

Play-Based Psychoeducation to Enhance Emotional Literacy Among Migrant Children in Malaysia

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ABSTRACT

Emotional literacy is critical for children's psychosocial well-being and particularly challenging among migrant children facing displacement and cultural stressors. This pre-experimental study evaluated the immediate changes of a play-based psychoeducation program on emotional literacy among 30 Indonesian migrant children aged 9–15 years in Malaysia. Using a one-group pretest-posttest design, participants completed the validated Emotional Literacy Questionnaire before and after intervention. Wilcoxon signed-rank tests showed a significant improvement in total emotional literacy scores from 11.53 ± 0.54 to 13.30 ± 0.49 ($p = 0.009$, $r = 0.47$). Children improved in recognizing emotions, applying emotional knowledge to case studies, and employing adaptive regulation strategies. The findings provide preliminary evidence suggesting that culturally congruent, play-based psychoeducation may support improvements in emotional competence among migrant children. Nursing professionals can incorporate such interventions to promote psychosocial adaptation in school and community settings.

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Introduction

Emotional literacy is the ability to recognize, understand, and regulate emotions in oneself and others. It has become increasingly recognized as a foundational component of child mental health [1]. The prevalence of emotional and behavioral challenges among children and adolescents has escalated significantly worldwide, with recent meta-analyses reporting that approximately one in five youths experience emotional distress or mental health conditions necessitating structured intervention [2,3]. These issues are particularly pronounced in migrant and refugee populations who endure displacement, acculturative stress, and instability, increasing susceptibility to emotional dysregulation and impaired emotional literacy [4].

Malaysia, as a major host country for refugees and migrant communities in Southeast Asia, is home to over 50,000 children living as refugees or asylum-seekers, many encountering barriers to formal education and psychosocial support [5]. Studies indicate that up to 40% of refugee children in Malaysia manifest significant emotional or behavioral problems, underscoring the urgent necessity for culturally sensitive interventions that enhance emotional understanding and regulation [6,7]. However, these psychosocial challenges are shaped by Malaysia's socio-legal context, where migrant and refugee children have limited access to formal schooling, structured emotional learning, and child-focused mental health services. Dependence on under-resourced community learning centers further creates service gaps that restrict opportunities to develop emotional awareness, expression, and regulation.

This context contributes to low emotional literacy, as migrant children often face displacement, unstable living conditions, language barriers, and discrimination, factors that hinder emotional development and coping. Without structured psychosocial support or school-based socio-emotional programs, they remain at higher risk of emotional dysregulation, social withdrawal, and difficulty interpreting emotional cues in multicultural settings.

Consequently, strengthening emotional literacy among migrant children aged 9–15 years in Malaysia is critical not only for promoting their individual well-being but also as a preventative strategy against long-term psychosocial maladjustment within this vulnerable population. By explicitly linking Malaysia's hosting context to emotional literacy challenges, the need for targeted, developmentally appropriate interventions becomes clear, especially those that can be feasibly delivered within community learning centers where formal support structures are limited.

Play-based psychoeducation offers key advantages over traditional approaches, as it actively engages children in enjoyable activities that enhance motivation and support internalization of emotional-regulation strategies. School-based emotional and

communication programs have shown improvements in emotional literacy and regulation [8], and empirical reviews indicate that play-based interventions effectively promote emotional expression, peer interaction, and self-regulation by leveraging children's natural learning processes. Through symbolic play, storytelling, and games, children can safely rehearse emotional scenarios and translate emotional awareness into practical regulation skills.

This approach is particularly suitable for migrant children because it provides a non-threatening, developmentally appropriate medium for communication despite linguistic or cultural barriers. Many struggle to express emotions verbally due to trauma, language limitations, or social marginalization; play offers a culturally flexible and psychologically safe space for indirect emotional expression, reducing anxiety and fostering inclusion. Play-based activities can also incorporate familiar cultural elements, making learning more meaningful and relatable for migrant youth. Furthermore, play-based approaches allow materials to be adapted to children's cultural and socio-emotional contexts, making interventions more relevant and applicable to daily experiences. These advantages position play-based psychoeducation as a suitable and contextually appropriate strategy for strengthening emotional literacy among migrant children in Malaysia.

