

Functional developmental profile of children aged 3 to 5 years in the Javier Loyola parish, Cañar, Ecuador

Perfil funcional del desarrollo en niños de 3 a 5 años de la parroquia Javier Loyola, Cañar, Ecuador

Liana Sánchez^{1,*}   • Mónica Bustamante²  • Giovanna Rosado³  • Vilma González¹ 

¹Universidad Nacional de Educación, Azogues, Cañar, Ecuador.

²Facultad Latinoamericana de Ciencias Sociales Sede Ecuador, Quito, Ecuador.

³Investigadora independiente, Ecuador.

*Corresponding author

Reception: 21-04-2026

Acceptance: 30-06-2026

Publication: 31-07-2026

ABSTRACT

Integral child development during early childhood lays the foundation for learning, adaptation, and well-being across the life span, making its characterization in rural populations a priority. This study aimed to analyze the functional profile of child development in children aged 3 to 5 in the Javier Loyola parish, Azogues canton (Cañar, Ecuador). A quantitative, applied, descriptive, cross-sectional study was conducted with 32 children selected through non-probabilistic convenience sampling; development was assessed using the CDC Learn the Signs. Act Early. Developmental Checklist, completed by parents or caregivers, and data were analyzed as frequencies and percentages in SPSS. Results showed that autonomy is the most consolidated dimension, while gross and fine motor skills still require stimulation of balance and visuomotor coordination; grammatical difficulties persist in language, and temporal concepts remain a challenge in cognition. The socioemotional area showed the lowest performance, with needs in sustaining conversations and accepting rules. It is concluded that the developmental profile of this rural population is heterogeneous and that these difficulties, possibly linked to the isolation experienced during the COVID-19 pandemic, point to the need for contextualized early stimulation programs and systematic monitoring of child development.

Keywords: child development, diagnosis, assessment, children.

RESUMEN

El desarrollo infantil integral en la primera infancia sienta las bases del aprendizaje, la adaptación y el bienestar a lo largo de la vida, por lo que caracterizarlo en poblaciones rurales resulta prioritario. Este estudio tuvo como objetivo analizar el perfil funcional del desarrollo infantil en niños de 3 a 5 años de la parroquia Javier Loyola (Cañar, Ecuador). Se realizó una investigación cuantitativa, aplicada, descriptiva y transversal, con 32 niños seleccionados por muestreo no probabilístico; el desarrollo se evaluó mediante la Lista de Verificación del Desarrollo del programa Learn the Signs. Act Early. del CDC, y los datos se analizaron con frecuencias y porcentajes en SPSS. Los resultados mostraron que la autonomía es la dimensión mejor consolidada, mientras que la motricidad gruesa y fina requieren estimulación del equilibrio y la coordinación visomotriz; en el lenguaje persisten dificultades gramaticales, y en la cognición, en las nociones temporales. El área socioemocional presentó el desempeño más bajo, con necesidades en conversación y aceptación de normas. Se concluye que el perfil de desarrollo de esta población rural es heterogéneo y que estas dificultades, vinculadas al aislamiento por la pandemia de COVID-19, requieren programas de estimulación temprana contextualizados y seguimiento sistemático del desarrollo infantil.

Palabras clave: desarrollo infantil, diagnóstico, evaluación, niños.

Cite as: Sánchez, L., Bustamante, M., Rosado, G., & González, V. (2026). Functional developmental profile of children aged 3 to 5 years in the Javier Loyola parish, Cañar, Ecuador. *Revista Gregoriana de Ciencias de la Salud*, 3(2), 95-110. <https://doi.org/10.36097/rgcs.v3i2.3239>

© Author(s) 2026

INTRODUCTION

From conception onward, child development unfolds as a dynamic, multidimensional process in which biological inheritance intertwines with the experiences each child lives through in the family, school, and sociocultural environment. It is during early childhood that the physical, cognitive, linguistic, socioemotional, and autonomy-related foundations are laid; far from evolving in isolation, these dimensions condition one another and largely determine the opportunities for learning, adaptation, and well-being across the life span (Papalia & Martorell, 2014; Souza & Veríssimo, 2015). This stage, therefore, represents a particularly sensitive window both for promoting experiences that foster healthy development and for detecting, in time, any difficulty that may require intervention.

