Advanced International Journal for Research (AIJFR)
E-ISSN: 3048-7641 ● Website: www.aijfr.com ● Email: editor@aijfr.com

Semantic Relations in Typical Hindi Speaking Children

Ameesh Prakash[1], Dr. Satish Kumaraswamy[2]

[1]Post Graduate student (MASLP), Dr. M.V Shetty College of Speech and Hearing, Malady Court, Kavoor, Mangalore 15. Mangalore University
[2]PhD in Speech and Hearing, Professor & Principal, Dr. M.V. Shetty College of Speech and Hearing, Malady Court, Kavoor, Mangalore-15. Mangalore University

Abstract

Language development during early childhood plays an important role in communication, cognition and social interaction. Semantic relations reflect the meaningful connections children express through language and provide information about the development of semantic organization and expressive language abilities. The present study investigated the use of semantic relations in typical Hindi-speaking children aged 4–5.11 years across conversation, monologue, and story narration tasks. A minimum of 100 total utterances per child was collected across conversation, monologue, and story narration tasks. The speech samples were audio-recorded and later transcribed for semantic analysis. and analyzed for 13 semantic relations, including temporal, possessive, agent + object, agent + action, locative, existence, conjunctive, denial, descriptive, non-existence, quantitative, recurrence, and rejection relations. Repeated-measures ANOVA was used for statistical analysis. The findings revealed that communicative context significantly influenced the use of most semantic relations. Story narration generally elicited higher scores for complex semantic relations such as agent + action, descriptive, locative, quantitative, conjunctive, and rejection relations, whereas possessive and existence relations were used more frequently during conversation tasks. Temporal relations did not show significant differences across tasks. Overall, the findings suggest that storytelling tasks encourage greater semantic complexity and richer expressive language in preschool children. The study highlights the importance of assessing children across multiple speaking contexts to obtain a more comprehensive understanding of their language abilities.

Keywords: semantic relations, language development, Hindi-speaking children, preschool children, semantics, story narration, expressive language

1. Introduction

Language plays an essential role in human life as it helps individuals communicate their thoughts, emotions, ideas and needs. It is a structured system of symbols and rules that develops gradually from early childhood through interaction with family members, peers and the surrounding environment. Children begin learning language from infancy and as they grow, their language becomes more organized and meaningful. The development of language is influenced by several factors, including cognition, social interaction, culture and environmental exposure. Effective communication depends on different

components of language working together, such as phonology, morphology, syntax, semantics and pragmatics.

Semantics is the aspect of language that deals with meaning. Semantic development refers to the process through which children learn the meanings of words and understand how words are related to objects, actions, people, and events in their environment. As children grow, they not only increase their vocabulary but also learn how to combine words to express meaningful ideas. Semantic growth reflects both linguistic and cognitive development because children gradually learn to organize their experiences into meaningful language.

Semantic development is the emergence of semantic relations. Semantic relations refer to the meaningful connections expressed between words in a child's early speech. These relations are seen when children begin combining words to communicate messages before they fully develop grammatical structures. In early language development, children often produce two-word and three-word utterances that reflect relationships between actions, objects, people, locations, and possessions.

Semantic relations commonly observed include agent + action, action + object, possessive, locative, temporal, and quantitative relations. For example, a child saying "mummy go" demonstrates an agent + action relation, while "drink water" represents an action + object relation. As children grow older and their language abilities improve, they begin using more complex semantic structures such as agent + action + object and action + object + location. These advanced relations indicate improvement in semantic organization, sentence formation, and expressive language abilities.

The use of semantic relations may vary across different speaking situations. Tasks such as conversation, monologue, and story narration place different linguistic demands on children and can influence the type and complexity of semantic relations produced. Story narration generally requires greater organization of thoughts and language, which may encourage children to use more complex semantic structures compared to casual conversation.

Research on semantic development has mainly focused on English-speaking children, while studies involving Hindi-speaking preschool children remain limited. Understanding the development of semantic relations in Hindi-speaking children is important for identifying typical language patterns and supporting early assessment of language difficulties. Therefore, the present study aims to examine the use of semantic relations in typical Hindi-speaking children between 4 and 5.11 years of age across conversation, monologue, and story narration tasks.

Brown (1973) conducted one of the earliest and most influential studies on child language development and introduced the concept of semantic relations in early speech. The study explained how children combine words meaningfully before developing complete grammatical structures. Brown described different semantic relations such as agent + action, action + object, possession, and locative relations, which became the foundation for later research in semantic development.

Cook (1975) examined the development of three-term semantic relations in preschool children. The study reported that children gradually progress from simple two-word combinations to more complex semantic

structures as their language and cognitive abilities develop with age.

Freedman (1976) compared semantic relations in typically developing children and children with language impairment. The findings showed that typically developing children produced a wider variety of semantic relations, while children with language difficulties demonstrated reduced semantic complexity and fewer meaningful combinations.

