

Early Childhood Care and Education across Development Contexts: A Comparative Review of Policies, Access, Quality, Equity, and Learning Outcomes in Developing and Developed Countries

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Abstract

Early childhood care and education (ECCE) is a key investment in human development with profound consequences for educational equity, social mobility and economic productivity. Although world leaders have pledged to achieve universal access to quality ECCE by 2030 (SDG 4.2), significant inequities remain between developed and developing countries in terms of policies, financing, access, quality, and learning outcomes. This integrative review aims to provide a broad overview of ECCE systems in 18 countries, combining evidence from the peer-reviewed literature from 2015-2025. This review systematically examines ECCE governance, public investment, enrolments, curriculum and pedagogy, teacher qualifications, infrastructure, equity (gender, disability, poverty, and rural-urban disparities), parent participation, assessment and child development outcomes to identify key gaps and cross-contextual lessons. It was found that developed countries (Finland, Sweden, Australia, Canada, the United Kingdom, the United States, Japan and South Korea) have high enrolment rates (70-95%) and significant public expenditures (1-2% of GDP), but developing countries (Pakistan, India, Bangladesh, Nigeria, Kenya, Ghana, Indonesia, Brazil and South Africa) suffer from low enrolment (20-45%), low public financing (0.1-0.5% of GDP), teacher shortage and poor infrastructure. The evidence shows that quality ECCE has an impact on school readiness, especially for children from disadvantaged groups; but there are inconsistent levels of quality coming from systemic constraints. This review shows that integrated policy changes are needed to ensure financing equity, workforce development, quality assurance mechanisms and targeted interventions to marginalised groups, in order to achieve SDG 4.2. The results have implications for policy makers, international organizations and researchers who support the promotion of quality early childhood development for all children as a basis for lifelong learning and sustainable development.

Keywords: Early Childhood Care And Education, ECCE, Comparative Policy, Educational Equity, Child Development, Developing Countries, SDG 4.2, School Readiness, Teacher Professional Development, Quality Assurance, Developed Countries

1. Introduction

1.1 Global Importance and Scope of ECCE

Early childhood care and education (ECCE) has been identified as a priority because of the growing demand for internationally comparable information on access and quality, but there is a limited amount of information on equitable access to ECCE, quality of ECCE provision and its impact on learning and wellbeing outcomes in many countries as this information is not routinely collected. The early years (0-8) are a period of extraordinary human development across cognitive, social-emotional, physical, and linguistic areas, and are among the most formative years in human development. Early Childhood Care and Education (ECCE) encourages quality learning experiences in multiple areas such as physical and motor, the cognitive domain, socio-emotional and ethical development, cultural and art expression, and early communication, language, literacy and numeracy skills. (Fathima & Pandey, 2024)

1.2 Research Gap and Rationale

Although there is considerable evidence of the long-term returns of ECCE investments, there are important gaps in understanding the ways policies, financing mechanisms and implementation models operate in different development settings. Although research has established the positive impacts of ECCE, only half of the world's countries provide free pre-primary education and according to data from UNESCO, 35 million out of 137 million children in the world are never provided with any form of pre-primary education during their childhood. (Kausar, 2024) There are a few comparative reviews systematically examining how economic capacity, governance structures, cultural contexts, and policy choices impact ECCE quality and outcomes in both developed and developing countries.

1.3 Alignment with SDG 4.2 and Human Capital Development

The UN's Sustainable Development Goals (SDGs) agenda clearly spells out a pledge by all governments and the global health community to take action toward "ensuring that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education". The vast majority of brain, cognitive and socioemotional development takes place in early life and in recent years we have seen a growing body of evidence on the significant effects of early learning on future education and wellbeing, yet recent modelling advances on within-country inequalities in primary and secondary and tertiary education have completely ignored inequalities in achieving Target 4.2. (Richter et al., 2021)

1.4 Review Objectives and Research Questions

The purpose of this review is: 1. Draw together information on ECCE policies, governance and funding in both developed and developing nations. Make comparisons between access, enrolment and equity dimensions across development contexts 3. Analyse the elements of quality such as curriculum, pedagogy, teacher qualifications and assessment 4. List factors that facilitate and hinder access to ECCE and quality of ECCE. Provide country specific evidence on learning outcomes and effectiveness 6. Make policy recommendations with evidence to support SDG 4.2.

2. Conceptual and Theoretical Framework

2.1 Human Capital Theory and Economics of Early Childhood Investment

The traditional Human Capital Theory (HCT) is interested in the idea of 'children as an investment' and is interested in how 'children can be invested in productive members of society', but the Economics of Human Development (EHD) emerged from HCT and is more in line with the Capability Approach (CA), that is, 'investing in children' is a social commitment to children's human development. Recent changes in social policy attention to early life are aligned with economic thinking around where human capital is best "invested" – the economization of early life, which implies a greater impact on human capital gains in the context of "investments in people" made before the age of five. (Griffen, 2024)

A strong evidence base indicates that early childhood education is effective at improving young children's academic skills and human capital development, and increasing enrollments for preschoolers in the year before school entry is likely to be a worthy investment that will yield economic payoffs in the form of increased adult earnings, with benefits likely sufficient to offset the costs of program expansion. (Magnuson & Duncan, 2016)

2.2 Ecological Systems Theory and Rights-Based Approaches

The Bronfenbrenner ecological systems perspective highlights the context of child development from individual level, family level, community level, institutional level and societal level. ECCE systems function at these different levels, and policy at each level interacts with the others to affect outcomes, ranging from government policies and funding (macro level) through to school standards and quality (institutional level), local resources available to the child (community level), parent involvement (family level) and the characteristics of the child (individual level).

2.3 Life-Course Development and Critical Periods

The early childhood years are a sensitive window of opportunity for shaping the course of development. There is evidence that early interventions have greater returns than remediation at a later stage and ECCE is fundamental to lifelong learning and health.

