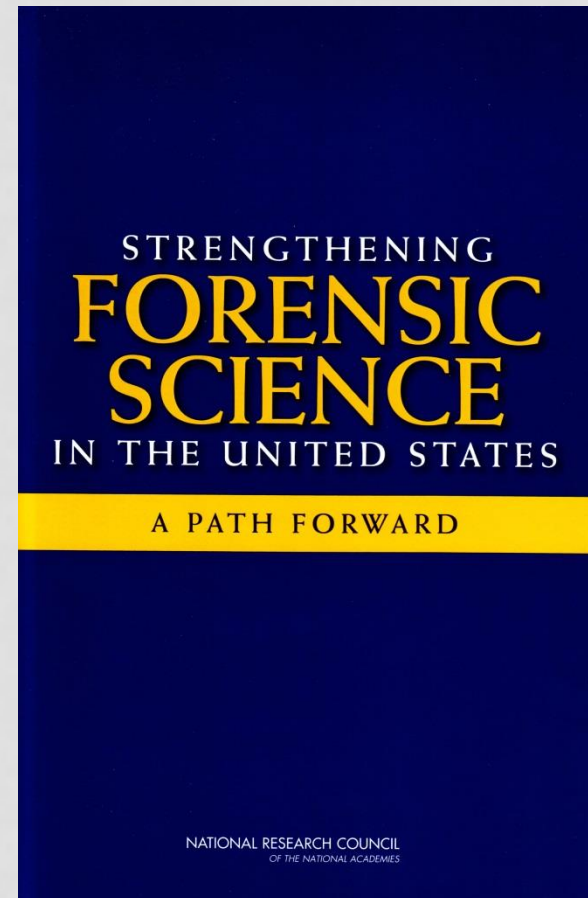


HOW DO LATENT PRINT EXAMINERS PERCEIVE BLIND PROFICIENCY TESTING? A SURVEY OF PRACTICING EXAMINERS

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& MADDISEN NEUMAN

STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD

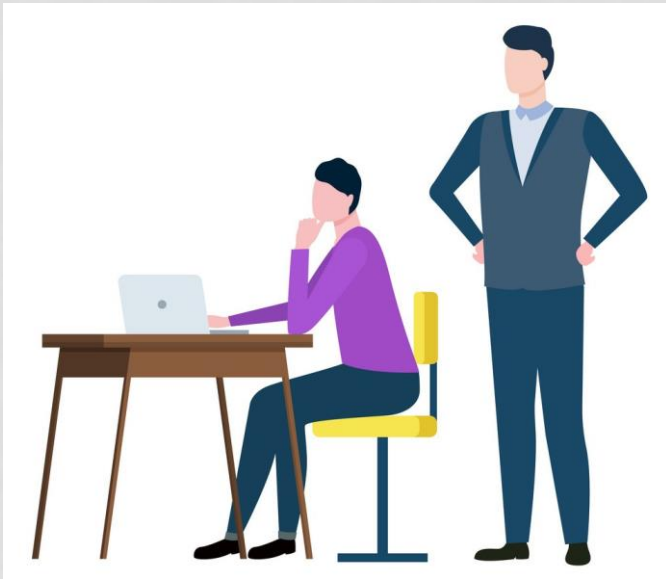
- National Academy of Sciences (2009)
- Report detailed multiple concerns with the practice of forensic science
- Current state of proficiency testing
 - “A particular need exists for routine, mandatory proficiency testing that emulates a realistic, representative cross-section of casework”
- ASCLD/LAB and ASA echoed recommendation for proficiency testing reform



OPEN VS BLIND PROFICIENCY TESTING (BPT)

Open/Declared Tests

- Analysts are aware they are being tested



Blind Tests

- Analysts are unaware they are being tested



PURPOSE OF PROFICIENCY TESTING

- Identify strengths and weaknesses in procedures
- Identify strengths and weaknesses in personnel
- Provide performance indicators
 - Internal monitoring
 - Accreditation (e.g., ISO/IEC 17025)
 - Courts (i.e., evidence of expertise)
 - Other legal stakeholders

CRITICISMS OF OPEN PROFICIENCY TESTS

- Open proficiency tests do not generalize to real-world casework
 - Test-taking behavior is not representative of routine casework
 - (Cembrowski & Vanderline, 1988; Gardner et al., 2020)
 - Tests are too easy
 - (Bayles, 2002; Koehler, 2008; 2013; Koertner & Swofford, 2018)

