Morphological variation in Georgian placeholder verbs: An acceptability study

Nino Amiridze (Tbilisi State University) & Steven Foley (University of Southern California)
25 March 2023

Study 1 (*Base*)

Itemsets 1–32 compared simple placeholders (no copied preverb) with complex ones (copied preverb), the latter varying in position of agreement prefixes.

(1)   *Intended verb: Transitive with 1ST subject agreement prefix*
/gada= **v-** rietʰ/ "We drove 3RD mad" [PVB "up"]
PVB= **1AGR-** drive_mad:AOR.AGR

        a.   *Simple placeholder verb, inner agreement*
        /<u>imas</u>- **v-** kʰenitʰ/
        <u>DEM</u>- **1AGR-** do:AOR.1PL

        b.   *Complex placeholder, inner agreement*
        /gada= <u>imas</u>- **v-** kʰenitʰ/
        PVB= <u>DEM</u>- **1AGR-** do:AOR.1PL

        c.   *Complex placeholder, outer agreement*
        /gada= **v-** <u>imas</u>- kʰenitʰ/
        PVB= **1AGR-** <u>DEM</u>- do:AOR.1PL

        d.   *Complex placeholder, double agreement*
        /gada= **v-** <u>imas</u>- **v-** kʰenitʰ/
        PVB= **1AGR-** <u>DEM</u>- **1AGR-** do:AOR.1PL

Grammatical factors that vary across itemsets:
- Tense
  - Aorist x 16 (Itemsets 3, 4, 7, 10, 12, 13, 16, 17, 20, 21, 22, 23, 24, 25, 28, 31)
  - Conditional x 4 (Itemsets 8, 18, 26, 32)
  - Future x 6 (Itemsets 2, 6, 9, 11, 15, 27)
  - Must_Optative x 6 (Itemsets 1, 5, 14, 19, 29, 30)
- Agreement
  - 1SG:3RD x 22 (Itemsets 1, 2, 5, 6, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 26, 29, 30, 31)
  - 1PL:3RD x 10 (Itemsets 3, 4, 7, 12, 13, 23, 25, 27, 28, 32)
- Preradical vowel

- - ○ No PRV x 16 (Itemsets 1, 6, 7, 11, 12, 13, 14, 19, 21, 22, 23, 24, 25, 28, 29, 31)
    - ○ PRV in /a/ x 16 (Itemsets 2, 3, 4, 5, 8, 9, 10, 15, 16, 17, 18, 20, 26, 27, 30, 32)
  - Preverb size
    - ○ Bisyllabic x 4 (Itemsets 1, 4, 17, 28)
    - ○ Monosyllabic x 28

Results suggest that PHVs without copied preverbs (1a) are the most acceptable, and those with copied preverbs and outer agreement (1c) are the least. PHVs with copied preverbs inner or doubled agreement (1b,d) are of intermediate relative acceptability.
- *Generalization 1:* There is a general cost to copying the intended verb's preverb
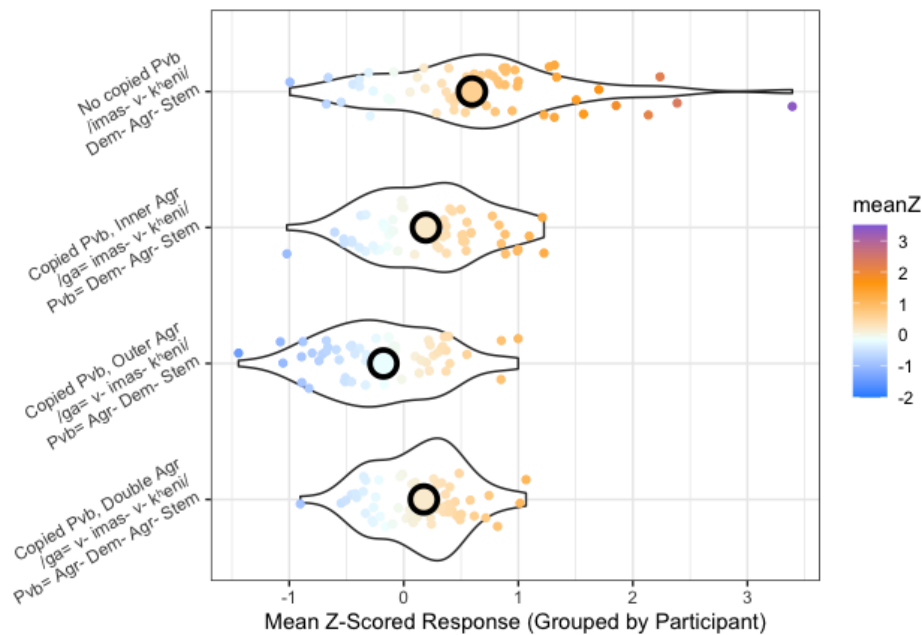- *Generalization 2:* PHVs with outer agreement only are the worst

Figure 1: Relative acceptability results of Study 1. Small dots are means of z-scored ratings for each participant; large dots are means of by-participant means.

Study 2 (*PreV*)

Itemsets 33–64 compared complex PHVs with outer agreement prefixes shaped /v-/ or /va-/, with or without inner agreement prefixes.

(2)   *Intended verb: Transitive with 1ST subject agreement prefix)*
        /ʃe= **va-** mk'etʰ/ "We adorned 3RD" [PVB "in"]
        PVB= **1TR-** adorn:AOR.AGR

        a.   *Outer agreement, No preradical vowel*
                /ʃe= **v-** imas- kʰenitʰ/
                PVB= **1AGR-** DEM- do:AOR.1PL

b. *Double agreement, No preradical vowel*
/ʃe= **v-** <u>imas</u>- **v-** kʰenitʰ/
PVB= **1AGR-** <u>DEM</u>- **1AGR-** do:AOR.1PL

c. *Outer agreement, Outer preradical vowel*
/ʃe= **va-** <u>imas</u>- kʰenitʰ/
PVB= **1TR-** <u>DEM</u>- do:AOR.1PL

d. *Double agreement, Outer preradical vowel*
/ʃe= **va-** <u>imas</u>- **v-** kʰenitʰ/
PVB= **1TR-** <u>DEM</u>- **1AGR-** do:AOR.1PL

Grammatical factors that vary across itemsets:
- Tense
  - Aorist x 16 (Itemsets 33, 34, 35, 37, 38, 40, 41, 42, 46, 47, 50, 52, 53, 55, 56, 60)
  - Conditional x 4 (Itemsts 36, 39, 44, 59)
  - Future x 6 (Itemsets 45, 48, 51, 61, 62, 64)
  - Must_Optative x 6 (Itemsets 43, 49, 54, 57, 58, 63)
- Agreement
  - 1SG:3RD x 24 (Itemsets 34, 35, 36, 37, 38, 40, 41, 42, 43, 44, 46, 49, 51, 52, 53, 54, 55, 57, 58, 59, 60, 61, 62, 63)
  - 1PL:3RD x 8 (Itemsets 33, 39, 45, 47, 48, 50, 56, 64)
- Preradical vowel
  - No PRV x 16 (Itemsets 33, 34, 37, 38, 40, 42, 44, 47, 49, 51, 56, 57, 58, 59, 61, 63)
  - PRV in /a/ x 16 (Itemsets 35, 36, 39, 41, 43, 45, 46, 48, 50, 52, 53, 54, 55, 60, 62, 64)
- Preverb size
  - Bisyllabic preverb x 7 (Itemsets 41, 42, 51, 57, 62, 56, 64)
  - Monosyllabic preverb x 25

