International Journal of Innovative Research and Scientific Studies, 8(6) 2025, pages: 1057-1065

IJIRSS
International Journal of Innovative Research & Scientific Studies

ISSN: 2617-6548

URL: www.ijirss.com

The hidden barriers: Development and validation of the young learners' language anxiety inventory for elementary students

Khadijah Dhaifallah Al-Qurashi[1], Abdel Fattah Ragab Matar[2], Mohamed Ali Nemt-allah[3*], Ashraf Ragab Ibrahim[4]

[1]*Department of Psychology, College of Arts, Taif University, Saudi Arabia.*
[2]*Mental Health Department, Faculty of Education, Al-Azhar University, Egypt.*
[3,4]*Educational Psychology and Statistics Department, Faculty of Education, Al-Azhar University, Egypt.*

Corresponding author: Mohamed Ali Nemt-allah (*Email: mohamednamatallah.2026@azhar.edu.eg*)

Abstract

Foreign language anxiety (FLA) represents a significant psychological barrier in language acquisition, particularly affecting elementary school students who remain an understudied population despite the global trend toward introducing foreign language instruction at increasingly younger ages. This study developed and validated the Young Learners' Language Anxiety Inventory (YLLAI), a psychometrically robust instrument specifically designed to assess FLA in children aged 10-12 years. The instrument was developed through a four-phase process involving literature review, expert evaluation by eleven specialists, pilot testing, and refinement to a final 20-item scale. Two distinct samples were employed: 246 elementary students for Exploratory Factor Analysis (EFA) and 395 students for Confirmatory Factor Analysis (CFA), all from public schools in Gharbia Governorate, Egypt. Principal component analysis with varimax rotation revealed a three-factor structure explaining 75.418% of total variance after removing one poorly loading item, resulting in a 19-item final version. The three factors identified were Peer Evaluation Anxiety (PEA), Spontaneous Performance Anxiety (SPA), and Physical Learning Environment Anxiety (PLEA). CFA confirmed acceptable model fit (CFI = .965, TLI = .960, RMSEA = .061), with excellent reliability coefficients across all dimensions (McDonald's ω = .878-.965, Cronbach's α = .878-.964). The YLLAI provides researchers and educators with a developmentally appropriate, reliable, and valid tool for assessing FLA in elementary students, enabling targeted interventions to support young learners' language acquisition experiences.

Keywords: Elementary school students, Foreign language anxiety, Language assessment, Peer evaluation anxiety, Physical learning environment anxiety, Spontaneous performance anxiety, Young learners.

DOI: 10.53894/ijirss.v8i6.9818
Funding: This study received no specific financial support.
History: Received: 9 July 2025 / **Revised:** 13 August 2025 / **Accepted:** 15 August 2025 / **Published:** 12 September 2025

Competing Interests: The authors declare that they have no competing interests.
Authors' Contributions: Conceptualization, methodology design, study supervision, Khadijah Dhaifallah Al-Qurashi (KDA); data collection coordination, manuscript review, Abdel Fattah Ragab Matar (ARM); data analysis, results interpretation, manuscript editing, Ashraf Ragab Ibrahim (ARI); literature review, data collection, manuscript writing, final draft preparation, Mohamed Ali Nemt-allah (MAN). All authors have read and agreed to the published version of the manuscript.
Transparency: The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.
Institutional Review Board Statement: The Ethical Committee of the Faculty of Education, Al-Azhar University, Egypt has granted approval for this study (Ref. No. EDU-REC-2025-023).
Publisher: Innovative Research Publishing

1. Introduction

FLA represents a significant psychological barrier in language acquisition, particularly for young learners in formal educational settings [1, 2]. While extensive research has documented the negative impact of FLA on adolescent and adult language learners, elementary school students remain an understudied population in this domain. This oversight becomes particularly concerning given the global trend toward introducing foreign language instruction at increasingly younger ages [3]. The current study addresses this critical gap by developing and validating the Young Learners' Language Anxiety Inventory (YLLAI), a psychometrically robust instrument specifically designed to assess FLA in children aged 10-12 years.

The construct of FLA, as originally conceptualized by Horwitz et al. [1] encompasses a complex interplay of cognitive, affective, and behavioral components unique to language learning contexts. Subsequent empirical work has consistently demonstrated negative correlations between FLA and language achievement across all skill domains, including speaking [4], listening [5], reading [6], and writing Cheng [7]. Zhang [8] comprehensive meta-analysis further confirmed these relationships, revealing moderate to strong negative associations between FLA and various measures of language proficiency. However, the majority of these findings derive from studies involving older learners, leaving unanswered questions about how anxiety manifests in younger populations with different cognitive and emotional capacities.

