ORIGINAL ARTICLE ÖZGÜN ARAŞTIRMA

Positive Discipline and Socioeconomic Factors in Vietnam's Child Development

Olumlu Disiplin ve Sosyoekonomik Faktörlerin Vietnam'da Çocuk Gelişimine Etkisi

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Abstract

Introduction: Early childhood development is critical for lifelong health and well-being, influenced by parenting practices and socioeconomic conditions, particularly in low- and middle-income countries like Vietnam. This study examines how positive discipline and socioeconomic factors shape developmental outcomes in young children.

Materials and Methods: Data from 2,705 children aged 24–59 months were analyzed from a national survey conducted in Vietnam from 2020 to 2021. A 20-item index assessed health, learning, and psychosocial outcomes. Multivariable logistic regression, adjusted for maternal education, residence, ethnicity, and wealth, evaluated associations with discipline practices.

Results: Positive discipline, such as explaining behavior or offering alternatives, was associated with better developmental outcomes (odds ratio= 2.37 and 2.10, respectively). Higher maternal education (odds ratio= 1.84, $p<0.001$), urban residence (odds ratio= 1.48, $p=0.013$), pre-primary education attendance (odds ratio= 1.74, $p<0.001$), and majority ethnicity (odds ratio= 2.37, $p<0.001$) also associated with improved outcomes. Violent discipline showed no significant effect ($p=0.82$). Rural and ethnic minority children faced developmental disparities.

Conclusion: Positive discipline and favorable socioeconomic conditions enhance early childhood development in Vietnam. Interventions like parenting training and expanded early education access can reduce disparities, particularly for rural and ethnic minority families, improving pediatric outcomes.

Öz

Giriş: Erken çocukluk gelişimi, özellikle Vietnam gibi düşük ve orta gelirli ülkelerde, ebeveynlik uygulamaları ve sosyoekonomik koşullardan etkilenerek yaşam boyu sağlık ve esenlik için kritik öneme sahiptir. Bu çalışma, olumlu disiplin ve sosyoekonomik faktörlerin küçük çocuklarda gelişimsel sonuçları nasıl şekillendirdiğini incelemektedir.

Gereç ve Yöntem: 2020-2021 yılları arasında Vietnam'da gerçekleştirilen ulusal bir anketten, 24-59 aylık 2.705 çocuğa ait veriler analiz edildi. 20 maddelik bir endeks, sağlık, öğrenme ve psikososyal sonuçları değerlendirdi. Anne eğitimi, ikamet yeri, etnik köken ve refah düzeyine göre ayarlanmış çok değişkenli lojistik regresyon, disiplin uygulamalarıyla ilişkileri değerlendirdi.

Keywords
Early childhood development, positive discipline, socioeconomic status, Vietnam, child well-being

Anahtar kelimeler
Erken çocukluk gelişimi, olumlu disiplin, sosyoekonomik durum, Vietnam, çocuk refahı

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Öz

Bulgular: Davranışı açıklama veya alternatifler sunma gibi olumlu disiplin, daha iyi gelişimsel sonuçlarla ilişkilendirilmiştir (sırasıyla olasılık oranı= 2,37 ve 2,10). Daha yüksek anne eğitimi (olasılık oranı= 1,84, p<0,001), kentsel ikamet (olasılık oranı= 1,48, p=0,013), okul öncesi eğitime katılım (olasılık oranı = 1,74, p<0,001) ve çoğunluk etnik kökeni (olasılık oranı = 2,37, p<0,001) da iyileştirilmiş sonuçlarla ilişkilendirilmiştir. Şiddet içeren disiplinin anlamlı bir etkisi olmadığı görüldü (p=0,82). Kırsal kesimdeki ve etnik azınlık çocuklarında gelişimsel farklılıklar gözlendi.

Sonuç: Olumlu disiplin ve elverişli sosyoekonomik koşullar, Vietnam'da erken çocukluk gelişimini destekler. Ebeveynlik eğitimi ve erken eğitime erişimin genişletilmesi gibi müdahaleler, özellikle kırsal ve etnik azınlık aileleri için eşitsizlikleri azaltarak pediatrik sonuçları iyileştirebilir.