Whether or not a child reaches the milestones expected for their age does not depend on genetics alone. Castro et al. (2019) document the weight of stimulation quality, parenting practices, nutrition, access to health and education services, and the very socioeconomic and cultural context in which a child grows up. Prenatal, perinatal, and postnatal biological factors can indeed raise the risk of developmental alterations (Alarcón et al., 2020), but, unlike these, environmental conditions are open to intervention: preventive actions and early-care programs can enhance children's capacities and narrow developmental gaps.

Assessing child development is, in this sense, a key strategy: it makes it possible to know the extent to which a child has acquired the milestones expected for their age, to identify specific strengths and needs, and to guide educational and health actions suited to each population. This is not, it should be clarified, about issuing clinical diagnoses; screening and characterization processes serve a different purpose, one closer to detecting possible delays early and providing objective information for designing early stimulation programs and family support (Castro et al., 2019; Fajardo et al., 2018).

In Latin America, social, economic, and educational inequalities continue to leave their mark on early childhood. UNICEF (2019) found that the greatest difficulties tend to concentrate in emergent literacy and numeracy skills, especially in contexts of greater social vulnerability, while other studies in the region consistently associate parental schooling, the availability of

learning resources, the quality of home stimulation, and timely access to educational and health services with early child development (Castro et al., 2019).

In Ecuador, the Ministry of Economic and Social Inclusion has placed integral child development as a priority axis for guaranteeing children's rights from the earliest years (Ministerio de Inclusión Económica y Social [MIES], 2013, 2014). But a country as diverse in territory and culture as Ecuador needs more than national guidelines: it needs local evidence. And a gap remains there, since few studies comprehensively describe the functional profile of child development in specific populations, particularly in rural or semi-urban areas, where social, family, and educational conditions do not always affect the achievement of developmental milestones in the same way.

The COVID-19 pandemic only deepened this need. Restrictions on social interaction, changes in family and educational dynamics, and reduced opportunities for stimulation and socialization during a critical stage of development may have particularly affected socioemotional, communicative, and peer-interaction processes (Armus et al., 2021; UNICEF, 2021). Even the subjective experience of time changed during lockdown, which, according to Chaumon et al. (2022), could be related to subsequent difficulties in temporal concepts and in the sequential organization of experiences during childhood.

The Javier Loyola parish and its nearby communities meet these conditions precisely: a distinct social and educational profile and, until now, no recent diagnosis to guide the actions of the health, education, and social protection systems. Having a functional profile of these children's development allows for better-informed decisions about early stimulation, about how to support families, and about which educational programs truly respond to the community's needs.

Based on these considerations, the present study analyzed the integral child development of 32 boys and girls aged 3 to 5 from the Javier Loyola parish and nearby communities, assessing the dimensions of gross motor skills, fine motor skills, language, cognition, socioemotional development, and autonomy, to identify their main developmental strengths and needs.

METHODOLOGY

This study adopted a quantitative, applied approach: no variables were manipulated and no causal relationships were sought; instead, the integral child development of a specific population

was characterized descriptively, at a single point in time. The study's practical aim, generating useful information for designing stimulation and intervention strategies suited to the population assessed, is what gives it its applied nature (Hernández-Sampieri & Mendoza, 2018).

Participants were boys and girls aged 3 to 5 residing in the Javier Loyola parish and nearby communities, Azogues canton, Cañar province. Sampling was non-probabilistic and by convenience: the study worked with the population accessible through the Innovation Early Childhood Education Center of the Universidad Nacional de Educación (UNAE), yielding a final sample of 32 children whose parents or legal guardians signed informed consent after voluntarily agreeing to participate. To be included, participants had to reside in the area, be between 3 and 5 years old, and have such consent; children with a prior diagnosis of intellectual disability, autism spectrum disorder, or sensory impairments that could interfere with the developmental assessment were excluded.

The study variable, integral child development, was assessed across six dimensions: gross motor skills, fine motor skills, language, cognition, autonomy, and socioemotional development. This was measured using the Developmental Checklist: Birth to Five, originally designed by the Early Childhood Direction Center (ECDC) of Mid-State, United States, in its official Spanish-language version disseminated by the Centers for Disease Control and Prevention through the Learn the Signs. Act Early. program. This initiative seeks to promote systematic developmental surveillance, facilitate the early detection of possible delays, and, when warning signs appear, support timely referral for specialized evaluation (Centers for Disease Control and Prevention [CDC], 2022).

Milestones are organized by specific age groups, from birth to five years, and cover the same six areas mentioned above. Their scientific grounding comes from the evidence and consensus of specialists in developmental pediatrics, child neurology, psychology, early education, and public health who took part in developing the Learn the Signs. Act Early. program, which supports its use as a developmental surveillance tool in community and educational settings (CDC, 2022).

