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# **Cognitive Behavioral Therapy Principles in Children: Treatment of Internalizing Disorders**

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## **Abstract**

Cognitive behavioral therapy (CBT) is an effectiveness-proven therapy method in the psychosocial treatment of childhood internalizing disorder. Considering the techniques included, even though anxiety and major depression are two different disorders, they are observed to occupy a quite common pool in terms of their similar nature, symptoms, etiologies, and high comorbidity rates. While these techniques are rationally similar to those in adult CBT, application ways, contents, session structures of the techniques, and styles of homework should be adapted to the developmental characteristics of children. In this book chapter, initially, several CBT programs for childhood internalizing disorders will be mentioned. After that, main points to take into consideration while adapting CBT, which was firstly designed for adults to children, will be emphasized. Lastly, information about main CBT techniques, whose effectiveness has been proven in the treatment of internalizing disorders, will be given.

**Keywords:** childhood internalizing disorders, cognitive behavioral therapy, childhood depression, childhood anxiety disorder, behavioral therapy, cognitive therapy

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## **1. Introduction**

In recent years, there has been a tendency toward gathering disorders under two main groups in order for the nature of mental disorders in childhood to be understood more easily, and to develop common therapy techniques. Externalizing disorders refer to mental disorders that include characteristics such as mainly opposition and aggressive behaviors, hyperactivity, and impulsivity [1]. Internalizing disorders are characterized by mood symptoms such as anxiety, fear, hopelessness, unhappiness, as well as social withdrawal, reduced self-esteem, loss of self-confidence [2]. The main disorders grouped

under childhood internalizing disorders include anxiety disorder (specific phobia, social phobia, generalized anxiety disorder, panic disorder, and separation anxiety disorder), and major depressive disorder.

Anxiety disorder ranks first among the most common mental disorders seen in childhood, and has a prevalence rate varying between 8.6 and 17.7% [3–6]. Prevalence of childhood major depressive disorder before the age of 13 is reported as 2–3% [7–9]. Apart from the similarities of symptoms, etiologic descriptions and developmental characteristics of two disorders, another reason for grouping them together is the high comorbidity rates observed in clinical practice [2]. Accordingly, 69% of the children primarily diagnosed with anxiety disorder meet the depression criteria, and 75% of the depressive children are also diagnosed with anxiety disorder [10–12]. In prospective and retrospective studies performed on adults, it has been found that internalizing problems that start in childhood become permanent at the beginning of adolescence and continue the same way in adulthood [13–16].

Both research data and clinical practices show that cognitive behavioral therapy (CBT) has become a quite strong option in the treatment of childhood internalizing disorders. CBT is a therapy method that was firstly designed to fight cognitive distortion of depressive adults [17]. Then its field of application has extended significantly, and it has become a psycho-social therapy method that is primarily used in treatment of anxiety disorders, eating disorders, anger management problems, chronic pain disorders, marriage conflicts, psychotic disorders, and even personality disorders [18]. However, use of CBT in psycho-social treatment of children started almost in 1990s. The main reason of such a delay lasting about 20 years was the question whether the basic concepts of cognitive therapy, and rational analysis techniques that query thoughts were suitable for children. However, studies conducted over years showed that children were capable of understanding many abstract concepts when described in a concrete language by using metaphors and practical examples from daily life, and performing the tasks with “cognitive” content assigned to them during therapy without any difficulty. It has been proven that especially children that are eight or above can distinguish emotions, thoughts, and behaviors from each other in line with the basic mechanism of CBT, talk about their thoughts, capture their self-talks, and fulfill the self-monitoring tasks [19, 20].

During the last 30 years, CBT has been the most accepted therapy model in the treatment of childhood internalizing disorders [20]. Use of CBT in the treatment of childhood anxiety disorders started with the “Coping Cat” program designed by Kendall in 1990. Effectiveness of this program translated to many languages (“Coping Kuala” — see [21, 22]; “Coping Bear” — see [23]), and similar therapy programs based on Coping Cat has been supported with several study findings that have different research designs [24–35].

“FRIENDS” program developed by Barrett, Lowry-Webster and Turner for the treatment of childhood internalizing disorders in 2000 is another structured CBT program that was firstly created in group format followed by the individual format (for its effectiveness, see [36, 37]). The most significant feature of this program distinguishing it from Coping Cat is that it has been developed to treat not only anxiety disorders but also depression.

Another CBT-based treatment program developed by Beidel, Turner, and Morris in 1998 to be used in the treatment of social phobia is “Social Effectiveness Therapy for Children (SET-C).” This program is designed for children between the ages of 8 and 12 and composed of 12 individual and 12 group sessions conducted simultaneously on the same weeks (for its effectiveness, see [38]). “Stand Up, Speak Out” is another effectiveness-proven therapy program designed for social phobia [39].

