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Exploring Self-Soothing Behaviors in Children with Anxiety Disorders

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ABSTRACT

This study aimed to explore the self-soothing behaviors of children with anxiety disorders, focusing on the strategies they employ to regulate distress and the meanings they attach to these practices. A qualitative research design with a descriptive–exploratory approach was employed. Twenty participants, including children diagnosed with anxiety disorders and their parents, were recruited from clinical and counseling centers in Tehran using purposive sampling. Data were collected through semi-structured interviews, which lasted between 45 and 60 minutes. Interviews were audio-recorded, transcribed verbatim, and analyzed using thematic analysis in NVivo 14. Data collection continued until theoretical saturation was reached. Credibility of the findings was ensured through peer debriefing and member checking. Analysis revealed four overarching themes of self-soothing behaviors: emotional regulation strategies, physical and sensory-based soothing, cognitive and imaginative coping, and social and relational soothing. Within emotional regulation strategies, children used breathing exercises, positive self-talk, distraction, comfort-seeking, and ritualized calming. Sensory-based soothing included movement activities, tactile comfort objects, oral soothing, grounding techniques, and protective postures. Cognitive and imaginative coping encompassed fantasy play, mental distraction, self-instruction, internalized parental coping, spiritual rituals, and thought-blocking. Relational soothing involved seeking parental and sibling support, peer and teacher assistance, nonverbal expression, withdrawal, and participation in group rituals. Both adaptive and maladaptive strategies were identified, reflecting the multidimensional nature of self-soothing in anxious children. The study highlights the centrality of self-soothing behaviors in the lived experiences of children with anxiety disorders, emphasizing their reliance on emotional, sensory, cognitive, and relational strategies. Findings demonstrate the importance of culturally relevant and developmentally appropriate interventions that strengthen adaptive self-soothing while addressing maladaptive patterns. The results contribute to clinical practice by informing the design of integrative, context-sensitive therapeutic approaches aimed at enhancing children's resilience and emotional well-being.

Keywords: Self-soothing behaviors; anxiety disorders; children; emotion regulation.

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Introduction

Anxiety disorders in children are among the most common and debilitating psychiatric conditions, with early onset often disrupting emotional, social, and cognitive development (1, 2). Unlike normative anxiety, which can serve adaptive functions during development, anxiety disorders are distinguished by their chronicity, intensity, and interference with daily functioning (3, 4). Children with anxiety disorders often experience heightened physiological arousal, intrusive worry, and maladaptive avoidance patterns, which not only reduce their quality of life but also increase vulnerability to other psychiatric conditions in adolescence and adulthood (5, 6). Consequently, researchers and clinicians have emphasized the importance of understanding the coping and regulatory strategies children adopt to manage their distress, with self-soothing behaviors emerging as a particularly significant focus (7, 8).

Self-soothing behaviors are defined as a range of cognitive, emotional, and physical strategies that individuals employ to calm themselves and restore balance in the face of distress, independent of external sources of comfort (9, 10). They are deeply connected to the broader construct of emotion regulation, encompassing processes of emotional initiation, modulation, and expression (11, 12). In children, self-soothing develops gradually, beginning with caregiver-assisted regulation and transitioning toward more autonomous forms of emotional management (13, 14). In clinical populations such as children with anxiety disorders, self-soothing behaviors may appear in both adaptive forms, such as breathing exercises and imaginative play, and maladaptive patterns, including avoidance and repetitive reassurance-seeking (2, 15). Exploring these behaviors is essential for advancing theoretical knowledge and designing effective interventions tailored to children's needs.

The developmental trajectory of self-soothing is strongly influenced by factors such as temperament, caregiver responsiveness, and environmental context (11, 16). Maternal sensitivity, in particular, has been shown to facilitate infants' regulatory capacities, providing a foundation for later autonomy in emotional coping (13). Early co-regulation experiences lay the groundwork for the internalization of coping strategies, which children then use independently when faced with stress or anxiety (17, 18). However, disruptions in caregiving—whether through inconsistency, intrusiveness, or neglect—may compromise this developmental process, leaving children more vulnerable to anxiety disorders (19, 20). At the same time, effective development of self-soothing behaviors is linked to broader aspects of social and identity formation, with children who successfully employ these strategies demonstrating higher resilience, better peer relationships, and improved adaptation in school settings (16, 21).

