

The use of embedded poll questions as a tool for assessing research integrity training and climate

6th World Conference on Research Integrity, Hong Kong

3 June 2019

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Background

Poll questions - pedagogical tool developed as part of Epigeum 2012 RI course



Initial purpose, engaged learning

What do you think?

What do others think?



Later expanded to provide information on:

Knowledge and confidence

Integrity

Climate

Structure of Epigeum RI training

VLE basic RI/RCR course with poll questions

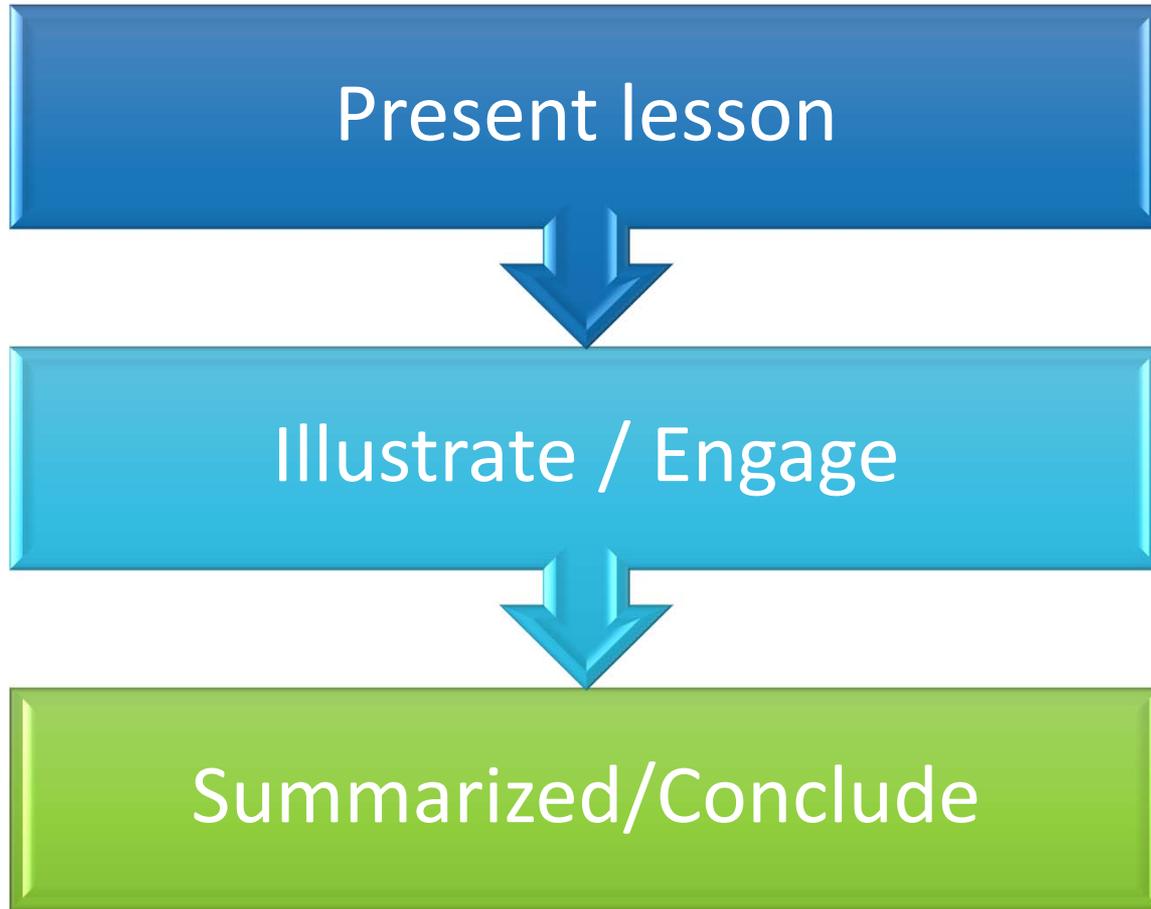
- Three versions: International/ US / Australian
- 5 tracks: Arts / Biomed / Engin / Nat. Sci / Soc. Sci
- 20 questions
- Database, ca. 40,000 learners

Hosted RI/RCR courses with “impact questions”

