

The Role Of Stimulation Model, Parenting, Social Support, And Local Culture In Toddler Development

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Abstract

The World Health Organization (WHO) estimates that 52.9 million children around the age of five suffer from some form of developmental disability. Out of these youngsters, 54% are males, and 95% of them come from homes with low- and middle-income. The prevalence of developmental anomalies in children under the age of 5 in Indonesia was 7,512.6 per 100,000 population in 2016, as reported by the World Health Organization (WHO). This figure is equivalent to 7.51%. The available evidence on the incidence rate of general developmental delay is ambiguous. However, it is estimated that around 1-3% of children under the age of 5 experience a general developmental delay. (IDAI, 2013). The 2021 Early Child Care Development report by UNICEF indicates that a substantial 88% of children in Indonesia are experiencing developmental delays. Among those cases, 32 percent encountered malnutrition and stunting. This investigation is anticipated to employ quantitative methods to achieve a comprehensive understanding of the research questions through a cross-sectional design in the Taman District of Sidoarjo East Java, Indonesia. The population consists of 919 parents who have infants aged three to five. The method of data collection employed was simple random sampling among a total of 271 respondents. Data obtained from Dimensions and Parenting Styles A questionnaire designed to assess the parenting approach and a Social Support Questionnaire used to evaluate social support from different sources. The Self-reported Utilization of Healthcare Services score is used as a metric to assess an individual's health-seeking behavior. Cultural value a scale for the examination of Traditionalism-Modernity, Collectivism, and Religious Commitment. Evaluate the model fit using the GFI value of 0.96. In order to generate it, the model must contain good pathway models.

Keywords: Stimulation Model, Parenting, Social Support, Local Culture, Toddler Growth

1. Introduction

During this sensitive stage, children undergo a critical phase of self-regulation skill development as they begin to test parental limits and resist control. Maternal behaviors and the quality of the mother-child relationship play a central role, as children are particularly receptive to maternal influences at this developmental juncture. The transition from passive caregiver-directed regulation to more active and purposeful self-regulation highlights the importance of examining distress regulation and the emergence of self-control during toddlerhood. Furthermore, this period is characterized by the development of fine motor skills, emphasizing the significance of this time for physical growth and the acquisition of competence. The development of self-restraint, essential for inhibiting behaviour in response to prohibitions and social expectations, is a key process that unfolds during the toddler years. Additionally, toddlerhood is associated with changes in maternal sensitivity, which can have

far-reaching implications for the child's attachment formation and the development of emotional regulation abilities. Parental supportiveness and responsiveness during this period are crucial for the development of emotion regulation, as behaviors may be more malleable and amenable to change compared to later in childhood. The interplay between sensitive parenting during toddlerhood and children's physiological responses, such as respiratory sinus arrhythmia, can serve as a predictor of children's executive functions and self-regulatory capacities in the future. Moreover, the legacy of early childhood experiences, including exposure to violence during the toddler years, can have long-lasting detrimental effects on behaviors such as intimate partner violence in adulthood.

Research indicates that maternal engagement and stimulation are vital inputs for children's healthy development. Engaging fathers has also been shown to have transformative benefits on child outcomes, caregiver well-being, and family functioning. Furthermore, the Nurturing Care Framework, which includes caregiver stimulation and early learning, is recommended for sustainable interventions to support child development.

In addition to parental involvement, the stimulation model plays a significant role in child development. Early child stimulation and care, reflected in responsive caregiving and learning opportunities, have been linked to promoting child development. Providing a caring, responsive, and protective environment is essential for children to reach their full potential. Stimulating home environments, characterized by cognitive stimulation, opportunities for play and exploration, and warm, responsive interactions, have been identified as key factors influencing children's cognitive and socioemotional development.

