevant for children with ADHD, such as shortening and repeating key information, incorporating clear activity schedules, and allowing brief "brain breaks" during sessions (Sciberras et al., 2018). Given the clear genetic component of ADHD, parents may also experience attentional or organizational difficulties themselves, which can make supporting treatment tasks more challenging; additional parent sessions may therefore be beneficial in some cases (Maric et al., 2018). For children with ASD, greater parental involvement in treatment may also be helpful—a pattern not consistently observed in typically developing children (Goger & Weersing, 2022; Puleo & Kendall, 2011). In addition, emphasizing practice in daily situations may be particularly important in this group to promote generalization of treatment gains (van Steensel et al., 2015). Overall, children with neurodevelopmental conditions do not appear to show clearly poorer treatment outcomes, but these findings suggest that certain adaptations to treatment may help ensure comparable effectiveness. Studying these groups remains important when examining treatment processes and outcomes, as anxiety disorders are common among children with ADHD (approximately 23%; Souza et al., 2005) and even more prevalent among children with ASD (approximately 40%; van Steensel et al., 2011). In the present dissertation, particular attention is given to children with ASD as a subgroup of interest (Chapter 6). Taken together, the literature suggests that, although certain demographic and clinical baseline factors may influence treatment response, they account for only a small portion of the variability in outcomes. This highlights the importance of examining other, theoretically informed child-level variables that may help explain why some children benefit more from CBT than others.

Among the many potential child-level factors, this dissertation focuses specifically on self-efficacy, a construct of particular theoretical and clinical relevance in exposure-based interventions. Self-efficacy—the belief in one's capacity to manage challenging situations—plays a central role in behavioral change and learning processes and is thought to shape children's willingness to approach feared stimuli, persist despite discomfort, and generalize newly acquired coping skills across contexts (Bandura, 1997; Ollendick & Davis, 2013). Within CBT, and particularly in intensive exposure interventions, such as OST, fostering positive self-talk and the belief "I can do this" is often explicitly incorporated into the therapeutic protocol (e.g. Öst & Ollendick, 2001).

Although self-efficacy is frequently targeted intuitively in therapy, empirical research examining its role as a predictor or mechanism of change in exposure-based interventions remains relatively limited. Existing studies in OST suggest that exposure-based interventions can enhance children's confidence in managing feared situations (Ollendick et al., 2017a; Ollendick et al., 2017b), and may be associated with improvements in treatment outcomes,

though the evidence is limited and mixed. Most prior work has focused on phobia-specific self-efficacy, with little attention to general self-efficacy. From a clinical perspective, this distinction is important, as phobia-specific self-efficacy may support fear reduction within the treated domain, whereas more general self-efficacy may facilitate the generalization of coping skills to new situations, supporting longer-term treatment success (Craske et al., 2014; Swan et al., 2016). Examining both phobia-specific and general self-efficacy as child-level factors is therefore a central aim in Chapter 5 of the present dissertation, with the goal of clarifying how confidence relates to treatment response in OST.

Family-Level Factors

Children develop and learn within family systems, making it intuitive that parental and family characteristics could influence how a child engages with and benefits from CBT. Accordingly, a range of family and parental variables has been examined as possible predictors or moderators of CBT outcomes, including parental involvement in therapy, parental anxiety, broader parental psychopathology, parenting behaviors, and caregiver strain. Overall, findings for parental variables as predictors or moderators of treatment outcome have been mixed, with few consistent patterns emerging across studies (Norris & Kendall, 2022). One of the most extensively researched factors is if and how parents should be involved in treatment—for example, through parent-focused sessions, coaching, or facilitating exposure exercises at home. Across childhood anxiety disorders, evidence suggests that, at the group level, enhanced parental involvement does not reliably improve outcomes compared to child-focused CBT alone (In-Albon & Schneider, 2006; Manassis et al., 2014; Peris et al., 2021; Reynolds et al., 2012). However, this general pattern appears to mask important subgroup differences. Children with separation anxiety disorder, ASD, or ADHD show greater improvements when parents are more actively engaged in the therapeutic process (Giani, 2022; Goger & Weersing, 2022; Maric et al., 2018; van der Bruggen et al., 2008; van Steensel et al., 2017), suggesting that the utility of parent involvement may depend on the child's clinical presentation and comorbidities.