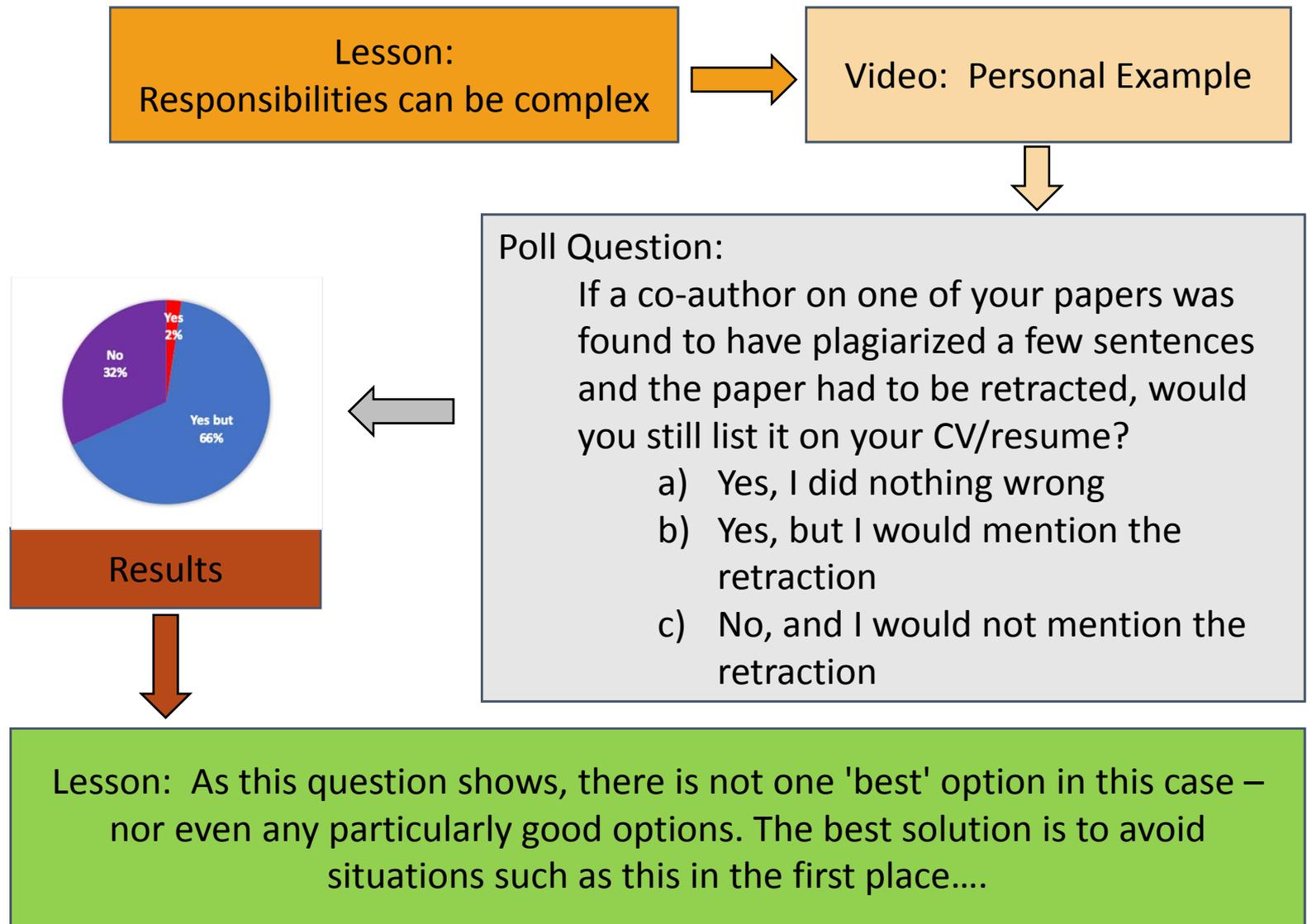
- Basic RI/RCR course, as above
- Concise RI/RCR course
- 30-45 questions, depending on version
- Database, ca. 10,000 learners

