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Leibniz Institute
for the Social Sciences



Die Messung von Bildung bei Migrantinnen und Migranten der ersten Generation:

Ein neues adaptives Instrument für Umfragen

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Outline

- Project background and aims
- Components of the CAMCES tool
- Pilot study: IAB-SOEP Migration Sample
- Summary and outlook

Project background

- Education: the most central background variable in social surveys
- Issue in cross-cultural research:
 - Idiosyncratic institutional differences across countries, translation of names of educational qualifications impossible
 - Education classifications difficult to implement
- Migration results in foreign qualifications
 - Often inappropriate instruments used, not taking educational system differences into account

Components of the CAMCES tool

Components of the CAMCES tool

- CAMCES question module
- CAMCES survey interfaces:
 - Combination Box (CB), including algorithm for textstring matching
 - Search Tree (ST)
- CAMCES database

CAMCES question module

- Three main elements:
 - Introduction (concept clarification, scope)
 - Identify relevant educational system (“education context”)
 - Ask about highest educational qualification obtained
- Optional elements
 - Country-specific school-leaving certificates
 - Loop to capture more than one qualification
 - Year of qualification, years of education...
- Translations (TRAPD) from DE into EN, NL, ES, FR(, RU)

CAMCES survey interfaces

1. Combination Box (CB) - in CAPI only when latin alphabet
 - text entry box for search in DB
 - algorithm to show most relevant results
 - selection of best match by respondent
 - 🧠 may not always be successful (memory, motivation)
 - 🧠 requires more instructions than ST
2. Search Tree (ST)
 - equivalent of show card but more detailed
 - nesting of qualifications in broader categories
 - used as fallback for respondents unsuccessful in CB
 - 🧠 may entail more social desirability or 'rounding'
 - 🧠 may be slower (requires more reading)

Combination Box (CB) - Italy

Educational qualification

What is your highest educational qualification?

- Please enter the qualification in Italian.
- Please do not type the subject area or your occupation.
- Please select the best match.



Next

Combination Box (CB) - Italy

Educational Qualification

What is your highest educational qualification?

- Please enter the qualification in Italian.
- Please do not type the subject area or your occupation.
- Please select the best match.



Laurea di 1° livello o Laurea di 3 anni

Diploma di Laurea, 4-6 anni [vecchio ordinamento]

Diploma di specializzazione post laurea magistrale, 1-2 anni

Diploma di specializzazione post laurea magistrale, 3-4 anni

Laurea magistrale, 5-6 anni

Laurea specialistica

Search Tree (ST) - Italy

Educational Qualification

What is your highest educational qualification?



- Non sono mai andato a scuola
- ▶ Scuola elementare
- Avviamento professionale
- Licenza media, 3 anni
- Qualifica professionale regionale post-obbligo
- ▶ Diploma di Qualifica di istituto professionale, 2 o 3 anni
- ▶ Diploma di scuola media superiore, 4-5 anni
- ▶ Specializzazione / Qualifica professionale post-diploma
- Diploma di Tecnico Superiore - ITS
- ▶ Diploma di istruzione terziari: Conservatorio di musica, Accademia di Belle Arti e simili e simili
- ▼ Università
 - Diploma universitario, 2 o 3 anni [vecchio ordinamento]
 - Laurea di 1° livello o Laurea di 3 anni
 - Master universitario di 1° livello
 - Diploma di Laurea, 4-6 anni [vecchio ordinamento]
 - Laurea magistrale, 5-6 anni
 - Laurea specialistica
 - Master universitario di 2° livello
 - Diploma di specializzazione post laurea magistrale, 1-2 anni
 - Diploma di specializzazione post laurea magistrale, 3-4 anni
 - Dottorato di ricerca

Search Tree (ST) – Russian Federation

Educational Qualification

What is your highest educational qualification?



- ▶ Вообще не учился в школе, незаконченная начальная школа
- ▼ **Аттестат об основном общем образовании**
 - Аттестат об основном общем образовании, 7 классов [по системе до 1958 года]
 - Аттестат об основном общем образовании, 8 классов [по советской системе 60-80-х годов]**
 - Аттестат об основном общем образовании, 9 классов [по современной системе]
- ▶ Начальное или среднее профессиональное-техническое образование или на базе основного общего образования
- ▶ **Аттестат о законченном среднем общем образовании**
- ▶ Начальное или среднее профессиональное-техническое образование или на базе полного среднего
- ▶ Высшее образование

Search Tree (ST) - Iraq

Educational Qualification 

What is your highest educational qualification?