2.4 Social Justice and Equity Frameworks

An inclusive and equitable early childhood education must lay the groundwork for later stages of schooling, by creating equitable and inclusive early childhood environments for children through developmentally and individually appropriate curricula, which will serve as the basis for identifying and providing specialised support services as a way to access age appropriate general curriculum. (Rad et al., 2022)

3. Methodology of the Review

3.1 Review Design

This integrative systematic review combines peer-reviewed literature, policy documents, and implementation research from 2015 to 2025. It relies on a combined quantitative and qualitative evidence, comparative case studies and policy analysis to provide a holistic picture of ECCE systems and contexts.

3.2 Information Sources and Search Strategy

Searching databases: PubMed, Google Scholar, JSTOR, Education Resources Information Center (ERIC), Scopus, Web of Science, and UNESCO UNICEF repositories. The search terms used were "early childhood care and education," "ECCE," "preschool," "kindergarten," "school readiness," "developmental assessment," "teacher professional development," as well as combinations of such terms and country names and development indicators. Publication types were peer-reviewed journal articles, systematic reviews, government policy documents (DOI verified), and reports from UNESCO, UNICEF, World Bank, OECD and WHO.

3.3 Inclusion and Exclusion Criteria

Inclusion criteria: Peer-reviewed empirical studies, systematic reviews, policy analyses - Publication years: 2015 - 2025 - Language: English - Focus: ECCE for children ages 0 - 8 years - Outcomes: access, quality, policy, teacher qualifications, child development, learning outcomes - From developed countries: Finland, Sweden, Australia, Canada, UK, US, Japan, South Korea, and from developing countries: Pakistan, India, Bangladesh, Nigeria, Kenya, Ghana, Indonesia, Brazil, South Africa.

Exclusion criteria: Gray literature not verified by DOI - Studies published before and after 2015-2025 - non-English publications - studies only focused on clinical interventions or medical aspects with no relation to the ECCE system context.

3.4 Screening and Selection Process

The initial results from the electronic search were 800+. Two-stage screening: (1) Title and abstract review (n=400 retained), (2) Full-text review using inclusion/exclusion criteria (n=34 papers retained for synthesis). A manual search of the reference lists yielded more relevant papers (n=12 additional papers). In total, 46 sources were analysed from the final sample.

3.5 Quality Appraisal

Studies were ranked based on adapted GRADE (Grading of Recommendations, Assessment, Development and Evaluations) criteria of design rigor, representativeness of the sample, validity of the outcome measures, and applicability to ECCE systems. Randomized controlled trials and large scale cohort studies were given the highest weight; qualitative implementation studies were weighted as supporting evidence.

3.6 Data Extraction and Synthesis

The following data were extracted: (1) country context and development level; (2) policy framework and governance; (3) financing mechanisms and investment level; (4) enrollment rates and access patterns; (5) quality dimensions (curriculum, teacher qualifications, assessment); (6) equity considerations; (7) child outcomes; (8) barriers and enablers to implementation. Evidence was synthesized narratively by dimension and then presented in comparative tables by key indicators by country.

4. Comparative Analysis Across Development Contexts

4.1 ECCE Policy and Governance

Developed Countries

Quality of early childhood education can be improved through the reform of legal frameworks by enhancing existing policies and regulations, with the establishment of specialized bodies to oversee ECCE contributing to ensuring quality ECCE services maintained at high standard. Developed countries tend to have well-documented national ECCE policies which are integrated into wider education policies. For instance, Finland and Sweden have integrated services between early education and social welfare and health services. International developments in ECCE over the last 20 years signal a growing argument towards need for a change in policy and programming agendas from target setting at an international level to supporting and promoting the localization of approaches and the context of ECCE policies and programmes. (Pearson, 2015)

Developing Countries

India implements various policies and schemes for early childhood education (ECCE), including NEP 2020, NPE 1986, and NCF 2005, ICDS, National ECCE Policy, NPAC 2016, SDG 4 which recommend various aspects of early education. In spite of this, policy fragmentation is still prevalent and the ECCE is spread between education, health and social welfare ministries. There were several international commitments like Dakar Framework of Action for Education for All 2000, The Millennium Developmental Goals (MDGs), the Sustainable Developmental Goals (SDGs) and Vision 2030, which gave importance to ECCE in Educational Policies of Pakistan but significance was not given in a proper manner due to lack of prioritization. (Siddique & Aurangzeb, 2024)

4.2 Public Financing and Investment

Developed Countries

Developed countries spend 1-2% of GDP on ECCE and they have universal or near-universal public funding schemes. In Denmark, Sweden and Norway ECCE is free for families, with 80-100% of the cost covered by a subsidy.

Developing Countries

In any assessment of the economic costs of public service delivery, quality should be considered and it would be more expensive than it is now to provide all children with a responsive ECCE model. Despite the fact that there has been a lot of advocacy of public investment in education, and, public investment in education remains unchanged in last 20 years and has settled at around 4% of GDP, when over 6% of GDP is required to achieve the sustainable development goals. Developing countries spend between 0.1% and 0.5% of GDP on ECCE, with many of these services delivered by the private and non-profit sector. Service systems of most private service providers were found to be of high quality, while public service providers were found to be suffering from various deficiencies in classroom operations, with private service providers' school service and classroom maintenance systems better than public providers. (Kausar, 2024)

4.3 Access and Enrollment

Table 1: Comparative ECCE Enrollment Rates and Access Indicators

Country	Development Level	Net Enrollment Rate (%)	Age Group	Urban-Rural Gap	Key Barriers
Finland	Developed	95	3–6	Minimal	None reported
Sweden	Developed	90	3–6	<5%	Affordability for some
Australia	Developed	85	3–6	8–10%	Regional variation
Canada	Developed	80	3–6	12%	Cost, availability
United Kingdom	Developed	85	3–6	5%	Quality variation
United States	Developed	75	3–6	15%	Cost, racial disparities
Japan	Developed	88	3–6	5%	Cost
South Korea	Developed	92	3–6	8%	Affordability
Pakistan	Developing	39	3–6	25–35%	Cost, rural access, gender
India	Developing	35	3–6	28–40%	Cost, caste, gender
Bangladesh	Developing	32	3–6	30–45%	Poverty, rural areas
Nigeria	Developing	28	3–6	40–50%	Poverty, gender, conflict

