Alternative Endings of Slovene Verbs in Third Person Plural

A Corpus Approach

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Problem description

Slovene → morphologically rich language

Alternative verb endings in 3rd person plural

- *-do*
- *-jo*

5 athematic verbs

- *jejo – jedo* 'they eat'
- *grejo – gredo* 'they go'
- *bojo – bodo* 'they will be'
- *vejo – vedo* 'they know'
- *dajo – dado* 'they give'

Problem description

Slovenski pravopis 2001

- Athematic verbs: *-jo* is deemed less appropriate
- Derivatives of athematic verbs: *-jo* is more commonly used

Alternative endings seem puzzling to Slovene speakers

Analysis of the phenomenon in **CMC** (influenced by spoken language)

Spectrum of genres

Aim of the paper

Determining general tendencies of *-jo* and *-do*

Corpus-based approach

- Janes (UGC)
- Kres (mostly standard written Slovene)

Janes (different genres) vs. Kres

Expected results:

- preference for *-jo* in Janes;
- preference for *-do* in Kres.

Methodology – corpora

2 corpora queried for analysis

Janes v0.4

- UGC
- Over 175 million words
- 9 million documents (2006–2016)
- 5 genres
  - Tweets
  - Forum posts
  - Blog entries + comments
  - Online news + comments
  - Slovene Wikipedia user talk + page talk

Kres

- Standard written Slovene
- Nearly 100 million words
- Over 21,000 documents (1990–2011)
- Balanced genre structure
  - Periodicals (newspapers and magazines)
  - Fiction
  - Non-fiction
  - Documents from the Web
  - Other genres

Methodology – data extraction

Sketch Engine concordancer

1. Verb extraction
   - **CQL:** [word=".+do" & tag="G.*"]
2. Frequency of extracted verbs for *-jo* and *-do* in:
   - the 5 Janes subcorpora;
   - Janes (entire corpus);
   - Kres.
   - **CQL** (e.g., *bojo*)**:** [word="(b|B)ojo" & tag="G.*"]

Methodology – data extraction

17 verbs:

- *biti* ‘be’
- *iti* ‘go’
- *dati* ‘give’
- *vedeti* ‘know’
- *izvedeti* ‘find out’
- *zvedeti* ‘find out’
- *poizvedeti* ‘inquire’
- *zavedeti* ‘realize’
- *jesti* ‘eat’
- *pojesti* ‘eat up’
- *najesti* ‘sate’
- *povedati* ‘tell’
- *izpovedati* ‘confess’
- *dopovedati* ‘get across’
- *napovedati* ‘predict’
- *odpovedati* ‘cancel’
- *prepovedati* ‘forbid’

Analysis – variants in the Janes subcorpora

Athematic verbs

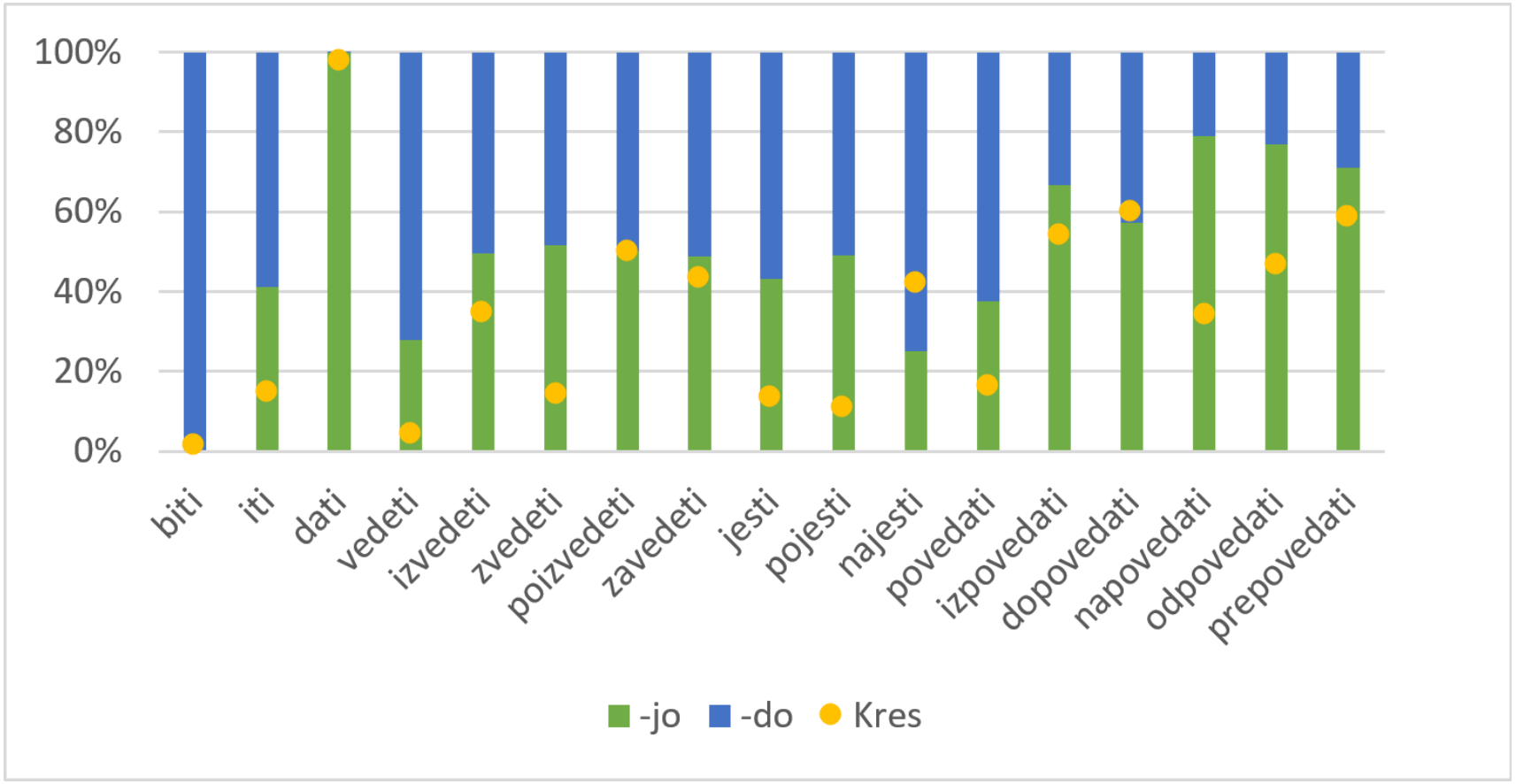
1. *Biti*
   - Virtually 100% of concordances with *-do*
2. *Dati*
   - Virtually 100% of concordances with *-jo*
3. *Vedeti*
   - All subcorpora prefer *-do*
4. *Iti*
   - Equal distribution of *-jo* & *-do*
   - BUT *-do* is preferred in **blogs** (roughly 80%)
5. *Jesti* – general preference for -do
   - Least pronounced in the **tweet** subcorpus
   - Slight preference (roughly 70%) in the **forum** subcorpus
   - Strong preference in the **comment** (roughly 70%), **blog** (80%), and **Wiki talk** (85%) subcorpora