The concept of self-soothing has been approached from different clinical and theoretical perspectives. Bowen's family systems theory framed self-soothing as both an intrapsychic and relational process, allowing individuals to regulate emotional arousal while maintaining connections with others (8). Emotion-focused therapy highlighted the importance of fostering compassionate self-soothing in addressing disorders such as generalized anxiety (2, 3). Cognitive-behavioral frameworks, mindfulness-based approaches, and hypnosis have also emphasized techniques that enhance self-soothing by teaching individuals how to manage arousal, reframe distressing thoughts, and cultivate self-compassion (22, 23). These diverse perspectives converge on the idea that self-soothing is both a learned and a relationally embedded skill that can be cultivated through targeted intervention.

The distinction between adaptive and maladaptive self-soothing is critical. While adaptive strategies, such as breathing exercises, positive self-talk, and engagement with comforting objects, can help regulate anxiety and build resilience, maladaptive forms, such as excessive withdrawal, avoidance, or self-medication, may reinforce long-term vulnerability (4, 24, 25). The self-medication hypothesis illustrates how attempts to soothe distress through substance use may initially relieve anxiety but ultimately compound psychological and physiological problems (25). Such evidence underscores the necessity of promoting healthy self-soothing behaviors during childhood to prevent maladaptive coping trajectories later in life.

Empirical studies demonstrate that children with anxiety disorders often face difficulties in implementing effective self-soothing due to heightened physiological reactivity and negative cognitive biases (1, 4). At the same time, targeted interventions that support the development of self-soothing have been shown to reduce anxiety and improve well-being. For example, interventions using soothing imagery, tactile comfort objects, and compassionate self-talk have yielded promising results in enhancing children's emotional regulation (14, 23). Similarly, exposure to soothing stimuli such as nature sounds or carefully designed sensory environments has been found to improve mood and decrease distress among adolescents (18, 24). These findings highlight the multidimensional nature of self-soothing, encompassing cognitive, sensory, behavioral, and relational aspects (26, 27).

Self-soothing is also embedded in social and cultural contexts, shaped not only by individual learning but also by family practices, community traditions, and therapeutic innovations. Compassion-focused interventions have been shown to reduce anxiety and enhance self-soothing across populations, equipping individuals with the ability to manage distress compassionately (12, 28). Compassionate mind training, in particular, enhances resilience and well-being by building self-compassion as a regulatory tool (29, 30). In pediatric contexts, external resources such as personalized self-soothe boxes and animal-assisted therapies provide scaffolding that supports the internalization of coping skills (21, 27, 31). These practices demonstrate how self-soothing is fostered not only through individual skill development but also through relational and environmental supports.

Creative and imaginative approaches further illustrate the flexibility of self-soothing. Research on trauma-exposed populations indicates that activities such as crafts, storytelling, and expressive arts provide outlets for emotional release and identity reconstruction (10, 32). Imaginative play and therapeutic imagery are similarly effective in helping children transform fear into empowerment and integrate difficult emotional experiences (9, 32). Such findings reinforce the importance of integrating experiential, cognitive, and relational approaches into interventions for anxious children.

Despite these advances, significant gaps remain in the literature. Much of the existing research on self-soothing has focused on adult populations, experimental paradigms, or clinical case reports (9, 33). While these studies offer valuable insights, they fail to fully capture the lived experiences of children with anxiety disorders, particularly within diverse cultural contexts (17, 34). Furthermore, while new technologies and therapeutic modalities, such as vibrotactile devices and citizen-science projects collecting soothing imagery, show promise, little is known about how children perceive and engage with these tools compared to traditional strategies (18, 23). The absence of qualitative research addressing these gaps limits our understanding of the subjective meanings children attach to self-soothing, as well as the ways in which these behaviors interact with family and cultural practices (16, 35).

The present study aims to address these gaps by exploring the self-soothing behaviors of children with anxiety disorders in Tehran.