A structured therapy program also designed to be used in childhood anxiety disorder is the individual CBT program called “Thinking + Doing = Daring (TDD)” which was developed by Bögels in Holland in 2008. This manual which was prepared based on effectiveness-proven programs such as Coping Cat and Friends has a structure that consists of 20 sessions and includes basic CBT techniques (for its effectiveness, see [40]). Another therapy manual used in the treatment of childhood anxiety disorders is the CBT program called “Fear Hunter” which was designed by Sorias and her colleagues in 2009. This program consists of 13 child sessions and 3 family sessions and respectively, covers the basic CBT techniques (for its effectiveness, see [41]).

Though they are not as diverse as the manuals created for anxiety disorders, there are also effectiveness-proven CBT programs that have been developed for childhood major depressive disorder. In 1990, “Coping With Depression (CWD)” program was developed under the leadership of Clarke and Lewinsohn, and effectiveness of the program has been proven (for its effectiveness, see [42]). Program consists of 16 sessions including basic CBT techniques such as relaxation, cognitive restructuring, problem solving, and social skills training, and was designed in group format [43].

In the following years, Brent and Poling [44] developed a therapy program for depressive and suicidal children. They compared it with behavioral family therapy (SBFT) and non-directive supportive therapy (NST) to test its effectiveness, and emphasized in the findings that program was significantly more effective as compared to two conditions [45]. In 1996, Stark and Kendall developed the program called “Taking Action” that could be applied both in groups or with individuals, and generally targeted girls with depressive disorder [46]. In the program consisting of 18 children and 11 family sessions, individual workbooks were prepared for parents and children separately. Program mainly covered emotion training, coping skills, problem solving technique, and cognitive restructuring. After that, in 2006, Stark and his team published a new workbook and therapist manual, and developed a program called “ACTION” [47, 48]. Designed for girls aged between 9 and 13, the program consisted of 20 sessions.

In the following sections of the chapter, main points to take into consideration while adapting CBT which was firstly designed for adults to children with reference to both the mentioned therapy manuals and research findings will be covered, as well as the main CBT techniques whose effectiveness has been proven in the treatment of internalizing disorders.

## 2. Application of CBT in children

Children are quite different than adults both cognitively, emotionally, and behaviorally. Therefore, adaption of adult therapy techniques to children has always been a difficult and

quite sensitive issue. Even though the rationale of therapy and main frame of the techniques used do not change, issues such as adaptability of them to children in developmental terms, structure or duration of sessions are quite important.

### **2.1. Main characteristics of childhood CBT**

One of the main points to take into consideration when dealing with CBT in children is a candid, understanding, and accepting communication. Such communication is emphasized as an essential factor of CBT in children regardless of the psychopathology. Additionally, it is important to maintain the structured and guiding nature of CBT in all sessions. However, a strict, forceful, or ignoring manner should always be avoided. On the contrary, it is required to present both the session structure and the techniques within the therapy in a quite flexible, playful, and co-operative manner to the child, and play an active and directive role as a therapist. Maintenance of such a gentle and accepting attitude, especially while working with techniques that would trigger anxiety and fears of the child such as exposure or problem solving is ultimately important for the course of therapy and motivation of child. At this point, therapist has a critical role for behaving in a creative and spontaneous manner [18, 49].

Apart from the quality of relationship between the child and therapist, considering the developmental characteristics of childhood, identification of therapy targets that would increase child's functionality and satisfaction with life in the most concrete and understandable way possible, but at the same time, inclusion of the child into the process are among other key points. This stage of the therapy is quite sensitive and significant, since especially depressive children have serious difficulties in determining accessible and positive life targets. Besides, more time should be allocated and examples should be used for identification and discrimination of emotions in childhood CBT as compared to adult therapy. Use of a scale up to a maximum of 10 when the child is asked to rate his/her emotions, and making use of visual templates such as "emotion thermometer" or "wheel of emotions" will enable the child to learn this technique more easily.

Considering the cognitive characteristics of children specific to the age periods, another element that is as much difficult as emotions to understand and express is thoughts or self-talks. Therefore, diversely the adult CBT, it will be useful to do more exercises on capturing and expressing thoughts as well as to make use of hypothetical examples while working with children. Another must-have therapy element while working with children is naturally games. Inclusion of games that will relax the child into sessions will make the therapy setup more appealing for the child, extend the short concentration time of child, and enable him/her to move away from incidents that are quite difficult for the child to talk about [18, 49].

CBT is a structured therapy technique; therefore, the order of skills and tasks to be worked on is certain. Use of acrostics for the child to remember that order will both make the therapy more fun, and cause the order to stay at the back of child's mind more easily [50].

