

Determinants of language development during early years: Systematic review

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Abstract

Purpose: This review presents findings from recent studies investigating the role of ecological factor affecting language development.

Methods: A systematic search protocol was followed using both superordinate and subordinate search terms. Multiple searches were run across the major academic databases to identify all possible national and international articles that were available through search engines commonly used.

Results: Several cross-sectional and longitudinal studies demonstrate many ecological factors like maternal interactions, child early babbling, motor development, home environment, birth order, and sibling, SES underline the detrimental effects child language development. Thus, input effects on language outcomes persist even in the absence of genetic confounds.

Conclusion: This review throws light on preventive and intervention measures that could be taken for language development in the early years

Key words: Language development; Early years; Maternal inputs; Ecological determinants

1. Introduction

Language development is a fascinating and complex behavior. One of the reasons language development is so remarkable is that it is never explicitly taught to young children. Language is learned primarily through immersion in a linguistic environment. Even before children are born, they are exposed to linguistic information and are learning in utero. As young as four-days-old, infants prefer listening to their own language compared to a foreign language. Young infants also show the ability to distinguish between phonetic elements of speech. By 6 months, infants evidence canonical babbling represented by repeated consonant/vowel combinations. Even before children say their first word, they are communicating their intentions through gestures, smiling, eye contact, and vocalizations. At around 12 months of age, most children can produce 10 spoken words and can comprehend as many as 50. By their second birthday, children move from the use of one-word utterances to communicating through the use of telegraphic speech, which is characterized by two-word phrases that only contain important words. Infants continue to attend to the patterns in their language and start to learn a considerable amount about its structure well before they start combining words in their own speech. After just a few years, children will have mastered many of the complex grammatical structures in their language, and persistent systematic errors become rare as children approach their tenth birthday. Children exposed early on to additional languages will learn them without any significant added difficulty compared with the monolingual acquisition, provided they have sufficient exposure to each language. Language development in children is remarkable for its regularity across individuals and different languages, even when the languages are quite diverse. Children universally progress through many of the same stages, mastering certain components of grammar before

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others and making characteristic errors in production and comprehension at each stage. Despite individual differences in intelligence and other abilities, and despite normal differences in language exposure, all children end up able to speak and understand their native language(s) fluently

2. Methodology

Prior to searching the literature, a list of key search terms was developed. The search items included were early language development, caregiver interaction, socioeconomic status, birth order, Home Environment and childcare quality. Next, a systematic search protocol was followed using both superordinate and subordinate search terms. Multiple searches were run across the major academic databases to identify all possible national and international articles that were available through search engines commonly used. The following databases were used to conduct the search: Elsevier, ERIC, Google Scholar, Taylor & Francis, SRCD, and PubMed. The search was limited to journals published in English that were available through these search engines. The searches returned 1,543 unique citations published in English-language journals

