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# Efficacy of a Telemedicine Training Program for PA Students: A Pilot Study

Sunayana C. Pydah, DHSc, MBA, MHA, MPAM, PA-C; Lisa Allison-Jones, PhD; F. Jeannine Everhart, PhD, MPH, MBA, CHES ®; Sara Nicely, DHEd, PA-C, DFAAPA

## BACKGROUND

- More than 200,000 COVID-19 cases per day in the US in late 2020 and early 2021 (COVID-19 Map, 2021).
- Over 10.1 million individuals received healthcare via telemedicine between March and June of 2020, compared to the 14,000 recorded pre-pandemic telemedicine visits (Centers of Medicare & Medicaid Services, 2020).
- American Medical Association (2020) policy calls for telemedicine training in medical school curriculum.
- Students must develop "webside" manner to provide high quality telemedicine care (Barthelemy, 2019).
- Minimal recommendations to include telemedicine in Physician Assistant (PA) curriculum.
- Minimal research on telemedicine curriculum topics to include in medical and nursing programs.
- Evaluation methods of telemedicine programs are inconsistent.

## PURPOSE

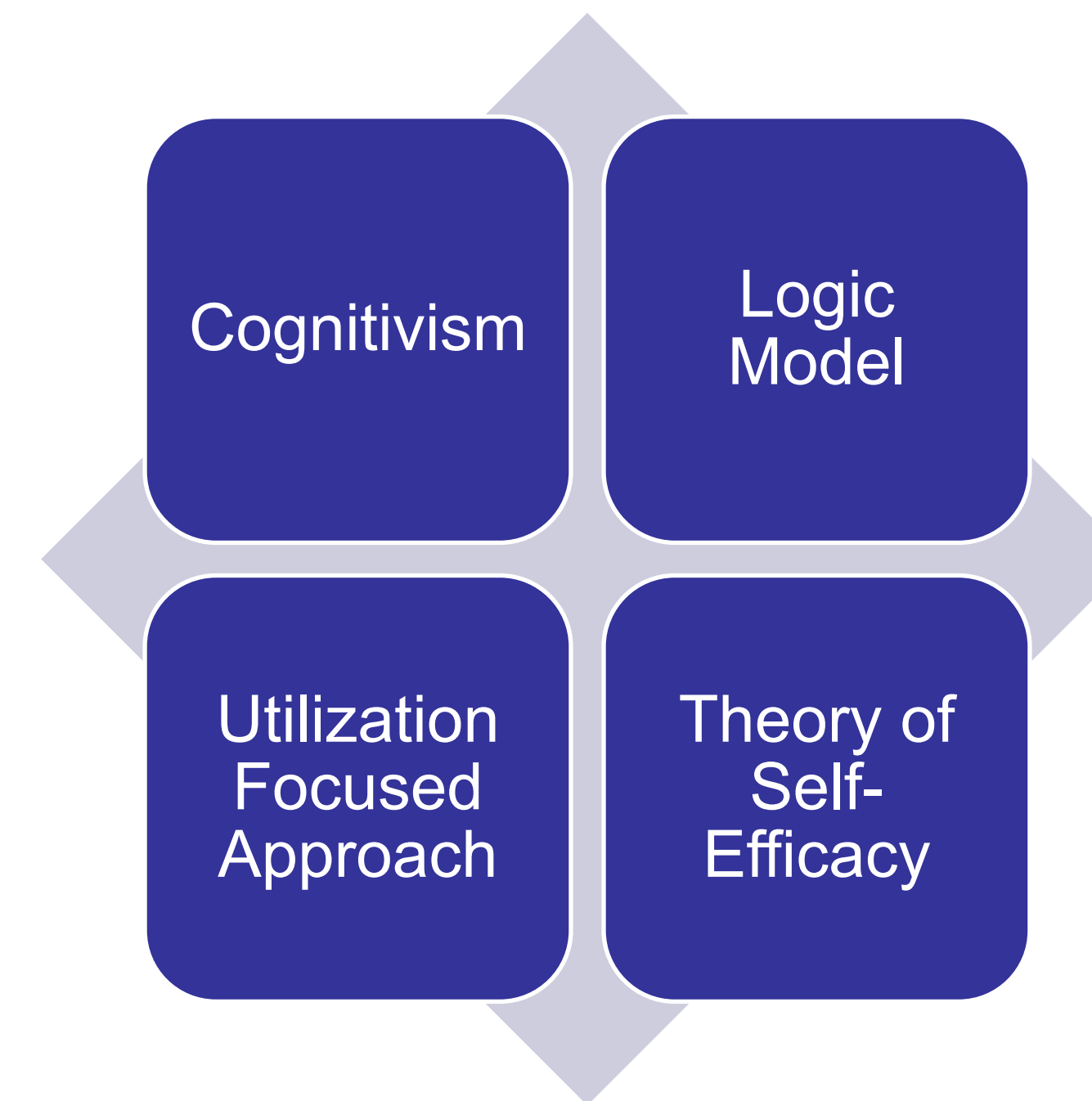
To develop and evaluate a telemedicine curriculum for PA students at Radford University Carilion.

