

# Análise da diversidade de verbos enunciados na fala espontânea de pré-escolares brasileiros\*\*\*

## Verb diversity analysis in the spontaneous speech of Brazilian preschoolers

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### Abstract

Background: verb acquisition. Aim: to verify quantitative and qualitative verb diversity in the spontaneous speech of Brazilian Portuguese-speaking preschoolers and verb acquisition from 2 to 4 years of age. Method: participants were sixty preschoolers equally matched on gender and age, divided into three groups: GI (2-year-old children), GII (3-year-old children) and GIII (4-year-old children). Spontaneous speech samples obtained through playing interactions, in educational contexts, were collected, and verb productions were listed. Results: children used 167 different verbs. The quantitative analysis indicated significant statistical differences between all groups ( $p < .001$ ), with gradual increase of verb usage from 2 to 4 years of age. However, no statistical difference ( $p = .956$ ) was observed between genders. Conclusion: preschoolers improved their use of verbs during the initial stages of language acquisition, irrespective of their gender.

**Key Words:** Language Development; Child Language; Vocabulary, Preschool.

### Resumo

Tema: aquisição de verbos. Objetivos: verificar a diversidade quantitativa e qualitativa dos verbos enunciados por pré-escolares falantes do Português Brasileiro, bem como sua evolução dos 2 aos 4 anos de idade. Método: participaram do estudo sessenta pré-escolares divididos em três grupos pareados quanto ao gênero e de acordo com a faixa etária, a saber, GI (2 anos), GII (3 anos) e GIII (4 anos). Foram coletadas amostras de fala, obtidas em contexto educacional por meio de interação lúdica, a partir das quais foi empreendido um levantamento dos verbos empregados. Resultados: foram enunciados 168 verbos distintos, dos quais a análise da quantidade indicou diferenças estatísticas significantes entre os grupos ( $p$ -valor  $< 0,001$ ), com um aumento gradual no uso de verbos dos dois aos quatro anos, com diferenças entre todos os grupos. Todavia, não há diferença significativa ( $p$  - valor 0,956) entre os gêneros. Conclusão: os pré-escolares estudados aprimoraram o uso de verbos ao longo desta fase inicial de aquisição da linguagem, independente do gênero a que pertencem.

**Palavras-Chave:** Desenvolvimento da Linguagem; Linguagem Infantil; Vocabulário; Pré-escolar.

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## Introduction

Studies in different languages have pointed the verb as an element that facilitates grammatical development, given that it expresses actions and processes, and its main function is acting as a predicate 1-4.

An interesting factor regarding verb acquisition consists on maternal speech's preference to nouns. Parents usually encourage their children to name objects more than actions, because verbs are more related to nonverbal than verbal behaviors 5.

Despite its semantic and grammatical variety, there is a considerable increase in verb diversity during vocabulary growth 6,7. It is important to consider that syntactic information facilitates sentence comprehension when there is a novel verb and, consequently, the interpretation of those verbs' meanings. Thus, structural information together with contextual information is crucial for children's learning and retention of novel verb's meaning.

Nevertheless, there are variations in the acquisition of different types of verbs. For example, verbs referring to physical actions (e.g.: to pull) are easier identified than those related to mental states (e.g.: to want) 10. Besides that, the more the stimulation of a verb, the more the frequency and flexibility of its usage by the child, indicating that verb knowledge's refinement is mediated by its usage 11-16.

The aim of this study was to verify quantitative and qualitative verb diversity in spontaneous speech of Brazilian Portuguese-speaking preschoolers, as well as verb development from 2 to 4 years of age.

## Method

This research was approved by the Ethics Committee for the Analysis of Research Protocols from the Clinical Hospital of the School of Medicine of the University of São Paulo - Brazil (CAPPesq - n° 360/01). Before data collection, parents received explanations about the aims of the study and the testing procedures and signed the Informed Consents.

All subjects attended municipal kindergartens situated in the north region of São Paulo. The kindergartens kept an accord with the city hall and received children from low and lower-middle socioeconomic status. A speech-language screening was carried out in order to guarantee that all participants showed adequate performance on the following areas: vocabulary, phonology, production and comprehension of sentences 17. According to this

procedure, 60 preschooler-aged children, within normal language development, were selected.

Subjects were equally divided into three groups according to age and gender, leading to 20 children in each group - 10 girls and 10 boys. The Group 1 (GI) was composed by children from 2:0 to 2:11 (years:months), with mean age of 2:5; the Group 2 (GII) comprised children from 3:0 to 3:11, with mean age of 3:4; and the Group 3 (GIII) consisted on children from 4:0 to 4:11, with mean age of 4:4.

