

AN EFFECT OF COGNITIVE BEHAVIOURAL THERAPY ON EMOTIONAL WELL-BEING AND ANXIETY AMONG ADOLESCENTS

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ABSTRACT:

The general well-being of adolescents is significantly impacted by the frequency of anxiety disorders in this demographic. The efficacy of treating anxiety in teenagers is a topic of increasing interest, especially when it comes to cognitive behavioural therapy (CBT). This thorough analysis explores how well CBT works to improve emotional health and reduce anxiety in teenagers. About two-thirds of teenagers respond favourably to CBT, according to a comprehensive review of 71 research publications from reliable sources like Google Scholar, PubMed, Elsevier, and Springer. The results also highlight CBT's moderate to large therapeutic effects, establishing it as a better intervention than comparison or control conditions. Interestingly, there is no solid proof that therapy outcomes for teenagers are worse than those for children. Even though research on fear extinction in adolescent samples shows encouraging outcomes, more studies are required to match theoretical conclusions with actual exposure experiences. Furthermore, CBT's versatility enables its delivery via a variety of platforms, such as computer-based and educational programs. The successful CBT adaptations highlight the continuous efforts to improve its general efficacy, feasibility, and application for teenagers.

KEYWORDS: Cognitive Behavioural Therapy, Adolescents, Anxiety, emotional well-being, Efficacy, Mental health

I. INTRODUCTION

A collection of mental health illnesses known as anxiety disorders are typified by extreme fear and worry. High levels of worry or fear that are hard to manage and have a big influence on day-to-day activities are a feature of these illnesses. They have the potential to be persistent and significantly impair a person's ability to operate[1]. Based on the notion that an individual's ideas, feelings, and behaviours are interrelated, cognitive behavioural therapy, or CBT, is a popular psychological treatment method. It is feasible to actively alter unfavourable thought patterns in order to alter emotions and behaviours. In the context of cognitive behavioural therapy, anxiety disorders are frequently understood to arise from problematic thought patterns and beliefs that cause excessive and unreasonable concern and fear[2]. In addition to other illogical thought processes that fuel their increased anxiety, people with anxiety disorders frequently exhibit cognitive distortions such as overgeneralizing and catastrophizing. They usually think negatively about themselves, the world, and their future on a regular basis. These ideas can be hard to control, automatic, and intrusive. People frequently react to these negative ideas and the anxiety they cause by acting in ways that avoid or seek safety[3]. While these behaviours can momentarily lessen discomfort, they eventually make fear and avoidance stronger. Physical sensations like sweating, shaking, and elevated heart rate can be brought on by the thoughts and behaviours linked to anxiety disorders, and these symptoms can make anxious thoughts much worse[4].

By using a variety of strategies to help people recognize and address their negative beliefs, gradually face and lessen their avoidance of feared situations or things, and create coping mechanisms to control their anxiety symptoms, CBT seeks to break this cycle[5]. Cognitive reframing, behavioural activation, exposure therapy, skill training, mindfulness, thinking logs, and journaling are examples of common methods. Through this process, CBT assists people in developing a more realistic and balanced way of thinking and living, which can improve general functioning and reduce anxiety symptoms[6].

Because of its extensive research and clinical trials, the CBT technique is well-known for being an effective treatment for anxiety disorders. It is a quick and affordable solution that emphasizes dealing with particular issues and imparting useful coping mechanisms[7]. CBT increases resilience and self-efficacy by empowering people to participate in their rehabilitation actively. It is an organized therapy that is offered in a variety of formats, is customized to meet the needs of each client, and has quantifiable results. Furthermore, CBT seeks to enhance general functioning and quality of life in addition to treating symptoms[8].

CBT is a short-term, reasonably priced treatment that can assist teenagers in controlling their anxiety. Its effectiveness can be increased by parental engagement, and because it focuses on particular objectives and behaviours, progress can be more easily monitored[9]. CBT can be given individually, in groups, or online, and it can be customized to meet the specific requirements of each teen. Adolescents are encouraged to participate actively, which increases their sense of fulfilment and self-efficacy[10].

This review aims to investigate the general efficacy of computerized CBT, the effectiveness of CBT in groups for teenagers, and the effectiveness of CBT for adolescents. Although CBT is a very successful remedy, few licensed therapists are available anywhere in the world. Both computerized and group CBT are effective ways to help many teenagers overcome their anxiety and bring CBT to a global audience.

II. Cognitive behavioural therapy

Strong empirical evidence supports the current consensus that exposure-based cognitive behavioural therapy (CBT) is the most successful treatment for anxiety. This study does not support concerns that CBT may not provide significant clinical gains over other active treatments[11]. For childhood anxiety disorders, some research comparing CBT to active treatment as usual has found minimal differences between the two methods. Nevertheless, exposure practice—a crucial part of treating anxiety disorders—is not emphasized in these programs. According to a recent study comparing child-centred treatment (CCT) with CBT, children receiving CBT had a considerably higher chance of experiencing symptom remission than those receiving CCT[12]. Children in the CBT group demonstrated noticeably greater rates of response and remission at the 1-year follow-up. This study strengthens the body of research showing CBT outperforms other treatment approaches in terms of long-term benefits[13].

The difficulty in drawing broad conclusions on the efficacy of CBT stems from the diverse ways in which its treatment components and guiding principles are implemented in various programs. After a thorough examination of numerous credible studies, exposure is the most commonly used component of CBT, followed by modelling, relaxation, cognitive strategies, and psychoeducation. In research[14], earlier research was categorized into discrete "treatment families" and common features related to the intervention were found. The fact that CBT and exposure were classified independently is noteworthy because it suggests that CBT-coded therapies may include exposure training in addition to other anxiety-reduction strategies like cognitive restructuring. According to the analysis, family-based CBT, exposure, modelling, CBT with parents, education, and CBT along with medication show significant support as well-established treatments[15]. Some alternative therapy families that included cultural storytelling, hypnosis, assertiveness training, relaxation, attention control, CBT for parents and children, and stress inoculation were also deemed useful. These results imply that exposure-based CBT interventions have strong empirical backing when it comes to reducing anxiety symptoms and improving functional impairment[16]. This strengthens the case for using CBT as the main treatment for anxiety disorders in young people. Moreover, as exposure practice is associated with larger effect sizes in CBT interventions, it is advised that CBT programs include exposure practice.