Developmental psychology research suggests that elementary school students experience and express FLA differently than their older counterparts. According to Piaget's [9] theory of cognitive development, children in the concrete operational stage (typically ages 7-11) demonstrate limited capacity for abstract reasoning, which may influence their perception of language learning challenges. Simultaneously, Erikson [10] psychosocial framework posits that children at this age navigate the industry versus inferiority stage, where their sense of competence is particularly sensitive to teacher feedback and peer comparisons. These developmental considerations raise important questions about the appropriateness of existing FLA measures, which were primarily designed for adolescents and adults [11, 12].

The limitations of current FLA instruments when applied to elementary school populations are manifold. Many widely used scales contain items that exceed young learners' cognitive and linguistic capabilities [13]. Furthermore, they often fail to account for the distinctive pedagogical approaches characteristic of elementary language classrooms, which typically emphasize play-based learning and interactive activities [14]. Previous attempts to adapt these measures for younger learners have generally retained the core structure of adult-oriented scales rather than developing instruments grounded in children's unique language learning experiences [15].

The development of the YLLAI represents a significant advancement in the field by addressing these limitations through careful attention to developmental appropriateness and contextual relevance. Building on established theoretical frameworks while incorporating insights from developmental psychology, the YLLAI employs age-appropriate language and concrete scenarios that reflect the actual experiences of elementary school language learners. Its psychometric properties, rigorously tested through both exploratory and confirmatory factor analyses, demonstrate strong reliability and validity for use with this population.

This study makes several important contributions to research and practice. Theoretically, it extends our understanding of FLA by examining its manifestations in a previously understudied population. Methodologically, it provides researchers with a validated tool for investigating the development and consequences of FLA in young learners. Practically, the YLLAI offers educators a reliable means of identifying students who may require additional support, enabling timely interventions to foster more positive language learning experiences. At the policy level, the instrument provides empirical evidence that can inform decisions about curriculum design and instructional approaches in early language education programs [16].

This study aims to achieve three primary objectives: First, to develop the YLLAI specifically tailored for elementary school students, taking into account the developmental and cognitive characteristics of this age group. Second, to validate the psychometric properties of the scale through exploratory and confirmatory factor analysis (CFA), while testing reliability using Cronbach's alpha and McDonald's omega coefficients. Third, to provide researchers and educators with a reliable and valid tool for assessing FLA in children, enabling the design of more effective educational interventions that address their psychological and learning needs.

2. Method

2.1. Participants

The study employed a two-phase sampling approach utilizing distinct participant groups for exploratory and confirmatory analyses. The Exploratory Factor Analysis (EFA) sample comprised 246 elementary school students (158 males, 64.2%; 88 females, 35.8%) aged 10-12 years (M = 10.72, SD = 0.67) from fifth and sixth grades in two public schools in Gharbia Governorate, Egypt. This sample included 167 fifth-grade students (67.9%) and 79 sixth-grade students (32.1%), representing diverse socioeconomic backgrounds within the region.

For the Confirmatory Factor Analysis (CFA) phase, a separate sample of 395 elementary school students (142 males, 35.9%; 253 females, 64.1%) aged 10-12 years (M = 10.42, SD = 0.87) was recruited from similar educational contexts. This validation sample consisted of 245 fifth-grade students (62.0%) and 150 sixth-grade students (38.0%), ensuring demographic diversity and representativeness of the target population. Both samples were drawn from the same geographical region to maintain cultural and educational consistency while providing independent validation of the instrument's psychometric properties.

2.2. Instrument Development

The YLLAI was developed through a four-phase process. The first phase involved creating an initial pool of 20 items based on literature review and theoretical frameworks of child development. The items were evaluated by eleven specialists in educational psychology and psychometrics for content validity, developmental appropriateness, and cultural relevance. The revised 20-item scale was administered to 50 students to assess comprehension and response patterns. Cognitive interviews revealed no significant difficulties in item understanding. The final version was refined to 20 items using a 5-point Likert format, based on pilot results. The scale was deemed highly relevant and applicable in classroom situations. The average completion time was 15-20 minutes.

2.3. Data Analysis

The study used SPSS 27 and AMOS 23 for analyses. Principal component analysis confirmed factorability using the Kaiser-Meyer-Olkin measure and Bartlett's test of sphericity. Confirmatory factor analysis (CFA) tested the exploratory factor analysis (EFA)-derived model using maximum likelihood estimation. Reliability analysis assessed internal consistency using Cronbach's α, McDonald's ω, and item-total correlations. Composite reliability (CR) and average variance extracted (AVE) evaluated convergent validity.

3. Results

Prior to conducting the EFA, the suitability of the data for factor analysis was assessed. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy yielded a value of .934, exceeding the recommended minimum of .60, indicating excellent factorability of the correlation matrix. Bartlett's test of sphericity was statistically significant ($\chi^2 = 5019.124$, df = 190, $p < .001$), confirming that the correlation matrix was not an identity matrix and was therefore suitable for factor analysis.