Some questions asked in both systems

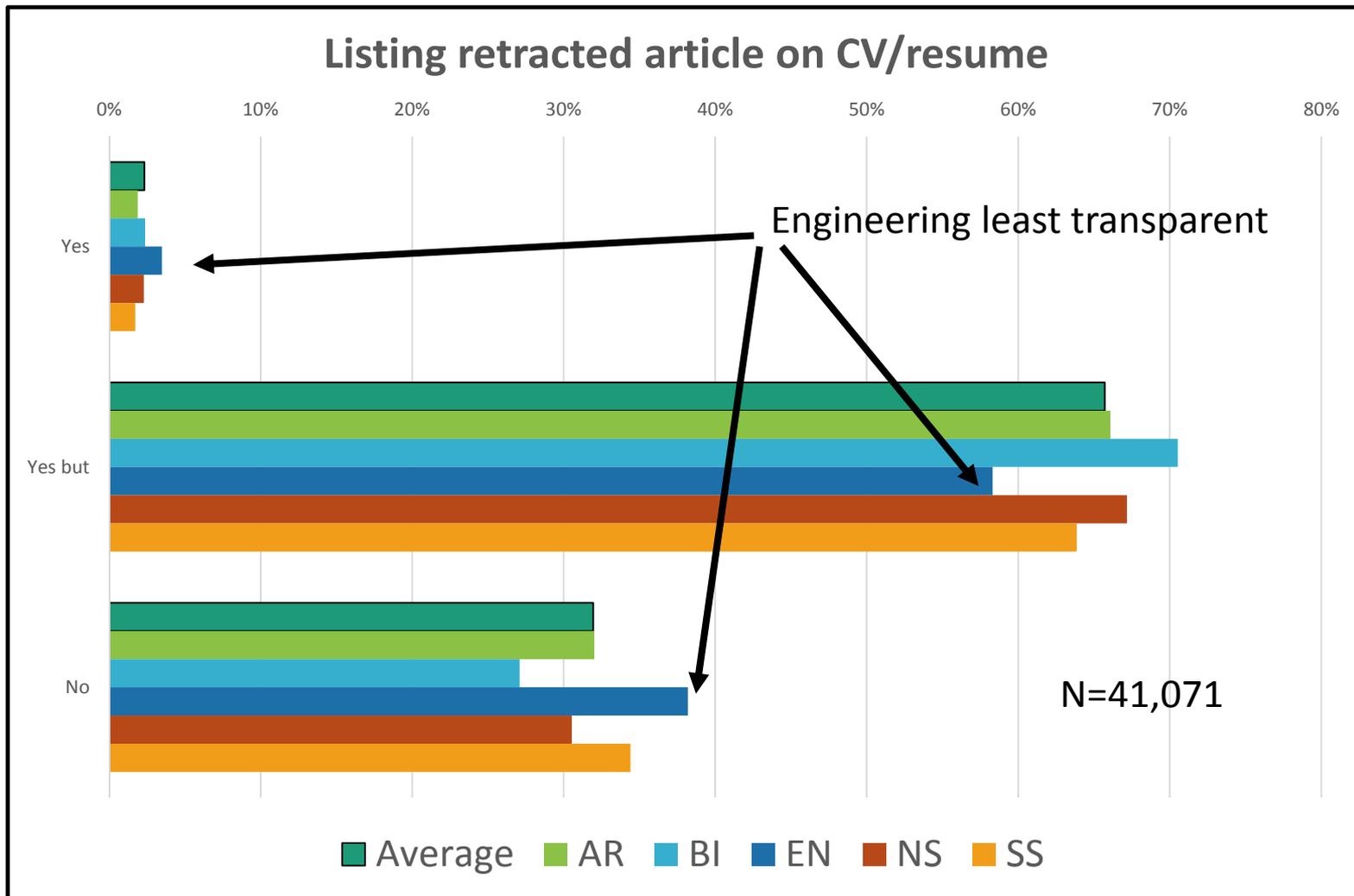
Pedagogy



Example:



Results by field:



Observations:

Pedagogy:

- Have not directly measured impact on learning
 - Participation is related to relevance
 - Lower participation for safety, humans and animals polls
 - Poll participation about 50% at end of course

Research Integrity:

- Poll questions potentially provide valuable information about learners:
 - Training challenges
 - Learner confidence and perceptions of climate
 - Researcher behavior