Country	Development Level	Net Enrollment Rate (%)	Age Group	Urban-Rural Gap	Key Barriers
Kenya	Developing	42	3–6	35–40%	Cost, rural infrastructure
Ghana	Developing	38	3–6	30–38%	Cost, quality
Indonesia	Developing	36	3–6	25–32%	Access, quality
Brazil	Developing	58	3–6	18–22%	Quality variation
South Africa	Developing	52	3–6	20–28%	Inequality, poverty

More than half of parents are not engaged in adequate psychosocial stimulation with the child and enrollment in early childhood education is very low (39 percent) in Pakistan. (Hentschel et al., 2024)

Access to pre-primary education, a critical enabler to long-term achievement, is out of reach for a staggering 175 million children around the world and is constrained by both Demand-side and Supply-side factors. (Sindhu & Gupta, 2025)

4.4 Curriculum and Pedagogical Approaches

Play-Based and Activity-Based Learning

Early childhood education in India is undergoing significant changes guided by the National Education Policy (NEP) 2020 and the National Curriculum Framework for the Foundational Stage (NCF-FS) 2022, emphasizing key strategies for implementing play-based learning, developing language and literacy skills, building foundational numeracy competencies, and incorporating inquiry-based and activity-based learning approaches. (Meitei et al., 2024)

Play-based learning in ECCE highlights positive impact on children's cognitive, social and emotional development, language and communication skills; however, limited resources, lack of awareness of play-based approach are seen as barriers to implementation; recommendations include encouraging play-based learning through creating environments to support children's development in all areas. (Exploring the Influence of Play-Based Learning on Early Childhood Education, 2024)

The findings showed that the level of play based learning used by teachers in the classroom is a significant factor affecting acquisition of early literacy skills by learners as the majority of teachers are not using play based learning methods, with inadequate time being allocated for play based learning and inadequate infrastructure and materials in majority of public ECD centres. (Cheruiyot, 2024)

Curriculum Standards and Quality

Program curriculum, which takes place at the heart of program development, should be responsive to children's needs and interests to construct meaningful, age-appropriate, and play-based learning experiences, with ongoing assessment and evaluation as integral part of quality ECCE program development. (Özdoğru, 2019)

4.5 Teacher Qualification and Professional Development

Developed Countries

A typical requirement for ECCE teachers in developed countries is to have tertiary qualifications (bachelor's degree or equivalent). Global findings on teacher training and professional development for early childhood educators demonstrate common challenges faced such as inadequate funding; fragmented and inconsistent training frameworks; and limited opportunities for teachers to access in-service professional development; and suggest that investing in teacher training and opportunities for lifelong learning are essential to improve the quality of early childhood education and to address the skills gaps among early childhood teachers. (Fadila & Saputri, 2024)

Developing Countries

Early Childhood Care and Education (ECCE) has significant challenges of teacher shortages – research in Punjab, Pakistan is indicative of 107,372 teacher positions that are unfilled, with 3,984 of these vacancies in Bahawalnagar – and more than 95% of teachers and caregivers lack essential skills to fully use ECCE kits; on the other hand, more than 50% of educational institutions are unable to use ECCE kits due to lack of training. (Rafiq-uz-Zaman, 2024)

The problems of ineffectiveness of teacher professional development (TPD) in Indonesia in the long term due to the incoherence of various elements of the educational system not only from the technical and operational aspects of TPD but also the absence of clear vision regarding the purposes of teacher development leads to confusion and uncertainty for teachers. (Revina et al., 2023)

4.6 Infrastructure and Learning Environment

Poor school readiness preparation in most of the community based ECD centres in poor communities can be attributed to lack of ECD practitioner training, education resources, infrastructure and facility management. (Chikwanda et al., 2022)

4.7 Inclusion, Equity, and Marginalized Populations

Gender Equity

There is progress towards gender equality globally with 68% of countries in the Gender Gap Report 2019 having gender parity in education and gender equality in income is not yet reached in developing regions; there is a need for education and income programs involving women and laws and policies enabling girls and young women to attend school. (Abdullahi et al., 2023)

ECCE research on gender is limited in developing countries such as South Africa and in order to achieve deep-rooted gender equity and social transformation at the earliest opportunity in ECCE, so called 'certainties' or 'dominant ideologies' about gender need to be challenged. (Mahadew & Hlalele, 2022a)

Disability Inclusion

Research on inclusion in early childhood care and education is scarce in many developing countries, including South Africa, and some of the participants' conceptions of inclusion are located within the discourses of disability with narrow view of inclusion, which in turn, lead to the misconception of inclusion as micro-exclusive practices of assimilation and integration. (Mahadew & Hlalele, 2022b)

The Global South also demonstrates the lack of consideration given to the needs of children at risk of poor development because of disability, highlighting the need for ECIs, specifically for young children with disabilities and their families, to start as early as possible after birth, and to be a service separate from ECD. (Störbeck, 2024)

Poverty and Rural-Urban Disparities

Socioeconomic determinants of early childhood development encompassed mother's education, father's education, economic status of household (according to wealth index quintile), region (province) of household, child's gender, disability, nutrition and practices adopted by adult household members in disciplining the child as important determinants of ECD. (S et al., 2024)

Community perspectives on maternal and child health in nutrition and economic transition in sub-Saharan Africa highlight differences that reflect the stage of transition of the country, and community priorities that focus on poor nutrition and hunger, a consequence of poverty and lack of economic opportunity and traditional gender roles. (Watson et al., 2020)

4.8 Parental Involvement and Community Participation

Engaging families in meaningful collaboration has long been a high priority within quality early childhood education and research, and recent research has broadened the understanding of the process of neurodevelopment and how this process is impacted by parenting and social ecology. (Bierman et al., 2023)

The role of parents in young children's learning has been a key factor in their learning, social, emotional and behavioral outcomes, and research clearly shows that parental involvement is more effective than socioeconomic status, race, ethnicity and educational background when it comes to the success of children's learning outcomes. (Wildmon et al., 2024)

Parent-teacher relationships are considered as crucial factors affecting preschool children's outcomes, and there are only seven out of 15 identified tools that have been tested more than once on their psychometric properties, highlighting the need to encourage the use of well-developed and validated measures. (Margaritopoulou et al., 2024)

