



Mixed-Methods Evaluation of Team Science Education

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Outline

- Background: CTSA & team science (TS)
- UC Davis TS training and evaluation
- Issues and challenges for TS training evaluation
- Conclusions



Why does CTSA focus on Team Science?

- Increasingly complex problems
- Collaboration that transcends individual disciplines generates high impact research



CTSA Education and Career Development Workgroup

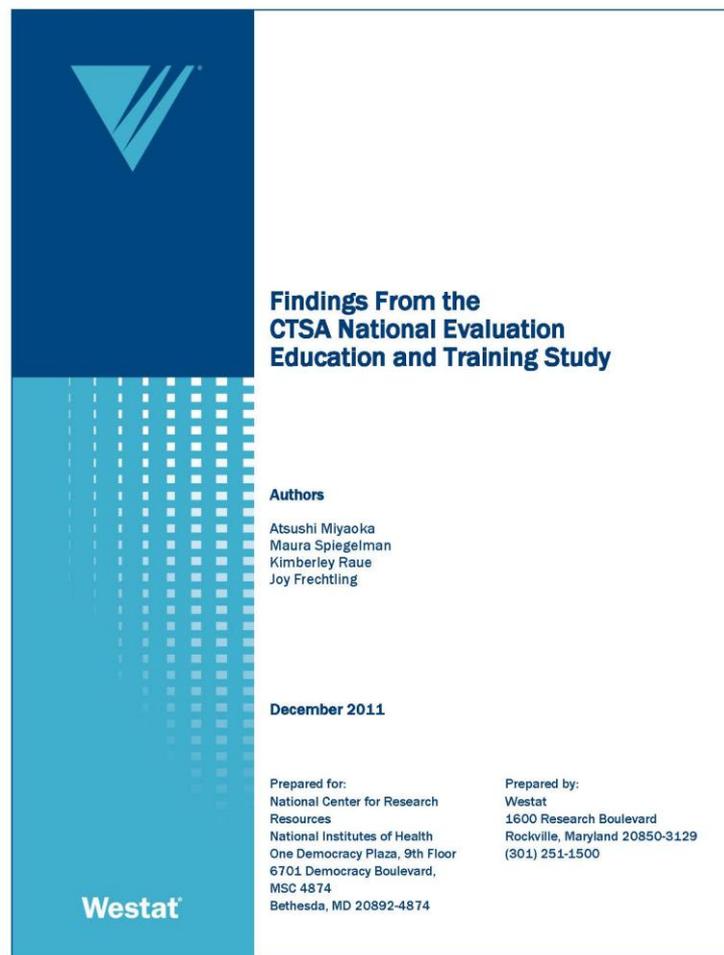
XI. Translational Teamwork

Competency

1. Build an interdisciplinary (intra-, multi-) team that matches the objectives of the research problem.
2. Manage an interdisciplinary team of scientists.
3. Advocate for multiple points of view.
4. Clarify language differences across disciplines
5. Demonstrate group decision-making techniques
6. Manage conflict
7. Manage a clinical and or translational research study

CTSA National Evaluation Education and Training Study

Approximately 40% of scholars and trainees reported team science training was not offered to them.



