

Exploring the Impact of Cognitive-Behavioral Therapy on Anxiety Disorders in Children and Adolescents

Fei-Hsiu Hsiao^{1*}, Ping-Ling Chen², Chao-Chi Ho³, Rainbow Tin Hung Ho⁴, Yu-Ming Lai⁵, Zhong-Lin Wu³

¹School of Nursing, National Taiwan University, Taiwan.

²Taipei Medical University, Taiwan.

³National Taiwan University Hospital, Taiwan.

⁴University of Hong Kong, Hong Kong.

⁵Chang Gung University, Taiwan.

*E-mail ✉ hsiaofei@ntu.edu.tw

Abstract

Anxiety disorders are one of the most common mental health problems faced by children and adolescents. These conditions can negatively impact their performance at home, at school, and in social interactions. Identifying the most effective behavioral and psychiatric treatments for these disorders is crucial. This study examines the effectiveness of cognitive-behavioral therapy (CBT) in treating anxiety in children and adolescents. Many of the studies reviewed presented methodological and theoretical limitations, and have some issues such as small sample sizes, weak comparisons with previous research, inadequate explanations, and the lack of reference to advanced statistical methods and monitoring strategies. Most studies did not adhere to international standards for clinical trial reporting. The overall results suggest that CBT has a weak to moderate effect, but addressing the identified theoretical and methodological challenges could lead to a more accurate assessment of the effectiveness of CBT in treating anxiety disorders in younger populations.

Keywords: Cognitive-behavioral therapy, Anxiety disorders, Adolescents, Children

Introduction

Anxiety disorders are one of the most prevalent mental health conditions affecting children and adolescents, with an estimated prevalence ranging from 3-27% in individuals under 18 years of age [1-5]. These disorders are categorized as internalizing disorders, where the child's emotional difficulties often manifest internally, affecting their emotional state rather than causing disruptions in those around them [6, 7]. While some degree of anxiety is necessary for effective functioning, excessive anxiety can lead to feelings of inadequacy and interfere with a child's relationships at home, school, and

with peers [8, 9]. Children with anxiety disorders are highly sensitive to perceived stressors, often responding with prolonged negative emotions. Their challenges in emotional regulation can result in difficulties in social interactions. Anxiety disorders often coexist with other conditions, such as attention deficit hyperactivity disorder (4.04%), oppositional defiant disorder (43.9%), and obsessive-compulsive disorder (61.8%) [10-12]. The course of these disorders can be chronic, with a high likelihood of continuing into adulthood. Several factors contribute to this persistence, including genetic predispositions, family history, parental anxiety, attachment styles, learning experiences, and parenting techniques [13-15].

Given the importance of addressing these disorders early, diagnosing and treating anxiety in children and adolescents is critical. The most common anxiety disorders in this age group include generalized anxiety disorder, separation anxiety disorder, and social anxiety disorder [3, 16]. Generalized anxiety disorder is marked

Access this article online

<https://smerpub.com/>

Received: 02 February 2024; Accepted: 19 April 2024

Copyright CC BY-NC-SA 4.0

How to cite this article: Hsiao FH, Chen PL, Ho CC, Ho RTH, Lai YM, Wu JL. Exploring the Impact of Cognitive-Behavioral Therapy on Anxiety Disorders in Children and Adolescents. *Int J Soc Psychol Asp Healthc*. 2024;4:26-31. <https://doi.org/10.51847/jcgvRFfQPM>

by persistent, uncontrollable worry, often seen over six months [17, 18]. Symptoms of this disorder include restlessness, irritability, muscle tension, fatigue, sleep disturbances, and difficulty concentrating [19, 20]. The role of excessive worry in disrupting emotional processing has been a key focus in understanding the disorder. According to Barlow, two primary factors contribute to its development: general psychological vulnerability and general biological vulnerability [21]. Psychological vulnerability is linked to an inability to control or influence situations, fostering feelings of helplessness and susceptibility to anxiety. Moreover, inconsistent parenting behavior can diminish a child's ability to predict reactions, further contributing to behavioral inhibition. Anxiety arises from an inability to manage both external and internal challenges [22-24]. Separation anxiety disorder, a common childhood condition, affects around 6-18% of children and is often a precursor to anxiety issues in adolescence and early adulthood if untreated [25]. Longitudinal studies indicate that many children with separation anxiety improve by ages 4-5 years, but factors such as maternal anxiety and parental unemployment can delay recovery [26]. If left unaddressed, this disorder can evolve into other anxiety-related problems, affecting adult life. Social anxiety disorder typically emerges around age 8 and becomes more pronounced during adolescence [27]. Approximately 75% of individuals with this disorder show symptoms between the ages of 8 and 15 [28]. The 12-month prevalence of social anxiety disorder in children and adolescents is about 7%, mirroring the prevalence seen in adults [29]. This disorder often coexists with other mental health conditions, such as mood disorders, disruptive behaviors, and eating disorders, with 81% of individuals with social anxiety also diagnosed with another disorder. Among these, depression is the most commonly associated condition, underscoring the need for early intervention to prevent long-term negative effects [30].