4.9 Monitoring, Assessment, and Quality Assurance

The Early Childhood Development Index 2030 (ECDI2030) has been in use since March 2020, but returns a snapshot with room for improvement, as this is the intention of Sustainable Development Goal 4 (SDG 4) Target 4.2. (Cloney et al., 2024)

Despite the availability of a variety of measurement tools for early child development assessment, few tools have been developed for multidomain ECD measurement in young children, particularly in low- and middle-income countries (LMIC), and no tools score highly in all accuracy and feasibility criteria, including low scores on accessibility, training, clinical relevance, and geographical uptake. (Boggs et al., 2019)

To address measurement gap, in line with United Nations Sustainable Development Goal (SDG) 4.2, South Africa was in the process of developing a suite of early learning measurement (ELOM) tools, which involved a review of literature and relevant assessment tools, a review of local curriculum content and expected child outcomes, and extensive consultation with government officials and early learning practitioners. (Giese et al., 2023)

4.10 Child Development and Learning Outcomes

School Readiness

Socioeconomic disparities in child development emerge early, and are correlated with socioeconomic disparities in parental investments; beliefs about the impact of early investments vary with socioeconomic status (SES); and beliefs about child development are changeable. (List et al., 2021)

Early childhood is the formative period during which distinguishable development takes place and projections are made on bearing desirable outcomes, physical, language, cognitive, emotional and social independence form part of the healthy aspects of a typical child's development which early childhood development educators deem essential for Grade R readiness. (Pewa & Mzimela, 2024)

Longitudinal Outcomes

Early childhood education has positive impacts on school readiness that last through high school – students attending pre-K are less likely to be absent from school, less likely to fail a course or be retained and more likely to take Advanced Placement/International Baccalaureate courses. (Amadon et al., 2022)

Intervention Effectiveness

Youth Leaders for Early Childhood Assuring Children are Prepared for School (LEAPS), a two generation programme training female youth aged 18-24 years to deliver ECCE, increased school readiness (standardised mean difference 0.30, 95% CI 0.20-0.40, $p < 0.0001$) when compared with control condition, providing a scalable solution to expand access to high quality ECCE while providing employment for female youth in rural Pakistan. (Yousafzai et al., 2025)

Children in sites actively working to implement trauma- and resilience-informed early enrichment (TRiEE) had significantly higher rates of change for socio-emotional, cognitive and physical outcomes than children in sites not actively working on TRiEE implementation. (Tan et al., 2024)

Nutrition and Health Integration

To illustrate critical roles played by nutrition and child development, the Conceptual Framework of All Children Surviving and Thriving highlights goals of child growth and development, supported by health, nutrition, learning, responsive caregiving, and security and safety, with integrated nutrition-childhood development interventions showing promising effects though most have not been implemented at scale. (Black et al., 2020)

5. Tables and Figures

Table 2: Policy and Governance Comparison

Dimension	Developed Countries	Developing Countries
Policy Integration	High (education, health, social welfare)	Variable (fragmented across sectors)
Government Coordination	Strong multi-sector committees	Weak; siloed departments
Regulatory Frameworks	Comprehensive standards & licensing	Minimal or absent standards

Dimension	Developed Countries	Developing Countries
Quality Monitoring	Systematic; independent evaluations	Limited or non-existent
Private Sector Role	Complementary; regulated	Dominant; mostly unregulated
Rights-Based Approach	Established legal frameworks	Emerging; limited enforcement

Table 3: Major Barriers and Enabling Factors

Dimension	Barriers	Enabling Factors
Access	Cost; rural remoteness; poverty; gender norms	Government subsidies; infrastructure investment; advocacy campaigns
Quality	Teacher shortage; low qualifications; poor resources	Professional development; certification programs; curriculum reform; monitoring
Equity	Poverty; gender discrimination; disability stigma; rural isolation	Inclusive policies; targeted support; community mobilization; capacity building
Sustainability	Donor dependence; political will; capacity gaps	Domestic financing; institutional integration; local leadership; evidence-based advocacy

