Malaysian Quality Childcare Unveiled Through Fuzzy Delphi: What Do Parents Want?

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ABSTRACT

This study employed a Fuzzy Delphi approach to examine parental expectations of childcare quality in Malaysia, addressing the gap between international quality frameworks and local cultural contexts. Eleven experts evaluated ten quality dimensions using a five-point fuzzy scale. The findings revealed strong consensus (97% average) across all quality indicators, with educational and developmental activities emerging as the highest priority (defuzzification: 0.800), followed by staff qualifications and parent-staff communication (both 0.782). The study identified three key quality dimensions: educational content delivery, professional competence, and communication frameworks. All items achieved acceptance status, indicating robust agreement on quality indicators. The findings suggest that Malaysian parents prioritize both structural and process quality elements, challenging assumptions about Asian parents' exclusive focus on academic outcomes. The study contributes to the development of culturally responsive quality assessment frameworks and provides evidence-based recommendations for policy makers and practitioners. The results highlight the need for comprehensive quality improvement initiatives that balance educational content with nurturing care while maintaining cultural sensitivity. These findings have significant implications for quality standard development, professional training programs, and policy formulation in Malaysian early childhood education and care settings.

Keywords: Childcare quality, Expert consensus, Early childhood education, Fuzzy Delphi Method, Parental expectations

INTRODUCTION

Quality in childcare is a multifaceted concept encompassing both structural and process elements that influence children's developmental outcomes. Structural quality refers to tangible aspects of childcare settings, such as caregiver qualifications, child-to-caregiver ratios, and group sizes, which correlate with overall childcare quality [1], [2]. In contrast, process quality pertains to the nature of interactions between caregivers and children, including emotional warmth, sensitivity, and responsiveness [3], [4].

Parental perceptions play a crucial role in defining quality in childcare. Parents often assess quality based on their observations of caregiver interactions and the overall environment, rather than solely on structural indicators [1], [5]. This subjective evaluation emphasizes the need to align childcare practices with parental expectations, which can influence satisfaction and perceived quality [6]. Conventional survey methods often fail to capture the nuanced nature of quality perceptions among parents, as they typically rely on fixed-response

formats that do not reflect diverse experiences [5]. The complexity of quality perceptions, influenced by socio-economic status, cultural background, and personal expectations, necessitates a more sophisticated approach that accommodates ambiguity and individual perspectives [7].

The Fuzzy Delphi method offers a promising alternative by integrating expert opinions while allowing for uncertainty and variability in responses. This method is particularly effective in contexts where consensus is difficult due to the subjective nature of the topic [8]. In Malaysia, where childcare quality frameworks are evolving, employing Fuzzy Delphi method can help identify critical quality factors that resonate with parents' experiences and expectations, facilitating the development of adaptive quality frameworks [9].

This study's significance lies in enhancing the understanding of quality perceptions in early childhood education within the Malaysian context. Recognizing and addressing the multifaceted nature of quality is crucial for improving educational outcomes. By employing Fuzzy Delphi method, this research aims to identify and prioritize the dimensions of quality that parents perceive as essential, which are linked to long-term developmental benefits [10], [11]. Understanding parental perceptions can inform the development of inclusive educational policies that cater to all families, particularly those from disadvantaged backgrounds [12].

Furthermore, this study addresses gaps in existing literature regarding specific quality indicators relevant to Malaysian parents. Previous studies have often generalized findings across different cultural contexts, which may not accurately reflect local values [13]. By focusing on the Malaysian context, this research can contribute to tailored quality frameworks that align with the region's unique socio-cultural dynamics [14].

METHODOLOGY

A. Sampling

The sampling method used in this study is purposive sampling, specifically recruiting parents who meet predetermined criteria to serve as informed experts in the Fuzzy Delphi process. This approach allows for a specific selection of participants whose experiences and insights align with the study's objectives, focusing on capturing diverse and representative perspectives on childcare quality from a parental viewpoint. This purposive sampling approach, guided by predetermined criteria, ensures that the selected participants provide diverse and applicable insights, supporting the study's objective of identifying and highlighting key childcare quality indicators as valued by parents in Malaysia.

B. Expert Criteria

The selection of suitable experts is important for the validity and reliability of research outcomes, particularly in studies employing the Fuzzy Delphi method. This study's expert selection criteria were specifically crafted to ensure that participating parents possessed considerable experience and insight into childcare quality, thereby strengthening the credibility of the findings.