IMPLEMENTATION OF BPT

- BPT has been increasingly implemented in some forensic science disciplines (e.g., toxicology)
- To date, the implementation of BPT in latent print units has remained limited
 - Only several laboratories have successfully implemented such procedures (Hundle et al., 2019)

OBSTACLES TO IMPLEMENTATION

- Among directors and quality managers:
 - Difficulty creating realistic test cases
 - Financial cost
 - Test submissions and tracking
 - Ensuring test results are not reported to referring parties as genuine
 - The “**cultural history in the field**” (i.e., examiner preconceptions about proficiency testing)



CURRENT STUDY

Little is known about examiner perceptions of BPT, and whether examiners who work within laboratories that implement BPT hold different beliefs than examiners who do not.

- I. Explore perceptions of BPT among practicing latent print examiners
- II. Determine whether such beliefs vary between examiners who work for laboratories with, and without, BPT

METHOD

Participants

- 338 latent print examiners
- M = 14.6 years of experience
- 92% work within laboratory (vs. consultant/contractor)
- 88.5% practice in U.S.
- M = 45.5 years old
- 60.1% female
- Education
 - 52.2% Bachelor's degree
 - 33% Master's degree

Survey

- Administered online survey via IAI listserv
 - Current laboratory details
 - Typical work practices
 - Perceptions of BPT