Because of children's age range and due to the need of eliciting subjects' spontaneous speech, speech samples were collect through a playing interaction context with the following toys: farm miniatures with animals, means of transportation, aliments, kitchenware and two puppets. Besides these materials, one VHS video camera, videotapes, one voice recorder and audiotapes were used.

For data collection, a room was prepared with a video camera on a tripod and an audio recorder beside the child. Toys were arranged on a carpet in the following manner: kitchenware was placed at the center-front, animals and the little farm on the right side, and means of transportation and the puppets on the left side.

Each child was taken away from the classroom and conducted to the testing room. The child was encouraged to interact with the examiner for 30 minutes, in which opened questions were made in order to provide optimal context for children's spontaneous demands. The toys used in this study were chosen to supply an effective communicative situation, facilitating children's comments and reports, even for younger children.

After data collection, speech samples were transcribed. The adopted procedures were the following: initially, the researcher watched the whole tape record without making notes, to observe child's general performance. The second step was to watch again the records transcribing, this time, children's speech. Speech samples were divided into segments (each child's utterance) up to a total number of 100 segments 18. When the total speech sample was reached, the remaining segments were rejected. The division criterion for each segment was at least one of those: child's change of conversational topic, child's shift of attentional focus; examiner's interruption.

Another criterion adopted for the sample transcription was to use only complete segments, without interruptions. All exact repetitions of segments were included. Disfluencies, such as word repetitions, were scored only once. In few cases, when repetitions were made to emphasize speech, each occurrence was scored 19.

After all videotape transcriptions, the researcher listed all verbs produced by each child and counted the number of times each verb appeared in the sample. Next, the number of different verbs used in subjects' speech was also counted in order to measure verb diversity for each child. Finally the examiner raised all verbs produced in this corpus, and analyzed the number of subjects that produced each verb. Thus, the maximum score for each verb was equivalent to 60, which represents the number of participants of this study.

Data statistical analysis were carried out using independent and paired T-tests and univariate analysis of variance (ANOVA) for comparisons between gender and age, for each variable, assuming homogeneity of variance and normal distribution. For multiple comparisons, Tukey test was used. The significance level adopted in this study was 5%.

## Results

Table 1 shows descriptive statistics regarding the diversity of verbs produced by children from each group. The ANOVA indicated significant differences between groups ( $p < .001$ ). The Tukey test revealed a gradual increase in the use of verbs from 2 to 4 years of age, with differences between all groups.

Table 2 presents descriptive statistics concerning gender comparisons. The ANOVA demonstrated no statistical difference between groups ( $p = .956$ ).

To present the distribution of the 167 verbs used by children in this study, verbs were divided into intervals according to the number of subjects that used them at least once (in decrescent order):

. 50 to 60 subjects: 6 verbs [estar e ser (to be), fazer (to do), ir (to go), olhar (to look), ter (to have)];

. 40 to 49 subjects: 6 verbs [querer (to want), pegar (to catch), por (to put), dar (to give), poder (can), comer (to eat)];

. 30 to 39 subjects: 3 verbs [cair (to fall), ficar (to stay), saber (to know)];

. 20 to 29 subjects: 10 verbs [dormir (to sleep), tomar (to drink), deixar (to let), gostar (to like), tirar (to take off), fechar (to close), ver (to see), colocar (to place), abrir (to open), morder (to bite)];

. 10 to 19 subjects: 24 verbs [caber (to fit), sair (to go out), achar (to find), brincar (to play), cortar (to cut), levar (to carry), quebrar (to break), esperar (to wait), acabar (to finish), ajudar (to help), esquentar (to warm), guardar (to keep), conseguir (to get), vir

(to come), andar (to walk), arrumar (to arrange), bater (to beat), chorar (to cry), fritar (to fry), lavar (to wash), chamar (to call together), chegar (to arrive), comprar (to buy), passar (to pass)];

. 02 to 09 subjects: 61 verbs [acordar (to wake up), entrar (to enter), ligar (to call someone), mexer (to move), queimar (to burn), dirigir (to drive), doer (to hurt), esquecer (to forget), machucar (to harm), montar (to set up), beber (to drink), correr (to run), cozinhar (to cook), falar (to talk), passear (to go for a walk), segurar (to hold), subir (to go up), trabalhar (to work), cuidar (to take care), derrubar (to throw down), desligar (to turn off), morar (to live), trazer (to bring), botar (to put), ganhar (to win), jogar (to play), mamar (to suck), morrer (to die), sentar (to sit), deitar (to lay down), descer (to go down), tampar (to top), apertar (to press), cobrir (to cover with), consertar (to fix), esconder (to hide), esfriar (to cool), faltar (to lack), gritar (to shout), parar (to stop), prender (to fasten), puxar (to pull), sarar (to recover), virar (to turn), voltar (to come back), almoçar (to have lunch), chover (to rain), conhecer (to meet), contar (to tell), destruir (to destroy), escovar (to brush), grudar (to stick together), limpar (to clean), matar (to kill), pensar (to think), procurar (to look for), pular (to jump), secar (to dry), soltar (to let go), sumir (to disappear), usar (to use)]; and