Of the full instrument, only the checklists for the 3-to-4 and 4-to-5 age groups were applied, completed by parents or primary caregivers based on systematic observation of each child's usual

behavior. This tool was chosen because it is internationally recognized, easy for families to understand, available in Spanish, and recommended for supporting the early detection of developmental alterations in children under five (CDC, 2022).

Fieldwork was organized in three stages. First came the institutional approach, in which families were informed of the study's objectives and assured that participation was voluntary and that information would be kept confidential. A sociodemographic form was then applied, and the checklist was administered to each child's representative. Finally, the data were coded in IBM SPSS Statistics, version 25.0, where absolute frequencies and percentages were calculated by indicator and by dimension; this distribution formed the basis for the functional development profile presented below.

The ethical principles required in research with human subjects were upheld throughout. Before any data were collected, parents or legal guardians received clear information about the study's objectives and procedures and signed informed consent. The confidentiality of information, participant anonymity, and the exclusively scientific use of the data were maintained in accordance with the principles of the Declaration of Helsinki.

RESULTS AND DISCUSSION

The study included 32 boys and girls from the Javier Loyola parish and nearby communities: only 5 were aged 3 to 4 (15.6%), compared with 27 aged 4 to 5 (84.4%). This imbalance is not an artifact of the design but a reflection of the population actually available at the UNAE Innovation Early Childhood Education Center at the time of data collection, and it should be kept in mind, since the estimates for the younger group rest on very few cases. Table 1 summarizes the sample's sociodemographic characteristics and perinatal history.

The family structure documented here is worth pausing on, because the data qualify an earlier reading of this population. Of all parents, 68.8% were in a stable union, 43.8% married, and 25.0% in a common-law union, while only 31.3% were single or separated parents. A preliminary version of this analysis had described participating families as predominantly single-parent households; the data themselves do not support that claim.

Table 1. Sociodemographic characteristics and perinatal history of the sample (n = 32)

Variable	Category	n	Percentage
Age group	3–4 years	5	15.6
	4–5 years	27	84.4
Sex	Female	17	53.1
	Male	15	46.9
Place of residence	Javier Loyola	22	68.8
	Other nearby communities	10	31.2
Type of housing	Shared	18	56.3
	Owned	9	28.1
	Rented	5	15.6
Parents' marital status	Married	14	43.8
	Common-law union	8	25.0
	Single	7	21.9
	Separated	3	9.4
Father's educational level	Primary education	10	31.3
	Secondary education	14	43.8
	Technical/vocational	3	9.4
	Higher education	5	15.6
Mother's educational level	Primary education	14	43.8
	Secondary education	10	31.3
	Technical/vocational	2	6.3
	Higher education	6	18.8
Type of delivery	Cesarean section	19	59.4
	Vaginal (including induced)	13	40.6
Medical assistance during delivery	Yes	32	100
Child's previous diagnosis	Yes	1	3.1
	No	31	96.9
Vaccination up to date	Yes	30	93.8
	No	2	6.2
Hospitalization during the first year	Yes	7	21.9
	No	25	78.1

In most households, at least one parent is co-resident, a condition the literature links to greater availability of time and resources for early stimulation (Castro et al., 2019), although this alone does not guarantee better outcomes unless accompanied by sensitive, consistent parenting practices. Regarding schooling, primary education predominated among mothers (43.8%) and secondary education among fathers (43.8%): a moderate profile that matches what Castro et al.

(2019) and UNICEF (2019) report in other rural Latin American populations, where parental schooling, especially the mother's, tends to be associated with children's performance across developmental areas. Another notable finding: 59.4% of births were by cesarean section, versus 40.6% by vaginal delivery, a proportion higher than recommended for the general population and one that Alarcón et al. (2020) flag as a perinatal factor to monitor among mild neurological risks, although this study did not assess its direct relationship with development. Still, the low frequency of prior diagnoses (3.1%) and the near-complete vaccination coverage (93.8%) suggest that the differences observed in the developmental profile have more to do with stimulation and context than with underlying clinical conditions. Table 2 details compliance with the milestones assessed by dimension and age group, and Figure 1 summarizes that same information as an average percentage per dimension, calculated from the indicators that make up each one.