Methods and Materials

This study employed a qualitative research design with a descriptive–exploratory approach to investigate self-soothing behaviors in children with anxiety disorders. A purposive sampling method was used to select participants who could provide rich and relevant information for the research objectives. The sample consisted of 20 participants, including children diagnosed with anxiety disorders as well as their parents, recruited from clinical and counseling centers in Tehran. The inclusion criteria were: (a) children formally diagnosed with an anxiety disorder by a clinical psychologist or psychiatrist, (b) willingness of both the child and parent to participate in the study, and (c) ability to articulate and describe experiences in sufficient detail. Data collection continued until theoretical saturation was achieved, ensuring that no new concepts or themes emerged from additional interviews.

Data were collected through semi-structured interviews, allowing flexibility to probe deeper into participants' experiences while maintaining a consistent focus on self-soothing behaviors. An interview guide was developed based on the research questions and existing literature, covering topics such as the types of self-soothing strategies children use, contexts in which these behaviors occur, and parents' observations of their effectiveness. Each interview lasted between 45 and 60 minutes, and all sessions were conducted in a quiet, private environment to ensure confidentiality and comfort for participants. With informed consent, the interviews were audio-recorded and subsequently transcribed verbatim for analysis.

Data were analyzed using thematic analysis with the aid of NVivo 14 qualitative data analysis software. The analysis followed a multi-step process: (1) initial reading and familiarization with the transcripts, (2) open coding to identify recurring ideas and concepts, (3) categorization of codes into broader subthemes, and (4) refinement of subthemes into overarching themes that captured the nature of self-soothing behaviors in children with anxiety disorders. Constant comparison techniques were employed to ensure consistency across interviews and to refine categories as new data emerged. The credibility of the findings was strengthened through peer debriefing with two qualitative research experts and member checking with selected participants.

Findings and Results

The study sample consisted of 20 participants drawn from clinical and counseling centers in Tehran, including both children diagnosed with anxiety disorders and their parents. Of the child participants (n = 12), seven were girls (58.3%) and five were boys (41.7%), ranging in age from 8 to 12 years. Parents (n = 8) included five mothers (62.5%) and three fathers (37.5%), with an age range of 32 to 46 years. Most parents held at least a bachelor's degree (n = 6, 75%), while two had completed high school (25%). In terms of family structure, the majority of children lived in nuclear families (n = 16, 80%), whereas a smaller portion lived in extended households (n = 4, 20%). The duration since diagnosis of the children's anxiety disorders varied, with nine participants (45%) having been diagnosed within the past year and eleven (55%) having a history of more than one year.

Table 1. Main Themes, Subthemes, and Concepts of Self-Soothing Behaviors in Children with Anxiety Disorders

