



Multilingual Children's Speech Development

SPANISH (ANDALUSIAN)

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Spanish (Andalusian) Authors

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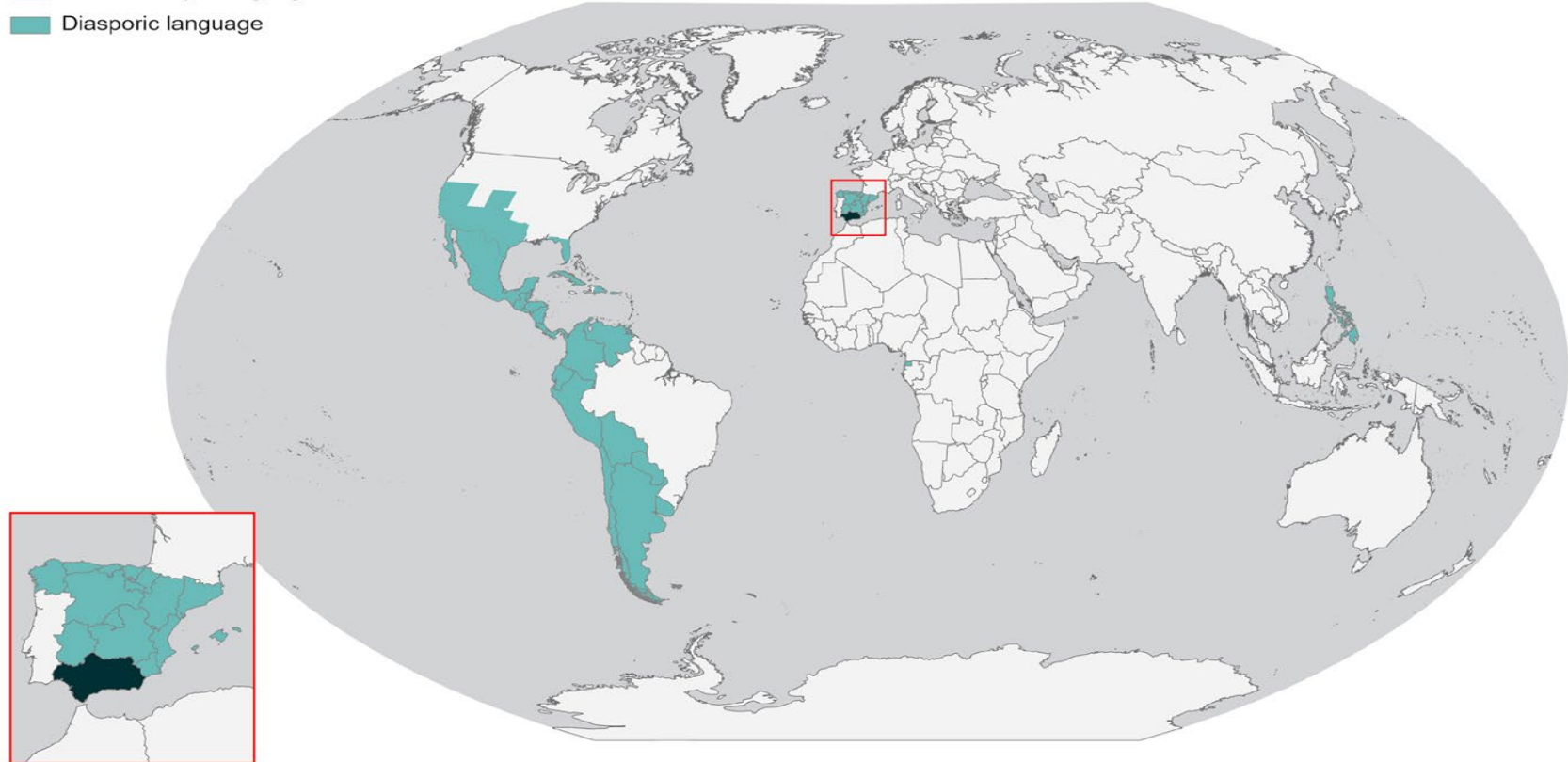
Spanish (Andalusian)

- **Commonly spoken** in southern Spain
- **Dialects and variants**
 - eastern Andalusian
 - western Andalusian
- **Writing**
 - Roman Alphabet left to right.

