

The Effect of Cognitive Behavioral Therapy – Based Approach on Reducing Listening Anxiety and Improving Listening Achievement – A Study of a Primary School Students in China

Yixin Xue ^{1,*} and Chu Tang ²

¹ English Education Department, Education College, Korea University, Seoul, South Korea

² Department of Emergency Medicine and West China Biomedical Big Data Center, West China Hospital, Sichuan University, Chengdu, China

Email: 2021011063@korea.ac.kr (Y.X.); chu.tang@wchscu.cn (C.T.)

*Corresponding author

Abstract—Listening anxiety, as a psychological phenomenon, could impact learners' learning achievement. Previously, research practice in this area has been more concerned with investigating the relationship between reasons and the anxiety. However, insufficient attention has been given to a wide range of psychosocial intervention to listening method. Cognitive Behavioral Therapy (CBT) is one of the most regular treatment for psychotherapeutic interventions. The current study is aiming to apply the CBT-based approach to students as a remedy of their listening anxiety, thereby to improve young English language learners English listening achievement. The founding of this study shows that the intervention of CBT-based approach could release students' listening anxiety, consequently enhancing their listening achievement in the listening tests, and could provide some inspiration with English language education.

Keywords—listening anxiety, Cognitive Behaviour Therapy (CBT), listening achievement, primary school English language learners

I. INTRODUCTION

Anxiety is a common psychological experience characterized by feelings of worry, nervousness, or unease related to uncertain outcomes. In language learning contexts, this manifests as “language anxiety”, leading to various silent behaviors among learners [1]. Within communicative environments, listening anxiety specifically refers to an individual's reactions stemming from language learning scenarios, where listening holds crucial importance for grasping the target language [2]. Scholars have long been intrigued by anxiety's impact on learners in foreign or second-language settings [3–6]. However, there is a notable lack of experimental studies on Cognitive Behavior Therapy (CBT) interventions for listening anxiety, particularly among primary school students. This study aims to investigate the effects of CBT

interventions on students' listening anxiety and their potential to enhance English listening scores. By providing statistical insights into the impact of CBT interventions on listening anxiety and English language learning, particularly in English listening achievement, this research seeks to introduce an effective method for improving students' English listening proficiency. The central research question revolves around whether a CBT-based approach can effectively reduce listening anxiety among primary school students, subsequently leading to enhancements in their listening scores.

II. LITERATURE REVIEW

Cognitive Behavioral Therapy (CBT), initially introduced by Aron Beck in the 1960s, stands as a psychotherapeutic intervention [7]. Initially renowned as a premier method for treating depression and other disorders, CBT has proven effective in alleviating anxiety [8]. Lambert (2004) showcased the efficacy of CBT in addressing various issues and reducing anxiety levels. By shifting focus towards positive experiences over contentious ones, CBT has shown promise in mitigating the detrimental effects of language anxiety [9, 10]. Scholars have also explored the integration of CBT in language teaching and learning environments [11–13]. Maher and King [14] asserted that employing CBT with silent L2 learners could illuminate how biases trigger negative thoughts, thereby perpetuating cycles of emotional behaviors that impact learning outcomes. Combining cognitive and behavioral theories, CBT operates on the premise that cognitive processes influence emotions and behaviors. Cognitive theory suggests that modifying cognitive processes can alter emotions and behaviors, while behaviorist therapy emphasizes learning's impact on actions and behaviors, enabling the transformation of unwanted behaviors through consistent practice [15]. Essentially, CBT posits that cognitive processes shape behavior, with behavior modifications influencing cognition. CBT has been increasingly utilized

to address language learners' anxiety. Scovel's early work recognized the complex relationship between anxiety and language learning, highlighting how anxiety can yield both positive and negative learning outcomes based on measurement methodologies [16–18]. This led subsequent scholars to investigate various anxiety types, including trait anxiety, state anxiety, and situation-specific anxiety. Language anxiety, categorized as a form of situation-specific anxiety, captures the unease experienced in foreign or second-language classrooms, representing learners' discomfort [19]. Anxiety in learning can significantly impact language performance [20–23]. Studies by Onwuegbuzie *et al.* in 1999 and 2000 revealed that language anxiety could explain a substantial percentage of performance variance. Wang and Cha's 2019 research indicated a negative impact of listening anxiety on listening outcomes. Furthermore, gender differences manifest in anxiety responses, with female learners exhibiting a higher susceptibility to anxiety compared to male counterparts [23].