Golinkoff (1981) investigated semantic relations in both verbal and non-verbal communication. The study suggested that children are able to understand conceptual relationships before they fully master spoken language. The findings highlighted the close relationship between cognition and semantic development.

Kant, Dafadar, and Banik (2015) analyzed semantic characteristics in spoken language among normally developing Hindi-speaking children aged 3 to 7 years. Speech samples collected through picture description tasks showed that vocabulary use and semantic complexity increased progressively with age.

D'Souza & Kumaraswamy (2014) found that semantic relations become more complex with increasing age, and children used more semantic relations during conversation than during structured tasks. The findings highlighted the importance of semantic development in early language acquisition.

Boban (2019) examined semantic intention and semantic relations in children with intellectual disability. It focused on how children understand and express relationships between words and concepts during communication.

Kumar (2019) developed an oral expression scale for Hindi-speaking children between 3 and 7 years of age. The study emphasized the importance of assessing expressive language abilities, including semantic and syntactic skills, in Hindi-speaking children.

Kumaraswamy & Radhika (2020). examined semantic intentions and semantic development in Malayalam-speaking children aged 8–13 years. The researchers analyzed how children used meaning-based language during communication tasks. The study showed that semantic understanding becomes more organized and complex as children grow older.

Arora (2022) explored semantic relations and linguistic structures in Hindi using semantic annotation systems. The study discussed the complexity of semantic markers and relationships present in the Hindi language organization.

Fatima (2024) examined pragmatic and narrative language skills in Hindi-speaking children. The study emphasized that narrative and storytelling tasks encourage children to produce more organized and semantically complex language structures.

Need for study

Language development during the preschool years is important for communication and learning. Semantic relations help children combine words meaningfully during speech. Most studies on semantic relations have focused on English-speaking children, with limited research in Hindi-speaking children. Since language development differs across languages, studying semantic relations in Hindi-speaking children is important.

Different speaking tasks, such as conversation, monologue, and story narration, require different language skills. Therefore, the present study aims to examine semantic relations in typically developing Hindi-speaking children aged 4–5.11 years. The findings may help in understanding normal language development and support early identification of language difficulties.

Methodology

Aim of the Study

The present study aimed to investigate the use of semantic relations in typical developing Hindi speaking children aged 4–5.11 years. The study also aimed to compare the use of semantic relations across conversation, monologue, and story narration tasks.

Subjects

The study included 20 typical Hindi speaking children between 4 and 5.11 years of age. The participants were divided into two age groups: 4–4.11 years and 5–5.11 years, with 10 children in each group. All participants were from an English-medium school in Delhi and participated in conversation, monologue, and story narration tasks to examine the use of semantic relations.

Inclusion Criteria

Children aged between 4 and 5.11 years
Native or primary Hindi-speaking children
Children enrolled in an English-medium school
Normal hearing levels as confirmed before testing
Normal vision levels as confirmed before testing
Ability to understand and participate in all language tasks

Exclusion Criteria

Children with hearing impairment

Children with visual impairment

History of speech or language disorder

Developmental delay or neurological disorder

Intellectual disability or cognitive impairment

Children receiving speech-language therapy

Children are unable to complete the testing procedure or all language tasks.

Stimulus

A minimum of 100 total utterances per child was collected across conversation, monologue, and story narration tasks. The speech samples were audio-recorded and later transcribed for semantic analysis. The audiotaped samples were further analyzed based on a list of semantic relations and compared statistically for significant differences across groups using a repeated-measures ANOVA. Semantic relations were identified and classified based on Brown's (1973) framework of early semantic relations. Each utterance was analyzed for meaningful relationships such as agent + action, agent + object, locative, possessive, temporal, and quantitative relations. Coding was performed manually based on the contextual meaning of the child's utterances.

Procedure

The data was collected in a quiet room with adequate illumination and noise control. The subject was seated next to the examiner at 1 foot distance of one foot in front of the standard laptop with an inbuilt microphone. Before data collection, the clinician had an informal interaction with the subject in order to build a rapport. The subject was instructed to respond properly to every task.

Statistical analysis

Statistical analysis was performed using IBM SPSS Statistics (Version 30.0). The obtained speech samples were transcribed and analyzed for different semantic relation types across conversation, monologue, and story narration tasks. Descriptive statistics including mean, standard deviation, median, minimum, and maximum values were calculated for each semantic relation. Repeated-measures ANOVA was used to compare the usage of semantic relations across the three language tasks, as all participants completed each task condition. For all statistical procedures, the alpha level was set at $\alpha = .05$. Semantic relations with $p < .05$ were considered statistically significant and $p < .01$ were considered highly significant.

Result and Discussion

The present study examined the use of semantic relations in typical developing Hindi speaking children between 4 and 5.11 years of age across conversation, monologue, and story narration tasks. The obtained speech samples were analyzed statistically and obtained results are discussed below.

