

Evaluating the Feasibility of an Exercise Program for Pediatric Brain Tumor Survivors That Uses a Web-Based Platform to Train Community Instructors

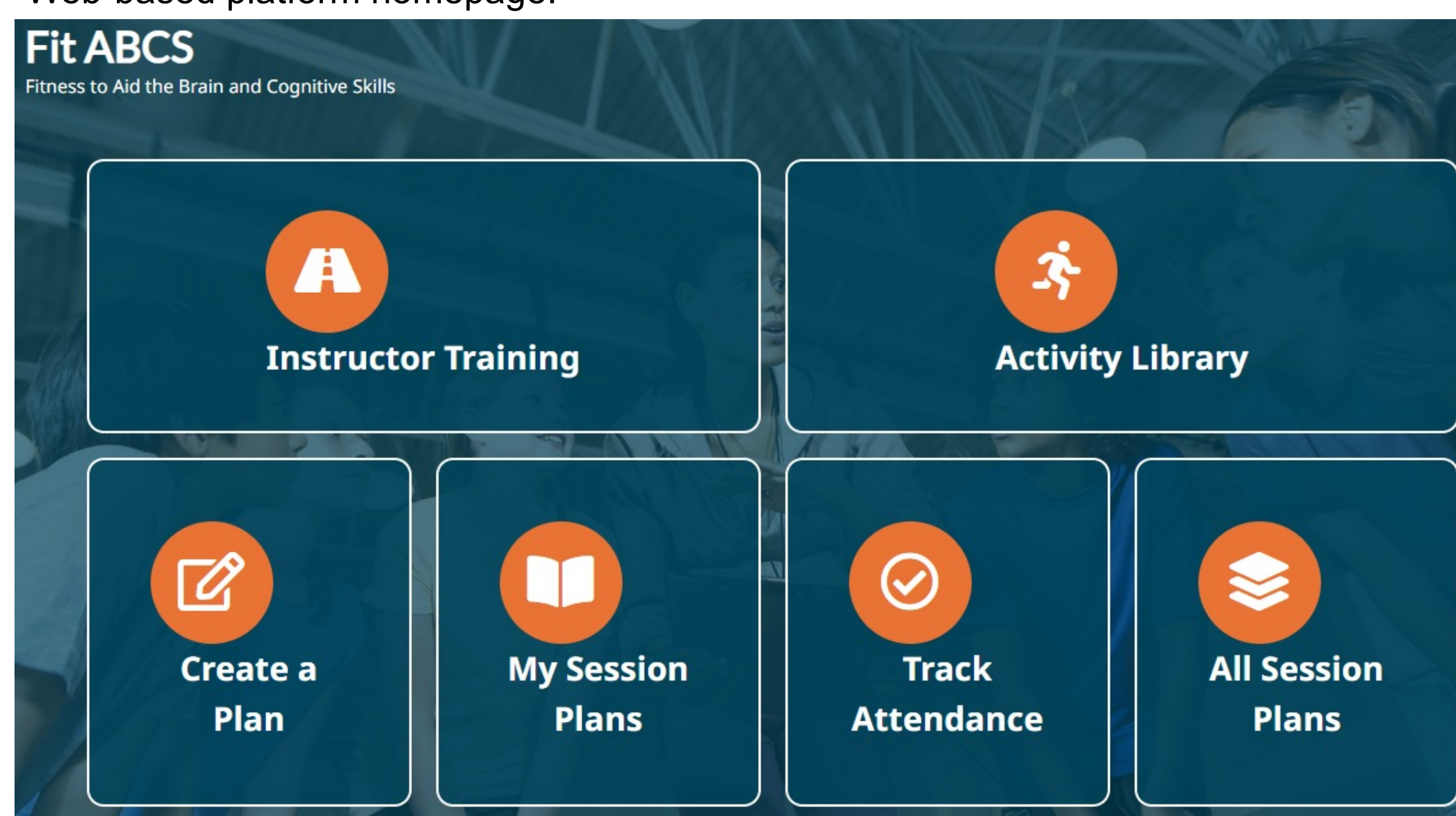
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Introduction

- Survival rates among pediatric brain tumor survivors (PBTS) have increased, but managing long-term cognitive effects remains challenging.¹⁻³
- Our lab previously conducted a pilot study for a 12-week hospital-led exercise program for PBTS with promising results, however these programs are difficult to sustain and access.⁴
- Our lab developed a web-based platform for the **Fitness to Aid the Brain and Cognitive Skills (FitABCS) study**, to train community fitness trainers (FTs) to deliver the program.