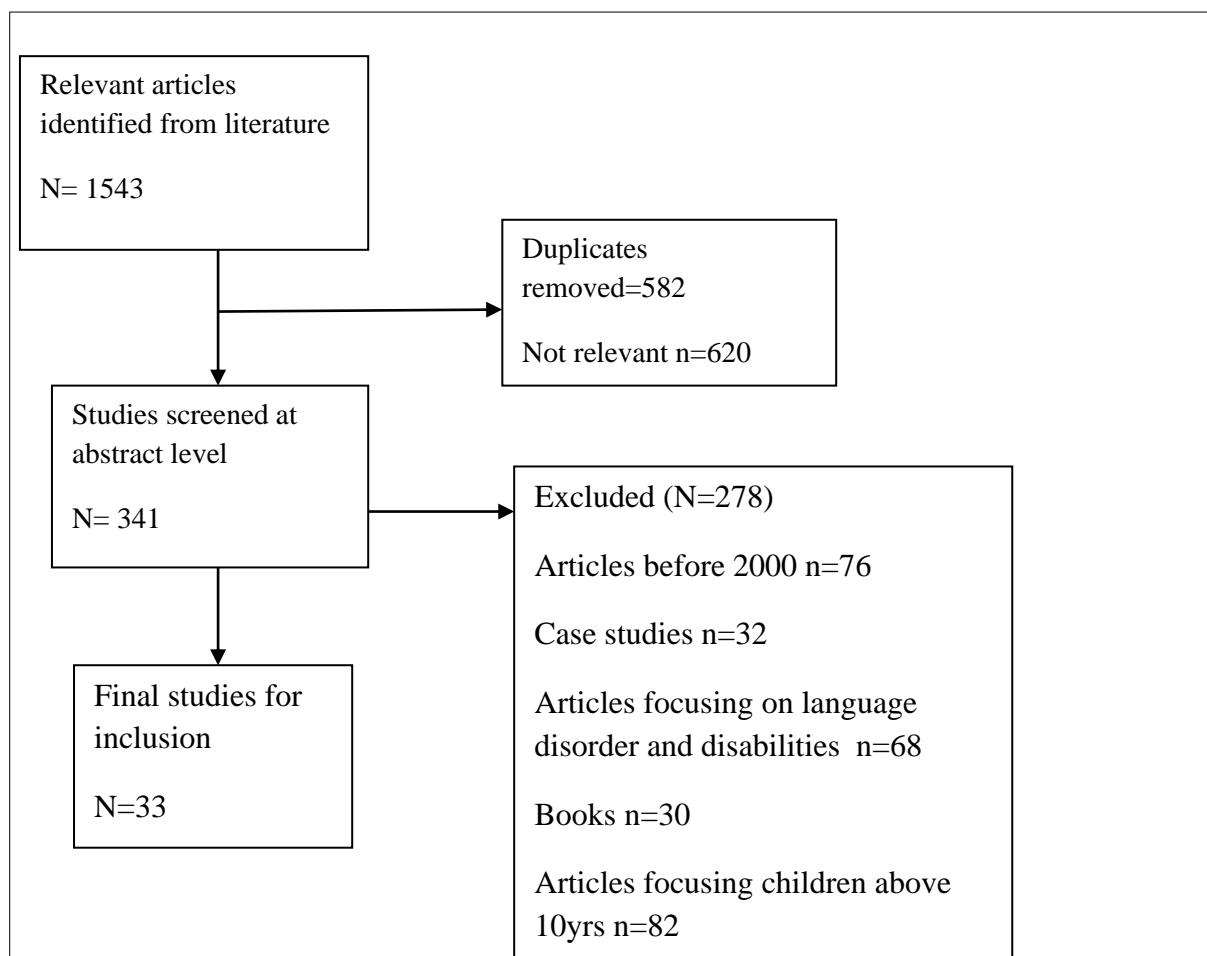


Figure 1 Process of identifying studies for review

3. Results and Discussion

3.1. Maternal inputs

Parents are the primary people engaging and interacting with infants on a consistent basis; consequently, parents are seen as a child's first teacher. Positive quality of parent-child interactions and increased verbal responsiveness are essential in shaping a child's literacy environment and language development. The first 3 years are the most intensive, as this is when the brain rapidly develops and is able to learn new information. If this critical period passes without adequate interaction and opportunity for language development, it will become more challenging to accomplish the milestones as the child develops (Evans.2008., Neuman,2008). The language performance of children was remarkably

influenced by the educational level of parents showing that educated parents provided quality stimulation to their children. Children from high and middle caste with higher family income and coming from service and business class families were significantly advanced on language performance (Keown, et al 2001). Maternal sensitive responses to infant vocalizations in the previous months predicted infants' mother-directed vocalizations in the following months, rather than overall response rate. Furthermore, mothers' sensitive responding to mother-directed vocalizations was correlated with an increase in developmentally advanced, consonant-vowel vocalizations and some language measures (Cusson, et al 2003.,Gros, et al 2014). The precursors of phonological awareness can be traced to the earliest stage in vocabulary learning. Differences in both the mothers' interactional sensitivity and the children's vocabulary in infancy appear to contribute to progress in language acquisition, and particularly to phonological awareness years before reading instruction starts (Silven et al 2002). Maternal involvement and self-efficacy relating to children's speech-language development were positively related to mothers' quantitative and qualitative linguistic input (DesJardin, et al., 2007), Depression is a significant problem among both mothers and fathers of young children, but has a more marked impact on the father's reading to his child and, subsequently, the child's language development. (Paulson,et al., 2009). Sensitive maternal interactions positively affected children's later expressive language in the second and third years of life. Although maternal sensitivity predicted later language skills in children, children's language did not affect later maternal sensitivity as indicated in a structural equation model (Leigh. et al.2011). Maternal depression at both time points (post partum and at 12 months) was significantly associated with the language development of infants at 12 months of age. Older women and women with more than two children were more likely to have children with poorer language development, while women who were the primary caregiver had children with higher scores on the language test.(Quevedo, et al. 2012) Maternal responses to infant vocal production during interactional context: puppet play, toy play, and book reading showed that Infants produced more syllable-like, consonant-vowels (CV) than vowel-like sounds (V) during book reading. Mothers responded to proportionally more CV vocalizations during book reading and puppet play than during toy play; mothers responded to CV sounds with imitations/expansions significantly more than other response types. Examining responses within contexts, naming responses during book reading and questions in the puppet context also occurring frequently.(Julie, et al. 2016)