*The following analyses of each individual subcorpus do **not** mention the 5 athematic verbs.*
If general observations are made, however, they are taken into account.

Tweet subcorpus

- *-do* is preferred (60% or more)
  - *najesti*
  - *povedati*
- *-jo* is preferred
  - *izpovedati*
  - *napovedati*
  - *odpovedati*
  - *prepovedati*
- **All other verbs** display a relatively equal distribution of both endings

Tweet subcorpus

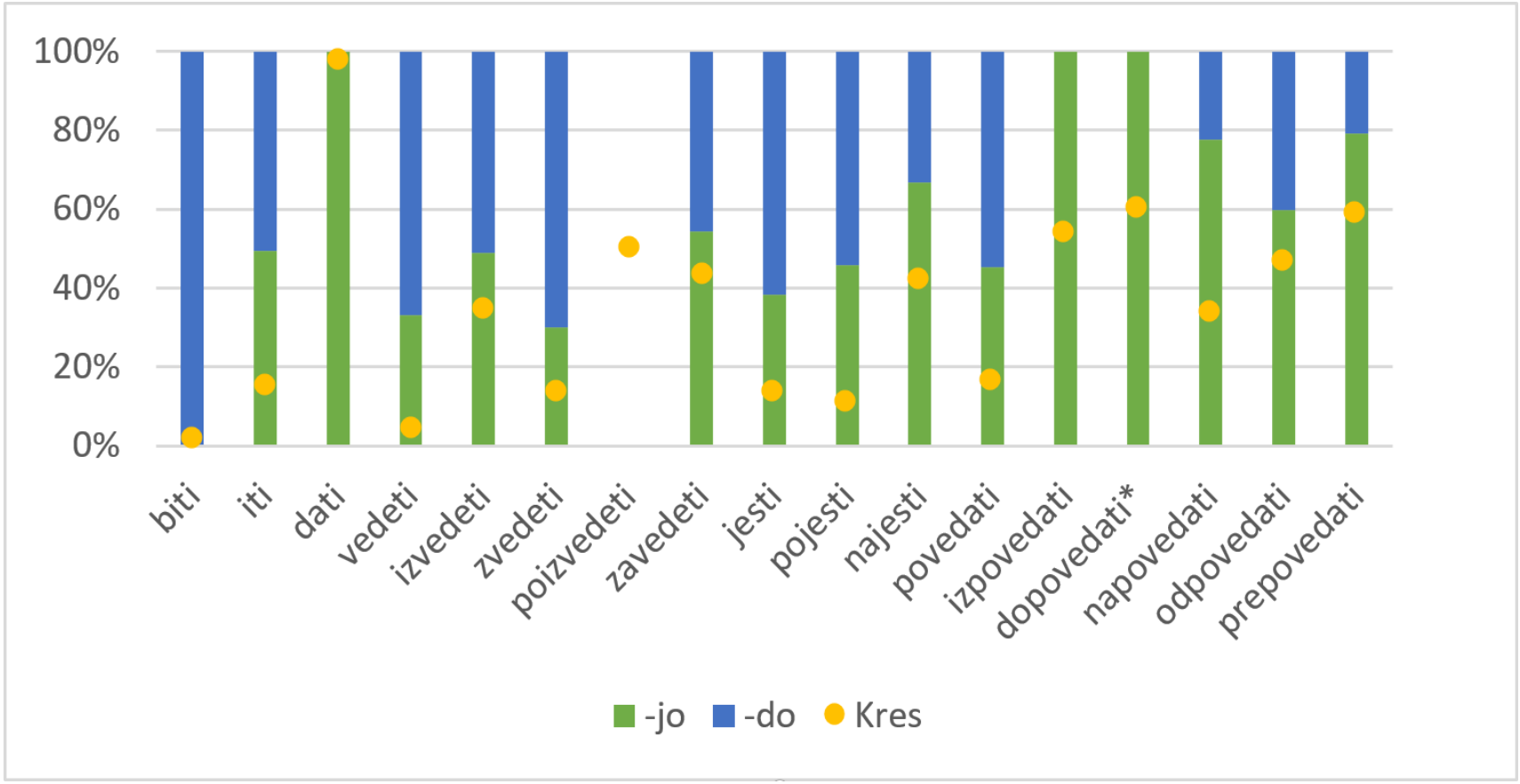


Forum subcorpus

- Considerable preference (roughly 70%) for *-do*
  - *zvedeti*
- A relatively equal distribution of both endings
  - *izvedeti*
  - *zavedeti*
  - *pojesti*
  - *povedati*
- **All other verbs** show a preference (60% or more) for *-jo*
  - *dopovedati** and *izpovedati* have only produced concordances with *-jo*