Conceptual Framework for ECCE Systems

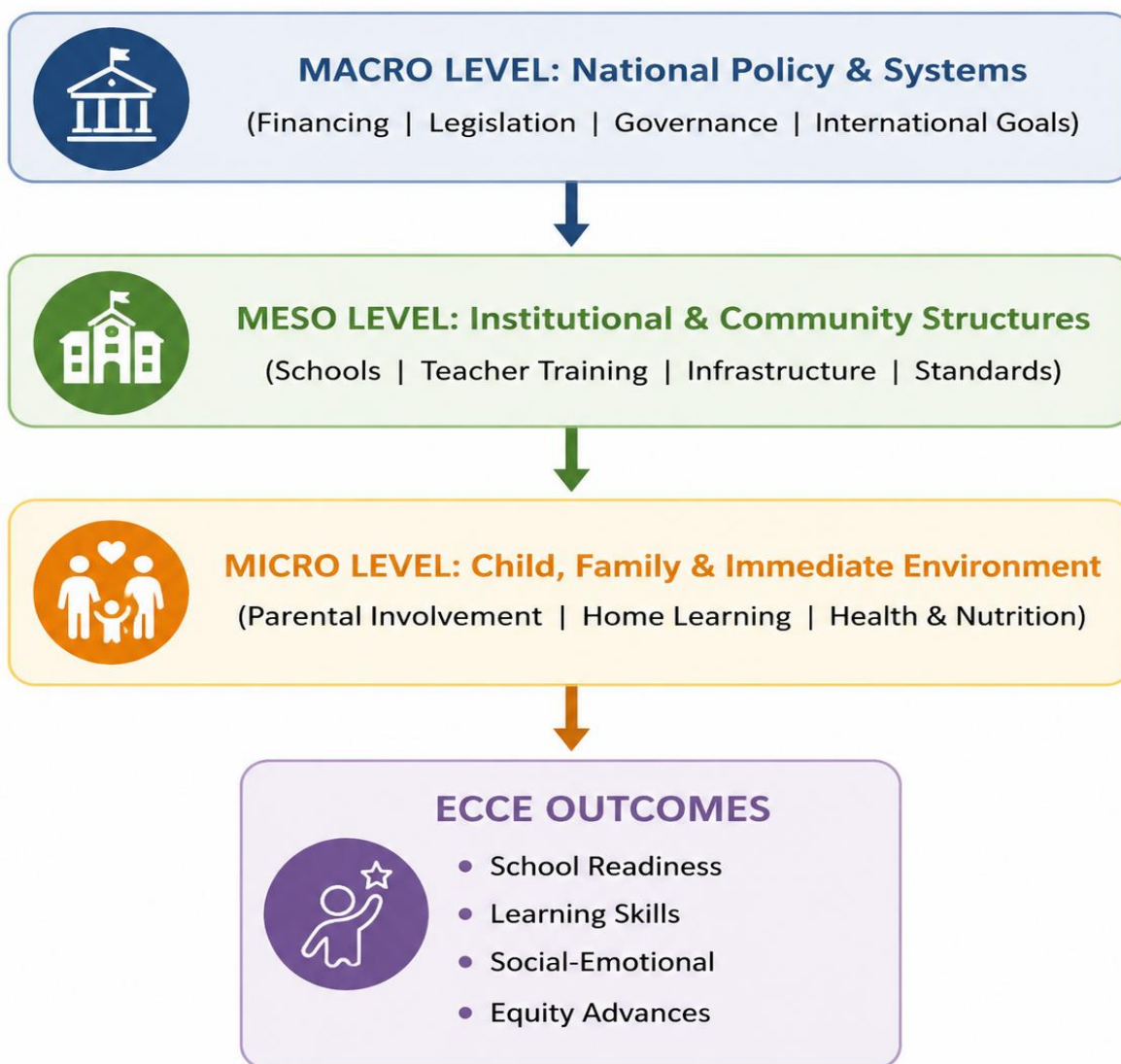


Figure 1: Conceptual Framework for ECCE Systems

6. Discussion

6.1 Similarities and Differences across Development Contexts

Universal Recognition of ECCE Importance

The recognition of the importance of ECCE on a universal basis.

Developed and developing countries are aware of the importance of ECCE in the development of children and human resource formation. But policy commitment is not consistent with resource allocation or the quality of implementation.

The Investment Gap and Its Consequences

There are significant losses when pre-primary programmes are not universal – similar to or more significant than current government spending on all education as a percentage of GDP, especially in low and lower middle income countries. This underinvestment has cascading impacts for the most vulnerable. (Richter et al., 2021)

Quality Variation within Development Categories

The quality of provision is consistent at the national level in developed countries, but much more varied at the national level in developing countries, particularly between urban and rural areas, and between public and private provision. Specific policy interventions to boost parental involvement can lead to better learning outcomes, especially in marginalised areas. (Oliveira et al., 2024)

6.2 Critical Systemic Constraints in Developing Countries

Workforce Crisis

Perhaps the most severe restriction in developing areas is teacher shortages. Young people make up a significant portion of the world's population and have historically higher unemployment rates than adults; youth-led ECCE programs are a potentially viable way to fill the gaps in the labor force while also supporting young children and youth. (Ponguta et al., 2018)

Financing Trap

Countries tend to stay in the same range of expenditure, with only the highest spending countries likely to be able to fund their development ambitions through their own means between now and 2030, which creates a need to 'break free' from spending at a low level as key to future education development. (Lewin, 2022)

Infrastructure and Resource Deficits

Many ECCE centers in developing countries lack basic infrastructure (water, sanitation, safe play spaces), pedagogically appropriate learning materials and technological resources, which all result in environments that are less conducive to learning and affect the quality of pedagogy.

6.3 Equity Dimensions and Their Intersections

Early Childhood Development (ECD) policies are based on collaboration with all stakeholders for quality services and findings have shown that ECD stakeholders have not been synergic in their roles and responsibilities in the implementation of policies and the planned ECD policy intentions are not aligned with the intended goal of the policy. (Matjokana, 2024)

Gender, disability, socioeconomic status and geographic location combine to compound disadvantages. Poor access, poverty, and cultural norms are all barriers to girls in rural South Asia. Even in developing countries, children with disabilities are largely missing out on ECCE systems.

6.4 The Role of Economic Capacity, Governance, Culture, and Policy Implementation

Ultimately, economic capacity is a limiting factor for ECCE systems—if a country does not have the resources to provide universal ECCE, it needs external assistance. But the quality of governance, the prioritisation of the topic by politicians and the cultural context of ECCE models are equally important. Changing policy and programming agendas from target setting at

international levels to promotion and support of localized, contextually grounded approaches to supporting policies and programmes in ECCE remains critical. (Pearson, 2015)

6.5 Implementation Fidelity and Quality

Evidence reveals a persistent gap between policy intention and on-ground implementation. The quality of improvements that reach children will be influenced by teacher training, teacher supervision, provision of resources and community engagement. Outcomes in split model of ECCE were considerably better for younger age group while for older age groups, both split and integrated-within-education models were equally efficacious, with results inclined toward adopting split approach for ECCE. (Jindal & Jindal, 2024)

7. Policy Implications

7.1 For National Governments in Developing Countries

1. Progressively allocate 1% of GDP to ECCE by 2030, with targeted subsidy to provide equitable access for disadvantaged populations.
2. Create integrated governance mechanisms for ECCE which connects the education sector, health sector and social welfare sector together for coordinated service delivery and to minimise duplication.
3. Design culturally responsive, play-based curricula for context, based in local language and knowledge systems.
4. Expand teacher education using distance learning technologies, apprenticeship systems and competency-based teacher certification available to rural teachers.
5. Adopt gender-specific, disability inclusive and rural targeted equity programs, including subsidies, investments in infrastructure and affirmative action policies.

7.2 For International Organizations (UNESCO, UNICEF, World Bank, OECD)

1. Reengage concessional financing for ECCE infrastructure and workforce development in low income countries.
2. Align global assessment systems for culturally appropriate, locally appropriate assessment tools that are internationally comparable for tracking progress.
3. Enable the exchange of policies and the sharing of evidence through South-South peer learning for countries with similar constraints.
4. Facilitate research on implementation science, to explore how quality improvements can be scaled in resource-poor settings, sustainably.