This study is grounded in Roy's Adaptation Model (RAM), which views individuals as adaptive systems striving for balance through physiological and psychosocial coping mechanisms [9,10]. Migrant children face cultural, linguistic, and social shifts that challenge their emotional regulation and overall psychological well-being. Disruptions in adaptation hinder their ability to identify, express, and manage emotions, affecting social and academic functioning.

Roy's model is appropriate for this population because it explains how environmental stimuli, such as migration stress, educational instability, and social exclusion, that influence coping and emotional functioning. Its adaptive modes (self-concept-group identity, role function, interdependence, physiologic-physical) provide a holistic lens for understanding how migrant children interpret emotional cues, develop confidence, and form supportive peer relationships, aligning with emotional literacy components.

Play-based psychoeducation serves as a positive adaptive stimulus that supports coping through guided, enjoyable, and meaningful activities [11,12]. Within RAM, the intervention promotes adaptive responses by enhancing emotional awareness (self-concept), empathy (interdependence), and role functioning during group interactions. These alignments highlight RAM's strength as a framework for psychosocial nursing interventions. The intervention aims to improve adaptive functioning across physiological-physical, self-concept-group identity, role function, and interdependence domains by fostering emotional awareness, empathy, and peer support within a safe group environment [13].

Although play-based interventions have been shown to enhance children's emotional and social regulation, most studies focus on general school populations and do not address the unique cross-cultural challenges faced by migrant children. Research in Malaysia rarely applies play-based approaches within nursing frameworks such as RAM, nor does it focus explicitly on emotional literacy. Existing studies emphasize trauma, behavioral issues, or general adaptation, with limited culturally responsive emotional literacy training. Furthermore, no studies have examined a brief, play-based psychoeducation model tailored for Indonesian migrant children in community learning centers.

Thus, a clear research gap exists in developing theory-driven, culturally contextualized interventions that target emotional literacy as a core skill for migrant children. This study addresses that gap by applying Roy's Adaptation Model to guide a play-based psychoeducation program aimed at improving emotional knowledge, regulation, and application in a migrant learning center in Malaysia. Accordingly, this study aimed to explore preliminary changes associated with a brief, play-based psychoeducation program in enhancing emotional literacy among migrant children attending a community learning center in Malaysia.

Material And Methods

This research employed a pre-experimental one-group pretest-posttest design to assess the immediate changes in emotional literacy following a play-based psychoeducation intervention among children aged 9–15 years. Although not a randomized controlled trial, the reporting adhered to the TREND (Transparent Reporting of Evaluations with Nonrandomized Design) guidelines [14]. This pre-experimental approach, while lacking a control group, facilitated practical evaluation of immediate intervention effects within the naturalistic context of an alternative learning center. A control group could not be included due to ethical and logistical constraints: community learning centers serving migrant children operate with small, fluctuating class sizes, making randomization infeasible; withholding an intervention that offers emotional support to vulnerable youth was considered ethically inappropriate; and the learning center leadership requested that all eligible children receive the session to maintain equitable access.

The present study was conducted from August to September, 2025, at a community learning center located in Kepong, Federal Territory of Kuala Lumpur, Malaysia. This center provides alternative educational opportunities for Indonesian children of migrant worker families who face barriers to accessing formal education. The target population comprised Indonesian migrant children aged 9–15 years who possessed basic reading skills and could communicate effectively in Indonesian. Children who were absent or unwell during the data collection period were excluded. A total of 30 eligible participants were consecutively recruited for the study.

Sample size estimation was conducted a priori using G*Power version 3.1. Because the software does not provide a specific module for the Wilcoxon signed-rank test, we used the paired t-test family as a proxy for nonparametric paired analysis. The parameters specified were a two-tailed test, effect size $d_z = 0.70$, $\alpha = 0.05$, and power = 0.80, which yielded a minimum required sample of approximately 16 participants. To account for the possibility of nonparametric data distribution, uncertain pre-post correlations, and to ensure adequate representation of eligible children, we enrolled a total of 30 participants.

Data on emotional literacy were collected using an Indonesian-validated Emotional Literacy Questionnaire [16], consisting of 15 items grouped into three domains: emotional knowledge, case-based emotional identification, and regulation strategies. Each item is scored dichotomously (0 = incorrect, 1 = correct), producing a total score range of 0–15 and domain scores reflecting the number of correct responses. Dichotomous scoring was selected to facilitate objective assessment of emotion recognition and regulation concepts among children with varying literacy backgrounds. The questionnaire underwent expert content validation by psychologists and mental health nursing specialists. Internal consistency in the present sample showed good reliability: Cronbach's $\alpha = 0.81$ for the total scale, 0.78 for emotional knowledge, 0.80 for case-based application, and 0.83 for emotional regulation.