Results suggest that doubled-agr PHVs (2b,d) are in general more acceptable than outer-agr PHVs (2a,c). Including the transitive preradical vowel /a-/ "TR" in the outer agreement (2c,d) results in more variable relative acceptability omitting it (2a,b). Partitioning data by the counterbalacing factor of the preradical vowel of the intended verb (Fig 2.2) suggests that PHVs with /a-/ "TR" are more acceptable in general if the intended verb also has that PRV.
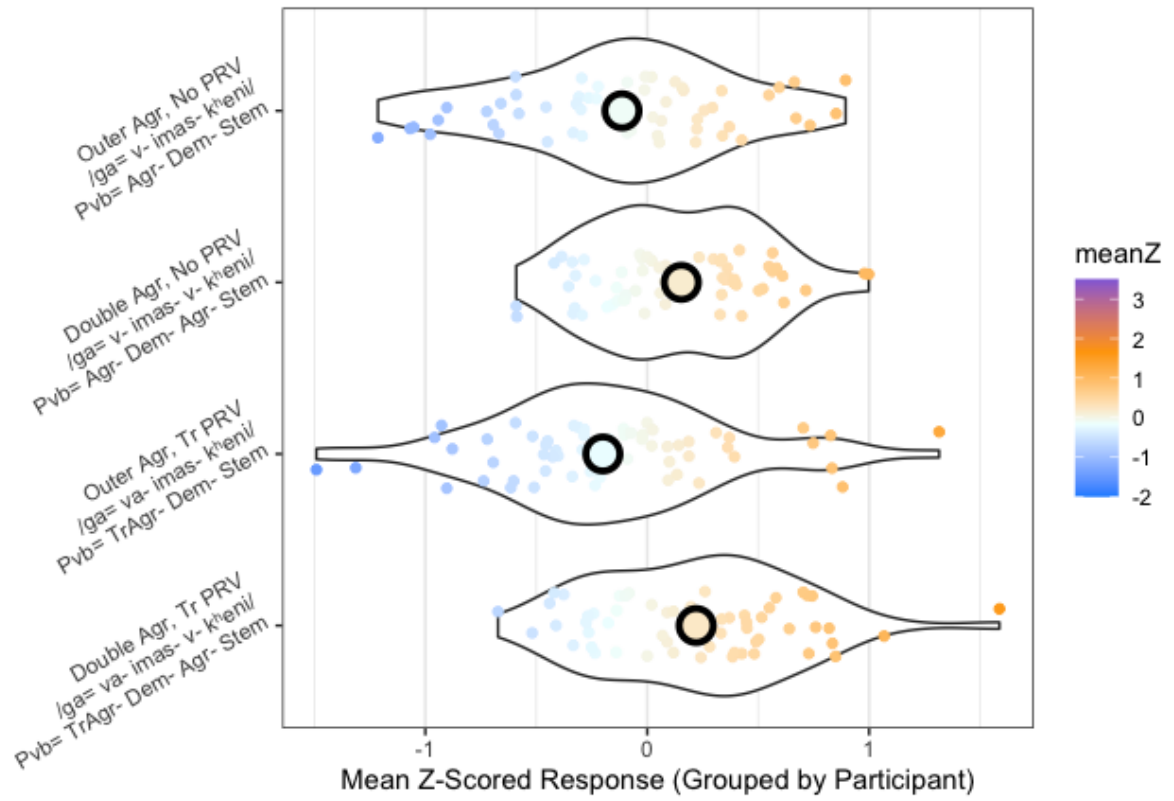- ***Generalization 3:*** Including a PRV in the PHV is more acceptable if the intended verb has PRV.

Figure 2.1: Relative acceptability results of Study 2. Small dots are means of z-scored ratings for each participant; large dots are means of by-participant means.
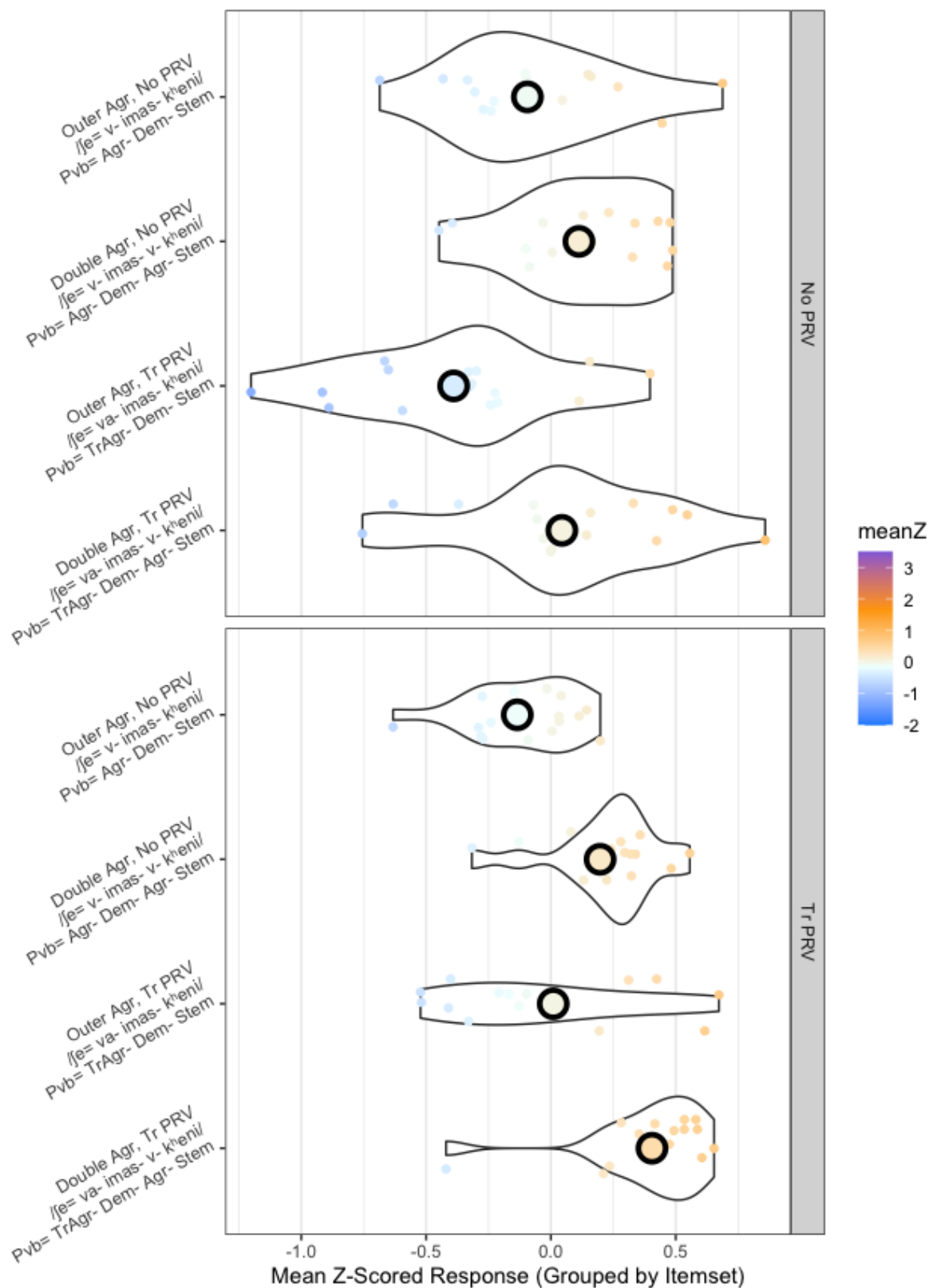
Mean Z-Scored Response (Grouped by Itemset)

Study 3 (*LocO*)

Itemsets 65–96 compared complex PHVs with first or second person direct objects, which had inner or doubled agreement, with or without preradical vowels.