Many therapeutic approaches have been developed for treating anxiety disorders in children, with cognitive-behavioral therapy (CBT) being one of the most commonly used and evidence-supported treatments. In the context of anxiety disorders, particularly in children and adolescents, CBT is widely recognized as an effective, research-backed intervention [15, 31-33]. The foundation of CBT lies in the belief that thoughts directly influence emotions and behaviors, and by addressing these thoughts, anxiety can be reduced [34]. The therapy

involves both cognitive and behavioral strategies. Cognitive techniques aim to identify and challenge distorted thoughts that contribute to anxiety, while behavioral techniques may include role-playing, exposure exercises, relaxation methods, and training in coping skills and self-regulation [34, 35].

In CBT, the therapist works with the child to build coping mechanisms and provides opportunities for practice in real-life situations. This process helps children manage their anxiety more effectively. Common CBT techniques for children include educating both the child and their parents about anxiety, teaching progressive muscle relaxation and deep breathing exercises, and encouraging the child to confront their anxiety through gradual exposure. Additionally, CBT includes relapse prevention strategies, collaboration with parents and schools, and motivational sessions to ensure lasting benefits [36, 37]. This therapy not only targets anxiety but also improves symptoms of depression and externalizing behaviors, contributing to overall positive developmental outcomes for children. Various CBT protocols have been evaluated, such as the confrontational cat protocol [38], group CBT (CBGT) [39], reassurance therapy, and other specific methods [40, 41]. This study examines the impact of cognitive-behavioral therapy in addressing anxiety disorders in children and adolescents.

Results and Discussion

Several studies have highlighted the effectiveness of cognitive-behavioral therapy (CBT) in treating anxiety disorders in children and adolescents. One study focused on adolescent females with generalized anxiety disorder (GAD) found that CBT significantly reduced anxiety levels in the experimental group, demonstrating the therapy's effectiveness in managing anxiety [37]. Another study examined family-focused CBT for children with anxiety disorders. This research reported recovery rates of 86%, 41%, and 60% in three children during a one-month follow-up, showing that CBT could be beneficial in reducing anxiety symptoms in children when family involvement is part of the treatment [42].

A secondary study compared the efficacy of standard CBT and emotion-focused CBT (ECBT) for treating social anxiety disorder in children. Both treatments proved effective in alleviating symptoms of social anxiety and emotional dysregulation. However, only ECBT had long-term effects in reducing grief dysregulation at the three-month follow-up. Furthermore,

ECBT was the only treatment to show improvements in anger inhibition and coping with sadness and anger, highlighting its unique benefits compared to traditional CBT [24].

In another study, the impact of CBT based on the “Coping Cat” program was explored with children aged 11 to 13 with generalized anxiety disorder. This approach improved their emotional and stress control but had little effect on controlling perceived threats. The effect size for emotion control was 11.25, while threat control and stress control had much smaller effects (0 and 0.29, respectively) [11]. A different study examined the same CBT program in younger children (8-10 years old) and found a significant anxiety reduction, with 70-80% of participants showing clinically meaningful changes. The treatment group showed an effect size of 2.3, compared to a much smaller 0.26 in the control group [15].

Additionally, the “Confrontational Cat” therapy program was tested in children with various anxiety issues. This program showed moderate effect sizes across several anxiety-related variables, including social anxiety, separation anxiety, and fear of injury, with effect sizes of 0.33, 0.33, 0.28, and 0.32, respectively [36].

For younger children (ages 6-7 years), a study examining CBT focused on separation anxiety symptoms revealed that the treatment group scored significantly lower on anxiety scales than the control group. For boys, the treatment group had an average score of 5.4, compared to 9 in the control group. For girls, the treatment group’s score was 5.063, whereas the control group’s score was 5.58. The treatment group also showed a strong effect size (eta squared = 0.409) [33].