According to the World Health Organization (WHO), there are 52.9 million five-year-olds worldwide who have developmental abnormalities. Among these children, 54% are males, and 95% of them come from families with low- and middle-income. According to the World Health Organization (WHO) in 2016, the prevalence of developmental anomalies in children under the age of 5 in Indonesia was 7,512.6 per 100,000 population, which is equivalent to 7.51%. The data regarding the incidence rate of general developmental delay is inconclusive, nevertheless, it is estimated that approximately 1-3% of children below the age of 5 experience a general developmental delay. (IDAI, 2013). As per the 2021 Early Child Care Development report by UNICEF, a significant 88% of children in Indonesia experience developmental delays. Out of those cases, 32 percent experienced malnutrition and stunting.

Child developmental delays can be caused by factors such as nutritional issues, unhealthy behaviors, lack of developmental stimulation, and insufficient access to healthcare facilities and support systems, including policies and community support (UNICEF, 2021). In August 2023, a preliminary study was conducted on 72 children between the ages of 1 and 6. The study revealed that 68 of these children experienced delayed development. Specifically, 15 children had delays in language development, 27 had delays in fine-motor development, 11 had delays in gross motor development, and 14 had delays in social-emotional development. According to socio-economic data, 76% of parents with children with developmental delays have low economic rates, while 24% have moderate economic rates. 82.5 percent of them reside in highly populated and hygienic communities, whereas a portion of them have a family that engages in smoking. The parents' parenting style consisted of 73% negative behavior and 17% good behavior. When it comes to healthy lifestyles, the majority of people lead unhealthy lives by engaging in activities such as smoking, insufficient exercise, inadequate consumption of fruits and vegetables, and neglecting cleanliness practices. In terms of public support, a study revealed that 81% of the population lacked comprehension of the child's developmental cycle and how to effectively promote it. Consequently, parents and caregivers failed to engage in developmental stimulation activities.

Parenting practices, including the level of cognitive stimulation provided at home, have been associated with children's pre-academic skills and cognitive development. Different parenting styles, such as controlling parenting, can have differential impacts on child outcomes, highlighting the importance of positive and supportive parenting approaches that foster autonomy and self-regulation. Furthermore, the childbirth experience and early mother-infant bonding can influence the subsequent growth and development of the child. Social support is another critical factor in child development. Community health worker interventions, when combined with conditional cash transfers, have shown positive effects on child growth and development in rural areas. Successful community health worker programs have been attributed to factors such as thorough training, effective supervision, and the strategic use of technology as job aids. Moreover, interventions that focus on providing psychosocial stimulation have been effective in improving child outcomes, particularly in cases of severe acute malnutrition.

Local culture also plays a significant role in child development. Research on black family resilience has highlighted culturally specific parental protections, extended caregiving networks, and racial-ethnic identity development as sources of resilience that can enrich parent-child relationships. Understanding and incorporating cultural practices and beliefs into interventions can enhance their effectiveness and relevance within diverse communities, ultimately supporting positive child development outcomes.

The stimulation model in the context of child development refers to a comprehensive framework that emphasizes the crucial role of providing enriching and stimulating experiences to children to promote their overall growth and well-being. This model underscores the significance of engaging children in a variety of activities that support their cognitive, socioemotional, and physical development.

At the core of the stimulation model is the recognition that children thrive in environments that foster responsive caregiving, learning opportunities, and a nurturing atmosphere. Stimulating parenting practices, such as engaging children in cognitively stimulating activities at home, have been consistently linked to positive outcomes in children's pre-academic skills and cognitive development. The model highlights the importance of parental involvement, as caregivers who actively participate in their children's lives and provide a stimulating home environment can significantly contribute to children's developmental trajectories.

Furthermore, the Stimulation Model aligns with the broader Nurturing Care Framework, which emphasizes caregiver stimulation and early learning as essential components for supporting holistic child development. This framework underscores the need for interventions that address various aspects of a child's well-being, including health, nutrition, caregiver stimulation, and early learning opportunities. By incorporating the principles of the Stimulation Model into interventions and parenting practices, caregivers can create an environment that nurtures children's cognitive abilities, social skills, and emotional well-being, ultimately leading to positive developmental outcomes.