Maternal responsive and intrusive communicative behaviours are associated with language development. Mother-child interaction quality may influence how children use these behaviours in language learning.(Hudson et al 2015,Conway et al 2017). Imitations of early words/sounds and asking children wh-questions may foster expressive and receptive language development.(Smith et al 2021) Dyadic engagement during play is important for children's development and socialization, as maternal speech transfers knowledge of culture-specific pragmatic rules that the children learn to apply in social interactions.(Rochanavibhata 2021)

3.2. Ecological settings as determinants of language development in early childhood

The language-learning child thus exists in a complexly nested environment, which is not only full of highly structured objects, places, and events, but is also populated by other people who spend a significant portion of their time while interacting with the child in emphasizing and reshaping these structures. Such emphases are rarely didactic in intent, but nevertheless they serve the important function of educating the child's attention to specific environmental features and relations deemed important by those around the child.

Ecological setting differences within cultures appeared in children's vocabulary size, even when the composition of children's vocabularies was examined: Children living in urban areas were reported by their mothers to say significantly more words than children living in rural areas, particularly for Argentine and U.S. children. Girls had consistently larger vocabularies than boys (Bornstein & Cote 2005).Ecological framework in which a young child's language skills develop from the reciprocal transactions between the child and the broader environmental contexts in which a child is situated or operates. Screen media effects are dependent on the degree to which media content resembles infants' and toddlers' real-life experiences including the use of simple stories and familiar objects or routines. Repeated exposure also helps infants and toddlers learn both the format and the content of screen media and can even ameliorate negative effects associated with viewing particular content. Finally, the presence of a competent co-viewer appears to boost babies' language learning from screen media, much like the ways these processes facilitate learning in live scenarios. (Linebarger, D. L., & Vaala, S. E. (2010)At 18 and 36 months of age, first-born girls of mothers with high educational attainment had the highest level of LC. Between 18 and 36 months of age, first-born boys of mothers with high educational attainment had the highest increase in LC. Having a highly educated mother contributed more to the increase in LC in boys than in girls (Zambrana 2012). Home literacy environments provided to preschoolers by teenage versus non-teenage mothers. In general, the teen mothers provided a home literacy environment that afforded their children fewer literacy experiences (Burgess. et al., 2005). Children often use gesture to communicate before they use words gesture thus not only predate but also predict changes in language, suggesting that early gesture may be paving the way for future developments in language(Iverson, J. M., & Goldin 2005). Being reared by a mother with low verbal

ability amplified the risk of a poor quality home linguistic environment, whereas having a poor home linguistic environment did not adversely affect the language development of children with mothers of average verbal ability. (Oxford, M., & Spieker, S. 2006). For receptive language, race was associated with ability level, and maternal sensitivity and negative-intrusive parenting were related to rate of growth. For expressive communication, race, SES, and maternal sensitivity were associated with rate of growth; race moderated the association between negative-intrusive parenting and rate of growth (Conway, et al., 2018)

3.3. Other contributing factor for language development

Parenting styles that include warmth, promotion of autonomy, and encouragement are predictive of strong language skills (Magill, 2002). Siblings' contribution to shaping the language practices and language environment corrected each other's language use and choices and requested and provided language instructions when language-related problems occurred (Kheirkhah & Cekaite 2018). Motor acquisitions provide infants with an opportunity to practice skills relevant to language acquisition before they are needed for that purpose; and that the emergence of new motor skills changes infants' experience with objects and people in ways that are relevant for both general communicative development and the acquisition of language. (Iverson, J. M. 2010). Higher quality child care was related to higher measures of cognitive development (Bayley Scales of Infant Development), language development (Sequenced Inventory of Communication Development), and communication skills (Communication and Symbolic Behavior Scales) across time, even after adjusting for selected child and family characteristics. In addition, classrooms that met professional recommendations regarding child:adult ratios tended to have children with better language skills. Classrooms that met recommendations regarding teacher education tended to have girls with better cognitive and receptive language skills (Burchinal 2000). Home and child care effect the development of children's speaking and listening skills before they begin formal schooling, help the development of young children's language skills and in the enrichment of those skills (Weigel 2007)

4. Conclusion

From the review of literature it could be concluded that along with heredity, nurture or the environment plays a major role in language acquisition specifically during the early years. Language development develops as early as the day child is born with cry as its communication tool. Maternal interaction, birth order, parenting styles, quality of child care, home environment, sibling interactions playing a major role in both expressive and receptive language. This review throws a light on preventive and intervention measure that could be taken for language development in early years

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to disclosed.

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