Table 2. Achievement of the main child development milestones by dimension and age group

Dimension	Indicator	3–4 years (%)	4–5 years (%)
Gross motor skills	Maintains balance on one foot	60	85.2
	Jumps appropriately	60	55.6
	Goes up and down stairs without support	100	—
	Kicks a ball	80	—
Fine motor skills	Copies geometric shapes	100	77.8
	Draws the human figure	60	59.3
	Writes or copies letters	20	74.1
	Dresses without help	100	92.6
Language	Speaks in sentences of more than five words	100	81.5
	Properly uses grammar rules or verb tenses	40	51.9
	Tells stories	60	51.9
Cognition	Understands temporal concepts	20	55.6
	Follows complex instructions	20	81.5*
	Recognizes colors	100.0**	88.9
	Counts objects correctly	100.0**	85.2
Autonomy	Performs daily activities without help	100	92.6
Socioemotional	Cooperates and plays with other children	100	59.3***
	Shares toys	100	—
	Accepts rules	100.0****	40.7
	Stays on topic in conversation	20	66.7*****

Percentages correspond to the achievement of each developmental milestone assessed using the CDC's Learn the Signs. Act Early. Developmental Checklist. * Corresponds to the indicator "Follows two-step commands." ** In the 3–4-year group, the indicators assessed were "names colors correctly" and "understands the concept of counting." *** In the 4–5-year group, the equivalent indicator was "prefers to be with friends." **** In the 3–4-year group, the instrument assessed compliance with simple rules during play. ***** Corresponds to the indicator "shows more independence," complemented by social participation.

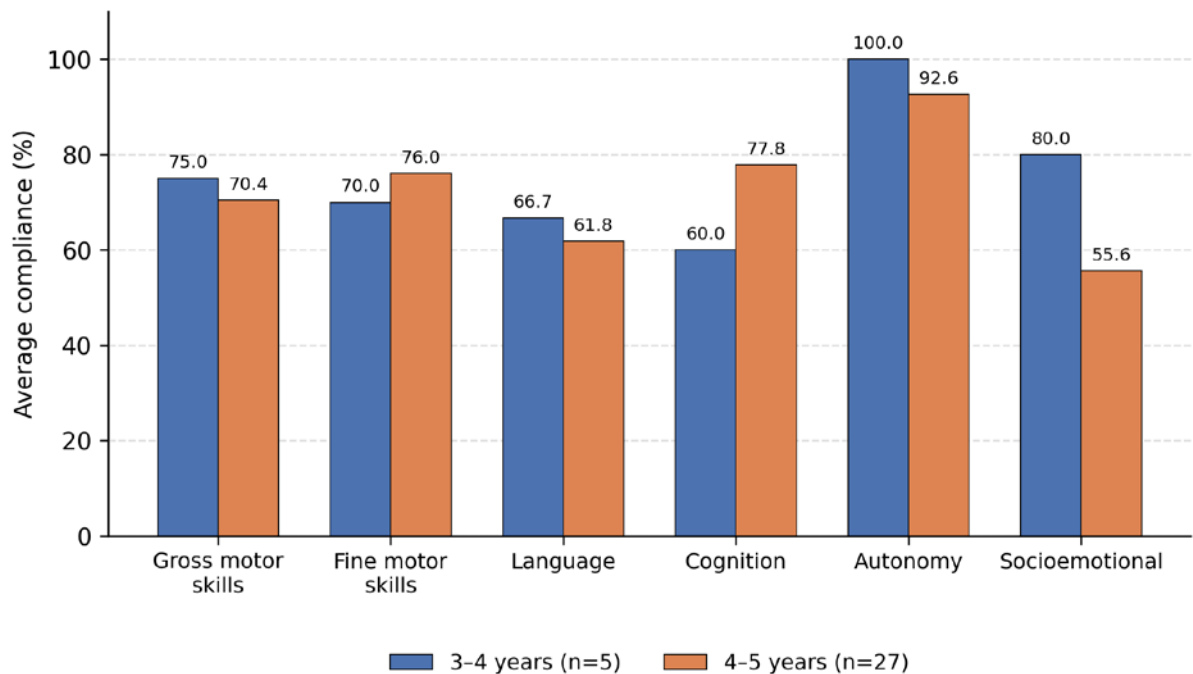


Figure 1. Functional profile of child development by dimension and age group. Values represent the unweighted average percentage of the indicators included in Table 2 for each dimension and age group; indicators with no data available for a given group were excluded from the corresponding calculation.