(3)   *Intended verb: Transitive with 1OR2 object agreement prefix*
/ʃe= **g-** dzaritʰ/ "We stirred/shaked 2ND up" [PVB "in"]
PVB= **AGR2-** shake_up:AOR.AGR

a.   *Inner simple object agreement*
/ʃe= imas- **g-** kʰenitʰ/
PVB= DEM- **AGR2-** do:AOR.1PL

b.   *Inner indirect object agreement*
/ʃe= imas- **gi-** kʰenitʰ/
PVB= DEM- **IO2-** do:AOR.1PL

c.   *Double simple object agreement*
/ʃe= **g-** imas- **g-** kʰenitʰ/
PVB= **AGR2-** DEM- **IO2-** do:AOR.1PL

d.   *Outer direct object agreement, inner indirect object agreement*
/ʃe= **ga-** imas- **gi-** kʰenitʰ/
PVB= **TR2-** DEM- **IO2-** do:AOR.1PL

Grammatical factors that vary across itemsets:
- Tense
  - Aorist x 24 (Itemsets 65, 66, 68, 70, 71, 73, 74, 75, 77, 78, 81, 82, 83, 84, 85, 86, 87, 89, 90, 91, 93, 94, 95, 96)
  - Must_Optative x 8 (Itemsets 43, 49, 54, 57, 58, 63)
- Agreement
  - 3SG:2SG x 2 (Itemsets 67, 93)
  - 3SG:2PL x 2 (Itemsets 74, 90)
  - 1SG:2SG x 4 (Itemsets 70, 75, 87, 89)
  - 3PL:2ND x 2 (Itemsets 65, 77)
  - 1PL:2ND x 3 (Itemsets 71, 76, 83)
  - 3SG:1PL x 3 (Itemsets 78, 80, 94)
  - 2SG:1PL x 1 (Itemset 79)
  - 3PL:1PL x 1 (Itemset 92)
  - 2PL:1PL x 2 (Itemsets 86, 95)
  - 3SG:1SG x 6 (Itemsets 66, 69, 73, 81, 82, 91)
  - 2SG:1SG x 2 (Itemsets 85, 88)
  - 3PL:1SG x 2 (Itemsets 68, 84)
  - 2PL:1SG x 2 (Itemsets 72, 96)

- Preradical vowel
    - No PRV x 16 (Itemsets 65, 70, 71, 73, 76, 78, 79, 80, 81, 82, 87, 88, 90, 94, 95, 96)
    - PRV in /a/ x 16 (Itemsets 66, 67, 68, 69, 72, 74, 75, 77, 83, 84, 85, 86, 89, 91, 92, 93)
- Preverb size
    - Bisyllabic preverb x 1 (Itemset 68)
    - Monosyllabic preverb x 31

When agreeing with first and second person arguments, PHVs are more acceptable if their inner agreement prefix has the preradical vowel /i-/ "IO" (3b,d) than if there is no preradical vowel (3a,c). There is no obvious difference between PHVs with inner (3a,b) or doubled (3c,d) agreement.

- *Generalization 4:* Inner agreement with 1OR2 objects is better with the preradical vowel /i-/ "IO".
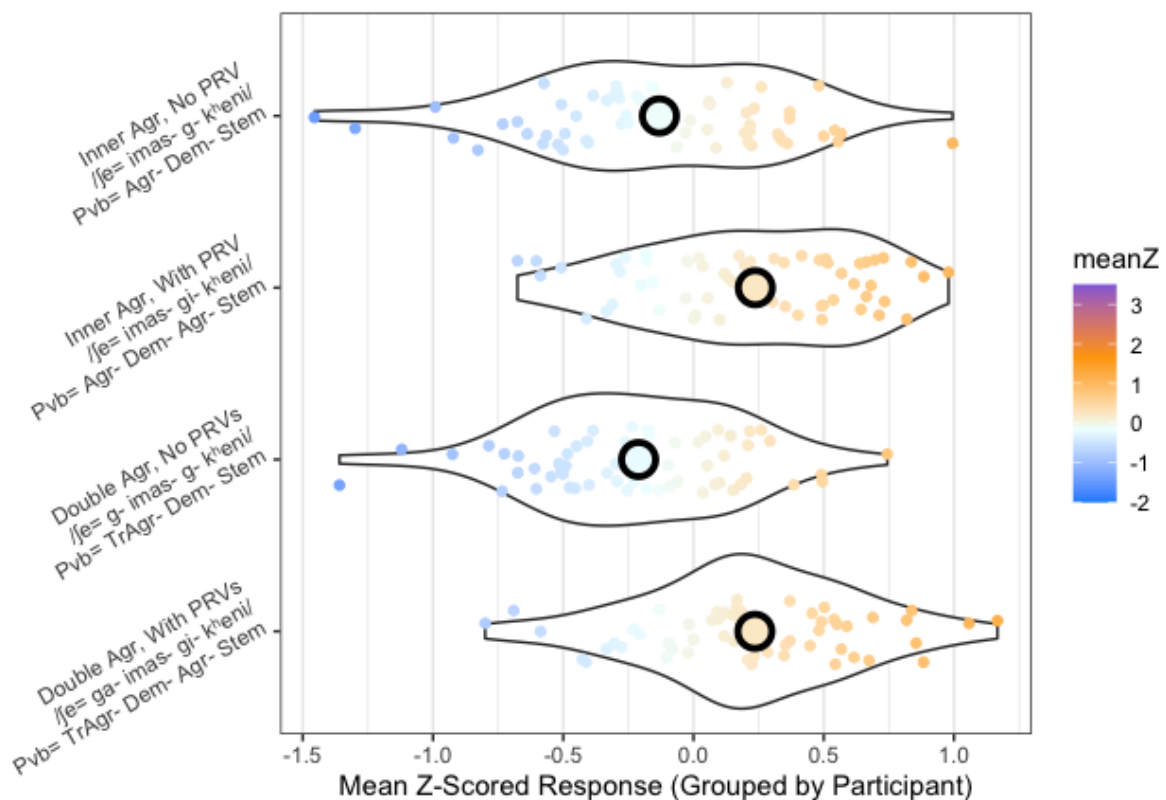

Figure 3.1: Relative acceptability results of Study 3. Small dots are means of z-scored ratings for each participant; large dots are means of by-participant means.

Study 4 (*Case*)

Itemsets 97–128 compared complex PHVs with dative or nominative demonstratives

(4)   *Intended verb: Transitive*
        /gada= tʰargmna/ "S/he translated it" [PVB "across"]
        PVB= translate:AOR.AGR

a. *Dative-case demonstrative, inner/ambiguous agreement*

/gada= imas- kʰna/

PVB= DEM.DAT- do:AOR.3SG

b. *Dative-case demonstrative, outer/disambiguated agreement*

/gada= **a-** imas- kʰna/

PVB= **TR-** DEM.DAT- do:AOR.3SG

a. *Nominative-case demonstrative, inner/ambiguous agreement*

/gada= isa- kʰna/

PVB= DEM.NOM- do:AOR.3SG

b. *Nominative-case demonstrative, outer/disambiguated agreement*

/gada= **a-** isa- kʰna/

PVB= **TR-** DEM.NOM- do:AOR.3SG

Grammatical factors that vary across itemsets:
- Tense
  - Aorist x 16 (Itemsets 98, 99, 101, 102, 104, 105, 108, 110, 114, 115, 116, 117, 119, 120, 121, 124)
  - Must_Optative x 6 (Itemsets 100, 106, 109, 112, 123, 128)
  - Neg_Perfect x 6 (Itemsets 97, 103, 107, 113, 118, 125)
  - Must_Pluperfect x 4 (Itemsets 111, 122, 126, 127)
- Agreement
  - 3SG:3RD x 16 (Itemsets 97, 98, 101, 102, 103, 105, 107, 109, 112, 116, 118, 119, 122, 124, 126, 128)
  - 2SG:3RD x 3 (Itemsets 106, 110, 123)
  - 3PL:3RD x 6 (Itemsets 100, 108, 113, 117, 125, 127)
  - 2PL:3RD x 2 (Itemsets 99, 104)
  - 1SG:3RD x 3 (Itemsets 111, 114, 115)
  - 1PL:3RD x 2 (Itemsets 120, 121)
- Preradical vowel
  - (Not relevant because of tense variation: perfect/pluperfect tenses overwrite lexical PRVs)
- Shape of nominative demonstrative
  - /isa-/ x 16 (Itemsets 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112)
  - /is-/ x 16
- Preverb size
  - Bisyllabic preverb x 4 (Itemset 98, 105, 116, 121)
  - Monosyllabic preverb x 28