Principal component analysis with varimax rotation was conducted on the 20-item YLLAI scale. The analysis revealed that one item failed to load adequately on any factor (loading < .40), resulting in its removal from the final solution. The remaining 19 items yielded a three-factor structure that explained 75.418% of the total variance. The first factor accounted for 36.990% of the variance, the second factor explained 22.898%, and the third factor contributed 15.530% of the variance (see Table 1).

Table 1.
Factor loading of the 19-Item YLLAI.

Items	**PEA**	**SPA**	**PLEA**
10. I worry that my classmates will think I'm bad at English when I speak.	0.895		
14. I feel nervous when my classmates watch me do English activities.	0.892		
13. I am afraid my friends will make fun of me if I say something wrong in English.	0.887		
8. I feel shy when other students look at me while I'm speaking English.	0.886		
15. I worry that my classmates will think I sound funny when I speak English	0.883		
9. I feel scared that other students will judge how I pronounce English words.	0.878		
11. I think my classmates compare my English to other students' English.	0.866		
12. I feel worried when other students give me feedback on my English.	0.856		
1. I am afraid my classmates will remember my English mistakes.	0.836		
4. I feel nervous when the teacher suddenly asks me to speak English without warning.		0.948	
6. I get worried when I have to answer English questions right away without thinking time.		0.937	
5. I feel anxious when I have to respond in English during surprise activities.		0.937	
7. I worry when the teacher picks me randomly to say something in English.		0.923	
2. I get nervous when I must speak English quickly during unexpected moments in class.		0.910	
18. I feel nervous speaking English when I have to stand up in front of the class.			0.791
19. I feel uncomfortable using English when my seat is close to other students.			0.789
20. I feel anxious using English when I'm sitting in the front row of the classroom.			0.749
17. I feel nervous speaking English when we move around the classroom during activities.			0.657
16. I feel worried about using English when the classroom furniture is arranged differently than usual.			0.632

Note: $^{**}p < .01$; PEA = Peer Evaluation Anxiety; SPA = Spontaneous Performance Anxiety; PLEA = Physical Learning Environment Anxiety.

The three-factor structure identified through EFA was subsequently tested using CFA with a separate sample of 395 participants. The CFA was conducted using maximum likelihood estimation in AMOS 23.0. The hypothesized model specified three correlated latent factors corresponding to the dimensions identified in the EFA (see Figure 1).