Of the six dimensions assessed, autonomy achieved the best results in both groups: 100% among children aged 3 to 4 and 92.6% among those aged 4 to 5 (Figure 1). Gonzales (2019) links early achievements such as these, feeding, dressing, and washing oneself, to parenting patterns that foster independence and to the lack of space constraints typical of rural settings. This strength should not, however, be read in isolation: Armas (2010) warns that behavioral autonomy does not equate to emotional self-regulation, a distinction that becomes meaningful further on, when these same children show greater difficulty adjusting to rules and sustaining social interactions.

Something different happens with gross motor skills, where average compliance dropped from 75.0% in the 3-to-4 group to 70.4% in the 4-to-5 group, with balancing on one foot and coordinated jumping as the weakest points (Table 2). According to Viciana and Cano (2017), there is a deeper explanation: unlike walking and locomotion, which mature early with little deliberate stimulation, balance and dynamic coordination require more structured motor practice, which does

not always emerge from free play. That these difficulties not only persist but slightly increase with age suggests that the physical space available in a rural setting is not, by itself, enough to stimulate bodily balance.

Fine motor skills, by contrast, improved from one group to the other (70.0% to 76.0%), though with one exception worth noting: around 40% of children in both groups could not draw a human figure with recognizable body parts (60.0% achievement at 3–4 years; 59.3% at 4–5 years; Table 2). For Bello et al. (2025), this kind of visuomotor integration difficulty, when it persists beyond age 4, should not be treated as a minor finding: it tends to foreshadow later problems copying from the board, handling a pencil or other writing tools, and, eventually, learning to read and write. Body schema and visuomotor coordination thus emerge as a priority focus for stimulation before children enter formal schooling.

In language, average compliance dropped slightly between groups (66.7 to 61.8%): children speak fluently, 100, and 81.5% produce sentences of more than five words, respectively, but show poor command of grammar rules and verb tenses (40.0 and 51.9%; Table 2). Gleason and Ratner (2010) place fine grammatical construction (agreement, articles, verb inflections) as a morphosyntactic achievement that matures later than the mere production of long utterances, so this pattern is not entirely surprising. What does stand out is that both age groups fall below 55% in grammatical mastery, a gap that cuts across age and was probably compounded by the reduction in extended communicative exchanges during the COVID-19 lockdown (Armus et al., 2021).

Cognition was the dimension that improved the most from one group to the other (60.0 to 77.8%; Figure 1), driven mainly by the jump in following complex instructions (20.0 to 81.5%) and in understanding temporal concepts (20.0 to 55.6%; Table 2). That the latter remains, even so, the lowest cognitive indicator in both groups is not a minor detail when set against what Chaumon et al. (2022) document: during lockdown, the subjective perception of time was significantly altered across different countries. If the temporal organization of daily life for the adults responsible for child-rearing changed during that period, it is not far-fetched to think that the transmission of structured temporal references, routines, sequences, before and after, to children was also affected. Linares (2007), drawing on Piaget and Vygotsky, places temporal understanding and sequential planning among the achievements typical of the late preoperational stage, which consolidate progressively; Ostrosky-Shejet et al. (2003), for their part, link these notions to the

maturation of executive functions, suggesting that this finding could foreshadow support needs in planning and task organization at later school stages.

Socioemotional development closed out with the lowest average of the entire profile, and with the sharpest drop between groups (80.0 to 55.6%; Figure 1): rule acceptance fell from 100 to 40.7%, while staying on topic in conversation, running counter to the other areas, rose from 20.0 to 66.7% (Table 2). To some extent, this combination of greater verbal and behavioral autonomy alongside greater resistance to rules is typical of the shift toward a more independent identity between ages 4 and 5. But UNICEF (2021) adds an important nuance: during COVID-19 isolation, relational tensions increased by 33% among adults and by 20% between adults and children, which may have narrowed precisely the spaces for negotiating rules and shared play in which these competencies are normally practiced. Samuelsson and Björklund (2023) note, along the same lines, that rule-based and shared symbolic play are the main vehicles for learning social norms in early childhood, a space for practice that, as already seen in the language area, may have shrunk during lockdown. Beyond compliance percentages, the instrument also makes it possible to detect specific warning signs: behaviors whose mere presence already points to a possible need for referral. Table 3 brings together the most prevalent ones by age group.

