

Ibrahim Eshlash Odeh Almomany (University of Szeged)

Variation in the Production of Emphasis Among Children in Jordanian Arabic: Gender and Education

Abstract

Emphasis, a characteristic prevalent across nearly all Arabic dialects, is defined by the concurrent articulation of two distinct features (Abudalbuh, 2011; Omari and Jaber, 2019; Almomany, 2023a, Almomany, 2023b, Almomany, 2024). The initial feature pertains to a coronal gesture, while the subsequent feature involves a dorsal gesture. Nonetheless, various terminologies such as uvularization, pharyngealization, velarization, dorsalization, and tongue backing have been attributed to the secondary gesture (Obrecht, 1968; McCarthy, 1994; Davis, 1995; Zawaydeh, 1999; Watson, 2002, among others). Given that Jordanian Arabic (JA) comprises three distinct varieties—Rural Jordanian Arabic (RJA), Bedouin Jordanian Arabic (BJA), and Urban Jordanian Arabic (UJA)—it is not uncommon for each variety to possess unique phonetic, phonological, and morphological systems, although they share some characteristics (Abdel-Jawad, 1981; Al-Deaibes, 2016; Al-Hawamdeh, 2016). Additionally, social factors, including gender, age, social class, intermarriage, and education, may drive variation across these varieties. This study seeks to examine the influence of gender and education on the production of emphasis by children speaking Ajlouni Jordanian Arabic (AJA), a dialect spoken in northern Jordan. Motivated by the limited acoustic analyses available on Jordanian Arabic, this investigation involved a cohort of 20 schoolchildren, balanced in terms of gender and educational backgrounds. These participants ranged in age from eight to eleven years and each produced a total of 96 tokens. Acoustic measurements were taken for Voice Onset Time (VOT) and the first three formant frequencies (F1-F3) at the onset, midpoint, and offset of the vowels. Notably, the formant frequencies were normalized using Thomas and Kendall's (2007) web-based tool, The Vowel Normalization and Plotting Suite (NORM), employing the Nearey I formula. The findings revealed that emphasis is associated with shorter VOT, higher F1 and F3 frequencies, and lower F2 frequencies. A significant interaction between emphasis and gender was observed for F1 and F2, with male participants demonstrating more marked distinctions between emphatic and plain articulations. However, no significant effects were detected for the interaction of emphasis with education or the combined interaction of emphasis, gender, and education.

Keywords: Emphasis, Ajlouni Jordanian Arabic, acoustic measurements, Voice Onset Time, formant frequencies.

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