Results suggest that a nominative case demonstrative is less acceptable than a dative one.
- ***Generalization 6:*** Even in tenses with nominative objects, the demonstrative is preferable in the dative case.
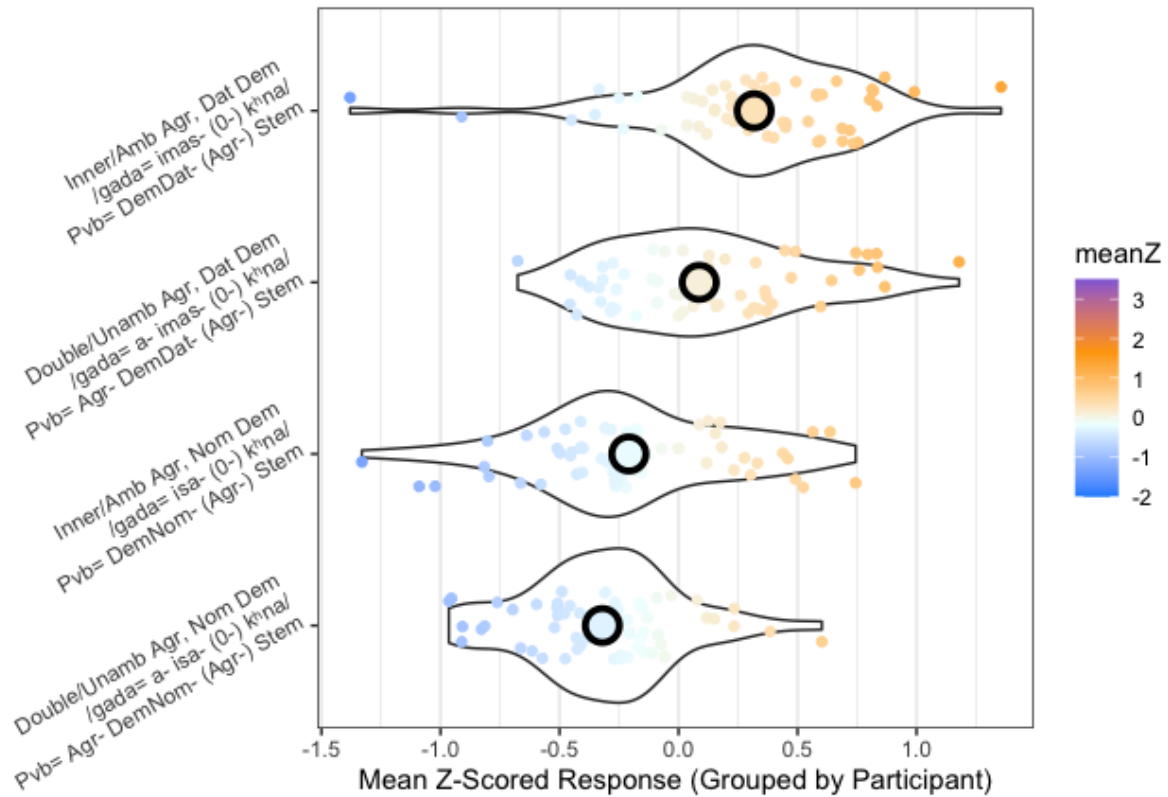
Figure 4.1: Relative acceptability results of Study 4. Small dots are means of z-scored ratings for each participant; large dots are means of by-participant means.

Study 5 (*Allo*)

Itemsets 129–164 and 180–184 compared complex PHVs with inner or outer agreement whose suffixal inflection is irregular (inherited from the bare lightverb /kʰna/ "do:NMLZ"), or default (retreating to the same patterns found on regular verbs). Six such possible retreats-to-default are considered:

- Pattern 5.1 (Itemsets 129–136): Nonactive perfect/pluperfect allomorphy in /-il-.../ (conditioned by subsyllabic roots) or /-ebul-.../ (default).
- Pattern 5.2 (Itemsets 137–144): Transitive causative allomorphy in /-evin-.../ (conditioned by subsyllabic roots) or /-ebin-.../ (default).
- Pattern 5.3 (Itemsets 145–152): Transitive perfect allomorphy in /-ia/ (conditioned by subsyllabic roots) or /-ebia/ (default).
- Pattern 5.4 (Itemsets 153–160): Transitive pluperfect allomorphy in /-a/ (conditioned by subsyllabic roots) or /-ebina/ (default)
- Pattern 5.5 (Itemsets 161–164): Transitive future stem in /izam…/ (suppletive stem of "do") or /kʰneb…/ (default root and stem)
- Pattern 5.6 (Itemsets 181–184): Transitive 1OR2 aorist~optative stem in /kʰeni~kʰna/ (irregularities of "do") or /kʰne~kʰno/ (default suffixes)

(5.1)   *Intended verb: Nonactive perfect*
/unda # da= **v-** rtʃʰeniliq'avi/ "I should have remained" [PVB "DFLT"]

MUST # PVB= **1AGR-** remain:NACT.PLU.AGR

    a.   *Inner agreement, expected irregular stem*
        /unda # da= <u>imas</u>- **v-** kʰniliq'avi/
        MUST # PVB= <u>DEM</u>- **1AGR-** do:PASS.PLU.IRREG

    b.   *Outer agreement, expected irregular stem*
        /unda # da= **v-** <u>imas</u>- kʰniliq'avi/
        MUST # PVB= **1AGR-** <u>DEM</u>- do:PASS.PLU.IRREG

    c.   *Inner agreement, retreat-to-default stem*
        /unda # da= <u>imas</u>- **v-** kʰnebuliq'avi/
        MUST # PVB= <u>DEM</u>- **1AGR-** do:PASS.PLU.DFLT

    d.   *Outer agreement, retreat-to-default stem*
        /unda # da= **v-** <u>imas</u>- kʰnebuliq'avi/
        MUST # PVB= **1AGR-** <u>DEM</u>- do:PASS.PLU.DFLT

(5.2)   *Intended verb: Causativized transitive*
        /a= **ga-** ʃenebina/ "S/he made you build it" [PVB "up"]
        PVB= **TR2-** build:CAUS.AOR.AGR

    a.   *Inner agreement, expected irregular stem*
        /a= <u>imas</u>- **ga-** kʰnevina/
        PVB= <u>DEM</u>- **TR2-** do:CAUS.AOR.IRREG

    b.   *Outer agreement, expected irregular stem*
        /a= **ga-** <u>imas</u>- kʰnevina/
        PVB= **TR2-** <u>DEM</u>- do:CAUS.AOR.IRREG

    c.   *Inner agreement, retreat-to-default stem*
        /a= <u>imas</u>- **ga-** kʰnebina/
        PVB= <u>DEM</u>- **TR2-** do:CAUS.AOR.DFLT

    d.   *Outer agreement, retreat-to-default stem*
        /a= **ga-** <u>imas</u>- kʰnebina/
        PVB= **TR2-** <u>DEM</u>- do:CAUS.AOR.DFL