The selection of parents as experts in this study represents a notable change from traditional expert panels that typically consist of professionals and academics. Parents' lived experiences with childcare services provide significant observations that complement professional perspectives. The criteria for expert selection were developed based on two essential factors: experiential depth and contemporary relevance.

The requirement for parents to have multiple children, specifically a minimum of two, serves as a primary requirement that deepens the analysis framework. Parents with multiple children typically accumulate broader and wider-ranging experiences across different childcare scenarios, as each child may present unique needs, temperaments, and developmental patterns. This multiplicity of experience enables parents to make more refined comparisons and evaluations of childcare quality, drawing from their observations of how different children within the same family unit respond to various care environments and approaches.

The criterion regarding recent experience with formal childcare services, specifically within the past five years, adds another important element to the expert validation process. This temporal requirement ensures that

participants' insights reflect up-to-date childcare practices, current regulatory standards, and modern educational approaches. Recent experience is significantly beneficial as it captures the changing landscape of childcare services, including technological integration, updated safety protocols, and contemporary pedagogical methods. Parents with recent engagement in formal childcare settings are more likely to evaluate current quality standards and provide applicable insights on present-day childcare challenges and expectations.

The validation of these expert criteria is supported by accepted research methodologies in qualitative studies. The combination of multiple-child parenting experience and recent formal childcare engagement creates a comprehensive basis for expert qualification. This dual-criteria approach helps ensure that participants possess both breadth of experience (through managing multiple children) and currency of knowledge (through recent childcare service utilization). Such thoughtfully chosen expert criteria increase trustworthiness and enhance the reliability of the findings, as the insights gathered come from parents who have demonstrated considerable involvement with childcare services across different contexts and time periods. This thorough approach in expert selection contributes to the study's general robustness and its potential influence on understanding quality parameters in Malaysian childcare settings.

C. Sample Size

The Fuzzy Delphi method is typically conducted with a relatively limited group of knowledgeable participants, as it relies on deep knowledge rather than statistical generalizability. Based on these criteria, a sample of approximately 10 to 15 parents was considered adequate for this study. This range aligns with the recommended standards in the Fuzzy Delphi methodology, which often uses smaller groups to facilitate targeted dialogues and reach shared agreement on complex topics.

D. Instrumentation

The primary instrument used in this study was a systematic questionnaire designed to evaluate parental expectations of childcare quality. The questionnaire was developed based on a list of 10 key outlined criteria (as shown in Table I), which included components such as staff qualifications, safety measures, communication with parents, and inclusivity.

Table I parental Expectations of Childcare Quality

No.	Items
1.	The qualifications and training of childcare staff are important for ensuring high-quality care.
2.	Regular and effective communication between childcare staff and parents is essential for maintaining high-quality childcare.
3.	The availability of structured educational and developmental activities is important for achieving a quality childcare experience.
4.	Safety measures, such as secure entry points and childproofing, are crucial for ensuring the quality of a childcare center.
5.	Including nutritious meal plans is an important aspect of childcare quality.
6.	Positive and nurturing interactions between staff and children are key indicators of quality childcare.
7.	Flexible operating hours are important for providing high-quality childcare service.
8.	Ensuring inclusivity and cultural sensitivity is an important characteristic of a high-quality childcare center.
9.	Behavior management practices and disciplinary approaches should align with positive reinforcement techniques to be considered quality care.
10.	Continuous professional development and training for staff are essential for maintaining high-quality childcare services.

Each quality indicator was rated by experts (parents) using a fuzzy with five levels of importance: "Not at all important," "Slightly not important," "Neutral," "Important," and "Very important." Each of these levels corresponded to a fuzzy number, allowing participants to express their judgments with more freely and capture any variations in their ratings.

The questionnaire was administered to each expert independently and responses were analyzed using the Fudelo software, which enabled Fuzzy Delphi analysis. The software enabled the aggregation of individual fuzzy ratings, calculation of consensus scores and ranking of items based on defuzzified scores. This process ensured that all parental expectations were analyzed comprehensively, providing a well-defined picture of the most high-priority elements of childcare quality.

E. Procedure

To achieve expert consensus on childcare quality indicators using a fuzzy scale, a step-by-step process was used ensuring a clear and structured process. The process began with the selection of experts. Parents who met particular qualifications, such as having at least two children and recent experience with formal childcare services, were selected and included. This selection criterion ensured that participants could provide knowledgeable perspectives based on their perception and requirements of childcare quality.