- ▼
- لم يذهب إلى المدرسة
- أقل من شهادة التعليم الابتدائي
- شهادة التعليم الابتدائي
- شهادة التعليم المتوسط
- شهادة التعليم الإعدادي
- شهادة التعليم المهني
- معهد فني ◀
- جامعة ▼
- درجة بكالوريوس (٤ سنة)
- درجة بكالوريوس (٥ سنة)
- بكالوريوس الطب (٦ سنة)
- دبلوم عالي
- درجة ماجستير
- درجة دكتوراه



CAMCES database

- Contexts (countries, regions/languages) of education
- Historical and current qualifications
- Classification codes and references to classifications for harmonization
 - Allows deriving syntax for recoding detailed qualifications
- Search Tree structure
- “Synonyms”
 - More general and more specific terms to improve Combination Box matching
 - Linked to one or more qualifications
- Translations of terms used in the tool (e.g. “Search”)

Pilot study: IAB-SOEP Migration Sample

Migrant survey: IAB-SOEP Migration Sample

- Cooperation between Institute of Employment Research (IAB, Nuremberg) and German Socio-Economic Panel (SOEP, Berlin)
- Individuals who migrated to Germany since 1994, or whose parents had done so
- First wave including ~2700 households in 2013
- Oversampling by country of origin: Poland, Romania, former Soviet Union countries, Turkey, former Yugoslavia, Italy, Spain, and Greece
- Input-harmonized education measures inspired by German educational system

IAB-SOEP MS education measures I

- Wo haben Sie zuletzt die Schule besucht?
- Wenn im Ausland:
 - Wie viele Jahre haben Sie die Schule besucht?
 - Mit was für einem Abschluss haben Sie die Schule beendet?
 - Schule ohne Abschluss verlassen
 - Pflichtschule mit Abschluss beendet
 - Weiterführende Schule mit Abschluss beendet

IAB-SOEP MS education measures II

- Haben Sie in einem anderen Land als Deutschland eine berufliche Ausbildung oder ein Studium gemacht? Ja/ Nein
- Wenn Ja: Was für eine berufliche Ausbildung oder Studium war das?
 - Ich wurde in einem Betrieb angelernt
 - Ich habe in einem Betrieb eine längere Ausbildung gemacht
 - Ich habe eine berufsbildende Schule besucht
 - Ich habe eine Hochschule / Universität mit eher praktischen Ausrichtung besucht
 - Ich habe eine Hochschule / Universität mit eher theoretischer Ausbildung besucht
 - Ich habe ein Promotionsstudium absolviert
 - Sonstige Ausbildung

Focus groups with SOEP interviewers, 2014

- Experienced with SOEP migrant sample
- Interfaces work very well, easy to use
- Tool considered to be very useful
- Suggestions for simplifying questions
- Issues identified:
 - Often today's countries and borders will be used (taking time into account unpractical)
 - Difficulty of establishing ‚highest‘ qualification in migration context