Categories (Main Themes)	Subcategories	Concepts (Open Codes)
1. Emotional Regulation Strategies	Breathing and Relaxation Techniques	Deep breathing, Counting breaths, Closing eyes while breathing, Hand on chest to feel heartbeat
	Distraction and Redirection	Listening to music, Watching cartoons, Playing video games, Reading stories, Drawing or coloring
	Positive Self-Talk	Repeating calming words, Telling oneself "I am safe," Internal encouragement, Reframing scary thoughts
	Comfort-Seeking Behaviors	Asking for hugs, Holding parents' hands, Seeking proximity, Snuggling with caregiver
	Emotional Expression	Crying as release, Talking about fears, Expressing worries through storytelling, Yelling or shouting briefly
	Ritualized Calming	Repeating bedtime routines, Saying prayers before sleep, Arranging toys in a specific order
2. Physical and Sensory-Based Soothing	Movement and Body-Based Activities	Rocking back and forth, Jumping in place, Running around, Stretching body
	Touch and Texture	Hugging a soft toy, Stroking blanket, Rubbing fabric, Holding smooth stones
	Oral Soothing	Biting nails, Chewing gum, Eating comfort foods, Drinking warm milk
	Sensory Grounding	Splashing water on face, Focusing on one object, Smelling familiar scents, Touching cold surfaces
	Body Postures	Curling into fetal position, Covering face, Crossing arms tightly
3. Cognitive and Imaginative Coping	Fantasy and Imagination	Imaginary friends, Pretending to be a superhero, Creating safe imaginary places, Escaping into daydreams
	Mental Distraction	Counting objects in the room, Doing simple math, Naming colors around, Memorizing short poems
	Self-Instruction	Reminding self "this will pass," Setting small steps, Repeating learned coping skills
	Internalized Coping from Parents	Recalling mother's advice, Imagining father's support, Using taught coping words
	Spiritual and Symbolic Acts	Silent prayers, Believing in protective objects, Repeating verses, Carrying lucky charms
	Thought Blocking	Shaking head to stop thoughts, Saying "stop" internally, Switching focus deliberately
4. Social and Relational Soothing	Seeking Parental Support	Calling mother, Holding father's hand, Sitting close to parents, Asking to sleep in parents' room
	Peer Connection	Talking to a close friend, Playing group games, Sharing fears with classmates
	Teacher or Counselor Support	Talking to teacher, Asking counselor for advice, Writing letters to teacher
	Social Withdrawal as Protection	Avoiding strangers, Staying alone in room, Limiting interactions when anxious
	Communication through Nonverbal Signals	Using gestures to show fear, Pointing at objects of fear, Drawing instead of talking
	Dependence on Siblings	Sleeping next to sibling, Asking sibling to accompany, Sharing secrets with brother/sister
	Group Rituals	Participating in family gatherings, Group prayers, Singing with peers, Joining cultural rituals

Theme 1: Emotional Regulation Strategies

Breathing and Relaxation Techniques. Children frequently described using breathing exercises to calm themselves in moments of intense anxiety. They engaged in practices such as taking deep breaths, counting while inhaling and exhaling, or closing their eyes to focus on bodily rhythms. One child explained, *"When I feel scared, I just breathe slowly and put my hand on my chest; it makes my heart beat softer."* These strategies provided immediate relief and were often taught by parents or therapists.

Distraction and Redirection. Engaging in enjoyable activities was another common strategy. Children reported watching cartoons, listening to music, or immersing themselves in games or drawing to shift their

focus away from anxious thoughts. A parent stated, *"Whenever he gets anxious, he turns on his favorite cartoon and forgets the fear."* This highlights the role of distraction as a short-term but effective coping tool.

Positive Self-Talk. Several participants indicated that children attempted to reassure themselves verbally. They repeated calming phrases such as *"I am safe"* or reframed frightening thoughts into manageable ones. One child shared, *"I tell myself the dark is not dangerous; it's just night."* Such positive self-talk was often an internalized skill encouraged by caregivers.

Comfort-Seeking Behaviors. Physical closeness and warmth were highly valued. Children sought hugs, held parents' hands, or leaned on caregivers during distress. A mother explained, *"My daughter runs to me and asks to sit on my lap whenever her anxiety gets too strong."* These behaviors reflected a reliance on attachment figures as external soothing sources.

Emotional Expression. For some, releasing emotions through crying, shouting, or storytelling was an effective outlet. One child said, *"When I cry loudly, I feel lighter inside."* This indicates that expression—rather than suppression—served as a self-soothing pathway.

Ritualized Calming. Finally, ritualized practices such as bedtime routines, reciting prayers, or arranging toys in specific patterns provided predictability. A parent described, *"Before sleep, he always says a prayer and lines up his cars; without it, he can't relax."* Such routines helped reduce uncertainty and signaled safety.

Theme 2: Physical and Sensory-Based Soothing

Movement and Body-Based Activities. Many children reported using physical movement such as rocking, jumping, or running to discharge tension. One participant commented, *"I walk back and forth in the room until I feel calmer."* These repetitive actions provided both distraction and bodily regulation.

Touch and Texture. Comfort was often found in tactile sensations. Hugging stuffed animals, rubbing soft fabrics, or stroking blankets were described as grounding. A child stated, *"I keep my teddy bear with me; its fur makes me feel safe."* The sensory qualities of objects offered emotional reassurance.