Play-based interventions serve a critical role in enhancing the emotional literacy of migrant children, who frequently encounter psychosocial challenges related to displacement and cultural adaptation. Such play activities provide a secure and supportive context in which children can express, identify, and comprehend their emotions, a necessity for migrant children experiencing stress, anxiety, or loss. Through structured role-playing, storytelling, and cooperative social interactions, these children are afforded natural opportunities to develop skills in emotional regulation and empathy. This multifaceted approach not only facilitates improved emotional management but also strengthens social relationships and supports cultural integration. Empirical evidence demonstrates the efficacy of play-based interventions in restoring psychosocial well-being, improving emotional literacy, and fostering positive social development among migrant children [8–10].

In this study, a play-based psychoeducation program was delivered over two days in 90-minute sessions led by a trained mental health nurse. After eligibility screening and informed consent, children completed sociodemographic and pre-intervention assessments, with all measurements administered by the same researcher. All 30 participants joined as one group but worked in smaller teams of 5–6 to enhance engagement, with environmental distractions minimized. The intervention followed a clear sequence: rapport-building; introduction of target emotions; play activities; role-play and case simulations; group discussion; and reflective reinforcement. Post-intervention assessments were administered immediately after the sessions, and no participants were lost to follow-up.

Data were analyzed using non-parametric Wilcoxon signed-rank tests to compare pre- and post-intervention emotional literacy scores, given the ordinal nature and small sample size of the data. Results were reported with median, mean, and standard deviation values. Because the Wilcoxon signed-rank test does not employ Cohen's *d*, the effect size was calculated using the appropriate non-parametric formula, $r = Z/\sqrt{N}$, which reflects the magnitude of change in matched pairs. Effect sizes greater than 0.3 were interpreted as moderate and above 0.5 as large effects [17]. Statistical significance was set at $p < 0.05$, and all analyses were conducted using SPSS version 29.

Ethics approval was obtained from the Research Ethics Committee of Universitas 'Aisyiyah Bandung, on August 26, 2025 (Approval Number 1515.A/KEP.01/UNISA-BANDUNG/VIII/2025). Written informed consent was obtained from parents or legal guardians prior to data collection, and all children provided written assent after receiving an age-appropriate explanation of the study procedures. Participation was voluntary, confidentiality was ensured, and no identifiable information was collected. All procedures adhered to the Declaration of Helsinki, CIOMS guidelines for research involving vulnerable populations, and UNICEF ethical standards for research with children.

Results

A total of 30 migrant children aged 9 to 15 years completed the study, with no losses to follow-up and complete data reported for all participants. The gender distribution was relatively balanced, comprising 46.7% male and 53.3% female participants. The children were enrolled in grades 3 through 6 of elementary school, with the largest proportion (30%) in grade 5. Regarding religious affiliation, the majority of participants identified as Muslim (93.3%), while the remaining 6.7% were Christian. Given these demographic patterns, the sample reflects the typical composition of Indonesian migrant children attending community learning centers in Malaysia, rather than representing a broadly diverse cohort. Table 1 summarizes the sociodemographic and characteristics of the study participants.

Table 1. Sociodemographic and Characteristics of Participants (n = 30)

Characteristic	Category	n (%)
Age (years) (Mean ± SD = 10.7 ± 1.86)	8 years	1 (3.3)
	9 years	4 (13.3)
	10 years	9 (30.0)
	11 years	5 (16.7)
	12 years	5 (16.7)
	13 years	3 (10.0)
	14 years	2 (6.7)
	15 years	1 (3.3)
Gender	Men	14 (46.7)
	Women	16 (53.3)

Characteristic	Category	n (%)
Grade	3rd	7 (23.3)
	4th	7 (23.3)
	5th	9 (30.0)
	6th	7 (23.3)
Religion	Islam	28 (93.3)
	Christian	2 (6.7)

Table 2. Baseline and Posttest Emotional Literacy Scores with Median and p-Value Reporting