III. METHODOLOGY

A. Subjects

This study was conducted at a primary school in Chifeng, Inner Mongolia, China. 58 students from grade five took part in this experiment, among them 29 were female and 29 were male. None of them have been to abroad for living or studying, all of them were taught by the same English teacher. According to their English teacher, there's no huge gap or difference among students listening performance from their daily English classes and their listening homework. The 58 subjects were divided into 2 groups randomly as experiment group and control group, all of the students were required to fill in the Foreign Language Listening Anxiety Scale (FLLAS), the mean of experiment group and control group were 64.93 and 64.72 respectively. The above information indicates that the subjects were suitable for this experiment.

B. Instruments

The study utilized the Foreign Language Listening Anxiety Scale, developed by Elkhafaifi in 2005. To adjust the scale for Chinese English learners, English replaced the original Arabic text. Two English-native, fluent Chinese speakers translated the scale, followed by back-translation by two English-major college teachers. This process resulted in a Chinese version of the scale. Subjects completed the 20-scale items using a 5-point Likert scale on the Wenjuanxing platform, streamlining the process.

The "Tongkao" examination, a significant official test in Chifeng City in Inner Mongolia, served as the basis for evaluating students' English performance. Which is held once in every summer among the primary school students of public schools from Grade three to Grade six. The listening section of "Tongkao" exam paper was the part that used to test students' listening performance in this study, the papers were selected from the "Tongkao" examination paper bank. Generally speaking, there are five sections in the listening part, the sections are mainly about choosing the words that in a sentence, sequencing,

distinguishing True or False according to the tape, choosing the phrase and sentences that in the dialogue. The instructions of the test items were in Chinese.

The cognitive treatment used in this study was adapted from Heimberg's CBT for generalized social phobia, the treatment has also been used in studies to reduce people's anxiety [23, 24]. The script of the treatment involves a combination of relaxation training, systematic desensitization, and cognitive restructuring instructions. In relaxation training, the subjects in the experimental group were asked to focus on their breathing and relax their body, in systematic desensitization, subjects were asked to imagine an anxiety scene (assuming themselves under a listening test in a classroom setting).

C. Procedure

Participants were required to complete the FLLAS and the listening test three times during the study. Initially, both groups filled out the FLLAS and then took the listening test to establish baseline anxiety levels and listening performance. A second assessment took place after 10 weeks of training, with final assessment conducted one month after the training. During the study, the experimental group received CBT treatment once a week, while the control group did not receive any treatment.

IV. RESULT

A. Results of the Statistical Test

Tables I and II provide the descriptive statistics for anxiety levels and exam scores, respectively. Anxiety levels showed a significant decrease, with the mean score dropping from 64.93 in the pre-test to 40.34 in the post-test, reflecting a 37.99% reduction. However, there was a slight increase in the final-test, with the mean anxiety score rising to 43.17, a 7.08% rebound from the post-test. These results indicate that CBT was effective in reducing anxiety, although the modest increase post-intervention suggests a slight return to baseline levels. Regarding exam scores, the mean score increased from 91.28 in the pre-test to 95.28 in the post-test, a 4.41% improvement. There was a slight decline to 91.79 in the final-test, representing a 3.63% decrease compared to the post-test. Despite this minor decrease, the consistently low standard deviations (6.03, 4.16, and 5.89) suggest that CBT contributed to stable exam performance, with sustained improvements in listening achievement even though there was a slight drop in the final-test scores.

TABLE I. SUMMARY STATISTICS FOR PRE-TEST, POST-TEST, AND FINAL-TEST ANXIETY LEVELS

	Pre-Test Anxiety	Post-Test Anxiety	Final-Test Anxiety
Mean	64.93	40.34	43.17
Std	16.61	6.30	6.05
Min	20	19	25
Median	65	41	44
Max	87	50	58

TABLE II. SUMMARY STATISTICS FOR PRE-TEST, POST-TEST, AND FINAL-TEST EXAM SCORE

	Pre-Test Score	Post-Test Score	Final-Test Score
Mean	91.28	95.28	91.79
Std	6.03	4.16	5.89
Min	81	85	73
Median	91	97	93
Max	100	100	99

