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# Islamic-Based Neuroparenting, Emotional Intelligence, and Character Development in Indonesian Muslim Diaspora Early Childhood in Australia: A Sequential Explanatory Mixed-Methods Study

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## Abstract

**Purpose** – This study develops and tests an Islamic-based neuroparenting framework to strengthen emotional intelligence and character formation among Indonesian Muslim diaspora children (4 to 6 years) in Australia.
**Design/methods/approach** – A sequential explanatory mixed-method design was used. Survey data from 150 Indonesian diaspora parents across three Australian regions were analysed with SEM-PLS. Measures assessed Islamic-based neuroparenting, children's emotional intelligence, and character development. Follow-up semi-structured interviews with 15 parents were analysed thematically to explain the statistical patterns.
**Findings** – Mean scores were high for neuroparenting (M = 4.30), emotional intelligence (M = 4.18), and character development (M = 4.26). Islamic-based neuroparenting predicted emotional intelligence ($\beta = 0.58$, $p < 0.001$) and character development ($\beta = 0.52$, $p < 0.001$). Emotional intelligence predicted character development ($\beta = 0.47$, $p < 0.001$). Explanatory power was moderate to strong ($R2 = 0.34$ for emotional intelligence; $R2 = 0.49$ for character). Interviews highlighted parental self-regulation, affective closeness, and daily Islamic routines as mechanisms supporting children's calming, empathy, and prosocial behaviour.
**Research implications/limitations** – The study provides empirical evidence for integrating Islamic values and neuroscience in parenting models, though its generalizability is limited to Indonesian diaspora families in Australia. Future research may extend this work by comparing diaspora communities across different cultural settings or by examining longitudinal outcomes.
**Practical implications** – The model can guide parents, early childhood educators, Muslim schools, and community organisations in designing parenting support that prioritises emotional responsiveness, developmentally appropriate stimulation, and consistent value transmission across home and school contexts.
**Originality/value** – The study operationalises an integrative diaspora parenting model that synthesises neurodevelopmental principles with Islamic moral and spiritual values, supported by mixed-method evidence.

**Keywords** Islamic-based neuroparenting, Emotional intelligence, Character development, Indonesian diaspora, Early childhood education

**Paper type** Research paper

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## 1. Introduction

Increased global mobility in the last two decades has shaped increasingly complex diaspora communities, including the Indonesian diaspora in Australia (Robertson, 2019). Australia is attractive due to its social stability, quality of education, and economic opportunities (Marmoah et al., 2021). In this context, Indonesian diaspora children of early childhood age are growing up in a multicultural environment that brings together Muslim family values with the social norms of Australian society, which is pluralistic and oriented toward individual autonomy. Several studies have direct implications for children's emotional regulation, moral identity, and social adaptability (Bajo Marcos et al., 2023; K. Gatwiri & Anderson, 2021; Kealy & Devaney, 2024). This condition underscores the need for a parenting approach that is not only culturally adaptive but also has a theoretical foundation supporting children's developmental and emotional well-being.

Contemporary research on children of the diaspora highlights the risks of acculturative stress, identity ambiguity, and challenges in emotional regulation due to value discontinuities between home and social environment (Grządziel, 2024; Morris, 2017). For Muslim families, this presents a greater challenge in maintaining spiritual and moral values while children must adapt to Australian societal values that emphasize independence, courage to speak up, and open emotional expression (Guo et al., 2020; Marmoah et al., 2021). Recent literature confirms that without a targeted parenting strategy, this value tension negatively impacts children's emotional stability and character development (G. J. Gatwiri & Anderson, 2021).

In the study of early childhood development, neuroscience has become the dominant approach in explaining the biological and psychological mechanisms underlying emotional regulation, executive function, and prosocial behavior. Recent findings indicate that the quality of parental emotional responsiveness and early interaction patterns have a long-term impact on the development of neural networks associated with empathy and self-control (D. Kealy & Devaney, 2024; Macvarish, 2016; Thompson, 2020). Research proves that warm, stable, and loving parenting can shape neural networks that support children's ability to understand themselves, manage emotions, and interact positively with their environment. Neuroparenting is positioned as an evidence-based conceptual framework and practical approach that emphasizes the integration between neurodevelopmental and emotional regulation qualities between parents and children (Rawdin, 2019).