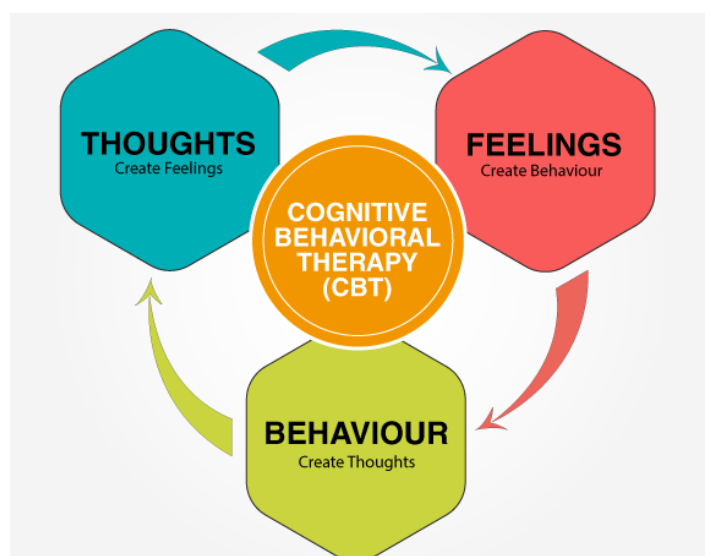


Figure 1: Cognitive Behavioural Therapy

2.1 Effect of CBT among adolescents

The study[17] claims to be looking at CBT in samples of mixed children and adolescents. With few differences between individual and group CBT, results across all age groups show substantial pre-to-post-treatment effect sizes and medium to large effect sizes for CBT when compared to control circumstances. According to the study, between 60% and 80% of young people exhibit notable improvement, whereas evidence rates for more conservative outcome criteria, including remission, fall between 50% and 70%. Furthermore, data from follow-up studies that span one to nineteen years shows that improvements are sustained following treatment. Therefore, CBT is the only "well-established" strategy for anxious teens based on the standards set by the American Psychology Association's clinical psychology division.

[18]used a meta-analysis of individual patient data to examine the impact of age on CBT in mixed-age distressed youths across randomized clinical trials. The studies had to be conducted in English, use outcome assessments, compare CBT to a wait-list intervention or attentional control, use a common CBT protocol for all study participants, and involve face-to-face CBT with participants aged 6 to 19 who had been diagnosed with anxiety at baseline in order to be eligible. It is important to note that whether age was measured as a categorical or dimensional variable, the conclusions were consistent[18]. The proportionately large number of studies that were examined, the studies' use of the gold-standard

Anxiety Disorder Interview schedule, the inclusion of covariates in the models, and the authors' use of the individual patient data meta-analysis approach, which gave them more power to examine individuals RCT and random-effects models that offer a conservative method of analysis, all support the findings.

[19]discovered that age was linked to two of the three remission variables in the CAMS trial, meaning that adolescents had a lower chance of achieving remission than children. The conclusion that may be made regarding age-specific differences specific to CBT is limited because age differences were not examined by treatment condition. For instance, the percentages of teenagers who received CBT solely and remitted varied by only 3% between the two age groups, despite the fact that they performed worse overall on the CGI severity scale. Additional differences favouring children were observed under non-CBT circumstances, such as improved results for kids in the placebo group.

Overall, the results show a mixed picture of adolescent-specific outcomes with little variations. There are currently longer follow-ups of CAMS participants, and future studies will also look at age. According to the authors of the paper [20], children were more affected by CBT than teenagers were by a placebo. It's crucial to remember that the CAMS study's initial results, lack of noteworthy findings, and other studies need to provide more proof to draw the conclusion that age predicts different outcomes in research using mixed child and teenage populations. This emphasizes the necessity of more study in this field[21].

Adolescents differ from children not so much in how they respond to treatment as in how the treatment progresses. Teenagers had less symptom improvement in the early phases of treatment than children, according to a study that used multilevel growth models to evaluate symptom progression. This was noted even though, at the end of the treatment, there were notable variations in the two groups' symptom measures. The different time courses could be explained by adolescents' lower initial engagement or decreased openness to non-exposure elements (such as relaxation, cognitive restructuring, and problem-solving) introduced in the first phase of treatment[22]. These results imply that treatment can have a good effect on teenagers; nevertheless, in order to maximize results, modifications to treatment methods are necessary.

III.Impact of emotional well-being among high school students

According to the author[23], kids' emotional intelligence abilities may affect their physical and mental health in addition to their academic performance. Gaining these abilities may lead to better general health, less substance abuse, better academic achievement, and a decrease in violent behaviour. The purpose of this study was to evaluate high school students' emotional intelligence and investigate the relationship between it and both academic success and emotional health. The study also sought to ascertain whether emotional intelligence varied between boys and girls as well as between grade levels. Similar to this, the study[24] looked into how a meditation program affected students at a high-achieving high school's levels of stress, anxiety, and sadness. Fifty-two students participated in the four-month-long study, which used a randomized controlled design. The students engaged in their designated activities twice a day and were divided into two groups: the treatment group (Transcendental Meditation) and the active control group (Silent Reading). According to a study conducted by [25]in late May 2020, 295 students indicated high levels of stress and confusion as a result of COVID-19 disruptions; female students and students of colour were disproportionately impacted. This emphasizes how urgently intervention and preventative measures are needed.

According to the study, [26]examined adolescence as a critical period in a person's life cycle that is essential for development and progress. The study is to explore how cognitive flexibility and self-efficacy contribute to the mental well-being of Turkish teenagers, given the importance of effective growth during this era and its effects on adult development and mental health. Furthermore, it was hypothesized that academic, social, and emotional self-efficacy could function as mediators in the association between cognitive flexibility and mental well-being, given the significant influence that both self-efficacy and cognitive flexibility have on adolescents' mental health.

In a study involving 1085 secondary school students, [27]discovered a relationship between academic engagement and emotional well-being (EWB) and social-emotional competencies (SECs), such as emotional regulation, relational skills, and homework planning. The results of the study demonstrated that while SECs—particularly emotional regulation—can encourage academic engagement through EWB, organizing homework has the biggest potential to do so for adolescent students.

IV.Anxiety and mental health of adolescents

A critical period for the healthy development of mental health is adolescence. Study[28] sought to investigate gender differences as well as the degree, constancy, and predictive importance of teenagers' self-esteem and mental health (depression/anxiety symptoms and mental well-being) during a school year. Among kids and teenagers, anxiety disorders are common mental illnesses that frequently interfere with family dynamics, academic achievement, and peer connections. These conditions may continue into adulthood if appropriate treatment is not received. [29]Offers a perceptive summary of the diagnosis, assessment, and management of anxiety disorders in youth in the study. Unfortunately, many anxiety disorders go undiagnosed, which prevents many affected children from getting the care they need. The study also provides a succinct analysis of the data pertaining to the use of both psychological and pharmacological therapies to treat anxiety problems in adolescents. [30]Research examines Indian high school students' mental health and academic stress. According to the study[30], which polled 190 students in grades 11 and 12 in Kolkata, India, there were no appreciable variations in the percentage of students who reported stress from academic pressure by gender, age, grade, or other personal characteristics. According to [31] research in Pakistan, 21.4% of teenagers had probable anxiety, and 17.2% had probable depression. Anxiety was higher in girls than in boys, and

higher levels of anxiety and depression were associated with age, economic status, education level, and negative life experiences. This report emphasizes how critical it is to treat mental health concerns among teenagers in Pakistan. Anxiety during childhood might have detrimental effects on one's health later in adulthood. According to a study[32] conducted in Iran, anxiety disorders were more common in children and adolescents in girls (15.1%) than in boys (13.2%). The study found factors like gender, age, locality, and parents' mental history to be predictors of anxiety disorders. Additionally, comorbidity between anxiety disorders and a number of other disorders was discovered. Prevention can be aided by recognizing childhood anxiety and related disorders. Teenagers are more vulnerable to mental health conditions like burnout, depression, anxiety, and behavioural disorders since they are more sensitive to stress during this time. These detrimental effects can be avoided by offering easily accessible treatment and acting quickly to meet their psychological needs. When it comes to recognizing and meeting these needs, schools can be quite helpful. The study by [33] protocol seeks to describe a study that assesses how school-based skills-training programs affect the mental health of adolescents and investigates variables that might affect how effective they are. Anxiety and depression disorders commonly start in adolescence and can become chronic and incapacitating if not properly recognized and treated. Enacting universal mental health screening programs in schools may help identify and support young people who are experiencing mental health problems. On the other hand, little research has been done on this approach's negative impacts. His study[34] explores the possible negative effects on mental health that could arise from the common practice of screening for depression and anxiety in Australian secondary schools.

