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Predictors of Communication Abilities of Children at Early Preschool Age

Extended summary

This study aimed to investigate the predictors of communication abilities of the preschool children. As one of the factors that has the strongest influence on the development of communication, a large number of studies highlight the important role of the social environment in which a child grows up in the development of children's communication abilities and language skills. By identifying the predictors of communication skills at an early preschool age, experts and parents can understand better what affects the development of children's communication and guide them accordingly in their work and interaction with children. The intricate nature of communication development underscores the importance of early detection and intervention. By delving into the underlying predictors influencing communication abilities, this study serves as a beacon illuminating the pathways through which children navigate their linguistic journey. The sample consisted of 84 children aged eighteen months to four years. Half of the sample consisted of the children who were included in an institution of preschool education. In contrast, the other 50% of the children from the sample were not included in any institutions of preschool education. The research used a survey technique with an appropriate instrument, in this case, a questionnaire. Parents filled out the questionnaire called the Language Use Inventory (O'Neill, 2009). We used the Croatian version of the questionnaire adapted by Božić and Cepanec (2020). The statistical analyses revealed robust multiple linear regression models with a substantial explanatory power ($R^2 = 0.83$, $p < 0.001$). Notably, among the vari-

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ables considered, the duration of participation in preschool education institutions and the frequency of the gestures, words, and sentences utilized by the child emerged as significant predictors of children's communication abilities. It was observed that children who spent more time in preschool settings exhibited a propensity to employ a richer vocabulary and more complex sentence structures in their communication endeavors, indicating a positive correlation between preschool involvement and enhanced communication skills. These findings underscore the pivotal role of the preschool education in fostering and augmenting children's communication proficiency. The implications of these results extend far beyond mere academic discourse, offering practical guidance for preschool teachers and parents alike in optimizing early childhood development programs and interactions to nurture robust communication competencies in the preschool-aged children. By identifying the predictors of communication abilities at the preschool stage, preschool teachers can implement early intervention strategies tailored to individual needs. Incorporating activities that promote language-rich environments within preschool curricula becomes imperative. From immersive storytelling sessions that ignite the imagination to engaging group discussions that cultivate critical thinking skills, and from dynamic dramatic play scenarios that encourage empathy and perspective-taking to interactive language games that reinforce vocabulary acquisition — each activity serves as a conduit for stimulating verbal communication and language acquisition in the children of preschool age. Finally, collaborative partnerships between preschool teachers and parents are essential in fostering children's communication development. Providing parents with resources and guidance on fostering language-rich interactions at home empowers them to extend learning beyond the preschool environment, reinforcing children's language acquisition and communicative competence.

Keywords: communication, institutions of preschool education, preschool age

References

- Acredolo, L., & Goodwyn, S. (1988). Symbolic gesturing in normal infants. *Child Development*, 59(2), 450–466.
- Arteaga, I., Humpage, S., Reynolds, A. J., & Temple, J. A. (2014). One year of preschool or two: Is it important for adult outcomes? *Economics of Education Review*, 40(1), 221–237. <https://doi.org/10.1016/j.econedurev.2013.07>
- Austin, E. E., & Sweller, N. (2018). Gesturing along the way: adults' and preschoolers' communication of route direction information. *Journal of Nonverbal Behavior*, 42(2), 199–220. <https://doi.org/10.1007/s10919-017-0271-2>
- Barnes, E. M., Dickinson, D. C., & Grifenhagen, J. B. (2016). The role of teachers' comments during book reading in children's vocabulary growth. *The Journal of Educational Research*, 110(5), 1–13. <https://doi.org/10.1080/00220671.2015.1134422>
- Božić, N., i Capanec, M. (2020). Razvoj komunikacijskih funkcija u djece dobi 1.5–4.0 godine. *Hrvatska revija za rehabilitacijska istraživanja*, 56(1), 33–43. <https://doi.org/10.31299/hrri.56.1.3>