Following the recruitment, the next step involved specifying quality measures. A list of essential elements, such as staff qualifications, safety, communication with parents, and the presence of educational activities, was outlined. These indicators served as the basis for the survey, allowing the experts to evaluate individual components of childcare quality that are generally considered important by parents.

Once the indicators were defined, the fuzzy scale survey was shared with each respondent. The survey included each quality indicator alongside the fuzzy scale, which provided categories such as "Not at all important," "Slightly not important," "Neutral," "Important," and "Very important." Each of these options corresponded to a fuzzy rating, enabling experts to express the significance of each indicator with a range of variation that accounted for any uncertainties or minor differences in their opinions.

Subsequently, experts were asked to rate each indicator using the fuzzy scale. This step permitted each expert to indicate the significance of each element, with the fuzzy scale capturing priorities and any uncertainties in their responses. The collection of these ratings provided a thorough dataset that reflected the shared opinions of the experts. Table II shows the fuzzy rating levels.

Table II Fuzzy Scale

Item	Fuzzy Number
Not at all important	(0.0, 0.0, 0.2)
Slightly not important	(0.0, 0.2, 0.4)
Neutral	(0.2, 0.5, 0.8)
Important	(0.6, 0.8, 1.0)
Very important	(0.8, 1.0, 1.0)

The first level, "Not at all important," is represented by the fuzzy value (0.0, 0.0, 0.2), indicating a very low level of perceived importance. This value implies that parents who select this option see no or little significance in the attribute being rated. The values are tightly bound at the grouped near zero, indicating almost no importance.

The next level, "Slightly not important," is defined by the fuzzy number (0.0, 0.2, 0.4). Here, the slight increase in the upper boundary reflects a marginally higher, slightly enhanced but minor level of importance. This range enables respondents to indicate that the attribute may have limited significance, though it still of low priority in their assessment of childcare quality.

"Neutral," the midpoint in the scale, is represented by the fuzzy number (0.2, 0.5, 0.8). This range includes encompassing middle values, enabling experts to express without clear preference regarding the importance of the attribute. The broader range reflects differing levels of neutrality from minor disinterest to modest relevance allowing for layered neutrality.

At the higher end, "Important" is assigned the fuzzy number (0.6, 0.8, 1.0), signifying high yet non-essential relevance. This representation allows experts to reflect considerable importance without marking it as critical. The upper bound at 1.0 accommodates participants who may see it as very important in certain contexts showing notable significance.

Finally, "Very important" is represented by the fuzzy number (0.8, 1.0, 1.0) indicating a notable priority with low level of doubt. The close upper boundary underscores that participants selecting this option view the attribute as particularly critical, close to require in the context of quality childcare.

Overall, this fuzzy scale enables participants to express opinions with versatility, capturing the delicate variations of parental expectations on childcare quality. By allowing minor adjustments, the scale reflects the personal interpretation that common in perception-based reviews, providing a clearer picture of parental expectations.