Training assessment

Pre-/Post Test Questions

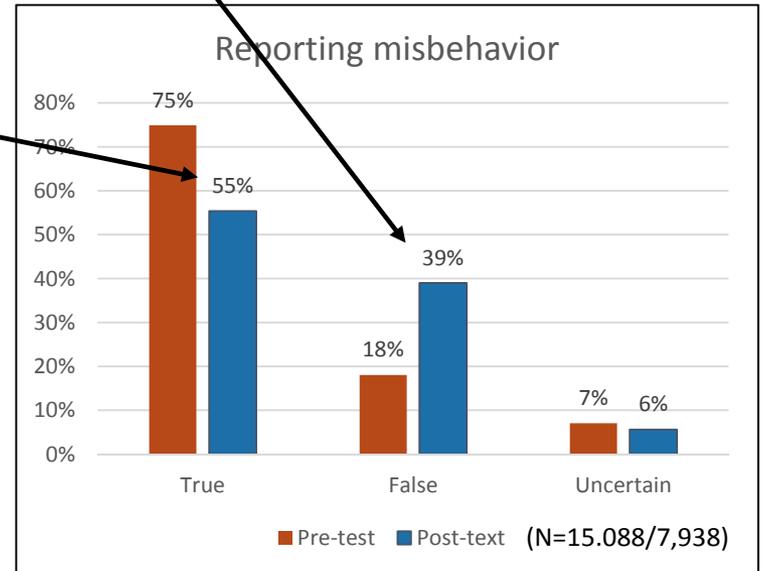
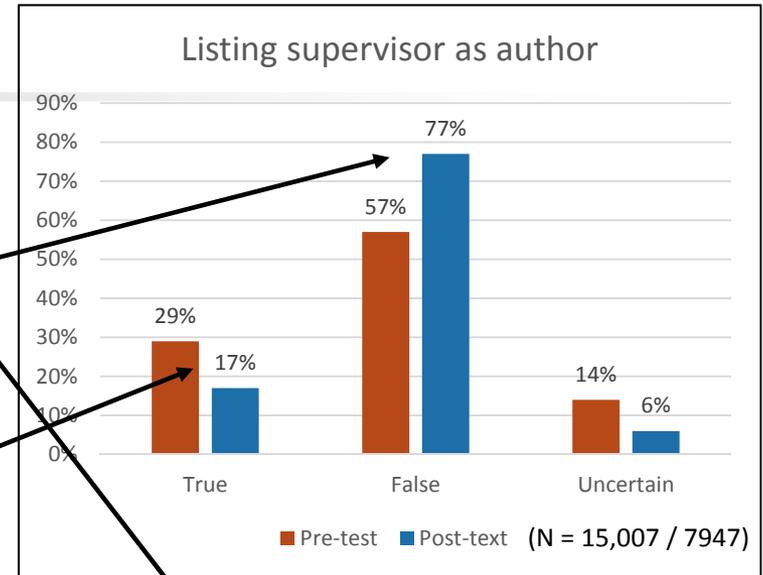
- Supervisors and mentors should routinely be listed as authors on papers published under their supervision, even if they made no significant contribution to the research reported in the publication
- If a researcher has concerns that a colleague may have engaged in improper research behavior, it is best to raise those concerns with the colleague first before contacting the colleague's supervisor or an institutional research integrity official.

Response:

- True / False / No opinion

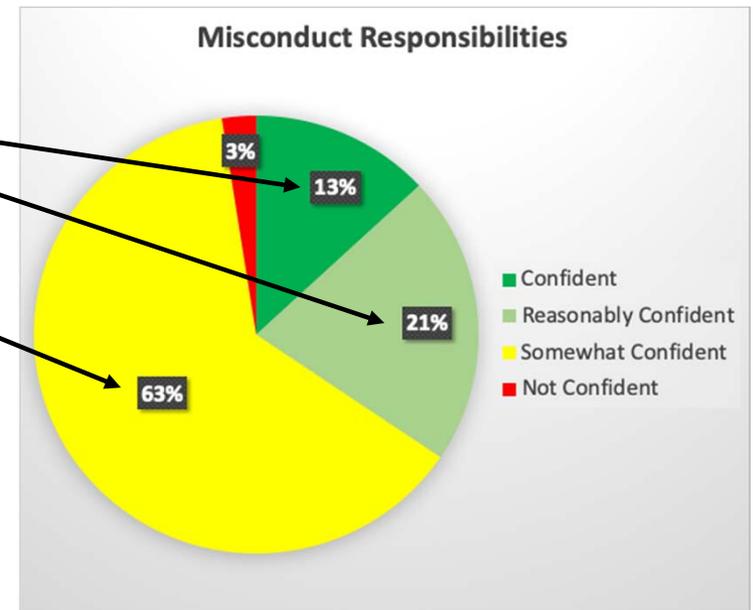
Results:

- Positive:
 - 20% improvement in responses
- Negative:
 - 17% would still list supervisor as author even if did not contribute to research
 - 55% would talk with suspected colleague before contacting institutional official
- Lessons:
 - Some points are more difficult to teach than others
 - Widely accepted beliefs difficult to change
 - Self-interest is important