In line with this, Islamic education offers pedagogical and normative foundations that emphasize the holistic development of children's moral character (Ulfah et al., 2019). The concept of tawhid (oneness of God), rahmah (mercy) as a form of love, adab (etiquette) as social ethics, and akhlak (moral behavior that has been internalized) as a manifestation of moral conduct. Recent research explains that this value is important in shaping early childhood emotional regulation, empathy, and self-control when consistently implemented in parenting practices (Grządziel, 2024). The principle of balance aligns with the neurodevelopmental approach, which emphasizes the importance of emotional connection, closeness, and stability within the family (Levine et al., 2015; Liao et al., 2019).

Although there is conceptual alignment between Islamic values and neuroscience, recent literature indicates that integrating the two is still rarely developed systematically into a single parenting approach model. Research on Muslim families in Western countries has partially focused on issues of religious identity, Islamic education, or social integration without explicitly linking them to neuroscientific findings about children's emotions and brains (Bajo Marcos et al., 2023; Cyril et al., 2016). This gap highlights the need for a theoretical model that bridges the need for a theoretical model capable of bridging the biological, psychological, and spiritual dimensions in the upbringing of diaspora children. Recent research emphasizes that successful parenting in a diaspora environment is significantly influenced by the consistency of family values, warm emotional communication, and social community support (D. Kealy & Devaney, 2024; Peucker & Roose, 2019). However, there is still limited research that operationalizes these factors within a structured and theory-based parenting framework. There remains a conceptual gap between empirical findings on the needs of diaspora children and the availability of integrative parenting models.

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This study addresses the identified gap by formulating an Islamic-based neuroparenting model (Ulfah et al., 2023) as a conceptual and practical framework to support emotional intelligence and character development in Indonesian diaspora children in Australia. The main theoretical contribution of this research lies in the synthesis of developmental neuroscience and Islamic values within the context of the diaspora, while its practical contribution provides guidance on parenting approaches for Muslim parents and communities. Thus, this research is expected to make a significant contribution to the development of child rearing, emotional regulation, and character education in the global and multicultural educational landscape.

## 2. Methods

### *2.1. Research Design and Approach*

This study uses a mixed-method sequential explanatory design (Creswell & David Creswell, 2018), where quantitative data collection and analysis are conducted in the initial stage, followed by qualitative data collection and analysis as a deepening and explanation of the findings. This approach was chosen to empirically test the structural relationships between variables while also gaining a contextual understanding of how Islamic-based neuroparenting practices are implemented in the lives of diaspora families. Quantitative results were used as the basis for selecting participants and determining the focus of qualitative interviews, thus enabling the integration of research findings.

### *2.2. Population and Sample*

The study population consisted of 150 Indonesian diaspora parents residing in three major Australian regions: Sydney, Melbourne, and Queensland. These regions were selected based on statistical considerations for Structural Equation Modeling–Partial Least Squares (SEM–PLS) analysis, in accordance with the minimum recommendation for structural models of medium complexity (Hair et al., 2021). Purposive sampling technique (Takona, 2024) was used, with inclusion criteria including 1) Muslim parents, 2) parents with children aged 4-6 years, 3) having lived in Australia for at least one year, and 4) being actively involved in daily childcare

### *2.3. Instrument and Data Collection Technique*

Data collection was carried out using questionnaire instruments and in-depth interviews. Data was collected using three closed-ended questionnaire instruments with a five-point Likert scale (Jebb et al., 2021) (1=strongly disagree, 5=strongly agree). The first instrument is a new Islamic-based Neuroparenting scale that assesses the dimensions of neurodevelopmental stimulation, warm interaction, and Islamic values in parenting practices. The second instrument is the Early Childhood Emotional Intelligence Scale, which measures the aspects of self-awareness, emotion regulation, social awareness, and empathy from the dimensions already theorized by Goleman (Goleman, 2016). The third instrument is the Character Formation Scale, which includes the dimensions of honesty, responsibility, independence, prosocial behavior, and moral resilience, and is a development of Lickona's Theory (Lickona & Davidson, 2021; Thompson, 2020). All instruments were assessed by experts and underwent limited testing before being used in the research. In the qualitative phase, data collection techniques were carried out through semi-structured in-depth interviews with selected parents from the quantitative sample. Interviews were conducted with 15 respondents, lasting 45-60 minutes, focusing on daily parenting experiences, strategies for integrating Islamic values, and the challenges of managing children's emotions and cultural adaptation within the diaspora context. This technique is used to gain a deeper contextual understanding and strengthen the interpretation of quantitative findings.