-
- Cabell, S. Q., Justice, L. M., McGinty, A. S., DeCoster, J., & Forston, L. D. (2015). Teacher–child conversations in preschool classrooms: Contributions to children’s vocabulary development. *Early Childhood Research Quarterly, 30*(1), 80–92. <https://doi.org/10.1016/j.ecresq.2014.09.004>
 - Caza, G. A., & Knott, A. (2012). Pragmatic Bootstrapping: A Neural Network Model of Vocabulary Acquisition. *Language Learning and Development, 8*(2), 113–135. <https://doi.org/10.1080/15475441.2011.581144>
 - Capirci, O., Contaldo, A., Caselli, M. C., & Volterra, V. (2005). From action to language through gesture: A longitudinal perspective. *Gesture, 5*(1-2), 155–177. <https://doi.org/10.1075/gest.5.1-2.12cap>
 - Cohen, J. (1969). *Statistical power analysis for the behavioral science*. Lawrence Erlbaum Associates.
 - Crais, E. R., Watson, L. R., & Baranek, G. T. (2009). Use of gesture development in profiling children’s prelinguistic communication skills. *American Journal of Speech-Language Pathology, 18*(1), 95–108. [https://doi.org/10.1044/1058-0360\(2008/07-0041\)](https://doi.org/10.1044/1058-0360(2008/07-0041))
 - Cruz-Neira, C., Fernández, M., & Portalés, C. (2018). Virtual Reality and Games. *Multimodal Technologies and Interaction, 2*(1), 8. <https://doi.org/10.3390/mti2010008>.
 - Dimitrova, N., & Özçalışkan, Ş. (2013). How Gesture Input Provides a Helping Hand to Language Development. *Seminars in Speech and Language, 34*(4), 227–236. <https://doi.org/10.1055/s-0033-1353447>
 - Drljan, B. (2022). *Jezički poremećaji kod dece*. Društvo defektologa Srbije.
 - Đorđević, M., Glumbić, N., i Brojčin, B. (2016). Ekstralingvistički aspekti komunikaciono-pragmatskih sposobnosti osoba sa intelektualnom ometenošću. *Beogradska defektološka škola, 22*(1), 47–57.
 - Đorđević, M., Glumbić, N., i Arsenić, I. (2017). Odnos između komunikaciono-pragmatskih sposobnosti i teorije uma kod osoba sa intelektualnom ometenošću – pregled istraživanja. *Beogradska defektološka škola, 23*(2), 23–35.
 - Ebert, S., Lockl, K., Weinert, S., Anders, Y., Kluczniok, K., & Rossbach, H.-G. (2013). Internal and external influences on vocabulary development in preschool children. *School Effectiveness and School Improvement, 24*(2), 138–154. <https://doi.org/10.1080/09243453.2012.749791>
 - Fasolo, M., & D’Odorico, L. (2012). Gesture-plus-word combinations, transitional forms, and language development. *Gesture, 12*(1), 1–15. <https://doi.org/10.1075/gest.12.1.01fas>.
 - Garton, A., & Pratt, C. (1998). *Learning to be literate: The development of spoken and written language*. Blackwell Publishing.
 - Gibson, G., Newbury, F., Durkin, K., Pickles, A., Conti-Ramsden, G., & Toseeb, U. (2021). Pathways from the early language and communication environment to literacy outcomes at the end of primary school; the roles of language development and social development. *Oxford Review of Education, 47*(2), 260–283. <https://doi.org/10.1080/03054985.2020.1824902>
 - Glumbić, N., i Brojčin, B. (2010). Profil komunikacionih sposobnosti dece sa specifičnim poremećajima jezika. *Specijalna edukacija i rehabilitacija, 9*(1), 3–13.
-