Dimension and item	Baseline		Posttest		p-value
	Mean $\pm$ SD	Median	Mean $\pm$ SD	Median	
Kind of Emotions	3.70 $\pm$ 1.14	4	4.37 $\pm$ 1.03	5	0.014
P1 (Angry)	0.97 $\pm$ 0.18	1	0.93 $\pm$ 0.25	1	
P2 (Happy)	0.50 $\pm$ 0.50	0.50	0.97 $\pm$ 0.18	1	
P3 (Sad)	0.87 $\pm$ 0.34	1	0.83 $\pm$ 0.37	1	
P4 (Disgust)	0.57 $\pm$ 0.50	1	0.70 $\pm$ 0.46	1	
P5 (Fear)	0.80 $\pm$ 0.40	1	0.93 $\pm$ 0.25	1	
Case Studies	3.90 $\pm$ 1.12	4	4.50 $\pm$ 0.97	5	0.017
P6 (Fear)	0.90 $\pm$ 0.30	1	0.73 $\pm$ 0.45	1	
P7 (Happy)	0.73 $\pm$ 0.45	1	1.00 $\pm$ 0.00	1	
P8 (Sad)	0.93 $\pm$ 0.25	1	0.93 $\pm$ 0.25	1	
P9 (Angry)	0.57 $\pm$ 0.50	1	0.90 $\pm$ 0.30	1	
P10 (Surprised)	0.77 $\pm$ 0.43	1	0.93 $\pm$ 0.25	1	
Emotional Regulation	3.93 $\pm$ 1.14	4	4.43 $\pm$ 1.13	5	0.012
P11 (Angry)	0.90 $\pm$ 0.30	1	0.80 $\pm$ 0.40	1	
P12 (Sad)	0.70 $\pm$ 0.46	1	0.90 $\pm$ 0.30	1	
P13 (Fear)	0.90 $\pm$ 0.30	1	0.87 $\pm$ 0.34	1	
P14 (Happy)	0.87 $\pm$ 0.34	1	0.93 $\pm$ 0.25	1	
P15 (Disgust)	0.57 $\pm$ 0.50	1	0.93 $\pm$ 0.25	1	
Total Emotional Literacy Score	11.53 $\pm$ 0.54	12	13.30 $\pm$ 0.49	14	<0.001

Table 2 illustrates improvements in all emotional literacy subdimensions following the intervention. Median scores increased from baseline to posttest across Kind of Emotions (4 to 5), Case Studies (4 to 5), and Emotional Regulation (4 to 5), with the total score rising from 12 to 14. Consistent with the Wilcoxon signed-rank test requirements, both means and medians are reported. Significant changes were observed for all subdimensions, including Kind of Emotions ($p = 0.014$), Case Studies ($p = 0.017$), and Emotional Regulation ($p = 0.012$), indicating a consistent improvement in emotional literacy following the program.

The Wilcoxon signed-rank test showed a statistically significant increase in total emotional literacy scores following the intervention ($Z = -2.61$, $p = 0.009$). The calculated effect size ($r = 0.47$) indicates a moderate magnitude of change, confirming that the observed differences were not only statistically but also practically significant. The Wilcoxon signed-

rank analysis showed that the sum of positive ranks ($\Sigma R^+ = 255.0$) exceeded the sum of negative ranks ($\Sigma R^- = 45.0$), indicating a consistent upward shift in emotional literacy scores after the intervention (Table 3).

Table 3. Changes in Emotional Literacy and Wilcoxon Signed Rank Test of Emotional Literacy total scores (n = 30)

Characteristics	Category	Pretest n (%)	Posttest n (%)
Kind of Emotions	High (≥ 4)	21 (70.0)	25 (83.3)
	Intermediate (3)	4 (13.3)	3 (10.0)
	Low (≤ 2)	5 (16.7)	2 (6.7)
Case Studies	High (≥ 4)	21 (70.0)	25 (83.3)
	Intermediate (3)	5 (16.7)	4 (13.3)
	Low (≤ 2)	4 (13.3)	1 (3.3)
Emotional Regulation	High (≥ 4)	21 (70.0)	26 (86.7)
	Intermediate (3)	5 (16.7)	2 (6.7)
	Low (≤ 2)	4 (13.3)	2 (6.7)
Total Dimensions	High (≥ 4)	19 (63.3)	27 (90.0)
	Intermediate (3)	10 (33.3)	2 (6.7)
	Low (≤ 2)	1 (3.3)	1 (3.3)
Wilcoxon Signed Rank Test of Emotional Literacy total scores			
Parameter	Value		
Negative Ranks (ΣR^-)	45.0		
Positive Ranks (ΣR^+)	255.0		
Ties	3		
Z	-2.61		
Asymp. Sig (p-value)	0.009		
Effect Size (r)	0.47		