Semantic relation 1: Temporal

Table 1 depicts the temporal semantic relation across findings, which revealed no significant difference in temporal semantic relations among the three contexts (p > .05). (con-conversation,mon-monologue,sto-story narration)

Task	N	Minimum	Maximum	Mean	Std. Deviation	Median	ANOVA for repeated measures F value (d.f = 2,38)	p value
CON	20	1	2	1.3	0.47	1	0.689	.508 NS
MON	20	1	2	1.4	0.503	1		
STO	20	0	2	1.25	0.55	1		

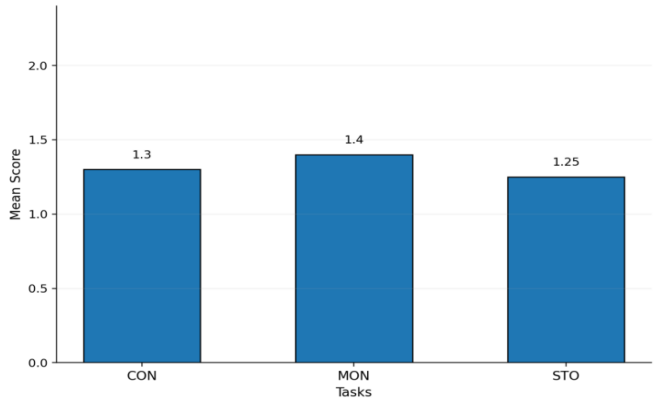

Figure 1 shows the temporal parameter conversation, monologue, and story narration.

The temporal parameter was seen in conversation, monologue, and story narration, and it was found that 4 to 5,11 year-old children use the temporal parameter more in monologue compared to conversation and storytelling.

Semantic relation 2: Possessive

Table 2 shows the parameter possessive of the semantic relation in three contexts (con-conversation,mon-monologue,sto-story narration)

possessive semantic relation across three contexts: The results revealed a statistically significant difference in the possessive semantic relation across the three contexts, with higher scores observed during conversation and monologue tasks.

Task	N	Minimum	Maximum	Mean	Std. Deviation	Median	ANOVA for repeated measures F value (d.f = 2,38)	p value
CON	20	3	6	3.85	0.875	4	10.726	p < .001 HS
MON	20	2	5	3.3	0.801	3		
STO	20	2	4	2.65	0.671	3		

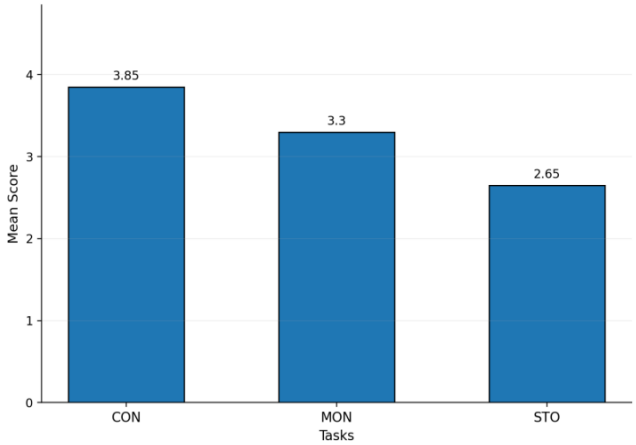

Figure 2 shows the possessive parameter conversation, monologue, and story narration.
Possessive semantic relation revealed a significant difference across tasks, $F(2, 38) = 10.726$, $p < .001$. The highest mean score was observed during the conversation task, followed by the monologue and story narration tasks.

Semantic relation 3: Agent + Object

Table 3 shows the parameter agent + object of the semantic relation in three contexts (con-conversation,mon-monologue, story narration)

Semantic relation across three contexts: The results revealed a statistically highly significant difference in the agent + object parameter.

Task	N	Minimum	Maximum	Mean	Std. Deviation	Median	ANOVA for repeated measures F value (d.f = 2,38)	p value
CON	20	2	5	3.4	0.68	3	10.446	p < .001 HS
MON	20	3	6	4.25	0.754	4		
STO	20	4	7	5.15	0.91	5		

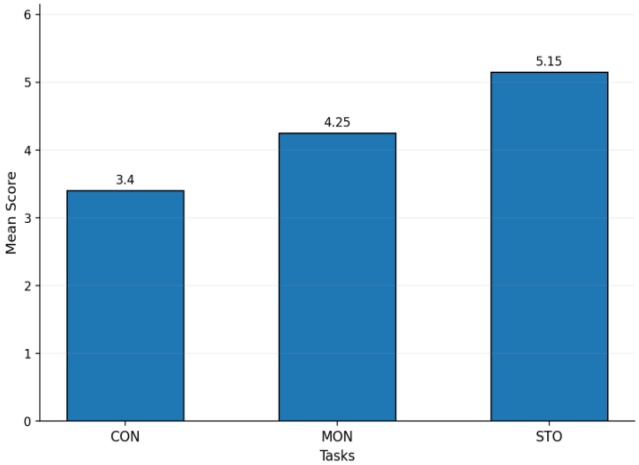

Figure 3 shows agent + object of the semantic relation in three contexts (con-conversation, mon-monologue, story narration)

Agent + object semantic relation revealed a significant difference across tasks, $F(2, 38) = 10.446$, $p < .001$. The mean scores increased progressively from conversation to story narration.