. Only 01 subject: 57 verbs [acender (to turn on), acontecer (to happen), acudir (to assist), adorar (to love), apagar (to erase), apostar (to bet), arranhar (to scratch), assistir (to watch), assoprar (to blow), assustar (to frighten), atirar (to shoot), atropelar (to run over), beliscar (to pinch), brigar (to fight), buscar (to fetch), cantar (to sing), carregar (to bear), chupar (to suck), conversar (to chat), dançar (to dance), derramar (to pour out), desculpar (to sorry), dizer (to say), dobrar (to fold), encontrar (to find), entortar (to curve), enxugar (to wipe), errar (to make a mistake), escolher (to chose), escorregar (to slip), espirrar (to sneeze), estudar (to study), fingir (to pretend), fugir (to run away), incomodar (to disturb), jantar (to have dinner), juntar (to join), lotar (to allot), lutar (to combat), mandar (to order), melhorar (to improve), mijar (to piss), misturar (to mix), mostrar (to show), nanar (to sleep children), nascer (to born), ouvir (to listen), partir (to split), precisar (to need), rodar (to run), roubar (to steal), sangrar (to blood), separar (to separate), servir (to serve), terminar (to terminate), transformar (to transform), vender (to sell)].

Table 3 shows the 10 most frequent verbs for each group of children.

TABLE 1. Descriptive statistics for verb production – diversity analysis for each group.

Group	Mean	Median	Standard Deviation
GI	22,25	23,00	3,88
GII	26,80	28,00	4,62
GIII	34,70	35,50	5,71

GI = 2-year-old children, GII = 3-year-old children, GIII = 4-year-old children.

TABLE 2. Descriptive statistics for verb production – diversity analysis in regard to gender.

Gender	Mean	Median	Standard Deviation
Female	27,87	26,00	7,58
Male	27,97	28,00	6,52

GI = 2-year-old children, GII = 3-year-old children, GIII = 4-year-old children.

TABLE 3. List of the 10 most frequent verbs for each group.

GI [n=88]	GII [n=102]	GIII [n=147]
to look, to be, to give, to go,	to be, to do, to catch, to go, to	To be, to have, to do, to go, to
to want, can, to have, to	look, to have, to put, to eat, to	put, to look, can, to stay, to
catch, to fall	want	eat

GI = 2-year-old children, GII = 3-year-old children, GIII = 4-year-old children, n = number of different verbs.

## Discussion

Regarding verb diversity, there were differences between all groups, showing a gradual increase in children's use of verbs from GI to GIII. This finding confirms that verbs begin to be employed in children's speech at around 2 years of age, but between 3 and 4 years there is an improvement of its usage 1-8,14.

Verb acquisition was not affected by gender, once there was no significant statistical difference between boys and girls' performances. Thus, there is evidence reinforcing that the main influences in this process are the communicative environment as well as the biological condition to development language 14-16,19.

The variety of verbs used by children confirm that the improvement of grammatical knowledge is not restricted to quantity, but covers verb diversity, given that vocabulary growth is not specific to nouns 6-8, 16, 19.

Table 3 showed that the most frequent verbs in the three groups of children were, essentially, the same. This fact is in line with the international literature that indicates that familiarity is a crucial aspect of linguistic acquisition, since it is intrinsically related to stimuli frequency and facilitates children's usage in many and different contexts 12.

In accordance with other studies 10-13, it is possible to note that there are slight disparities between verbs that designate physical actions and mental states, and that the former are more frequent than the latter.

From the observation of the verbs of this study, it is possible to verify the richness of language combinations, as well as to observe speakers creativity when producing sentences 14-15, because, albeit submitted to the same communicative situations, each Brazilian-speaking toddler was able to use sentences with different verbs to express their intentions in the most precise way 9.

## Conclusions

The results indicate that preschoolers improved their use of verbs during the initial stages of language acquisition, irrespective of their gender. Verb enhancement was evident due to the increase of the means of verbs used by each child, as well as to the improvement of verb diversity in function of age.

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