-
- Golubović, Š., i Slavković, S. (2018). How do parents evaluate development of their children? *PONS-medicinski časopis*, 15(1), 13-20. <https://doi.org/10.5937/pomc15-14342>
 - Hart, B., & Risley, T. (1995). *Meaningful differences in the everyday experience of young American children*. Brookes.
 - Hart, B., Risley, T. R., & Kirby, J. R. (1997). Meaningful differences in the everyday experience of young American children. *Canadian Journal of Education*, 22(3), 323.
 - Heidari, K. (2019). Willingness to Communicate: A Predictor of Pushing Vocabulary Knowledge from Receptive to Productive. *Journal of Psycholinguistic Research*, 48(4), 903-920. <https://doi.org/10.1007/s10936-019-09639-w>
 - Helland, W. A., & Møllerhaug, L. H. (2020). Assessing pragmatic competence in 18-to 47-months-old Norwegian children. A pilot study with the Language Use Inventory (LUI). *RASK*, 52, 21-37.
 - Ivšac Pavliša, J. (2010). Atipični komunikacijski razvoj i socioadaptivno funkcioniranje u ranoj dobi. *Društvena istraživanja*, 19(1-2) (105-106), 279-303.
 - Jovanović Simić, N., i Slavnić, S. (2009). *Atipičan jezički razvoj*. Društvo defektologa Srbije - Fakultet za specijalnu edukaciju i rehabilitaciju.
 - Kelly, S. D., Singer, M., Hicks, J., & Goldin-Meadow, S. (2002). A Helping Hand in Assessing Children's Knowledge: Instructing Adults to Attend to Gesture. *Cognition and Instruction*, 20(1), 1-26. https://doi.org/10.1207/S1532690XCI2001_1
 - Kljunić, K., Cepanec, M., i Šimleša, S. (2016). Imaju li hrvatska djeca urednog razvoja uistinu „urednu” komunikaciju? *Hrvatska revija za rehabilitacijska istraživanja*, 52(2), 1-10. <https://doi.org/10.31299/hrri.52.2.1>
 - Knapp, M. L, Hall, A. J., & Horgan, T. G. (2013). *Nonverbal Communication in Human Interaction*. Cengage Learning.
 - Korat, O., Atishkin, S., & Segal-Drori, O. (2021). Vocabulary enrichment using an E-book with and without kindergarten teacher's support among LSES children. *Early Child Development and Care*, 192(9), 1383-1401. <https://doi.org/10.1080/03004430.2021.1885391>
 - Kuhn, L. J., Willoughby, M. T., Wilbourn, M. P., Vernon-Feagans, L., Blair, C. B., & Family Life Project Key Investigators (2014). Early communicative gestures prospectively predict language development and executive function in early childhood. *Child development*, 85(5), 1898-1914. <https://doi.org/10.1111/cdev.12249>
 - Loncke, F. (2022). *Augmentative and alternative communication: Models and applications*. Plural publishing.
 - Longobardi, E., Rossi-Arnaud, C., & Spataro, P. (2011). Longitudinal examination of early communicative development: Evidence from a parent report questionnaire. *British Journal of Developmental Psychology*, 29(3), 572-592. <https://doi.org/10.1348/026151010X523473>
 - Longobardi, E., Rossi-Arnaud, C., & Spataro, P. (2012). Individual differences in the prevalence of words and gestures in the second year of life: Developmental trends in Italian children. *Infant Behavior & Development*, 35(4), 847-859. <https://doi.org/10.1016/j.infbeh.2012.07.024>