Semantic relation 4: Agent+Action

Table 4 shows the parameter agent + action of the semantic relation in three contexts (con-conversation,mon-monologue, story narration)

Semantic relation across three contexts: The results revealed a statistically highly significant difference in the agent + action parameter.

Task	N	Minimum	Maximum	Mean	Std. Deviation	Median	ANOVA for repeated measures F value (d.f = 2,38)	p value
CON	20	2	6	4.05	0.788	4	12.348	p < .001 HS
MON	20	3	7	5	0.812	5		
STO	20	4	8	6.1	0.978	6		

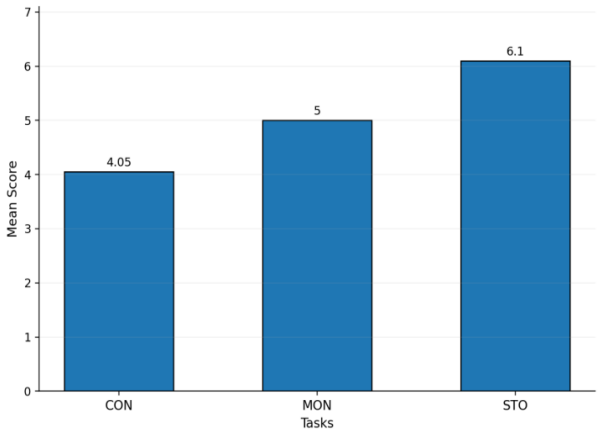

Figure 4 shows agent + action of the semantic relation in three contexts (con-conversation,mon-monologue, story narration)

Agent + action semantic relation showed a significant difference across the three tasks, $F(2, 38) = 12.348$, $p < .001$. The highest mean score was obtained during the story narration task.

Semantic relation 5: Locative

Table 5 shows the parameter locative of the semantic relation in three contexts (con-conversation,mon-monologue, story narration)

Semantic relation across three contexts: The results revealed a statistically highly significant difference in the locative parameter.

Task	N	Minimum	Maximum	Mean	Std. Deviation	Median	ANOVA for repeated measures F value (d.f = 2,38)	p value
CON	20	2	6	4.2	0.768	4	11.159	p < .001 HS
MON	20	3	6	5.05	0.801	5		
STO	20	4	8	6	0.955	6		

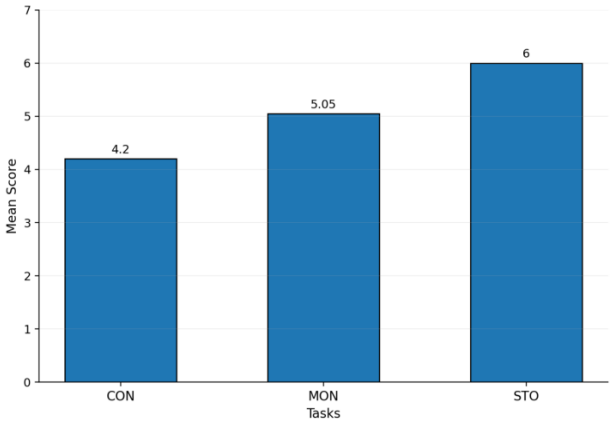

Figure 5 shows the locative of the semantic relation in three contexts (con-conversation,mon-monologue, story narration)

The statistical analysis for the locative semantic relation demonstrated a significant difference across tasks, $F(2, 38) = 11.159$, $p < .001$. The scores increased from conversation to story narration tasks.

Semantic relation 6: Existence

Table 6 shows the parameter existence of the semantic relation in three contexts (con-conversation,mon-monologue, story narration)

Semantic relation across three contexts: The results revealed a statistically highly significant difference in the existence parameter.

Task	N	Minimum	Maximum	Mean	Std. Deviation	Median	ANOVA for repeated measures F value (d.f = 2,38)	p value
CON	20	3	7	5.2	0.768	5	56.355	p < .001 HS
MON	20	1	5	3.45	0.686	3		
STO	20	0	4	2.1	0.641	2		

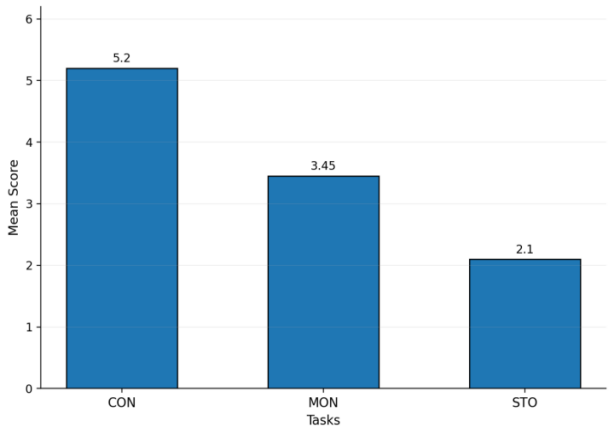

Figure 6 shows the existence of the semantic relation in three contexts (con-conversation,mon-monologue, story narration)

The statistical analysis for the existence of semantic relation revealed a highly significant difference across tasks, $F(2, 38) = 56.355$, $p < .001$. The conversation task showed the highest mean score, whereas the story narration task showed the lowest.