* one or both verb forms appeared only once

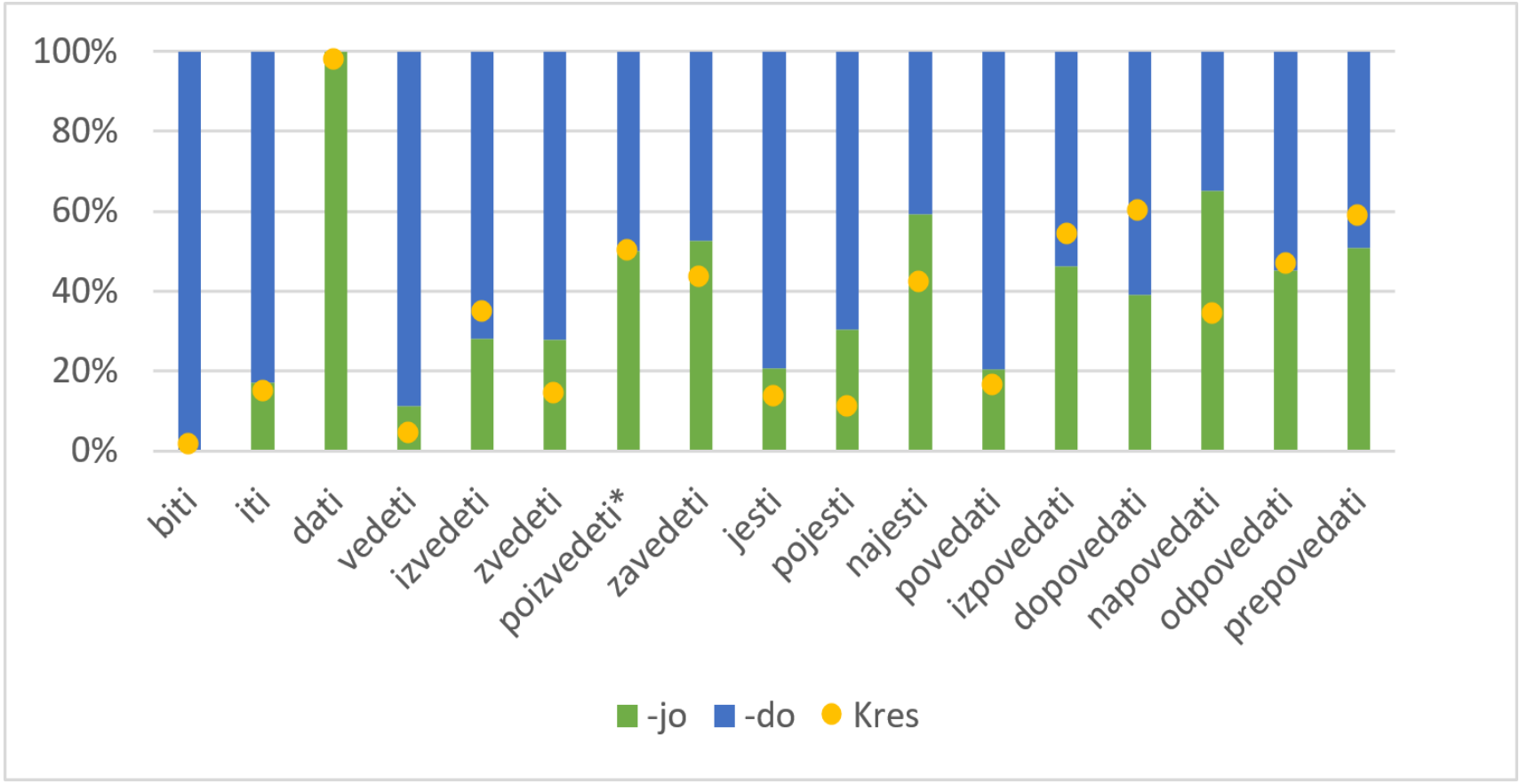
Forum subcorpus



Blog subcorpus

- Overall preference for *-do* with these (non-athematic) verbs:
  - *izvedeti*
  - *zvedeti*
  - *pojesti*
  - *povedati*
  - *dopovedati*
- A relatively even distribution of both endings
  - *poizvedeti**
  - *zavedeti*
  - *najesti*
  - *izpovedati*
  - *odpovedati*
  - *prepovedati*
- A notable preference (over 60%) for *-jo*
  - *napovedati*