Introduction

The international community, supported by decades of research, recognizes early childhood as a critical period in human development. During these formative years, children acquire essential skills and capacities that serve as the foundation for future learning and growth. Early childhood development (ECD), typically defined as the developmental period from birth to approximately eight years of age, encompasses a broad range of domains, including motor, cognitive, language, socio-emotional, and self-regulatory competencies (1,2). Globally, more than 200 million children in low- and middle-income countries (LMICs) are estimated to fail to reach their full developmental potential within the first five years of life due to factors such as poverty, inadequate nutrition, and limited access to early learning opportunities (3). The caregiving environment is a key determinant of ECD, with socioeconomic status, parental education, and parenting practices playing significant roles (4,5). Research consistently shows that higher maternal education and household wealth are associated with better developmental outcomes, as they enable enriched caregiving environments and access to resources (4-6). Similarly, access to early childhood education, such as pre-primary programs, is linked to improved cognitive and social skills, particularly in disadvantaged populations (2,7). Parenting styles, particularly positive discipline strategies like explaining behavioral expectations or redirecting misbehavior, are associated with enhanced emotional regulation and problem-solving abilities, while harsh disciplinary measures, such as physical punishment, are linked to increased risks of behavioral and emotional difficulties (8-10).

In Vietnam, ECD has gained increasing attention as policymakers recognize its role in supporting long-term educational and socioeconomic outcomes. Studies have identified key developmental risk factors, including socioeconomic disparities, limited access to quality early education, and prevalent use of punitive discipline practices (8,9). For instance, research in Vietnam has shown that children in rural areas and from ethnic minority groups face greater developmental challenges due to systemic inequities in income, education, and service access (8,11,12). While progress has been made in expanding pre-primary education, disparities persist, with urban children and those from the Kinh/Hoa majority benefiting more than their rural and ethnic minority counterparts (12). Additionally, traditional disciplinary approaches, including spanking and shouting, remain common, potentially affecting children's socio-emotional well-being (9). These findings align with global evidence from LMICs, where socioeconomic and cultural factors shape ECD outcomes, yet the specific interplay of these determinants remains underexplored (4,6,13).

Despite this knowledge, significant gaps remain in understanding how multiple determinants interact to shape ECD, particularly in the context of the Early Childhood Development Index 2030 (ECDI2030), a standardized measure designed to track developmental progress across health, learning, and psychosocial well-being (1). Previous studies using MICS data have provided valuable insights into ECD determinants. For example, Frongillo et al. (14) analyzed Multiple Indicator Cluster Survey (MICS) data from 29 LMICs and found that positive family care behaviors, such as providing books and engaging in stimulating activities, were associated with better ECD outcomes, while harsh discipline was linked to poorer developmental progress. In Vietnam, while studies have explored socioeconomic disparities and parenting practices separately (10,12), there is limited evidence on how these factors collectively relate to ECDI2030 outcomes, especially among children aged 24-59 months, a critical period for school readiness. Internationally, this gap is particularly relevant for LMICs, where diverse socioeconomic and cultural contexts, like Vietnam's urban-rural divide and ethnic diversity, mirror challenges faced by millions of children at risk of developmental delays (3,6). Furthermore, the recent adoption of the ECDI2030 provides a unique opportunity to assess these associations using a globally comparable metric, yet few studies have applied

this measure to explore discipline and socioeconomic factors together in LMIC settings.