### **2.2. Importance of family involvement**

In line with both the results of controlled studies and clinical observations, today many clinicians and researchers agree on the fact that active involvement of family in child-oriented



CBT affects the results of treatment more positively [51–53]. Maintenance of such co-operation throughout the therapy and regular family meetings are critical in terms of checking if the nonfunctional behaviors of the child are reinforced or adaptive behaviors are not punished. It is a known negative factor that parents play a role in continuity of anxiety by reinforcing the escape/avoidance behaviors of the child [22, 54].

Additionally, it has been shown by many researchers that certain parent attitudes cause internalizing problems in children such as anxiety or depression. Protective and neglectful attitudes are the main parent attitudes that are associated with internalizing symptoms [52, 55–58].

Protective parenting is the most striking attitude in the studies. In these type of families, parents do not let the child to face any problem, and continuously and actively intervene in child's life. The child cannot learn how to cope with a real life stress that will emerge in the future and thinks that he/she does not have the strength and skills to cope with such challenging living conditions, since he/she has never directly faced with life problems as a result of such intervening parenting behaviors. Consequently, anxiety or depressive disorder will emerge inevitably.

Neglectful attitude of parent is also thought to be associated with child's anxiety. As a result of neglectfulness, the child will continuously face with every day challenges, make mistakes during the solution of such challenges since he/she lacks both physical and cognitive skills due to the developmental period, and experience repetitive failures without guidance. These failure and disappointment experiences will surely lead to internalizing symptoms in the child after some point. Moreover, because of the neglectful parenting style, the child may feel herself/himself as undesirable, loveless, alone, and insignificant. Considering the relationship between parenting behaviors and internalizing in children, another significant issue is the critical approach level of parents [59, 60].

Psychopathology history of parents is commonly researched issue in childhood psychopathology. Many studies have emphasized the presence of a considerable number of people diagnosed with internalizing disorder among the parents of children diagnosed with internalizing disorder [61, 62]. Similarly, studies have shown that the risk of anxiety or depressive disorder is significantly higher in children with anxious parents as compared to those with non-anxious parents [60, 63–67]. Therefore, even though the applied therapy program is child-oriented CBT, being in a close relationship and co-operation with the parents, and referral of the parent with psychopathology to the necessary services as well as facilitation of his/her access to treatment will increase the effectiveness of treatment. By this way, the parent with decreased symptoms will be able to establish a healthier communication with the child and serve as a positive model.

Family sessions can be involved in the therapy program in various ways during CBT of internalizing disorders. In some programs, the last 5 min of each session with the child can be allocated to parents, whereas some may require parent meetings in addition to this arrangement. Family meetings should mainly include the following: psychoeducation on the nature of childhood internalizing disorders, debriefing about the main rationale of CBT, a short

introduction of the therapy program to be used, discussion on parenting attitudes that trigger or alleviate internalizing symptoms, a short training on effective parenting methods, debriefing on effective reinforcement and punishment techniques, conversation on intra-family communication skills and ways to strengthen them, debriefing about how should the parents help their children during the process of doing homework given through the therapy, and practice of techniques in daily life [50, 68].

Another issue to be covered during parent meetings is the expectations. Some parents have great expectations from the treatment, such as CBT will change all the behaviors of child; there will not be any problems while he/she is doing his/her homework; there will be less conflicts with the siblings; or his/her room will always be tidy. At this point, it is quite important to underline which behaviors this therapy program will specifically focus on while informing the family about the content of program. Similarly, some parents who cannot observe the improvement, they have expected during the first few sessions may not bring the child to sessions at the very important point of therapy. While talking about contents of sessions during family meetings, emphasizing that the child will mostly learn about techniques developed to effectively cope with the symptoms in the first sessions, so they will be more theoretical, and the change will occur when the child starts to use these acquired skills in his/her own life will positively affect the rate of attendance to sessions.

### **2.3. Importance of homework**

One of the essential components of the program for CBT is homework. Thanks to homework, clients might practice the skills they have learned in sessions in their daily life, and might gain the chance to apply the coping techniques taught by the therapist when they encounter with problems in life [69]. Another advantage of homework is the opportunity it provides for the therapist to understand which techniques the child has earned and which he/she has not [70].

While using homework actively is important, the way homework is presented to children also matters. Firstly, it is required to precisely distinguish homework given at schools from the homework given in therapy to be done between sessions. By this way, prejudice of the child toward these tasks will be prevented, and performance anxiety will be triggered as little as possible for cases with anxiety disorder. When examining the therapy programs, it is seen that various names are given to break down the “homework” perception that the child might have: “Show That I Can” or “Take Home Projects” are two examples [50, 71].

Especially, if the academic skills of the child fall short in this aspect, it is important not to focus too much on writing skills and grammar, and structure some of the activities and homework verbally, if required, thus enable the child to feel more comfortable and happy. Another point to take into consideration about homework is informing the parents about homework every week. Therapist should talk to the parents in advance to advice them to encourage and help the child, especially in tasks that are difficult to perform.