Moreover, the quality of the home environment has been shown to have a profound impact on child development. Interventions focused on improving the home environment, such as enhancing maternal education, maternal mental health and well-being, and addressing child nutrition status, have been linked to reducing developmental deficits associated with poverty and disadvantage. Providing a stimulating and nurturing home environment, characterized by opportunities for learning, play, and enriching social interactions, can significantly support children's cognitive, emotional, and social development. These home-based experiences and resources contribute to the development of foundational skills, emotional regulation, and social competence. Additionally, social and community-level factors within a child's broader environment can also influence their developmental trajectories. Factors such as access to social support networks, community resources, and culturally relevant practices can shape children's experiences and opportunities for growth. For

example, caregiver perceptions of child development in rural communities have been found to impact children's developmental outcomes, highlighting the importance of understanding cultural contexts.

Cultural values, norms, and practices can shape the way caregivers interact with and raise their children, resulting in distinct parenting approaches that have varying impacts on child and adolescent development. Understanding the cultural context is crucial when examining the relationship between parenting and child well-being, as certain parenting styles may be more or less effective depending on the cultural environment. (Lo et al. 2023) delved deeper into the role of cultural values, finding that they can influence the link between parenting styles and youth outcomes across ethnicities. Specifically, their research indicated that authoritative parenting, characterized by high demandingness and high responsiveness, predicted lower rates of internalizing and externalizing problems among youth in families where parents endorsed low adherence to specific cultural values. This underscores the importance of considering cultural context when examining the relationship between parenting and child/adolescent well-being. Similarly, (Scholar et al. 2024; Slobodin et al. 2024) explored the experiences of Indonesian adolescents, highlighting the crucial role of clear family education goals and the instillation of strong values since childhood in shaping positive youth identity development. This emphasizes how cultural norms and practices can profoundly influence the parenting processes that contribute to healthy adolescent development. Furthermore, the literature has examined the significance of social support in the parenting context. Wallander, Stier, and Wahlstr (2024) found that informal social support from family members was a key predictor for reduced parental stress among mothers, reflecting the value placed on family support in mitigating stress within certain cultural contexts. Lo et al. (2023) work also highlighted the protective role of informal social support and early childhood programs in reducing the likelihood of child maltreatment, underscoring the importance of social networks in safeguarding children's well-being. Galasso et al. discussed the effectiveness of programs promoting nurturing and responsive caregiving, such as those involving community health workers conducting home visits to support optimal early childhood development. This indicates the positive impact that social support can have on child outcomes, particularly when aligned with culturally relevant approaches.

This research aims to understand how stimulation models, parenting styles, social support, health-seeking behaviors, and local culture shape toddler growth and development to promote healthy growth in diverse contexts

2. Materials and methods

2.1 *Materials*

This study is expected to utilize quantitative to obtain a thorough comprehension of the research inquiries with Cross-Sectional design in Taman District Sidoarjo East java Indonesia. The Population is all parents who have toddlers 3- 5 years old among 919 parents. sampling used simple random among 271 respondent

2.2 *Data collection procedures*

Data collected by Parenting Styles and Dimensions Questionnaire to measure the parenting model, Social Support Questionnaire to examine social support from various sources, Self-reported Utilization of Healthcare Services score to measure health-seeking behavior, Culture value Scale to examine Traditionalism-Modernity Scales, Collectivism Scales, Religious Commitment Scale

2.3 Data analysis

Data analysis is used by SEM AMOS to examine complex relationships between multiple variables, including latent variables (those not directly measured). This aligns perfectly with the study's goal of understanding how cultural factors, parenting styles, social support, health-seeking behaviors, and child development outcomes are Fit Indices

3. Results and discussion

Table 3.1

		Parents Type			Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	Permisif (18- 98)	9	3.3	3.3	3.3
	Authoritarian (99-125)	178	65.7	65.7	69.0
	Authoritative (>=125)	84	31.0	31.0	100.0
	Total	271	100.0	100.0	