Spanish (Andalusian) Map

■ Official / major language
■ Diasporic language

In North and South America spoken Spanish is a similar but not identical dialect. There are few or no speakers in some locations, especially northern regions of Canada and northern Europe.



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Spanish (Andalusian) Speech Components

- **Consonants (17->25):** / p b/(β) t d/(ð) k g/(ɣ) m (n/ŋ) ɲ f {s/θ} {x/h} {ʎ/ʝ} (dʒ/ʝ) l r r /
 - { } : context-free optional variants; () : context-based optional variants*
 - / s / and sonorants: optional at ends of syllables
- **Consonant clusters:**
 - Onset clusters with / l / and / r /: / pr br tr dr kr gr fr pl bl kl gl fl /
 - Within-word across syl. boundaries (primarily sonorant followed by any syllable-initial C: C.C(C))
- **Vowels: Monophthongs, diphthongs (rare triphthongs)**
 - / i e a o u / (nasalized variants before syllable-final nasals, or if syllable-final nasals are deleted)
 - **Diphthongs : Falling sonority:** / ai oi au ou eu ei /; **Rising Sonority:** / ia ie io iu ua uo ui ue /
- **Tones: None**
- **Phonotactic restrictions:** C₍₀₋₂₎V₍₁₋₂₎C₍₀₋₁₎. Disyllabic words most common (Words to 10 syllables)
 - / ŋ / only in syllable-final position; / ɲ / only word medially; / dʒ / word initially but {ʝ/ʝ} elsewhere
 - Tap/trill exclusivities: / r / in clusters; trilled / r / word initially
 - Syllable-final consonants: limited to sonorants and { s/θ }; optional syllable-finally
 - *Same-place approximants alternate with voiced stops between vowels e.g. (/ b / [β])
- **Prosody:** Syllable-timed language. Stress (on any syllable but most common on penultimate syllable); Rising intonation for yes-no questions falling for Wh-questions declarative statements.

Spanish (Andalusian)

Age of Acquisition

- **Tentative** as with all Age of Acquisition 'norms' because of variation across studies, children and dialect usage
- **Consonants (singleton onsets; codas optional so variable across children)**
 - **Early** / p t k b~β m n ŋ f (x?) l / **Middle** / d~ð ɲ (x?) {tʃ/ʃ} {dʒ/ʝ} r / **Late** / s/θ γ r /
 - Earlier-acquired in shorter words and stressed syllables, especially word-medial onsets to final syllables versus word-initial consonants
- **Consonant clusters:** Earliest: /kl/ **Latest:** / pr tr fr / and especially / gl /
 - Earlier-acquired: in stressed syllables; as //clusters versus tap clusters; as within-word heterosyllabic sequences versus as onset clusters
- **Vowels:**
 - **Age 3:** higher match levels for (1) monophthongs than diphthongs; (2) diphthong timing units versus segmental content; and (3) falling versus rising diphthongs.
 - **Age 4:** Mastery
- **Tones:** Not applicable.