When literature is examined, it is seen that homework given to children with anxiety disorder mostly includes self-monitoring of anxiety, relaxation exercises, keeping records of thoughts,

problem solving exercises, and exposure exercises. Typical homework types observed in children with depression focus on activity scheduling, social skills training, problem solving skills, self-monitoring of mood and thought records [72].

#### **2.4. Importance of rewarding**

In treatment of all the mental disorders seen in childhood, rewarding that is based on operant conditioning is one of the essential therapy components of CBT. Unlike other techniques, the focus in rewarding is not reducing the internalizing symptoms; the primary aim of rewards is to enable the child to maintain the motivation and attendance to sessions, encourage him/her to do the homework given, as well as to create a factor that facilitates application of techniques such as exposure or social skills training. Behavior shaping, positive reinforcement, fading, and negative reinforcement are the most commonly used rewarding techniques in the treatment of internalizing disorders [20, 73].

There are some points that must be taken into consideration while using rewarding techniques in children. Firstly, it is quite important to create a reward pool that suits the needs and interests of each child. Besides, it should be known that social reinforcers are effective on children as much as the physical reinforcers. Therefore, the role of social reinforcers in the treatment must be noted; they should be used frequently during or between sessions, and the family must be informed about the matter [20]. Secondary reinforcement such as collection of coupons or points are considered as a main rewarding technique just as the spontaneous and short-term rewards [73]. Therefore, it is quite important to establish a rewarding system to be maintained throughout the program in childhood CBT, and integrate this planned system into structured therapy.

Teaching the child to reward himself/herself will increase the motivation of child about techniques and change in the long-term as much as being rewarded by the therapist or family. For this reason, if the child learns self-reinforcement during the sessions, symptoms of children with internalizing disorder such as negative mood, low self-esteem, and social withdrawal will be affected positively.

### **3. Main CBT techniques used in internalizing disorders and application examples**

The main target of CBT is to change the bias and distortion in information processing processes that are thought to trigger internalizing symptoms, and prevent the non-functional coping patterns created by such cognitive impairment. Therefore, combination of behavioral techniques and cognitive techniques is used in the treatment of childhood internalizing disorders with CBT [73].

When CBT programs designed for the treatment of internalizing disorders are examined, it is observed that similar technique sets are used both in anxiety and depression. In a study conducted by Chorpita and Daleiden [74], effectiveness-proven programs that are applied



in a total of 322 randomized clinical studies were examined, and the techniques used were grouped by diagnosis, age, and gender. As a result, although the programs generally incorporate many different techniques, they have determined the techniques that constitute the framework of therapy manuals which are found to be effective for depression and anxiety. Accordingly, they have suggested that exposure, relaxation exercises, cognitive reconstruction, modeling, and psycho-education are used mostly in the treatment of childhood anxiety disorder. Manuals prepared for the treatment of depressive disorder mostly include psycho-education, cognitive restructuring, activity scheduling, problem solving, social skills training, and self-monitoring techniques. This structuring does not vary with age or gender, and these techniques are rather sorted similarly in all children CBT programs [74].

The most frequently used techniques in internalization disorders are described below.

### 3.1. Psycho-education

Psycho-education is considered as the first component of CBT in internalization disorders, and programs generally start with this technique. The main purpose of psycho-education is that child is informed about many different aspects (for instance, its nature, components, symptoms, and etiology) of anxiety or depressive disorder throughout the therapy [71]. While working with children, it is a common practice to nickname the disorder for externalization of the symptoms of disorder by the child [75].

After the informing stage, two main focus points of internalization disorders are examined; emotions and physical symptoms. Considering the developmental characteristics, realizing, naming, and expressing the emotions are quite complex for a child. At the same time, it will not be easy for a child with internalizing problems to talk about his/her own emotions. Therefore, hypothetical examples, emotion-oriented entertaining exercises and games should be used while working with children about emotions. Thus, the child feels comfortable, and a suitable environment is created to talk about emotions. Creating a list of emotions, creating situation cards and making guesses about what a person might feel against these situations, playing facial expression games about emotions, giving homework for the child to investigate emotions of the people around him/her like a detective and keep records of them, and teaching the child to rate his/her emotions with metaphors such as emotion thermometer are some examples of activities. As a result of psycho-education, the child can distinguish the emotional processes of himself/herself and others, and can express them accurately.

Physiological symptoms such as stomachache, shortness of breath, headache, and somatic complaints are often observed in internalizing disorders. Therefore, in order to cope with these, it is a prerequisite for the children to know about the nature of physiological symptoms, how and where they emerge, and how the anxiety or depressive mood is triggered or alleviated. As a result, the main rationale of psycho-education is that the child that can identify his/her own emotions and physical symptoms well and distinguish from other situations will be able to effectively cope with this intense mood [73, 76].