Table 3. Child development warning signs identified by age group

Developmental area	Warning sign	3–4 years n (%)	4–5 years n (%)
Gross motor skills	Cannot jump appropriately	2 (40.0)	12 (44.4)
	Cannot ride a tricycle	3 (60.0)	—
Fine motor skills	Difficulty copying shapes	1 (20.0)	6 (22.2)
	Holds the crayon with a fist grip	—	6 (22.2)
Language	Does not use appropriate grammar rules or verb tenses	3 (60.0)	5 (18.5)
	Does not understand prepositions	—	8 (29.6)
Cognition	Does not follow instructions	4 (80.0)	5 (18.5)
	Difficulty understanding cause-and-effect relationships	3 (60.0)	12 (44.4)*
Socioemotional	Difficulty holding conversations	4 (80.0)	15 (55.6)**
	Does not accept rules	—	16 (59.3)
	Difficulty separating from parents	—	8 (29.6)
	Little interest in playing with other children	1 (20.0)	4 (14.8)

Indicators correspond to the warning signs included in the Spanish-language version of the Developmental Checklist: Birth to Five from the CDC's Learn the Signs. Act Early. program. * Corresponds to difficulties understanding temporal concepts. ** Corresponds to children who are easily distracted and cannot maintain attention for more than five minutes.

It is not surprising that the most frequent warning signs concentrate, once again, in following instructions (80.0% at 3–4 years) and in sustaining conversation (80.0% and 55.6%, respectively): these are the same dimensions already identified as priorities. This overlap supports what Castro et al. (2019) and Fajardo et al. (2018) propose: developmental screening processes should not stop at reporting averages, but should serve to identify children with multiple concurrent warning signs, who stand to benefit the most from timely referral to stimulation programs or specialized evaluation.

Table 4 closes this analysis with a summary of the main strengths and needs by dimension, which serves as the empirical basis for designing stimulation strategies tailored to the Javier Loyola population.

Table 4. Summary of the functional profile of child development by dimension assessed

Dimension	Main strengths identified	Main needs identified
Gross motor skills	Stable gait, functional locomotion, use of stairs, and basic motor play.	Balance, dynamic coordination, and postural control during activities requiring greater motor precision.
Fine motor skills	Copying simple shapes, object manipulation, and dressing autonomy.	Body schema representation, early writing, and visuomotor coordination.
Language	Production of complete sentences, adequate speech intelligibility, and the ability to ask questions.	Mastery of grammar rules, use of verb tenses, and structured storytelling.
Cognition	Recognition of colors, counting, and knowledge of everyday objects.	Understanding of temporal concepts, following complex instructions, and sustaining attention.
Autonomy	High level of independence in feeding, personal hygiene, and dressing.	Targeted support for the small group of children who still need partial help with self-care activities.
Socioemotional development	Peer interaction, interest in new experiences, and participation in play activities.	Acceptance of norms, sustaining conversations, behavioral regulation, and development of symbolic play.

This summary was drawn from the descriptive analysis of the developmental milestones assessed using the Developmental Checklist: Birth to Five, applied to the 32 participants.

These findings should be read with a few methodological caveats in mind. The sample was small and markedly uneven between age groups ($n = 5$ versus $n = 27$), which weakens comparisons between segments and limits how far the results for the 3-to-4 group can be generalized. Because

sampling was non-probabilistic, by convenience, and drawn from a single educational center, its representativeness relative to the rural child population at large is limited. Information, in turn, came from parent or caregiver report rather than direct observation by a professional, which opens the door to social desirability bias or some overestimation of achievements; nor is there evidence on the cultural adaptation or psychometric properties of the Spanish-language version of the instrument for the Ecuadorian population, beyond its original validation in the United States. And because the design was descriptive, cross-sectional, and relied solely on descriptive statistics, it is not possible to establish causal relationships or statistically verified associations between sociodemographic variables and developmental performance: interpretations regarding parental schooling or the pandemic context should be read as plausible hypotheses, not demonstrated relationships. Finally, since data collection took place during the return to in-person schooling after the COVID-19 lockdown, it is likewise not possible to determine precisely what proportion of the observed difficulties responds to that exceptional context and what proportion corresponds to more stable population patterns.