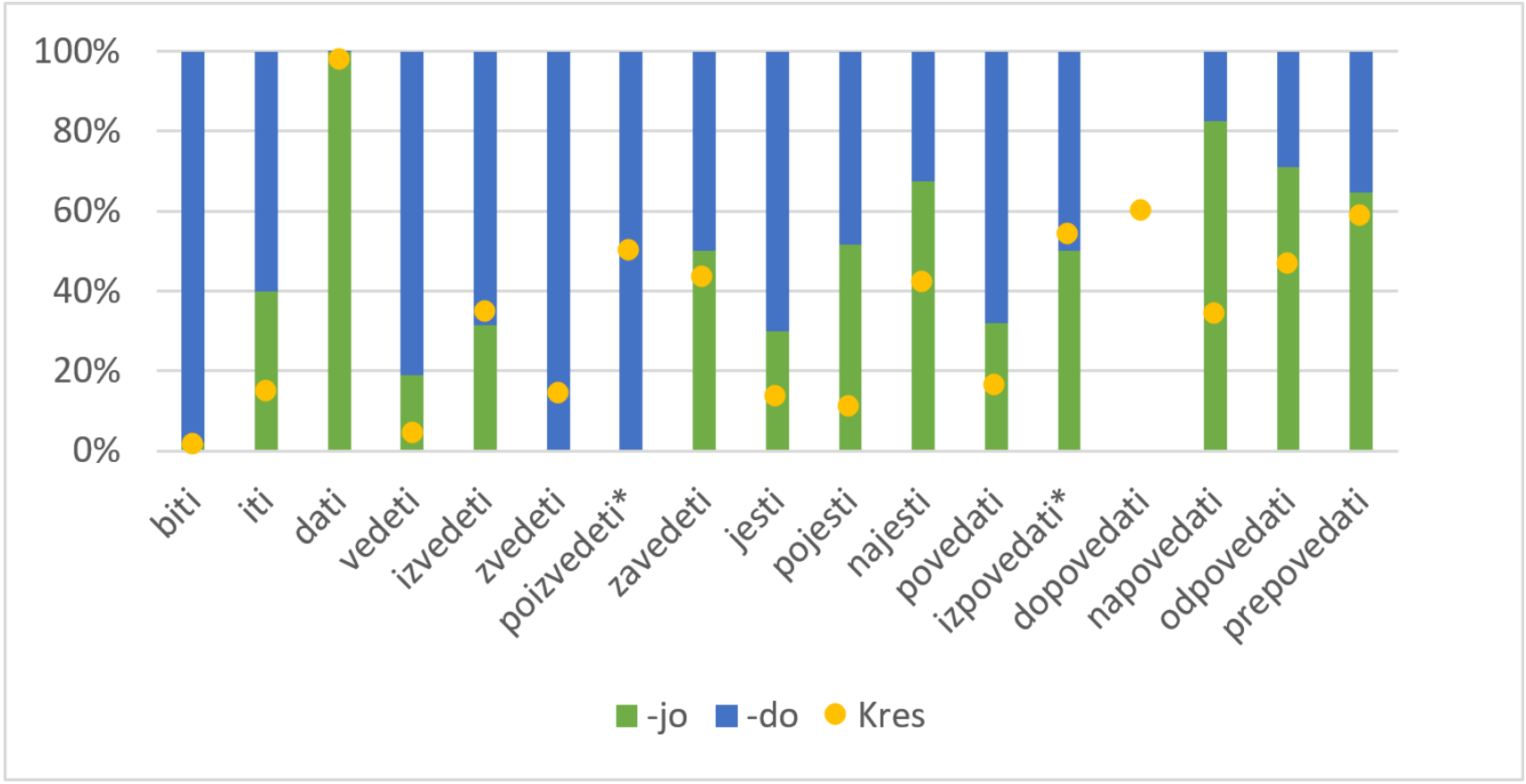
Blog subcorpus



News comment subcorpus

- A notable preference (60% or more) for *-do*
  - *izvedeti*
  - *povedati*
  - *zvedeti* and *poizvedeti** have only provided concordances with *-do*
- A relatively equal distribution of the two endings
  - *zavedeti*
  - *pojesti*
  - *Izpovedati**
- A notable preference for *-jo*
  - *najesti*
  - *napovedati*
  - *odpovedati*
  - *prepovedati*

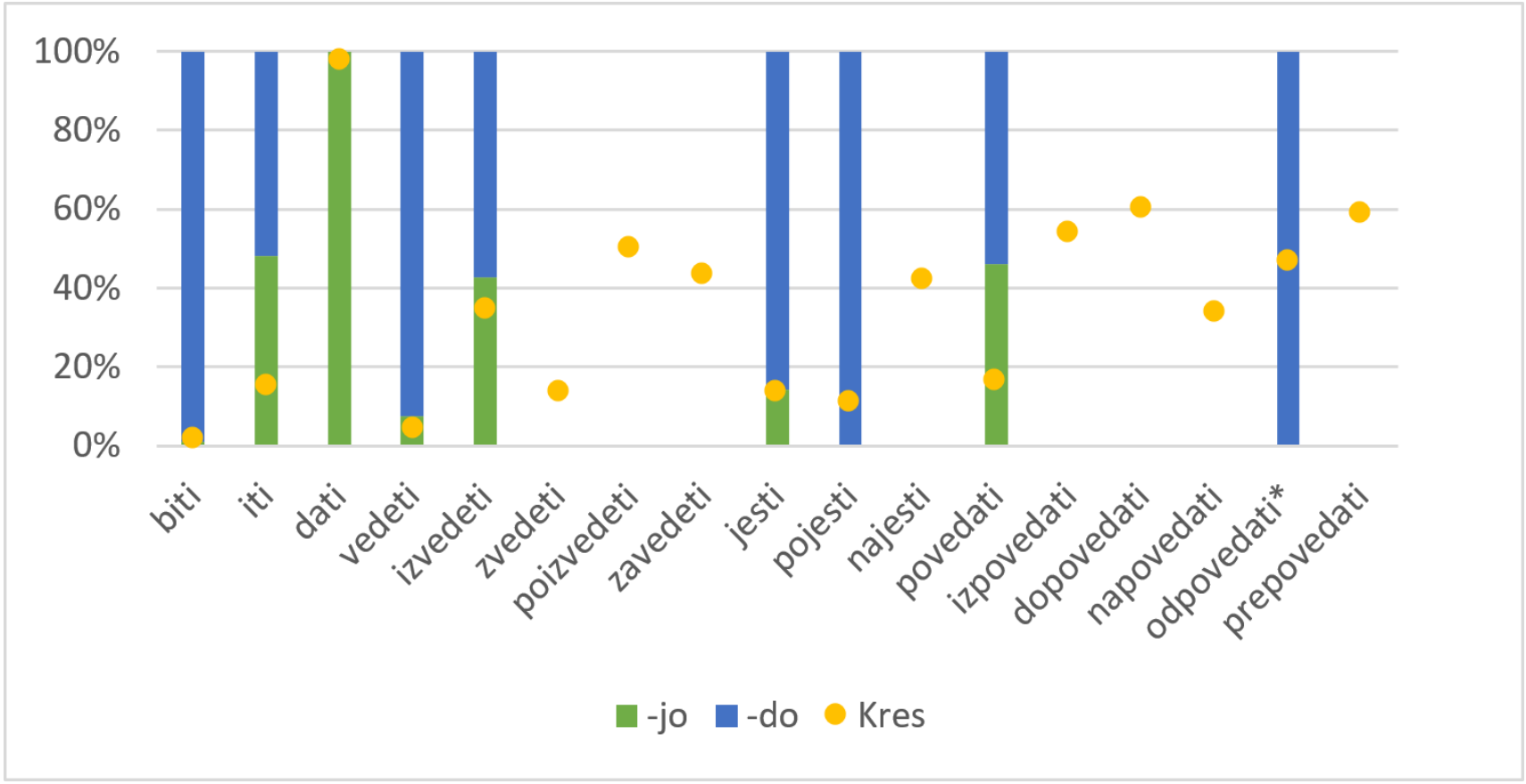
News comment subcorpus



Wiki talk subcorpus

- Few verbs produced any concordances at all
- Verbs with concordances show a strong overall preference for *-do*
- A relatively even distribution of the two endings
  - *povedati*
  - *izvedeti*