This study aims to address these gaps by investigating the associations of residence, ethnicity, maternal education, pre-primary attendance, and positive discipline practices with ECDI2030 outcomes among Vietnamese children aged 24-59 months, using data from the Vietnam MICS 2020–2021 (15). By analyzing a nationally representative dataset, the study seeks to generate evidence on how these determinants interact in Vietnam's diverse socioeconomic and cultural context, offering insights for targeted interventions to reduce developmental disparities. For an international audience, this study contributes to the global literature by providing a case study of how positive discipline and socioeconomic factors relate to ECD in an LMIC, informing scalable strategies for other countries with similar challenges, such as rural-urban disparities, ethnic inequities, and prevalent use of harsh discipline (3,13). Ultimately, the findings aim to support evidence-based policies to promote equitable ECD outcomes in Vietnam and beyond.

Materials and Methods

Sources of data and sampling

This secondary analysis utilized the Vietnam Multiple Indicator Cluster Survey (MICS6) 2020–2021, a nationally representative cross-sectional survey conducted by the General Statistics Office with UNICEF and UNFPA support. The MICS6 employed a stratified, multi-stage cluster sampling design to ensure representativeness across urban/rural areas, socioeconomic strata, and ethnic groups (15).

Ethics committee approval was waived by the Institutional Review Board of Hue University of Medicine and Pharmacy, as this study was a secondary analysis of de-identified data from the Vietnam Multiple Indicator Cluster Survey (MICS) 2020–2021. All procedures adhered to the ethical standards of the 1964 Helsinki Declaration and its later amendments.

Participants

A total of 2,705 children aged 24–59 months were included. Eligibility was determined by the MICS survey design, and all children with complete data on ECDI2030 and discipline were analyzed.

Measurement

ECDI2030: The ECDI2030 comprises 20 items across three domains (learning, psychosocial well-being, and health). A child was considered "on track" if performance standards were met for age-appropriate tasks (1).

$$\text{ECDI2030} = \frac{\text{Number of children aged } 24-59 \text{ months who have achieved the minimun number of milestones expected for their age groud}}{\text{Total number of children aged } 24-59 \text{ months}}$$

Discipline practices: Caregivers reported discipline behaviors in the past month. Following UNICEF methodology, we distinguished:

- Positive discipline: Explaining why behavior was wrong, offering an alternative activity, or removing privileges.
- Violent discipline: Including both psychological aggression and physical punishment. Psychological aggression comprised behaviors such as shouting, yelling, or calling the child offensive names, while physical punishment included spanking with a bare hand, slapping, hitting with an object (e.g., a belt or stick), or other forms of physical force (14).

Covariates: Maternal education (low < secondary vs. high ≥ secondary), residence (urban vs. rural), ethnicity (majority Kinh/Hoa vs. minority), and pre-primary attendance were included as covariates.

Statistical Analysis

Multivariable logistic regression was used to estimate odds of being on track in ECDI2030 (15). To control for confounding, models were adjusted for key variables identified as potential confounders based on prior literature and their association with both exposures and ECDI2030 outcomes (4,5,11,12). Results are reported as odds ratios (ORs) with 95% confidence intervals (CIs). Interaction terms for ethnicity x residence and ethnicity x discipline were tested but found nonsignificant. Analyses were performed in R 4.3.1 and SPSS 20.0.

Results

Descriptive Statistics and Child Discipline

The study analyzed 2,705 children aged 24–59 months from the Vietnam MICS 2020–2021 dataset, reflecting Vietnam's diverse population. As shown in Table 1, the sample was balanced by sex (52.6% male, 47.4% female) and age (30.5% aged 24–35 months, 33.7% aged 36–47 months, 35.9% aged 48–59 months). Most children lived in rural areas (75.5% vs. 24.5% urban), and 78.9% attended pre-primary education, indicating broad but uneven access

Table 1. Characteristics of children aged 24–59 months, Vietnam, 2021 (n=2705)			
Characteristics		**n**	**%**
Sex	Male	1423	52.6
	Female	1282	47.4
Age	24 to 35 months	824	30.5
	36 to 47 months	911	33.7
	48 to 59 months	970	35.9
Area	Urban	663	24.5
	Rural	2042	75.5
Attendance to pre-primary	Attending	1485	78.9
	Not attending	396	21.1
Maternal education	No education	5	0.2
	Primary	301	14.4
	Secondary	704	33.7
	Higher	1081	51.7
Ethnicity of household head	Majority	1444	53.4
	Minority	1261	46.6
Data from Vietnam MICS 2020-2021. Percentages may not sum to 100% due to rounding			

to early learning. Maternal education varied widely - 51.7% had higher education, 33.7% secondary, 14.4% primary, and 0.2% none - highlighting disparities in caregiver resources. Ethnicity was nearly evenly split (53.4% Kinh/Hoa majority, 46.6% minority), underscoring the need to address ethnic inequities.