CONCLUSIONS

The analysis of the functional profile of child development in children aged 3 to 5 from the Javier Loyola parish (Cañar) yields an empirical characterization of integral development in this rural context, one that can serve as a basis for designing early stimulation strategies. The resulting profile is heterogeneous: autonomy stands out as the main strength, while gross and fine motor skills still require specific work on balance, dynamic coordination, and visuomotor integration. In language, expressive fluency is adequate, but difficulties persist in mastering grammar rules; in cognition, the main limitations concentrate on understanding temporal concepts and following complex instructions. The socioemotional area, the weakest performer overall, shows particular needs in accepting rules and sustaining conversations, pointing to the urgency of strengthening interaction and communication skills. It is possible that these difficulties, particularly those linked to temporal organization and socioemotional regulation, are related to the isolation experienced during the COVID-19 pandemic. Taken together, these findings support the need for contextualized early stimulation programs and for systematic monitoring of child development in rural communities like this one.

CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

AUTHOR CONTRIBUTIONS

Conceptualization: Liana Sánchez and Mónica Bustamante. **Data curation:** Mónica Bustamante and Vilma González. **Formal analysis:** Mónica Bustamante and Giovanna Rosado. **Investigation:** Liana Sánchez, Mónica Bustamante, Giovanna Rosado, and Vilma González. **Methodology:** Liana Sánchez and Mónica Bustamante. **Project management:** Liana Sánchez and Vilma González. **Resources:** Giovanna Rosado. **Software:** Mónica Bustamante. **Supervision:** Liana Sánchez. **Validation:** Mónica Bustamante and Giovanna Rosado. **Visualization:** Giovanna Rosado and Vilma González. **Writing – original draft:** Liana Sánchez. **Writing – review & editing:** Liana Sánchez, Mónica Bustamante, Giovanna Rosado, and Vilma González.

REFERENCES

- Alarcón, M. F., Gallo, D. F., & Rincón, C. F. (2020). Riesgos prenatales, perinatales y neonatales asociados a signos neurológicos blandos. *Revista Cubana de Pediatría*, 92(1). http://scielo.sld.cu/scielo.php?script=sci_abstract&pid=S0034-75312020000100003&lng=es&nrm=iso&tlng=es
- Armas, R. (2010). *Desarrollo emocional* (1ra edición). Universidad Politécnica Salesiana. <https://dspace.ups.edu.ec/bitstream/123456789/5664/1/Desarrollo%20Emocional.pdf>
- Armus, M., Factorovich, M., Quesada, J., & Rainieri, F. (2021). *Primera infancia: Impacto emocional en la pandemia*. UNICEF. <https://www.unicef.org/argentina/media/10606/file/Primera%20infancia.%20Impacto%20emocional%20en%20la%20pandemia.pdf>
- Bello, S. E., Cedeño, F. V., Fernández, M. E., & Carrillo, B. M. (2025). Impacto de los Trastornos del Desarrollo Infantil Temprano en el Progreso Académico: Un Análisis desde la Neurociencia y la Psicología Educativa. *Revista Científica Kosmos*, 4(1), 359-383. <https://doi.org/10.62943/rck.v4n1.2025.254>
- Castro, F. de, Vázquez-Salas, R. A., Villalobos, A., Rubio-Codina, M., Prado, E., Sánchez-Ferrer, J. C., Romero, M., & Shamah-Levy, T. (2019). Contexto y resultados del desarrollo infantil