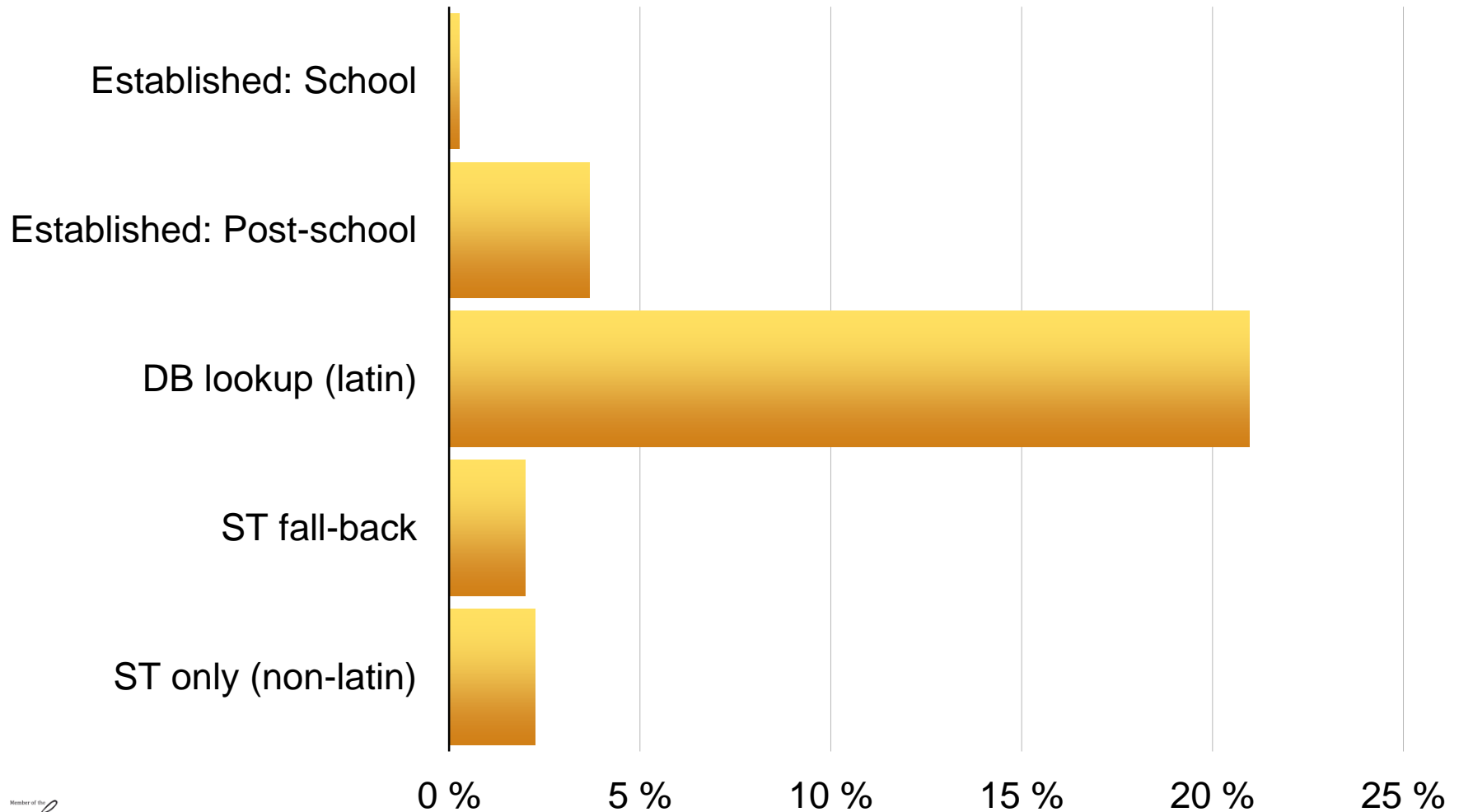
CAP/SI Pretest for SOEP Migrant Sample, 2014

- Quota sample of 1st generation immigrants arriving after 1995 from TR, IT, GR, former Soviet Union, former Yugoslavia, PL, RO
- 617 cases, CAP/SI in German, June/July
- Focus on functioning and usability
 - 5% technical problems - mostly installation
 - Underreporting of 2nd... qualifications (loop)
 - Of those with 2+, 20% mention lowest first
 - Task (enter text) apparently unclear for some