DATA ANALYSIS

After gathering the responses, all the data were processed with Fudelo application. This figure shows the fuzzy Delphi results represented using the Fudelo interface. The top section lists the ratings provided by 11 experts across 10 items derived average points computed for each indicator. The central section indicates the fuzzy values for each element, with certain values emphasized values denoting critical relevance. The bottom section shows analytical results, including the "Value of the Item," "Value of the Construct," consensus percentages, defuzzification scores, and rankings. The final status for each item is labeled as indicating that all items satisfied the acceptance requirements based on expert consensus.
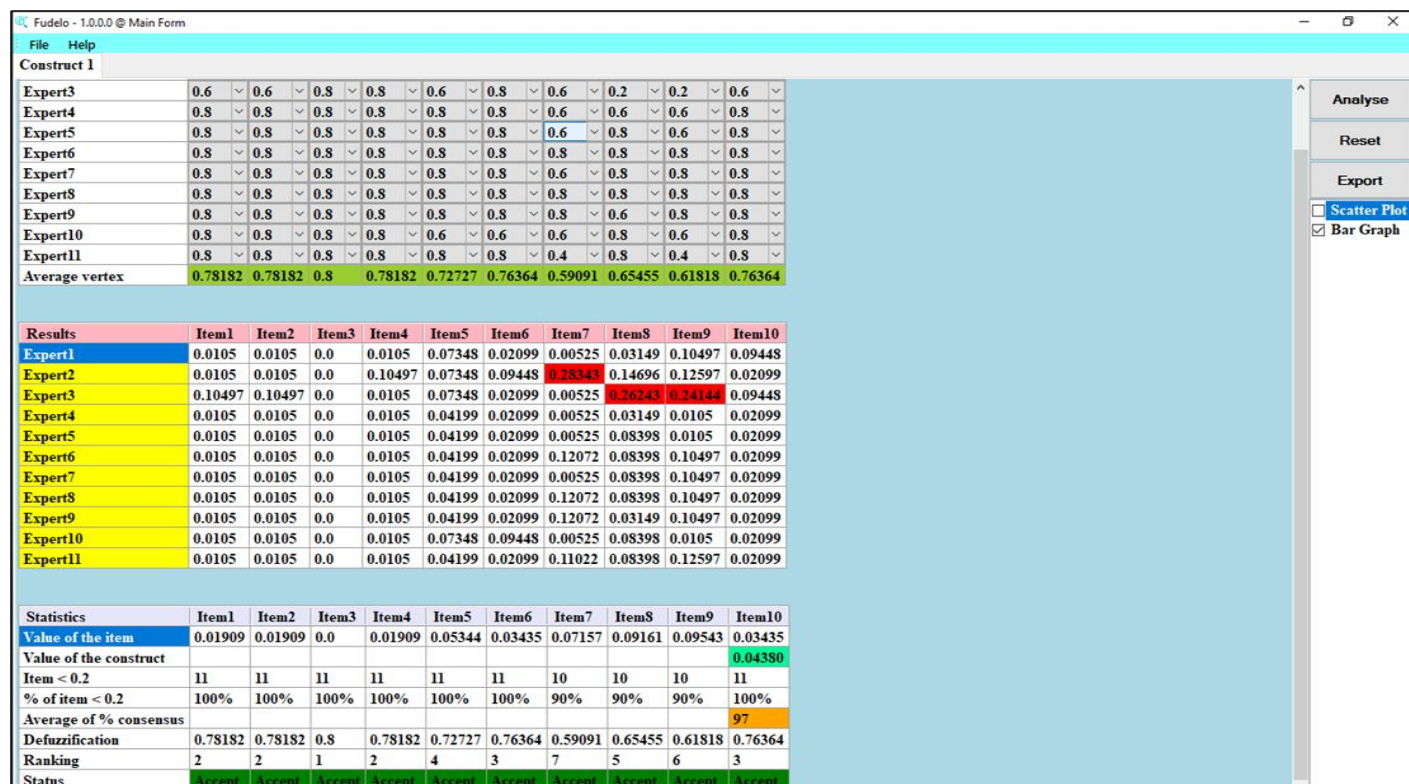

Fig. 1 Fuzzy Delphi Analysis Results in Fudelo Software

FINDINGS

The results from the fuzzy Delphi analysis provide meaningful findings into the collective opinions of experts

regarding the elements that form essential childcare standards. Outlined in Tables III and IV, the study shares results on the importance of diverse aspects of childcare quality as evaluated by 11 experts.

Table III Fuzzy Data Values

Results	Item1	Item2	Item3	Item4	Item5	Item6	Item7	Item8	Item9	Item10
Expert1	0.011	0.011	0.000	0.011	0.073	0.021	0.005	0.031	0.105	0.094
Expert2	0.011	0.011	0.000	0.105	0.073	0.094	0.283	0.147	0.126	0.021
Expert3	0.105	0.105	0.000	0.011	0.073	0.021	0.005	0.262	0.241	0.094
Expert4	0.011	0.011	0.000	0.011	0.042	0.021	0.005	0.031	0.011	0.021
Expert5	0.011	0.011	0.000	0.011	0.042	0.021	0.005	0.084	0.011	0.021
Expert6	0.011	0.011	0.000	0.011	0.042	0.021	0.121	0.084	0.105	0.021
Expert7	0.011	0.011	0.000	0.011	0.042	0.021	0.005	0.084	0.105	0.021
Expert8	0.011	0.011	0.000	0.011	0.042	0.021	0.121	0.084	0.105	0.021
Expert9	0.011	0.011	0.000	0.011	0.042	0.021	0.121	0.031	0.105	0.021
Expert10	0.011	0.011	0.000	0.011	0.073	0.094	0.005	0.084	0.011	0.021
Expert11	0.011	0.011	0.000	0.011	0.042	0.021	0.110	0.084	0.126	0.021