Oral Soothing. Oral behaviors such as chewing gum, biting nails, or drinking warm milk emerged as coping methods. Although sometimes viewed as maladaptive, they offered immediate calming effects. As one parent noted, *"He always asks for warm milk before bed when he's nervous."*

Sensory Grounding. Some children calmed themselves by engaging their senses directly, such as splashing water on their faces, smelling familiar scents, or touching cold objects. A participant explained, *"I wash my hands many times because the cold water makes my mind quiet."* These actions brought attention back to the present moment.

Body Postures. Self-soothing was also evident in body positioning. Children curled into the fetal position, covered their faces, or crossed arms tightly to feel secure. One child expressed, *"I hide my face under the blanket so I don't see scary things."* These embodied strategies acted as protective gestures.

Theme 3: Cognitive and Imaginative Coping

Fantasy and Imagination. Imaginative play was a major coping outlet. Children invented superheroes, imaginary friends, or safe worlds. A boy explained, *"When I'm scared, I pretend I am Superman, and nothing can hurt me."* Such creativity helped transform anxiety into strength.

Mental Distraction. Some participants reported counting objects, naming colors, or solving simple math problems during anxious moments. A girl stated, *"I count the books on the shelf until I forget my fear."* These activities functioned as cognitive diversions.

Self-Instruction. Children also used learned coping phrases to guide themselves, such as reminding that anxiety would pass or breaking tasks into small steps. One child noted, *"I tell myself, 'just do one thing now,' and it helps."*

Internalized Coping from Parents. Many strategies reflected parental influence. Children recalled phrases or coping rules taught at home. A participant said, *"I hear my mom's voice in my head telling me to calm down."* This highlights intergenerational transmission of coping mechanisms.

Spiritual and Symbolic Acts. Some children turned to prayer, verses, or protective charms for comfort. A parent explained, *"She whispers a prayer every time she feels afraid."* Spirituality acted as a symbolic shield against anxiety.

Thought Blocking. Finally, children described attempts to block intrusive thoughts by shaking their heads, saying "stop," or deliberately changing focus. One child remarked, *"I tell my brain to stop thinking and look somewhere else."* This demonstrates active mental control over distressing thoughts.

Theme 4: Social and Relational Soothing

Seeking Parental Support. Parents remained the most significant figures for emotional safety. Children sought proximity, asked to sleep in parents' rooms, or held hands during distress. One parent stated, *"At night, he won't sleep unless he's next to me."*

Peer Connection. Some children reported relying on friends for comfort, such as talking, playing, or sharing worries. A child noted, *"When I tell my best friend what scares me, I feel better."* Peer support functioned as a buffer against isolation.

Teacher or Counselor Support. School staff also provided guidance. Participants mentioned confiding in teachers or counselors. One child explained, *"I wrote my fears in a letter to my teacher, and she told me it's okay."* This underscores the school environment as a secondary support system.

Social Withdrawal as Protection. Conversely, some children preferred isolation during high anxiety, avoiding strangers or retreating to their rooms. A parent observed, *"He locks himself in his room when anxious."* Withdrawal was perceived as protective, though limiting.

Communication through Nonverbal Signals. Some children used gestures or drawings to express fear instead of words. One child said, *"I just point at what scares me because I can't say it."* These signals allowed expression when verbalization felt overwhelming.

Dependence on Siblings. Siblings played an important role, with children sleeping beside them, asking for accompaniment, or sharing secrets. A girl stated, *"I only feel safe when my sister is with me."* This shows the family as a broader emotional network.

Group Rituals. Finally, collective activities like family gatherings, group prayers, or singing with peers were calming. A participant explained, *"During family prayers, I don't feel scared anymore."* These rituals fostered belonging and reduced anxiety through shared experience.

Discussion and Conclusion

The findings of this qualitative study provide rich insights into the self-soothing behaviors adopted by children with anxiety disorders, highlighting the diversity of emotional, sensory, cognitive, and relational strategies employed to manage distress. The thematic analysis revealed four overarching domains: emotional regulation strategies, physical and sensory-based soothing, cognitive and imaginative coping, and social and relational soothing. Each domain demonstrated how children creatively adapt to anxiety-provoking experiences, often blending traditional coping methods with unique personal rituals. These findings are significant in that they underscore the centrality of self-soothing in the everyday emotional lives of anxious children and illuminate both adaptive and maladaptive patterns.