### Research Questions

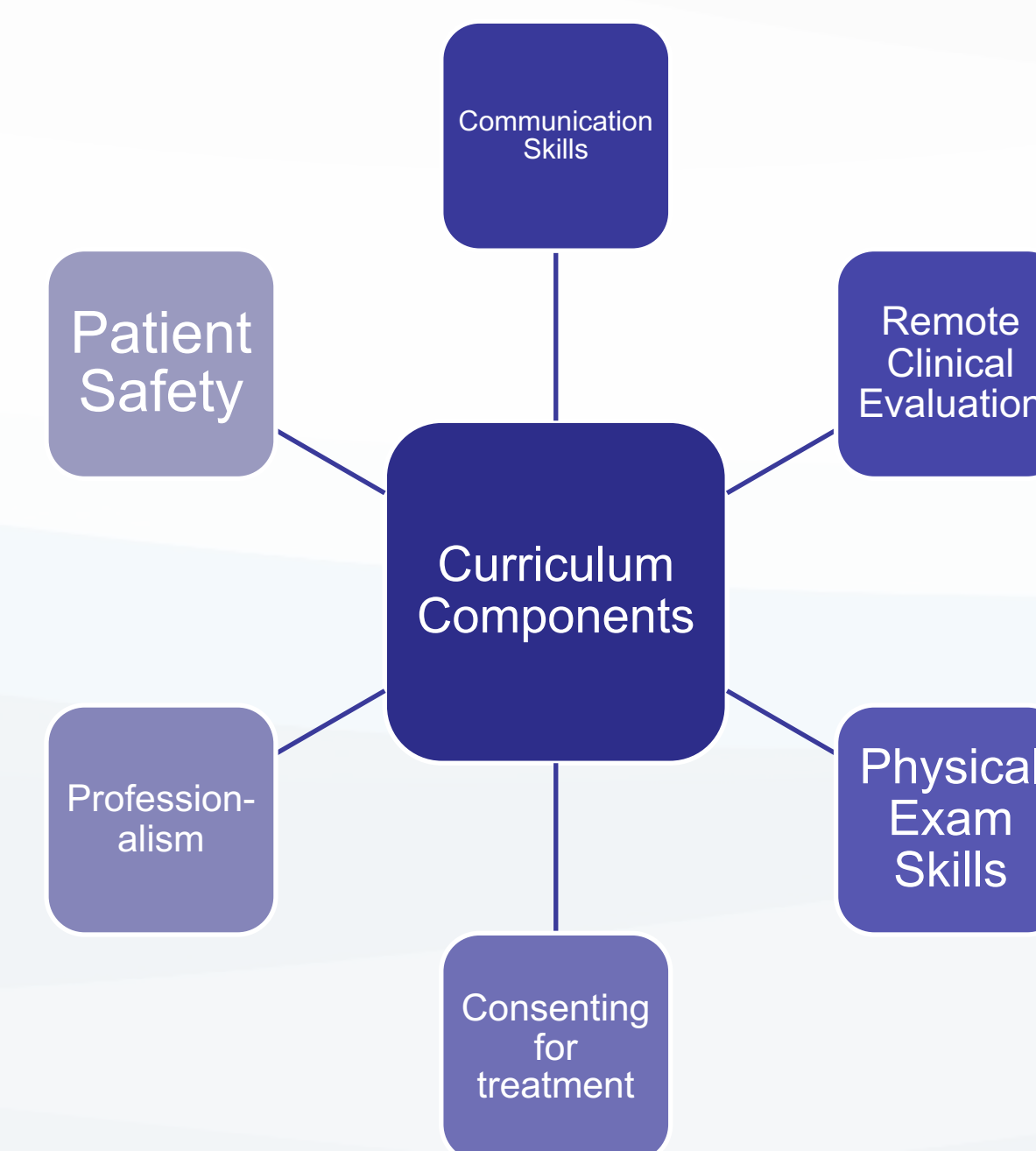
- RQ1:** Does a training session in telemedicine significantly change PA students' ability to define telehealth and cite examples of telehealth in practice?
- RQ2:** Does a training session in telemedicine significantly change PA students' perception of their ability to conduct a virtual healthcare visit?
- RQ3:** Does a training session in telemedicine significantly change PA students' perception of self-efficacy utilizing telemedicine in their future practice (i.e., optimizing technical aspects, utilizing a video interface, and comfort with appropriate computer etiquette)?
- RQ4:** Does a training session in telemedicine significantly change PA students' perception of telemedicine's impact on quality of care?