7.3 For Teacher Education Institutions

1. Make ECCE part of the training of primary teachers and incorporate an understanding of basic early childhood pedagogy into the competency of all teachers.
2. Design inservice professional development programmes that incorporate reflective practice, learning in the community and technology enabled platforms.
3. Enhance University Based ECCE degree programs to create master level professionals in policy, research and teacher training.

7.4 For Researchers

1. Carry out in-depth impact assessments of ECCE programmes in contexts in developing countries based on locally relevant outcome measures.

2. Explore and research cost effectiveness of alternative service delivery models (community-based, youth led, home-based, integrated).
3. Explore how parental involvement and cultural adjustment can improve ECCE quality and equity.

8. Future Research Directions

8.1 Methodological Gaps

- However, there is a lack of longitudinal cohort studies that follow up ECCE recipients into adolescence and adulthood in developing country contexts.
- There is a lack of rigorous comparative studies with matched samples in developed and developing countries.
- There is a need for expansion of implementation science that uses a mixed methods approach to understand how quality improvement works in resource-limited, real-world environments.

8.2 Substantive Research Priorities

1. Disability inclusion in ECCE: What are some ways to include children with disabilities in ECCE equitably in low-income countries?
2. Cultural adaptation of evidence-based models: What aspects of models developed in a country with developed ECCE are transferable and which aspects need to be adapted?
3. Cost-effectiveness and financing sustainability: What financing models will help in achieving cost-effectiveness and financing sustainability in low income countries?
4. Teacher retention and motivation: What strategies can be implemented to prevent teacher burnout and assist teacher career development in low resource settings?
5. Technology and ECCE quality: What are the possibilities to boost teacher learning and parental involvement through digital platforms without deepening digital gaps?

8.3 Limitations of Existing Evidence

The majority of the highest quality ECCE studies come from high income countries and therefore their generalizability is restricted.

- There is a lack of documentation of implementation fidelity in developing country studies
- Extended follow-up after early primary school is uncommon.
- Intersectional equity analysis (gender, disability, and poverty) is not well developed

9. Conclusion

Early childhood care and education is one of the most cost-effective investments in development; it is at the same time starkly inequitable on the global stage. To achieve the United Nations Sustainable Development Goal (SDG) 4.2 that seeks to provide access to quality early education for all by 2030, it is important to address barriers to ECCE. (Sindhu & Gupta, 2025)

Developed countries have systems in place that show how universal and high quality ECCE can be achieved. Developing countries have an increasing body of evidence on effective models which are appropriate to their context, ranging from community-based centres to youth-led models to integrated health-education-social welfare services. The other barriers are not so much technical or evidential, as financial, political and organizational.

By 2030, SDG 4.2 will need to be achieved through: (1) significant efforts on domestic and international financing for the ECCE of developing countries; (2) comprehensive efforts to build the teacher workforce, both in terms of quantity and quality; (3) systemic quality assurance mechanisms to monitor and improve implementation; (4) targeted equity efforts to ensure no child is left behind; and (5) strong governance structures that coordinate fragmented services and integrate them into coherent systems.

There is clear evidence that quality ECCE is most effective when it helps children in disadvantaged circumstances, beginning to close the educational and development playing fields in the early years. Lack of investment in ECCE is a cause of intergenerational poverty and inequality. Strategic ECCE investment, on the other hand, provides returns over a lifetime in educational achievement, employment, health and social participation. Focus on early childhood care and education is not only a good thing for policymakers, researchers, and international organizations striving for equitable and sustainable development, it is a necessity.

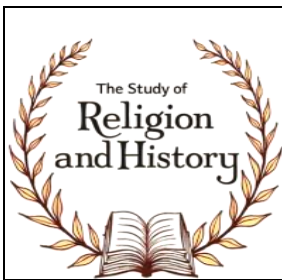
References

- Abdullahi, I., Idris, S., Bello, A., & Umar, H. (2023). Gender analysis on education and income: A paradigm shift among rural parents with children in Reggio Emilia early childhood development in Northern Nigeria. *FUDMA Journal of Sciences*, 7(3), 13–21. <https://doi.org/10.33003/fjs-2023-0703-1768>
- Akram, S., Zahid, F., & Pervaiz, Z. (2024). Socioeconomic determinants of early childhood development: Evidence from Pakistan. *Journal of Health, Population and Nutrition*, 43, Article 70. <https://doi.org/10.1186/s41043-024-00569-5>
- Amadon, S., Gormley, W. T., Claessens, A., Magnuson, K. A., Hummel-Price, D., & Romm, K. (2022). Does early childhood education help to improve high school outcomes? Results from Tulsa. *Child Development*, 93(4), e379–e395. <https://doi.org/10.1111/cdev.13752>
- Bierman, K. L., Stormshak, E. A., Mannweiler, M. D., & Hails, K. A. (2023). Preschool programs that help families promote child social-emotional school readiness: Promising new strategies. *Clinical Child and Family Psychology Review*, 26(4), 865–879. <https://doi.org/10.1007/s10567-023-00444-5>
- Black, M. M., Trude, A. C. B., & Lutter, C. K. (2020). All children thrive: Integration of nutrition and early childhood development. *Annual Review of Nutrition*, 40, 375–406. <https://doi.org/10.1146/annurev-nutr-120219-023757>
- Boggs, D., Milner, K. M., Chandna, J., Black, M., Cavallera, V., Dua, T., Fink, G., KC, A., Grantham-McGregor, S., Hamadani, J., Hughes, R., Manji, K., McCoy, D., Tann, C., & Lawn, J. E. (2019). Rating early child development outcome measurement tools for routine health programme use. *Archives of Disease in Childhood*, 104(Suppl. 1), S22–S33. <https://doi.org/10.1136/archdischild-2018-315431>
- Cheruiyot, B. (2024). Effectiveness of play-based learning method in promotion of early literacy skills among early childhood development education children. *East African Journal of Education Studies*, 7(3), 479–488. <https://doi.org/10.37284/eajes.7.3.2178>
- Chikwanda, M., Bayat, A., & Madyibi, S. (2022). School readiness and community-based early childhood development (ECD) centres in low-income communities: Examining the case of