V.CBT as an approach to treatment for anxiety

The most efficacious remedy for anxiety and OCD at the moment is exposure-based cognitive behavioural therapy (CBT). Though there have been worries that CBT might not show appreciable clinical improvements over other active therapy conditions, empirical research has not provided evidence to substantiate these worries. Studies [35, 36] comparing CBT to active treatment as usual for the treatment of childhood anxiety disorders demonstrated minimal distinctions between the two tackles. However, the mainstay of anxiety disorder intervention is exposure practice, which is not emphasized in these programs. In a recent study[37] that contrasted CBT directly with child-centred therapy (CCT), it was discovered that children in the CBT condition had a significantly higher chance of experiencing a remission of symptoms (66.7%) compared to those in the CCT condition (46.5%). Additionally, at the 1-year follow-up, the CBT condition's response and remission rates were significantly higher[38]. This study adds to the body of evidence supporting CBT's superior long-term effects over alternative therapy modalities.

Making broad claims regarding the effectiveness of CBT is challenging as the term "CBT" has been applied to several programs with distinct treatment philosophies and components. Exposure was found to be the most frequently applied element (occurring in 87.9% of examined studies) in a review of treatment elements in well-established studies with the strongest empirical support[39]. Cognitive, peacefulness, psychoeducation, and modelling techniques followed (which typically develop in 61.8, 53.9, 42.0, and 33.9% of investigations, correspondingly). [39] analyzed earlier research and classified it into several "treatment families" by recognizing recurring themes in the intervention. The fact that CBT and exposure were divided into two distinct groups is noteworthy. While exposure practice was a part of CBT-coded therapies, they also incorporated additional strategies for managing anxiety, like cognitive restructuring. The most effective assistance was shown by well-established treatments such as CBT + medication families, exposure and modelling, CBT with parents, education, and CBT. A number of other treatment options were considered likely to be effective, including those in the areas of cultural storytelling, hypnosis, stress inoculation, relaxation, development of assertiveness, attention management, and family psychoeducation. These results reinforced the notion that CBT should be the first treatment option for anxiety disorders in young people by showing that exposure- and CBT-based therapies have substantial backing when examining improvements in functional impairment and a decrease in anxiety symptoms. Exposure practice components should be incorporated into CBT as well, as studies have shown that these therapies have greater effect sizes[39].

A transdiagnostic approach to treatment has also been used to address criticisms regarding the generalizability of CBT. Undoubtedly, methods and guides have been created to address particular anxiety and OCD illnesses. A transdiagnostic approach, however, may be used to address shared underlying mechanisms, such as avoidance, worried cognitions, and anxious parental behaviours, given the significant comorbidity of anxiety disorders[40]. Transdiagnostic CBT has been shown to be effective in treating anxiety disorders in both group and individual settings, according to research [41]. Recently, a meta-analysis was conducted with the express purpose of examining publications that employed transdiagnostic CBT to assess this method of treating anxiety problems in children. The meta-analysis's findings show that transdiagnostic CBT is effective; young people who complete treatment have a symptom remission rate that is over nine times higher than that of youth in control groups. Although previous researchers have discovered better outcomes in disorder-specific CBT intervention, these data suggested that results are comparable to a disorder-specific therapy method [42]. This could be because some co-occurring disorders (like GAD, separation anxiety disorder, and specific phobia) benefit from a transdiagnostic approach, while other disorders—like panic disorder, post-traumatic stress disorder (PTSD), and obsessive-compulsive disorder (OCD)—may need more specialized treatment. According to some studies, social anxiety disorder does not react as well to CBT, which implies that ongoing treatment with specialist techniques for social anxiety disorder may also be necessary[43]. Besides, little analysis has been accomplished to explore how transdiagnostic CBT affects anxiety problems in older teenagers[43]. In conclusion, there is evidence in favour of a transdiagnostic therapeutic approach, although more studies may be necessary to identify the individuals who may require a more specialized and targeted approach.

VI.Efficacy of CBT and clinical applications in adolescents

6.1 The overall effectiveness of CBT in adolescents

Parents may continue to have doubts about the overall efficacy of CBT treatments, but data indicates that this anxiety is unwarranted. According to a 2022 meta-analysis of 45 research papers on CBT for anxiety disorders in adolescents, CBT is a particularly effective method for treating anxiety disorders in adolescents, showing promise in lowering symptom recurrence and potentially even extending its application to preschool-aged children with suitable modifications. It also shows to be a beneficial supplement to psychopharmacological therapies. Promising insights into predicting symptom improvement with CBT are provided by recent developments in neuroimaging and psychophysiological measurements, particularly in relation to threat and motivational processing [44]. The idea that the strategy is a well-researched and established therapy alternative rather than a specialized one is reinforced by the large number of research publications (45 in total) that are included in the meta-analysis. The large body of data strengthens the validity of the conclusions and lends credence to the idea that CBT works for a variety of situations and demographics. It is crucial that CBT is able to lessen symptom recurrence. A young person's growth can be severely hampered by chronic anxiety, so it is quite beneficial to have a treatment that has long-lasting effects[45].The finding that CBT is a useful supplement to psychopharmacological therapies suggests that CBT can improve the overall approach to treating anxiety disorders. Technological developments in neuroimaging and psychophysiological assessments highlight the possibility of a more customized approach to CBT. Physicians could anticipate which kids would benefit from CBT the most and customize treatment to meet each patient's requirements.

A study[46] that examined the effectiveness of several CBT techniques in treating paediatric anxiety disorders came to the conclusion that CBT is helpful for treating anxiety problems in children. It was discovered that individual-based CBT was more successful than wait-list and attention control conditions and that group-based and remote CBT were also more successful. It has been shown that family-based CBT is more effective than standard care, wait-list control, and attention control. It was discovered that CBT plus selective serotonin reuptake inhibitors (SSRIs) were more advantageous than CBT alone. With the expansion of telehealth services, it is especially crucial to examine how well remote-based CBT works in comparison to wait-list and attention management techniques. This shows that CBT can be efficiently administered remotely, removing geographical and mobility limitations to treatment[47]. Both normal and brief school-based CBT programs significantly reduced the symptoms of anxiety in adolescents, according to a study on the efficacy of CBT for anxiety disorders in adolescents. These encouraging outcomes continued during a one-year follow-up, indicating that school-based CBT may be a useful strategy for treating anxiety in teenagers. According to both self-reported and parent-reported measurements, the study also demonstrated that a shorter CBT session would be possible and that teenagers and their parents agreed on the decrease in anxiety levels. This study's long-term benefit gives hope for the research's possible significance.