The paired t-test results (see Table III) show statistically significant differences in anxiety levels between the different testing stages. At the 95% confidence level, the comparison between pre-test and post-test anxiety yielded a p -value of 0.00, indicating a significant reduction in anxiety after the intervention. A comparison between post-test and final-test anxiety, with a p -value of 0.01, also showed a significant reduction, suggesting that anxiety levels decreased further from the post-test to the final test. The paired T-test results for exam scores (Table IV) reflect similar trends, with significant differences observed between pre-test and post-test scores (p -value = 0.000) and between post-test and final-test scores (p -value = 0.003), further supporting the effectiveness of CBT in improving listening achievement.

TABLE III. PAIRED T-TEST RESULTS FOR ANXIETY LEVELS

Comparison	T-statistic	p -value	Conclusion
Pre-Test Anxiety vs Post-Test Anxiety	7.81	0.00	Pre-test and post-test anxiety levels differ significantly.
Post-Test Anxiety vs Final-Test Anxiety	2.69	0.01	Post-test and final-test anxiety levels differ significantly.

TABLE IV. PAIRED T-TEST RESULTS FOR EXAM SCORE

Comparison	T-statistic	p -value	Conclusion
Pre-Test Score vs Post-Test Score	-4.21	0.000	Pre-test and post-test score differ significantly
Post-Test Score vs Final-Test Score	3.17	0.003	Post-test and final-test score differ significantly

B. CBT's Impact on Anxiety in Male and Female Students

The study involved 58 students, with 29 participants in each group. The experimental group consisted of 16 boys and 13 girls, while the control group included 18 boys and 11 girls. The experimental group underwent 10 weeks of CBT training, whereas the control group received no intervention. Figs. 1 to 4 illustrate the anxiety trends for each group, separated by gender (male and female) and

condition (experimental vs. control). The results indicate that CBT had a stronger impact on reducing anxiety among female students compared to male students. Specifically, female participants in the experimental group exhibited a more substantial decrease in anxiety throughout the study. Furthermore, the experimental group as a whole showed a significant reduction in anxiety levels compared to the control group, which demonstrated no notable changes in anxiety. These findings highlight the overall effectiveness of CBT in alleviating listening anxiety, while also revealing some differences in its effects between male and female students.

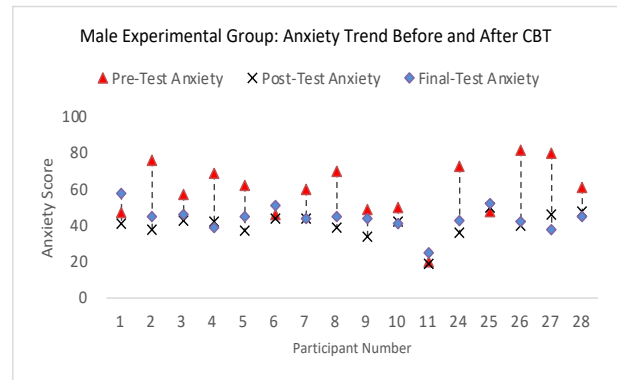


Fig. 1. Male experimental group: Anxiety trend before and after CBT.

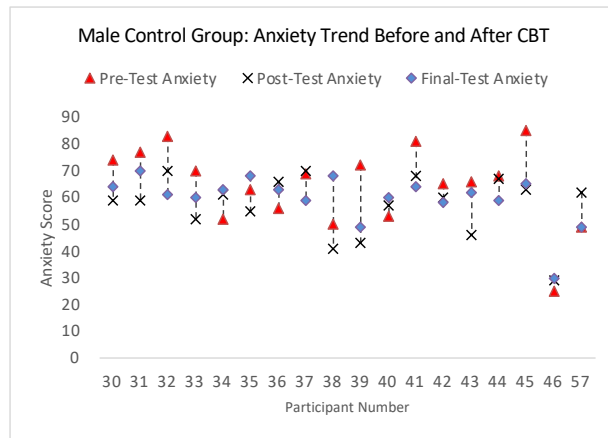


Fig. 2. Male control group: Anxiety trend before and after CBT.