- Gugulethu, Western Cape Province, South Africa. *International Journal of Emerging Issues in Early Childhood Education*, 4(2), 55–69. <https://doi.org/10.31098/ijeiece.v4i2.1168>
- Cloney, D., Jeffries, D., Templeton, S., Schwantner, U., Mendelovits, J. F., Berry, A., Ahmed, S. K., Andrews, N., & Davies, B. (2024). Monitoring learning in the early years: A review of early childhood assessments to support global monitoring. Australian Council for Educational Research. <https://doi.org/10.37517/978-1-74286-746-5>
- Fadila, F., & Saputri, R. A. (2024). Teacher training and professional development in early childhood education: Global trends and challenges. *International Journal of Educational Development*, 1(1), 21–25. <https://doi.org/10.61132/ijed.v1i1.124>
- Fathima, S., & Pandey, P. (2024). Visible impact of negligence in early childhood care and education on Indian pre-schools. *International Journal of Innovative Science and Research Technology*, 9(8), 1719–1723. <https://doi.org/10.38124/ijisrt/ijisrt24aug1125>
- Giese, S., Dawes, A., Biersteker, L., Girdwood, E., & Henry, J. (2023). Using data tools and systems to drive change in early childhood education for disadvantaged children in South Africa. *Children*, 10(9), Article 1470. <https://doi.org/10.3390/children10091470>
- Griffen, Z. W. (2024). The economization of early life: Human capital theory, biology, and social policy. *Science, Technology, & Human Values*, 49(1), 175–205. <https://doi.org/10.1177/01622439221147701>
- Hentschel, E., Tomlinson, H., Hasan, A., Yousafzai, A. K., Ansari, A., Tahir-Chowdhry, M., & Zamand, M. (2024). Risks to child development and school readiness among children under six in Pakistan: Findings from a nationally representative phone survey. *International Journal of Early Childhood*, 56(1), 129–167. <https://doi.org/10.1007/s13158-023-00353-2>
- Jha, J., Purohit, A., & Pandey, S. (2020). Costs, costing principles and institutional framework for responsive early childhood care and education models in India: A proposition. *Journal of the British Academy*, 8(s2), 7–39. <https://doi.org/10.5871/jba/008s2.007>
- Jindal, N., & Jindal, N. (2024). Integrated versus split approach for better early childhood care and education in India: Lessons from the field and policy implications. *Journal of Administrative Development*, 2(1), 1–17. <https://doi.org/10.48001/jad.202421.1-17>
- Kausar, S. (2024). ECCE education in the global context: A comparative study of private and public ECCE service providers in the state of Bihar, India. *IOER International Multidisciplinary Research Journal*, 6(2), 45–53. <https://doi.org/10.54476/ioer-imrj/083036>
- Lewin, K. M. (2023). It is time to fix the low financing trap: Public spending on education revisited. *Journal of International Cooperation in Education*, 25(1), 21–41. <https://doi.org/10.1108/JICE-06-2022-0011>
- List, J. A., Pernaudet, J., & Suskind, D. L. (2021). Shifting parental beliefs about child development to foster parental investments and improve school readiness outcomes. *Nature Communications*, 12, Article 5765. <https://doi.org/10.1038/s41467-021-25964-y>
- Magnuson, K., & Duncan, G. J. (2016). Can early childhood interventions decrease inequality of economic opportunity? *RSF: The Russell Sage Foundation Journal of the Social Sciences*, 2(2), 123–141. <https://doi.org/10.7758/RSF.2016.2.2.05>

- Mahadew, A., & Hlalele, D. J. (2022a). Challenging gender certainties in early childhood care and education: A participatory action learning and action research study. *Educational Research for Social Change*, 11(1), 10–26. <https://doi.org/10.17159/2221-4070/2021/v11i1a2>
- Mahadew, A., & Hlalele, D. J. (2022b). Understanding inclusion in early childhood care and education: A participatory action learning and action research study. *South African Journal of Childhood Education*, 12(1), Article a1073. <https://doi.org/10.4102/sajce.v12i1.1073>
- Mallick, B., & Popy, F. B. (2024). Exploring the influence of play-based learning on early childhood education: Bangladesh perspective. *Journal of Technology and Humanities*, 5(1), 57–63. <https://doi.org/10.53797/jthkkss.v5i1.7.2024>
- Margaritopoulou, T., Tsitiridou-Evangelou, M., Gregoriadis, A., & Grammatikopoulos, V. (2024). Examining family-preschool partnership: A literature review of the existing measures and their psychometric properties. *Journal of Early Childhood Education Research*, 13(2), 286–308. <https://doi.org/10.58955/jecer.131474>
- Matjokana, T. (2024). Barriers to collaboration in implementing early childhood care and education policies in Gauteng Province, South Africa. *Perspectives in Education*, 42(4), 201–215. <https://doi.org/10.38140/pie.v42i4.7636>
- Meitei, A. P., Singh, K. K., & Singh, N. I. (2024). Practical pedagogical approaches: Integrating play-based and experiential learning at pre-primary education as per NEP 2020 and NCF-FS 2022. *Edumania—An International Multidisciplinary Journal*, 2(4), 174–193. <https://doi.org/10.59231/edumania/9082>
- Mutalib, M. A., Kamaruzzaman, N. A.-F., Abdulah, N. A., & Hazram, N. A. (2024). Polisi dan dasar pengasuhan dan pendidikan awal kanak-kanak; perbandingan pengalaman antarabangsa: Policies and early childhood care and education: A comparison of international experiences. *International Journal of Law, Government and Communication*, 9(38), 458–469. <https://doi.org/10.35631/IJLGC.938030>
- Oliveira, M. F., Pereira, J. C., & da Silva, A. L. (2024). Assessing the role of parental involvement policies in improving early childhood education outcomes in Indonesia. *International Journal of Educational Evaluation and Policy Analysis*, 1(2), 1–6. <https://doi.org/10.62951/ijeepa.v1i2.71>
- Olusanya, B. O., Hadders-Algra, M., Breinbauer, C., Williams, A. N., Newton, C. R. J., & Davis, A. C. (2021). The conundrum of a global tool for early childhood development to monitor SDG indicator 4.2.1. *The Lancet Global Health*, 9(5), e586–e587. [https://doi.org/10.1016/S2214-109X\(21\)00030-9](https://doi.org/10.1016/S2214-109X(21)00030-9)
- Özdoğan, A. A. (2018). Program development, assessment, and evaluation in early childhood care and education. In V. C. X. Wang (Ed.), *Handbook of research on program development and assessment methodologies in K–20 education* (pp. 109–127). IGI Global. <https://doi.org/10.4018/978-1-5225-3132-6.ch006>
- Pearson, E. C. (2015). Moving forward with early childhood care and education (ECCE) post-2015 in the Asia Pacific region: An analysis of global and national policy goals. *International Journal of Child Care and Education Policy*, 9, Article 13. <https://doi.org/10.1186/s40723-015-0016-9>