6.2 Group CBT evaluation

Group cognitive behavioural therapy (GCBT) has gained favour among therapists and patients due to the efficacy and growing recognition of CBT, especially in the treatment of anxiety disorders. With their shared experiences, GCBT groups can help patients feel less alone by offering the validation and understanding that individual therapy sessions sometimes fail to provide. This is an inexpensive and readily available possibility where individuals can encourage and understand from one another. For the therapy of anxiety ailments in kids and adolescents, individual CBT (ICBT) and group CBT (GCBT) were evaluated in a randomized controlled experiment. Compared to the youth in the non-treatment group, the study indicated that a much higher number of young people freed themselves from anxiety problems after undergoing CBT[48]. Even over an extended period of time, healing rates for GCBT and ICBT were strikingly similar. These results imply that group therapy might be a more economical choice without sacrificing results, especially for community clinics with constrained funding.

In a study [49]including young people with anxiety disorders, it was discovered that, after about 3.9 years of treatment, 53% of participants no longer had any anxiety diagnoses, and 63% no longer had their major anxiety diagnosis. Cognitive behavioural treatment, either administered individually or in groups, has long-lasting effects with no statistically significant variations in results. Individual preferences and possible social benefits of group treatment could be the subject of future investigation.

In the modern world, it's getting easier and easier to find a licensed CBT therapist online. Nevertheless, choosing the best practitioner is difficult due to the variation in therapist quality. Furthermore, it can be challenging to keep regular attendance to scheduled sessions due to hectic schedules, which could result in less-than-ideal treatment outcomes. The long-term effectiveness of CBT for anxiety disorders in teenagers was examined in a recent study, along with the effects of therapist adherence, competency, individual versus group therapy settings, and the patient-therapist alliance. The study[50] examined therapy sessions from a randomized controlled trial that included 170 young people with anxiety disorders and an average age of 11.6 years.The evaluation included rates of alliance from both therapists and young people, in addition to therapist adherence and competence. Assessments of anxiety symptoms and diagnostic interviews were carried out before and after therapy, as well as at one year's follow-up and long-term follow-up (average 3.9 years after treatment). The results showed a substantial positive correlation between enhanced treatment outcomes and high therapist adherence and competence, especially in individual CBT settings. Furthermore, especially in group CBT settings, therapists' alliance ratings were crucial in mitigating primary diagnoses as well as all diagnoses. Interestingly, over a longer length of time, therapists with high levels of adherence and competence had more favourable results. Moreover, adherence was essential for individual CBT outcomes, while a strong alliance was particularly important for

group CBT outcomes [51]. In conclusion, the best results come from combining individual therapy, competent therapists, and high adherence. Nevertheless, young people receiving treatment also benefit from having a strong bond with highly competent group CBT therapists. As such, it is critical to carefully evaluate therapists' capabilities in adherence, competency, and building strong alliances with patients before assigning them to individual or group CBT sessions.

VII. Investigation of Computerized CBT (cCBT)

Many people have begun using computerized CBT, which is typically conducted on a mobile device or web page via a pre-programmed interface, to preserve their mental health as a result of the restricted access to mental health resources during COVID-19. These days, adolescents are typically tech-aware and more inclined to look for assistance online. However, because of the automated treatment plan, less tailored therapist involvement, decreased participation and adherence to the session, and inadequate self-reporting diagnosis, the success is always in doubt [52]. Therefore, there is an urgent need for research in this field to determine its genuine effectiveness and avert unanticipated risks. With an emphasis on post-treatment and follow-up effects, a systematic review evaluated the efficacy of cCBT in treating stress and recession in adolescents and young grown-ups in comparison to passive and active controls. After thorough searches in six reputable databases, comprising PubMed, EMBASE, and PsycINFO, 7670 papers were found; 24 of them satisfied the inclusion requirements [53]. The GRADE method and the Cochrane risk-of-bias tool were employed to assess the study's quality. When compared to passive controls, the results show that cCBT had a slight to medium favourable effect on anxiety symptoms ($g=0.44$). When compared to passive controls, it also showed that cCBT was effective in reducing anxiety symptoms after therapy. cCBT was just as effective at reducing anxiety symptoms as active therapy controls [54]. This study shows encouraging outcomes from the widespread use of CBT sessions. According to the evidence, cCBT significantly improves anxiety symptoms. The fact that cCBT has a small to medium effect size ($g=0.44$) suggests that it is more effective than doing nothing (passive control), hence bolstering its usefulness as a therapy option. When taking into account obstacles like cost, accessibility, or stigma that could be connected to traditional therapy, cCBT can be a viable substitute for conventional therapy techniques, as evidenced by its comparable efficacy to active treatment controls.

Computerized CBT significantly reduced anxiety and despair during the epidemic, according to a Chinese study. According to the study [55], cCBT is a good way to treat these disorders, particularly in situations where traditional in-person therapy is not available. Nevertheless, the study pointed out drawbacks such as the absence of a control group for comparison and possible bias in self-selected reports. Furthermore, the study did not indicate if cCBT is equally helpful for all symptom severity levels or whether symptom severity was distributed evenly [55]. Given the length of the pandemic, it is still being determined whether the advantages of cCBT might be maintained because follow-up evaluations for longer durations were not also reported.

A computerized CBT program was found to significantly reduce anxiety, sadness, and insomnia symptoms in a trial including 252 COVID-19 patients in China. When compared to those who received only standard treatment, the cCBT participants demonstrated improved scores on all measures. The one-week cCBT regimen showed rapid therapeutic benefits, especially for teenagers. To evaluate its long-term effects and generalizability across various people and contexts, more research is necessary [56].

VIII. Family involvement in CBT for students

Parents have been incorporated in a number of child anxiety therapy programs because of the research showing a connection between parental factors, such as family accommodation and conflict, and the existence of anxiety in young people [57]. Both CBT and cCBT with parents are well-established therapies, according to the findings of a recent meta-analysis looking at symptom reduction. Investigations on the issue have delivered conflicting outcomes concerning the efficacy of treating anxiety symptoms in children when parents are involved [58]. However, more recent research has shown that parental involvement may have advantages beyond treating the child directly, such as parent acceptability and long-term maintenance of treatment improvements [59]. Research lacking a solid conceptual framework may not have addressed parental and familial factors that influence anxiety and obsessive-compulsive symptoms in studies that have not demonstrated an additional advantage with parental engagement. According to the authors, a fundamental element of exposure-based CBT for kids is family engagement.