Wiki talk subcorpus



Analysis – the Janes subcorpora vs. Kres

Athematic verbs

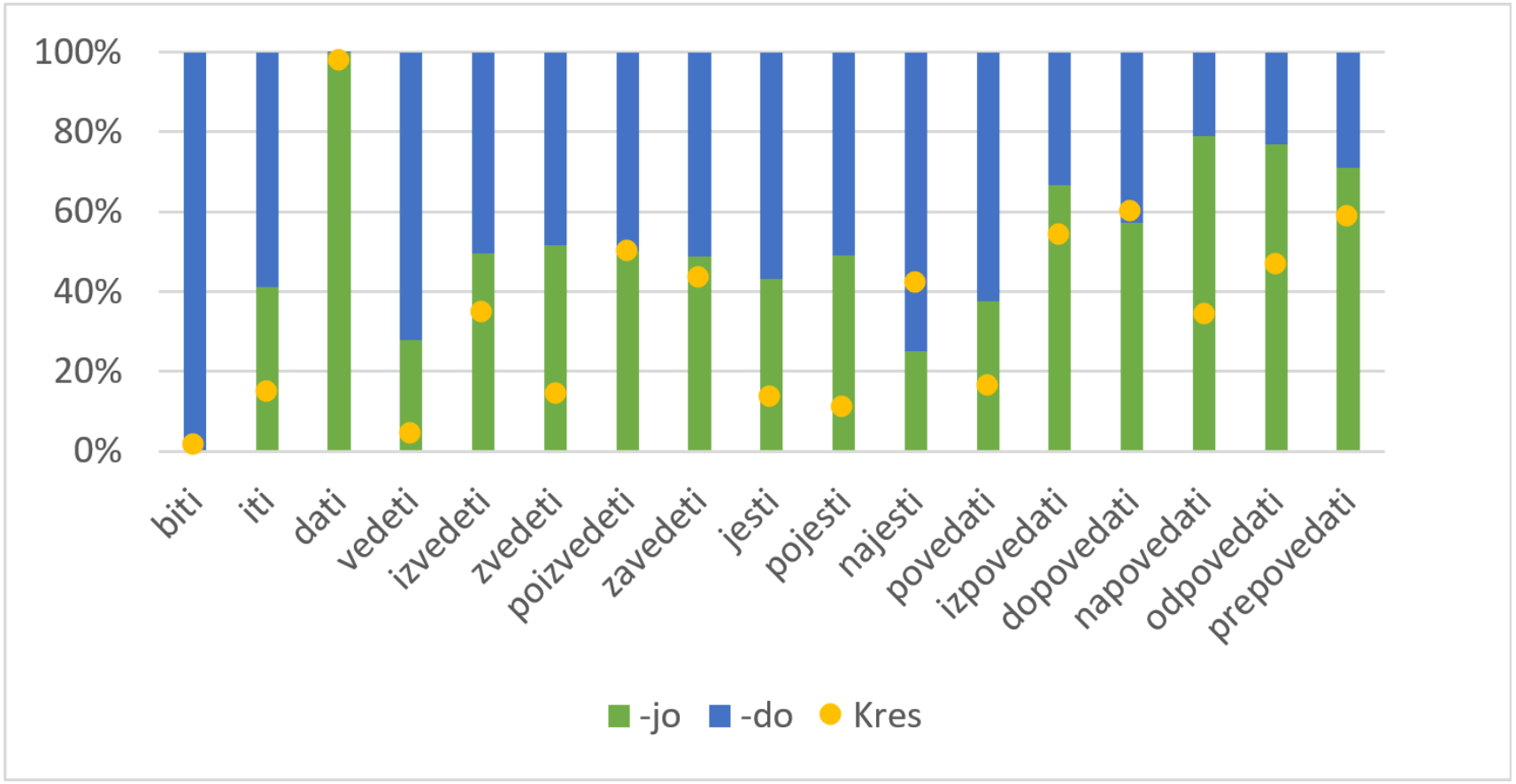
1. *Biti*
   - The *-jo*/*-do* ratios overlap
2. *Dati*
   - *-jo* is almost exclusively employed in both corpora
3. *Vedeti*
   - The **tweet**, **forum**, and **news comment** subcorpora prefer *-jo* compared to Kres
   - The **blog** and **Wiki talk** subcorpora are similar to Kres (shows a slightly stronger preference for *-do*)
4. *Iti*
   - Most Janes subcorpora → a much stronger preference for *-jo*
   - BUT *-jo*/*-do* ratios are comparable in the **blog** subcorpus
5. *Jesti*
   - A notable preference for *-jo* in the **tweet**, **forum**, and **news comments** subcorpora
   - An overlap with Kres ratio in the **Wiki talk** subcorpus
   - The **blog** subcorpus slightly prefers -jo compared to Kres

*The following analyses of each individual subcorpus do **not** mention the 5 athematic verbs.*
If general observations are made, however, they are taken into account.