Web-based platform homepage:



RESEARCH QUESTION

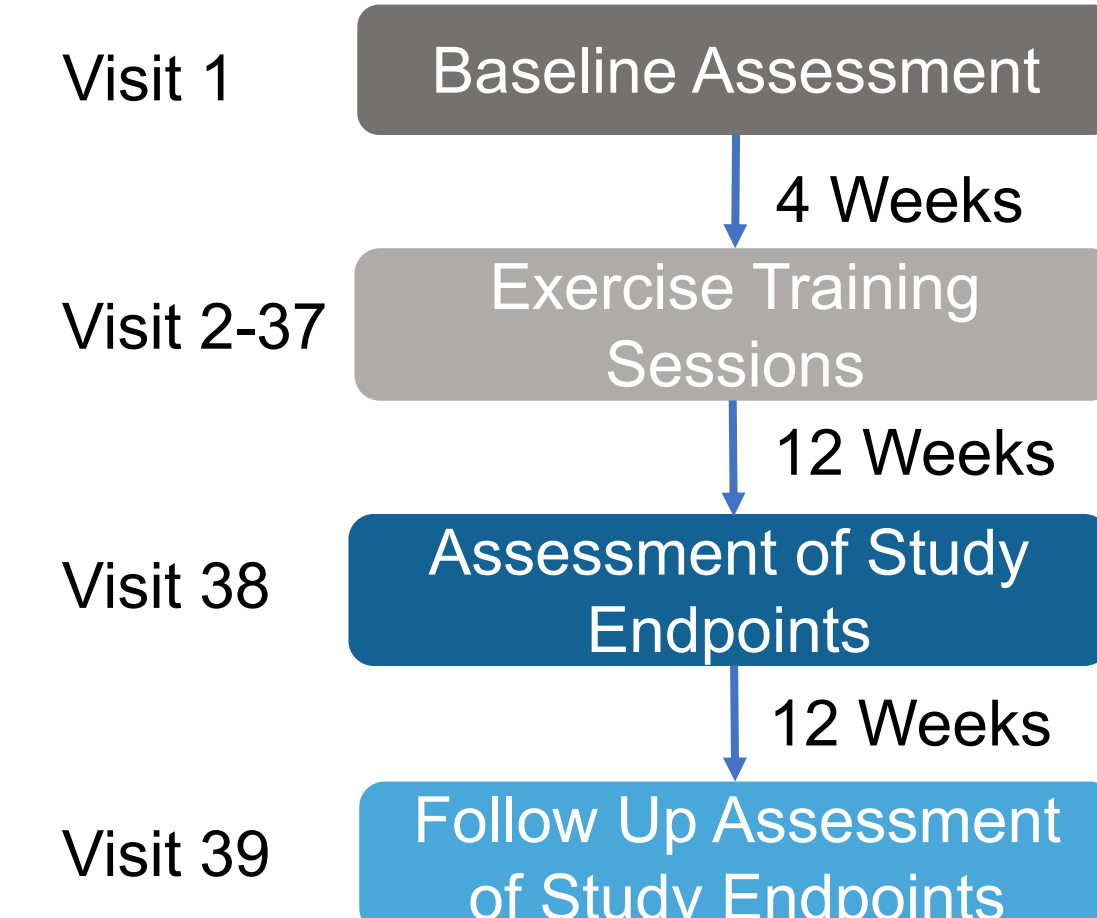
How feasible is a community-led exercise program for PBTS, utilizing a web-based platform to train FTs, in terms of recruitment, adherence, and acceptability?