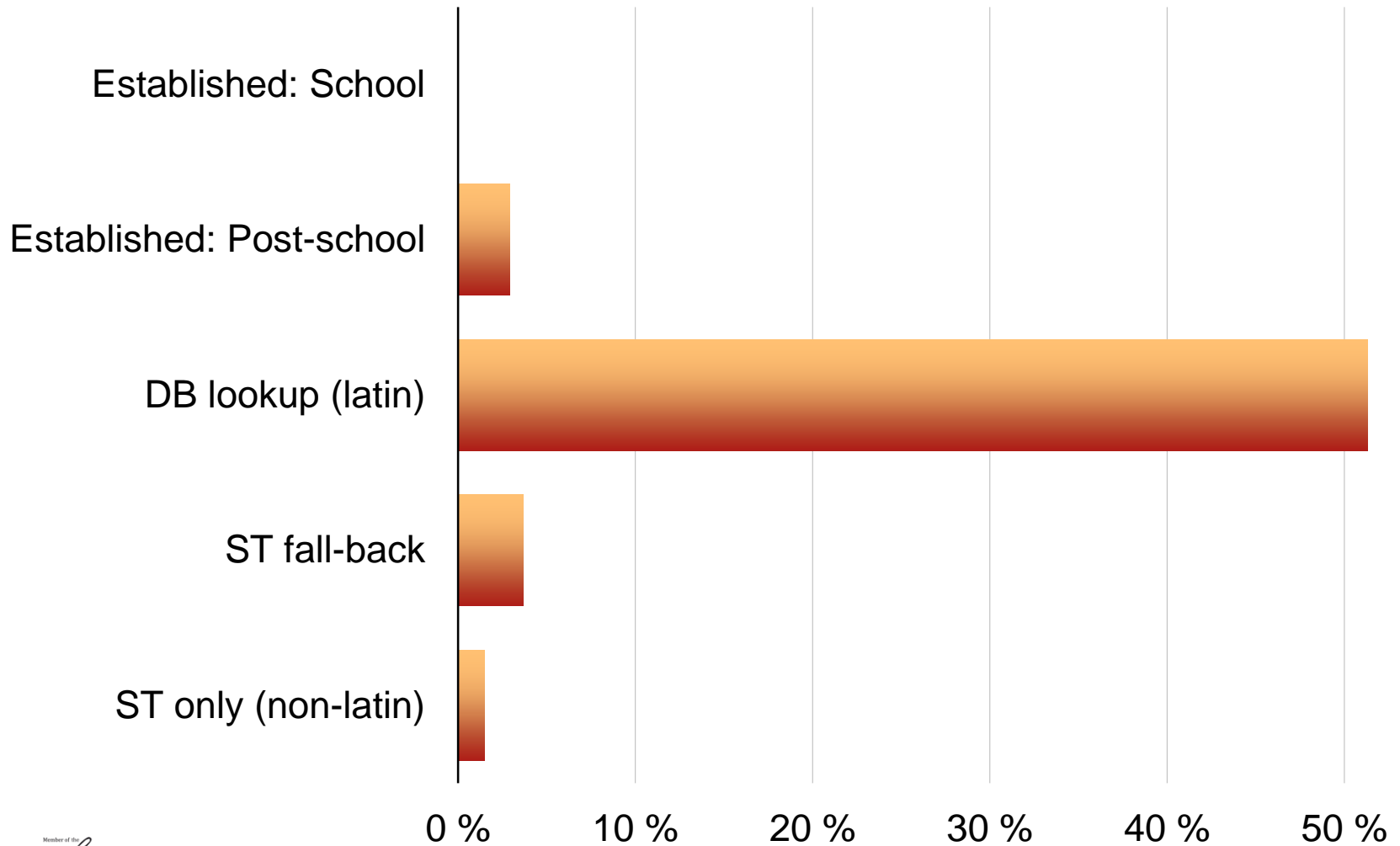
CAMCES quantitative pilot studies

- IAB/SOEP Migration Sample (SOEP-MS, only foreign, 2nd interview), 2015: CAP/SI, v0.1.
 - CB with ST as fallback (for qualifications in latin script), N=414
 - ST only (for non-latin script), N=399
- Quality indicators to look at