### 3.2. Relaxation techniques

Application of relaxation techniques in the therapy for childhood internalizing disorders improves coping skills of the child, and increases the self-efficacy by enabling the child to see himself/herself more strong against situations that create stress [49].

In the treatment of internalizing disorders, relaxation techniques are used to reduce the psychophysiological arousal level in the presence of stimuli that trigger emotions such as fear, anxiety, anger, and despair. Therefore, main target of relaxation exercises is the child's recognition of his/her subjective muscle and body reactions against stress, and learning to control such physiological reactions [73, 76]. Relaxation techniques used in children can be applied in two different ways; deep breathing exercise and progressive muscle relaxation.

Children with anxiety or depressive disorder report that they feel shortness of breath when they are faced with a situation that causes negative affect, or they get out of breath since their inhalation time shortens. In such a case, the air panted fills only the upper part of lungs, oxygen that goes into the brain decreases, physical stress emerges, and the autonomic nervous system gets activated. Therefore, the breath inhaled deeply using diaphragm relaxes the alarmed nervous system to some degree, since it makes respiration rhythmic and regular [73].

In deep breathing exercise, the child is asked to close his/her eyes and take a deep breath from his/her nose, then exhale this breath slowly. The fact that inhaled breath fills the abdomen rather than the rib cage by pushing down the diaphragm is the most important part to be considered in education [77]. Teaching the diaphragmatic breathing may be quite difficult, especially if the target group is children. Therefore, laying the child on a mat and placing a weight on his/her belly such as a book, and making sure that his/her belly moves up and down would be a practical method that can be used.

Aim of the muscle relaxation technique, which is the second stage, is to decrease the muscle tightness related to anxiety, and prevent such tightness from further aggravating the internalizing symptoms. With this technique, activity of the parasympathetic nervous system increases, and a regression is enabled in the activity level of the triggered sympathetic system [78]. In the progressive muscle relaxation training, the main muscle groups of the body are introduced to the child, and then the child is taught to tense up and release them progressively. At this tense up-release stage, child learns about the changes in his/her body while his/her muscles are tensed. Besides, while the child learns about the muscle groups, he/she can recognize which parts of own body are affected during anxiety or stress, constitute an "early alarm system" of his/her own, and start to apply the relaxation techniques when he/she faces with a situation that causes a negative affect. As a result of this awareness, the child can adapt the muscle relaxation technique which might take long to himself/herself, and achieve a shorter and effective relaxation during anxiety by focusing only on the problematic muscle groups [73, 76]. For instance, if the child states that she feels tenseness on her shoulders, head, mouth, and hands among the muscle groups in the body under stress, she

can constitute a personal relaxation program that is focused on these areas only rather than a long relaxation exercise involving all muscles, and can be applied more practically since it is short.

While teaching progressive muscle relaxation technique, practicing the moves in the tense up-release exercise by using entertaining concrete examples both increases the child's willingness to apply the exercise and strengthens the memorability of moves [73, 76]. For instance, while working with hand muscles, the child might be asked to imagine a lemon in his/her hand and squeeze it to extract its juice, or while working with abdominal muscles, the child might be guided to pull his belly in by saying that a baby elephant is about to step on his/her belly, or while working with foot muscles, the child might be asked to imagine that he/she has stepped in a huge mud puddle and is trying to leave his/her foot marks [79].

Another method used in progressive muscle relaxation technique is called "cue-controlled relaxation." The aim of this method is to enable the children that do not want to attract attention of others when he/she needs to relax in social environments to move to relaxed mode without performing the exercise. For this purpose, at the end of the progressive muscle relaxation exercise performed during session, when the child is completely relaxed, a word that will remind him/her this relaxation mood is called out loudly. Therefore, the called out word is linked with the relaxation mood, and the child that cannot apply the technique due to an inappropriate environment can say this word to himself/herself and relax in any anxiety or anger situation to occur in the future [73, 76].

Effectiveness of the progressive muscle relaxation technique is realized when applied regularly. Therefore, this technique is given to the child as homework during therapy, and he/she is asked to practice this acquired skill throughout the whole therapy program. It would be a good idea to ask for the help of parents at this point. Doing the relaxation exercise with the child, if possible, or allowing the child to teach this technique to the parents will not only enable the exercise to be more reinforced but also make the exercise more entertaining and strengthen the parent-child interaction.

### **3.3. Attention shifting technique**

Most of the children with anxiety disorder focus totally on the negative thoughts when a thought causing anxiety comes to their mind, and selective attention works up the anxiety further. Similarly, depressive children focus on the negative situations/incidents rather than experiences or memories that makes their valuable in life or feel good, and fill their mind with such thoughts continuously. Therefore, a technique is used to distract attention from the thought causing negative emotions to a neutral or relaxing mental activity, and help the child to feel himself/herself much better.