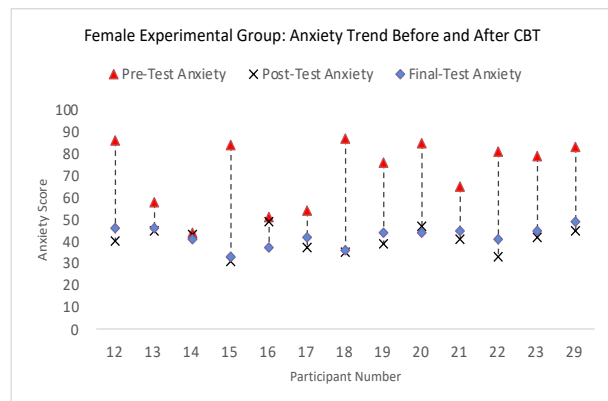


Fig. 3. Female experimental group: Anxiety trend before and after CBT.

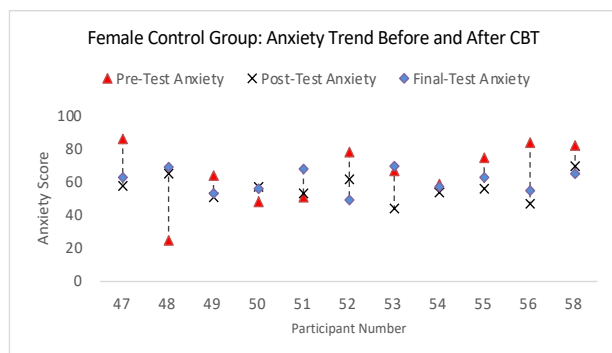


Fig. 4. Female control group: Anxiety trend before and after CBT.

V. CONCLUSION

In this study, the implementation of a CBT-based approach as a treatment intervention for young English language learners was accompanied by assessments of students' anxiety levels and listening performance across three examinations. The results demonstrate that CBT-based methods effectively reduce learners' listening anxiety, leading to noticeable improvements in their listening performance. These findings provide strong evidence that this approach is both practical and beneficial in helping students manage listening anxiety. The positive impact of the CBT approach on students' English listening skills was evident, underscoring the importance of consistent implementation in classroom settings, as indicated by the decrease observed in post-test anxiety levels. Moving forward, educators should prioritize students experiencing high levels of anxiety, offering tailored anxiety-reducing exercises to support their learning experiences. Additionally, learners can benefit from incorporating relaxation techniques into their routine to enhance their language performance when preparing for listening tests or examinations. This holistic approach can contribute significantly to creating a conducive learning environment for primary school students.

VI. LIMITATION

This study is subject to certain limitations. Primarily, the sample size is comparatively small, suggesting a necessity for the inclusion of a larger number of primary school students in future investigations to enhance the depth of data collection. Furthermore, the study's duration was confined to a mere 10 weeks. Extending this experimental timeframe would facilitate the acquisition of more pronounced comparisons and a more thorough exploration of the intervention's long-term effects.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTION

YX conducted the research and wrote the paper; CT analyzed the data and contributed to the data writing part of the paper; both authors had approved the final version.