Based on table 3.1, most respondents have an authoritarian parenting Authoritarian type (65.7%), Authoritative 31%, Permisif 3.3%. Authoritarian parenting is characterized by **high demands and low responsiveness**. (What Is Authoritarian Parenting?, 2011) Imagine it as a strict, rule-bound approach where parents prioritize obedience and control above all else. Authoritarian parents establish rigid rules and have high expectations for their children's behavior, often without much explanation or room for negotiation. (The authoritarian parenting style: What does it look like?, 2018), and so also Obedience to authority is paramount. Children are expected to comply without question or challenge. (Authoritarian parenting style, 2017)

Tabel 3.2

		Stimulation Type			Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	Maternal (34-204)	31	11.4	11.4	11.4
	Paternal (205-253)	196	72.3	72.3	83.8
	Partnership (≥254)	44	16.2	16.2	100.0
	Total	271	100.0	100.0	

Based on table 3.2, most respondents have a paternal development stimulation model 72.3 %, Partnership 16.2%, Maternal 11.4%. Paternal stimulation encompasses the **active and engaging interactions** fathers have with their children that **directly contribute to their development across various domains**. It's not just about being present but it's about the *quality* of a father's presence and the enriching experiences he provides. The interactions fostered through paternal stimulation are geared towards promoting a child's growth across multiple domains: **Cognitive:** Language, problem-solving, and intellectual curiosity, **Social:** Communication, empathy, and relationship building, **Emotional:** Emotional regulation, self-esteem, and secure attachment so also **Physical includes of** Motor skills, coordination, and physical development

Table 3.3

		Social Support Type			Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	Appraisal (56-111)	160	59.0	59.0	59.0
	information assistance, (112-167)	54	19.9	19.9	79.0
	emotional support (168-224)	21	7.7	7.7	86.7
	instrumental support (≥280)	36	13.3	13.3	100.0
	Total	271	100.0	100.0	

Social support, encompassing the emotional, instrumental, and informational assistance received from others, plays a crucial role in shaping a child's overall well-being and developmental trajectory. It's not just about the *number* of relationships but the *quality* of those connections that truly matters.

Based on table 3.3, most respondents have a social support model in the form of appraisal. 59 %. Appraisal support is a powerful tool for promoting emotional well-being, boosting self-esteem, and fostering resilience. By providing validation, encouragement, and a belief in someone's potential, we can make a profound difference in their lives. It involves expressing understanding and acceptance of a person's feelings, thoughts, and experiences, can help individuals reframe challenges, focus on their strengths, and see situations in a more positive light

Tabeel 3.4

		Culture Type			Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	Tradisi (23-33)	35	12.9	12.9	12.9
	Problem Solving (34-66)	44	16.2	16.2	29.2
	Nurturing (67-151)	59	21.8	21.8	50.9
	Geographical, Political, and Historical Contex (152- 227)	16	5.9	5.9	56.8
	Cooperation (228-303)	33	12.2	12.2	69.0

Participatory Learning (304- 379)	62	22.9	22.9	91.9
Spiritual and Physical Environment Management (≥379)	22	8.1	8.1	100.0
Total	271	100.0	100.0	

Based on table 3.4, most respondents have a Participatory Learning cultural norm model. 22.9 %. Participatory learning in a cultural context recognizes that knowledge is not static but dynamically created through active engagement, collaboration, and a deep connection to one's cultural heritage. It's a powerful approach for fostering meaningful learning experiences that empower individuals and communities to thrive.

Tabel 3.4

Health Seeking Type

Frequency	Percent	Valid Percent	Cumulative Percent
Health Information- (36-72)	197	72.7	72.7
Health Risk Factors (73- 108)	69	25.5	98.2
Healthcare Utilization (109-180)	5	1.8	100.0
Total	271	100.0	

Based on table 3.4, most respondents have a health seeking behavior model of Health Information of 72.7%. Health information encompasses a vast and ever-evolving landscape of data, knowledge, and resources related to our well-being, it's about empowering individuals to make informed decisions about their health. This includes sensitive data like medical history, diagnoses, treatments, test results, and insurance information, vital signs, lab reports, imaging studies, and treatment plans, community health trends, disease outbreaks, prevention strategies, and health promotion initiatives.