These mental activities might include neutral reasoning such as counting or finding names starting with the last letter, or thinking activities such as imagining to be somewhere that the child feels very happy and comfortable or thinking of the lyrics of a song that he/she likes.

It is assumed that the more detailed the scene pictured in the mind is, the quicker and easier the child will relax. Accordingly, it will be quite useful to work on this imagination during session, and help the child to elaborate it [73, 76].

### **3.4. Cognitive restructuring**

The key component of all CBT manuals developed for the treatment of internalizing disorders is cognitive restructuring. In the cognitive behavioral theory, cognition, emotion, and behavior are conceptualized as inseparable elements; therefore, it is assumed that impairments in emotions and behaviors will improve by means of identification and restructuring of distorted or unreal cognition. Restructuring refers to replacement of non-functional thoughts with more constructive thinking styles, and in a sense, revision of thoughts [80].

Main targets of cognitive restructuring are recognizing, testing, and decreasing the mistakes made while interpreting what goes around and unrealistic/negative self-talks that emerge accordingly, then producing positive self-talks based on reason that can replace the negative ones, and coping with the unrealistic negative cognitive distortions. Frequently used techniques during cognitive structuring include Socratic questioning, evidence search, giving instructions to yourself, in-session behavior rehearsal and role-playing, thought record, and in-session rewarding system [73, 76].

Negative self-talks that are not adaptive (or automatic thoughts) are an expression of child's cognitive distortions. Cognitive distortion is a concept that is created as a result of incomplete or inaccurate information processing process, results in misinterpretation of the environment and/or others and/or oneself, and has a significant place in the etiology of childhood internalizing problems. Thereby, it is an important step of CBT for the child to get training on cognitive distortions and evaluate his/her negative self-talks within the scope of cognitive mistakes by using the Socratic questioning method during the cognitive restructuring stage. Once the negative self-talks are captured, the child tries to break this loop by using various motivating sentences or slogans to replace the non-adaptive self-talks via "giving instructions to yourself" technique [81]. Studies show that the most frequently seen cognitive distortions in children with internalizing disorder include catastrophizing, black and white thinking, over-generalization, should statement, mind reading, magnifying/minimizing, and labeling [20].

Children need time to distinguish between emotion-thought-behavior due to their developmental characteristics; therefore, they need to do enough exercises to gain this skill. It is important to cope with overly negative/unrealistic thoughts more effectively and focus on the behavior and emotions that will emerge as a result of the positive/realistic thoughts, by working on exemplary situations [82]. Since talking directly on examples of their anxieties will discomfort the children, this exercise period is generally covered with hypothetical examples, and then child's own anxieties are addressed [73, 76]. Limiting the homework related to thought record to a maximum of four columns (situation-thought-emotion-behavior) will be suitable for the child's developmental period.

Use of evidence search method during Socratic questioning, and performance of this by the therapist loudly while working on hypothetical examples is a good opportunity to serve as a model. Some questions that might be asked during Socratic questioning are as follows: “Do you really think that it will happen?,” “What evidence do you have to think like this?,” “May there be another alternative?,” “What is the worst scenario, and how you can cope with it?,” “What is the best scenario in this situation?,” “What would you advice if this happened to someone else?,” “Has it happened before, and if so what happened?,” etc. [81].

### 3.5. Self-monitoring

Self-monitoring is one of the cognitive elements of therapy, and generally used to facilitate the cognitive restructuring. The aim of the self-monitoring technique is to enable the child gain a self-awareness to identify his/her emotions and thoughts. Therefore, self-monitoring differs from other CBT techniques in that child monitors and evaluates his/her own behaviors by oneself.

While gaining the self-monitoring skill, the child must firstly gain awareness on whether the target reaction exists. Besides, keeping records on target behaviors is an important part of this technique. Thus, child can observe how often and when he/she performs such behaviors out of session, and notice the recurring patterns related to possible triggers on paper [83]. Focus of self-monitoring can also be emotions as well as behaviors. The target is to enable the child to observe his/her mood during the day, and realize which emotions are felt when and during which situations [50, 84]. Depressive children can be timid and shy for working on his/her emotions and thoughts. At this point, therapist should undertake a more active role and encourage the child.

### 3.6. Problem solving technique

For a depressive child, problem solving is a serious difficulty; the main reason of difficulty consists of decision-making difficulty, depressed mood, absence of energy, and intense despair emotions seen in depression [85]. A similar situation applies to the anxious child. The child that faces with a problematic situation experiences serious problems in analyzing the problem and thinking of solutions due to anxiety and panic [86]. As a result, the child with internalizing disorder tends to perceive the problems as a trouble, unsolvable, or a serious threat. Such a distorted perception prevents the child from acting, negative emotions appear as a result of such avoidance, and problem becomes more insolvable [87].

