
When “Imperfect” is perfect: statistical noise and the quantification of dialectal variation

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Statistical noise in acceptability judgment tests (AJT) has here revealed new research tools. An AJT with 60 Palestinian Arabic (PA) speakers aged 70–73 with limited formal education and media exposure yielded quantitative data on inter-dialectal variation in verbal tense/aspect/mood (TAM) use. The AJT assessed comprehension of Standard Arabic (SA) TAM, which has two verbal stems: the imperfect for present, future, and habitual aspect, and the perfect for past. PA dialects are generally thought to use the perfect for completed past actions and counterfactual meanings, and the imperfect for present, continuous, future, and modal/epistemic expressions, and for repeated past actions in some varieties. Twenty SA sentences (10 correct/10 incorrect) containing perfect or imperfect verbs (in different grammatical persons) with temporal adverbs were presented individually via randomized audio recordings of a SA teacher. Participants judged acceptability (yes/no) within five seconds and produced appropriate responses within eight. All had normal hearing and adequate cognitive abilities. Average accuracy was 75% for the imperfect and 66% for the perfect, with the highest tolerance observed for incorrect imperfect sentences (40%). Mixed-effects logistic regression revealed substantial inter-individual variability. Cross-referencing with biographical data showed a significant effect of provenance, distinguishing two profiles: Galilean Arabic (GAr, 28 speakers) and Mutallat Arabic (MAr, 32 speakers). While Arabic dialectology has recognized these two PA varieties as distinct for about two decades (Jastrow 2004), quantitative assessment of variation patterns remains limited, and no studies have addressed inter-dialectal variation in the TAM system, still generally treated as uniform in PA. Stimulus-level analysis shows that GAr speakers exhibit low familiarity with SA perfect uses—rejecting many perfect stimuli, correct or incorrect—while displaying greater tolerance for incorrect imperfect uses compared to MAr speakers.

Free-response production confirmed dialectal differences in perfect/imperfect distribution, consistent with AJT results: GAr speakers produced imperfect forms for completed past actions in 19% of cases (confirmed by temporal adverbs), while only two MAr speakers used the imperfect for three continuative past contexts.

This study demonstrates that statistical noise can serve as a methodological tool for investigating dialectal differences and quantifying cross-dialectal variation tendencies.

References: • Jastrow, O. (2004). The Arabic Dialects of the Mutallat (Central Israel). *Jerusalem Studies in Arabic and Islam* 29, 166–175.