Table IV Fuzzy Results

Statistics	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10
Value of the item	0.019	0.019	0.000	0.019	0.053	0.034	0.072	0.092	0.095	0.034
Value of the construct										0.044
Item < 0.2	11	11	11	11	11	11	10	10	10	11
% of item < 0.2	100%	100%	100%	100%	100%	100%	90%	90%	90%	100%
Average of % consensus										97
Defuzzification	0.782	0.782	0.800	0.782	0.727	0.764	0.591	0.655	0.618	0.764
Ranking	2	2	1	2	4	3	7	5	6	3
Status	Accept	Accept	Accept	Accept	Accept	Accept	Accept	Accept	Accept	Accept

The fuzzy data values in Table III indicate the range of scores assigned by each expert attributed to each item. These values are subsequently integrated in Table IV to show the finalized value for each item, which reflects the shared evaluation of importance. This consensus process is essential in identifying the most important features for quality childcare based on expert perspectives.

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The Fuzzy Delphi analysis revealed strong consensus among experts regarding the importance of various quality indicators in childcare services, with an average consensus rate of 97% across all items. Most notably, Item 3, which focuses on the availability of structured educational and developmental activities, emerged as the highest-

ranked priority with a defuzzification score of 0.800. This indicates that experts strongly agree on the fundamental importance of organized learning opportunities in childcare settings.

Three items tied for the second-highest ranking with defuzzification scores of 0.782: staff qualifications and training (Item 1), regular and effective communication between staff and parents (Item 2), and safety measures (Item 4). This three-way tie suggests that experts place equal emphasis on professional competence, parent-staff communication, and physical safety as crucial components of quality childcare.

The analysis also revealed that positive and nurturing interactions between staff and children (Item 6) and continuous professional development (Item 10) shared the third rank with defuzzification scores of 0.764. Following these, nutritious meal plans (Item 5) ranked fourth with a score of 0.727, while cultural sensitivity and inclusivity (Item 8) ranked fifth with a score of 0.655.

Lower-ranked items included behavior management practices (Item 9) in sixth place with a score of 0.618, and flexible operating hours (Item 7) ranked lowest with a score of 0.591. Despite their lower rankings, it's important to note that all items achieved the "Accept" status, indicating that they met the threshold for inclusion as important quality indicators. This is further supported by the high consensus levels, with most items achieving 100% agreement among experts, while Items 7, 8, and 9 showed slightly lower but still substantial consensus at 90%.

The value of construct was calculated at 0.044, providing a benchmark against which individual item values were compared. The individual values of items ranged from 0.000 to 0.095, with most items showing relatively small variations in expert ratings, indicating strong agreement among the panel. This consistency in responses strengthens the reliability of the findings and suggests a clear understanding among experts about what constitutes quality in childcare services.

These findings demonstrate that while all identified aspects of childcare quality are considered important, experts particularly emphasize the significance of educational content, professional qualifications, communication, and safety measures in establishing and maintaining high-quality childcare services. The high consensus rates across all items suggest strong agreement among experts about these priorities, providing a solid foundation for policy recommendations and practical implementations in childcare settings.

DISCUSSION

The findings from the Fuzzy Delphi analysis reveal a strong consensus among experts regarding the critical quality indicators in childcare services, with an impressive average consensus rate of 97%. The high prioritization of structured educational and developmental activities (Item 3) with a defuzzification score of 0.800 underscores the experts' agreement on the necessity of organized learning opportunities in childcare settings. This aligns with recent research that emphasizes the importance of structured educational programs in fostering children's cognitive and social development [15].

The three-way tie for the second-highest ranking among staff qualifications and training (Item 1), effective communication between staff and parents (Item 2), and safety measures (Item 4), each with a score of 0.782, highlights the multifaceted nature of quality childcare. These components are essential for creating a supportive and secure environment for children, corroborating findings from studies that link staff competence and parent engagement to improved child outcomes [16], [17]. The emphasis on safety measures is particularly pertinent, as ensuring a safe environment is foundational to any childcare service [18].

