



BROWN  
Alpert Medical School

# Feasibility of asynchronous learning in collegiate EMS:

*impact of a novel training program on self-reported measures of confidence*

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## Background

Brown EMS uses a blended student-staff structure to provide primary EMS coverage up to the paramedic level for our campus and its surrounding area. Per standard operating guidelines, our BLS non-transport SUV (Utility 1) and ALS/BLS ambulance (Rescue 1) must be staffed by an ALS or BLS Supervisor to be in service.

Brown EMS Supervisor Staffing		
ALS Supervisor	Full-Time / Per-Diem Staff and Medical Students	Paramedics and AEMT-Cardiacs*
BLS Supervisor	Undergraduate Students	EMTs

Under this dual-supervisor model, ALS and BLS Supervisors are able to staff either Utility 1 or Rescue 1, depending on level of care required on the primary call. With a second supervisor remaining in-service, we are able to capture ~300 additional secondary calls annually.

However, the maintenance of this model requires a robust supply of qualified undergraduates to act as BLS Supervisors.

\*AEMT-Cardiac is a level of licensure unique to Rhode Island. 'Cardiacs' are ALS providers with a defined scope of practice including: (1) Advanced Airway Management, (2) Endotracheal Intubation, (3) Cardiac Monitoring and 12-Lead ECG Interpretation, (4) Advanced Cardiovascular Life Support, and (5) Patient Comfort/Pain Management.

## Program Origins

When the BLS Supervisor program began five years ago, only students with previous 9-1-1 experience were eligible for the position. As the program was highly successful at increasing annual call capture, the model was extended from weekend nights to all shifts.

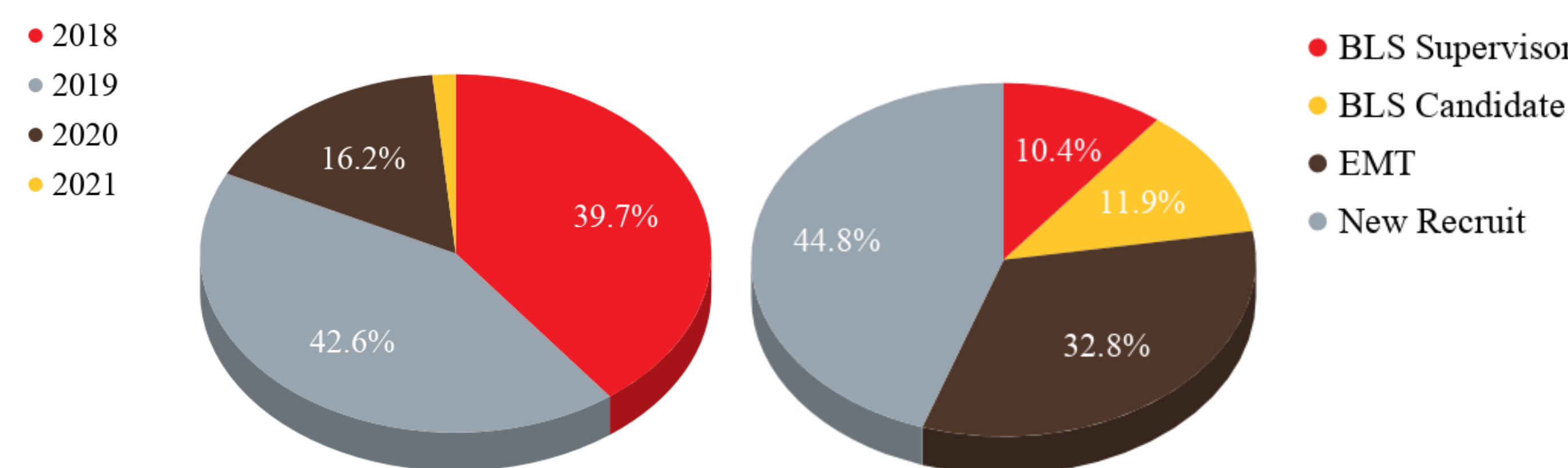
As BLS Supervisors are only required to volunteer 12 hours per week, a full roster requires 14 fully-trained supervisors; this large demand required the development of a new Progression Model with pathways for students to become supervisors *without* external EMS experience.

The Supervisor Training Program (STP) was developed to support student EMTs by fostering strong clinical and didactic experiences for EMTs in their third semester at Brown EMS. However, because members join Brown EMS as sophomores, these students are only able to work as supervisors for three semesters prior to graduation.

The Brown EMS Directors created the Supervisor Training Program as a method to optimize this limited training time and maximize student length of service.

## Brown EMS Student Composition

Graduation Year and Affiliation Status 2017-2018



## A New Supervisor Training Program

Our novel Supervisor Training Program aimed to optimize training time for Supervisor Candidates. While requirements for precepted field time remained consistent, students were required to attend biweekly small-group sessions and complete online modules *asynchronously* during 'off-weeks.'

### Supervisor Training Program - Overview

Didactic	Small-group, problem-based learning	2 hours x 8 weeks
Asynchronous	Online modules accessed via internal website	~2 hours x 8 weeks
Field	Precepted training by ALS and BLS Supervisors	12 hours x 16 weeks

Rather than review and test local protocol and departmental guidelines, content mastery was encouraged through repeated cycles of case studies, simulation, and student-facilitated debriefs.