-
- Longobardi, E., Lonigro, A., Laghi, F., & O'Neill, D. K. (2017). Pragmatic language development in 18- to 47-month-old Italian children: A study with the Language Use Inventory, *First Language*, 37(3), 252–266. <https://doi.org/10.1177/0142723716689273>
 - Lorusso, M., Giorgetti, M., Travellini, S., Greci, L., Zangiacomi, A., Mondellini, M., Reni, G. (2018). Giok the Alien: An AR-Based Integrated System for the Empowerment of Problem-Solving, Pragmatic, and Social Skills in Pre-School Children. *Sensors*, 18(7), 23–68. <https://doi.org/10.3390/s18072368>
 - Ljubešić, M., i Cepanec, M. (2012). Rana komunikacija: u čemu je tajna? *Logopedija*, 3(1), 35–45.
 - Milivojčević, T., i Grčić, S. (2018). Saradnja sa porodicom kao uslov za kvalitetan vaspitno-obrazovni rad. U D. Pavlović Breneselović, G. Stepić, i I. Prlić (ur.). *Zbornik radova sa Međunarodne naučnostručne konferencije „Inicijalno obrazovanje i stručno usavršavanje vaspitača-partnerstvo u građenju kvaliteta”* (169–77). Visoka škola strukovnih studija za vaspitače i poslovne informatičare – Sirmium.
 - Ministarstvo prosvete, nauke i tehnološkog razvoja (2016). <https://opendata.mpn.gov.rs/otvoreni-podaci/predskolsko-obrazovanje.html>
 - Nedimović, T. P., Đorđev, I. Đ., i Stojanović, A. M. (2022). Primena holističkog pristupa u praksi iz perspektive vaspitača. *Inovacije u nastavi*, 35(4), 13–27. <https://doi.org/10.5937/inovacije2204013N>
 - *Osnove programa predškolskog vaspitanja i obrazovanja – Godine uzleta* (2018). <https://www.mpn.gov.rs/wp-content/uploads/2018/09/OSNOVE-PROGRAMA-.pdf>
 - Pallant, J. (2020). *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using IBM SPSS: 7nd Ed.* Routledge.
 - Qian, L., Shao, H., Fang, H., Xiao, T., Ding, N., Sun, B., & O'Neill, D. K. (2022). Reliability, validity and developmental sensitivity of the Language Use Inventory (LUI) in the Chinese context. *International Journal of Language & Communication Disorders*, 57(3), 497–511. <https://doi.org/10.1111/1460-6984.12693>
 - Rantalainen, K., Paavola-Ruotsalainen, L., Alakortes, J., Carter, A. S., Ebeling, H. E., & Kunari, S. (2021). Early vocabulary development: Relationships with prelinguistic skills and early social-emotional/behavioral problems and competencies. *Infant Behavior and Development*, 62(1), 101525. <https://doi.org/10.1016/j.infbeh.2020.101525>
 - Rowe, M. L., Özçalışkan, Ş., & Goldin-Meadow, S. (2008). Learning words by hand: gesture's role in predicting vocabulary development. *First Language*, 28(2), 182–199. <https://doi.org/10.1177/0142723707088310>
 - Rowe, M. L., & Goldin-Meadow, S. (2009). Differences in early gesture explain SES disparities in child vocabulary size at school entry. *Science*, 323(5916), 951–953. <https://doi.org/10.1126/science.1167025>
 - Rowe, M. L., Raudenbush, S. W., & Goldin-Meadow, S. (2012). The Pace of Vocabulary Growth Helps Predict Later Vocabulary Skill. *Child Development*, 83(2), 508–525. <https://doi.org/10.1126/2Fscience.1167025>
-

-
- Sansavini, A., Favilla, M. E., Guasti, M. T., Marini, A., Millepiedi, S., Di Martino, M. V., & Lorusso, M. L. (2021). Developmental language disorder: Early predictors, age for the diagnosis, and diagnostic tools. A scoping review. *Brain Sciences*, *11*(5), 654. <https://doi.org/10.3390/brainsci11050654>
 - Subotić, Lj., Sredojević, D., i Bjelaković, I. (2012). *Fonetika i fonologija: ortoepska i ortografska norma standardnog srpskog jezika*. Filološki fakultet u Novom Sadu.
 - Steinbach, A. (2019). Children's and parents' well-being in joint physical custody: A literature review. *Family Process*, *58*(2), 353-369. <https://doi.org/10.1111/famp.12372>
 - Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Allyn & Bacon/Pearson Education.
 - Tilbe, Y. T., & Gai, X. (2020). Teacher-child interactions in early childhood education and its effects on social and language development. *Early Child Development and Care*, *192*(5), 761-774. <https://doi.org/10.1080/03004430.2020.1798944>
 - Valentić, A. E. (2021). *Komunikacione sposobnosti osoba s Daunovim sindromom* (Neobjavljeni master rad). Fakultet za specijalnu edukaciju i rehabilitaciju.
 - Van Dijk, Van Der Valk, I. E., Deković, M., & Branje, S. (2020). A meta-analysis on interparental conflict, parenting, and child adjustment in divorced families: Examining mediation using meta-analytic structural equation models. *Clinical Psychology Review*, *79*, 101861. <https://doi.org/10.1016/j.cpr.2020.101861>
 - Vuković, M. (2019). *Poremećaji komunikacije kod traumatskih oštećenja mozga*. Fakultet za specijalnu edukaciju i rehabilitaciju.
 - Waddoups, A. B., Yoshikawa, H., & Strouf, K. (2019). Developmental effects of parent-child separation. *Annual Review of Developmental Psychology*, *1*(1), 387-410. <https://doi.org/10.1146/annurev-devpsych-121318-085142>