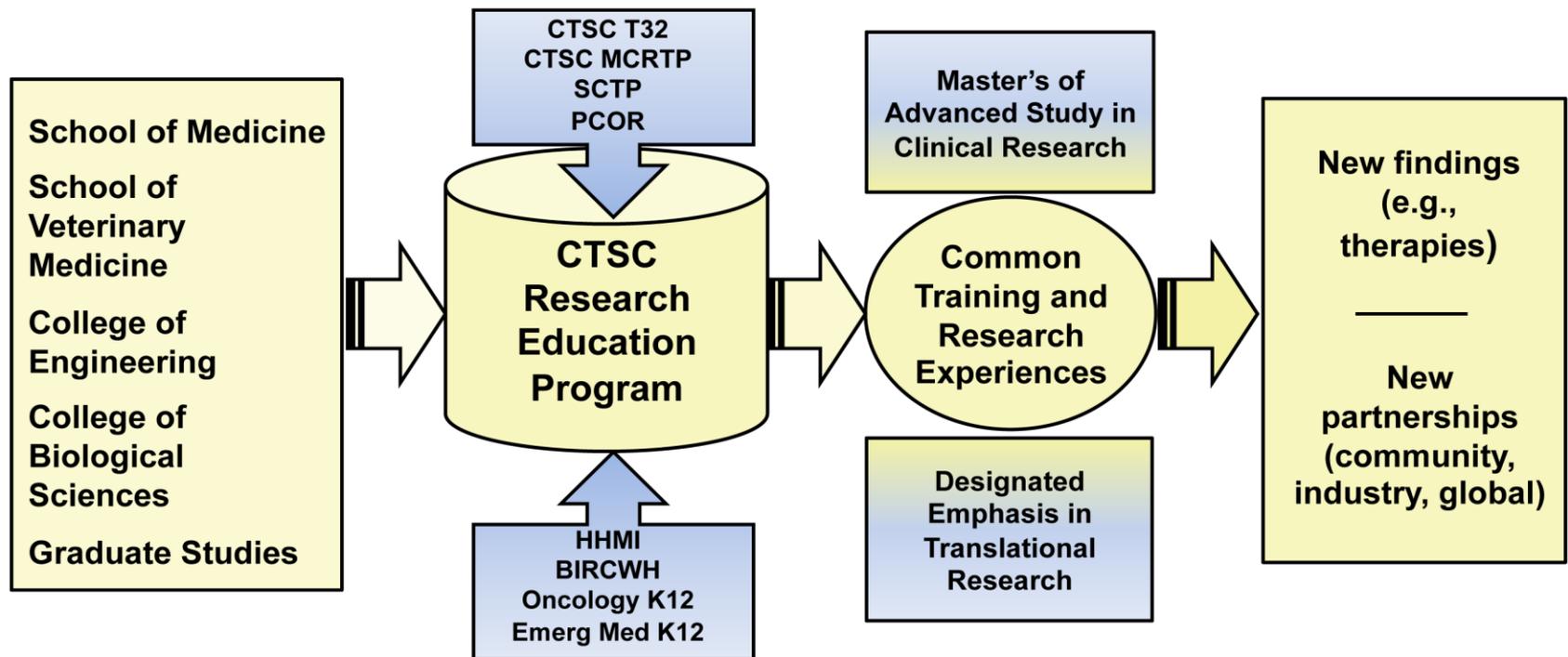
UC Davis CTSC Education: An Integrated Training Program

Diverse Disciplines

Shared Programs

Bridge to Success

Outcomes



UC Davis Team Science Course

Topics

Communication	How Teams Work	Leadership Skills
Conflict Management	Self-Management	Team Science Ethics

Strategies

Small group exercises	Role playing	Lectures
Case studies	Reading	Guest speakers

Issues and Challenges in Evaluating TS Training

The science of team science is still an emerging field

Limited/no empirical evidence of effective training models/approaches for translational teams