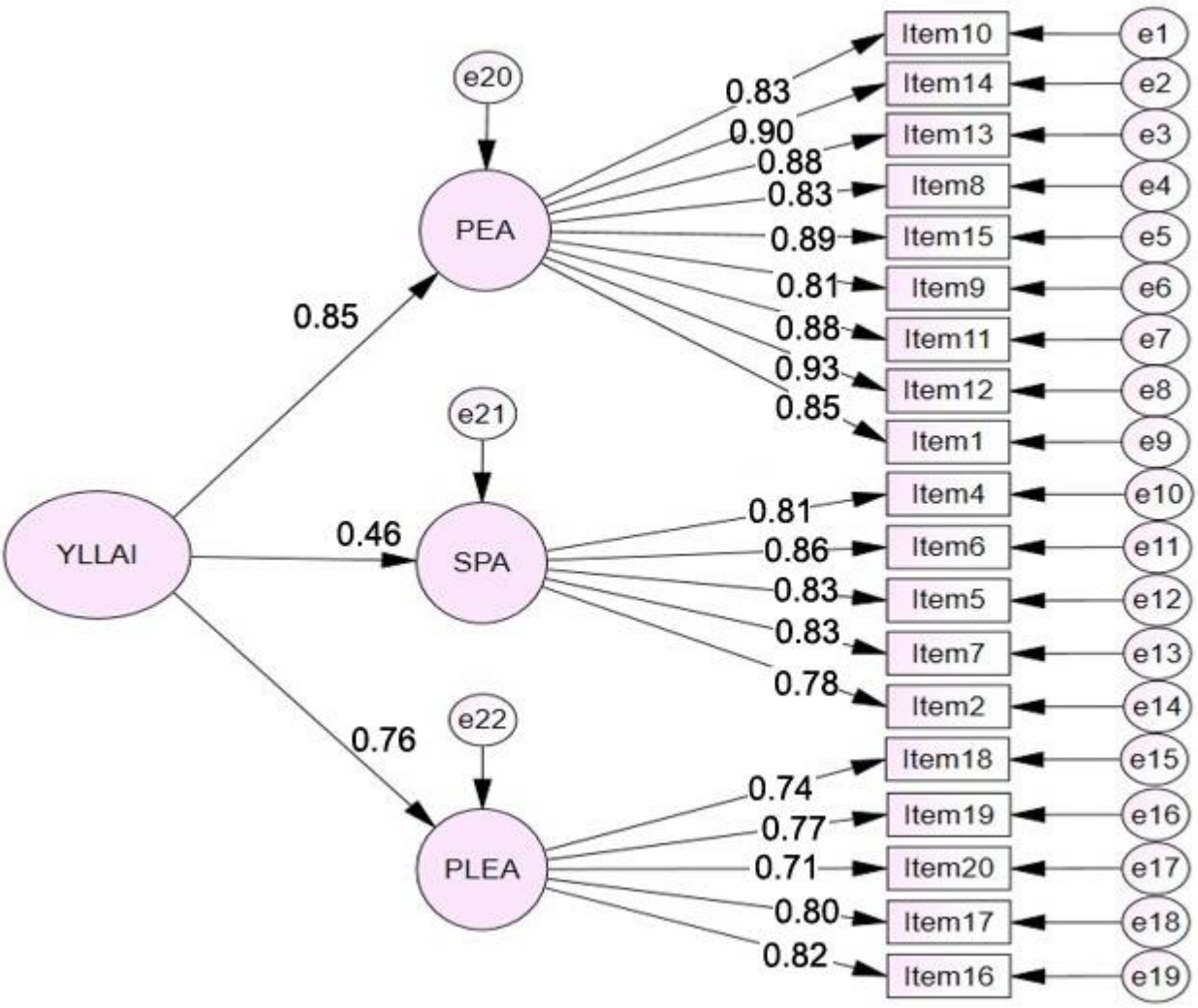

Figure 1.
Standardized CFA for the three-factor 19-Item YLLAI structure model.

The CFA results provided evidence for acceptable model fit. The chi-square test was statistically significant (χ^2 = 370.487, df = 149, $p < .001$), which is common with larger sample sizes. The normed chi-square ratio ($\chi^2/df = 2.486$) was within the acceptable range of 2-3, indicating reasonable model fit. Additional fit indices supported the model's adequacy: CFI = .965, TLI = .960, and NFI = .944, all exceeding the recommended threshold of .90. The RMSEA value of .061 (90% CI: .054-.069) was within the acceptable range, although slightly above the preferred criterion of .05 (see Table 2).

Table 2.
Construct Reliability and Validity Measures.

Factor	CR	AVE	MSV	MaxR(H)	F1	F2	F3
F1 (PEA)	0.965	0.755	0.415	0.969	0.869		
F2 (SPA)	0.913	0.678	0.154	0.915	0.393***	0.823	
F3 (PLEA)	0.877	0.589	0.415	0.881	0.644***	0.352***	0.76

Note: MSV = Maximum Shared Variance; MaxR(H) = Maximum Reliability; Bold diagonal values represent the square root of AVE; ***p < .001.

The construct validity analysis revealed strong evidence for convergent validity, with all composite reliability (CR) values exceeding .70 and average variance extracted (AVE) values surpassing .50 for all factors. Discriminant validity was established as the square root of AVE for each construct exceeded its correlations with other constructs. The factor correlations were moderate to strong, with the highest correlation observed between PEA and PLEA (r = .644), followed by PEA and SPA (r = .393), and SPA and PLEA (r = .352).

All standardized factor loadings were statistically significant ($p < .001$) and ranged from .712 to .931, indicating strong relationships between observed variables and their respective latent constructs. The highest loading was observed for Item 12 on the PEA factor (.931), while the lowest was for Item 20 on the PLEA factor (.712). Internal consistency reliability was assessed using multiple coefficients to provide a comprehensive evaluation of the scale's reliability. The results demonstrated excellent reliability across all dimensions and the total scale (see Table 3).

Table 3.
Reliability Coefficients for the three-factor 19-Item YLLAI.

Variable	McDonald's ω	Cronbach's α	Guttman's λ2	Greatest Lower Bound
PEA	0.965	0.964	0.965	0.974
SPA	0.914	0.913	0.913	0.917
PLEA	0.878	0.878	0.879	0.908
Total Score	0.940	0.940	0.946	0.979

The reliability analysis revealed consistently high internal consistency across all measures. McDonald's omega coefficients ranged from .878 to .965, with the PEA factor demonstrating the highest reliability (.965) and PLEA showing the lowest, though still excellent, reliability (.878). Cronbach's alpha values closely paralleled the omega coefficients, ranging from .878 to .964. The total scale demonstrated excellent reliability with both omega and alpha coefficients of .940.

Guttman's lambda-2 coefficients provided additional confirmation of reliability, ranging from .879 to .965, while the greatest lower bound estimates yielded the highest reliability estimates, ranging from .908 to .979. These convergent reliability estimates provide strong evidence for the internal consistency of the YLLAI across all dimensions.

