Taking advantage of the e-assessment format: the long-menu questions

Background

- (Some) added values of the e-assessment format:
  - Formats: numeric values, hotspot, long-menu
  - Integration of videos and sounds
  - Sequential questions with information delivered progressively to the examinees (key-feature case)
  - Better readability (free text question)

The patient has no risk factor for a thromboembolic disease.
Physical exam:
Cardiac frequence: 105/min
Pulse: regular
Humeral Arterial Pressure: 140/70 mmHg
Temperature 37.8C axillary
Respiratory frequence: 14/min
No use of accessory muscles. No indrawing. No cyanosis. Jugular pulse non visible, no edema of the lower limbs.
No pulmonary stases.
Heart auscultation with no added murmur or noise, systolic intermittent rubbing, on the left inferior edge of the sternum.
The probability of pulmonary embolism is low.

3 characters, then the program displays some potential hits

Q5 When using the Deep Vein Thrombosis (DVT) clinical algorithm, what is the first test that would allow you to rule out or confirm a thromboembolic disease?

D-Dimer test

Q6 If the first exam is not conclusive, which second exam do you choose so as to exclude or confirm a thromboembolic disease?

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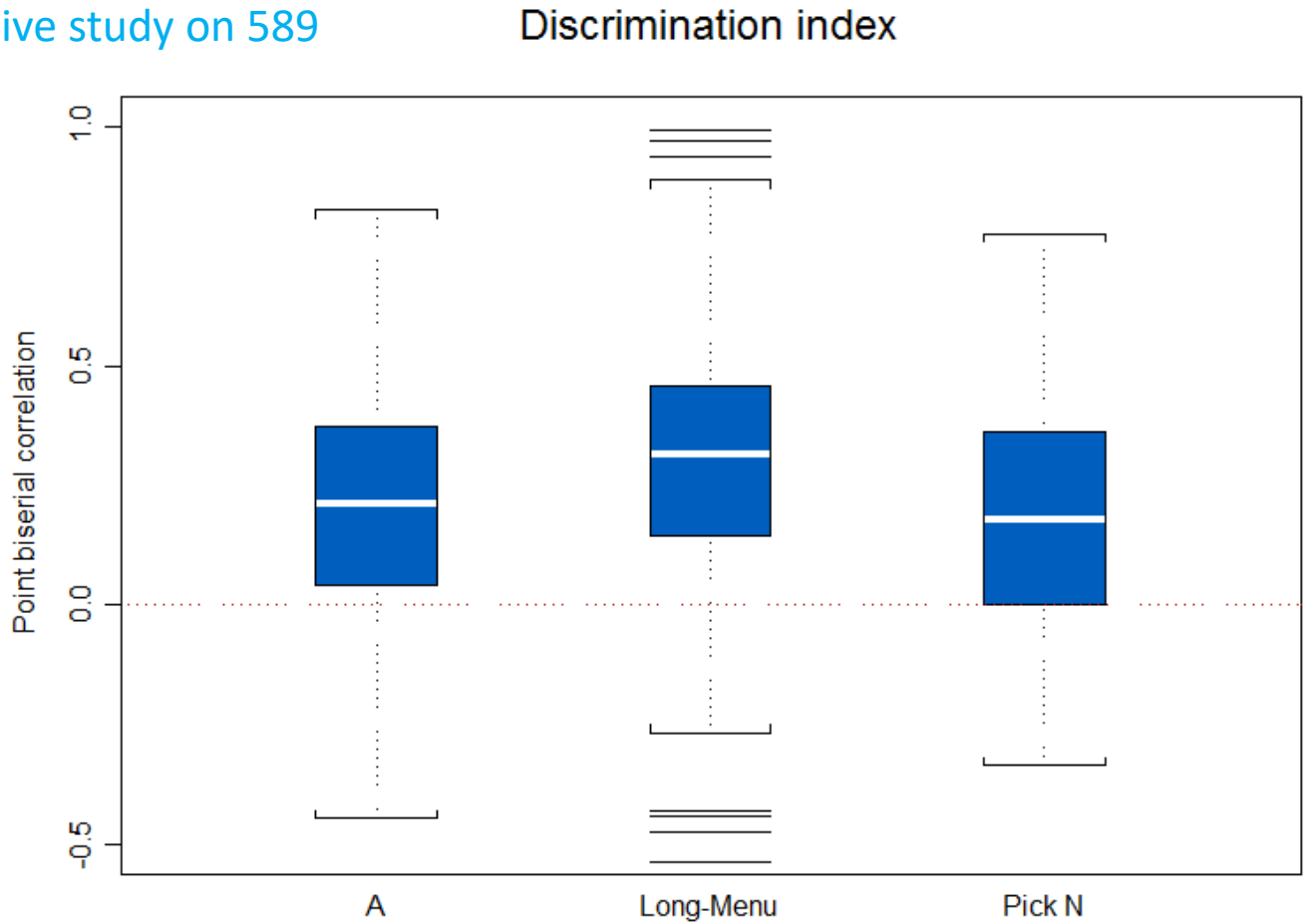
chest CT
chest tube
family history of ischemic heart disease
ischemic heart disease
venous angiological check up of the lower limbs