Finally, a meta-analysis of psychological treatments for children with social anxiety disorder concluded that CBT had a small effect size of 0.24, while interventions targeting interpretation biases had a larger effect size of 0.48. This supported the conclusion that psychological treatments, particularly CBT, are effective in reducing social anxiety in children and adolescents [30]. In a study assessing the impact of cognitive-behavioral group therapy (CBGT) on anxiety and fatigue in girls diagnosed with generalized anxiety disorder, the results indicated that while the therapy effectively reduced anxiety levels, it did not influence fatigue. No significant difference in fatigue was found between the treatment and control groups across all measurement points [19]. Additionally, a study evaluating cognitive-behavioral therapy’s (CBT) effects on social anxiety and blood sugar control in children with type 1 diabetes revealed that the

experimental group showed a significant reduction in social anxiety compared to the control group at post-test [43].

Research into narrative therapy’s effect on anxiety in elementary school girls demonstrated a significant reduction in both generalized and social anxiety through the use of storytelling techniques [44]. Another study that focused on group CBT for female students with social anxiety confirmed, with 99% confidence, that the therapy had a significant positive impact on social anxiety [45]. Furthermore, a study examining CBT’s effect on the quality of life and academic performance of middle school boys with generalized anxiety disorder revealed notable improvements in both areas, highlighting the positive impact of the therapy on both personal well-being and academic success [46].

Conclusion

Given the persistent prevalence of anxiety disorders among children and adolescents, which often lead to challenges in social and academic settings, timely and effective intervention programs are crucial for these individuals. Cognitive-behavioral therapy (CBT) is a widely recognized treatment approach for anxiety disorders, and this study has reviewed the efficacy of CBT in treating anxiety in this population. The results across the reviewed studies consistently support the effectiveness of CBT, particularly individual treatments such as the Coping Cat protocol, in reducing anxiety symptoms. The effect sizes for most studies ranged from 0.15 to 0.48, indicating moderate effectiveness, with minimal variation across the studies.

Acknowledgments: None

Conflict of Interest: None

Financial Support: None

Ethics Statement: None

References

1. Costello EJ, Angold A, Burns BJ, Stangl DK, Tweed DL, Erkanli A, et al. The great smoky mountains study of youth. goals, design, methods, and the prevalence of DSM-III-R disorders. *Arch Gen Psychiatry*. 1996;53(12):1129-36.