Parent Education

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Elementary	34	12.5	12.5	12.5
YHS	53	19.6	19.6	32.1
SHS	145	53.5	53.5	85.6
Bachelor/Post Graduate	39	14.4	14.4	100.0
Total	271	100.0	100.0	

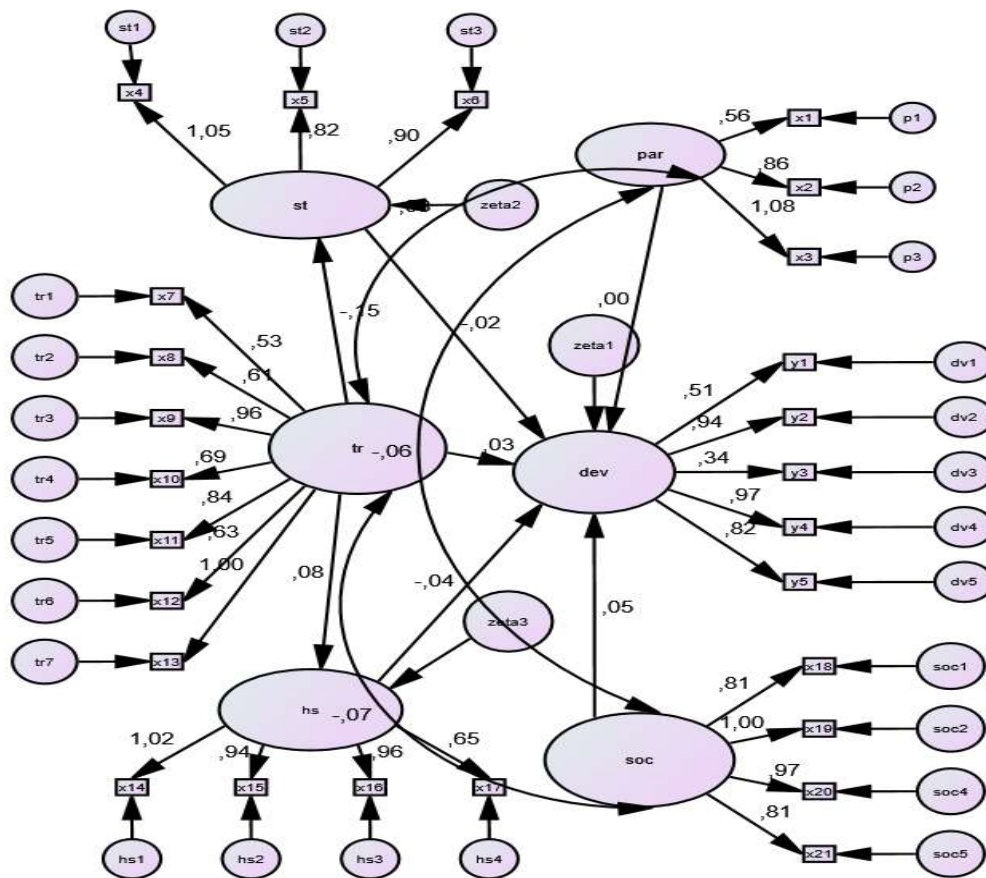
Based on education level of respondent most of have an education level in senior high school level amounting 53.5% . This would focus on access to education and its effects on factors like literacy rates, economic opportunities, and crime reduction

3.2 *Results and Discussion*

1. Fit Indices (Indeks Kesesuaian Model)

Indicator	Value Indicator	Value
Fit Indices		
Chi-Square (χ^2)	$p > 0.05$	0.2320
RMSEA	≤ 0.06	0.001
TLI	≥ 0.95	0.97
SRMR	≤ 0.08	0.07