The third rank shared by positive interactions between staff and children (Item 6) and continuous professional development (Item 10) with scores of 0.764 further supports the notion that nurturing relationships and ongoing staff training are vital for quality childcare. Research indicates that positive caregiver-child interactions significantly enhance children's emotional and social well-being [19], [20]. Additionally, the importance of nutritious meal plans (Item 5) and cultural sensitivity (Item 8) reflects a growing recognition of holistic approaches to childcare that consider children's health and inclusivity [21], [22].

While lower-ranked items such as behavior management practices (Item 9) and flexible operating hours (Item

7) received scores of 0.618 and 0.591 respectively, it is noteworthy that all items achieved "Accept" status, indicating their relevance as quality indicators. This suggests that even less prioritized factors still play a role in the overall quality framework of childcare services [23]. The high consensus rates across all items reinforce the reliability of these findings, providing a solid foundation for policy recommendations aimed at enhancing childcare quality.

In conclusion, the analysis demonstrates that experts prioritize educational content, professional qualifications, effective communication, and safety measures as essential elements of quality childcare. These insights can inform practical implementations and policy frameworks that aim to elevate the standards of early childhood education and care.

IMPLICATIONS OF THE STUDY

The implications of this study for policymakers and stakeholders are significant, particularly in the context of enhancing the quality of childcare services. The strong consensus among experts regarding the importance of structured educational activities, staff qualifications, effective communication, and safety measures provides a clear framework for policy development and implementation.

Firstly, policymakers should prioritize the establishment of comprehensive training programs for childcare staff, as the findings highlight the critical role of qualifications in ensuring high-quality care. Investing in continuous professional development not only enhances caregiver competencies but also directly correlates with improved child outcomes [24]. This aligns with recommendations for increased funding and support for training initiatives within the childcare sector, which can help address the current workforce challenges [24].

Moreover, the emphasis on structured educational and developmental activities underscores the need for policies that promote curriculum standards and educational frameworks in childcare settings. Policymakers should consider implementing guidelines that ensure all childcare facilities provide organized learning opportunities, which are essential for fostering children's cognitive and social development [25]. This approach is particularly important in light of the increasing demands for high-quality early childhood education as dual-career families become more prevalent [26].

Additionally, the findings suggest that effective communication between staff and parents is vital for enhancing parental involvement and satisfaction. Policymakers should encourage the development of communication protocols that facilitate regular updates and feedback between childcare providers and families, thereby strengthening the partnership necessary for child development [27].

Lastly, the high consensus on safety measures indicates that regulatory frameworks must be robust and strictly enforced to ensure the physical safety of children in childcare settings. This includes regular inspections and compliance checks to uphold safety standards, which are fundamental to building trust among parents and ensuring a secure environment for children [28].

LIMITATIONS OF THE STUDY

The study relied on the opinions of a select panel, which, while adequate for a fuzzy Delphi methodology, may not fully capture the breadth of insights within the broader field of childcare quality. A more inclusive expert panel might increase diversity of thoughts or introduce new elements deemed important for childcare quality. Future studies could enhance diversity by increased expert involvement from various regions, professional backgrounds, and specializations in early childhood education.

The fuzzy Delphi method, while beneficial for consensus-building, is inherently reliant on personal views as it relies on the personal judgments and experiences of experts. Although these experts are experienced, their assessments may be influenced by personal perspectives, occupational background, or sociocultural perspectives. These subjective elements could affect the ordering of priorities leading to results that might not fully align with quantitative measures of childcare quality or the opinions of childcare users in different settings.

RECOMMENDATIONS FOR FUTURE RESEARCH

Based on the limitations highlighted in this study, several recommendations for future research can be made to deepen and broaden the knowledge of critical factors in childcare. These recommendations aim to enhance the soundness, representativeness, and applicability of future studies in this field.

Future research should consider including a broader participant group to capture a wider range of views on childcare quality. Including experts from various geographic areas and occupational fields such as early childhood educators, child psychologists, and pediatricians, and fields of expertise could offer a more thorough understanding. This expanded sample could improve the applicability of results and potentially reveal previously unconsidered factors relevant across different cultural norms and career environments.

Future research should incorporate input from parents, childcare providers and other direct stakeholders in the childcare environment to balance specialist views. Parents have exclusive viewpoints into what they value in childcare, and their perspectives can add a real-world relevance to the discussion of standards of care. By using methods such as questionnaires, focus group discussions, or stakeholder engagement, future studies can capture the concerns of parents and local participants, leading to a more comprehensive and broad perspective of childcare quality.