## FRAMEWORK

### Common Theories



### Evidence-Based Curriculum Components of a Telemedicine Program



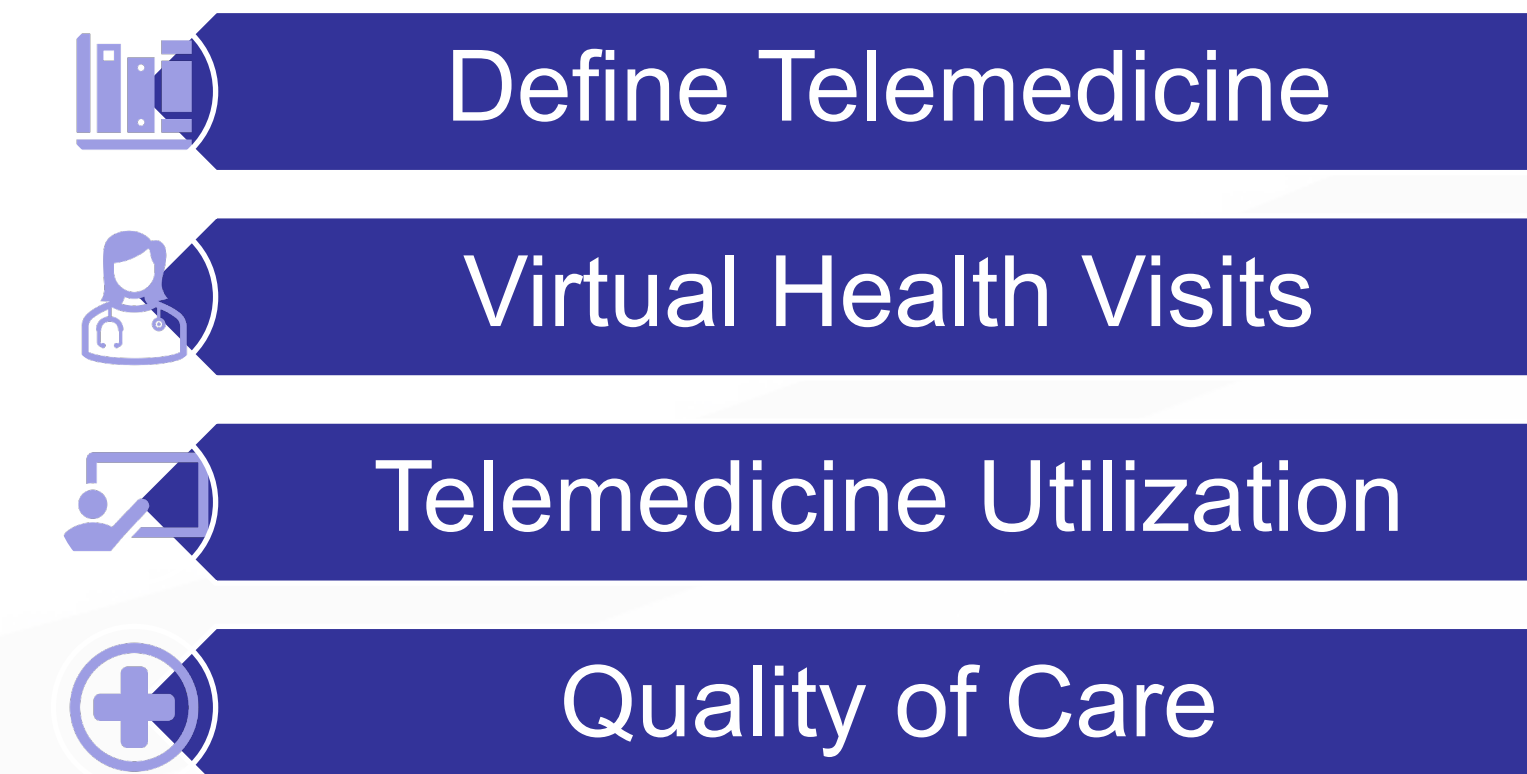
### Telemedicine Program Outcomes

- Students will be able to:
  - Define telemedicine and cite examples of telemedicine in practice.
  - Conduct a virtual healthcare visit.
  - Demonstrate utilization of telemedicine in their future practice.
  - Demonstrate understanding telemedicine's impact on quality of care.

## METHODS

- **Study Design:** Exploratory Research Design
- **Target Population:** 41 PA students enrolled in RUC's PA program in their clinical year.
- **Instrument:** 18 item survey, each with a 5-point Likert scale. These then mapped to four subscales.