Table 2 outlines child discipline practices, revealing a mix of approaches. Positive discipline was common, with 80.1% of caregivers explaining why behavior was wrong, 31.9% taking away privileges, and 13.5% suggesting alternative activities. These practices foster emotional and cognitive growth by encouraging understanding and self-regulation. However, harsh methods were also prevalent: 60.6% shouted or yelled, 47.4% spanked with a bare hand, and 10.3% used objects like belts or sticks, potentially undermining socio-emotional well-being. Severe practices, such as slapping the face (1.7%) or beating (0.4%), were rare but concerning. Notably, only 7.1% of mothers endorsed physical punishment, suggesting an opportunity to shift norms toward positive discipline through education.

ECDI Domains

Figure 1 illustrates ECDI2030 performance, with 71% of children developmentally on track. Gross motor skills, such as walking on uneven surfaces, were consistently strong across ages, reflecting early physical development. Language and cognitive skills, like forming five-word sentences or recognizing five letters, improved significantly from 24 - 29 to 48 - 59 months, indicating that older children are better equipped for school readiness. This developmental progression highlights the importance of early interventions to support language and literacy, especially for children at risk of falling behind.

Socioeconomic Status and Education Impact

Table 3 examines socioeconomic factors associated with ECDI2030 outcomes. Multivariable logistic regression showed that urban children had 48% higher odds of meeting developmental benchmarks (OR=1.48, p=0.013) than rural

Table 2. Child discipline for children aged 24–59 months in Vietnam, 2021 (n=2705)		
Child discipline	**n**	**%**
Took away privileges	862	31.9
Explained wrong behavior	2167	80.1
Shook him/her	93	3.4
Shouted, yelled, screamed	1638	60.6
Gave something else to do	364	13.5
Spanked, hit, slapped on bottom with bare hand	1283	47.4
Hit with belt, hairbrush, stick or other hard object	278	10.3
Called dumb, lazy or another name	154	5.7
Hit/slapped on face, head or ears	47	1.7
Hit/slapped on hand, arm or leg	385	14.2
Beat up, hit over and over as hard as one could	10	0.4
Mother believes that in order to bring up, raise, or educate a child properly, the child needs to be physically punished	192	7.1
Data from Vietnam MICS 2020–2021. Percentages reflect proportion experiencing each method		