To complement expert consensus, future research should include longitudinal studies that assess how various care standards directly impact child development results. Examining indicators in relation to intellectual growth, interpersonal skills, emotional maturity over time would provide empirical evidence on their impact and relevance. Such results-oriented studies would help validate the priorities agreed upon by professional opinion and provide scientifically grounded suggestions for regulations and implementation.

CONCLUSION

This study makes an important contribution to understanding parental expectations of childcare quality in Malaysia. The findings demonstrate that parents value a holistic perspective that balances educational content, qualified personnel, and caring environments. The high consensus levels suggest these expectations are commonly held providing a solid base for regulatory enhancements in Malaysian childcare settings. The study's results also counter oversimplified ideas about Asian parents' expectations, revealing a refined perspective that encompasses both educational and interpersonal aspects. This perspective suggests that parents in Malaysia are discerning and value a balanced approach to childcare quality that supports their children holistically. Future research could explore how these expectations in real-world settings and their impact on children's outcomes. Such studies could offer deeper insights into the alignment between parental priorities, childcare practices, and measurable developmental benefits for children.

The findings of this study provide a guideline for policymakers and stakeholders to improve childcare quality by focusing on essential elements: trained caregivers, effective communication, and safety. Policymakers can use these insights to develop directed guidelines that establish these elements as necessary criteria, while stakeholders can implement them through resource upgrades, and communication initiatives. Ultimately, these quality improvements will foster nurturing, safe, and developmentally supportive childcare environments, benefiting children, families, and the broader community.

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REFERENCES

1. Weaven, S. and Grace, D. (2010). Examining parental and staff perceptions of childcare service quality

across competing business structures. Australasian Journal of Early Childhood, 35(2), 54-62. https://doi.org/10.1177/183693911003500208

2. Slot, P., Leseman, P., Verhagen, J., & Mulder, H. (2015). Associations between structural quality aspects and process quality in dutch early childhood education and care settings. Early Childhood Research Quarterly, 33, 64-76. https://doi.org/10.1016/j.ecresq.2015.06.001

3. Lekhal, R., Drugli, M., Berg-Nielsen, T., & Buøen, E. (2020). A model of intervention and implementation of quality building and quality control in childcare centers to strengthen the mental health and development of 1-3–year olds: protocol for a randomized controlled trial of thrive by three. Jmir Research Protocols, 9(10), e17726. https://doi.org/10.2196/17726

4. Smith-Nielsen, J., Wendelboe, K., Mohr, J., Væver, M., Pontoppidan, M., Helmerhorst, K., … & Egmose, I. (2022). Promoting interactive skills and mind-mindedness among early childcare professionals: study protocol for a randomized wait-list controlled trial comparing the circle of security approach with care as usual in center-based childcare (the secure project). BMC Psychology, 10(1). https://doi.org/10.1186/s40359-022-00835-3

5. Fenech, M. (2012). Discerning childcare quality: parents as potential informants of policy beyond regulation. Critical Studies in Education, 53(3), 327-345. https://doi.org/10.1080/17508487.2012.703136

6. Sulaiman, Z. (2023). Parents' satisfaction towards the quality of the management of childcare centres. IJEBT, 1(2). https://doi.org/10.59021/ijebt.v1i2.68

7. Yerkes, M. and Javornik, J. (2018). Creating capabilities: childcare policies in comparative perspective. Journal of European Social Policy, 29(4), 529-544. https://doi.org/10.1177/0958928718808421

8. Hashim, N., Mustafa, M., Ariffin, A., & Eshak, Z. (2020). The element of teaching strategy in English listening skills for preschool: fuzzy delphi technique approach. International Journal of Academic Research in Business and Social Sciences, 10(7). https://doi.org/10.6007/ijarbss/v10-i7/7612

9. Asheri, M. (2023). Working mothers' social-economic factors and perceptions of childcare service quality in dar es salaam, tanzania. European Journal of Education Studies, 10(4). https://doi.org/10.46827/ejes.v10i4.4790

10. Perlman, M., Falenchuk, O., Fletcher, B., McMullen, E., Beyene, J., & Shah, P. (2016). A systematic review and meta-analysis of a measure of staff/child interaction quality (the classroom assessment scoring system) in early childhood education and care settings and child outcomes. Plos One, 11(12), e0167660. https://doi.org/10.1371/journal.pone.0167660