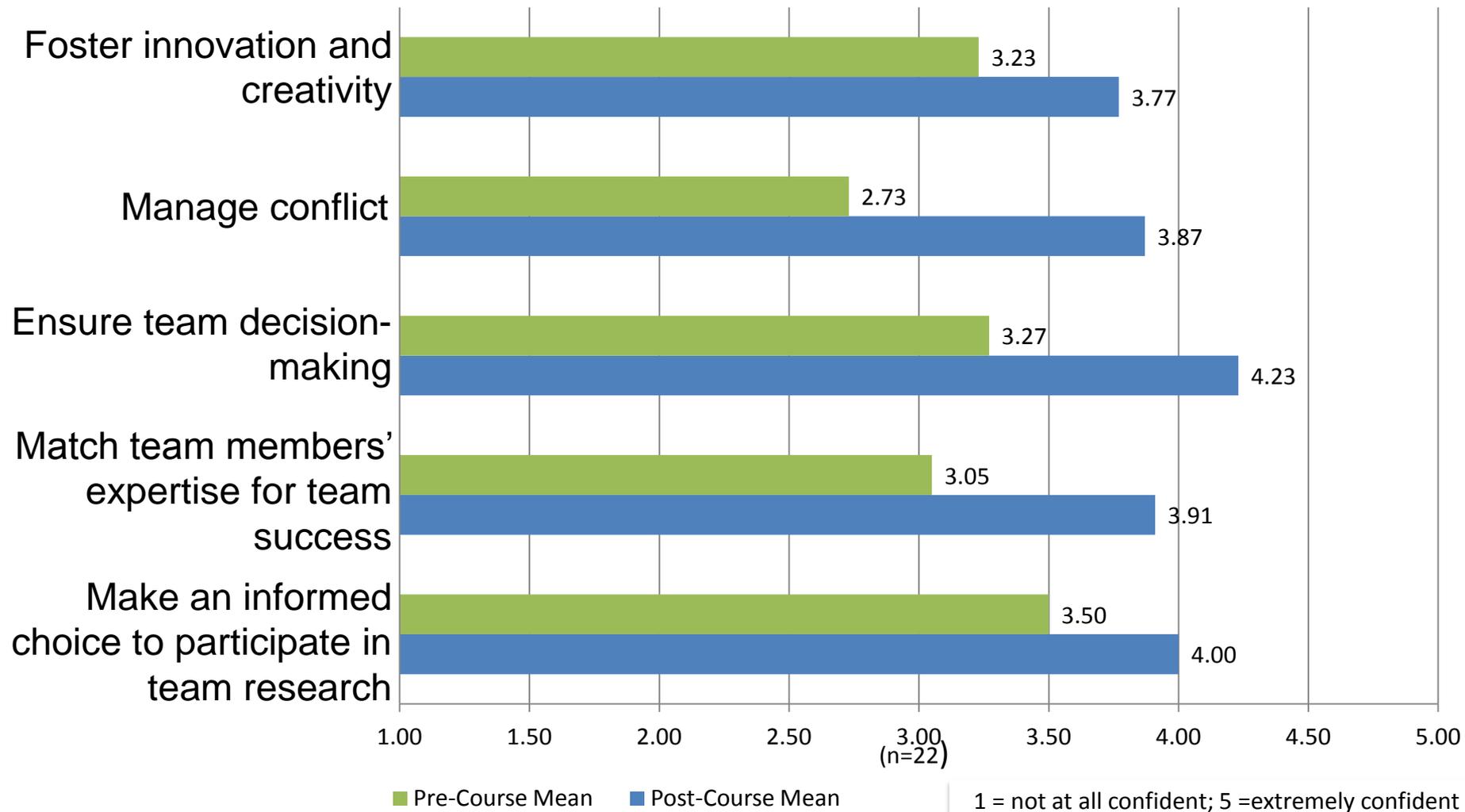


Evaluating Team Science Education at UC Davis

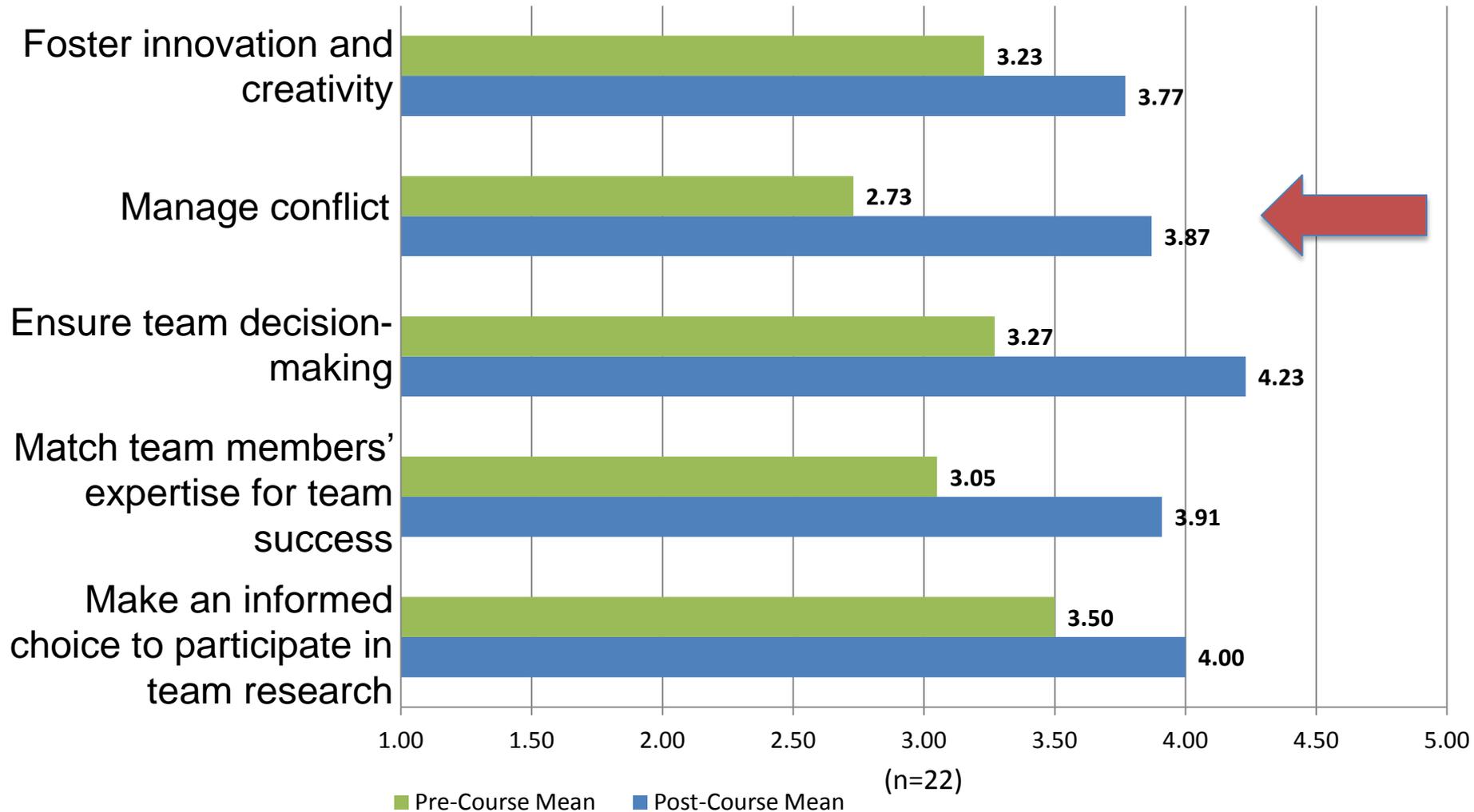
Mixed methods approach to evaluate process and outcomes

- Ethnographic observation by the evaluator
- Pre- post-course skills assessment
- Survey of attitudes towards team science and careers
- Post-course focus groups with trainees