The results demonstrated that breathing and relaxation techniques, distraction, and positive self-talk were among the most frequently reported emotional regulation strategies. These behaviors align with previous literature identifying self-regulation and mindfulness-based methods as key modulators of anxiety symptoms (3, 22). For example, children in this study frequently reported deep breathing, counting breaths, or repeating calming words as immediate responses to anxious arousal, echoing research that emphasizes the role of physiological grounding in reducing emotional intensity (13, 23). The emphasis on positive self-talk also parallels findings from emotion-focused therapy, which identifies compassionate self-soothing as a mechanism for emotional transformation in anxiety disorders (2, 9). The role of comfort-seeking behaviors, such as seeking hugs or close proximity to parents, further supports the argument that self-soothing behaviors are relationally scaffolded in childhood and often remain intertwined with attachment needs (11, 16).

Children also engaged in ritualized calming behaviors such as prayers, bedtime routines, and repetitive ordering of toys, suggesting that predictability and ritual function as self-soothing anchors. This is consistent with studies showing that structured routines provide children with a sense of control over uncertainty and contribute to enhanced regulation (17, 18). At the same time, the findings reflect cultural factors, as reciting prayers or engaging in spiritual rituals were identified as critical forms of coping. Prior work has similarly emphasized the role of spirituality and symbolic practices in enhancing children's emotional regulation and resilience (30, 33).

The second major theme involved physical and sensory-based soothing strategies. Children reported movement-based behaviors such as rocking, jumping, and pacing, which align with earlier research documenting the calming role of repetitive body movements (1, 5). Similarly, tactile soothing behaviors such as hugging stuffed animals, stroking blankets, or holding smooth objects mirror findings on comfort objects as external regulators of distress (14, 26). The study's evidence of oral soothing behaviors such as chewing or drinking warm milk is consistent with research on sensory grounding and self-soothing in both clinical and everyday settings (25, 36). These findings collectively reinforce the idea that sensory engagement provides a reliable route to soothing, as supported by work demonstrating the benefits of vibrotactile comfort objects and sensory-based interventions for anxiety (14, 24).

The cognitive and imaginative coping strategies revealed in this study demonstrate children's creative use of mental imagery, fantasy, and internalized parental guidance. Children often described creating safe imaginary worlds or pretending to be superheroes, findings that align with earlier accounts of imaginative play as a regulatory process (10, 32). The use of mental distraction, such as counting or naming objects,

reflects well-established cognitive-behavioral techniques designed to redirect attention away from anxiety (3, 4). Self-instruction and internalized parental coping scripts were also identified, echoing research on the transmission of regulation strategies from caregivers to children (11, 13). The reliance on spiritual acts and thought-blocking demonstrates the variety of cognitive routes children take to modulate distress, resonating with studies of compassionate mind training and self-compassion interventions in reducing anxiety (12, 29, 35).

The fourth theme, social and relational soothing, highlighted the role of interpersonal supports in children's coping repertoire. Seeking parental proximity emerged as the most consistent relational strategy, reinforcing the literature on attachment theory and the continuing role of co-regulation in middle childhood (11, 16). Beyond parents, children also described drawing comfort from siblings, peers, and teachers, indicating that broader social networks provide important scaffolds for self-soothing. These findings align with prior research on resilience and grit in pediatric populations, where relational supports significantly predict emotional functioning (16). At the same time, some children reported withdrawal and avoidance, which while protective in the short term, may reinforce maladaptive patterns of coping. This reflects concerns in earlier work about avoidance-based strategies exacerbating long-term anxiety (4, 24).

Taken together, the findings highlight that self-soothing in anxious children is multidimensional, encompassing emotional, sensory, cognitive, and relational strategies that often overlap. This multidimensionality is consistent with integrative models of emotion regulation, which emphasize the interplay between internal processes and external supports (2, 37). Moreover, the findings underscore the importance of cultural and contextual influences on self-soothing practices, as illustrated by the frequent reliance on spiritual rituals and family-based strategies. Previous research has noted that cultural practices and values shape the development and expression of self-regulation and coping, a point confirmed in the present study (17, 34).