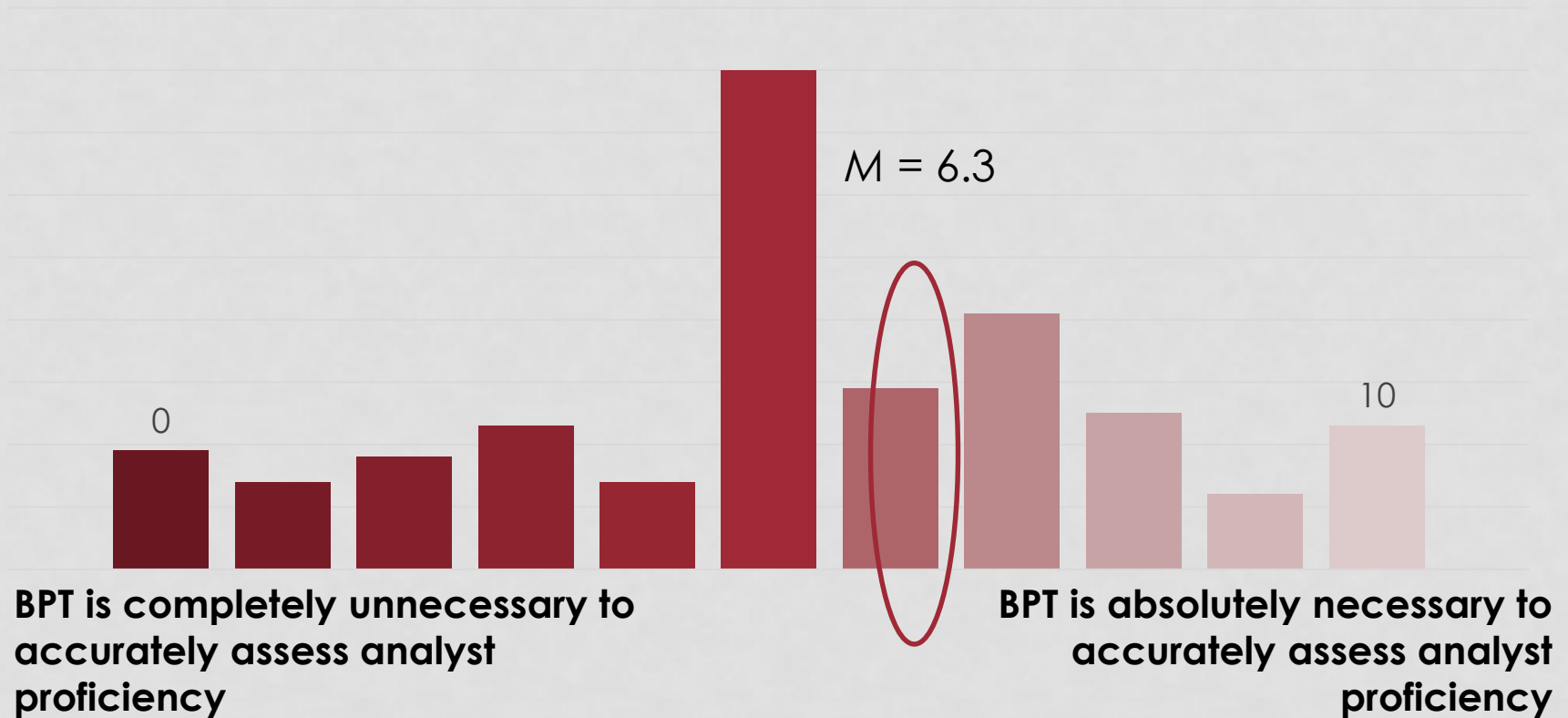
RESULTS

EXAMINER EXPERIENCE WITH BPT

- 14.8% of examiners work in a laboratory that implements BPT for latent print comparison
- 9.3% of examiners indicated that their laboratory intended to implement BPT in near future

VALUE OF BPT

What are your views regarding the value of BPT above and beyond open, or non-blind, proficiency testing?



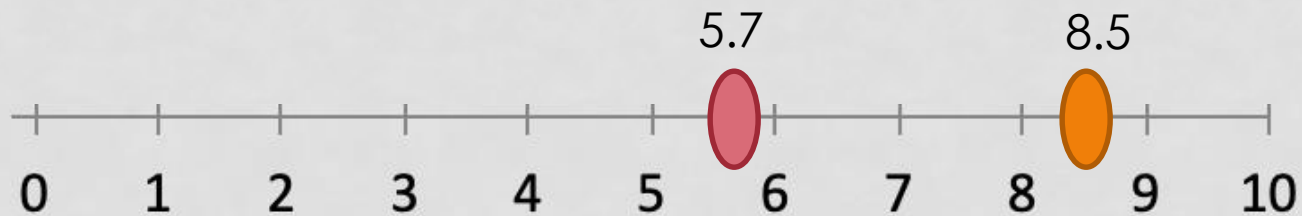
PERCEPTIONS OF BPT



PERSONAL EXPERIENCE WITH BPT

- $\approx 14.8\%$ of examiners indicated that their laboratory implements BPT in latent print comparison
- Examiners who work in a laboratory with BPT endorsed more positive beliefs about all aspects of blind testing