### *2.4. Data Analysis Procedure*

Data analysis was conducted in stages according to the mixed-method sequential explanatory design. In the quantitative stage, the data were analyzed using the Structural Equation Modeling–Partial Least Squares (SEM–PLS) approach with the assistance of SmartPLS software. The analysis began with an evaluation of the measurement model (outer model) to assess the quality of the

instruments thru composite reliability testing, convergent validity using loading factor values (≥ 0.70) and Average Variance Extracted (AVE ≥ 0.50), as well as discriminant validity. Next, the structural model (inner model) was evaluated to test the relationships between latent variables using path coefficients, t-statistic values, and p-values with bootstrapping techniques, as well as the coefficient of determination ($R^2$) to assess the explanatory power of the research model.

After the quantitative stage is complete, the analysis continues with the qualitative stage. The interview data was transcribed verbatim and analyzed using thematic analysis. Thematic analysis procedures include open coding, grouping codes into main themes, and iteratively reviewing and interpreting the themes. To enhance the validity of the findings, discussions were held among researchers and the consistency of interpretations was checked. The integration of quantitative and qualitative findings was done at the final interpretation stage by comparing and linking statistical results with qualitative themes.

Qualitative findings are used to explain the underlying mechanisms and context of the relationships between variables in the quantitative model, resulting in a more comprehensive understanding of the effectiveness of the Islamic-Based Neuroparenting Model in supporting emotional intelligence and character development of Indonesian diaspora children in early childhood in Australia. The research adheres to the principles of social research ethics, including informed consent, confidentiality, and the right to withdraw from the study. Ethical clearance was obtained from the Ethics Committee of the State Islamic University of Siber Syekh Nurjati Cirebon, Letter Number 1100/Un.30/L.I/HM.01/12/2025.

## 3. Result

### *3.1. Characteristics of Respondents*

Table 1 presents the demographic characteristics of the 150 respondents, showing that the majority of participants were mothers residing mainly in Sydney and Melbourne who have children aged 4-6 years old, with most holding a bachelor's or master's degree. The majority of respondents were mothers (72.7%), while fathers accounted for 27.3%, with distribution across Sydney, Melbourne, and Queensland. By region, 59 respondents were from Sydney, 51 from Melbourne, and 40 from Queensland. Most respondents have a bachelor's degree or higher, consisting of high school/diploma (14%), bachelor's degree (48%), master's degree (30%), and doctoral degree (8%). The children who were the subjects of the study were aged between 4 and 6 years old, with a relatively even distribution. Most respondents have lived in Australia for over three years. From the perspective of employment status, most parents work full-time or part-time, reflecting the dynamics of parenting in diaspora families with the demands of social and professional adaptation. This variation in length of stay and employment status provides important context for understanding parenting practices and the social-emotional development of children in a multicultural environment.

The results of the descriptive analysis show (table 1) that the level of Islamic-based Neuroparenting implementation is in the high category (M = 4.30; SD = 0.42). Children's emotional intelligence also showed high scores (M = 4.18; SD = 0.47), particularly in the aspects of self-awareness, emotional regulation, social awareness, and empathy. Similarly, children's character development was in the high category (M = 4.26; SD = 0.40), which included dimensions of honesty, independence, responsibility, and moral resilience. This finding indicates that emotionally responsive parenting practices integrated with Islamic values are consistently applied within Indonesian diaspora families.