(5.3)   *Intended verb: Transitive perfect*
        /ar # da= **u-** martsʰχebia/ "S/he didn't defeat 3RD" [PVB "DFLT"]
        NEG # PVB= **IO-** defeat:PERF.AGR

    a.   *Inner agreement, expected irregular stem*
        /ar # da= <u>imas</u>- **u-** kʰnia/

NEG # PVB= <u>DEM</u>- **IO-** do:PERF.IRREG

    b.   *Outer agreement, expected irregular stem*
    /ar # da= **u-** <u>imas</u>- kʰnia/
    NEG # PVB= **IO-** <u>DEM</u>- do:PERF.IRREG

    c.   *Inner agreement, retreat-to-default stem*
    /ar # da= <u>imas</u>- **u-** kʰnebia/
    NEG # PVB= <u>DEM</u>- **IO-** do:PERF.DFLT

    d.   *Outer agreement, retreat-to-default stem*
    /ar # da= **u-** <u>imas</u>- kʰnebia/
    NEG # PVB= **IO-** <u>DEM</u>- do:PERF.DFLT

(5.4)   *Intended verb: Transitive pluperfect*
    /unda # a= **e-** lagebina/ "S/he should have tidied it up" [PVB "up"]
    MUST # PVB= **AP-** tidy_up:PERF.AGR

    a.   *Inner agreement, expected irregular stem*
    /unda # a= <u>imas</u>- **e-** kʰna/
    MUST # PVB= <u>DEM</u>- **AP-** do:PLU.IRREG

    b.   *Outer agreement, expected irregular stem*
    /unda # da= **e-** <u>imas</u>- kʰna/
    MUST # PVB= **AP-** <u>DEM</u>- do:PLU.IRREG

    c.   *Inner agreement, retreat-to-default stem*
    /unda # a= <u>imas</u>- **e-** kʰnebina/
    MUST # PVB= <u>DEM</u>- **AP-** do:PLU.DFLT

    d.   *Outer agreement, retreat-to-default stem*
    /unda # da= **e-** <u>imas</u>- kʰnebina/
    MUST # PVB= **AP-** <u>DEM</u>- do:PLU.DFLT

(5.5)   *Intended verb: Transitive future/conditional*
    /ga= **va-** tʰbob/ "I will warm it up" [PVB = *out*]
    PVB= **1TR-** warm_up:FUT.AGR

    a.   *Inner agreement, expected irregular stem*
    /ga= <u>imas</u>- **v-** izam/
    PVB= <u>DEM</u>- **1AGR-** do:FUT.IRREG

    b.   *Outer agreement, expected irregular stem*
    /ga= **va-** <u>imas</u>- izam/
    PVB= **1TR-** <u>DEM</u>- do:FUT.IRREG

c. *Inner agreement, retreat-to-default stem*
/ga= <u>imas</u>- **v-** kʰneb/
PVB= <u>DEM</u>- **1AGR-** do:FUT.DFLT

d. *Outer agreement, retreat-to-default stem*
/unda # da= **va-** <u>imas</u>- kʰneb/
MUST # PVB= **AP-** <u>DEM</u>- do:FUT.DFLT

(5.6) *Intended verb: Transitive aorist/optative*
/gada= **v-** maletʰ/ "We hid 3RD away" [PVB "across"]
PVB= **1AGR-** hide:AOR.AGR

a. *Inner agreement, expected irregular stem*
/gada= <u>imas</u>- **v-** kʰenitʰ/
PVB= <u>DEM</u>- **1AGR-** do:AOR.IRREG

b. *Outer agreement, expected irregular stem*
/gada= **va-** <u>imas</u>- kʰenitʰ/
PVB= **1TR-** <u>DEM</u>- do:AOR.IRREG

c. *Inner agreement, retreat-to-default stem*
/gada= <u>imas</u>- **v-** kʰnetʰ/
PVB= <u>DEM</u>- **1AGR-** do:AOR.DFLT

d. *Outer agreement, retreat-to-default stem*
/gada= **va-** <u>imas</u>- kʰnetʰ/
PVB= **1TR-** <u>DEM</u>- do:AOR.DFLT

Grammatical factors that vary across itemsets:
- Tense
  - tbd
- Agreement
  - tbd
- Preradical vowel
  - (Not relevant because of tense variation: perfect/pluperfect tenses overwrite lexical PRVs)
- Preverb size
  - Bisyllabic preverb
  - Monosyllabic preverb

Results suggest an interaction between agreement position and stem allomorphy. Expected irregular allomorphs (5a,b) are generally preferred to retreats to default allomorphs (5c,d). Forms with outer agreement are less acceptable than inner agreement with expected irregular stems (5a > 5b), but the reverse is true when the stem retreats to default (5d > 5c). Splitting data up by the four counterbalanced morphological factors, this generalization seems strongest for the active pluperfect (5.4) and weakest for nonactive plu/perfect (5.1).

- ***Generalization 7:*** Outer agreement is relatively more acceptable when suffixal inflection retreats to default allomorphs.
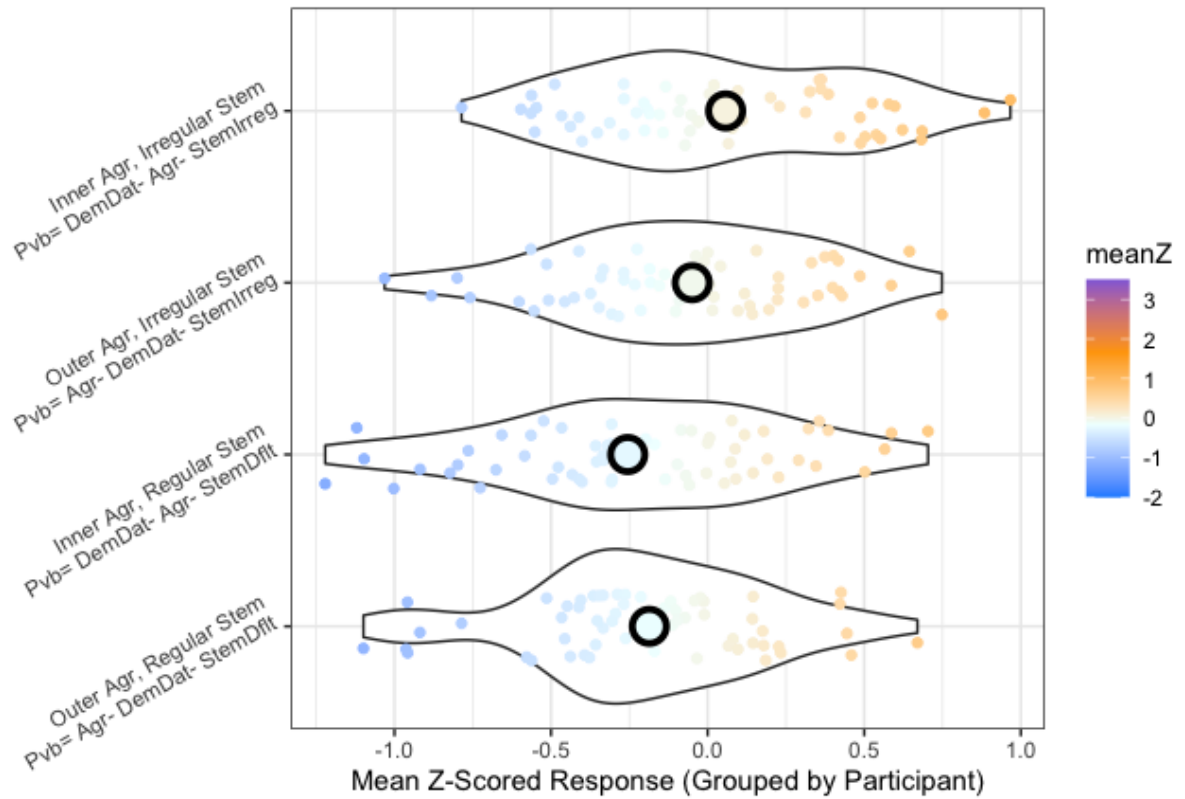