- Pewa, N. P., & Mzimela, J. (2024). Early childhood development educators' perceptions of learners' readiness for Grade R. *South African Journal of Childhood Education*, 14(1), Article a1234. <https://doi.org/10.4102/sajce.v14i1.1234>
- Ponguta, L. A., Rasheed, M. A., Reyes, C. R., & Yousafzai, A. K. (2018). A conceptual model for youth-led programs as a promising approach to early childhood care and education. *New Directions for Child and Adolescent Development*, 2018(159), 71–89. <https://doi.org/10.1002/cad.20233>
- Rad, D., Redeuş, A., Roman, A. F., Ignat, S., Lile, R., Demeter, E., Egerău, A., Dughi, T., Balaş, E., Maier, R., Kiss, C., Torkos, H., & Rad, G. (2022). Pathways to inclusive and equitable quality early childhood education for achieving SDG4 goal—A scoping review. *Frontiers in Psychology*, 13, Article 955833. <https://doi.org/10.3389/fpsyg.2022.955833>
- Rafiq-uz-Zaman, M. (2024). Evaluation of challenges faced by the early childhood care and education due to the shortage of teachers in Punjab, Pakistan. *Journal of Childhood Literacy and Societal Issues*, 3(2), 58–74. <https://doi.org/10.71085/joclsi.03.02.50>
- Rahaman, S. M., Mondal, N., & Chattopadhyay, K. N. (2024). A comprehensive overview of early childhood care and education: Policies and schemes. *Research Review International Journal of Multidisciplinary*, 9(2), 1–9. <https://doi.org/10.31305/rrijm.2024.v09.n02.001>
- Raikes, A., Rao, N., Yoshikawa, H., Cohrssen, C., Behrman, J. R., Cappa, C., Devercelli, A. E., Lopez Boo, F., McCoy, D. C., & Richter, L. (2023). Global tracking of access and quality in early childhood care and education. *International Journal of Child Care and Education Policy*, 17, Article 14. <https://doi.org/10.1186/s40723-023-00116-5>
- Revina, S., Pramana, R. P., Björk, C., & Suryadarma, D. (2023). Replacing the old with the new: Long-term issues of teacher professional development reforms in Indonesia. *Asian Education and Development Studies*, 12(4/5), 262–274. <https://doi.org/10.1108/AEDS-12-2022-0148>
- Richter, L. M., Behrman, J. R., Britto, P., Cappa, C., Cohrssen, C., Cuartas, J., Daelmans, B., Devercelli, A. E., Fink, G., Fredman, S., Heymann, J., Lopez Boo, F., Lu, C., Lule, E., McCoy, D. C., Naicker, S. N., Rao, N., Raikes, A., Stein, A., . . . Yoshikawa, H. (2021). Measuring and forecasting progress in education: What about early childhood? *npj Science of Learning*, 6, Article 27. <https://doi.org/10.1038/s41539-021-00106-7>
- Siddique, S., & Aurangzeb, W. (2024). Need and provision of early childhood education (ECCE) in the national educational policies of Pakistan. *Journal of Early Childhood Care and Education*, 8(2). <https://doi.org/10.30971/jecce.v8i2.2526>
- Sindhu, K., & Gupta, N. (2025). An analysis of the factors affecting access to the early childhood education and care: A systematic literature review and bibliometric analysis. *Early Years*, 45(5), 721–735. <https://doi.org/10.1080/09575146.2024.2417229>
- Störbeck, C. (2024). Early childhood development is not enough: In defense of children with developmental delays and disabilities and their right to family-centered early childhood intervention (in the Global South). *Children*, 11(5), Article 606. <https://doi.org/10.3390/children11050606>

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- Tan, P. Z., Aralis, H., Ijadi-Maghsoodi, R., Wang, E., Kataoka, S. H., Miller, K., Sinclair, M., Gorospe, C. M., Delja, J. R., Barrera, W., Lee, S.-J., Mogil, C., Milburn, N. G., & Paley, B. (2024). Advancing equitable access to high quality early childhood education through a trauma- and resilience-informed community schools approach. *Early Childhood Research Quarterly*, 69, 111–121. <https://doi.org/10.1016/j.ecresq.2024.06.004>
- Watson, D., Kehoe, S. H., Erzse, A., Compaoré, A., Debpuur, C., Nonterah, E. A., Sorgho, H., Norris, S. A., Hofman, K. J., Lawrence, W., Newell, M.-L., Godfrey, K. M., Ward, K. A., & Barker, M. (2021). Community perspectives on maternal and child health during nutrition and economic transition in sub-Saharan Africa. *Public Health Nutrition*, 24(12), 3710–3718. <https://doi.org/10.1017/S1368980020003018>
- Wildmon, M. E., Anthony, K. V., & Kamau, Z. J. (2024). Identifying and navigating the barriers of parental involvement in early childhood education. *Current Issues in Education*, 25(1). <https://doi.org/10.14507/cie.vol25iss1.2146>
- Yousafzai, A. K., Siyal, S., Franchett, E. E., Dai, Q., Rehmani, K., Sudfeld, C. R., Bhamani, S., Hakro, S., Reyes, C. R., Fink, G., & Ponguta, L. A. (2025). Effect of a youth-led early childhood care and education programme on children’s development and learning in rural Sindh, Pakistan (LEAPS): A stepped-wedge cluster-randomised implementation trial. *The Lancet Child & Adolescent Health*, 9(1), 25–36. [https://doi.org/10.1016/S2352-4642\(24\)00304-3](https://doi.org/10.1016/S2352-4642(24)00304-3)