$$d = 1.11$$

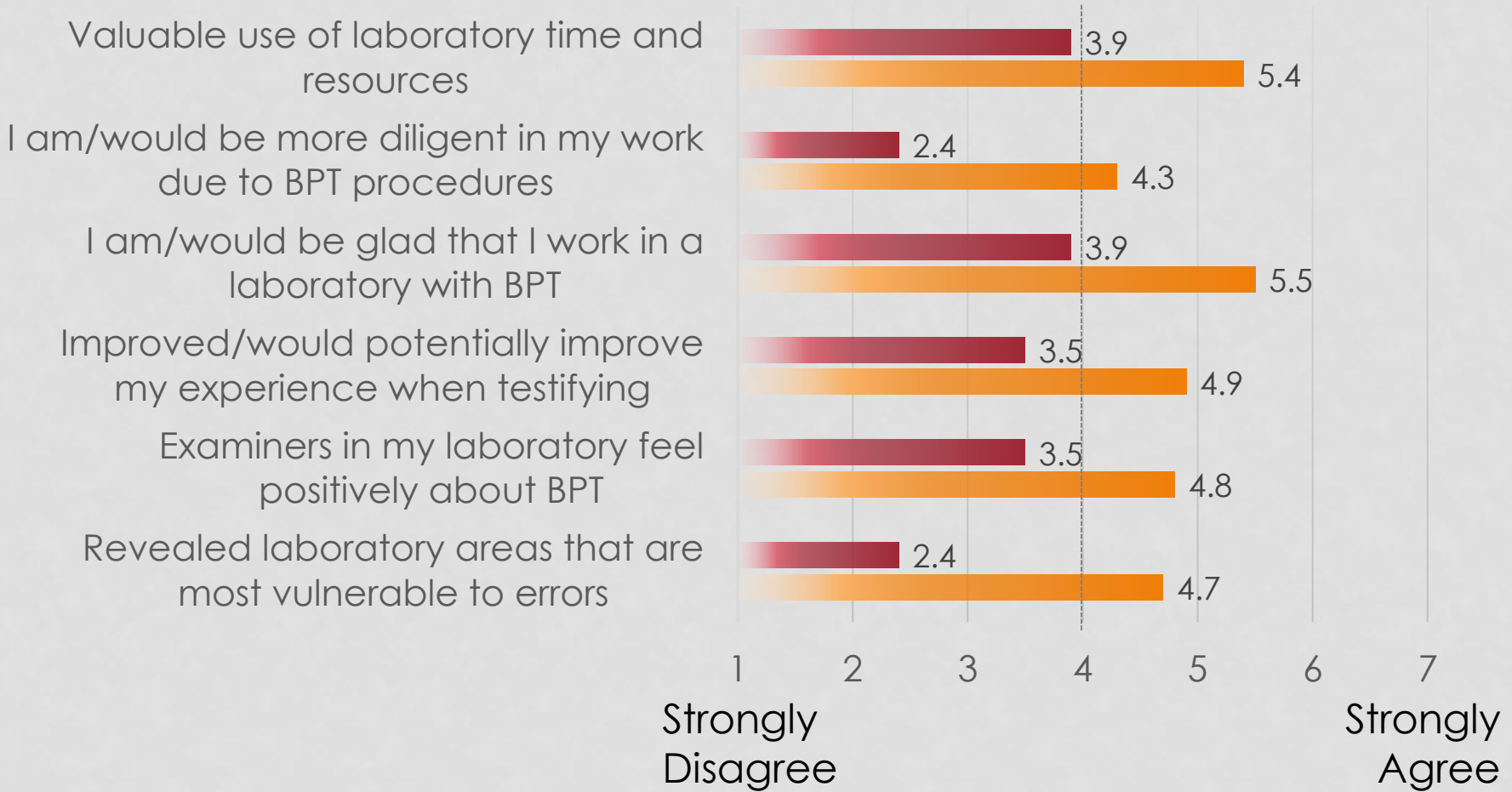


BPT is completely unnecessary to accurately assess analyst proficiency