Semantic relation 7: Conjunctive

Table 7 shows the parameters conjunctive of the semantic relation in three contexts (con-conversation,mon-monologue, story narration)

Semantic relation across three contexts: The results revealed a statistically highly significant difference in the conjunctive parameter.

Task	N	Minimum	Maximum	Mean	Std. Deviation	Median	ANOVA for repeated measures F value (d.f = 2,38)	p value
CON	20	1	4	2.95	0.657	3	7.648	.002 HS
MON	20	2	5	3.7	0.718	4		
STO	20	3	6	4.55	0.854	5		

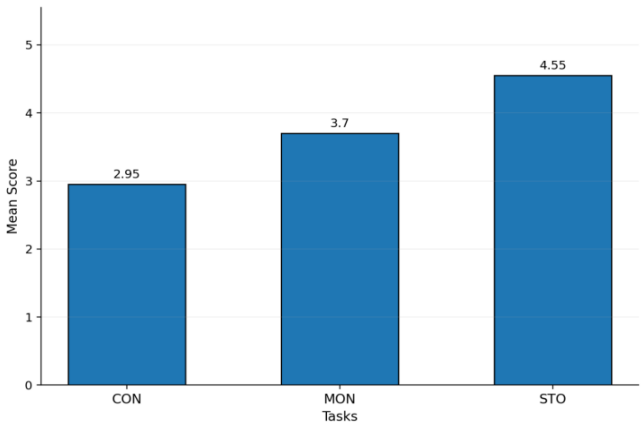

Figure 7 shows the conjunctive of the semantic relation in three contexts (con-conversation,mon-monologue, story narration)

The statistical analysis for the conjunctive semantic relation showed a significant difference across tasks, $F(2, 38) = 7.648$, $p = .002$. The highest mean score was observed during the story narration task.

Semantic relation 8:Denial

Table 8 shows the parameters of the denial of the semantic relation in three contexts (con-conversation,mon-monologue, story narration)

Semantic relation across three contexts: The results revealed a statistically highly significant difference in the denial parameter.

Task	N	Minimum	Maximum	Mean	Std. Deviation	Median	ANOVA for repeated measures F value (d.f = 2,38)	p value
CON	20	1	4	2.6	0.605	3	6.524	.003 HS
MON	20	1	4	3.25	0.686	3		
STO	20	2	5	4.1	0.812	4		

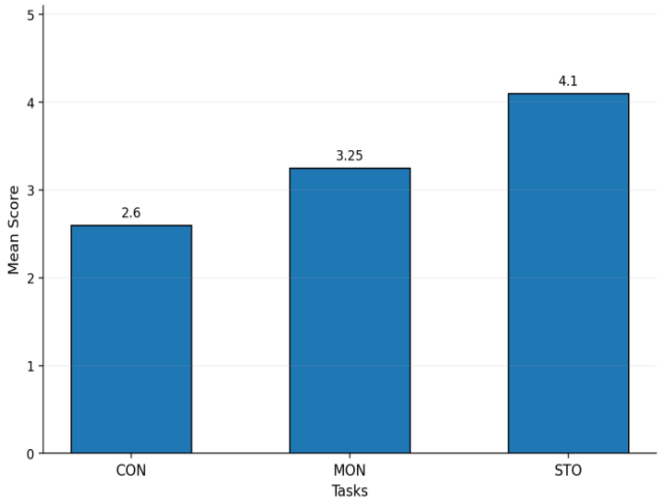

Figure 8 shows the denial of the semantic relation in three contexts (con-conversation,mon-monologue, story narration)

The statistical analysis for the denial semantic relation demonstrated a significant difference across the three tasks, $F(2, 38) = 6.524$, $p = .003$. Mean scores increased steadily from conversation to story narration.

Semantic relation 9:Descriptive

Table 9 shows the parameters of the descriptive of the semantic relation in three contexts (con-conversation,mon-monologue, story narration)

Semantic relation across three contexts: The results revealed a statistically highly significant difference in the descriptive parameter.