Tweet subcorpus vs. Kres

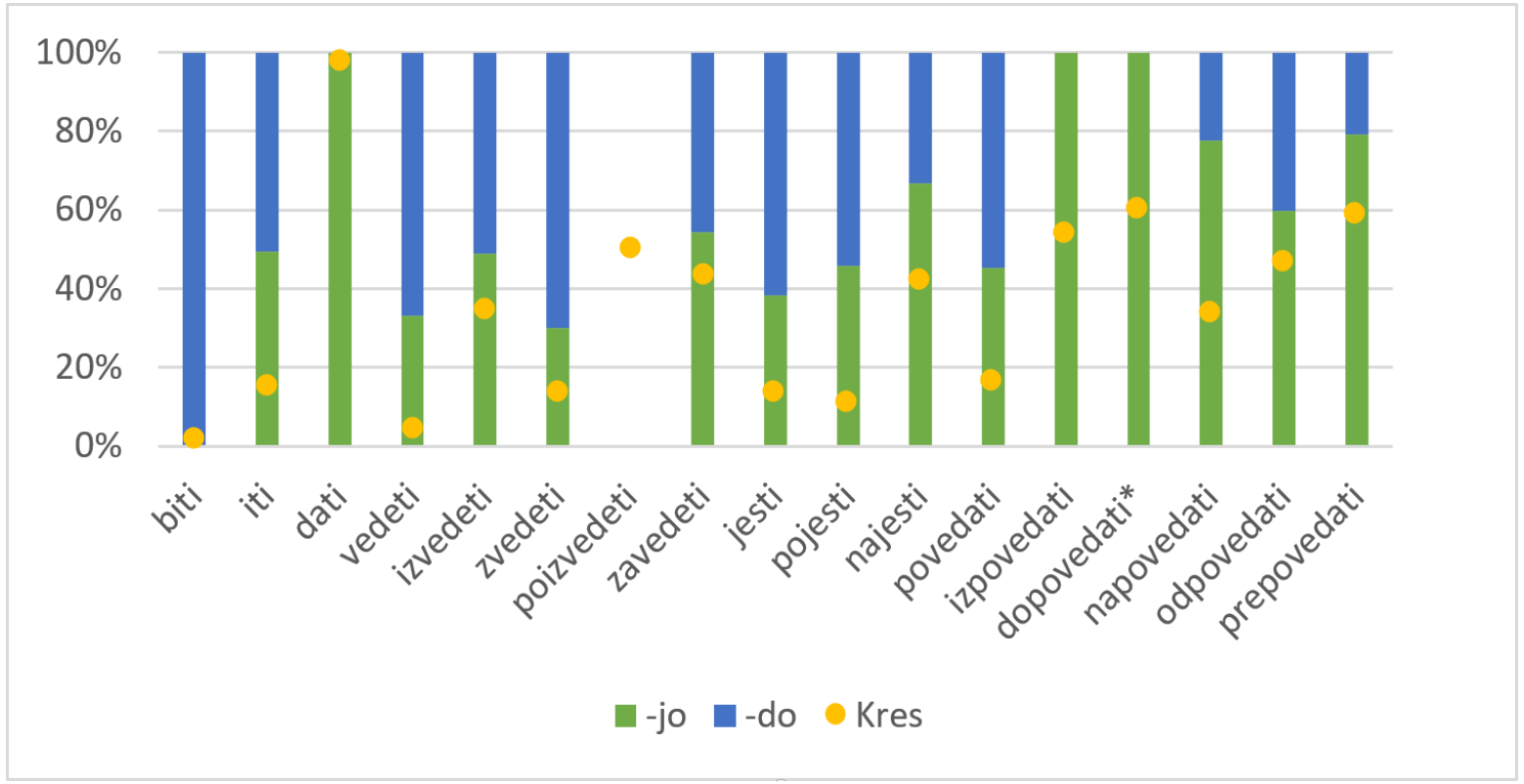
- Similar ratios
  - *poizvedeti*
  - *zavedeti*
  - *dopovedati*
- With *najesti*, there is a higher preference for *-do* in the **tweets**
- **All other verbs** show a notable to strong preference for *-jo* in comparison with Kres

Tweet subcorpus vs. Kres



Forum subcorpus vs. Kres

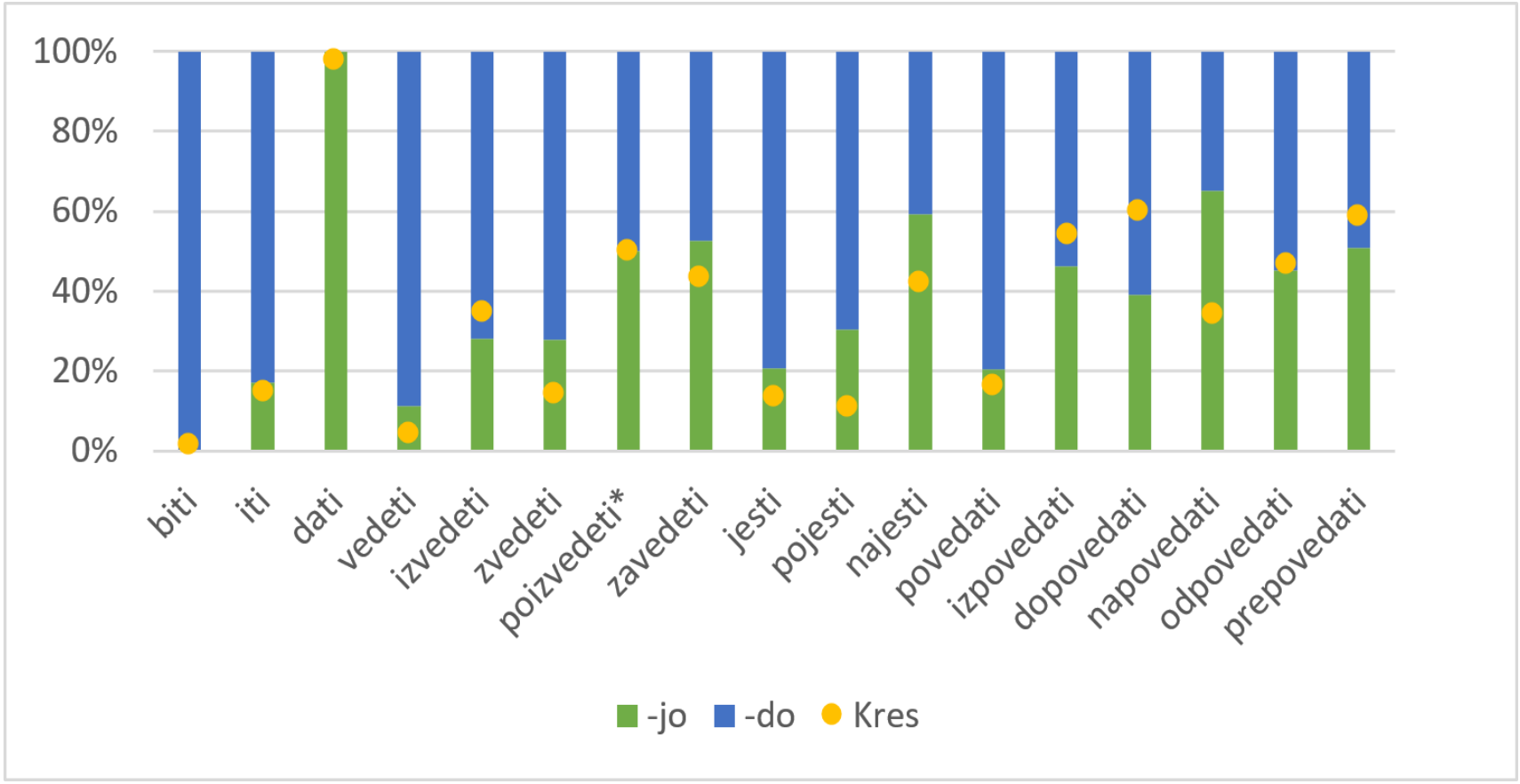
- All verbs show a higher preference for *-jo* (in varying degrees)



Blog subcorpus vs. Kres

- A slightly higher preference for *-jo* with the verb *zavedeti*
- A stronger preference for *-jo*
  - *zvedeti*
  - *pojesti*
  - *najesti*
  - *napovedati*
- Similar ratios
  - *poizvedeti**
  - *povedati*
  - *odpovedati*
- The **remaining verbs** (*izvedeti*, *izpovedati*, *dopovedati*, and *prepovedati*) seem to prefer *-do* more than Kres.