Long-Menu questions

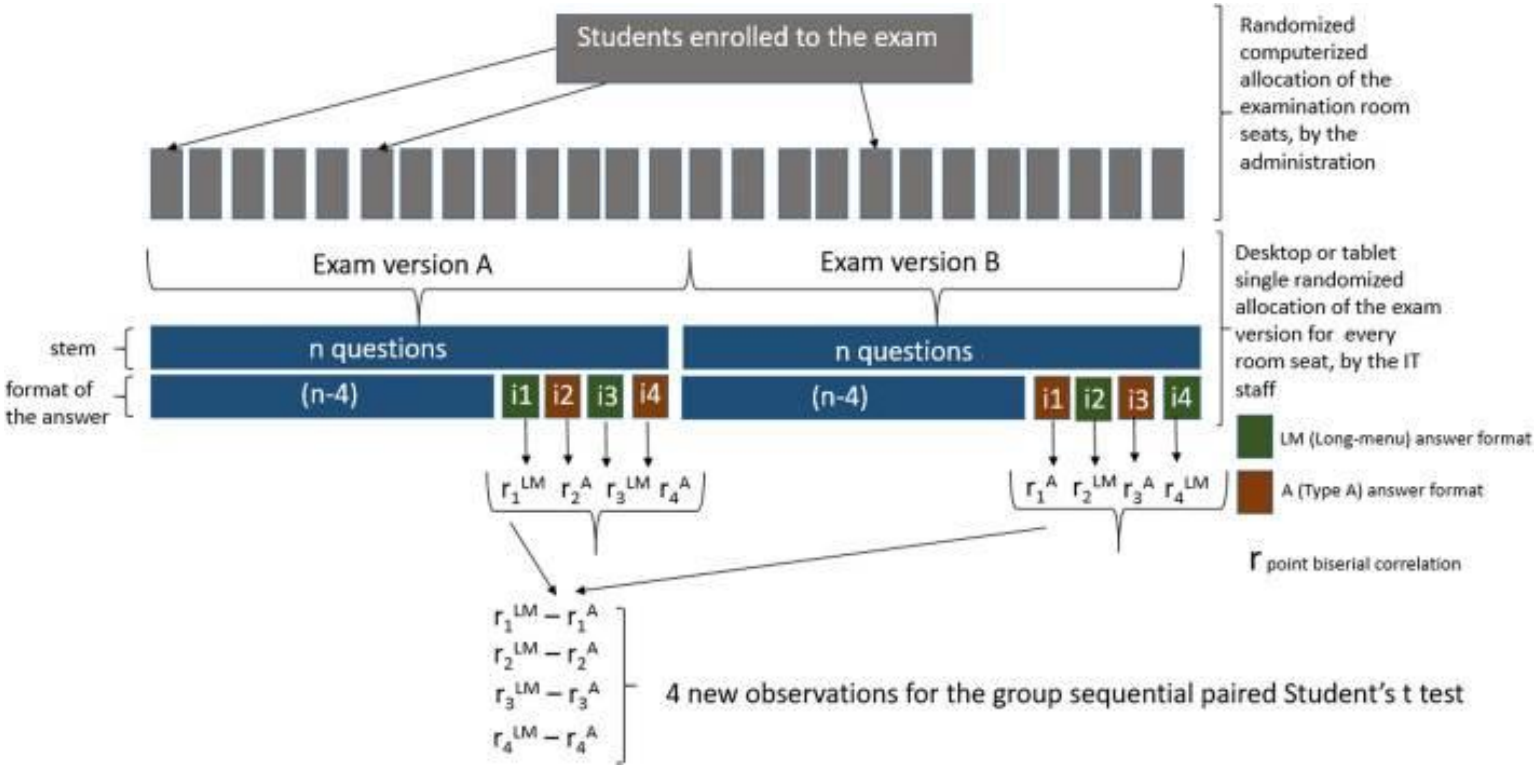
- Straightforward scoring
- Reduced sheer guessing and cueing effect
- No difference in level of difficulty compared with short answer, open-ended questions
- Closer to real life practice?