Task	N	Minimum	Maximum	Mean	Std. Deviation	Median	ANOVA for repeated measures F value (d.f = 2,38)	p value
CON	20	2	6	4	0.759	4	11.875	p < .001 HS
MON	20	3	7	5.05	0.826	5		
STO	20	4	8	6.05	0.981	6		

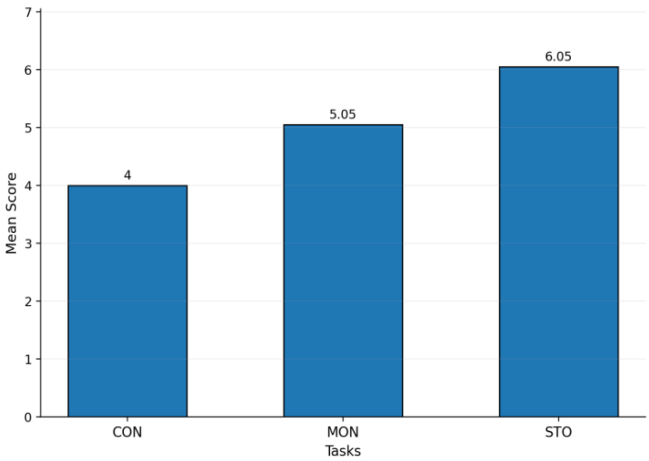

Figure 9 shows the descriptive of the semantic relation in three contexts (con-conversation,mon-monologue, story narration)

The statistical analysis for the descriptive semantic relation revealed a significant difference across tasks, $F(2, 38) = 11.875$, $p < .001$. The story narration task yielded the highest mean score.

Semantic relation 10: Non-existence

Table 10 shows the parameters of the non-existence of the semantic relation in three contexts (con-conversation,mon-monologue, story narration)

Semantic relation across three contexts: The results revealed a statistically highly significant difference in the non-existence parameter.

Task	N	Minimum	Maximum	Mean	Std. Deviation	Median	ANOVA for repeated measures F value (d.f = 2,38)	p value
CON	20	1	4	2.7	0.59	3	5.982	.004 S
MON	20	1	4	3.35	0.704	3		
STO	20	2	5	4.15	0.854	4		

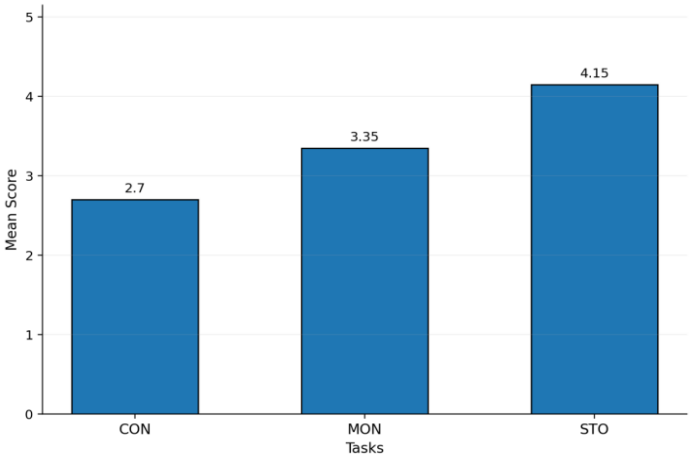

Figure 10 shows the non-existence of the semantic relation in three contexts (con-conversation,mon-monologue, story narration)

The statistical analysis for the non-existence semantic relation showed a significant difference across tasks, $F(2, 38) = 5.982$, $p = .004$. Higher mean scores were observed during the story narration task compared to the conversation and monologue tasks.

Semantic relation 11: Quantitative

Table 11 shows the parameters of the quantitative semantic relation in three contexts (con-conversation,mon-monologue, story narration)

Semantic relation across three contexts: The results revealed a statistically highly significant difference in the quantitative parameter.

Task	N	Minimum	Maximum	Mean	Std. Deviation	Median	ANOVA for repeated measures F value (d.f = 2,38)	p value
CON	20	2	5	3.75	0.716	4	10.964	p < .001 HS
MON	20	3	6	4.7	0.788	5		
STO	20	4	7	5.75	0.91	6		

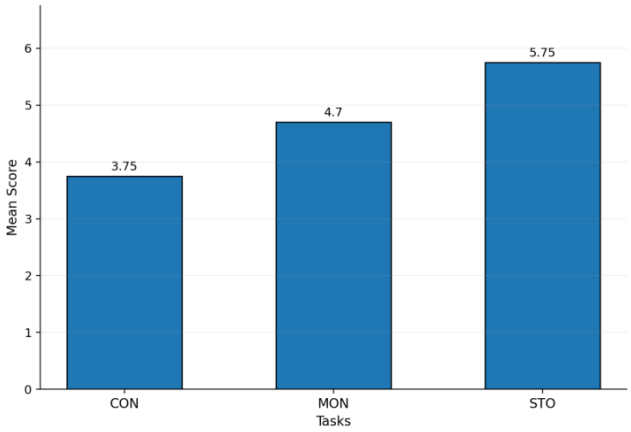

Figure 11 shows the quantitative analysis of the semantic relation in three contexts (con-conversation,mon-monologue, story narration)

The statistical analysis for the quantitative semantic relation demonstrated a significant difference across the three tasks, $F(2, 38) = 10.964$, $p < .001$. The mean scores increased progressively across the three contexts.