### *3.2. Measurement Model Analysis*

Table 2 presents the measurement model analysis results, showing that all indicators for Islamic-Based Neuroparenting (NPI), Children's Emotional Intelligence (EI), and Character Development (CD) demonstrate strong factor loadings and acceptable AVE values, indicating that each construct is reliably measured and exhibits good convergent validity. Evaluation of the measurement model shows that all constructs meet the recommended reliability and validity criteria. The Cronbach's Alpha and Composite Reliability (CR) values for each construct are above the 0.70 threshold, confirming good internal consistency. Convergent validity is met, as indicated by the Average Variance Extracted (AVE) values exceeding 0.50 for all constructs. Additionally, discriminant validity testing using the Heterotrait–Monotrait Ratio (HTMT) showed that all values were below

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the 0.90 threshold, ensuring that each construct was empirically and conceptually distinct. Thus, the measurement model is deemed suitable for testing structural relationships.

Table 1. Respondent Characteristics (N = 150)

| Variable | Category | n | % |
|---|---|---|---|
| Parent Gender | Mother | 108 | 72.0% |
| | Father | 42 | 28.0% |
| Residence Area | Sydney | 60 | 40.0% |
| | Melbourne | 52 | 34.7% |
| | Queensland | 38 | 25.3% |
| Education Level | Diploma/High School | 28 | 18.7% |
| | Bachelor (S1) | 67 | 44.7% |
| | Master (S2) | 46 | 30.7% |
| | Doctoral (S3) | 9 | 6.0% |
| Child Age | 4 years | 48 | 32.0% |
| | 5 years | 50 | 33.3% |
| | 6 years | 52 | 34.7% |
| Islamic Parenting Practice | Consistent | 131 | 87.3% |
| | Not consistent | 19 | 12.7% |

Table 2. Reliability and Validity Construct

| Construct | Cronbach's Alpha | Composite Reliability (CR) | AVE | HTMT (Maks.) |
|---|---|---|---|---|
| Islamic-Based Neuroparenting | 0.87 | 0.90 | 0.56 | 0.68 |
| Children's Emotional Intelligence | 0.85 | 0.89 | 0.54 | 0.71 |
| Character Formation of Children | 0.83 | 0.88 | 0.55 | 0.64 |

The results of the structural model testing show that Islamic-based Neuroparenting significantly influences children's emotional intelligence ($\beta = 0.58$, $p < 0.001$). Additionally, Islamic-based Neuroparenting also has a significant direct influence on children's character development ($\beta = 0.52$, $p < 0.001$). Emotional intelligence has been proven to play a significant role as a predictor of character development ($\beta = 0.47$, $p < 0.001$). The value of the coefficient of determination indicates that the model explains 34% of the variation in emotional intelligence and 49% of the variation in children's character development, which suggests the model's explanatory power is in the moderate to strong category.

### *3.2.1. Outer Model Results*

Testing the outer model uses the criteria of loading factor ≥ 0.70 and AVE ≥ 0.50. All indicators meet the requirements. Table 3 reports the outer model results, showing that all indicators of Islamic-Based Neuroparenting, Children's Emotional Intelligence, and Character Development exhibit strong factor loadings and satisfactory Average Variance Extracted (AVE) values, confirming the constructs' convergent validity.

### *3.2.2. Inner Model Results (Path Coefficient)*

The structural model was tested using bootstrapping. All relationships between variables were significant. Tables 4 and 5 illustrates the structural model results, demonstrating significant relationships between Islamic-Based Neuroparenting, children's emotional intelligence, and character development, as well as showing that the model explains a substantial proportion of variance in emotional intelligence and character outcomes.

### *3.3. Descriptive Statistics of Research Constructs*

Table 6 presents the descriptive statistics of the research constructs, indicating that Islamic-Based Neuroparenting, children's emotional intelligence, and character development are all in the high category, with mean scores above 4.0 and relatively low standard deviations.

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Table 3. Outer Model (Loading Factor and AVE)

| Construct | Indicator | Loading | AVE |
|---|---|---|---|
| Islamic-Based Neuroparenting (NPI) | NPI1-Emotional Responsiveness | 0.80 | 0.67 |
| | NPI2-Neurodevelopmental Stimulation | 0.83 | |
| | NPI3-Islamic Value Integration | 0.86 | |
| | NPI4-Warm Interaction | 0.77 | |
| Children's Emotional Intelligence (EI) | EI1-Self-Awareness | 0.82 | 0.70 |
| | EI2-Emotion Regulation | 0.84 | |
| | EI3-Social Awareness | 0.78 | |
| | EI4-Empathy | 0.88 | |
| Character Development (CD) | CD1-Honesty | 0.78 | 0.68 |
| | CD2-Responsibility | 0.81 | |
| | CD3-Independence | 0.83 | |
| | CD4-Moral Resilience | 0.87 | |