The results collectively support the psychometric adequacy of the 19-item YLLAI as a reliable and valid instrument for assessing FLA in elementary school students aged 10-12 years. The three-factor structure demonstrates clear conceptual distinctions while maintaining strong psychometric properties across multiple validation approaches.

4. Discussion

The present study successfully developed and validated the YLLAI, a psychometrically robust instrument specifically designed to assess FLA in elementary school students aged 10-12 years. The three-factor structure that emerged from our analyses, PEA, SPA, and PLEA, provides important insights into the unique manifestations of language anxiety in this developmental population and offers significant contributions to both theoretical understanding and practical applications in elementary foreign language education.

The emergence of PEA as the dominant factor in the YLLAI structure provides compelling evidence for the developmental specificity of language anxiety in elementary school students. This finding can be explained through the lens of developmental psychology, as the heightened sensitivity to peer perceptions reflects the characteristic social-developmental stage of elementary school students. Unlike adolescents and adults who possess more stable self-identities and developed coping mechanisms, younger learners are particularly vulnerable to peer judgment as their self-concept and social skills continue to develop [17, 18]. This developmental vulnerability manifests as increased social withdrawal and internalizing symptoms when peer relationships are strained [19, 20]. Elementary students' limited emotional regulation and perspective-taking abilities further exacerbate their susceptibility to anxiety about peer evaluation [21, 22]. The centrality of peer dynamics at this developmental stage means that evaluation anxiety can overshadow other sources of language learning anxiety, more prominent in older learners, such as fear of making mistakes or teacher criticism [23]. The strong factor loadings observed in the current study for items related to peer evaluation (ranging from .836 to .895) validate this theoretical perspective and demonstrate that the YLLAI successfully captures this developmentally salient dimension of anxiety.

The identification of SPA as a distinct second factor in the YLLAI represents a significant theoretical contribution to FLA research, as this dimension appears to be uniquely relevant to young learners. The emergence of SPA as a separate factor can be understood through Piaget's cognitive development theory, as it constitutes a distinct dimension from general performance anxiety in young learners due to its unpredictable, situation-specific nature that particularly challenges children in the concrete operational stage. Unlike general performance anxiety, which often involves anticipatory worry patterns, SPA emerges suddenly without warning, overwhelming the limited cognitive resources characteristic of concrete operational thinking [24, 25]. Children at this developmental stage demonstrate constrained working memory capacity and difficulty with abstract reasoning, making them particularly vulnerable to the cognitive disruption caused by unexpected anxiety episodes [26, 27]. The concrete operational stage's reliance on here-and-now processing and inability to engage in hypothetical reasoning further compounds this vulnerability, as children cannot effectively anticipate or prepare coping strategies for spontaneous anxiety occurrences [28, 29]. Research demonstrates that anxiety consistently impairs working memory performance across various tasks, and this effect may be particularly pronounced when cognitive load is unexpectedly increased by spontaneous anxiety episodes [24]. The high factor loadings for SPA items in the current study (.910 to .948) confirm that this dimension is particularly relevant for elementary students and validate the theoretical importance of recognizing SPA as a separate dimension that allows for more targeted interventions addressing the unique cognitive processing limitations inherent in concrete operational thinking.

The emergence of PLEA as the third distinct factor in the YLLAI structure provides empirical support for the embodied nature of language learning anxiety in children, a dimension that has been largely overlooked in existing anxiety measures designed for older learners. This finding reveals that anxiety manifests not merely as psychological distress but as physiological responses to environmental stimuli [30, 31]. The factor loadings for environment-related items demonstrate that children's bodies react directly to classroom conditions such as lighting, ventilation, noise levels, and visual complexity, with poor physical environments triggering anxiety responses that impede language acquisition [32, 33]. This embodied understanding, as captured by the YLLAI, suggests that optimal classroom design must prioritize natural lighting, adequate ventilation, acoustic comfort, and visually calming spaces to reduce anxiety and enhance learning outcomes [31, 34]. Furthermore, flexible learning spaces that accommodate movement and positive social interaction can

support emotional regulation and engagement [35]. The identification of this factor through the YLLAI validation process underscores how recognizing the embodied nature of language learning anxiety necessitates holistic classroom environments that address both physical comfort and emotional well-being, ultimately creating more effective and enjoyable language learning experiences for young learners [36].

