Multilingual Children's Speech Development

BULGARIAN

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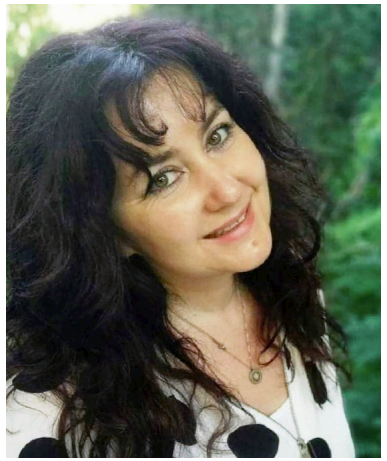
Presented by: Ignatova, D., Marinova-Todd, S. & Bernhardt, B.M.

Bulgarian

Authors



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Bulgarian

- **Commonly spoken in**
  - Bulgaria
  - Also a minority language in: Albania, Czech Republic, Greece, Hungary, Moldova, Romania, Serbia, Ukraine
- **Dialects and variants**
  - Western and eastern Bulgarian (with northern and southern subvariants)
- **Writing**
  - Cyrillic (Glagolitic), left-to-right
  - Example: Български език ('Bulgarian language')

Bulgarian map

The authors would like to acknowledge the assistance provided by the Spatial Data Analysis Network (SPAN) at Charles Sturt University, and in particular Craig Poynter, for his work creating the maps included in this book.
Figures/maps/imagery were created using ESRI ArcGIS Pro 3.1 software and data contained within ESRI's Living Atlas.

Bulgarian Speech Components

- **Consonants (22 to >35):** /p b t d k g m n ŋ f v s z ʃ ʒ ts dz tʃ dʒ {x/h} l {ɬ/w/ɯ̯} r(ɾ) j/ (some authors consider /j/ a phoneme and others, palatalization on the preceding consonant, e.g., tʲ)
- **Consonant clusters (many, especially across syllable boundaries within-word, & with 130 word-initial [WI] clusters):** Diconsonantal, all positions; triconsonantal, few word-finally (no liquids but e.g., /ŋkt, kst, pʃt/ **)** Obstruent-sonorant (e.g., stop-liquid) are most frequent, although equal sonority clusters also occur (stop-stop; nasal-nasal). WI: rising sonority towards vowel; short epenthetic vowel frequent.
- **Vowels (6 + allophones):** /i, ɛ, a, ɤ, ɔ, u/**.**
  - Unstressed allophones: [ɐ] for /a/, /ɤ/; [o] for /ɔ/, /u/; ([ɪ] for /i/, /ɛ/).
  - Western dialect: after C/j/, [ɛ] for [a]; Eastern: [ɛ] in syllable preceding one with front V
- **Tones (0):** None
- **Phonotactic restrictions:** $C_{(0\text{-}3/4)}V_{(1\text{-}2)}\ C_{(0\text{-}3).}$ Up to 7 syllables (disyllabic most frequent).
  - /j/ only before back vowels.
- **Prosody:** Lexical stress on any syllable. Vowel reduction in unstressed syllables. Rising intonation for questions, falling for declarative statements.

Bulgarian
Age of Acquisition

- **Tentative as with all Age of Acquisition 'norms'** with variation across studies, children and dialect usage
- **Consonants across word positions: 90% match in groups of 3-, 4-, & 5-year-olds, 10 per group: Bernhardt et al., 2019).**
  - **Early** (age 3) / p b t d k g f {x/h} j w l/ / (**Middle**) / **Late (**age 5+) / v s z ʃ ʒ ts ʣ ʧ ʤ ɬ r /
  - **Word position differences: Middle period:** *Word-medial* / v ʒ ʧ ʤ / *Word-final*: /ʃ/
- **Consonant clusters/sequences**
  - **Early** / mn st pk pʧ ʧk ŋk nʧ / (**Middle) Late:** With / r l /.
- **Vowels**
  - **Order (Aleksandrov, 1964, unknown criteria):** (1) /ɤ/ /ɛ/ (2) /i/ (3) /ɔ/ (4) /a/ (5) /u/
- **Tones**
  - No tones in language

Bulgarian Speech Development

Percentage correct

- **% vowel match,** age 3 years: 92% (*n:* 10, typical development: Ignatova et al., 2022)
- **% consonant match**, age 3: 80% (slightly higher, ages 4, 5: *n*: 10 per group; typical development) (Ignatova et al., 2019)
- **% Whole Word Match** (Bernhardt et al., 2020, same cohort): age 3, 61%; age 4, 65%; age 5, 66% (same cohort: if lisping ignored, about 20% higher scores across ages)
- For children with protracted phonological development, see chapter (about 10-30% lower)

Intelligibility: No studies

Common phonological patterns: AGE 2 - 5 YEARS

- **Word structure** (earlier development): Weak syllable deletion, consonant deletion (including in CC)
  - **Clusters** (later development): segmental substitutions for consonants; epenthesis word initially
- **Segmental patterns (**earlier development**):**
  - Stopping of fricatives/affricates
  - Voicing changes
  - Dentalization of sibilants most common (but less than 10% of targets)

Bulgarian
Children with Speech Sound Disorders

- **Also called:**
  - артикулационно нарушение 'articulation disorder' (‘speech sound disorder’)
  - фонологично нарушение ‘phonological disorder’
  - забавено фонологично развитие 'delayed phonological development'

  (продължително фонологично развитие 'protracted phonological development’)
- **Often associated with:**
  - детска говорна апраксия ‘ ‘childhood apraxia of speech’
  - дизартрия ‘dysarthria’
- **Research has focused on**
  - prevalence; comparisons with typically developing children; one case study
- **Studies (examples)**
  - Bernhardt et al., 2019 (comparisons with typically developing))
  - Ignatova et al., 2018, 2022 (comparisons with TD; case study)
  - Boyanova et al., 2005, 2013; Todorova, 2013; Tzenova (1997, 2010) (prevalence)

Bulgarian
Speech Assessments

- Boyadzhieva-Deleva (2015, 2022): Диагностика на говора и нарушенията му в детска възраст
- Georgieva (2004): Тест за изследване на артикулацията и фонологията.
- Ignatova et al. (2015): Тест за изследване на фонологичното развитие на български деца в предучилищна възраст

- Tsenova (2001): Комуникативни нарушения в детска възраст (textbook)
- Todorova (2013): Специфични артикулационни нарушения през детството (textbook)

Bulgarian
Speech Interventions

- Tsenova (2009, 2021): *Logorithmics* (combines music with body movements, breathing and phonation, adaptation from a Russian method)
- Ignatova et al. (2022). The influence of word stress on segmental and cluster match: A Bulgarian three-year-old with protracted phonological development. *Clinical Linguistics & Phonetics, 36*(8), 738-750. (Assessment profile with treatment plan based on nonlinear phonological analysis).

- Tsenova (2001): Комуникативни нарушения в детска възраст (textbook)
- Todorova (2018): Артикулационни нарушения. (textbook)

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Book chapter

- Ignatova, D., Bernhardt, B.M., & Marinova-Todd, S. (forthcoming). Bulgarian speech development. In S. McLeod (Ed.). *The Oxford handbook of speech development in languages of the world*. Oxford University Press.

Presentation

- Ignatova, D., Marinova-Todd, S., & Bernhardt, B.M. (2023). Bulgarian: *Multilingual children's speech development*. Charles Sturt University, Australia. https://www.csu.edu.au/research/multilingual-speech/languages
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  - Helen L. Blake, University of Technology Sydney, Australia