 - Response formats and item-nonresponse/,other‘
 - Reasons for failed database lookup
 - Highest qualification reported in first loop?
 - Validation of response formats with panel information (established closed questions)?
 - Time stamps

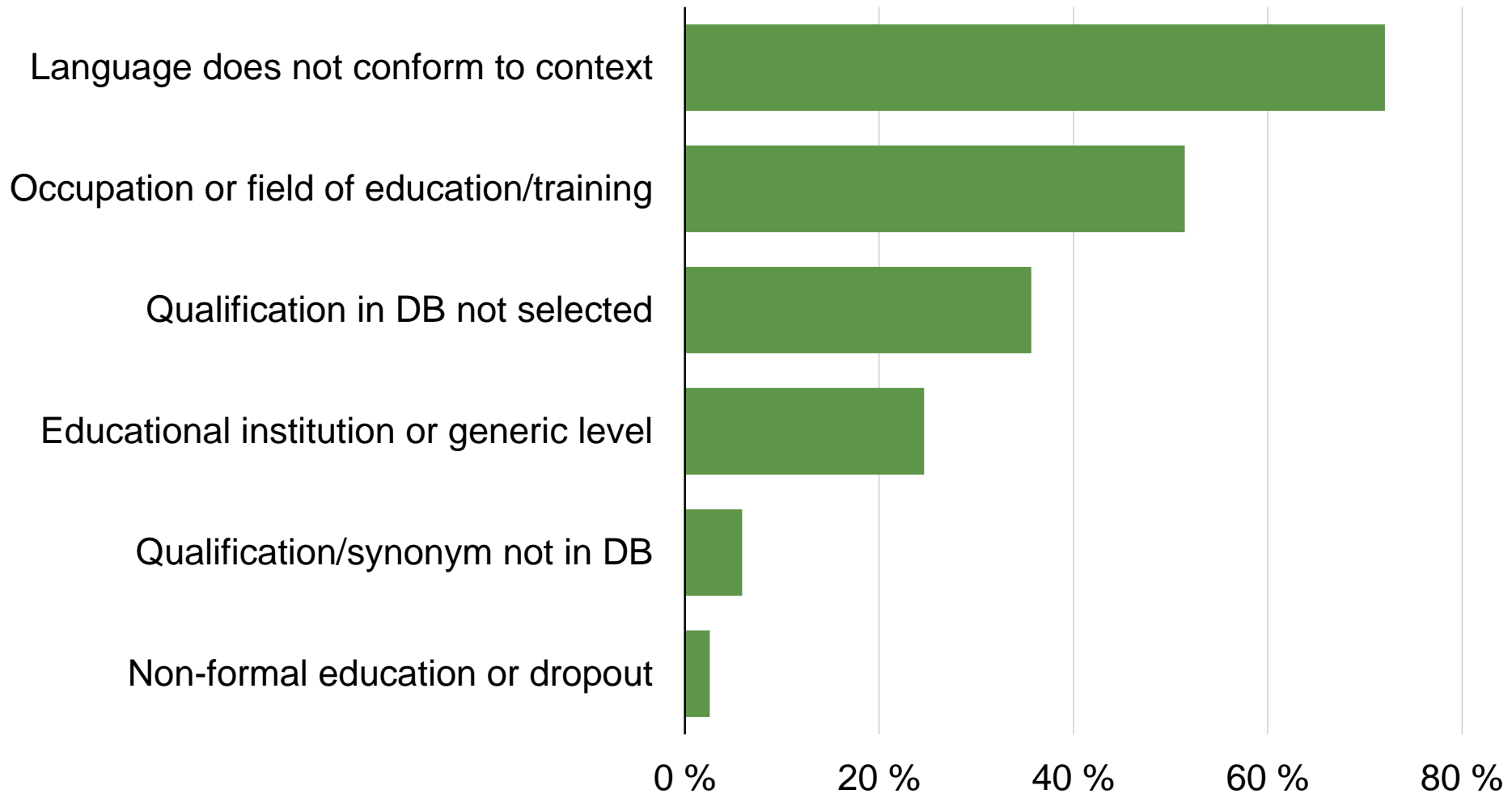
% Item nonresponse (no answer, blank)