Child anxiety and family functioning are widely considered to be interrelated, and parental and family characteristics are thought to play a role in both the etiology and maintenance of childhood anxiety disorders (Breinholst et al., 2012; Drake & Ginsburg, 2012). It is therefore somewhat surprising that CBT treatment outcomes are typically only evaluated in terms of changes in the child's diagnostic status or disorder severity, with comparatively little attention to changes in parenting practices or broader family functioning. Interesting, the (small amount of) available evidence suggests that child-focused CBT is associated with improvements in certain aspects of family functioning, such as increased parental warmth and reduced controlling or dysfunctional parenting behaviors (Bögels & Siqueland, 2006; Crawford & Manassis, 2001; Jongerden & Bögels, 2015; Keeton et al., 2013; Siqueland et al., 2005). However, the directionality between family functioning and child anxiety outcomes is unclear, and it is not yet known whether family variables may predict or moderate

child anxiety outcomes in a way that explains some of the treatment response variability. Furthermore, far less is known about the role of family functioning in childhood anxiety disorders when comorbid disorders are present. To address this gap, Chapter 6 of this dissertation focuses on family functioning in families of children with anxiety disorders, with and without ASD, to better understand how family context may support—or hinder—treatment outcomes.

In addition to broader family functioning, parental self-efficacy represents a distinct family-level factor of interest in this dissertation that complements the focus on child self-efficacy. Important here is to distinguish specific parental self-efficacy and parents' general self-efficacy. Specific parental self-efficacy refers to the parents' confidence in their ability to manage their child's behavioral or emotional problems and support therapeutic strategies while parents' general self-efficacy refers to broader confidence in coping with life's challenges. With respect to the first (specific parental self-efficacy), research has shown that this variable is associated with more effective parenting practices and more favorable child outcomes, including improved maintenance of treatment gains (Burney et al., 2024; Steketee et al., 2021). With respect to parents' general self-efficacy, far less is known. Given evidence that parental beliefs and behaviors are linked to child anxiety, and that parents may influence children's anxiety through modeling (e.g., Fox & Fleming, 2025), parents' general self-efficacy may also be relevant for understanding child treatment outcomes. Parents who feel capable of managing challenges may model confidence and approach-oriented coping, which could support children's own confidence in managing anxiety. Examining parents' general self-efficacy alongside child self-efficacy may therefore help clarify confidence-related processes that support treatment response. Accordingly, Chapter 5 of this dissertation examines changes in parents' general self-efficacy over the course of OST and explores its association with treatment outcomes in conjunction with measures of child self-efficacy.

Outline and Objectives of this Dissertation

The overarching aim of this dissertation is to contribute to the optimization of CBT for childhood anxiety disorders by examining factors that may influence treatment processes and outcomes. Building on existing evidence for the efficacy of CBT and exposure-based interventions, this dissertation focuses on three interrelated domains: treatment-related factors, child-level factors, and family-level factors.

Chapters 2, 3, and 4 focus on treatment-related factors. Chapter 2 presents a narrative review of homework in CBT for childhood anxiety, addressing its theoretical role, current implementation, and gaps in the empirical literature. This chapter also describes the development of a structured, app-based homework program designed to support exposure practice. Chapter 3 outlines the study protocol for a randomized controlled trial evaluating this app-supported homework intervention. Chapter 4 reports the results of this trial, examin-

ing whether the addition of the app-based homework program to OST enhances treatment outcomes for childhood specific phobias.

Chapter 5 focuses on child- and parent-reported self-efficacy, examining changes following OST treatment and the role of self-efficacy in understanding treatment response. Chapter 6 addresses family-level factors by investigating family functioning in families of children with anxiety disorders, with and without ASD, and examining associations with anxiety severity and CBT treatment outcomes. Finally, Chapter 7 (general discussion) integrates findings across the chapters, discusses clinical and theoretical implications, and outlines directions for future research.

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