Figure 5.1: Relative acceptability results of Study 5, pooled across the six patterns (5.1–5.6). Small dots are means of z-scored ratings for each participant; large dots are means of by-participant means.
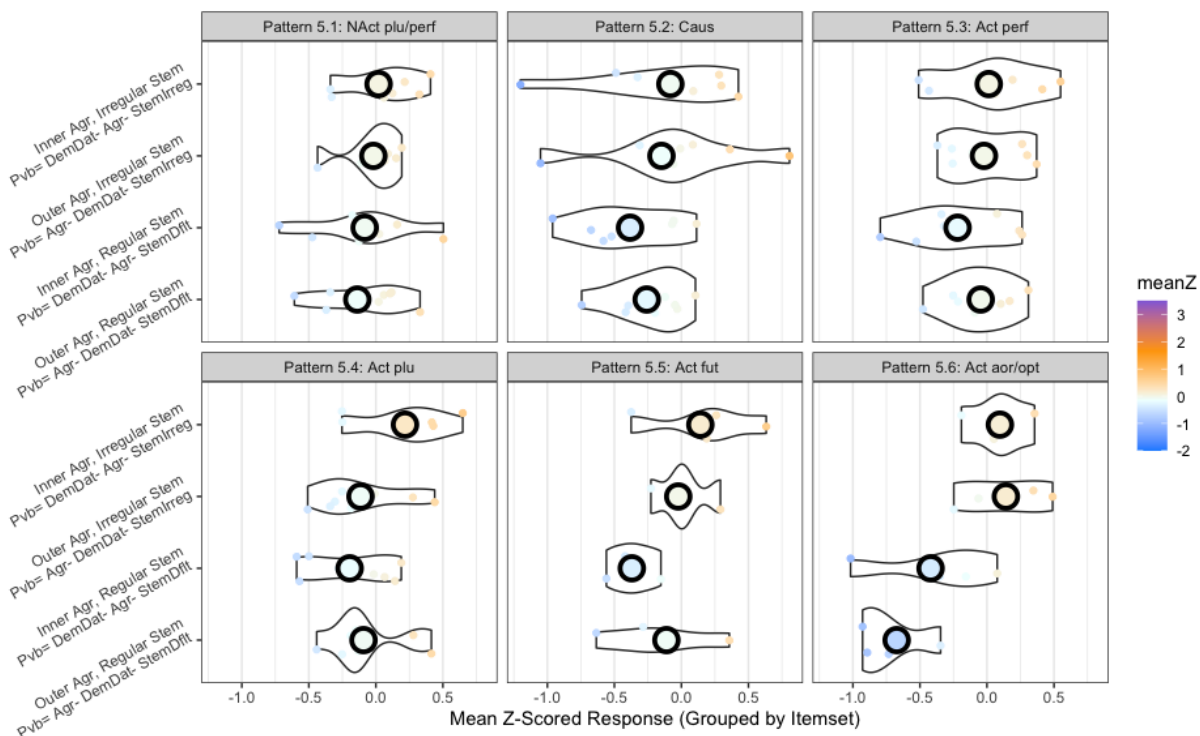
Figure 5.2: Relative acceptability results of Study 5, for each of the four patterns (5.1–5.4). Small dots are means of z-scored ratings for each itemset; large dots are means of by-itemset means.

Study 6 (*3rdO*)

Itemsets 165–176 compared simple placeholders with no overt agreement (6a,c) or with third-person indirect object agreement (6b,d), intending verbs that are either monotransitive (6a,b) or ditransitive (6c,d).

(6)   *Intended verb: all-third monotransitive*
         /ga= **a-** giʒa/ "S/he drove 3RD mad" [PVB "out"]
         PVB= **TR-** crazy:AOR.AGR

      a.   *No agreement*
            /ga= <u>imas</u>- kʰna/
            PVB= <u>DEM</u>- do:AOR

      b.   *Inner ditransitive agreement*
            /ga= <u>imas</u>- **u-** kʰna/
            PVB= <u>DEM</u>- **IO-** do:AOR

Intended verb: all-third ditransitive
/ga= **u-** giʒa/ "S/he drove 3RD mad for 3RD" [PVB "out"]

PVB**= IO-** remain:AOR.AGR

    c.   *No agreement*
           /ga= <u>imas</u>- kʰna/
           PVB= <u>DEM</u>- do:AOR

    d.   *Inner ditransitive agreement*
           /ga= <u>imas</u>- **u-** kʰna/
           PVB= <u>DEM</u>- **IO-** do:AOR

Grammatical factors that vary across itemsets:
- Tense
  - tbd
- Agreement
  - tbd
- Preradical vowel
  - tbd
- Preverb size
  - Bisyllabic preverb
  - Monosyllabic preverb

Results suggest that it is less acceptable to intend a ditransitive verb when using a placeholder verb (6c,d) than to intend a monotransitive one (6a,b). When placeholding a monotransitive verb, a placeholder with monotransitive agreement (6a) is more acceptable than one with ditransitive agreement (6b), while the reverse holds when placing a ditransitive verb (6d>6c).

- ***Generalization 8:*** All-third placeholders in general mirror the argument structure morphology of the intended verb.
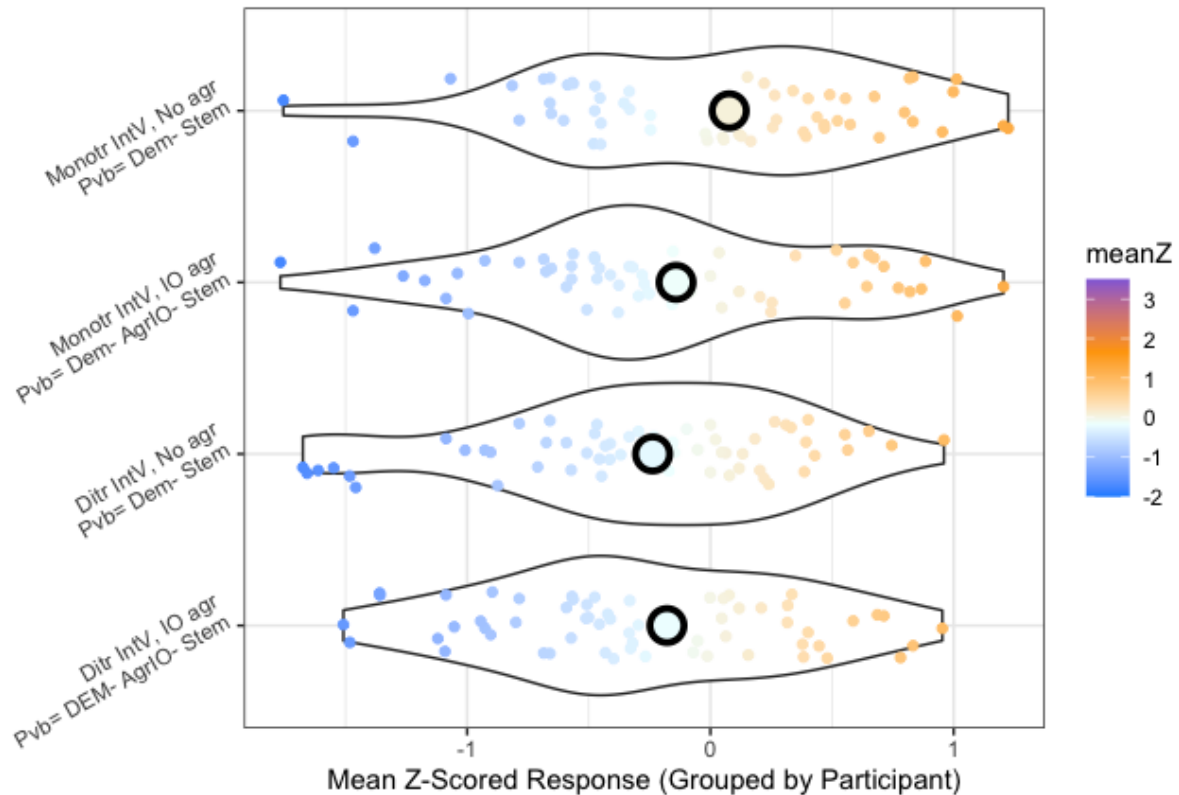
Figure 6: Relative acceptability results of Study 6. Small dots are means of z-scored ratings for each participant; large dots are means of by-participant means.