**Positive Ranks = cases with improved post-test scores; Negative Ranks = cases with decreased scores; Ties = no change.*

Discussions

This study suggests preliminary improvements in emotional literacy following a brief play-based psychoeducation program; however, due to the pre-experimental design, these changes cannot be interpreted as causal. The statistically significant increase in total emotional literacy scores post-intervention, alongside the shift of most participants from moderate to high literacy categories, underlines the educational relevance and practical significance of this approach for a psychosocially vulnerable population. These results emphasize the value of culturally and contextually tailored interventions that employ play as a medium for emotional learning, particularly for children grappling with the complex challenges of adaptation and resilience in their everyday environments.

The efficacy of play-based psychoeducation is supported by established theoretical and empirical frameworks. Play provides a safe and enjoyable space where children can express their emotions, learn to interpret the feelings of others, and practice self-regulation without fear of judgment [18]. The intrinsically motivating nature of play enhances engagement, thereby facilitating the internalization and retention of emotional regulation strategies [9,19]. Moreover, the integration of guided play and case simulations enables children to rehearse responses to emotionally challenging scenarios within a structured and supportive context [16]. For migrant children, play assumes an even greater significance as it offers avenues for emotional expression that may be difficult to articulate verbally, concurrently fostering safety and social connectedness in unfamiliar surroundings [12,20]. In this regard, play transcends recreation to function as an essential pedagogical tool that renders emotional learning more natural, engaging, and relevant to children's lived experiences.

The transitional developmental phase, encompassing ages 9 to 15, is critical for identity formation and social relationship development, rendering emotional literacy particularly influential during this period. Teaching children to discriminate among various emotions such as fear, sadness, anger, and happiness via facial recognition, contextual cues, and case studies enhances emotional clarity and comprehension. A pertinent example is the study by [NO_PRINTED_FORM] [21], which demonstrated ongoing development of facial emotion recognition skills throughout preadolescence and adolescence. Providing migrant children with opportunities to vocalize and reflect upon experiences related to discrimination, cultural adjustment, or grief through case studies and role-playing facilitates emotional processing and resilience. Furthermore, positive emotion regulation techniques, including acceptance, cognitive reappraisal, and distraction, have been empirically linked to enhanced mood and attenuation of negative affect in early adolescents [15]. The synergy of these components within a play-based psychoeducational framework substantially strengthens migrant children's emotional literacy, equipping them to navigate migration-related challenges more adeptly.

Compared to alternative emotional regulation interventions such as pure mindfulness training, general school-based programs, or structured clinical therapies, play-based psychoeducation offers several distinct advantages. Firstly, interactive game-based methodologies inherently foster higher engagement and motivation than doactic approaches, which commonly suffer from lower adherence in youth populations [22]. Secondly, play-based interventions are amenable to brief delivery by facilitators without specialized therapeutic training, offering scalability and feasibility in resource-limited settings [8]. Thirdly, the adaptable nature of play permits the incorporation of culturally and contextually salient case studies or simulations, enhancing relevance and emotional salience for migrant children

compared to more generic programs. Consequently, play-based psychoeducation achieves a unique balance of theoretical rigor and contextual applicability, making it particularly suited for fostering emotional literacy among migrant youth.

Overall, the present findings substantiate the utility of play-based psychoeducation in promoting emotional literacy within a vulnerable migrant child population. By providing a secure, supportive, and engaging forum for experiential learning, this approach not only advances children's emotional competencies but also bolsters their psychosocial integration and resilience amid migration-related stressors. These results endorse the integration of play-based psychoeducational strategies within school curricula and psychosocial support frameworks aimed at migrant and refugee populations.