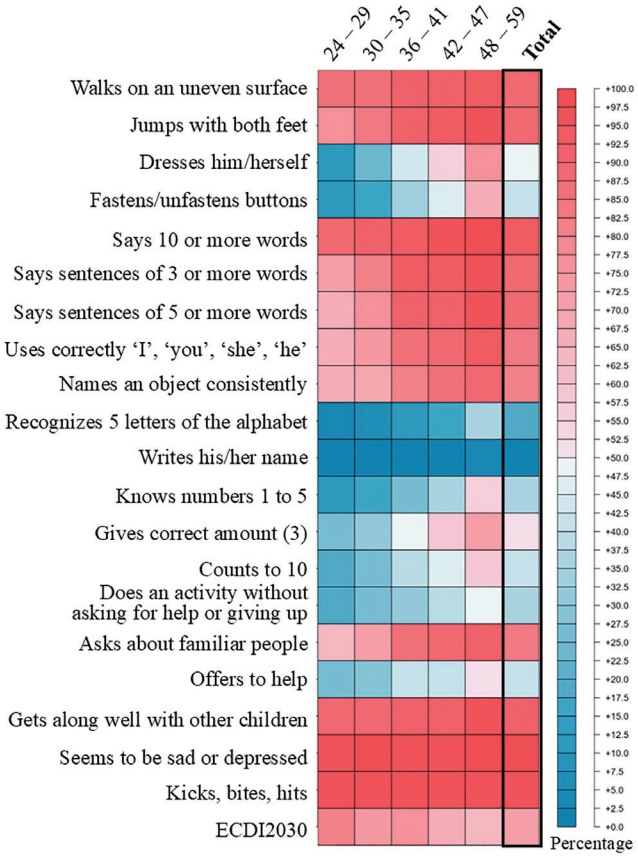

Figure 1. ECDI for children aged 24–59 months in Vietnam, 2021 (n=2705)

The figure illustrates the proportion of children developmentally on track across gross motor, language, and cognitive skills, stratified by age groups (24–29, 30–35, 36–47, and 48–59 months), based on the Early Childhood Development Index 2030 (ECDI2030). Data were sourced from the Vietnam Multiple Indicator Cluster Survey (MICS) 2020–2021 (n=2705). Motor skills include tasks like walking on uneven surfaces; language skills include forming sentences of five or more words; cognitive skills include recognizing five letters of the alphabet

peers, likely due to better access to resources and education. Pre-primary attendance was associated with 74% higher odds (OR=1.74, p<0.001), underscoring the role of structured early learning in boosting cognitive and social skills. Children of mothers with higher education had 84% higher odds (OR=1.84, p<0.001), reflecting enriched caregiving environments. Majority ethnic (Kinh/Hoa) children had over twice the odds of achieving ECDI2030 benchmarks (OR=2.37, p<0.001) compared to minority groups, signaling systemic inequities that require targeted interventions. These disparities emphasize the need for policies to expand equitable access to education and resources, particularly for rural and ethnic minority communities.

Discipline Impact

Table 4 highlights the associations of discipline on ECDI2030. Positive discipline practices were associated with better outcomes: explaining wrong behavior increased odds by 137% (OR=2.37, p=0.42) and offering alternative activities by 110% (OR=2.10, p<0.001). These approaches promote emotional regulation and problem-solving, critical for long-term development. A binary dummy variable for positive discipline (1= positive, e.g., explaining, alternatives; 0= non-positive, e.g., shouting, spanking) showed a significant positive association (OR=1.89, p=0.02), reinforcing the benefits of positive practices. In contrast, violent discipline showed no significant impact in multivariable models, suggesting they neither enhance nor consistently harm ECDI2030 outcomes in this context, possibly due to cultural norms. These findings advocate for promoting positive discipline to support developmental outcomes, offering a practical pathway for parenting interventions.

A visual overview of associations is provided in Figure 2 (Infographic Summary of Key Findings).

Discussion

Our findings indicate significant associations between positive discipline, socioeconomic determinants, and ECD outcomes in Vietnam based on the MICS 2020–2021 survey. Positive discipline was associated with higher ECDI2030 achievement (OR 1.45, p<0.001), consistent with global evidence demonstrating the beneficial effects of supportive parenting practices on child development (2,8,16). Recent evidence further supports this relationship. A study from Turkey reported that positive parenting behaviors were associated with improved social-emotional competence and reduced behavioral difficulties among young children, highlighting the importance of nurturing caregiving environments for optimal developmental outcomes (17). Similarly, a recent international study emphasized that responsive caregiving and positive parent-child interactions are key contributors to healthy early childhood development across diverse socioeconomic settings (18).