Semantic relation12:Recurrence

Table 12 shows the parameters of the recurrence semantic relation in three contexts (con-conversation,mon-monologue, story narration)

Semantic relation across three contexts: The results revealed a statistically highly significant difference in the recurrence parameter

Task	N	Minimum	Maximum	Mean	Std. Deviation	Median	ANOVA for repeated measures F value (d.f = 2,38)	p value
CON	20	1	4	2.85	0.604	3	4.982	.012 S
MON	20	2	5	3.65	0.718	4		
STO	20	1	4	2.95	0.641	3		

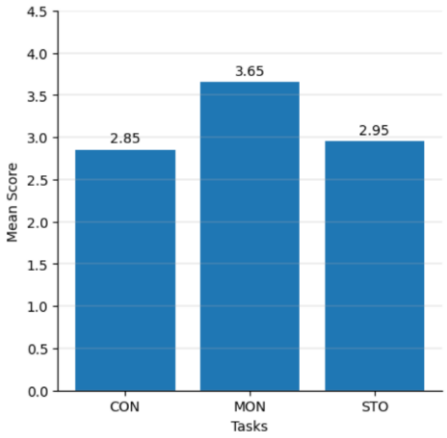

Figure 12 shows the recurrence analysis of the semantic relation in three contexts (con-conversation,mon-monologue, story narration)

The statistical analysis of recurrence showed that the speaking task significantly influenced the frequency of the Recurrence relation, F(2, 38) = 4.98, p = .012. Performance peaked during monologues (M = 3.65), scoring higher than both story narration (M = 2.95) and conversation (M = 2.85).

Semantic relation 13:Rejection

Table 13 shows the parameters of the rejection semantic relation in three contexts (con-conversation,mon-monologue, story narration)

Semantic relation across three contexts: The results revealed a statistically highly significant difference in the rejection parameter.

Task	N	Minimum	Maximum	Mean	Std. Deviation	Median	ANOVA for repeated measures F value (d.f = 2,38)	p value
CON	20	1	3	2.1	0.523	2	5.746	.005 S
MON	20	1	4	2.85	0.686	3		
STO	20	2	5	3.75	0.854	4		

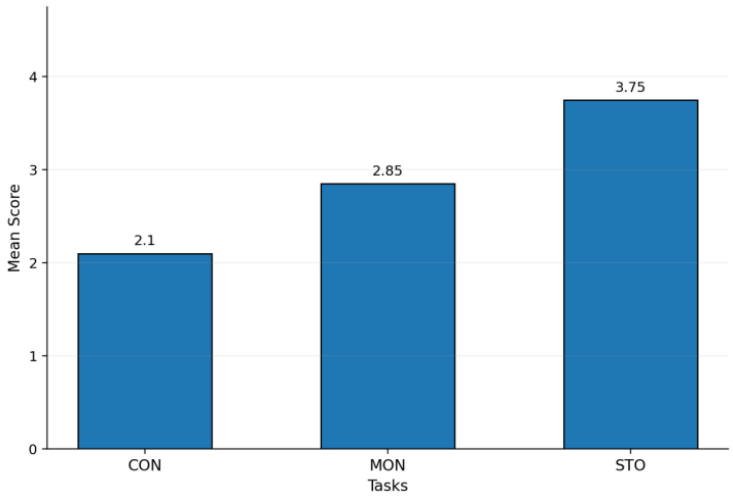

Figure 13 shows the rejection analysis of the semantic relation in three contexts (con-conversation,mon-monologue, story narration)

The statistical analysis for the rejection semantic relation showed a significant difference across the three tasks, $F(2, 38) = 5.746$, $p = .005$. Mean scores were highest during the story narration task.

Discussion

The present study examined the use of semantic relations in typical Hindi speaking children aged 4–5.11 years during conversation, monologue, and story narration tasks. The findings showed that the type of speaking task influenced the use of semantic relations. Overall, children produced more complex semantic relations during story narration than during conversation and monologue tasks. This suggests that storytelling encourages children to use more organized and meaningful language.

Temporal relations did not show significant differences across tasks, indicating that children used time-related expressions similarly in all speaking situations. In contrast, possessive and existence relations

were used more often during conversation tasks, possibly because children naturally talk about familiar people, objects, and surroundings during everyday interaction.

Agent + object, agent + action, locative, descriptive, quantitative, and conjunctive relations showed higher scores during story narration. Storytelling may encourage children to describe characters, actions, locations, and events in greater detail. Similar findings were reported by Akmeşe and Kanmaz (2021), who found that preschool children produced richer and more complex language during storytelling tasks.

Denial, non-existence, and rejection relations were also higher during story narration. These relations may occur more often in narratives because children need to describe contrasting situations and maintain the flow of the story. Recurrence relations, however, showed higher scores during monologue tasks, suggesting that continuous speech encourages children to repeat and expand ideas independently.