A primary goal of the program was to foster *not just clinical competence*, but also *confident leadership*.

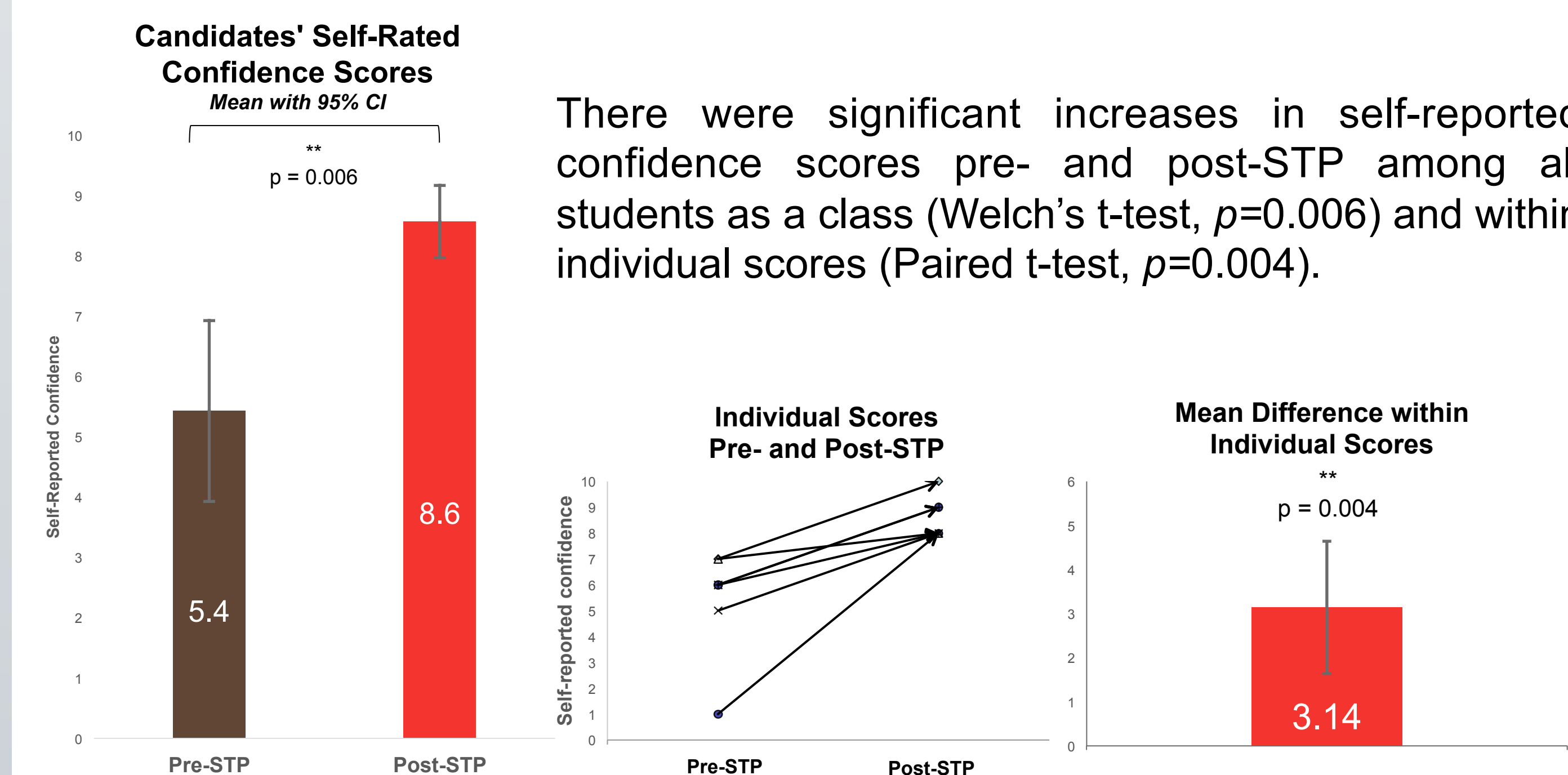
Online modules utilized existing Free Open Access Medical Education (FOAM) resources, including podcasts from *EmCrit* and *Emergency Medicine Cases*. Students especially enjoyed these assignments and often requested recommendations for additional content they could listen to at home, in the gym, and on-shift.

Selected podcasts often focused on team dynamics, communication, and crisis resource management, encouraging self-reflection and mental simulation.

## Program Analysis

This STP model was first implemented during Fall 2017 for a cohort of Supervisor Candidates (N=7), all juniors entering their third semester with BEMS. Students self-rated their confidence at supervising BLS calls on a 0-10 interval scale during routine QI questionnaires incorporated within the program with 100% response rate.

Scores collected at the beginning and completion of STP are included:



There were significant increases in self-reported confidence scores pre- and post-STP among all students as a class (Welch's t-test,  $p=0.006$ ) and within individual scores (Paired t-test,  $p=0.004$ ).

## Discussion and Future Direction

Student training and progression within collegiate EMS may be limited by factors including undergraduates' time constraints and limited call volumes. Asynchronous learning is presented herein as a feasible method for optimizing limited training time in the collegiate EMS environment. Future research should aim to validate methods for assessing collegiate EMS training and more rigorously examine the acceptability and efficacy of asynchronous learning in collegiate EMS.

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