Parental accommodation is one of the factors supporting the idea of more parental participation in the treatment of anxiety disorders. For kids with anxiety and obsessive-compulsive disorders, more parental accommodation is linked to lower treatment outcomes, more severe symptoms, and higher impairment [60]. A parent-focused intervention aiming at lowering family accommodation has been demonstrated to result in less accommodation, decreased anxiety in children, and high parental satisfaction with therapy, according to research from the SPACE program [61]. Reducing parental accommodation is a crucial component of the treatment of child anxiety disorders and a key justification for directing parental engagement.

Researchers are still looking for variables that could assist clinicians in identifying which kids need more parental participation in their care. Research has indicated that some treatment circumstances may be more effective for particular groups of people. For instance, it has been discovered that family-based intervention is more effective for girls and younger children of both sexes than individual intervention [62]. Anxiety-related parenting behaviours improved following treatment in both family-based and individual child-based CBT, according to a different study that looked at particular parenting traits and family functioning. Nonetheless, there was no discernible difference in the parenting

styles of children with anxiety disorders and the control group. To find out which CBT components are most effective for specific patients in situations where parents are involved or not, more research is required.

In the preschool age range, the question is whether involvement in intervention results in extra benefits for the children or if parent-focused intervention is sufficient for therapy on its own. Studies have shown that children ages 4–7 who get parent-focused CBT have considerably fewer anxiety symptoms [63]. A number of comparison studies have also been completed. In assessing a treatment program for pre-schoolers, for instance, researchers contrasted parent-only intervention with concurrent parent and kid groups.

IX. Distributive Analysis

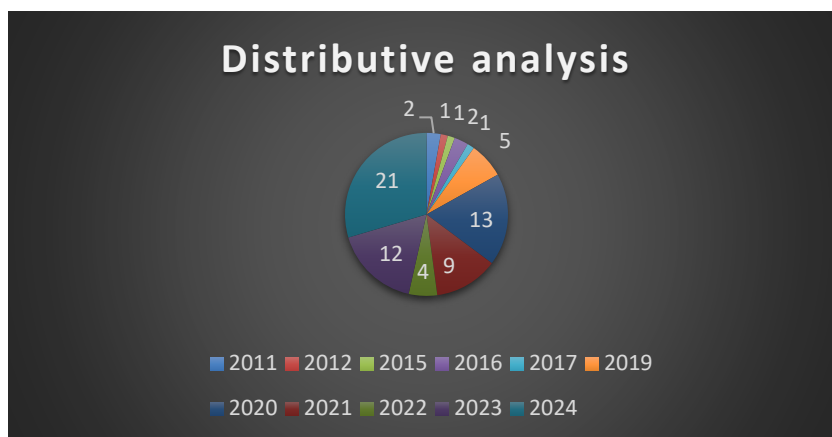


Figure 2: Distributive analysis

This comprehensive review encompasses an in-depth review of the influence of cognitive behavioural therapy on the emotional well-being and anxiety levels of adolescents, drawing from a diverse collection of 71 research papers and articles published between 2011 and 2024. The included academic papers exhibit a varied distribution over the years, with two papers each from 2011 and 2016, one paper from 2012, 2015, and 2017, five from 2019, 13 from 2020, nine from 2021, four from 2022, 12 from 2023, and 21 papers from 2024. This diverse range of papers, each offering unique insights, ensures a comprehensive analysis of the evolving trends and findings in the field over the specified timeframe.

X. DISCUSSION

The use of CBT to treat teenage anxiety seems to have a promising future. Notably, most studies that have included both children and teenagers have consistently found no discernible disparities in treatment effects between the two age groupings. Additionally, the literature offers strong proof of CBT's flexibility, showing that teenagers have shown appreciable progress when CBT is administered in unconventional contexts like online forums or groups[64]. It's important to make sure that teenagers receive high-quality, flexible CBT that is suited to their developmental stage in order to allay the legitimate fear that they might reject the treatment. This entails taking into account their developing ability to think abstractly, control their emotions, and interact with others in addition to their cognitive, emotional, and social development. According to a recent study[65], teenagers who struggle with anxiety fare much better when CBT interventions are customized to each person's developmental stage rather than employing a standard strategy.

There is evidence from fundamental research that suggests adolescents may respond less to fear extinction activities than other age groups[66]. This suggests that treatment results for this population would be less successful. It should be noted that real-life exposure therapy scenarios are not entirely replicated by the classical conditioning procedures utilized in experimental fear extinction. Unlike experimental settings, exposure tasks in CBT demand active engagement from young people, including interacting with feared situations, expressing their fears, and re-evaluating their beliefs and expected disasters with their therapists[67]. Therapeutic exposure tasks are carried out with young people rather than only on them, as is the case with fundamental research. Furthermore, some research [67, 68] suggests that how physicians process post-exposure sessions has a big impact on treatment results.

A successful treatment outcome should be defined as the capacity to successfully manage and cope with anxiety, such as by minimizing interference, rather than just the absence of anxiety. Recent models suggest that exposure helps patients create new inhibitory associations with the feared circumstance rather than primarily weakening fear structures, which is in contrast to the conventional concept of fear extinction as the main mechanism in exposure therapy[68]. These models highlight the need to experience high levels of anxiety during exposure since fear habituation, which is not always associated with favourable results, is not necessary for new learning to take place. As a result, the traditional interpretation of exposure as a methodical desensitization to anxiety triggers probably oversimplifies its complexity, especially when considering young people.

A key component of CBT is the therapeutic relationship, which is a complex structure with a number of active elements. Numerous studies show that a strong therapeutic relationship is crucial to maintaining the integrity of the CBT program, particularly when it is used as a stand-alone intervention without medication, in addition to being linked to higher treatment participation and favourable results[69, 70]. Teenagers frequently detach themselves from their parents in

their pursuit of independence. However, it's crucial to recognize that many teens deliberately seek and place great significance on connections with non-familial adults. In this regard, the therapeutic alliance becomes an essential component of teenagers' mental health[70]. In addition to being a professional setting, it's a special place where students can successfully deal with typical teenage stressors and get crucial help during a crucial stage of identity development. Some important insights into the goals and mechanisms of real-life exposure can be gained from the current corpus of basic research on fear extinction. But it's important to recognize that this alignment needs to be completed. Although startle paradigm-based conclusions can provide some insight, there may be a limit to how broadly they can be used in therapeutic contexts. The false assertion that CBT is useless for teenagers must be avoided since it runs counter to the thorough understanding gleaned from outcome research. Although there is certainly room for improvement in results, these studies have shown that teenagers react to CBT at rates analogous to those of children[71]. Adolescents pose particular difficulties in the therapeutic context, but their demands can be successfully met by putting in place individualized protocols that are suited to their developmental needs. This focus on individualized care ought to highlight the value of tailored therapy for teenagers and increase awareness of the necessity of such strategies among our people.

CONCLUSION

In this Review, we examine the efficacy of CBT in treating anxiety problems in teenagers in this review. We explore the effects of computerized CBT programs, group therapy, and individual CBT sessions. The findings consistently show that CBT improves general functioning and dramatically lowers anxiety symptoms in adolescents, a crucial developmental stage characterized by particular psychological difficulties. Individual CBT is particularly effective because of its tailored approach that attends to the unique needs of each child. Through the use of peer support and shared experiences, group CBT reduces feelings of loneliness and promotes the growth of social skills. The flexibility and accessibility of computerized CBT make it stand out; it meets the needs of today's youngsters who prefer digital media and is especially helpful in trying times like the epidemic.