Higher maternal education and household wealth were also associated with better developmental outcomes in our study, aligning with findings from Bangladesh, where Alam et al. (19) reported comparable effects of socioeconomic factors on ECD using MICS data as well as studies from other low- and middle-income countries (4,6,13). These

Table 3. The role of socioeconomic status, and education on ECDI among children aged 24–59 months in Vietnam, 2021 (n=2705)

Characteristics		ECDI2030 OR (95% CI)	Univariable logistic regression		Multivariable logistic regression	
			p	OR (95% CI)	p	
Sex	Male	69.6	0.87 (0.72–1.02)	0.089		
	Female	72.5	-			
Area	Urban	82.8	2.36 (1.88–2.35)	<0.001	1.48 (1.09–2.03)	0.013
	Rural	67.1	-			
Attendance to pre-primary	Attending	70.4	1.66 (1.32–2.08)	<0.001	1.74 (1.30–2.33)	<0.001
	Not attending	59.1	-			
Mother's education	Low education	60.1	-			
	High education	78.0	2.35 (1.82–3.03)	<0.001	1.84 (1.33–2.53)	<0.001
Ethnicity of household head	Majority	82.0	3.25 (2.73–3.87)	<0.001	2.37 (1.82–3.08)	<0.001
	Minority	58.4				

Data from Vietnam MICS 2020–2021. ECDI2030 = proportion developmentally on track. OR=Odds ratio; 95% CI= 95% confidence interval. Adjusted for maternal education, residence, ethnicity, and household wealth. Survey weights and cluster design applied

Table 4. The role of child discipline on ECDI among children aged 24–59 months in Vietnam, 2021 (n=2705)

Child discipline	ECDI2030 (Yes/No)	Univariable logistic regression		Multivariable logistic regression	
		OR (95% CI)	p	OR (95% CI)	p
Positive discipline*	75.1/54.1	2.56 (2.10–3.12)	<0.001	1.89 (1.13–2.66)	0.020
Explained wrong behavior	75.2/54.2	2.56 (2.11–3.11)	<0.001	2.37 (1.05–3.67)	0.042
Gave something else to do	84.6/68.8	2.13 (1.61–2.83)	<0.001	2.10 (1.34–2.91)	<0.001
Discipline (non-violent vs. Violent)	66.6/72.2	0.77 (0.63–0.93)	0.008	0.98 (0.79–1.20)	0.82

Data from Vietnam MICS 2020–2021. *Positive discipline: 1= explaining behavior or offering alternatives, 0= non-positive. OR=Odds ratio; 95% CI= 95% confidence interval. Adjusted for maternal education, residence, ethnicity, and household wealth. Survey weights and cluster design applied

findings suggest that socioeconomic resources may enhance children's developmental opportunities through improved access to education, health services, and stimulating home environments. Although the cross-sectional design limits causal inference, the observed associations indicate that interventions promoting positive discipline alongside policies addressing socioeconomic disparities may contribute to improved early childhood development outcomes.

The MICS6 data indicates a high prevalence of violent discipline (78.2% of children experienced psychological aggression or physical punishment in the past month), but also 80.4% of children experienced positive discipline (e.g., explaining wrong behavior, 80.1%; giving something else to do, 13.5%). In multivariable logistic regression, positive discipline was associated with higher ECDI2030 achievement (OR=1.89, p<0.001, Table 4), affirming the benefits of supportive parenting practices. These practices, rooted in reasoning and redirection, foster emotional regulation and cognitive growth, consistent with findings from meta-analyses and MICS-based studies (2,8,16,20).

This diverges from evidence linking corporal punishment to increased aggression, anxiety, and developmental delays (3,9,21,22). The lack of effect may stem from cultural acceptance of physical discipline in Vietnam (10), the ECDI2030's broad focus (1), or a desensitization to moderate punishment in high-prevalence settings (23). Notably, only 7.1% of mothers endorsed physical punishment, a trend echoing shifts in parenting norms observed elsewhere (5,24), suggesting potential for behavior change with education (10).