The development of the YLLAI addresses a critical gap in FLA assessment by incorporating developmental considerations that are often overlooked in existing instruments. The three-factor structure that emerged reflects the unique cognitive and emotional characteristics of elementary school students, contrasting with the factor structures typically found in adolescent and adult populations. The development of specialized anxiety assessment tools extends beyond foreign language contexts, as evidenced by recent validation of instruments measuring self-defeating behaviors in university EFL learners, which identified four distinct dimensions, including spiritual emptiness, self-hatred, feelings of inadequacy, and psychological vulnerability [37]. This developmental specificity is particularly evident in the prominence of PLEA, which may be less salient for older learners who have developed a greater capacity for environmental adaptation and focus regulation.

The concrete operational thinking characteristic of the target age group (10-12 years) necessitates careful attention to item construction and response format. The use of concrete scenarios and age-appropriate language in the YLLAI items ensures that young learners can accurately comprehend and respond to assessment items without the cognitive burden imposed by abstract or linguistically complex formulations. The pilot testing phase, which included cognitive interviews with 50 students, confirmed that the items were developmentally appropriate and accessible to the target population. The 15-20 minute completion time represents an optimal balance between comprehensive assessment and attention span limitations characteristic of elementary school students. This timing consideration reflects the developmental reality that younger learners have limited sustained attention capacity compared to older populations, making lengthy assessment procedures potentially counterproductive and yielding less reliable data.

The YLLAI offers significant practical benefits for elementary language educators by providing a reliable means of identifying students who may require additional support or intervention. The three-factor structure enables teachers to develop targeted strategies that address specific dimensions of language anxiety rather than implementing generic anxiety reduction approaches. For students experiencing high levels of PEA, interventions might focus on creating supportive peer environments, implementing collaborative learning structures, and developing social-emotional learning programs that build confidence in peer interactions.

Students displaying elevated SPA may benefit from structured preparation routines, advance notice of speaking opportunities, and explicit instruction in coping strategies for unexpected performance demands. The identification of this anxiety dimension suggests that traditional language teaching approaches that rely heavily on spontaneous oral production may inadvertently disadvantage students with limited cognitive resources for managing unexpected anxiety episodes.

The PLEA factor emphasizes the importance of classroom design and environmental considerations in language learning outcomes. Educators can address this dimension by ensuring optimal lighting and ventilation, minimizing visual distractions, creating flexible seating arrangements, and providing quiet spaces for students who may become overwhelmed by environmental stimuli. These environmental modifications may be particularly beneficial for students with sensory processing differences or those from backgrounds with limited exposure to formal educational environments.

Several limitations of the current study warrant consideration. The sample was drawn exclusively from public schools in the Gharbia Governorate of Egypt, which may limit the generalizability of findings to other cultural contexts, educational systems, or socioeconomic populations. Future research should examine the cross-cultural validity of the YLLAI across diverse linguistic and educational contexts to establish its broader applicability.

The age range of 10-12 years, while developmentally coherent, represents a relatively narrow window within elementary education. Future studies should investigate whether the three-factor structure holds across younger elementary students (ages 6-9) and whether additional factors emerge in older elementary populations (ages 12-14). Longitudinal research examining the stability of anxiety factors across developmental transitions would provide valuable insights into the dynamic nature of language anxiety in young learners.

The current study focused exclusively on English as a foreign language learning contexts. Research examining the factor structure of the YLLAI in other target languages would enhance understanding of whether the identified anxiety dimensions are language-specific or represent universal aspects of FLA in elementary students. Additionally, investigating the relationship between YLLAI scores and objective measures of language proficiency would strengthen the criterion validity evidence for the instrument.

5. Conclusion

The YLLAI is a groundbreaking tool for understanding language anxiety in elementary school students. Its three-factor structure reveals unique dimensions of anxiety, distinguishing young learners from older populations. The YLLAI's strong psychometric properties, including reliability coefficients and construct validity, support its use as a research tool for understanding the antecedents and consequences of language anxiety in young learners. It enables educators to identify students at risk for anxiety-related difficulties and implement targeted interventions. The findings highlight the importance of considering developmental factors in assessment and intervention approaches, suggesting that effective FLA reduction strategies must be tailored to the specific cognitive and emotional capabilities of young learners. Future research should expand the YLLAI's cultural and linguistic generalizability, investigate its predictive validity for language learning outcomes, and examine the effectiveness of factor-specific anxiety reduction strategies. The development of

developmentally appropriate assessment tools is crucial for creating more supportive and effective foreign language learning environments for elementary school students.