The consistency of results may be impacted by differences in how CBT is applied in various research environments. Dependence on self-reported data raises the risk of subjective biases. Moreover, a factor that needed to be fully investigated in this study is the potential impact of therapists' varied approaches and competence levels on the efficacy of CBT. To improve external validity, future research should examine the effectiveness of CBT in various contexts and with various populations. A more complete picture of the effects of CBT would be possible if objective assessments—such as physiological markers of anxiety or assessments given by clinicians—were combined with subjective ones. Furthermore, it is critical to look at how therapist competence and style affect therapy success. This might improve therapist selection and training, which would maximize the delivery of CBT. Although the evidence supports the beneficial effects of CBT in a variety of forms for anxiety in adolescents, filling in these study gaps can further our knowledge of and efficacy of these therapy approaches. Developments in these fields will guarantee that CBT stays an active and pertinent instrument for promoting teenage mental health in a variety of changing contexts.

REFERENCES

1. S. V. Ilkhchi, H. Poursharifi, and M. M. Alilo, "The effectiveness of Cognitive-Behavioral Group Therapy on self-efficacy and assertiveness among anxious female students of high schools," *Procedia-Social and Behavioral Sciences*, vol. 30, pp. 2586-2591, 2011.
2. N. Shahrokhian, S. Hassanzadeh, H. H. Razini, and M. Ramshini, "The effects of cognitive-behavioral therapy (CBT) in well-being and perceived stress in adolescents with low academic performance during the COVID-19 pandemic," *International Journal of Sport Studies for Health*, vol. 4, no. 2, pp. 45-52, 2021.
3. I. P. A. Apriliana and K. Suranata, "Effectiveness of Cognitive Behavioral Group Counseling to Increase Self-Confident of Vocational High School Students," *Bisma The Journal of Counseling*, vol. 4, no. 2, pp. 194-207, 2020.
4. A. C. James, T. Reardon, A. Soler, G. James, and C. Creswell, "Cognitive behavioural therapy for anxiety disorders in children and adolescents," *Cochrane database of systematic reviews*, no. 11, 2020.
5. O. Sukiennik, P. Waite, R. Percy, and F. Orchard, "Changes to sleep patterns and insomnia symptoms following cognitive behavioural therapy for anxiety disorders in adolescents," *Behavioural and Cognitive Psychotherapy*, pp. 1-13, 2024.
6. M. Arip, F. B. Yusoff, A. J. Jusoh, S. Salim, and A. Samad, "The effectiveness of cognitive behavioral therapy (CBT) treatment group on self-concept among adolescents," *Inter J Human Soci Sci*, vol. 1, no. 18, pp. 113-22, 2011.
7. D. W. Putwain and N. P. von der Embse, "Cognitive-behavioral intervention for test anxiety in adolescent students: do benefits extend to school-related wellbeing and clinical anxiety," *Anxiety, Stress, & Coping*, vol. 34, no. 1, pp. 22-36, 2021.
8. Y. İme and D. Ümmet, "The effects of cognitive behavioral psychological group counseling program on the psychological resilience and emotional flexibility of adolescents," *Current Psychology*, vol. 43, no. 10, pp. 8885-8895, 2024.
9. A. Kirk, K. Michael, S. Bergman, M. Schorr, and J. Jameson, "Dose response effects of cognitive-behavioral therapy in a school mental health program," *Cognitive Behaviour Therapy*, vol. 48, no. 6, pp. 497-516, 2019.
10. W. C. Sumi, M. W. Woodbridge, X. Wei, S. P. Thornton, and K. D. Roundfield, "Measuring the impact of trauma-focused, cognitive behavioral group therapy with middle school students," *School mental health*, vol. 13, no. 4, pp. 680-694, 2021.