Socioeconomic factors were critical predictors of ECD (Table 3). Urban residence (OR=1.484, p=0.013) conferred advantages over rural areas, reflecting disparities in resources and early learning access, a pattern noted in Vietnam (12) and across developing nations (4,6), Pre-primary attendance (OR=1.737, p<0.001) strongly associated with better outcomes, supporting evidence that structured

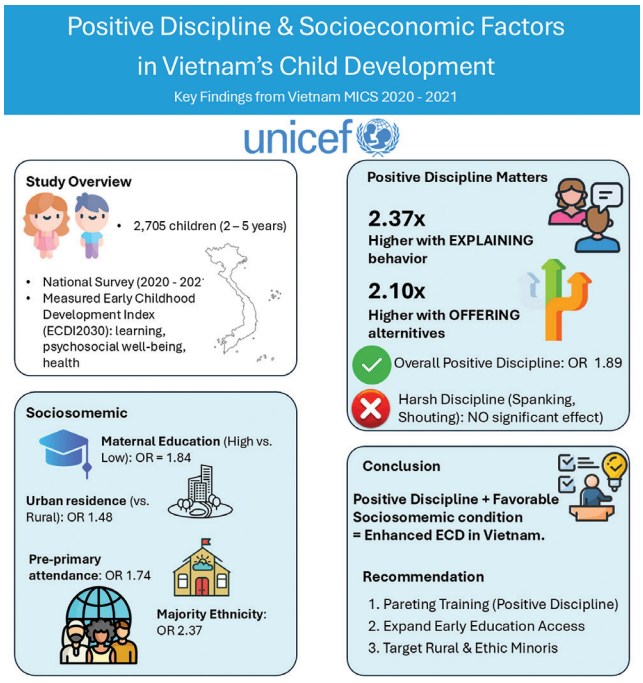

Figure 2. Infographic summary of key findings

early education is linked to improved cognitive and social skills (2,7). Maternal education's impact (OR=1.835, $p<0.001$) aligns with research linking caregiver education to enriched environments and health practices (4,5,25). Ethnic disparities were pronounced, with majority ethnic children outperforming minorities (OR=2.365, $p<0.001$), a gap tied to systemic inequities in income, education, and services (11), mirroring global patterns of disadvantage.

Developmental trends in Figure 1 - strong motor skills across ages, with language and literacy advancing later - reflect typical ECD sequences (1,2). This suggests foundational skills are widely attained, but gaps in higher-order competencies may grow without intervention, particularly for rural and minority groups (12,26).

This study has several limitations that should be acknowledged. First, the cross-sectional design restricts causal inference, as associations between discipline practices, socioeconomic factors, and developmental outcomes cannot establish directionality. Second, all measures relied on caregiver reports, which may be subject to recall bias and social desirability effects. Third, the composite ECDI2030 index may obscure domain-specific differences in health, learning, and psychosocial development. Fourth, important family-context variables - including father's involvement, mother's social support, the presence of siblings or peers, and reasons for preschool enrollment - were not collected in the MICS dataset; their absence may limit interpretation, as these factors are known to shape early development. Finally, no study-specific power calculation was conducted, although the MICS survey was nationally designed to ensure adequate statistical power for key indicators. Future studies should consider longitudinal approaches, conduct power analyses tailored to specific research questions, and incorporate qualitative insights into discipline norms to further elucidate these relationships (10,27).

Conclusion

Positive discipline practices, higher maternal education, urban residence, majority ethnicity, and pre-primary attendance are associated with improved ECD outcomes in Vietnam. Policymakers should prioritize interventions that (1) promote positive discipline through parenting education, (2) expand access to early education in rural and minority communities, and (3) address structural inequities in education and resources.

Ethics

Ethical Approval: Ethics committee approval was waived by the Institutional Review Board of Hue University of Medicine and Pharmacy, as this study was a secondary analysis of de-identified data from the Vietnam Multiple Indicator Cluster Survey (MICS) 2020–2021. All procedures adhered to the ethical standards of the 1964 Helsinki Declaration and its later amendments.

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Data Availability Statement: The data analyzed in this study are publicly available from the UNICEF Multiple Indicator Cluster Survey (MICS) 2020–2021 dataset, accessible at https://mics.unicef.org/surveys. No additional data are available due to the secondary analysis nature of the study.

Footnotes

Conflict of Interest: No conflict of interest was declared by the authors.

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