In terms of clinical implications, the results align closely with emerging therapeutic interventions that seek to foster self-soothing capacities. Compassion-focused therapy, mindfulness practices, and creative modalities such as expressive arts and therapeutic imagery all provide pathways for enhancing adaptive self-soothing (10, 32, 33). Similarly, innovative interventions such as personalized self-soothe boxes, animal-assisted therapies, and sensory devices provide external tools that support the internalization of coping strategies (21, 27, 31). The findings of this study lend qualitative support to the efficacy of these approaches, suggesting that integrating children's lived experiences with structured therapeutic tools can enhance both acceptability and effectiveness.

Another important implication is the recognition of maladaptive self-soothing patterns, such as avoidance or excessive withdrawal, which were evident in some participants. These behaviors provide temporary relief but may perpetuate cycles of anxiety and reduced social engagement. This echoes concerns raised in prior literature on self-medication and maladaptive coping, where short-term relief leads to long-term impairment (4, 25). Recognizing and addressing these patterns in therapeutic settings is critical for ensuring that interventions do not inadvertently reinforce unhelpful coping behaviors.

The study also contributes to theoretical discourse on the recursive nature of self-soothing, confirming that it is both an intrapsychic and relational process. This supports earlier formulations of self-soothing as proposed in family systems theory (8), while also extending them by showing how cultural rituals and

environmental scaffolds shape children's experiences of self-regulation. The findings also resonate with contemporary work on interpersonal emotion regulation, which emphasizes the importance of relationally embedded coping in both children and adults (12, 28).

By documenting these lived experiences, the study highlights the need for more context-sensitive approaches in clinical practice. For example, while imagery and tactile strategies may be universally helpful, spiritual rituals and family-based practices are culturally specific and must be integrated respectfully into interventions. This echoes the call for culturally grounded research and therapeutic innovation ma de in recent scholarship (17, 34). Thus, the study advances not only developmental and clinical models of self-soothing but also contributes to the cross-cultural psychology of anxiety and regulation.

This study is not without limitations. The qualitative design, while rich in detail, involved a relatively small sample of 20 participants drawn exclusively from clinical and counseling centers in Tehran, which may limit generalizability to other populations. The reliance on semi-structured interviews also introduces potential biases, as children may have varied in their ability or willingness to articulate their coping strategies. Additionally, the presence of parents in some interviews may have influenced children's disclosures, potentially leading to underreporting of maladaptive or socially undesirable behaviors. The use of NVivo facilitated systematic analysis, but as with all qualitative studies, findings are interpretive and shaped by the perspectives of the researchers.

Future research would benefit from larger and more diverse samples across different cultural contexts to explore the universality and variability of self-soothing strategies. Longitudinal studies could examine how self-soothing behaviors evolve over time, particularly across developmental transitions such as adolescence. Experimental designs incorporating psychophysiological measures may provide additional insights into the effectiveness of specific strategies in reducing physiological arousal. Further, comparisons between clinical and non-clinical populations would clarify which self-soothing behaviors are unique to children with anxiety disorders and which are normative developmental phenomena. Finally, integrating children's voices with observations from parents, teachers, and clinicians would provide a more comprehensive understanding of how self-soothing operates across contexts.

From a practical perspective, the findings suggest that interventions for children with anxiety disorders should emphasize the development of adaptive self-soothing strategies across emotional, sensory, cognitive, and relational domains. Clinicians should encourage the use of culturally relevant rituals and family practices while also introducing evidence-based tools such as breathing exercises, imagery, and tactile comfort objects. Schools can play an important role by creating supportive environments where children feel safe expressing emotions and using self-soothing techniques. Parents should be educated on the importance of modeling adaptive regulation and scaffolding their children's coping skills. Ultimately, strengthening self-soothing capacities in childhood may not only reduce anxiety symptoms but also build resilience and promote long-term emotional well-being.

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Authors' Contributions

All authors equally contributed to this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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