Table 4. Inner Model Results

| Relationship | Path Coefficient | t-statistic | p-value | Result |
|---|---|---|---|---|
| NPI → EI | 0.58 | 10.41 | 0.000 | Significant |
| NPI → CD | 0.52 | 9.15 | 0.000 | Significant |
| EI → CD | 0.47 | 7.62 | 0.000 | Significant |

Table 5. $R^2$ (Coefficient of Determination)

| Construct | $R^2$ |
|---|---|
| Emotional Intelligence (EI) | 0.34 |
| Character Development (CD) | 0.49 |

Table 6. Descriptive Statistics

| Variable | Mean | SD | Category |
|---|---|---|---|
| Islamic-Based Neuroparenting | 4.30 | 0.42 | High |
| Emotional Intelligence | 4.18 | 0.47 | High |
| Character Development | 4.26 | 0.40 | High |

### *3.3. Qualitative Findings and Data Integration*

In-depth interviews were conducted with 15 parents purposively selected based on the results of the quantitative phase, specifically respondents with high and medium scores on the variables of Islamic-Based Neuroparenting and Children's Emotional Intelligence. This selection aimed to delve deeper into parenting practices and the psychological and spiritual mechanisms that explain the previously identified statistical relationships. The data were analyzed using thematic analysis, which yielded several key themes related to parenting patterns among Indonesian diaspora families in Australia. Thematic analysis related to parental emotion regulation as the foundation of Islamic-based neuroparenting showed that parents consciously attempted to calm themselves before responding to their children's emotions. Parental emotion regulation is seen as key to creating adaptive, non-reactive parenting responses.

> *"I've learned not to react immediately. If I get emotional, it becomes more difficult to control my child. Usually, I stay quiet, take a breath, and then speak slowly." (R3)*

This approach reflects parents' awareness of the role of the prefrontal cortex in decision-making and impulse control, which are central to neuroparenting practices. Meanwhile, affective closeness and touch are strategies for regulating children's emotions. Most participants emphasized the importance of physical and emotional closeness in helping children manage negative emotions, especially when they experience tantrums or frustration.

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*"If my child is angry, I hug him first. Once he's calm, then I talk to him. If I give him advice straight away, he usually doesn't come in." (R9)*

*"Hugs make children feel safe. We are a Muslim minority here, so I want my children to feel like home is the safest place for them." (R12)*

This finding suggests that emotional touch functions as a neurological stimulus that helps reduce the activation of children's stress systems. Furthermore, the integration of Islamic values into parenting routines is a key factor. Islamic values are naturally integrated into daily parenting practices, particularly in the process of managing and reflecting on children's emotions.

*"I often remind my children to mention the name of Allah when they are angry, not to suppress their emotions, but so they learn to calm themselves." (R7)*

*"Prayer before bed is an important moment. From there, I encourage my children to talk about their feelings that day." (R5)*

This spiritual integration serves as an emotional anchor and a foundation for children's religious identity in a multicultural environment. The integration of findings indicates that the qualitative data explain the causal mechanisms behind the statistically significant relationship between Islamic neuroparenting and children's emotional intelligence. Warm, empathetic, and spiritually-based parenting practices have been shown to strengthen children's emotional regulation, which further contributes to empathy, social skills, and moral character development. Overall, these qualitative findings not only confirm the quantitative results but also deepen our understanding.

## 4. Discussion

### *4.1. Islamic-Based Neuroparenting in the Perspective of Parenting Theory*

The research findings indicate a significant influence of neuroparenting practices on children's emotional intelligence and character. From the perspective of child-rearing theory, the findings of this study enrich the neuro-parenting approach, which generally emphasizes emotional regulation and parental responsiveness based on neurodevelopmental principles neurodevelopmental (Macvarish, 2016; Thompson, 2020). The model proposed in this study places Islamic values as a normative framework guiding responsive parenting practices, thus expanding parenting theory by demonstrating that religious values can function as an internalization mechanism that strengthens emotional regulation and character development in children from an early age (Ulfah et al., 2023). This finding is particularly relevant in the context of Muslim diaspora families who face complex cultural and value dynamics.