Confidence

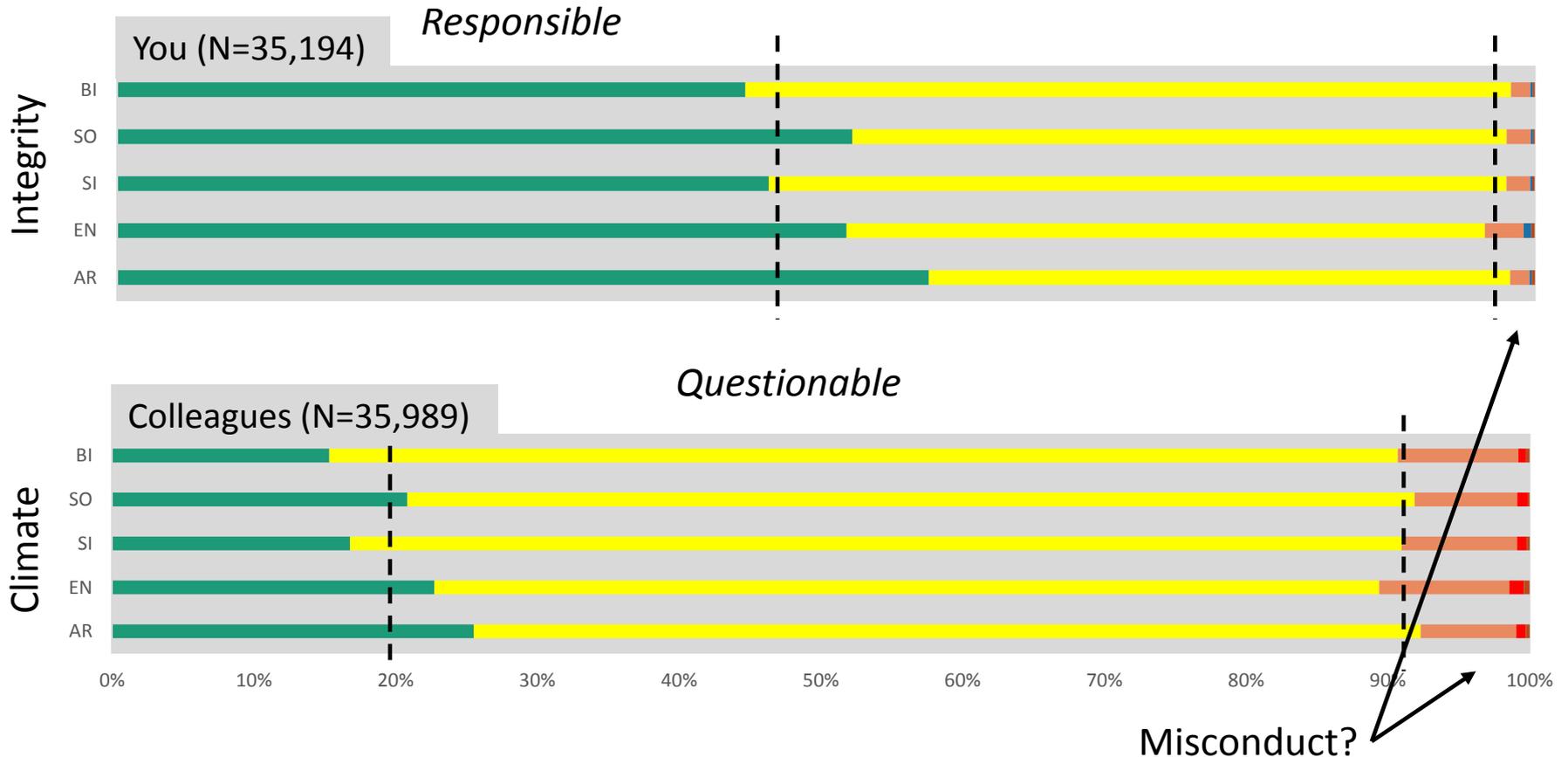
- Learners generally are confident they know their responsibilities:
 - Less than 10% not confident across nine areas of responsibility
- Most are probably overconfident:
 - Beginning course poll question:
 - 34.5% Confident or reasonably confident they understand responsibility to report misbehavior
 - 63.1% somewhat confident
 - Pre-course question:
 - 75% would report suspicions first to person suspected
- Lessons:
 - Overconfidence probably undermines commitment to training



Integrity & climate

- How often do you / colleagues follow basic principles?