GFI	≥ 0.90	0.96
NFI	≥ 0.90	0.93
Loading Factor	> 0.50	0.55
CR	≥ 0.70	0.73
AVE	≥ 0.50	0.53



Parenting practices, including the level of cognitive stimulation provided at home, have been extensively studied for their association with children's developmental outcomes. Research has consistently demonstrated that the quality and quantity of cognitive stimulation in the home environment are strongly linked to children's pre-academic skills, such as early literacy, numeracy, and problem-solving abilities, as well as their overall cognitive development. This underscores the importance of creating enriching home learning environments that offer age-appropriate toys, books, educational materials, and opportunities for exploration and discovery. (Ali et al. 2023;

Hwang and Jung 2021; Sadeghi, Ayoubi, and Brand 2022; Wang et al. 2024) Additionally, the specific parenting styles employed by caregivers can have differential impacts on child outcomes. For instance, controlling or authoritarian parenting, characterized by strict rules, harsh discipline, and limited opportunities for autonomy, has been associated with poorer self-regulation, emotional competence, and academic achievement in children. In contrast, positive and supportive parenting approaches that foster autonomy, encourage self-expression, and provide nurturing guidance have been linked to more adaptive social-emotional development and the cultivation of self-regulation skills. (Alicia 2018; Alsancak-Akbulut and Kömürcü-Akik 2024; Fernald et al. 2016; Li 2023; Lohndorf et al. 2021; Srivastav and Lal Mathur 2021; Wang et al. 2024)

Furthermore, the childbirth experience and the early mother-infant bonding process can have profound and lasting effects on the child's subsequent growth and development. Factors such as the emotional and physical well-being of the mother during pregnancy, the nature of the birthing experience, and the quality of the initial attachment between the mother and child can all contribute to shaping the child's physiological, cognitive, and socioemotional trajectories. Interventions that support positive maternal-child bonding and promote responsive caregiving during this critical period have been shown to have long-term benefits for the child's overall development and well-being. (Norton et al. 2021; Russell et al. 2022)

A family's health-seeking behaviour, which encompasses how they access, utilize, and respond to health information and services, plays a crucial role in shaping a child's overall growth and development. It is not merely about treating illnesses when they arise; rather, it reflects a fundamental aspect of parenting that significantly impacts a child's physical, cognitive, and socioemotional well-being. (Kurniawan 2022; Uwizeye, Mwali, and Radeny 2022; Yeheyis et al. 2023).

By prioritizing preventive care, such as regular check-ups and timely interventions, as well as modelling healthy habits and lifestyle choices, parents can lay a strong foundation for their children's lifelong health and well-being. The proposed study will delve deeper into understanding how health-seeking behaviours, which are often shaped by cultural norms, beliefs, and access to healthcare resources, influence the multifaceted developmental outcomes of toddlers. (Bliznashka and Jeong 2022; Krause 2024; Patra and Bandyopadhyay 2020) This nuanced examination will be crucial for designing culturally relevant interventions and programs that support optimal growth and development for children in diverse community contexts. While it is true that a family's health-seeking behaviour, which encompasses how they access, utilize, and respond to health information and services, plays a crucial role in shaping a child's overall growth and development, the importance of this factor may be overstated. It is not the only determinant, and the impact of health-seeking behaviours on a child's physical, cognitive, and socioemotional well-being can be mediated by other factors, such as genetics, environmental influences, and broader socioeconomic conditions. Moreover, the effectiveness of prioritizing preventive care, such as regular check-ups and timely interventions, as well as modelling healthy habits and lifestyle choices, in laying a strong foundation for children's lifelong health and well-being is not conclusively established. Research has shown that the impact of these interventions can be limited, and a one-size-fits-all approach may not be appropriate, as cultural norms, beliefs, and access to healthcare resources can significantly influence the effectiveness of such strategies. (Abessa et al. 2019; Kim et al. 2021; Sudfeld et al. 2021; Tang et al. 2023; Tessema et al. 2019; Worku et al. 2018)

While the proposed study aims to delve deeper into understanding how health-seeking behaviors influence the multifaceted developmental outcomes of toddlers, it is essential to consider the complex interplay of various factors, including local cultural beliefs, values, and practices, in shaping child development. A more nuanced examination of the relative importance and interactions of these elements is necessary to design culturally-

relevant interventions and programs that truly support optimal growth and development for children in diverse community contexts.