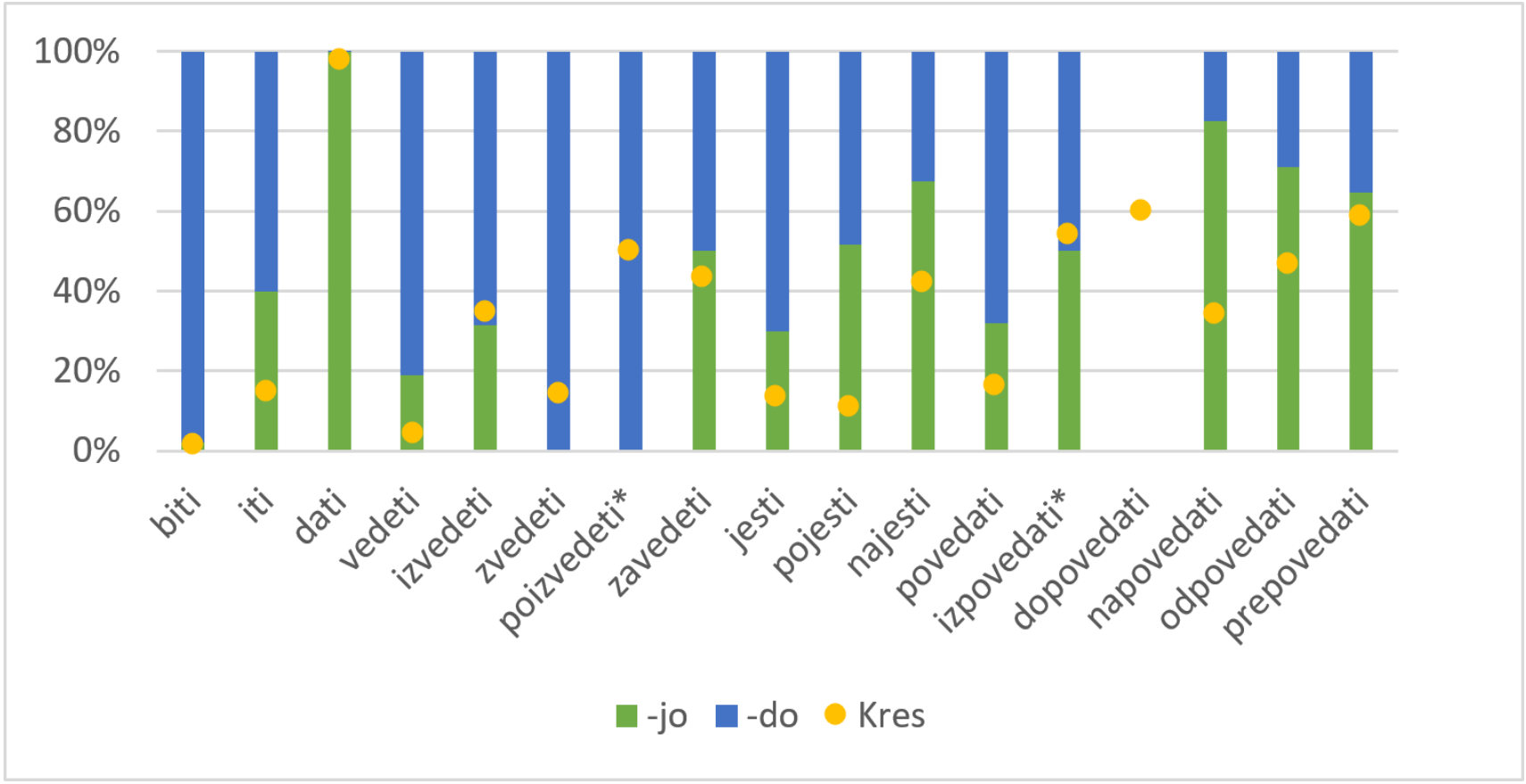
Blog subcorpus vs. Kres



News comment subcorpus vs. Kres

- A higher preference for *-jo*
  - *pojesti*, *najesti*, *povedati*, *napovedati*, and *odpovedati*
- Similar ratios
  - *izvedeti*, *zavedeti*, *izpovedati**, and *prepovedati*
- A higher preference for *-do*
  - *zvedeti* and *poizvedeti**