References

[1] E. K. Horwitz, M. B. Horwitz, and J. Cope, "Foreign language classroom anxiety," *The Modern Language Journal*, vol. 70, no. 2, pp. 125-132, 1986. https://doi.org/10.2307/327317

[2] M. A. Nemt-allah, A. F. Bahnasawy, and W. E.-S. Khalifa, "The effect of training on content and language integrated learning (CLIL) strategy in foreign language anxiety among primary stage pupils," *BSU-Journal of Pedagogy and Curriculum*, vol. 4, no. 7, pp. 79-99, 2025. https://doi.org/10.21608/bsujpc.2025.355423.1064

[3] I. Pufahl and N. C. Rhodes, "Foreign language instruction in U.S. schools: Results of a national survey of elementary and secondary schools," *Foreign Language Annals*, vol. 44, no. 2, pp. 258-288, 2011. https://doi.org/10.1111/j.1944-9720.2011.01130.x

[4] L. Woodrow, "Anxiety and speaking English as a second language," *RELC Journal*, vol. 37, no. 3, pp. 308-328, 2006. https://doi.org/10.1177/0033688206071315

[5] S. Ji, X. Qin, and K. LI, "A systematic review of foreign language listening anxiety: Focus on the theoretical definitions and measurements," *Frontiers in Psychology*, vol. 13, 2022. https://doi.org/10.3389/fpsyg.2022.859021

[6] Y. Saito, T. J. Garza, and E. K. Horwitz, "Foreign language reading anxiety," *The Modern Language Journal*, vol. 83, no. 2, pp. 202-218, 1999. https://doi.org/10.1111/0026-7902.00016

[7] Y. S. Cheng, "A measure of second language writing anxiety: Scale development and preliminary validation," *Journal of Second Language Writing*, vol. 13, no. 4, pp. 313-335, 2004. https://doi.org/10.1016/j.jslw.2004.07.001

[8] X. Zhang, "Foreign language anxiety and foreign language performance: A meta-analysis," *The Modern Language Journal*, vol. 103, no. 4, pp. 763-781, 2019. https://doi.org/10.1111/modl.12590

[9] J. Piaget, *The origins of intelligence in children*. New York: International University Press, 1952.

[10] E. H. Erikson, *Childhood and society*, 2nd ed. New York: Norton, 1963.

[11] D. Y.-c. Chan and G.-C. Wu, "A study of foreign language anxiety of EFL elementary school students in Taipei County," *Journal of National Taipei Teachers College*, vol. 17, no. 2, pp. 287-320, 2004.

[12] P. F. P. Paredes and H. Muller-Alouf, "A Spanish version of the foreign language classroom anxiety scale: Revisiting Aida's factor analysis," *Revista española de lingüística aplicada*, no. 14, pp. 337-352, 2000.

[13] M. Nikolov, *Trends, issues, and challenges in assessing young language learners. In: Nikolov, M. (eds) Assessing Young Learners of English: Global and Local Perspectives. Educational Linguistics*. Cham: Springer International Publishing, 2016.

[14] L. Cameron, *Teaching languages to young learners*. Cambridge: Cambridge University Press, 2001.

[15] J. Mihaljević Djigunović, *9. Individual differences in early language programmes. In M. Nikolov (Ed.), The Age Factor and Early Language Learning*. Berlin; New York: De Gruyter Mouton, 2009.

[16] W. L. Q. Oga-Baldwin, Y. Nakata, P. Parker, and R. M. Ryan, "Motivating young language learners: A longitudinal model of self-determined motivation in elementary school foreign language classes," *Contemporary Educational Psychology*, vol. 49, pp. 140-150, 2017. https://doi.org/10.1016/j.cedpsych.2017.01.010

[17] L. Ronchi, R. Banerjee, and S. Lecce, "Theory of mind and peer relationships: The role of social anxiety," *Social Development*, vol. 29, no. 2, pp. 478-493, 2020. https://doi.org/10.1111/sode.12417

[18] J. C. Steggerda *et al.*, "Anxiety sensitivity and internalizing symptoms: Co-predictors of persistent peer victimization in elementary school children," *Journal of School Violence*, vol. 22, no. 2, pp. 153-166, 2023. https://doi.org/10.1080/15388220.2022.2162532

[19] E. Park and H. Eun, "The effects of interpersonal relationships and anxiety on the psychological characteristics of socially isolated elementary school students," *The Education Research Institute*, vol. 23, no. 1, pp. 113–131, 2025.

[20] P. Sukhawathanakul and B. Leadbeater, "Trajectories of peer victimization in elementary school children: Associations with changes in internalizing, externalizing, social competence, and school climate," *Journal of Community Psychology*, vol. 48, no. 6, pp. 1751-1769, 2020. https://doi.org/10.1002/jcop.22365

[21] C. M. Hall, K. L. Bierman, and L. N. Jacobson, "Latent profiles of students at social-emotional risk: Heterogeneity among peer-rejected students in early elementary school," *Journal of Emotional and Behavioral Disorders*, vol. 30, no. 4, pp. 260-272, 2022. https://doi.org/10.1177/10634266211051405