Social support is another critical factor in child development. Community health worker interventions, when combined with conditional cash transfers, have shown positive effects on child growth and development in rural areas. Successful community health worker programs have been attributed to factors such as thorough training, effective supervision, and the strategic use of technology as job aids. These community-based approaches leverage the expertise and close connections of local health workers to provide targeted support and resources to families, addressing the unique needs and challenges faced by communities. Moreover, interventions that focus on providing psychosocial stimulation have been effective in improving child outcomes, particularly in cases of severe acute malnutrition. By addressing both the physical and emotional needs of children, these holistic approaches have demonstrated the ability to enhance overall child development, even in the most vulnerable populations. The integration of community-level support, financial assistance, and comprehensive care has proven to be a powerful combination in promoting healthy growth and well-being for young children. (Marziali et al. 2024; Saitadze and Dvalishvili 2024; Scherrer et al. 2024)

While social support is undoubtedly an important factor in child development, the long-term effectiveness of community health worker interventions combined with conditional cash transfers has been debated. Some studies have raised concerns about the sustainability and scalability of such programs, particularly in resource-constrained settings. Challenges such as high attrition rates among community health workers, lack of consistent supervision, and difficulties in maintaining the quality of services provided have been reported. Furthermore, the availability of financial assistance alone may not be sufficient to address the deeper systemic issues that contribute to poor child outcomes, such as limited access to quality healthcare, education, and other essential services. Critics argue that a more holistic, multi-sectoral approach that addresses the broader social determinants of health and development may be necessary to achieve lasting improvements in child well-being, especially for the most vulnerable populations. The integration of community support, financial assistance, and comprehensive care, while promising, requires careful planning, robust monitoring, and sustained commitment to ensure its long-term effectiveness and impact. (Fetene et al. 2024; Lo et al. 2023; Miller et al. 2024; Nyqvist, Jayachandran, and Zipfel 2024)

Local culture also plays a significant role in child development. Research on black family resilience has highlighted culturally specific parental protections, extended caregiving networks, and racial-ethnic identity development as sources of resilience that can enrich parent-child relationships. Understanding and incorporating cultural practices and beliefs into interventions can enhance their effectiveness and relevance within diverse communities, ultimately supporting positive child development outcomes. Local culture also plays a pivotal role in shaping child development. Research on Black family resilience has highlighted culturally specific parental protective factors, extended caregiving networks, and the development of racial-ethnic identity as sources of resilience that can profoundly enrich parent-child relationships. (Alicia 2018; Lin and Hangeldiyeva 2024; Susanto et al. 2020) These cultural practices and beliefs, rooted in the lived experiences of diverse communities, provide a strong foundation for children's socioemotional growth and well-being. Understanding and intentionally incorporating these culturally relevant elements into interventions and support systems can significantly enhance the effectiveness and relevance of such efforts within diverse communities. By acknowledging and validating the unique cultural strengths and practices of different populations, interventions

can foster a more inclusive and empowering environment that ultimately supports positive developmental outcomes for all children.(Hasanah et al. 2019; Kohl et al. 2022; Russell et al. 2022)

4. Conclusion

In conclusion, the proposed research on the influence of stimulation models, parenting styles, social support, health-seeking behaviors, and local culture on toddler growth and development has the potential to provide valuable insights. By examining the complex interplay of these factors, the study aims to identify culturally-relevant strategies and programs that can effectively support optimal development for toddlers in diverse community contexts. While health-seeking behaviors play a role, it is essential to consider the broader sociocultural landscape and the relative importance of various determinants of child development

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Conflict of interest

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