Studies 7–9 (*Miscellaneous*)

Itemsets 177–180, 185–188, and 189–192 were filler studies that tested placeholders of applied nonactives, and various actives with manipulated preradical position.

(7)   *Intended verb: Applied nonactive*
/da= **e-** k'arga/ "3SG got lost on 3RD; 3SG lost their/its 3RD" [PVB "DFLT"]
PVB= **AP-** lose:AOR.AGR

       a.   *No copied preverb*
/<u>imas</u>- kʰna/
<u>DEM</u>- do:AOR

       b.   *Copied preverb, outer agreement, inchoative inflection*
/da= **u-** <u>imas</u>- kʰnda/
PVB= **IO-** <u>DEM</u>- do:INCH.AOR

       c.   *Copied preverb, inner agreement, ditransitive inflection*
/da= <u>imas</u>- **u-** kʰna/
PVB= <u>DEM</u>- **IO-** do:AOR

b. *Copied preverb, outer agreement, reflexive inflection*
/da= **e-** imas- kʰna/
PVB= **AP-** DEM- do:AOR

(8) *Intended verb: Transitive with 1OR2 agreement and preradical vowel /u- ~i-/*
/ga= **mi-** ʃro/ "S/he dried it for me; S/he dried my 3RD" [PVB "out"]
PVB= **IO1-** dry:AOR.AGR

a. *No copied preverb*
/imas- **mi-** kʰna/
DEM- **IO1-** do:AOR

b. *Copied preverb, inner agreement*
/ga= imas- **mi-** kʰna/
PVB= DEM- **IO1-** do:AOR

c. *Copied preverb, broken/infixed agreement*
/ga= **m**<imas>**i-** kʰna/
PVB= <DEM>**IO1-** do:AOR

b. *Copied preverb, outer agreement*
/ga= **mi-** imas- kʰna/
PVB= **IO1-** DEM- do:AOR

(9) *Intended verb: Transitive with 1ST agreement*
/da= **va-** ngrie/ "I demolished it" [PVB "DFLT"]
PVB= **1AGR-** demolish:AOR.AGR

a. *No copied preverb, inner agreement*
/imas- **v-** kʰeni/
DEM- **1AGR-** do:AOR

b. *No copied preverb, inner agreement with preradical vowel*
/imas- **va-** kʰeni/
DEM- **1TR-** do:AOR

c. *No copied preverb, outer agreement*
/**v-** imas- kʰeni/
1AGR- DEM- do:AOR

b. *No copied preverb, outer agreement with preradical vowel*
/**va-** imas- kʰeni/
1TR- DEM- do:AOR

Results suggest that no passive version of the PHV is very acceptable (7b,c,d); using a transitive one (7a) is generally better when intending an applied nonactive. 'Infixed' prefixal agreement is not very unacceptable (8c). Quite unacceptable are PHVs with outer agreement and no copied preverb (9c,d).

- *Generalization 9:* Passive PHVs are quite bad
- *Generalization 10:* PHVs with infixal morphophology are quite bad
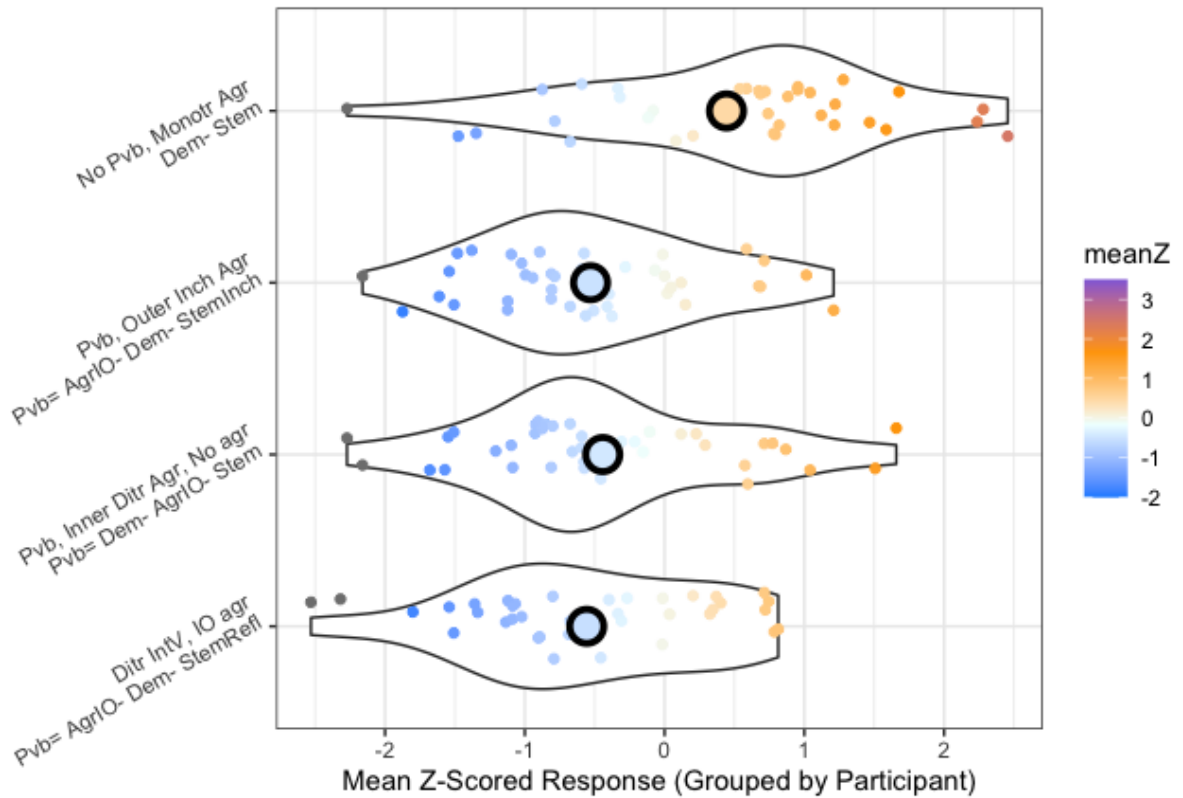- *Generalization 11:* Outer agreement is quite bad without a copied preverb