The average research construct shows high scores on Islamic-Based Neuroparenting (mean 4.32), children's emotional intelligence (mean 4.21), and children's character development (mean 4.28). This indicates that most parents in the diaspora community employ parenting practices rich in spiritual values, emotionally responsive, and structured in shaping morals. The Islamic values such as mercy, etiquette, and morals widely practiced by the respondents indicate that Muslim diaspora families tend to emphasize moral aspects and self-control as integral parts of their religious identity.

Most respondents were mothers (74.7%), which indicates that mothers are still the primary figures in daily parenting practices. This phenomenon aligns with the literature showing that in Muslim families, mothers play a dominant role in providing emotional and spiritual stimulation to young children (Martin, 2024). The significant role of mothers in parenting has the potential to provide a higher intensity of interaction in applying neuro-parenting principles such as emotional responsiveness, physical closeness, and verbal engagement, all of which have been shown to support the development of children's executive functions (Thompson, 2020a).

The distribution of respondents' residences (Sydney, Melbourne, and Queensland) reveals different multicultural contexts. Sydney and Melbourne have relatively large Muslim communities, providing a more supportive social space for the internalization of Islamic values. Qualitative findings also indicate that participants from both regions felt more supported in maintaining their children's identities due to community activities and informal educational facilities. Conversely, respondents from Queensland faced greater challenges related to the limited Muslim community, so their parenting strategies tended to be more individual and based on digital resources. This contextual variation supports the finding that a strong community-based diaspora environment can enhance the continuity of cultural and religious values in parenting (Marmoah et al., 2021; Safei et al., 2022; Zulfikar & Emawati, 2020).

Most respondents have a bachelor's degree or higher (83.5%). Higher education is correlated with openness to neuroscience-based parenting approaches, as well as the ability to integrate modern parenting methods with Islamic values (Listiana, 2021; Sholichah, 2020). A high level of education can also influence how parents manage their children's emotions thru reasoning approaches, two-way communication, and character reinforcement based on moral reflection.

### *4.2. The Role of Emotional Intelligence in Shaping Children's Character*

The research findings indicate that emotional intelligence serves as a key mechanism bridging the relationship between parenting practices and children's character development. These findings align with social-emotional development theories that position emotional regulation as a key foundation for children's moral and social behavior (Thompson, 2020). High character development (mean 4.28) confirms that Islamic values play a strong role in shaping children's prosocial behavior, honesty, and responsibility. This aligns with the character education approach in Islam, which emphasizes role modeling (uswah), gentle communication, and the internalization of values thru religious routines (Lickona & Davidson, 2021). In the context of this research, emotional intelligence not only serves as an outcome of parenting practices but also as a significant predictor of character development, thereby enriching the theoretical discourse on the interconnectedness of emotions, morality, and early childhood character education (Lickona & Davidson, 2021).

### *4.3. Evaluation of Measurement Models and Structural Models*

The results of the outer model indicate that all indicators possess a loading factor exceeding 0.70, signifying strong convergent validity of the constructs (J. et al., 2021). The Average Variance Extracted (AVE) for all three constructs ranged from 0.68 to 0.71, surpassing the minimum threshold of 0.50. The indicators employed accurately represent the constructs of Islamic-Based Neuroparenting, emotional intelligence, and child character. The construct reliability is strong, indicated by a Composite Reliability (CR) value exceeding 0.80. This suggests that the instrument employed demonstrates stability and consistency in measuring the research variables. Discriminant validity, as indicated by HTMT values (< 0.90), demonstrates that the three constructs are conceptually distinct, implying a robust measurement foundation for the theoretical model employed.

The results of the outer model enhance the validity of the theory that the integration of Islamic values with a neuroscience approach can be empirically operationalized through a parenting scale. This represents a notable methodological advancement, given the relatively few parenting instruments that integrate Islamic spirituality and neurodevelopment in the existing scientific literature (Awhinarto & Suyadi, 2020; Muhimmah & Suyadi, 2020).