Implications for Practice

Play-based psychoeducation emerges as a practical, cost-effective, and culturally sensitive approach for enhancing emotional literacy among school-aged migrant children. This intervention strategy can be seamlessly integrated into existing educational curricula and child support initiatives by educators, counselors, and healthcare professionals to promote social adaptation and psychological well-being. Recognizing play as an evidence-based pedagogical tool emphasizes the value of a comprehensive, child-centered approach to emotional learning. Furthermore, fostering collaboration among educators, psychologists, and mental health nurses is anticipated to enhance the effectiveness, acceptability, and engagement of play-based interventions. Such multidisciplinary teamwork could facilitate the wider adoption of play-based psychoeducation, thereby amplifying its impact on the psychological resilience of migrant children.

Play-based psychoeducation sessions have the potential to foster a sense of calm and comfort among migrant children, facilitating their ability to express emotions openly. Enhanced understanding of various emotional states equips children with tools to better manage the stress and confusion commonly experienced during the adaptation process in a new environment. This intervention offers a safe and natural platform for learning positive emotional regulation strategies without imposing the pressures often associated with formal or clinical approaches. Through play, children acquire meaningful experiences that contribute to increased self-confidence and social skill development, supporting their everyday interpersonal interactions. By internalizing simple yet effective emotional management techniques, children gain greater control over their emotional responses to challenging situations. Ultimately, this improvement in emotional literacy serves to strengthen

psychological resilience, enabling migrant children to confront migration-related adversities more healthily and adaptively.

Conclusion

This study provides evidence indicating potential improvements in emotional literacy among migrant children aged 9 to 15 years. Through two brief, culturally appropriate group sessions, participants demonstrated significant improvements in recognizing, understanding, and regulating emotions. These findings underscore the potential of play-based interventions to serve as accessible, engaging, and contextually relevant tools for promoting emotional competence and psychosocial resilience within vulnerable migrant child populations. Given its feasibility and favorable impact, play-based psychoeducation should be considered for integration into educational and psychosocial support programs targeting migrant and refugee children. Future randomized controlled trials or quasi-experimental studies with comparison groups are recommended to confirm the causal effects of play-based psychoeducation on emotional literacy.

Limitation

Several limitations inherent in this study must be considered when interpreting the findings. First, the use of a one-group pretest-posttest research design without a control group restricts the ability to draw definitive causal inferences, as improvements in emotional literacy may be influenced by external factors such as social support or participant motivation. Second, the relatively small sample size of 30 participants limits the generalizability of the results to the broader population of migrant children, who exhibit diverse cultural backgrounds and adaptation experiences. Third, reliance on a self-report instrument for measuring emotional literacy introduces the potential for response bias, despite the instrument's established psychometric validity. Fourth, the brief intervention duration comprising only two sessions across two days precludes conclusions regarding the long-term sustainability of observed improvements. Finally, the focused implementation context, targeting migrant children within a specific geographic region and educational setting in Malaysia, strengthens cultural relevance but also limits applicability to other educational and social contexts.

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Conflict of Interest

The authors should declare that there is no conflict of interest.