Methods

Eligibility Criteria:

Inclusion	<ul style="list-style-type: none"> 6-17 years old Brain tumor diagnosis 1-15 years since diagnosis Medically stable English-speaking
Exclusion	<ul style="list-style-type: none"> Condition interfering with compliance Receiving palliative care Prior cognitive rehabilitation within 3 months of enrollment

Study flow diagram:



Summary of feasibility indicators and their evaluation methods:

Feasibility Indicator	Evaluation methods
Recruitment	Number of patients enrolled vs approached.
Adherence	Participant attendance rates Tracked using the platform and verified against reimbursement receipts Participant completion of all outcome measures MRI, MEG, cognitive testing, health and quality of life, physical functioning, cardiovascular fitness measures
Acceptability	Participant acceptability Therapeutic Alliance Scales for Children-Revised (TASC-R) scores . Instructor acceptability of platform Web platform feasibility questionnaire covering Instructor Training Module, Activities Library, Session Planner, Session Report, & Overall Thoughts sections [5-point Likert scale used per question type (table 3)] Calculated mean score for each question, then averaged these to determine mean score for each category (acceptability, relevancy, efficiency)

Results

PBTS participants ($n=12$) completed exercise and assessment visits; **Instructors'** ($n=4$) feedback used for platform feasibility.

Participant Recruitment

12.88% Recruitment rate

Primary reason: declined due to disinterest in the study (54 of 132 approached)

Participant Adherence

11/12 participants attended the minimum number of exercise sessions

25% participants completed all assessment measures

- 100%** completed cardiovascular fitness and physical functioning.
- 72.72%** completed cognitive testing.
- Some did not complete MRI ($n=1$), MEG ($n=2$), or health and quality of life ($n=6$) measures.

Participant Acceptability

M=41.5 scored out of 48 on **TASC-R**

Examples of highest scoring items:

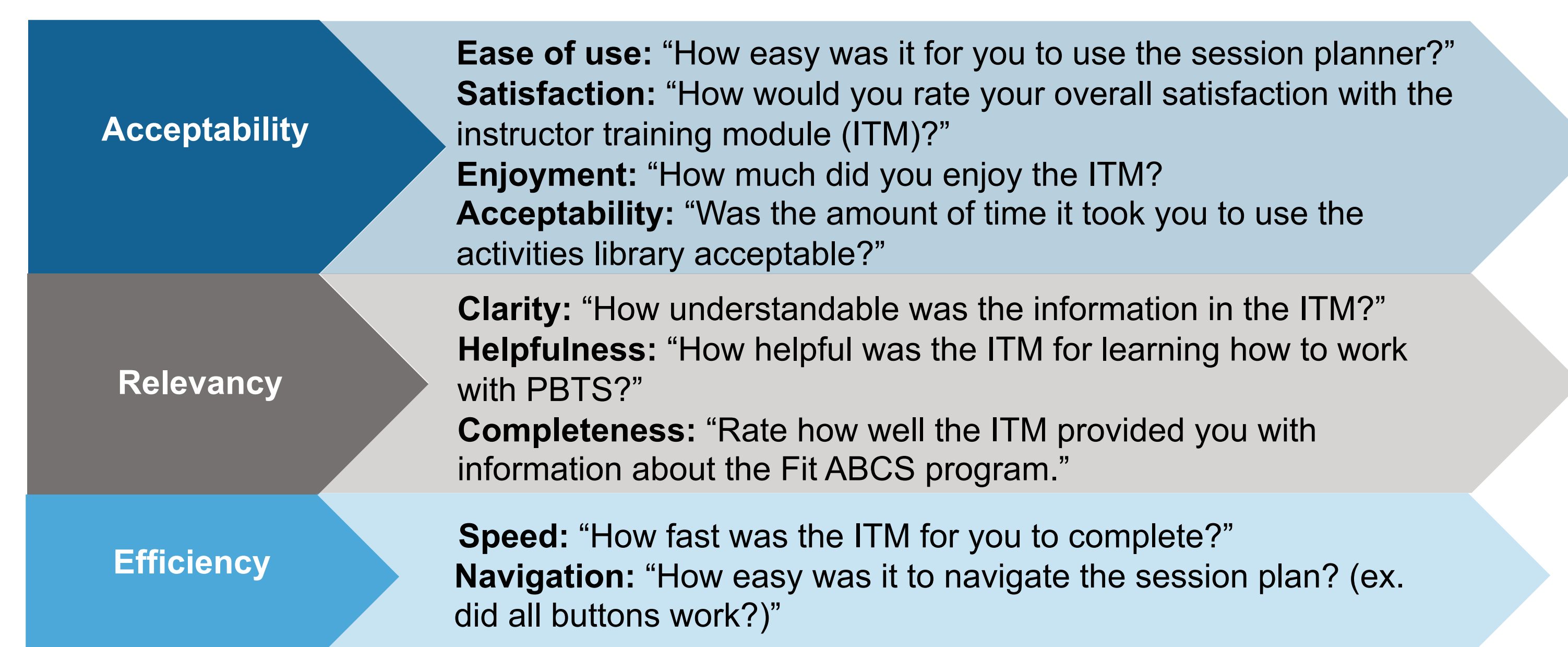
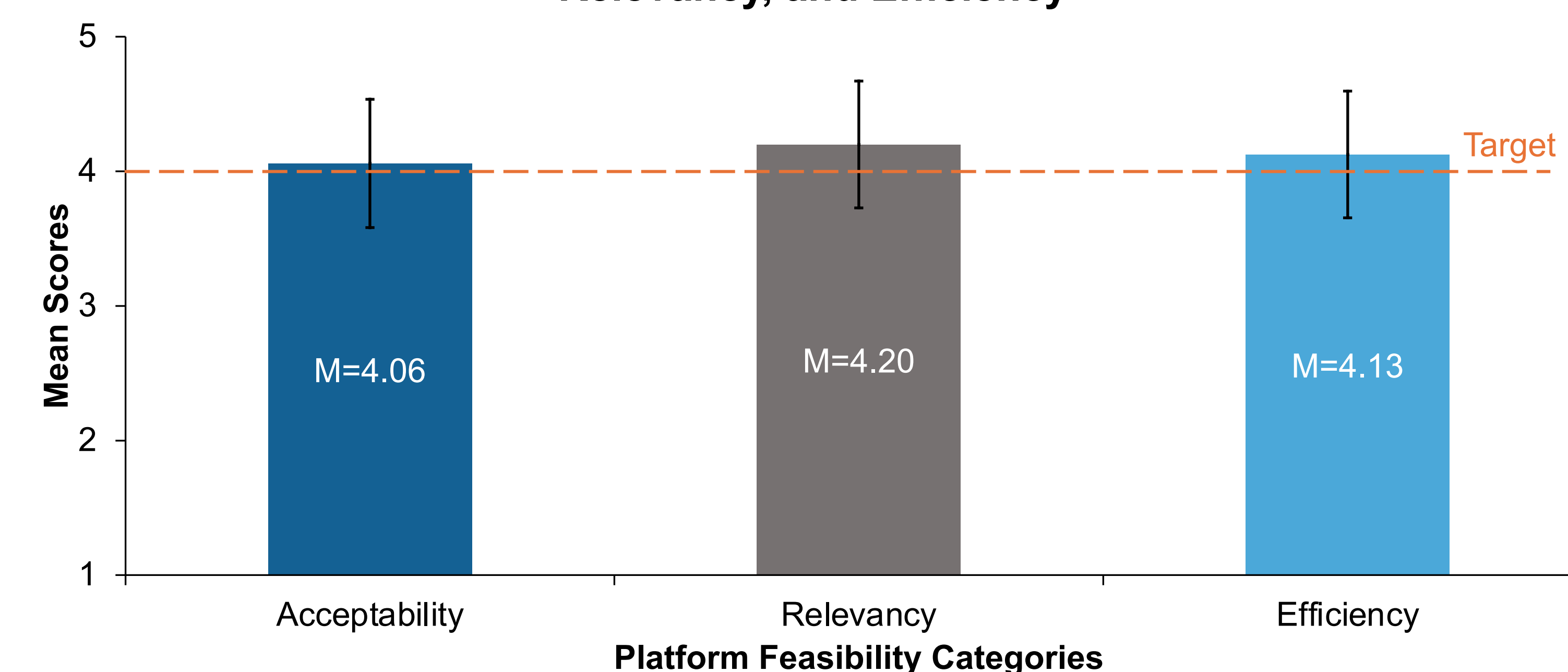
"I like spending time with my instructor"