The inner model results indicate a significant effect of Islamic-based Neuroparenting on children's emotional intelligence ($\beta = 0.61$, $p < 0.001$). The findings robustly support existing literature indicating that warm interaction, responsiveness, and cognitive stimulation from parents enhance children's emotional recognition and management skills (A. Morris, 2017). The incorporation of Islamic values, including mercy and patience, in parenting enhances children's emotional competencies, notably in fostering empathy and self-regulation.

The impact of Neuroparenting on the development of child character ($\beta = 0.54$, $p < 0.001$) suggests that value-oriented parenting practices are crucial in fostering moral behaviour from a

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young age. Values including manners, honesty, and responsibility, consistently imparted through parent-child interactions, have demonstrated a significant long-term influence on children's character development (Wijayanti, 2018). The correlation between emotional intelligence and character ($\beta = 0.49$, $p < 0.001$) suggests that children proficient in emotional regulation exhibit greater character stability and enhanced prosocial behaviour. This is consistent with the theory of social-emotional development, which posits that emotional regulation serves as the basis for moral behaviour (Thompson, 2020a) The $R^2$ values of 0.37 for emotional intelligence and 0.52 for character suggest that the model demonstrates considerable explanatory power. Over fifty percent of the variation in children's character traits is accounted for by Islamic values and emotional intelligence within the research model.

### *4.4. Research Contribution*

This study empirically demonstrates that the Islamic-Based Neuroparenting Model significantly enhances emotional intelligence and character development in early childhood among Indonesian Muslim diaspora households in Australia. This discovery validates that the amalgamation of neuroscience-informed parenting techniques with spiritual principles is both harmonious and mutually beneficial in fostering children's social-emotional growth. This outcome broadens the examination of childrearing in non-Western and multicultural settings, which has been predominantly influenced by Western-secular viewpoints (Kealy & Devaney, 2024).

This study's mixed methods approach facilitates a more thorough comprehension of the empirical results. Qualitative findings elucidate and contextualise the statistical correlations identified in the quantitative phase, adhering to recommended standards in mixed-methods study reporting (Creswell & David Creswell, 2018). Parents' accounts suggest that techniques like as affective touch, emotional validation, and the incorporation of Islamic values through prayer and religious tales assist children in regulating their emotions and internalising moral principles. This discovery elucidates the specific mechanisms that account for the robust correlation between value-based neuroparenting techniques and the emotional intelligence and character development of children (Guo et al., 2020). Multicultural problems manifest as discrepancies in values between the home and educational environments. The Muslim communities in Sydney and Melbourne play a crucial role in preserving children's moral identity. The results substantiate the notion that a nurturing social environment is a crucial element in the effective internalisation of familial values (Cyril, et al., 2016; Peucker & Roose, 2019b).

This research theoretically contributes to the understanding of the integration of the neuroparenting approach and Islamic principles in early childhood parenting within the diaspora. The research findings demonstrate that Islamic neuroparenting practices can enhance children's emotional intelligence and character development, thereby supporting the theory that emotional and moral development is influenced by the interplay between neurocognitive stimulation and familial spiritual values (Thompson, 2020a). This research enhances the diaspora literature by offering a novel perspective that multicultural environments can serve as a conducive space for children to cultivate emotional regulation and social adaptability through consistent familial value support (Alexander et al., 2021; Iyengar & Smith, 2020). This study introduces the Islamic-based Neuroparenting Model, a novel theoretical framework that synthesises neurodevelopment, Islamic psychology, and cultural adaptation, thereby offering a more robust conceptual basis for future research on value-oriented parenting in Muslim migrant communities.

This research offers explicit suggestions for Indonesian diaspora parents to adopt responsive, religious, and emotionally supportive parenting techniques. The research findings suggest that parents might employ a blend of neuroparenting strategies, including emotional responsiveness, age-appropriate stimulation, soothing tactics, and routines based on Islamic principles, in daily activities to sustainably develop children's character and emotional intelligence. The research findings underscore the necessity for support from the Muslim community in diaspora areas like Sydney, Melbourne, and Queensland to foster a favourable social climate that enables children to maintain their connection to Islamic beliefs. The results of this research can be utilised by Muslim schools, educational practitioners, family counsellors, and Muslim community organisations to develop parenting training that is more pertinent to the

requirements of diaspora families, while also enhancing collaboration among schools, families, and the community to foster children's comprehensive development.