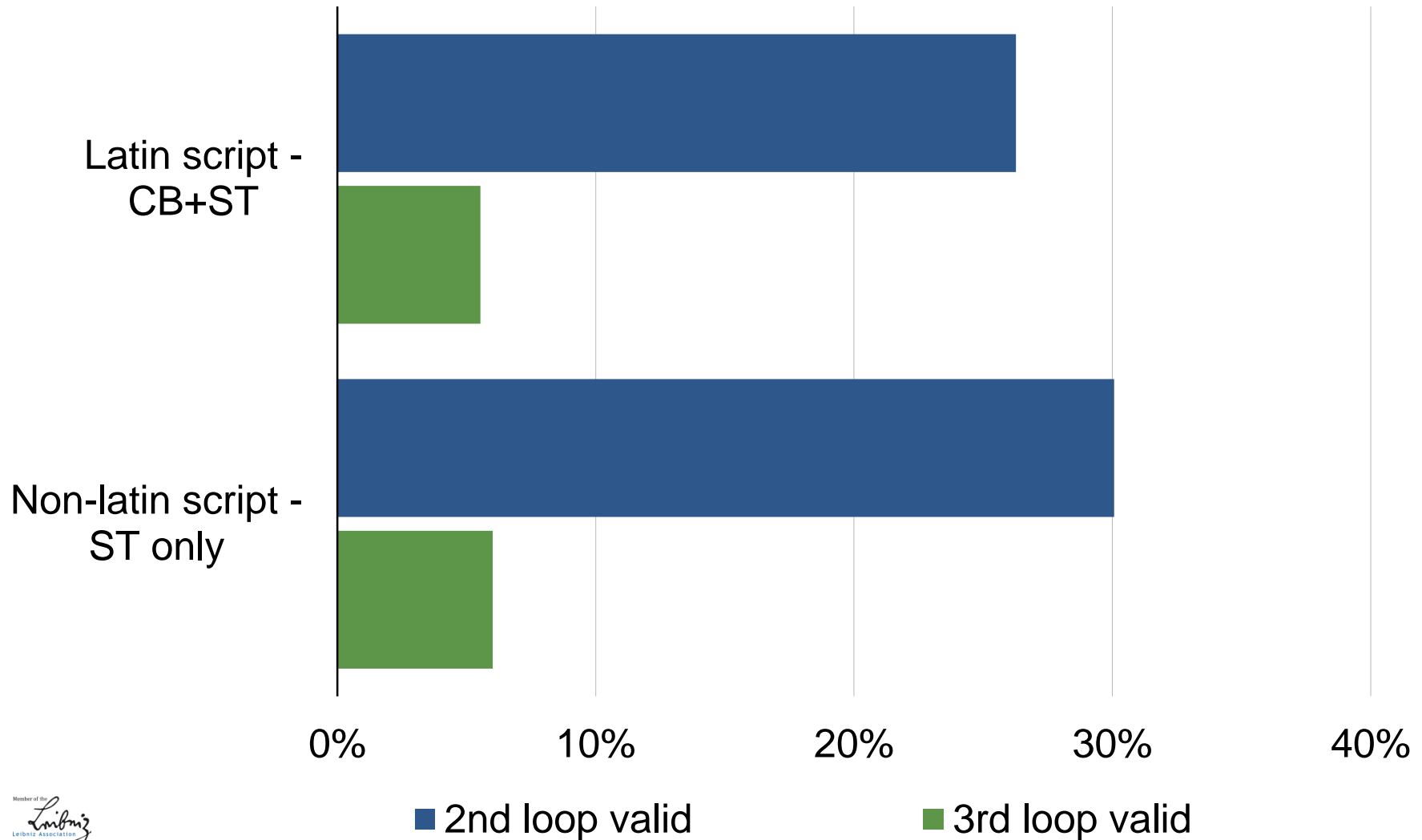
% other/not automatically coded



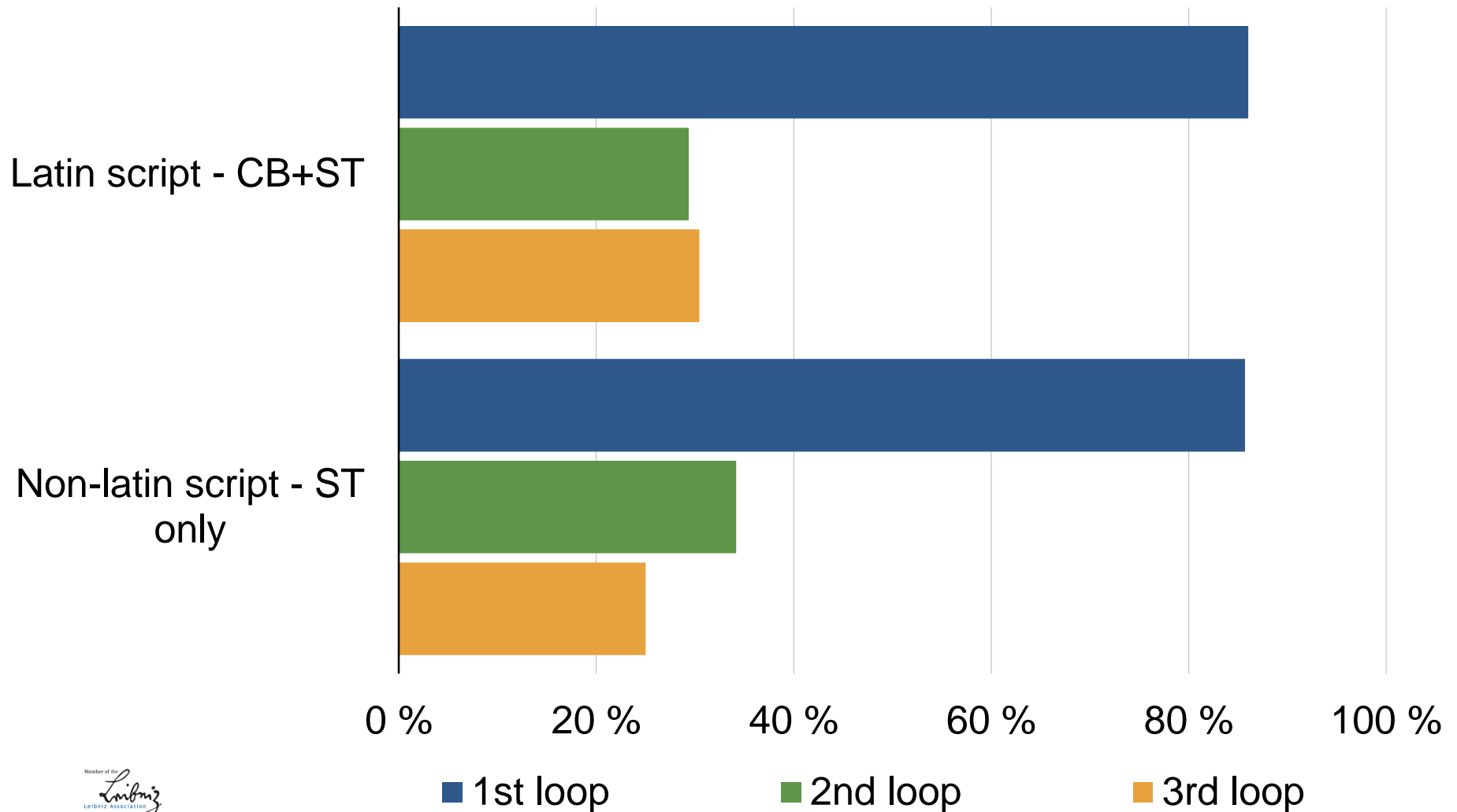
Reasons for non-matching CB entries



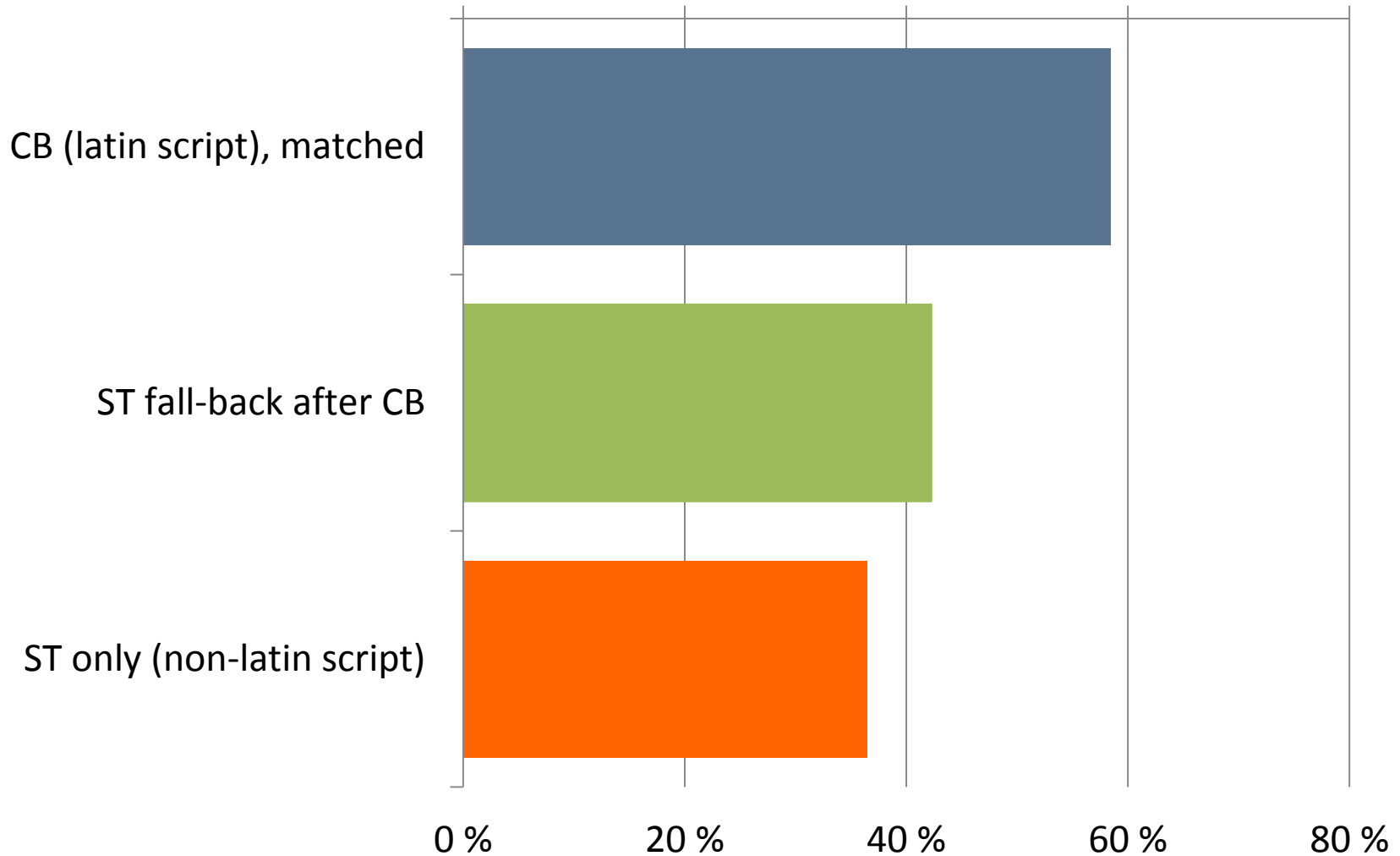
Usage of loops in %



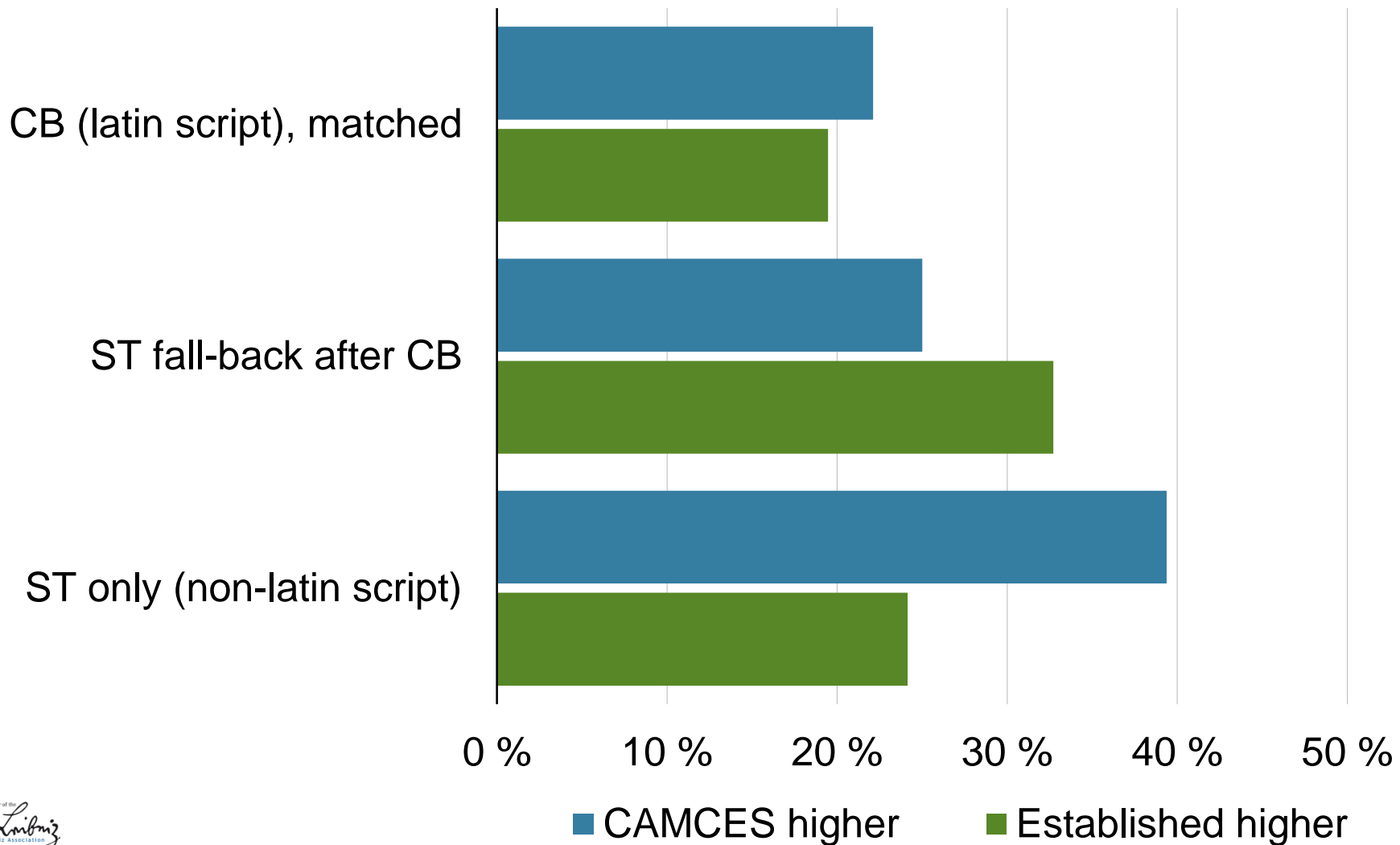
% Reporting highest qualifications per loop



% consistently coded cases compared to input-harmonized measures



% *inconsistently coded cases* compared to established measures



Response times

- SOEP-MS:
 - Response times similar for CB and ST only (med <50s)
 - Higher for CB+ST (med 75s)

Summary, conclusions and outlook

Summary

- Adaptive education measurement in surveys is feasible
- Many respondents skips the CB
- Many respondents do not conceptually differentiate between education, occupation and field of education/training
- Some respondents do not first report highest qualification
- Consistency with established measures looks reasonable; IAB-SOEP MS no ideal comparison measures

Conclusions

- Continuous improvements of the database (e.g. addition of synonyms)
- Final improvements of question module (instructions)
- Final improvements of search algorithm (e.g. ignore words without matches)
- CB implies more complexity; e.g. introduction needs adapting for each country
- Switch off Combination Box when language where qualification was obtained \neq survey language? Search Tree helps for retrieval also.
- What to do about interviewer effects/satisficing?

Expected benefits of CAMCES tools

- Efficiency through standardisation and automation of data collection, coding and harmonisation processes
- Better coverage of foreign, rare, and outdated educational qualifications
- More accurate information, flexibility and analytic value through detailed measurement
- Database useable as standard resource for post-hoc harmonisation for researchers and data archives

Future developments

- SERISS project, we participate in WP8 on socio-economic indicators and questions in surveys
 - Web portal will host CAMCES tools
 - Extending database by adding non-European countries
- Increasing need for adequate education data for migrants, especially recent refugees: add further 6 countries referring to largest current refugee groups in Germany (cooperation with SOEP and LifBi)