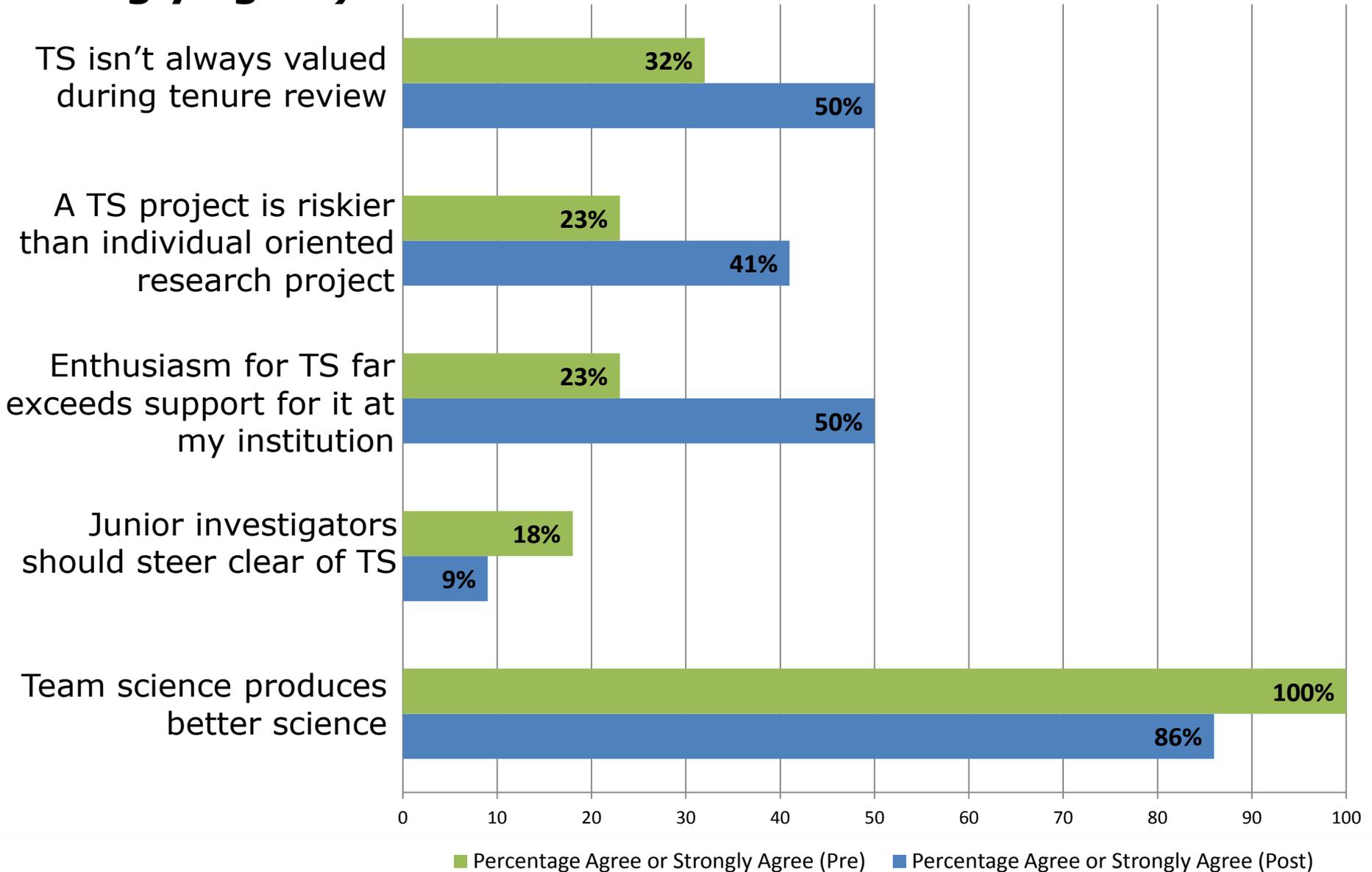
Pre/post responses “How confident are you that you can . . .”



Pre/post responses “How confident are you that you can . . .”



Pre/post responses: Views of Team Science (% agree or strongly agree)



Key Findings – Focus groups

- Trainees from diverse backgrounds appreciated the opportunity to learn about team building and team science.
- Confirms team science skills are important to learn - conflict is inherent—management is key.
- Raises questions about the institutional value and incentives for team science

Wrong Turn!

**Professional
Recognition**

**Using Team
Skills for Career**

**Satisfaction
with Training**

**Team Science
Competence**

Evaluation -> Hazardous Road Ahead?

Evaluation: Recommendations

For research teams to flourish, there must be paradigm shifts for both scientists working in teams and the organizations that evaluate their work.

Bennett LM, Gadlin H, Levine-Finley S. [Collaboration and team science: a field guide](#). Bethesda, MD: National Institutes of Health; 2010.



Dozens of students and physicists gathered at Columbia University's Low Library in the early morning to get the latest news on the Higgs boson. July 2012.

Evaluation: Recommendations

- **Include existing examples of moving toward team science recognition**
 - NIH modified intramural tenure evaluation guidelines to include participation in teams (2006)
 - NIH grant applications can include multiple PIs (2007)
 - NCI site visits include rating of PI's contribution to team science
 - American Association for Cancer Research Team Science Award
 - Journals with policies about how to determine joint authorship

Conclusions

- Single academic institution implementing team science curriculum
- How trainees actually use what they learn and deal with the dissonance between team science and career success
- Evaluators play a role in process improvement and indicators of program success that go beyond individual performance.





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