■ All the time ■ Most of the time ■ Sometimes ■ Occasionally ■ Not at all



Integrity & climate observations

Standards for integrity could be raised

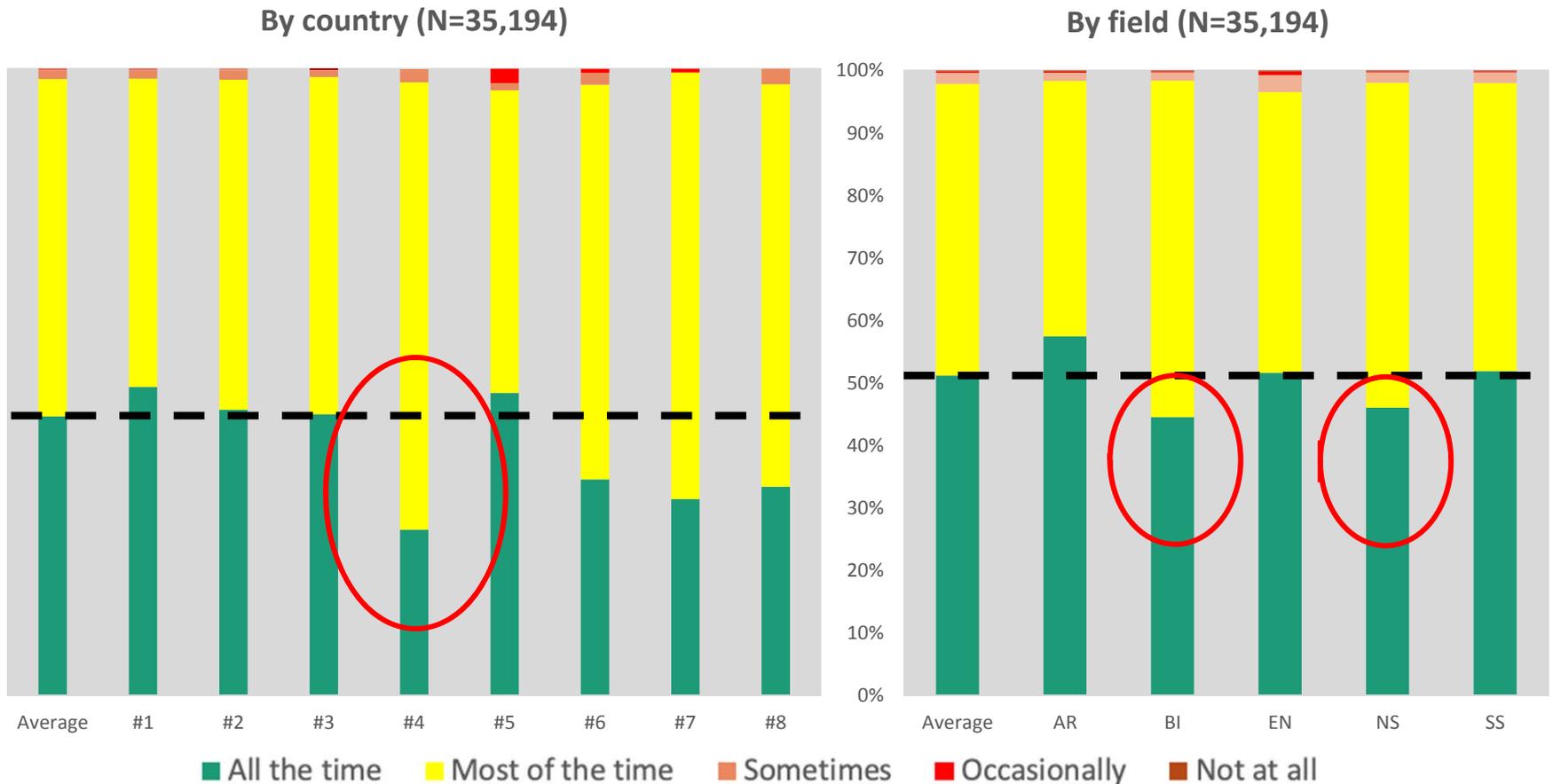
- Results similar to other studies
 - 1-2% “sometimes” or worse
 - Ca. 50% report “most of the time”
- Question: is “most of the time” good enough?

Low perception of standards adopted by others

- Ca. 10% sometimes or worse
- Only 20% “all of the time”

Integrity & climate vary by country and field

Integrity ~ Follow basic principles



- Observation: Country differences appear greater than field differences

Conclusions

Embedded poll questions combined with other questions in online courses could improve quality of training:

- Further work is needed to confirm

Embedded poll questions can provide information need to develop effective research integrity programs::

- Measure learning and assess confidence
- Assess climate and integrity

Next steps:

- Develop tools for presenting results
- Provide information at unit and department level



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For more information