Figure 7: Relative acceptability results of Study 7. Small dots are means of z-scored ratings for each participant; large dots are means of by-participant means.
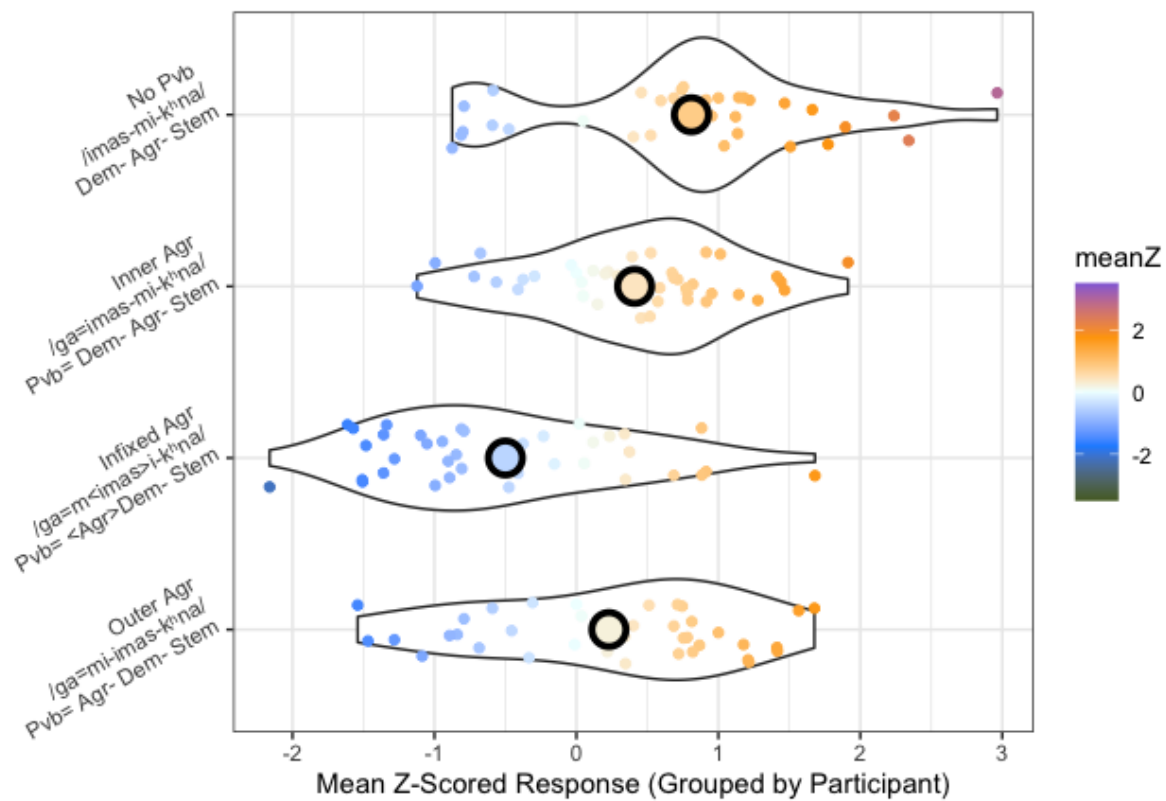
Figure 8: Relative acceptability results of Study 8. Small dots are means of z-scored ratings for each participant; large dots are means of by-participant means.
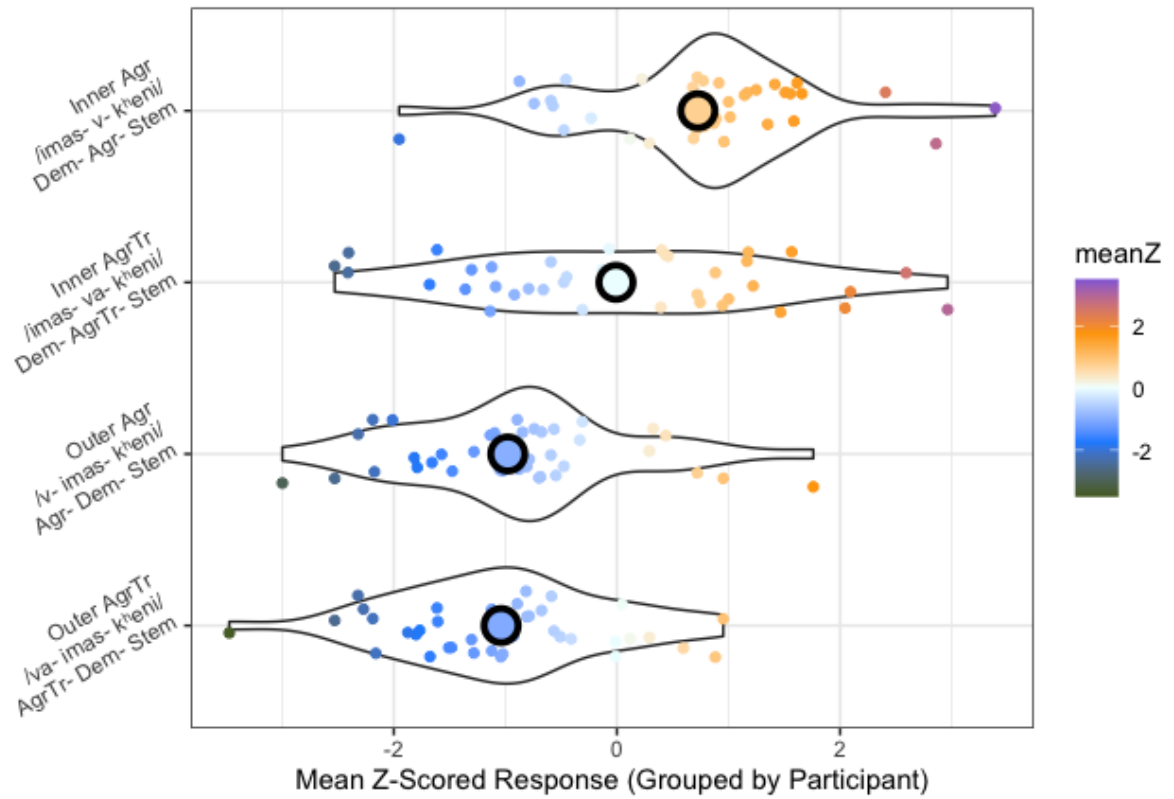
Figure 9: Relative acceptability results of Study 9. Small dots are means of z-scored ratings for each participant; large dots are means of by-participant means.

Discussion

Appendix: Summary of experimental materials

Itemsets 1–32 (*vBaseline*)

(1)   /unda gamovq'aro/   MUST # ComeOut= throw_out:OPT:1SG
        (a) /unda # imasvkʰna/   MUST # DEM- *AGR*- STEM
        (d) /unda # gamoimasvkʰna/   MUST # PVB= DEM- *AGR*- STEM
        (c) /unda # gamovimaskʰna/   MUST # PVB= *AGR*- DEM- STEM
        (d) /unda # gamovimasvkʰna/   MUST # PVB= *AGR*- DEM- *AGR*- STEM

(2)   /movat'q'ueb/   Come= deceive:FUT:1SG>3
        (a) /imasvizam/   DEM- *AGR*- STEM
        (d) /moimasvizam/   PVB= DEM- *AGR*- STEM
        (c) /movimasizam/   PVB= *AGR*- DEM- STEM
        (d) /movimasvizam/   PVB= *AGR*- DEM- *AGR*- STEM

(3)   /gavatʃʰheretʰ/   Out= hault:AOR:1PL>3
        (a) /imasvkʰenitʰ/   DEM- *AGR*- STEM
        (d) /gaimasvkʰenitʰ/   PVB= DEM- *AGR*- STEM
        (c) /gavimaskʰenitʰ/   PVB= *AGR*- DEM- STEM
        (d) /gavimasvkʰenitʰ/   PVB= *AGR*- DEM- *AGR*- STEM

(4)   /ʃemovanatʰetʰ/   ComeIn= hault:AOR:1PL>3
        (a) /imasvkʰenitʰ/   DEM- *AGR*- STEM
        (d) /gaimasvkʰenitʰ/   PVB= DEM- *AGR*- STEM
        (c) /gavimaskʰenitʰ/   PVB= *AGR*- DEM- STEM
        (d) /gavimasvkʰenitʰ/   PVB= *AGR*- DEM- *AGR*- STEM