2. Yousaf M, Khan MM, Paracha AT. Leading professionally diverse workgroups of healthcare professionals for improving quality of care. *J Organ Behav Res*. 2021;6(1):106-19.
3. Sarraf N, Mohammadi MR, Ahmadi N, Khaleghi A, Gharibi S, Atapour H. Epidemiology of children and adolescents psychiatric disorders in Qazvin central areas 2016-2017 (a national project). *J Inflamm Dis*. 2019;22(6):164-76.
4. Hassan HH. A training program on emotional adjustment and its social communication effect in children with behavioral disorders. *J Organ Behav Res*. 2021;6(1):203-19.
5. Haghbin A, Mohammadi M, Ahmadi N, Khaleghi A, Golmakani H, Kaviyani F, et al. Prevalence of psychiatric disorders in children and adolescents of north Khorasan province, Iran. *J North Khorasan Univ Med Sci*. 2018;10(1):117-27.
6. Tehranizadeh M, Dadsetan PR, Tabatabaee K, Azad Fallah P, Fathi Ashtiani A. Effectiveness of the coping cat therapy program in decreasing internalized symptoms of Iranian children. *J Dev Psychol*. 2011;7(28):313-21.
7. Nguyen KN, Do TD. Factors influencing knowledge sharing in higher education: an empirical study of students in Vietnam. *J Organ Behav Res*. 2021;6(2):134-51.
8. Kendall PC, Compton SN, Walkup JT, Birmaher B, Albano AM, Sherrill J, et al. Clinical characteristics of anxiety disordered youth. *J Anxiety Disord*. 2010;24(3):360-5.
9. Salhi B. Effect of the mandatory adoption of IFRS on the quality of accounting information: case of France. *J Organ Behav Res*. 2021;6(2):152-60.
10. Bhardwaj M, Kapila R, Neha A, Jain R, Mittal P, Suri M. Awareness, perceived risk, and protective behavior towards Covid-19 among undergraduate students of Delhi and NCR, India. *Int J Pharm Res Allied Sci*. 2022;11(3):71-80.
11. Torabi Mazreh Malaki N, Tahmasian K, Bakhtyari M, Ghamkhar Fard Z, Amrolahinia M. The effectiveness of Group cognitive-behavioral therapy in increasing of perceived anxiety control in 11-13 girls with generalized anxiety disorder (GAD). *J Psychol Stud*. 2015;11(1):29-50.
12. Sawad AB, Andrews K. General theory of marketing ethics and unethical behavior in the pharmaceutical industry field. *Int J Pharm Res Allied Sci*. 2021;10(3):120-8.
13. Khakpoor S, Saed O. Transdiagnostic cognitive behavioral therapy based on unified protocol: new approach to emotional disorders. *Asia Pacific J Clinic Trial Nervous Sys Dis*. 2018;3(4):151.
14. Alharthy BT, Sajini SI. Assessment of attitude knowledge and skills among senior dental undergraduates on substance use disorder (SUD). *Int J Pharm Res Allied Sci*. 2021;10(3):120-8.
15. Zarghami F, Heidari Nasab L, Shaeiri MR, Shahrivar Z. A study in the impact of coping-cat-based cognitive-behavior therapy (CBT) on reduced anxiety in the children aged 8 to 10 with anxiety disorder. *Clin Psychol Stud*. 2015;5(19):183-202.
16. Solyeyko O, Tsarenko S, Chernykh M, Berezovskiy A, Soleyko L, Fedorchenko O, et al. Integrative art-therapeutic correction of psychosomatic disorders in children with undifferentiated connective tissue dysplasia. *Arch Pharm Pract*. 2023;14(1):63.
17. Rashtbari A, Saed O. Contrast avoidance model of worry and generalized anxiety disorder: a theoretical perspective. *Cogent Psychol*. 2020;7(1):1800262.
18. Elsayy A, Alkhalaf R, Binnjefan S, Alkhalaf K, Alhumaidan S, Haridy R. Temporomandibular disorders: a cross sectional study into the knowledge and awareness among Saudi Arabian population. *Arch Pharm Pract*. 2022;13(3):116-21.
19. GhamkharFard Z, Bakhtyari M, Hajiheidari Z, Pouravari M, Tahmasian K. The effectiveness of group cognitive-behavioral therapy in anxiety and boredom proneness in generalized anxiety disorder girls. *Knowledge Res Appl Psychol*. 2019;20(3):122-32.
20. Bibi N, Wara B, Morrissey H, Ball P. Impact of mental III health on medication adherence behaviour in patients diagnosed with type 2 diabetes. *Arch Pharm Pract*. 2021;12(4):6-16.
21. Chorpita BF, Barlow DH. The development of anxiety: the role of control in the early environment. *Psychol Bull*. 1998;124(1):3-21.
22. Khakpoor S, Mohammadi Bytamar J, Saed O. Reductions in transdiagnostic factors as the potential mechanisms of change in treatment outcomes in the unified protocol: a randomized clinical trial. *Res Psychother*. 2019;22(3):379.
23. Khakpoor S, Saed O, Armani Kian A. Emotion regulation as the mediator of reductions in anxiety and depression in the unified protocol (UP) for transdiagnostic treatment of emotional disorders:

- double-blind randomized clinical trial. *Trends Psychiatry Psychother.* 2019;41(3):227-36.
24. Afshari A, Amiri S, Neshat Doost HT, Rezaie F. Comparing effectiveness of group emotion-focused cognitive-behavioral therapy and group cognitive-behavioral therapy on children with social anxiety disorder. *Stud Med Sci.* 2015;26(3):194-204.
 25. Eisen AR, Schaefer CE. *Separation anxiety in children and adolescents: an individualized approach to assessment and treatment*: Guilford press; 2007.
 26. Fakunmoju SB, Bammeke FO. Anxiety disorders and depression among high school adolescents and youths in Nigeria: understanding differential effects of physical abuse at home and school. *J Adolesc.* 2015;42(1):1-10.
 27. Khakpoor S, Saed O, Shahsavari A. The concept of "Anxiety sensitivity" in social anxiety disorder presentations, symptomatology, and treatment: a theoretical perspective. *Cogent Psychol.* 2019;6(1):1617658.
 28. Kessler RC, Chiu WT, Demler O, Walters EE. Prevalence, severity, and comorbidity of 12-month DSM-IV disorders in the national comorbidity survey replication. *Arch General Psychiatr.* 2005;62(6):617-27.
 29. American Psychiatric Association A. *Diagnostic and statistical manual of mental disorders*: American psychiatric association Washington, DC; 1980.
 30. Jahanbakhshi Z, Borjali A, Farahbakhsh F, Falsafinejad M, Shariatmadar A. A meta-analysis of psychological treatment for reducing social anxiety disorder in children and teenagers. *J School Psychol.* 2018;7(2):33-53.
 31. Momeni F, Shahidi S, Mootabi F, Heydari M. Comparison of the effectiveness between cognitive-behavior group therapy and mindfulness based cognitive therapy on females with generalized anxiety disorder. *Clin Psychol Stud.* 2018;8(32):93-111.
 32. Pirnia B, Rasoulzadeh Tabatabaei SK, Pirkhaefi A, Soleimani A. Comparison of the effectiveness of two cognitive-behavioral and mother-child interactive therapies on anxiety of children with under-methadone treatment mother. *Iran J Psychiatr Clinic Psychol.* 2017;23(2):136-47.
 33. Abdkhodaie MS, Sadeghi Ardobadi A. Prevalence of separation anxiety in children and effect of cognitive behavioral play therapy on reducing it. *J Clin Psychol.* 2011;3(4):51-8.
 34. Roohi A. Theoretical and applicable approaches in anxiety disorders in children. *Except Educat.* 2014;3(125):47-58.
 35. Labellarte MJ, Ginsburg GS, Walkup JT, Riddle MA. The treatment of anxiety disorders in children and adolescents. *Biol Psychiatr.* 1999;46(11):1567-78.
 36. Shokri MH, Alizade H, Farrokhi N. The impact of coping cat program on symptoms reduction in children with anxiety disorders. *Q J Child Ment Health.* 2018;5(2):1-3.
 37. AliRezai Motlaq M, Asadi Z. Cognitive-behavioral therapy (CBT) in ameliorating adolescent anxiety in generalized anxiety disorders (GAD). *J Except Child.* 2009;9(1):25-34.
 38. Kendall PC, Flannery-Schroeder E, Panichelli-Mindel SM, Southam-Gerow M, Henin A, Warman M. Therapy for youths with anxiety disorders: a second randomized clinical trial. *J Consult Clin Psychol.* 1997;65(3):366-80.
 39. Heimberg RG, Liebowitz MR, Hope DA, Schneier FR, Holt CS, Welkowitz LA, et al. Cognitive behavioral group therapy vs phenelzine therapy for social phobia: 12-week outcome. *Arch Gen Psychiatry.* 1998;55(12):1133-41.
 40. Silverman WK, Pina AA, Viswesvaran C. Evidence-based psychosocial treatments for phobic and anxiety disorders in children and adolescents. *J Clin Child Adolesc Psychol.* 2008;37(1):105-30.
 41. Corey G. *Theory and practice of counselling and psychotherapy*. Boston, MA: Cengage Learning; 2017.
 42. Alilou MM, Yadegari N, Haghnazari F, Poursharifi H, Nosratabad TH. The effects of family cognitive-behavioral therapy in the reduction of anxiety in children with anxiety disorders. *Biannual J Appl Counsel.* 2013;1(3):19-34.
 43. Mohammad ZFA, Nadri F, Ahadi H, Rajabzadeh A, Kraskian A. Effectiveness of cognitive-behavioral therapy on social anxiety and blood glycemic control in children with type 1 diabetes mellitus. *Psychol Achiev.* 2016;23(2):91-112.
 44. Shahabizadeh F, Khaje Aminiyan F. The effectiveness of narrative therapy based on cognitive-behavioral perspective on anxiety of primary school female students. *Knowledge Res Appl Psychol.* 2018;19(1):70-80.
 45. Rahmanian Z, Mirzaian B, Hassanzadeh R. Effectiveness of cognitive-behavioral group therapy

- on social anxiety of female students. Daneshvar Med. 2020;19(5):47-56.
46. Narimani M, Abolgasemi A, Reza Zadh H. The effects of cognitive-behavioral group therapy on life quality and academic performance of students with generalized social anxiety disorder. Biannual J Appl Counsel. 2012;1(2):31-50.