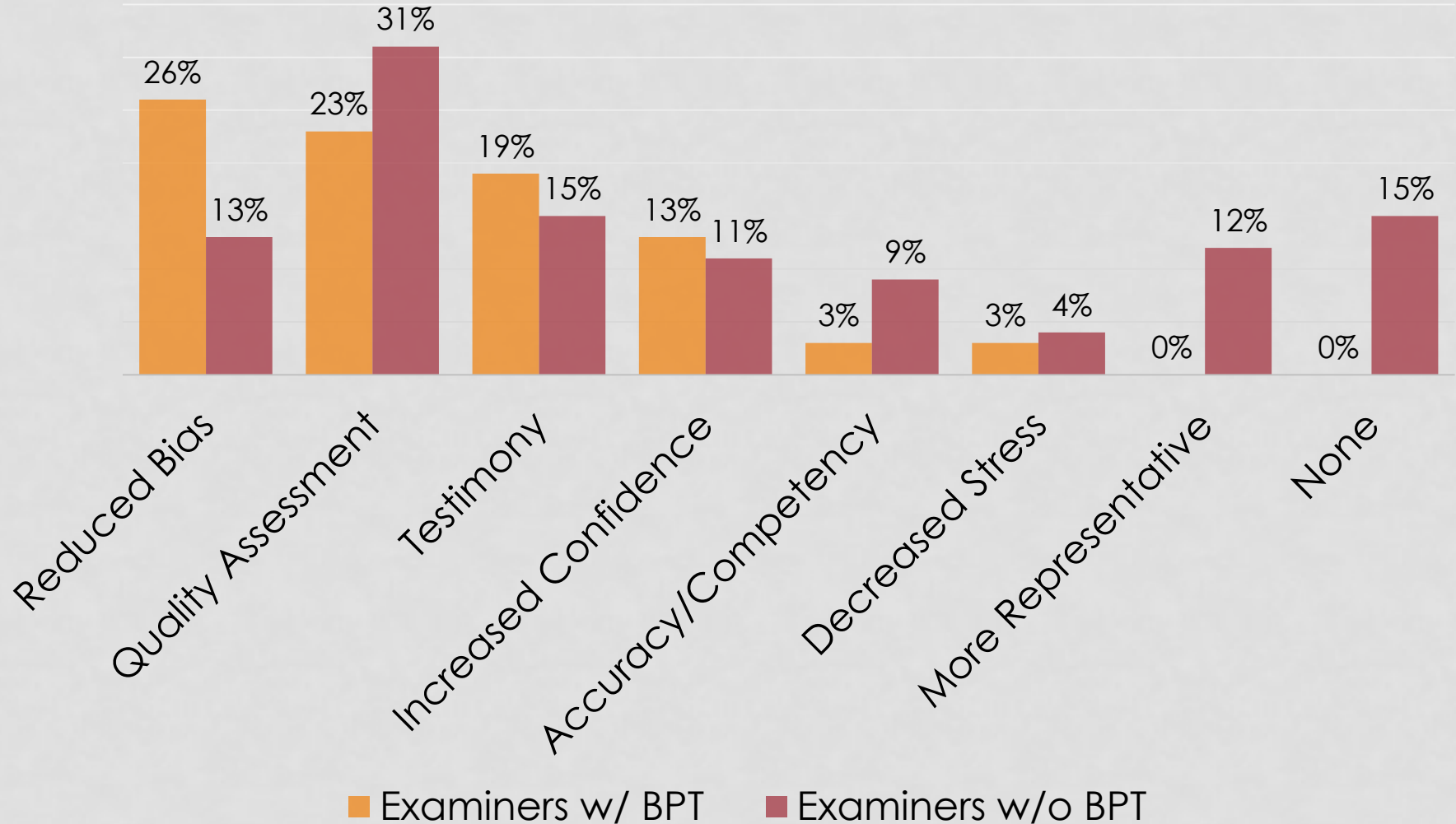
BPT is absolutely necessary to accurately assess analyst proficiency