[22] J. McKirahan, A. M. Lease, S. Neuharth-Pritchett, and K. Kwon, "Role of the match between individual levels of anxious-withdrawal and affiliation group characteristics in predicting distress: Implications for choice of peer partners," *The Elementary School Journal*, vol. 124, no. 1, pp. 31-55, 2023. https://doi.org/10.1086/725729

[23] E. Oberle, X. R. Ji, and T. M. Molyneux, "Pathways from prosocial behaviour to emotional health and academic achievement in early adolescence," *The Journal of Early Adolescence*, vol. 43, no. 5, pp. 632-653, 2023. https://doi.org/10.1177/02724316221113349

[24] T. P. Moran, "Anxiety and working memory capacity: A meta-analysis and narrative review," *Psychological Bulletin*, vol. 142, no. 8, pp. 831–864, 2016. https://doi.org/10.1037/bul0000051

[25] Y. Zheng and L. Cheng, "How does anxiety influence language performance? From the perspectives of foreign language classroom anxiety and cognitive test anxiety," *Language Testing in Asia*, vol. 8, no. 1, p. 13, 2018. https://doi.org/10.1186/s40468-018-0065-4

[26] I. J. Chen and C.-C. Chang, "Cognitive load theory: An empirical study of anxiety and task performance in language learning," *Electronic Journal of Research in Education Psychology*, vol. 7, no. 18, pp. 729-746, 2017. https://doi.org/10.25115/ejrep.v7i18.1369

[27] K. L. Yoon, J. LeMoult, A. Hamedani, and R. McCabe, "Working memory capacity and spontaneous emotion regulation in generalised anxiety disorder," *Cognition and Emotion*, vol. 32, no. 1, pp. 215-221, 2018. https://doi.org/10.1080/02699931.2017.1282854

[28] Y.-F. Chang, "2-dimensional cognitive test anxieties and their relationships with achievement goals, cognitive resources, motivational engagement, and academic performance," *Learning and Individual Differences*, vol. 92, p. 102084, 2021. https://doi.org/10.1016/j.lindif.2021.102084

[29] K. M. Silaj, S. T. Schwartz, A. L. M. Siegel, and A. D. Castel, "Test anxiety and metacognitive performance in the classroom," *Educational Psychology Review*, vol. 33, no. 4, pp. 1809-1834, 2021. https://doi.org/10.1007/s10648-021-09598-6

[30] M. Li, Z. Lu, and L. Xu, "Influences of high school physical learning environments on students' anxiety in China," *HERD: Health Environments Research & Design Journal*, vol. 16, no. 4, pp. 187-205, 2023. https://doi.org/10.1177/19375867231187151

[31] Q. Wen, Q. Zhou, H. Ye, Q. Guo, J. Shan, and Z. Huang, "A perceptual assessment of the physical environment in teaching buildings and its influence on students' mental well-being," *Buildings*, vol. 14, no. 6, p. 1790, 2024. https://doi.org/10.3390/buildings14061790

[32] C. Li, J. Huang, and B. Li, "The predictive effects of classroom environment and trait emotional intelligence on Foreign Language Enjoyment and Anxiety," *System*, vol. 96, p. 102393, 2021. https://doi.org/10.1016/j.system.2020.102393

[33] C. Zhang, "Analysis of classroom environmental factors and teaching strategies for foreign language learning anxiety," *Journal of Education and Educational Research*, vol. 7, no. 3, pp. 261-263, 2024. https://doi.org/10.54097/5v410a54

[34] G. O'Hara, H. Kennedy, M. Naoufal, and T. Montreuil, "The role of the classroom learning environment in students' mathematics anxiety: A scoping review," *British Journal of Educational Psychology*, vol. 92, no. 4, pp. 1458-1486, 2022. https://doi.org/10.1111/bjep.12510

[35] S. Sabri, Z. Khairuddin, S. J. A. Johan, K. M. Daud, and F. F. S. Bahrn, "Causes of language anxiety in an ESL classroom: Towards a mentally healthier learning environment," *International Journal of Asian Social Science*, vol. 11, no. 9, pp. 452-460, 2021. https://doi.org/10.18488/journal.1.2021.119.452.460

[36] I. A. Bajri and O. E. H. Elmahdi, "Addressing language anxiety in the EFL classroom: EFL teachers' perspective," *Theory and Practice in Language Studies*, vol. 14, no. 7, pp. 2222-2232, 2024. https://doi.org/10.17507/tpls.1407.30

[37] H. A. Alshehri, A. F. Al-Osail, A. Lamouchi, W. E. Hafez, M. S. Abdellatif, and A. A. Elagamy, "Psychometric properties of the self-defeating behavior scale for university students: Insights for foreign language learners," *Forum for Linguistic Studies*, vol. 7, no. 4, pp. 114–127, 2025. https://doi.org/10.30564/fls.v7i4.8804