Another purpose of CBT is teaching the child necessary practical skills to cope with problems that he/she may encounter every day, exist in real life, cause trouble, and must be actively addressed and solved. Problem solving technique enables the child to think of more than one solution, consider the possible results of every solution, and be able to gain decision-making skills on which solution to be selected [87, 88].

The problem-solving technique learned in childhood CBT involves similar techniques with the technique used in adults [88]. In the first step of the problem-solving technique, which



consists of five steps in total, therapist encourages the child to see and accept problems as a part of daily life, and replace the avoidance reactions against these problems with more active coping behaviors. In the second step, operational definition of the problem is made with the child, and problem is formulated in detail. In the third step of technique, “brainstorming” is made regarding the alternative ways of solution, and a list is created for possible solutions. Each solution on the list is evaluated in detail with its pros and cons, the best way is selected for the solution of problem, and action is taken, in the fourth step. The last step is the evaluation stage; results of the way used for the solution of problem are evaluated [73, 76].

Firstly, problem-solving technique is theoretically explained to the child during therapy, then exercises are made using hypothetical examples in order for the child to externalize the problem and talk more comfortably, and lastly, real life events and problems in child’s life are addressed. At this stage, the existing life problems of the child can be listed, and exercises can be started with the one selected by the child. Therapist undertakes an active role in the whole process, and shows how to address a problem by serving as a model. Rewarding the child in each problem that he/she solves successfully and achieves his/her target will increase motivation [50, 81, 89].

### **3.7. Modeling**

Modeling is a concept based on social learning theory [90]. Its rationale is based on the assumption that people learn by observing many things rather than directly performing or directly being exposed to them [87]. Behavior that is desired to be taught to the child might be a behavior that is known but not performed by the observer for various reasons or an action that is lacking in the behavior repertoire of the child. For instance, if the child is depressed with lacks social skills or social phobic, communicating with others in the environment comfortably by using the appropriate words is mostly a social skill that is not in the repertoire of the child.

Rationale of the technique for anxiety disorder is described as follows; when a model that gives suitable reactions to the feared situation exists, the child will not show a fear reaction when faced with the situation that creates fear, and prefer the behavior that he/she takes as a model, and is more functional. With such perspective, therapist is able to be a good model in terms of anxiety reactions. Especially during the role-plays performed in the session, therapist offers the child reasonable examples of more functional reactions [73, 76]. In depressive children, modeling is rather focused on social skills training or problem solving skill, and used to show the adaptive behavior patterns by means of role-playing [91, 92].

Modeling can be carried out as implicit (imagination of someone that effectively copes with the situation that creates anxiety), symbolic (watching a film including someone that effectively copes with the situation that creates anxiety), live (the situation where model is present before the anxious child and the child directly observes the behaviors), or participatory (model is in interaction with the child and provides feedback) [20].

### 3.8. Exposure technique

The most important factor that feeds the continuous and resistant nature of childhood anxiety disorders is the avoidance behavior that the child has developed against the situation causing anxiety. Therefore, prevention of the avoidance behavior in anxiety disorders constitutes one of the most important targets of CBT in terms of treatment [49, 93]. Exposure can also be used in childhood depression even though it cannot be involved as the primary technique. Especially in the current conceptualization of activity scheduling technique, the importance of avoiding on “depresso-typic” behavior has been emphasized [94]. From such perspective, avoidance behavior feeds the continuous nature of childhood depressive behavior just as in anxiety disorders. Avoidance behavior is triggered by situations creating stress, and reinforced by the relaxation feeling afterward. Along with the avoidance, immobility, withdrawal, and inertia symptoms increase more and a vicious circle is created; as a result of such vicious circle, the child lacks the surrounding reward resources that might reduce depressive symptoms [95]. Consequently, especially if the child has started to avoid situations or activities that trigger cognitive distortions, or depression is accompanied with anxiety symptoms, exposure must be involved in the childhood depression treatment program [82].

Exposure faces the child with a situation that evokes fear in an imaginary or *in vivo* manner, and offers the opportunity to apply and test the skills learned during the therapy in order to cope with situations creating anxiety. This technique can be applied in systematic exposure or flooding forms, and adapted according to the developmental period of child or characteristics of the feared object/situation [73, 76]. For instance, it is not possible to carry out an exposure activity the same way with a child that is afraid of insects, a child that is afraid of sleeping alone, and a child that is afraid of the death of his/her parents. While it is possible to use *in vivo* exposure for some anxiety sources, imaginary exposure is the best choice in others.