EXAMINERS WITH/WITHOUT BPT EXPERIENCE

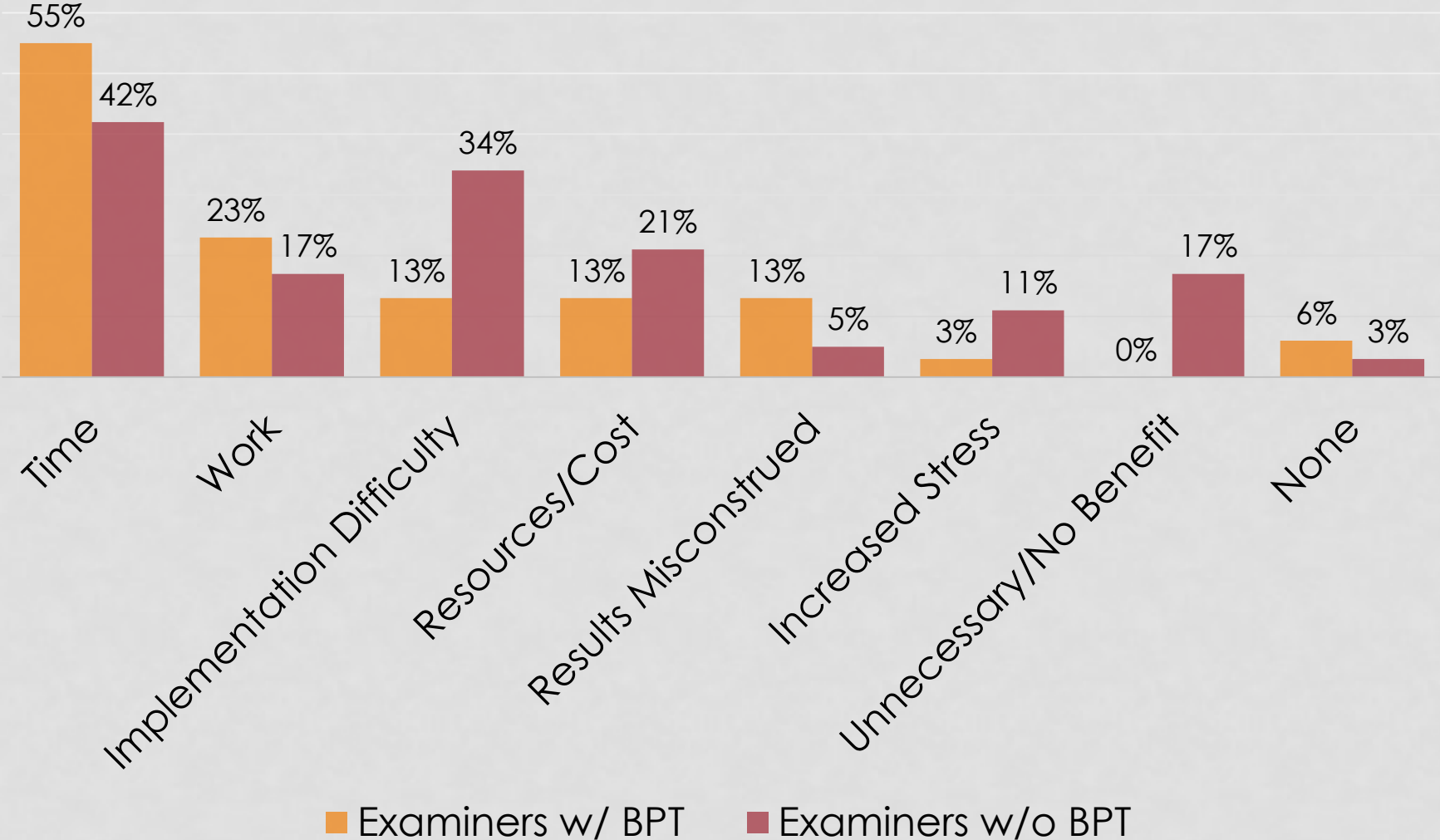
■ Examiners w/o BPT ■ Examiners w/ BPT



PERCEIVED PROS OF BPT



PERCEIVED CONS OF BPT



BROAD CONCLUSIONS

- Perceptions of BPT are quite varied, but are generally positive
- Perceptions of BPT are generally neutral
 - (c.f., examiners do not think BPT would increase their diligence)
- Many examiners believe BPT to offer improved quality assessment, bias reduction, and testimony at the expense of time and resources
 - But again, variability persists (e.g., increased vs. decreased stress)

EXPERIENCE WITH BPT

Examiners who work in a laboratory with BPT endorse much more positive views of BPT in every assessed domain

Examiners in a BPT Lab

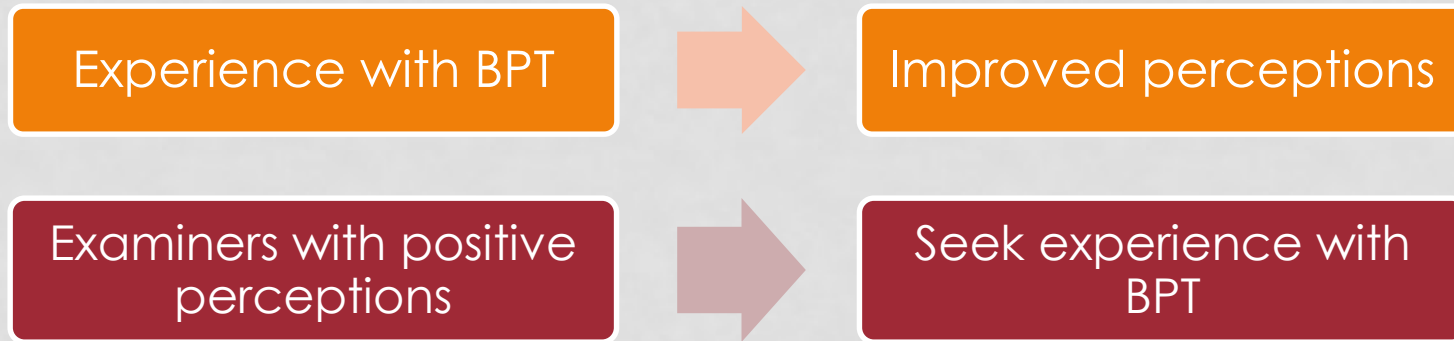
- More likely to identify bias reduction as primary benefit
- Never indicated BPT was unnecessary or without benefit
- ...but did acknowledge increased time and work requirements

Examiners *not* in a BPT Lab

- More likely to identify improved quality assessment as primary benefit
- Or simply deny that any benefit exists

WHY DO EXAMINERS DIFFER?

- Multiple potential explanations



- Limited sample of BPT examiners
 - ...selection bias in that examiners who view BPT favorably were more likely to respond to survey...

OBSTACLES

- Difficulty implementing BPT procedures is traditionally cited as a primary obstacle for many laboratories
 - This view is shared by many examiners with no personal experience working in a laboratory
- But implementation difficulty is clearly not the only obstacle to focus on...
 - Added time requirements is a primary obstacle among examiners with personal experience
- The field is not wrong to focus on implementation
 - ...but additional research will be needed addressing how to make BPT sustainable/efficient once implemented



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