11. Aina, A. and Bipath, K. (2022). Reimagining systems that support early childhood development centres in offering quality education. The Journal for Transdisciplinary Research in Southern Africa, 18(1). https://doi.org/10.4102/td.v18i1.1107

12. Kinkead-Clark, Z. (2023). System quality in early childhood care and education in jamaica: implications for policy. European Journal of Education, 59(2). https://doi.org/10.1111/ejed.12607

13. Slot, P., Bleses, D., Justice, L., Markussen-Brown, J., & Højen, A. (2018). Structural and process quality of danish preschools: direct and indirect associations with children's growth in language and preliteracy skills. Early Education and Development, 29(4), 581-602. https://doi.org/10.1080/10409289.2018.1452494

14. Kusmawati, I. (2023). Implementation of quality assurance management basic education (paud) in Indonesia. East Asian Journal of Multidisciplinary Research, 2(11), 4403-4414. https://doi.org/10.55927/eajmr.v2i11.6843

15. Karimi, M. (2023). Assessing developmental delays in early childhood: insights from iranian children using the bayley scales of infant and toddler development (bsid-iii).. https://doi.org/10.21203/rs.3.rs-3606770/v1

16. Purnamawati, F. and Pradipta, R. (2022). Transformative learning model for parenting education program. Journal of Educational Experts (Jee), 5(1), 13. https://doi.org/10.30740/jee.v5i1p13-20

17. Suardi, S. and Samad, S. (2021). Development of strategies to support parental engagement in the early childhood education unit partnership. Journal of Educational Science and Technology (Est), 7(3), 269. https://doi.org/10.26858/est.v7i3.20263

18. Zarin, I., Kaur, K., Ismail, S., Choong, Y., & Chiong, C. (2021). Constructing a new stress index for teachers in Malaysia. International Journal of Academic Research in Business and Social Sciences, 11(7). https://doi.org/10.6007/ijarbss/v11-i7/10541

19. Baroroh, S., Budiartati, E., & Fakhruddin, F. (2020). Implementation of parenting education in early childhood education institutions. Journal of Nonformal Education, 6(1), 77-84. https://doi.org/10.15294/jne.v6i1.24168

20. Smith, J. (2020). Teachers' perspectives on communication and parent engagement in early childhood education programs for migrant farmworker children. Journal of Early Childhood Research, 18(2), 115-129. https://doi.org/10.1177/1476718x19898712

21. Syaikhon, D. (2023). Empowerment of educators and parents in increasing the value of religious moderation in early childhood. Community Development Journal, 7(3), 148-152. https://doi.org/10.33086/cdj.v7i3.5362

22. Hakyemez-Paul, S., Pihlaja, P., & Silvennoinen, H. (2018). Parental involvement in finnish day care – what do early childhood educators say. European Early Childhood Education Research Journal, 26(2), 258-273. https://doi.org/10.1080/1350293x.2018.1442042

23. Vivanti, G., Dissanayake, C., Duncan, E., Feary, J., Capes, K., Upson, S., … & Hudry, K. (2018). Outcomes of children receiving group-early start denver model in an inclusive versus autism-specific setting: a pilot randomized controlled trial. Autism, 23(5), 1165-1175. https://doi.org/10.1177/1362361318801341

24. Kenney, E., Mozaffarian, R., Ji, W., Tucker, K., Poole, M., DeAngelo, J., … & Frost, N. (2022). Moving from policy to practice for early childhood obesity prevention: a nationwide evaluation of state implementation strategies in childcare. International Journal of Environmental Research and Public Health, 19(16), 10304. https://doi.org/10.3390/ijerph191610304

25. Inwood, S. and Stengel, E. (2020). Working households: challenges in balancing young children and the farm enterprise. Community Development, 51(5), 499-517. https://doi.org/10.1080/15575330.2020.1800772

26. Búriková, Z. (2019). Paid home-based childcare in slovakia: informal markets and care loops. Journal of European Social Policy, 29(5), 653-665. https://doi.org/10.1177/0958928719873834

27. Boll, C. and Lagemann, A. (2019). Public childcare and maternal employment — new evidence for germany. Labour, 33(2), 212-239. https://doi.org/10.1111/labr.12143

28. Ott, E., Vanderloo, L., & Tucker, P. (2019). Physical activity and screen-viewing policies in canadian childcare centers. BMC Public Health, 19(1). https://doi.org/10.1186/s12889-018-6290-z