Retrospective study on 589 items:

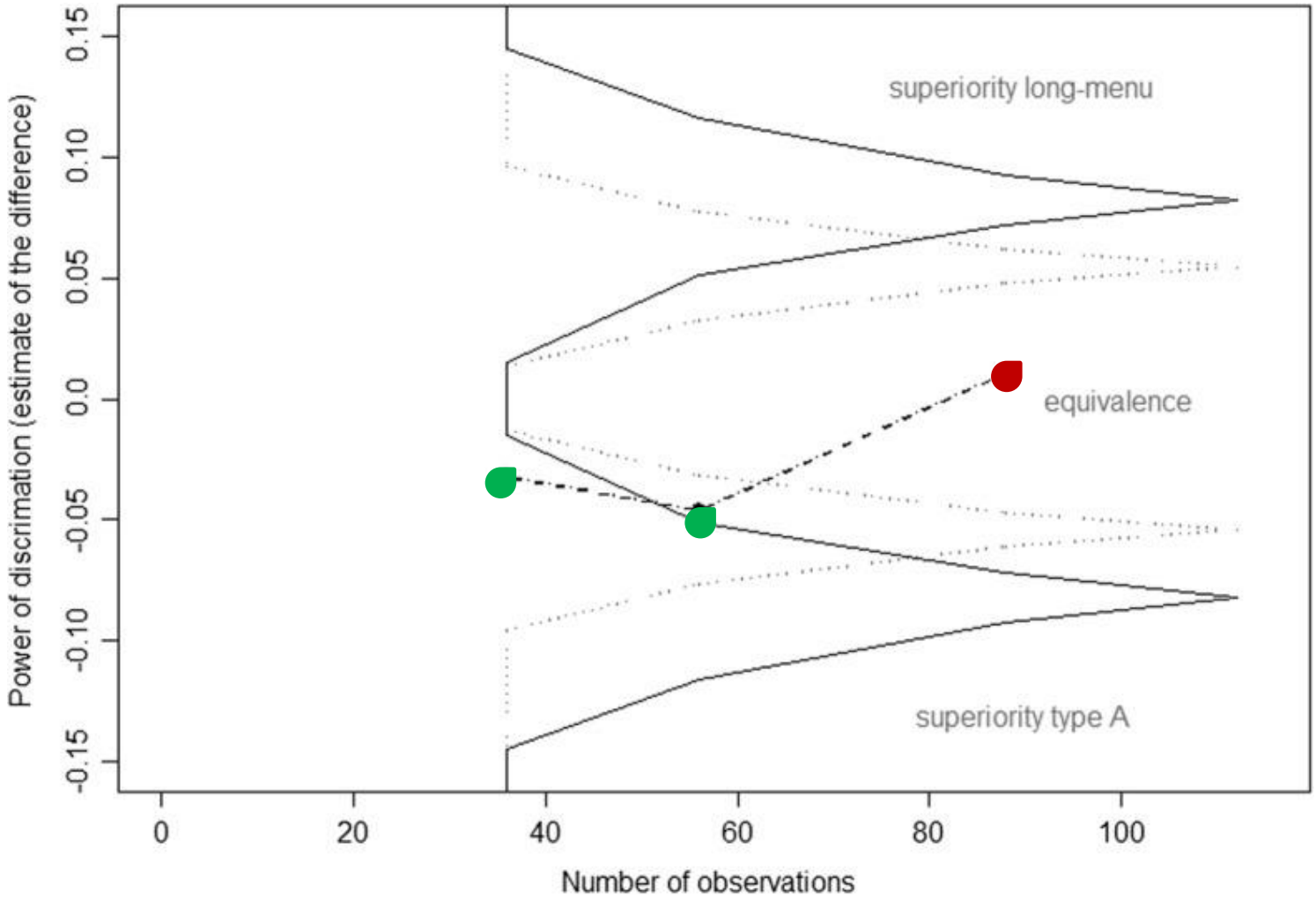


0.221 ± 0.233 0.309 ± 0.278 0.197 ± 0.214

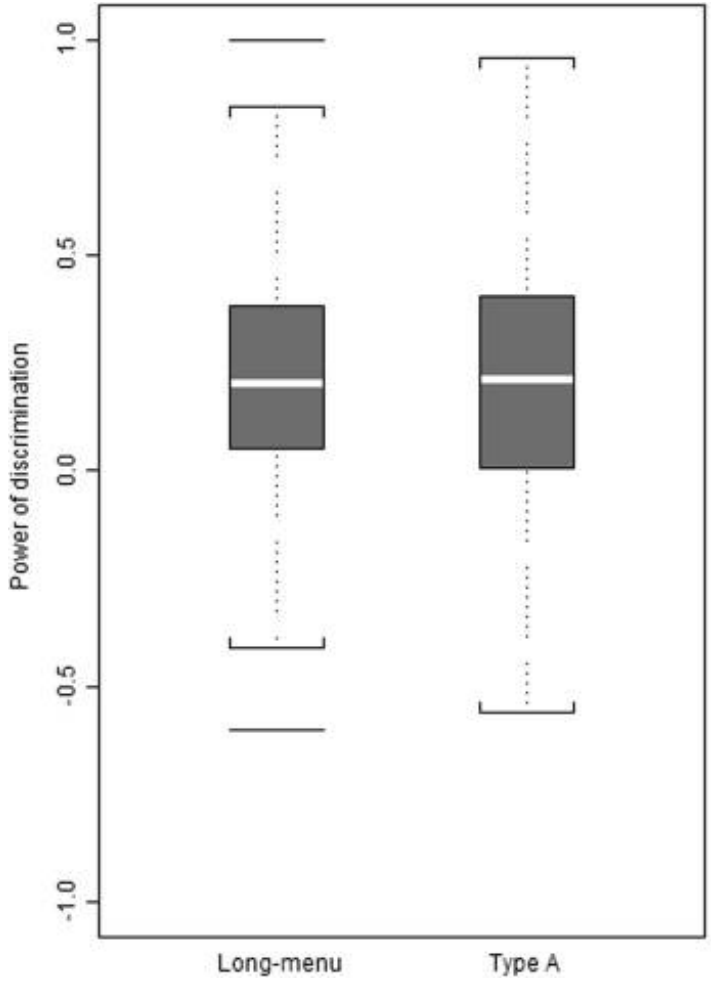
Prospective study :

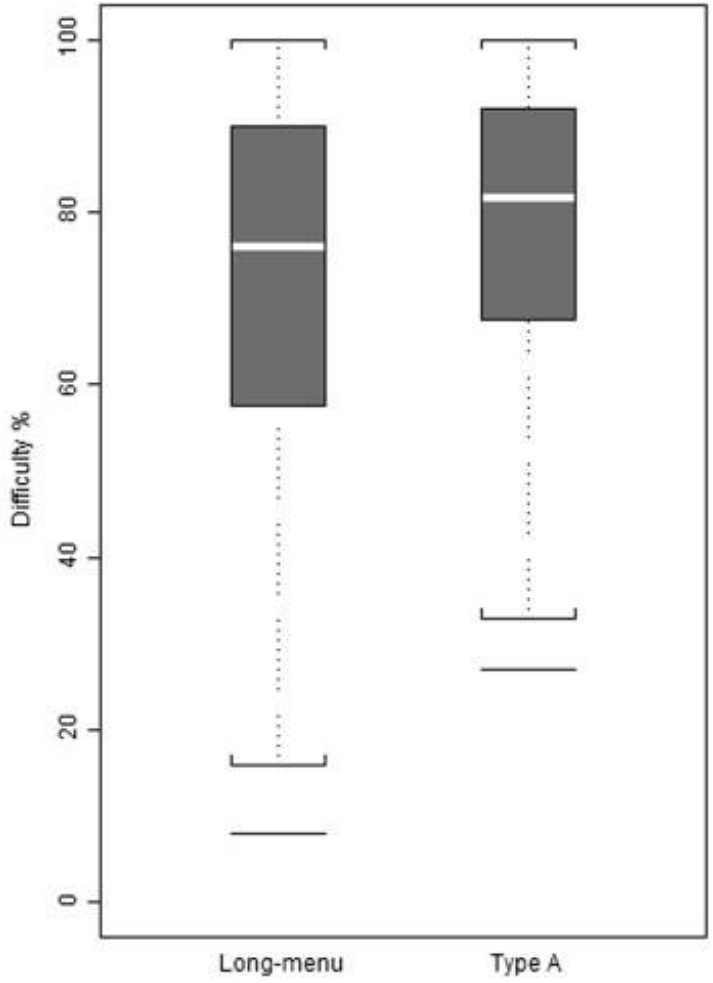


Sequential design of the prospective study:



Prospective study :





Conclusions

- Long-menus are more difficult
- No evidence of higher discriminatory power
- Writing and development are more complex ▸ advanced part of the curricula
- About 85% of our examinees agree that their reasoning is different whenever they have to answer a long-menu

References

- Comparison of long-menu and single-best-answer multiple choice questions in computer-based summative assessments: a randomised controlled trial. *BMC Medical education 2019*
  https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-019-1651-6
- Electronic assessment of clinical reasoning in clerkships: A mixed-methods comparison of long-menu key-feature problems with context-rich single best answer questions. *Medical Teacher 2017*
  https://www.tandfonline.com/doi/full/10.1080/0142159X.2017.1297525