"I look forward to meeting with my instructor"

"I like my instructor"

Instructor Acceptability

Instructors Feedback Demonstrates Platform Acceptability, Relevancy, and Efficiency



Conclusion

Findings highlight the promising potential of a web-based platform to train community FTs and identify areas to address in future study designs.

Feasible aspects:

- Participant adherence:** attendance.
- Participant acceptability:** positive rapport with instructors.
- Instructor acceptability of platform:** acceptable, relevant, and efficient.

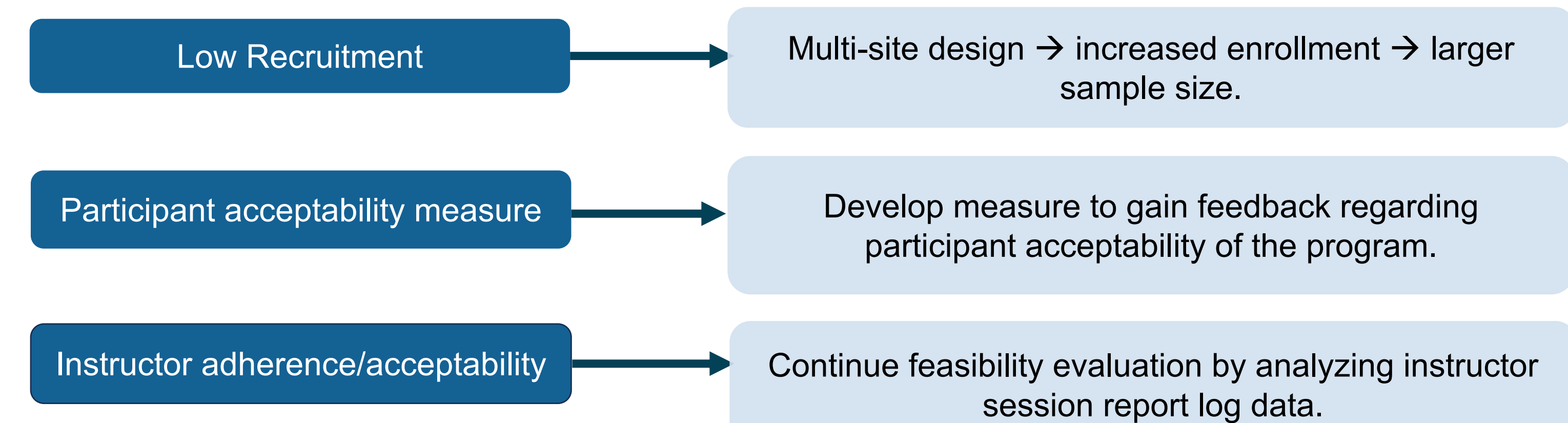
Infeasible aspects:

- Recruitment**
- Participant adherence:** completion of all assessment procedures.

This study was an important step toward promoting better health outcomes for PBTS by enhancing availability of community programs.

Next Steps & Recommendations

Testing feasibility via pilot randomized controlled trial



Session report questions:

- What activities worked well and why?
- What activities didn't work well and why?
- Were there any issues between participants?
- What made it easy to run the session?
- What made it challenging to run the session?

References & Digital Poster