11. S. Y. Choi et al., "How Effective Are School Professionals at Identifying Students Who Might Benefit From Cognitive Behavioral Therapy? Baseline Data From the Adaptive School-Based Implementation of Cognitive Behavioral Therapy Trial," in *Frontiers in Education*, 2022, vol. 7: Frontiers Media SA, p. 814157.
12. S. Stjerneklar, E. Hougaard, L. F. McLellan, and M. Thastum, "A randomized controlled trial examining the efficacy of an internet-based cognitive behavioral therapy program for adolescents with anxiety disorders," *PloS one*, vol. 14, no. 9, p. e0222485, 2019.
13. K. Kato, "Effectiveness of school-based brief cognitive," 博士論文, 2022.
14. J. A. Saw, C. L. Tam, V. Thanzami, and G. Bonn, "Contextualized school-based cognitive behavioral therapy (CBT) intervention for Malaysian secondary school students," *Frontiers in psychiatry*, vol. 11, p. 565896, 2020.
15. A. H. Gaesser and O. C. Karan, "A randomized controlled comparison of Emotional Freedom Technique and Cognitive-Behavioral Therapy to reduce adolescent anxiety: A pilot study," *The Journal of Alternative and Complementary Medicine*, vol. 23, no. 2, pp. 102-108, 2017.
16. H. Anjomshoa, R. Snagui Moharer, and M. Shirazi, "Comparing the effectiveness of training cognitive behavioral therapy and neuro-linguistic programming strategies on enhancing resilience of high school students in Kerman, Iran," *International Journal of Pediatrics*, vol. 8, no. 8, pp. 11877-11889, 2020.
17. J. Bantjes et al., "A web-based group cognitive behavioral therapy intervention for symptoms of anxiety and depression among university students: open-label, pragmatic trial," *JMIR mental health*, vol. 8, no. 5, p. e27400, 2021.
18. S. Chaudhry, A. Tandon, S. Shinde, and A. Bhattacharya, "Student psychological well-being in higher education: The role of internal team environment, institutional, friends and family support and academic engagement," *Plos one*, vol. 19, no. 1, p. e0297508, 2024.
19. J. Brown et al., "Clinical effectiveness and cost-effectiveness of a brief accessible cognitive behavioural therapy programme for stress in school-aged adolescents (BESST): a cluster randomised controlled trial in the UK," *The Lancet Psychiatry*, vol. 11, no. 7, pp. 504-515, 2024.
20. N. D. Eneogu, C. K. Ugwuanyi, and C. S. Ugwuanyi, "Efficacy of cognitive behavioral therapy on academic stress among rural community secondary school economics students: a randomized controlled evaluation," *Journal of Rational-Emotive & Cognitive-Behavior Therapy*, vol. 42, no. 2, pp. 245-262, 2024.
21. T. A. Creed, S. H. Waltman, S. A. Frankel, and M. A. Williston, "School-based cognitive behavioral therapy: current status and alternative approaches," *Current Psychiatry Reviews*, vol. 12, no. 1, pp. 53-64, 2016.
22. S. Vuthiarpa, H. Sethabouppha, P. Soivong, and R. Williams, "Effectiveness of a School-based Cognitive Behavioral Therapy Program for Thai Adolescents with Depressive Symptoms," *Pacific Rim International Journal of Nursing Research*, vol. 16, no. 3, 2012.
23. M. D. Toscano-Hermoso, C. Ruiz-Frutos, J. Fagundo-Rivera, J. Gómez-Salgado, J. J. García-Iglesias, and M. Romero-Martín, "Emotional intelligence and its relationship with emotional well-being and academic performance: the vision of high school students," *Children*, vol. 7, no. 12, p. 310, 2020.
24. J. E. Bleasdale, M. C. Peterson, and S. Nidich, "Effect of meditation on social/emotional well-being in a high-performing high school," *Professional School Counseling*, vol. 23, no. 1, p. 2156759X20940639, 2020.
25. A. Clabaugh, J. F. Duque, and L. J. Fields, "Academic stress and emotional well-being in United States college students following onset of the COVID-19 pandemic," *Frontiers in psychology*, vol. 12, p. 628787, 2021.
26. A. S. Demirtaş, "Cognitive flexibility and mental well-being in Turkish adolescents: The mediating role of academic, social and emotional self-efficacy," *Anales de psicología/annals of Psychology*, vol. 36, no. 1, pp. 111-121, 2020.
27. E. V. Eriksen and E. Bru, "Investigating the links of social-emotional competencies: emotional well-being and academic engagement among adolescents," *Scandinavian Journal of Educational Research*, vol. 67, no. 3, pp. 391-405, 2023.
28. U. K. Moksnes and R. J. Reidunsdatter, "Self-esteem and mental health in adolescents—level and stability during a school year," *Norsk Epidemiologi*, vol. 28, no. 1-2, 2019.
29. C. Hill, P. Waite, and C. Creswell, "Anxiety disorders in children and adolescents," *Paediatrics and Child Health*, vol. 26, no. 12, pp. 548-553, 2016.
30. S. Deb, E. Strodl, and H. Sun, "Academic stress, parental pressure, anxiety and mental health among Indian high school students," *International Journal of Psychology and Behavioral Science*, vol. 5, no. 1, pp. 26-34, 2015.
31. A. Khalid, F. Qadir, S. W. Chan, and M. Schwannauer, "Adolescents' mental health and well-being in developing countries: a cross-sectional survey from Pakistan," *Journal of Mental Health*, vol. 28, no. 4, pp. 389-396, 2019.
32. M. R. Mohammadi et al., "Prevalence, comorbidity and predictors of anxiety disorders among children and adolescents," *Asian journal of psychiatry*, vol. 53, p. 102059, 2020.
33. A. W. Van Loon et al., "The effectiveness of school-based skills-training programs promoting mental health in adolescents: a study protocol for a randomized controlled study," *BMC public health*, vol. 19, pp. 1-12, 2019.
34. T. A. Braund et al., "Potential mental health-related harms associated with the universal screening of anxiety and depressive symptoms in Australian secondary schools," *Child and adolescent psychiatry and mental health*, vol. 18, no. 1, p. 46, 2024.
35. M. A. Tilley, *An Investigation of the Feasibility and Preliminary Effectiveness of a School-based Cognitive-behavioural Intervention Targeting Anxiety and Emotion Regulation*. McGill University (Canada), 2023.
36. K. Suranata, I. B. Rangka, and A. A. J. Permana, "The comparative effect of internet-based cognitive behavioral counseling versus face to face cognitive behavioral counseling in terms of student's resilience," *Cogent Psychology*, vol. 7, no. 1, p. 1751022, 2020.

37. M. Firoozmokhtar, M. Arefi, and M. Golparvar, "The Effectiveness of Cognitive-Behavioral Therapy on Resilience in High School Students," *Iranian Evolutionary Educational Psychology Journal*, vol. 6, no. 1, pp. 153-163, 2024.
38. A. Shabannezhad, "Comparison of Cognitive Behavioral Therapy and Mindfulness on Anxiety, and Positive and Negative Affect in Female Students," *Journal of Adolescent and Youth Psychological Studies (JAYPS)*, vol. 5, no. 1, pp. 133-141, 2024.
39. C. Lisøy et al., "Optimizing indicated cognitive behavioral therapy to prevent child anxiety and depression: A cluster-randomized factorial trial," *Behaviour Research and Therapy*, vol. 176, p. 104520, 2024.
40. W. Xu, "Efficacy of Cognitive Behavioral Therapy in Managing Anxiety Disorders among Adolescents: An In-Depth Analysis of Individual, Group, and Digital Approaches," *Journal of Education, Humanities and Social Sciences*, vol. 26, pp. 1093-1100, 2024.
41. C. D. Ladouceur, "Can Cognitive-Behavioral Therapy Normalize Neural Function in Youths With Pediatric Anxiety Disorders? A Developmental Neuroscience Perspective," vol. 181, ed: Am Psychiatric Assoc, 2024, pp. 175-177.
42. S. Ijaz, I. Rohail, and S. Irfan, "School-based intervention for anxiety using group cognitive behavior therapy in Pakistan: a feasibility randomized controlled trial," *Psicologia: Reflexão e Crítica*, vol. 37, p. 31, 2024.
43. M. Barooti, M. Chinaveh, and S. Saedi, "Comparison of the Effectiveness of Cognitive Behavioral Therapy and Schema Therapy on Cognitive Emotion Regulation in Patients with Major Depressive Disorder," *Journal of Adolescent and Youth Psychological Studies (JAYPS)*, vol. 5, no. 3, pp. 44-54, 2024.
44. B. Uysal et al., "Reducing test anxiety during the COVID-19 pandemic: A comparison of the effectiveness of cognitive behavioral therapy and acceptance and commitment therapy," *Psychological Reports*, vol. 127, no. 1, pp. 159-177, 2024.
45. C. L. Engelhardt, M. Meier, S. Keller, and A.-R. Laireiter, "Positive psychotherapy and cognitive behavioral therapy in anxiety patients—A study protocol for a randomized control trial in an online group setting," *Plos one*, vol. 19, no. 4, p. e0299803, 2024.
46. I. Cahyono, R. Sulaeman, L. Hanum, and A. S. Mubarak, "Comparison of the Effectiveness Between Mindfulness Therapy and Cognitive Behavioral Therapy in Treating Anxiety Disorders," *Journal of World Future Medicine, Health and Nursing*, vol. 2, no. 2, pp. 206-218, 2024.
47. Z. Ardi, C. Eseadi, E. Yuniarti, F. M. Yendi, and A. W. Murni, "Efficacy of cognitive behavioral therapy with local wisdom and web-based counseling on generalized anxiety disorders and functional gastrointestinal disorders in adolescent college girls: Protocol for a randomized controlled trial," *JMIR research protocols*, vol. 12, no. 1, p. e50316, 2023.
48. M. A. Wisman, J. Emmelkamp, J. J. Dekker, and C. Christ, "Internet-based emotion-regulation training added to CBT in adolescents with depressive and anxiety disorders: A pilot randomized controlled trial to examine feasibility, acceptability, and preliminary effectiveness," *Internet interventions*, vol. 31, p. 100596, 2023.
49. S. Y. S. Wong et al., "The effects of mindfulness for youth (MYmind) versus group cognitive behavioral therapy in improving attention and reducing behavioral problems among children with attention-deficit hyperactivity disorder and their parents: A randomized controlled trial," *Psychotherapy and Psychosomatics*, vol. 92, no. 6, pp. 379-390, 2023.
50. A. M. Perkins, R. Meiser-Stedman, S. W. Spaul, G. Bowers, A. G. Perkins, and L. Pass, "The effectiveness of third wave cognitive behavioural therapies for children and adolescents: A systematic review and meta-analysis," *British Journal of Clinical Psychology*, vol. 62, no. 1, pp. 209-227, 2023.
51. A. Tornivuori, K. Kronström, M. Aromaa, S. Salanterä, and M. Karukivi, "Accessible mental well-being intervention for adolescents in school settings: a single-group intervention study using a pretest–post-test design," *Child and adolescent psychiatry and mental health*, vol. 17, no. 1, p. 28, 2023.
52. H. W. Chan, D. F. K. Wong, S. L. Y. C. Kwok, H. H. M. Lo, and T. K. Ng, "Exploring the potential common psychotherapeutic factors: use of cognitive behavioural therapy, mindful yoga and positive psychology in enhancing the well-being of students with SENs in Hong Kong," *Journal of Research in Special Educational Needs*, vol. 23, no. 3, pp. 228-243, 2023.
53. V. C. Dones III, K. S. Yamat, K. E. P. Santos, A. V. M. Concepcion, and M. A. R. Lacson, "The Effectiveness of Mindfulness-based Interventions versus Cognitive Behavioral Therapy on Social Anxiety of Adolescents: A Systematic Review and Meta-analysis," *Acta Medica Philippina*, 2024.
54. K. Hudson, A. R. Fenley, D. B. Pincus, and O. Leyfer, "Intensive cognitive-behavioral therapy for anxiety disorders in adolescents: A case study," *Clinical Case Studies*, vol. 22, no. 2, pp. 99-119, 2023.
55. L. J. Harvey, F. A. White, C. Hunt, and M. Abbott, "Investigating the efficacy of a Dialectical behaviour therapy-based universal intervention on adolescent social and emotional well-being outcomes," *Behaviour Research and Therapy*, vol. 169, p. 104408, 2023.
56. M. J. Weintraub et al., "A randomized trial of telehealth mindfulness-based cognitive therapy and cognitive behavioral therapy groups for adolescents with mood or attenuated psychosis symptoms," *Journal of consulting and clinical psychology*, vol. 91, no. 4, p. 234, 2023.
57. F. Jafari, S. Siadati, and F. Bannink, "Enhancing the sense of coherence and social acceptance in married female students with education-family conflict: A positive-cognitive behavioral group therapy approach," *International journal of psychology and psychological therapy*, vol. 24, no. 1, pp. 37-51, 2024.
58. J. Zhang, B. J. Boone, and E. M. Anderman, "Students at the Center: Student Voice in Parental Involvement and School-Family Partnerships," *School Community Journal*, vol. 34, no. 1, pp. 109-126, 2024.