Spanish (Andalusian) Speech Development

- **Percentage correct:** Bernhardt et al. (2020, 2023); Pérez et al. (2018, 2022)
 - **Vowels:** Under investigation 2023
 - **Consonant singletons: Percent full segmental match, word-initial + word-medial:**
Age 3: 84%; Age 4: 96%; Age 5: 98% (*n*: 29, typically developing Granada)
 - **Percent full segmental match, word-initial consonant clusters:**
Age 3: 58%; Age 4: 56%; Age 5: 92% (*same cohort, Granada*)
 - **Percent timing unit match consonant clusters (consonant substitutions allowed):**
Age 3: 66%; Age 4: 76%; Age 5: 94% (*same cohort, Granada*)
 - **Percent Whole Word Match:** Age 3: 58% ($\pm 18\%$); Age 4: 85% ($\pm 7\%$); Age 5: 89% ($\pm 7\%$)
 - See chapter for **children with protracted phonological development** (about 20-40% lower)
- **Intelligibility:** Speech of hearing vs. hearing-impaired children: Word recognition related to F2
- **Common phonological patterns**
 - **Word structure earlier patterns:** initial weak syllable deletion; consonant deletion in onsets and for C2 in clusters; reduction: onset clusters diphthongs
 - **Segmental substitutions:** stops for fricatives or rhotics; rhotic-[l] interchanges; tap for trill; fronting, e.g. {tʃ/ʃ} → [s]; |k| → [t]
 - **Other:** Age 3: Relatively frequent reduplication, assimilation, metathesis (sequence challenges)

Spanish (Andalusian) Children with Speech Sound Disorders

■ Also called

- trastorno de los sonidos del habla 'speech sound disorder'
- trastorno fonológico 'phonological disorder'
- trastorno de articulación 'articulation disorder'
- la apraxia del habla 'childhood apraxia of speech'
- la disartria 'dysarthria'
- desarrollo fonológico prolongado 'protracted phonological development'

- **Research has focused on SSD as a primary disorder** and as a result of **other conditions e.g.** Down Syndrome cleft palate hearing loss autism.

■ Studies (examples)

- Pérez Herrera D. (2014). Primary SSD Down Syndrome language disorder. PhD thesis (in Spanish)
- Pérez D. Vergara P. Diez-Itza E. & Bernhardt B. M. (2022). Case profile SSD. *Clinical Linguistics* [https:// doi.org/10.1080/02699206.2021.2003434](https://doi.org/10.1080/02699206.2021.2003434)
- Valencia Naranjo N. J. (1996). *Hearing loss intelligibility of speech*. PhD Thesis (in Spanish)

Spanish (Andalusian) Speech Assessments

- Bernhardt et al. (2016). *Pruebas de fonología español* [Spanish phonology tests]: *Screening, 100 palabras* [100 words], *Lista complementaria* [Supplemental list], *Afonolito* [Spanish nonlinear scan analysis]. <https://phonodevelopment.sites.olt.ubc.ca/practice-units/spanish/> (*Designed for Andalusian Spanish, Granada*).
- Bosch, L. (2011). *Evaluación fonológica del habla infantil (fon)* [Phonological evaluation of child speech]. Elsevier Masson. (*General Spanish, not specific to Andalusia*).
- Valles Arándiga, A (2012). *Evaluación de la dislalia. Prueba de articulación de fonemas (PAF)* [Assessment of Dyslalia. A Test of the Articulation of Phonemes], (3rd ed.). Ciencias de la Educación Preescolar y Especial. (*General Spanish, not specific to Andalusia*).
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Spanish (Andalusian) Speech Interventions

- Gallego Ortega et al. (2015). Programa para el desarrollo fonológico [Program for phonological development] (PRODEFON) <https://doi.org/10.7764/onomazein.31.11>
- Seivane, M. P. (2005). Programa para el desarrollo y mejora de la capacidad articulatoria (CICERON) [Program for the development and improvement of articulatory capacity]. Psymtéc. (*General Spanish: Not specific to Andalusia*)
- Borregón, S. (2006). *Programa Visualizado para la Enseñanza de la Articulación (EAR)* [Visualized program for teaching articulation - EAR]. Ciencias de la Educación Preescolar y Especial. (*General Spanish: Not specific to Andalusia*)
- Bernhardt et al. (2016). Nonlinear phonological intervention. <https://phonodevelopment.sites.olt.ubc.ca/spanish/> (*General Spanish: Not specific to Andalusia*)

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Book chapter

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Presentation

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