References

- [1] Leeb RT, Danielson ML, Claussen AH, Robinson LR, Lebrun-Harris LA, Ghandour R, et al. Trends in Mental, Behavioral, and Developmental Disorders Among Children and Adolescents in the US, 2016–2021. *Prev Chronic Dis* 2024;21. <https://doi.org/10.5888/PCD21.240142>.
- [2] Ma L, Mazidi M, Li K, Li Y, Chen S, Kirwan R, et al. Prevalence of mental health problems among children and adolescents during the COVID-19 pandemic: A systematic review and meta-analysis. *J Affect Disord* 2021;293:78–89. <https://doi.org/10.1016/j.jad.2021.06.021>.
- [3] World Health Organization. Global report on health equity for persons with disabilities. 2022.
- [4] Blackmore R, Gray KM, Boyle JA, Fazel M, Ranasinha S, Fitzgerald G, et al. Systematic Review and Meta-analysis: The Prevalence of Mental Illness in Child and Adolescent Refugees and Asylum Seekers. *J Am Acad Child Adolesc Psychiatry* 2020;59:705–14.
- [5] UNHCR. Malaysia Annual Results Report 2024. 2025.
- [6] Tan K-A. Rohingya refugee health and well-being in Malaysia: a call for research and action. *Lancet Reg Health West Pac* 2024;52:101229. <https://doi.org/https://doi.org/10.1016/j.lanwpc.2024.101229>.
- [7] Tay AK, Balasundaram S. Variations in prevalence and risk profiles for Common Mental Disorders amongst Rohingya, Chin and Kachin refugees from Myanmar. *Psychol Med* 2022;52:1306–20. <https://doi.org/10.1017/S0033291720003104>.
- [8] Murray J, Tostevin L. Improving emotion regulation and communication for children: A pre-post trial of a school-based approach. *Ment Health Prev* 2023;30:200282. <https://doi.org/https://doi.org/10.1016/j.mhp.2023.200282>.
- [9] Gupta N, Chaudhary R, Gupta M, Ikehara L-H, Zubiar F, Madabushi JS. Play Therapy As Effective Options for School-Age Children With Emotional and Behavioral Problems: A Case Series. *Cureus* 2023. <https://doi.org/10.7759/cureus.40093>.
- [10] Öztekin GG, Turp HH, Ata S. Let's Hear Children's Emotions: The Play-Based Psychoeducation Program for the Socio-Emotional Development of Primary School Children. *Erzincan Üniversitesi Eğitim Fakültesi Dergisi* 2024;26:38–46. <https://doi.org/10.17556/erziefd.1378151>.
- [11] Nijhof SL, Vinkers CH, van Geelen SM, Duijff SN, Achterberg EJM, van der Net J, et al. Healthy play, better coping: The importance of play for the development of children in health and disease. *Neurosci Biobehav Rev* 2020;95:421–9. <https://doi.org/10.1016/j.neubiorev.2018.09.024>.
- [12] Howard K, Moore D, Dimitrellou E, Janik Blaskova L, Howard J. School-based mental health support for migrant children and young people: A scoping review. *J Sch Psychol* 2024;107:101393. <https://doi.org/https://doi.org/10.1016/j.jsp.2024.101393>.
- [13] Hudson JL, Minihan S, Chen W, Carl T, Fu M, Tully L, et al. Interventions for Young Children's Mental Health: A Review of Reviews. *Clin Child Fam Psychol Rev* 2023;26:593–641. <https://doi.org/10.1007/s10567-023-00443-6>.
- [14] Haynes AB, Haukoos JS, Dimick JB. TREND Reporting Guidelines for Nonrandomized/Quasi-Experimental Study Designs. *JAMA Surg* 2021;156:879–80. <https://doi.org/10.1001/jamasurg.2021.0552>.
- [15] Wang S, Chu Y, Dai H. Role of emotion regulation capacities in affective state among Chinese high school students in the post-pandemic era of COVID-19. *Front Psychol* 2022. <https://doi.org/10.3389/fpsyg.2022.1015433>.
- [16] Deniz E, Francis G, Torgerson C, Toseeb U. Parent-Mediated Play-Based Interventions to Improve Social Communication and Language Skills of Preschool Autistic Children: A Systematic Review and Meta-analysis. *Rev J Autism Dev Disord* 2024. <https://doi.org/10.1007/s40489-024-00463-0>.
- [17] Elsayir HA. The role of effect size and significance test in research design and analysis. *Edelweiss Applied Science and Technology* 2024;8:287–95. <https://doi.org/10.55214/25768484.v8i6.2062>.

- [18] Bredikyte M, Brandisauskiene A. Pretend play as the space for development of self-regulation: cultural-historical perspective. *Front Psychol* 2023;14. <https://doi.org/10.3389/fpsyg.2023.1186512>.
- [19] Pyle A, Danniels E, Larsen NE, Martinussen R. Supporting children's self-regulation development in play-based kindergarten classrooms. *Int J Educ Res* 2022;116:102059. <https://doi.org/https://doi.org/10.1016/j.ijer.2022.102059>.
- [20] Hom A. Migrant children struggle to express themselves in words. Enter art and play. Harvard Public Health 2024.
- [21] Cuciniello M, Amorese T, Vogel C, Cordasco G, Esposito A. The Development of Emotion Recognition Skills from Childhood to Adolescence. *Eur J Investig Health Psychol Educ* 2025;15. <https://doi.org/10.3390/ejihpe15040056>.
- [22] Pedrini L, Meloni S, Lanfredi M, Rossi R. School-based interventions to improve emotional regulation skills in adolescent students: A systematic review. *J Adolesc* 2022;94:1051–67.

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