Overall, the findings suggest that semantic development is influenced by the communicative demands of the task. While conversation supported simpler semantic relations, story narration encouraged more complex and organized language use. These findings highlight the importance of assessing children across different speaking tasks to better understand their expressive language abilities.

Summary

The study examined semantic relations in typically developing Hindi-speaking children aged 4–5.11 years during conversation, monologue, and story narration tasks. Repeated-measures ANOVA showed that the type of speaking task influenced the use of most semantic relations. Overall, children produced more complex semantic relations during story narration, especially for agent + action, descriptive, locative, quantitative, and conjunctive relations. In contrast, possessive and existence relations were used more often during conversation tasks. Temporal relations did not show significant differences across the three tasks. The monologue showed the highest scores for recurrence relations. Overall, the findings suggest that storytelling tasks help preschool children produce richer and more organized language. The study also highlights the importance of assessing children in different speaking contexts to better understand their expressive language abilities.

Reference

1. Akmeşe, P. P., & Kanmaz, S. (2021). Narrative to investigate the language skills of preschool children. *International Electronic Journal of Elementary Education, 14*(1), 9–22.
2. Arora, A., Venkateswaran, N., & Schneider, N. (2022). MASALA: Modelling and analyzing the semantics of adpositions in linguistic annotation of Hindi. In *Proceedings of the 13th Language Resources and Evaluation Conference* (pp. 5696–5704).
3. Bloom, L. (1970). *Language development: Form and function in emerging grammars*. MIT Press.
4. Boerma, T. D., Leseman, P. P. M., Timmermeister, M., Wijnen, F. N. K., & Blom, E. (2016). Narrative abilities of monolingual and bilingual children with and without language impairment: Implications for clinical practice. *International Journal of Language & Communication Disorders, 51*(6), 626–638.

5. Bowles, R. P., Justice, L. M., Khan, K. S., Piasta, S. B., Skibbe, L. E., & Foster, T. D. (2020). Development of the Narrative Assessment Protocol-2: A tool for examining young children's narrative skill. *Language, Speech, and Hearing Services in Schools, 51*(2), 390–404.
6. Brown, R. (1973). *A first language: The early stages*. Harvard University Press.
7. Clark, E. V. (2009). *First language acquisition* (2nd ed.). Cambridge University Press.
8. Cook, P. M. (1975). *Three-term semantic relations in child language* (Doctoral dissertation, Ohio State University).
9. D'Souza, D., & Kumaraswamy, S. (2014). Semantic relations in 3.1–5-year-old typically developing Konkani-speaking children. *Language in India, 14*(4), 69–81.
10. Freedman, P. P., & Carpenter, R. L. (1976). Semantic relations used by normal and language-impaired children at Stage I. *Journal of Speech and Hearing Research, 19*(4), 784–795. https://doi.org/10.1044/jshr.1904.784
11. Golinkoff, R. M. (1981). The case for semantic relations: Evidence from the verbal and nonverbal domains. *Journal of Child Language, 8*(2), 413–437.
12. Justice, L. M., & Ezell, H. K. (2002). Use of storybook reading to increase print awareness in at-risk children. *American Journal of Speech-Language Pathology, 11*(1), 17–29.
13. Justice, L. M., & Ezell, H. K. (2004). Print referencing: An emergent literacy enhancement strategy and its clinical applications. *Language, Speech, and Hearing Services in Schools, 35*(2), 185–193.
14. Kant, A. R., Dafadar, B. S., & Banik, A. A. (2015). Analysis of characteristics of semantics of spoken language in normally developing Hindi-speaking children. *International Journal of Research in Medical Sciences, 3*(12), 3534–3542.
15. Kumar, V., & Mehta, R. (2020). Adaptation and validation of the Receptive–Expressive Emergent Language Test-3: Evidence from Hindi-speaking children with cochlear implants. *International Journal of Pediatric Otorhinolaryngology, 132*, 109891. https://doi.org/10.1016/j.ijporl.2020.109891
16. Kumar, V., & Mehta, R. (2021). Receptive and expressive language in Hindi-speaking children with postcochlear implantation at 6-month intervals. *International Archives of Otorhinolaryngology, 25*(3), e407–e412. https://doi.org/10.1055/s-0040-1716570
17. Nelson, K. (1973). *Structure and strategy in learning to talk. Monographs of the Society for Research in Child Development, 38*(1–2), 1–135.
18. Nippold, M. A. (2007). *Later language development: School-age children, adolescents, and young adults* (3rd ed.). PRO-ED.
19. Owens, R. E. (2020). *Language development: An introduction* (10th ed.). Pearson.
20. Paul, R., & Norbury, C. F. (2012). *Language disorders from infancy through adolescence* (4th ed.). Elsevier.
21. Piaget, J. (1952). *The origins of intelligence in children*. International Universities Press.
22. Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.