- temprano en niños y niñas de 12 a 59 meses en México. *Salud Pública de México*, 61(6), Article 6. <https://doi.org/10.21149/10560>
- Centers for Disease Control and Prevention [CDC]. (2022). *Aprenda los signos. Reaccione pronto*. Departamento de Salud y Servicios Humanos de los EE. UU. <https://www.cdc.gov/ncbddd/spanish/actearly/index.html>
- Chaumon, M., Rioux, P.-A., Herbst, S. K., Spiousas, I., Kübel, S. L., Gallego Hiroyasu, E. M., Runyun, Ş. L., Micillo, L., Thanopoulos, V., Mendoza-Duran, E., Wagelmans, A., Mudumba, R., Tachmatzidou, O., Cellini, N., D'Argembeau, A., Giersch, A., Grondin, S., Gronfier, C., Igarzábal, F. A., Van Wassenhove, V. (2022). The Blursday database as a resource to study subjective temporalities during COVID-19. *Nature Human Behaviour*, 6(11), 1587-1599. <https://doi.org/10.1038/s41562-022-01419-2>
- Fajardo, Z. I. E., Pazmiño, M. I. A., & Dávalos, Á. A. M. (2018). La estimulación temprana como factor fundamental en el desarrollo infantil. *Espirales Revista Multidisciplinaria de investigación*, 2(14), Article 14. <https://doi.org/10.31876/re.v2i14.229>
- Gleason, J. B., & Ratner, N. B. (2010). *Desarrollo del lenguaje* (7.a ed.). Pearson Educación.
- Gonzales, E. M. (2019). *Estrategias que favorecen el desarrollo de la autonomía en niños y niñas del II ciclo de Educación Inicial* [Monografía]. Universidad Nacional de Educación Enrique Guzmán y Valle. <https://repositorio.une.edu.pe/entities/publication/repositorio.une.edu.pe>
- Hernández-Sampieri, R. & Mendoza, C. (2018). *Metodología de la investigación*. Las rutas cuantitativa, cualitativa y mixta, Ciudad de México, México: Editorial Mc Graw Hill Education.
- Linares. (2007). *Desarrollo Cognitivo: Las Teorías de Piaget y de Vygotsky*. studylib.es. https://studylib.es/doc/1350050/http---www.paidopsiquiatria.cat-files-teorias_desarrollo
- Ministerio de Inclusión Económica y Social. (2013). *Modelo de Gestión de Desarrollo Infantil Integral*. <https://www.inclusion.gob.ec/wp-content/uploads/downloads/2013/11/Modelo-de-Gesti%C3%B3n-DII.pdf>
- Ministerio de Inclusión Económica y Social. (2014). *Norma Técnica de desarrollo infantil integral*. <https://www.inclusion.gob.ec/wp-content/uploads/downloads/2014/03/Vista-Previa-Norma-Te%CC%81cnica-CIBV-15x21-32-pag-Final-05-03-142.pdf>
- Ostrosky-Shejet, F., Gómez, E., & Próspero, O. E. (2003). Desarrollo de la atención, la memoria

- y los procesos inhibitorios: Relación temporal con la maduración de la estructura y función cerebral. *Revista de Neurología*, 37(6), 561-567.
<https://dialnet.unirioja.es/servlet/articulo?codigo=738768>
- Papalia, D. E., & Martorell, G. (2014). *Experience Human Development*, 13th Edition (13th Edition). McGraw-Hill.
- Samuelsson, I. P., & Björklund, C. (2023). The relation of play and learning empirically studied and conceptualised. *International Journal of Early Years Education*, 31, 309-323.
<https://doi.org/10.1080/09669760.2022.2079075>
- Souza, J. M. D., & Veríssimo, M. D. L. Ó. R. (2015). Child development: Analysis of a new concept. *Revista Latino-Americana de Enfermagem*, 23(6), 1097-1104.
<https://doi.org/10.1590/0104-1169.0462.2654>
- UNICEF. (2019, diciembre 17). *Identificar las desigualdades para actuar: Resultados y determinantes del desarrollo de la primera infancia en América Latina y el Caribe*.
<https://www.unicef.org/lac/informes/identificar-las-desigualdades-para-actuar>
- UNICEF. (2021, junio 25). *Encuesta de percepción y actitudes de la población: El impacto de la pandemia COVID-19 en las familias con niñas, niños y adolescentes—4ta ronda*.
<https://www.unicef.org/argentina/informes/encuesta-de-percepcion-y-actitudes-de-la-poblacion>
- Viciano, V., & Cano, L. (2017). Importancia de la motricidad para el desarrollo integral del niño en la etapa de educación infantil. *EmásF: Revista Digital de Educación Física*, 47, 89-105.
<https://dialnet.unirioja.es/servlet/articulo?codigo=6038088>

Statement on the use of artificial intelligence: The authors acknowledge the use of generative artificial intelligence (AI) and AI-assisted technologies solely to improve the readability, language quality, and clarity of this manuscript. AI tools may also have been used to create or edit non-scientific graphical content, such as graphical abstracts, icons, illustrations, diagrams, or educational figures, provided that such use is transparently disclosed and does not misrepresent or fabricate research findings. AI tools were not used to generate, modify, enhance, interpret, or analyze scientific data, medical images (e.g., radiographs, computed tomography scans, magnetic resonance imaging, ultrasound images, histopathological images, microscopy images, or other diagnostic images), or any figures that constitute primary research data. The authors reviewed and

edited all AI-assisted content as necessary and assume full responsibility for the accuracy, integrity, and originality of the final published work.

Disclaimer / Editor's Note: All publications' statements, opinions, and data are solely those of the individual authors and contributors, not *Revista Gregoriana de Ciencias de la Salud* or the editors. *Revista Gregoriana de Ciencias de la Salud* and/or the editors disclaim all responsibility for any injury to persons or property resulting from any ideas, methods, instructions, or products referred to in the content.