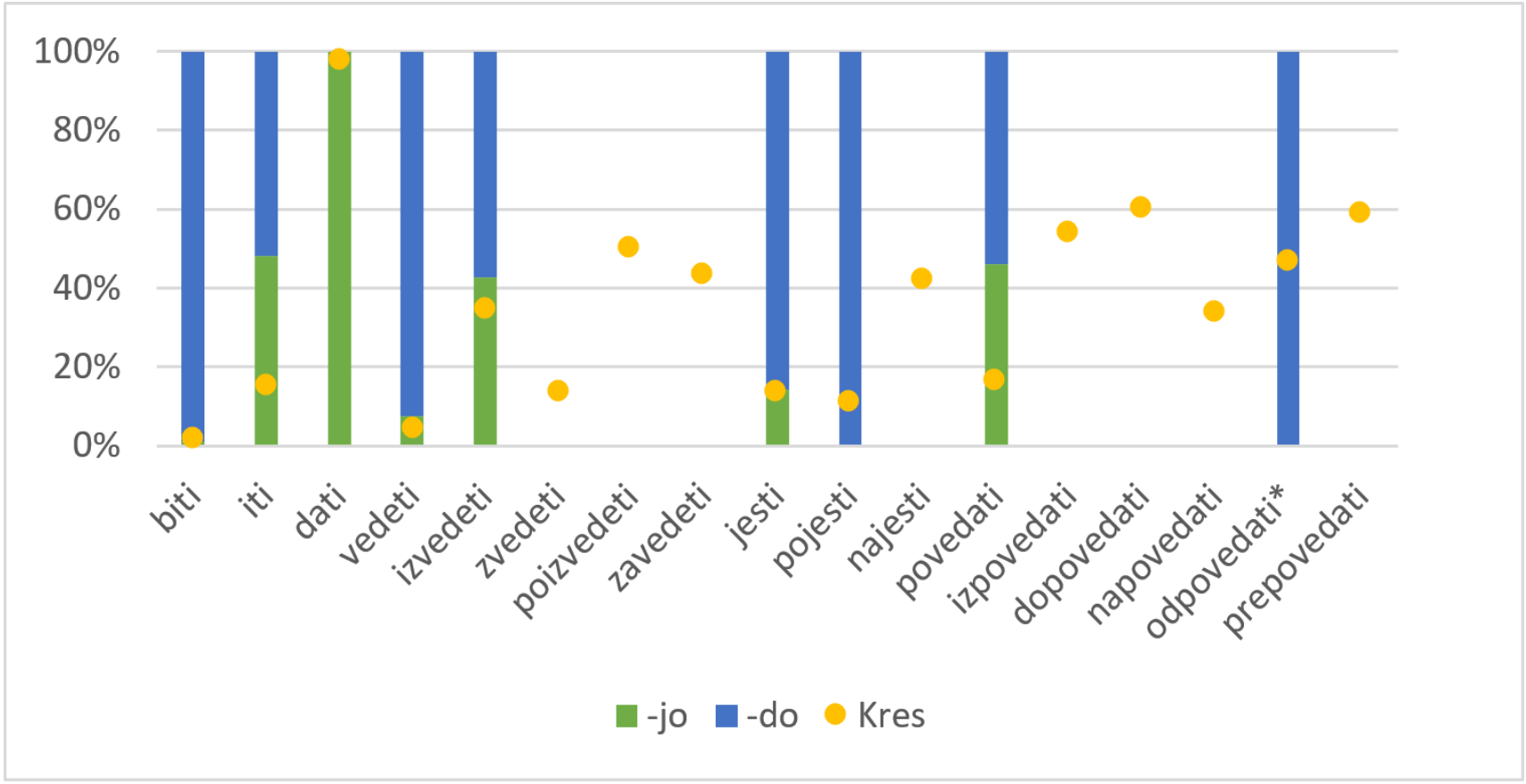
News comment subcorpus vs. Kres



Wiki talk subcorpus vs. Kres

- A slightly higher preference for *-jo* with *izvedeti*
- A notably higher preference for *-jo* with *povedati*
- A slightly higher preference for *-do* with *pojesti*
- A notably higher preference for *-do* with *prepovedati*

Wiki talk subcorpus vs. Kres



Genre comparison

- Wiki talk subcorpus excluded (too small)*
- Minimum frequency of 10 in all corpora

- **Verbs that met this criterion:**
  - *biti*
  - *iti*
  - *dati*
  - *vedeti*
  - *izvedeti*
  - *zvedeti*
  - *jesti*
  - *pojesti*
  - *povedati*
  - *odpovedati*
  - *prepovedati*

* absolute and relative frequencies for all verb forms in all (sub)corpora: https://www.dropbox.com/s/ducs6y7ei75vn9p/Abs_rel.xlsx?dl=0

Genre comparison

- Recurring patterns:
  - *biti* almost exclusively employs *-do* in all (sub)corpora;
  - *dati* almost exclusively employs *-jo* in all (sub)corpora;
  - the **blog** subcorpus and the **Kres** corpus display comparable tendencies with 8 verbs;
  - similarity of the **forum**, **tweet**, and **news comment** subcorpora.

Conclusion

- A preference for -*do* has been found in both corpora
  - Janes (10 out of 17 verbs)
  - Kres (12 out of 17 verbs)
- Different verbs show different tendencies → generalizations mostly not possible
- *Biti* almost universally realized as *bodo*
- *Dati* almost universally realized as *dajo*
- Genre comparison:
  - evident similarities between the **blog subcorpus** and **Kres**;
  - the **tweet**, **forum**, and **news comment** subcorpora also show similarities.

Further work

- Analyzing other derivatives (e.g., *spovedati*, *zapovedati*)
- Analyzing *-jo* and *-do* from a normative perspective

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References

Arhar Holdt, Š. (2013). Študentje, škratje in nadškofje: končnica *-je* v imenovalniku množine pri samostalnikih prve moške sklanjatve. *Slovenščina 2.0*, 1(1), pp. 134–154.

Crystal, D. (2006). *Language and the Internet*. Cambridge: Cambridge University Press.

Fišer, D., Erjavec, T., Ljubešić, N. (2016). Janes v0.4: korpus slovenskih spletnih uporabniških vsebin. *Slovenščina 2.0* (to appear).

Herring, S.C. (2007). A faceted classification scheme for computer-mediated discourse, *Language@Internet*: http://www.languageatinternet.org/articles/2007/761 (accessed: 13 August 2016).

Kilgarriff, A., Baisa, V., Bušta, J., Jakubíček, M., Kovář, V., Michelfeit, J., Rychlý, P., Suchomel, V. (2014). The Sketch Engine: ten years on. *Lexicography*, 1(1), pp. 7–36.

Logar Berginc, N., Grčar, M., Brakus, M., Erjavec, T., Arhar Holdt Š. and Krek, S. (2012). *Korpusi slovenskega jezika Gigafida, KRES, ccGigafida in ccKRES: gradnja, vsebina, uporaba*. Ljubljana: Trojina, zavod za uporabno slovenistiko; FDV.

Može, S. (2013). Raba kratkega nedoločnika: korpusni pristop. *Slovenščina 2.0*, 1 (1), pp. 155–175.

SP 2001 – Slovenski pravopis. Ljubljana: SAZU – ZRC SAZU – Založba ZRC.

Toporišič, J. (2004). *Slovenska slovnica*. Maribor: Obzorja.