REFERENCES

- [1] J. King and S. Morris, "Social interaction," in *The Routledge Handbook of the Psychology of Language Learning*, T. Gregersen and S. Mercer, Eds., Routledge, 2022, pp. 311–322. <https://doi.org/10.4324/9780429321498-28>
- [2] Y. Qiu and W. Luo, "Investigation of the effect of flipped listening instruction on the listening performance and listening anxiety of Chinese EFL students," *Frontiers in Psychology*, vol. 13, 1043004, 2022.
- [3] H. Elkhafaifi, "Listening comprehension and anxiety in the Arabic language classroom," *The Modern Language Journal*, vol. 89, no. 2, pp. 206–220, 2005.
- [4] J. Fathi, A. Derakhshan, and S. Torabi, "The effect of listening strategy instruction on the second language listening anxiety and self-efficacy of Iranian EFL learners," *SAGE Open*, vol. 10, p. 878, 2020. doi: 10.1177/2158244020933878
- [5] C. Pan and X. Zhang, "A longitudinal study of foreign language anxiety and enjoyment," *Language Teaching Research*, vol. 27, no. 6, pp. 1552–1575, 2023.
- [6] L. Wang and P. D. MacIntyre, "Second language listening comprehension: The role of anxiety and enjoyment in listening metacognitive awareness," *Studies in Second Language Learning and Teaching*, vol. 11, no. 4, pp. 491–515, 2021.
- [7] C. A. Kaplan, A. E. Thompson, and S. M. Searson, "Cognitive behaviour therapy in children and adolescents," *Archives of Disease in Childhood*, vol. 73, pp. 472–475, 1995.
- [8] J. Bollen, M. T. Thij, F. Breithaupt, et al., "Historical language records reveal a surge of cognitive distortions in recent decades," *Proceedings of the National Academy of Sciences*, vol. 118, no. 30, e2102061118, 2021.
- [9] M. J. Lambert and B. M. Ogles, "The efficacy and effectiveness of psychotherapy," in *Bergin and Garfield's Handbook of Psychotherapy and Behavior Change*, 5th ed., M. J. Lambert, Ed., New York: John Wiley & Sons, 2004, pp. 3–15.
- [10] P. D. MacIntyre and R. C. Gardner, "Investigating language class anxiety using the focused essay technique," *The Modern Language Journal*, vol. 75, pp. 296–304, 1991b.
- [11] K. A. Foss and A. C. Reitzel, "A relational model for managing second language anxiety," *TESOL Quarterly*, vol. 22, no. 3, pp. 437–454, 1988.
- [12] J. A. Daly and J. C. McCroskey, *Avoiding Communication: Shyness, Reticence, and Communication Apprehension*, Beverly Hills, CA: Sage, 1984.
- [13] I. R. McCoy, "Means to overcome the anxieties of second language learners," *Foreign Language Annals*, vol. 12, pp. 185–189, 1979.
- [14] K. Maher and J. King, "Language anxiety and learner silence in the classroom from a cognitive-behavioral perspective," *Annual Review of Applied Linguistics*, pp. 1–7, 2023.
- [15] R. L. Xu, "On theoretical study and application of cognitive behavioral therapy," *Journal of Chengdu University of Technology (Social Sciences)*, vol. 14, no. 4, pp. 63–66, 2006.
- [16] T. Scovel, "The effect of affect: A review of the anxiety literature," *Language Learning*, vol. 28, pp. 129–142, 1978.
- [17] C. D. Spielberger, R. L. Gorsuch, and R. E. Lushene, *Manual for State-Trait Anxiety Inventory*, California: Consulting Psychologists Press, 1983.
- [18] C. D. Spielberger, *Manual for the State-Trait Anxiety Inventory (STAI-Form Y)*, Palo Alto, CA: Consulting Psychologists Press, 1983.
- [19] E. K. Horwitz, "Language anxiety and achievement," *Annual Review of Applied Linguistics*, vol. 21, pp. 112–126, 2001.
- [20] A. J. Onwuegbuzie, P. Bailey, and C. E. Daley, "Relationship between anxiety and achievement at three stages of learning a foreign language," *Perceptual and Motor Skills*, vol. 88, pp. 1085–1093, 1999.
- [21] A. J. Onwuegbuzie, P. Bailey, and C. E. Daley, "The validation of three scales measuring anxiety at different stages of the foreign language learning process: The input anxiety scale, the processing anxiety scale, and the output anxiety scale," *Language Learning*, vol. 50, pp. 87–117, 2000.
- [22] W. Shu-Yan and K. W. Cha, "Foreign language listening anxiety factors affecting listening performance of Chinese EFL learners," *Journal of Asia TEFL*, vol. 16, no. 1, p. 121, 2019.

- [23] S. Chen, M. P. Wallace, H. S. Ieng, *et al.*, “The effects of EFL learners’ attitude on participation and learning during collaborative writing,” *Teaching English as a Second Language Electronic Journal (TESL-EJ)*, vol. 27, no. 2, 2023. <https://doi.org/10.55593/ej.27106a9>
- [24] N. E. Schoenberger, I. Kirsch, P. Gearan, G. Montgomery, and S. L. Pastyrnal, “Hypnotic enhancement of a cognitive behavioral treatment for public speaking anxiety,” *Behavior Therapy*, vol. 28, pp. 127–140, 1997.

Copyright © 2025 by the authors. This is an open access article distributed under the Creative Commons Attribution License which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited ([CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)).