59. A. Næss, K. J. Haabrekke, H. M. Päivärinne, I. Skjærvø, M. Martinsen, and S. M. Ormhaug, "The therapist role in parent-led cognitive behavioral therapy for children after trauma: treating trauma from a distance," *Cognitive Behaviour Therapy*, pp. 1-21, 2024.
60. S. Suraj, V. Tendolkar, P. Pande, R. K. Jha, and S. Meshram, "Effectiveness of Cognitive Behavior Therapy on Family Dynamics of Adolescents with Negative Life Event Induced Depressive Episodes," *Bioscience Biotechnology Research Communications*, vol. 14, pp. 134-40, 2021.
61. E. R. Lebowitz, C. Marin, A. Martino, Y. Shimshoni, and W. K. Silverman, "Parent-based treatment as efficacious as cognitive-behavioral therapy for childhood anxiety: A randomized noninferiority study of supportive parenting for anxious childhood emotions," *Journal of the American Academy of Child & Adolescent Psychiatry*, vol. 59, no. 3, pp. 362-372, 2020.
62. B. S. M. Haugland et al., "Effectiveness of brief and standard school-based cognitive-behavioral interventions for adolescents with anxiety: A randomized noninferiority study," *Journal of the American Academy of Child & Adolescent Psychiatry*, vol. 59, no. 4, pp. 552-564. e2, 2020.
63. J. R. Lunsford-Avery, T. Bidopia, L. Jackson, and J. S. Sloan, "Behavioral treatment of insomnia and sleep disturbances in school-aged children and adolescents," *Child and Adolescent Psychiatric Clinics*, vol. 30, no. 1, pp. 101-116, 2021.
64. D. Joyce-Beaulieu and B. Zabowski, "Raising the emotional well-being of students with anxiety and depression," *Fostering the emotional well-being of our youth: a school-based approach*. Oxford University Press, New York, pp. 435-458, 2021.
65. M. Nordh et al., "Therapist-guided internet-delivered cognitive behavioral therapy vs internet-delivered supportive therapy for children and adolescents with social anxiety disorder: a randomized clinical trial," *JAMA psychiatry*, vol. 78, no. 7, pp. 705-713, 2021.
66. A. Peter, R. Srivastava, A. Agarwal, and A. P. Singh, "The effect of mindfulness-based cognitive therapy on anxiety and resilience of the school going early adolescents with anxiety," *Journal of Indian Association for Child and Adolescent Mental Health*, vol. 18, no. 2, pp. 176-185, 2022.
67. A. Salza, L. Giusti, D. Ussorio, M. Casacchia, and R. Roncone, "Cognitive behavioral therapy (CBT) anxiety management and reasoning bias modification in young adults with anxiety disorders: A real-world study of a therapist-assisted computerized (TACCBT) program vs. "person-to-person" group CBT," *Internet Interventions*, vol. 19, p. 100305, 2020.
68. Y. İme, "The effect of online cognitive behavioral group counseling on anxiety, depression, stress and resilience in maraş-centered earthquake survivors," *Journal of Rational-Emotive & Cognitive-Behavior Therapy*, vol. 42, no. 2, pp. 459-474, 2024.
69. K. Lindenberg, S. Kindt, and C. Szász-Janocha, "Effectiveness of cognitive behavioral therapy-based intervention in preventing gaming disorder and unspecified internet use disorder in adolescents: A cluster randomized clinical trial," *JAMA network open*, vol. 5, no. 2, pp. e2148995-e2148995, 2022.
70. C. V. Amoke et al., "Effects of group cognitive-behavioral therapy on psychological distress of awaiting-trial prison inmates," *Medicine*, vol. 99, no. 17, p. e18034, 2020.
71. A. Zagaria et al., "Differential associations of cognitive emotion regulation strategies with depression, anxiety, and insomnia in adolescence and early adulthood," *International journal of environmental research and public health*, vol. 20, no. 10, p. 5857, 2023.