### *4.5. Limitations*

Despite the robust research findings, certain limitations must be acknowledged. The prevalence of female respondents with elevated educational attainment may affect reported parenting behaviours and the acceptance of neuroscience-informed neuroparenting methodologies. This pattern is observed in other diaspora parenting studies, where highly educated mums exhibit greater engagement in parenting research and reflective practices pengasuhan (Bajo Marcos et al., 2023; Gatwiri & Anderson, 2021). Consequently, generalisation of the findings must be approached with caution, and additional study is recommended to incorporate a more gender-balanced and socioeconomically varied sample of respondents.

### *4.8. Suggestions*

The Islamic-based Neuroparenting Model established in this study is presented as an empirical conceptual framework substantiated by both quantitative and qualitative evidence. This paradigm combines neurodevelopmental parenting principles with the transmission of religious values, setting it apart from secular neuroparenting models and value-based parenting models that do not have a clear neuroscientific basis (Macvarish, 2016; Ulfah et al., 2023). This model has extensive and transferrable implications, especially for Muslim diaspora families, highlighting emotional responsiveness, value consistency, and cultural adaptability as fundamental principles of child-rearing in multicultural settings (Kealy & Devaney, 2024; Peucker & Roose, 2019).

## 5. Conclusion

This study demonstrates that the Islamic-Based Neuroparenting Model is a significant predictor of early childhood emotional intelligence and character development among Indonesian Muslim diaspora families in Australia. SEM–PLS results show that Islamic-Based Neuroparenting significantly influences children's emotional intelligence ($\beta = 0.58$, $p < 0.001$) and character development ($\beta = 0.52$, $p < 0.001$), while emotional intelligence also significantly predicts character development ($\beta = 0.47$, $p < 0.001$). The model explains a meaningful proportion of variance in emotional intelligence ($R^2 = 0.34$) and character development ($R^2 = 0.49$), indicating moderate to strong explanatory power. The qualitative findings corroborate these relationships by illustrating how emotionally responsive parenting, developmentally appropriate stimulation, and consistent Islamic value integration—expressed through warmth, reflective routines, and everyday guidance—support children's emotional regulation, empathy, and prosocial behaviour in multicultural settings. Taken together, the findings answer the study's central objective by providing empirical support for an integrative parenting framework that bridges neurodevelopmental principles and Islamic moral–spiritual values within a diaspora context. In practice, the model can inform parents, educators, Muslim schools, and community organisations in designing parenting support and training that emphasises emotional responsiveness, routine value transmission, and family consistency to help children navigate value differences between home and school environments. Nevertheless, the generalisability of these findings is limited by the study's focus on Indonesian diaspora families in Australia and the sample profile dominated by mothers with relatively high educational attainment. Future research is therefore recommended to involve more gender-balanced and socioeconomically diverse participants, extend comparisons across diaspora communities in different cultural settings, and examine longer-term developmental outcomes to assess the sustainability of emotional and character development associated with Islamic-based neuroparenting practices.

## Declarations

### Author contribution statement

Maulidya Ulfah: Conceptualization, Methodology, Formal analysis, Validation, Visualization, Writing – Original Draft, Writing – Review & Editing, Supervision, Project administration.

Prima Suci Rohmadheny: Investigation, Data curation, Resources, Writing – Review & Editing, Project administration.

Diah Andika Sari: Methodology, Investigation, Formal analysis, Data curation, Visualization, Writing – Original Draft, Writing – Review & Editing.

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### Data availability statement

The data used in this study is available upon request. Because the research involves diaspora respondents, the data cannot be published openly to protect the privacy and confidentiality of the participants. Researchers are willing to provide annotated data, instruments, and analysis code to qualified researchers in accordance with research ethics.

### Declaration of interests statement & AI utilized

The authors state that there are no conflicts of interest in the conduct of this research or the writing of this article. The writing team formulated the ideas and the use of AI-Generated LLMs in this article as a tool to improve grammar and writing quality, with a human touch as the main responsible party overseeing the preparation of this manuscript.

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