In systematic exposure technique, first therapist and child make a list of events or situations that trigger anxiety. However, it is quite important to arrange a hierarchical order between events on the list starting from the one that creates least anxiety and ending with the one that creates most anxiety [20]. For this purpose, it will be useful to work carefully on the hierarchy, and ask for the help of parents in this process. Then, child starts to face the events on the list one by one. Mostly, the child is exposed to an imaginary situation during the session under the guidance and control of therapist before facing with it in real life. Therefore, he/she will have rehearsed the challenges that might be experienced in real life, and how he/she will cope with them in a safe environment [73, 76]. For instance, a child with social phobia might be asked to make a presentation in front of the therapist before making a presentation in the class. Thus, child starts the technique with a task that is similar to the situation where he/she will experience anxiety intensely but creates less trouble. In another instance, the child might be afraid of sleeping alone and might state in the session that he/she is frightened by the tree branches seen from the window across his/her bed during the imaginary exposure. Taking precautions about this might enable the child

apply the technique more comfortably in real life. Coping techniques such as relaxation and distraction exercises as well as modeling and reinforcement methods are also added to the exposure sessions [81].

Even though most of the tasks in exposure steps are quite simple situations to face with, these encounters might not be easy at all for children with intense anxiety. Therefore, supporting, encouraging, not forcing, and never reinforcing avoidance of the child in all steps are the main tasks of both the therapist and family. Another important point to be noted in systematic exposure technique is that it is required not to move on to the situation on the upper step before the child has exactly managed to cope with a situation on any step [96].

In flooding, the child is directly faced with the situation causing anxiety in an imaginary or experiential manner without any hierarchy. This recurring and long-continued confrontation continues until the child states that his/her anxiety drops down to a certain level. Flooding technique must be used with response prevention; therefore, any avoidance behavior is prevented until the end of child's exposure process. However, since flooding causes a quite intense anxiety in the person as compared to systematic exposure technique, its use is very limited in children in practice. And when it is going to be applied, it must be ensured that child understands the rationale of technique well and knows the procedure in detail; such detailed information is quite important in terms of effectiveness of the treatment [20].

### **3.9. Social skills training**

Social withdrawal is observed in most of the depressive and anxious children (especially, social phobia and generalized anxiety disorder) [97]. For instance, a child with social phobia might feel intense anxiety to communicate with others, and not know how to start communication either. Similarly, a depressive child might feel withdrawn due to maladaptive cognition and self-talks, and miss the social support and reinforcers that he/she might receive from the environment due to lack of social skills.

In social skills training, verbal and motor behaviors that are necessary to improve the suitable communication ways in interpersonal relationships are taught. Before starting the training, it is important to identify the lacking verbal or motor behaviors well, and establish co-operation between the child and family in the meantime. If the child has performance anxiety, main factors preventing the performance must be identified, and additional techniques must be included in the social skills training, if necessary. Social skills training is applied in children generally through techniques such as modeling, role-playing and homework. While applying these techniques, therapist must be quite active, and awareness of the child must be increased by constantly providing feedback [85].

Main focus topics of social skills training in children are weak peer relationships and conflicting parent relationships. For this reason, apart from modeling of therapist and performance of role-playing activities, exemplary behavior videos concerning the topic might be watched

or peer observations might be made. After modeling activities, the practice must be criticized together with the child, and key dialogs or behaviors associated with positive results must be emphasized.

### 3.10. Activity scheduling

Another technique found in CBT programs planned for the treatment of childhood depression is technical activity planning. In this strategy, therapist finds the pleasing activities that will increase the functionality of child and enable him/her to receive the natural reinforcers in life, and encourages the child to perform them. The main behavior pattern that is frequently observed in depressive children is avoidance. Along with the avoidance behavior, depressive symptoms such as withdrawal, inertia, immobility increase further, and thus a reduction is observed in child's self-confidence and self-efficacy perceptions. Therefore, activity planning has become the primary technique in CBT manuals on childhood depression.

At activity planning stage, the child is first asked to keep an activity diary to understand his/her daily routine better, and the list is examined together with the child in the next session. Then, the current joys of the child and interests in his/her life before depression are researched. This might be done with the child or help of parents might be asked. All these activities are listed, and child is encouraged to take action by including rewarding into the process. The point to take into consideration here is avoiding establishing very high targets for the child considering the current state, developmental characteristics and social skill level of the child, and forcing him/her at this direction [43, 46]. The activities that can be performed must be gradually included in the daily routine of child, and some new activities to be performed at certain times of the week must be targeted for the next session.

Activity scheduling and homework as well as putting these into practice are techniques that can be applied throughout the whole therapy program. For this reason, activity records kept by the child, and proving that there is always something that can make him/her feel good by this way will positively affect the emotions related to depression such as despair, self-esteem, and self-sufficiency [46, 89, 98].

## 4. Conclusion

CBT is an effectiveness-proven therapy method in the psychosocial treatment of childhood internalizing disorder. Considering the techniques included, even though anxiety and major depression are two different disorders, they are observed to occupy a quite common pool in terms of their similar nature, symptoms, etiologies, and high comorbidity rates. While these techniques are rationally similar to those in adult CBT, application ways, contents, session structures of the techniques, and styles of homework should be adapted to the developmental characteristics of children.

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