### Instrument Subscales



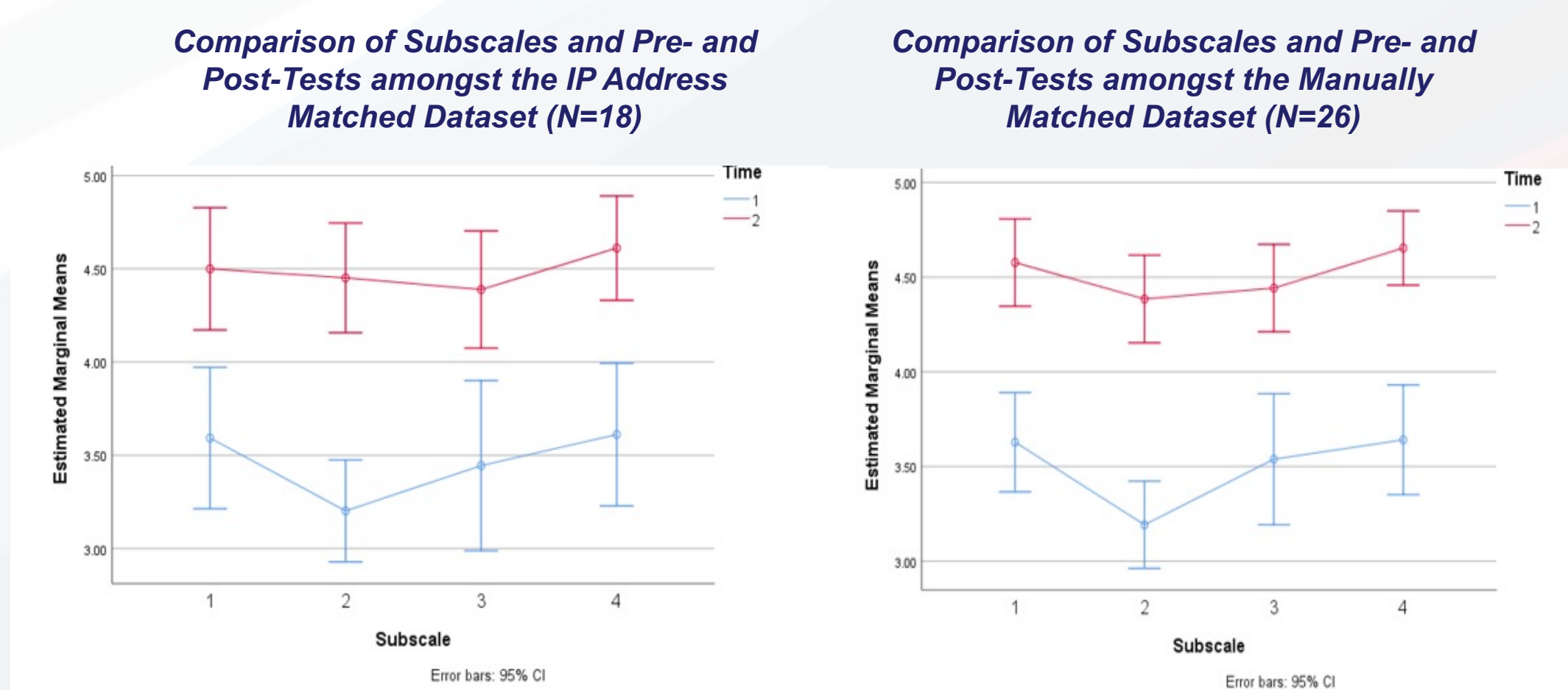
- **Data Collection and Analysis:**
  - Pre-test evaluation survey (N=37) was completed to establish a baseline.
  - A 4-hour telemedicine program was delivered.
  - **Components of Telemedicine Program**
    - Module 1**
      - Defining telemedicine
      - Telemedicine and the PA Profession
      - Identifying Nonverbal cues
    - Module 2**
      - Rapid presentation of physical exam techniques
    - Module 3**
      - Case Based Scenarios
      - Billing for telemedicine visits

- Post-test evaluation survey (N=36) was completed.
- Pre-post statistical analysis was performed utilizing ANOVA testing.

## RESULTS

- There was a statistically significant difference in the means between the pre- and post-curricular survey for all subscales (df = 1, F = 46.211, p < 0.001; df = 1, F = 82.620, p < 0.001).

Subscale	Pre/Post Test	IP Address Matched Data (N = 18)			Manually Matched Data (N = 26)		
		Mean	Lower Bound	Upper Bound	Mean	Lower Bound	Upper Bound
Define Telemedicine	Pre-Test	3.593	3.213	3.972	3.628	3.366	3.890
	Post-Test	4.500	4.172	4.828	4.577	4.347	4.807
Virtual Health Visits	Pre-Test	3.201	2.928	3.475	3.192	2.962	3.423
	Post-Test	4.451	4.157	4.745	4.385	4.153	4.616
Telemedicine Utilization	Pre-Test	3.444	2.988	3.901	3.538	3.193	3.884
	Post-Test	4.389	4.075	4.703	4.442	4.211	4.673
Quality of Care	Pre-Test	3.611	3.229	3.994	3.641	3.351	3.931
	Post-Test	4.611	4.331	4.891	4.654	4.458	4.850



## DISCUSSION

- Student self-perception increased after the delivery of the telemedicine training program.
- This study provided an example of a telemedicine curriculum to incorporate in PA programs.

### Future Research

- Utilize telemedicine program and evaluation tool in other PA programs.
- Inclusion of telemedicine in PA program curriculum.
- Incorporate telemedicine OSCEs at the same frequency as in-person OSCEs.
- Monitor legislative changes in telemedicine delivery.

### CONTACT INFORMATION:

Sunayana C. Pydah --- sunayanapydah@gmail.com