Promoting Nurse Practitioner Student Capacity to Utilize the PHQ-A Instrument Through Didactic and Simulation-Based Learning

Nurat Aro-Lambo, DNP, FNP-C, Stephanie Craig, DNP, RN, Jessica Welch, DNP, FNP-C, and Shannen Whiddon, DNP, FNP-C

Purpose

- To evaluate the impact of didactic and simulation-based learning on the capacity of nurse practitioner students to screen for adolescent depression utilizing the Patient Health Questionnaire for Adolescents (PHQ-A).
- To improve ARNP student self-perceived knowledge and confidence level in screening for adolescent depression.
- To promote the survival, health, and well-being of children and adolescents through prevention and the expeditious recognition of depressive symptoms.

Background

- Globally, depression is the third leading cause of illness and disability in young people aged 10-19 years old (WHO, 2014).
- In the United States alone, an estimated three million adolescents aged 12 to 17 had at least one major depressive episode in the past year (National Institute of Mental Health [NIMH], 2017).
- Suicide was listed as the third leading cause of death among individuals aged 10 to 19, and second leading cause of death among individuals aged 15 to 29 in 2017 (NIMH, 2018).
- Since 2009, the United States Preventative Service Task Force (USPSTF) has recommended screening for Major Depressive Disorder (MDD) in adolescents aged 12 to 18,
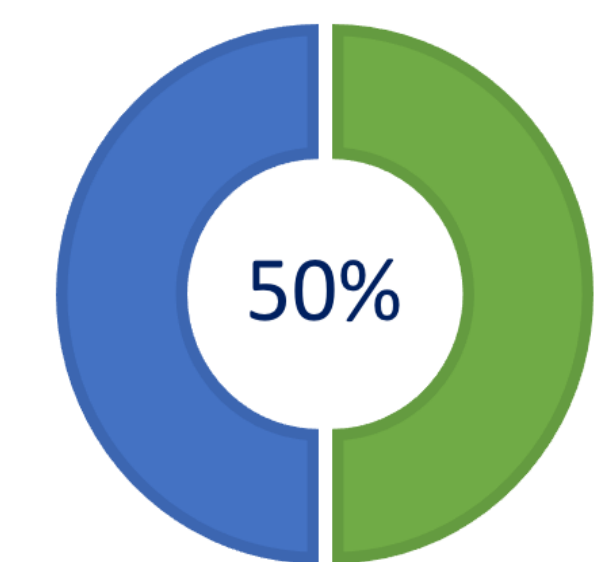
50%
Of all people who develop mental disorders have their first symptom by age 14
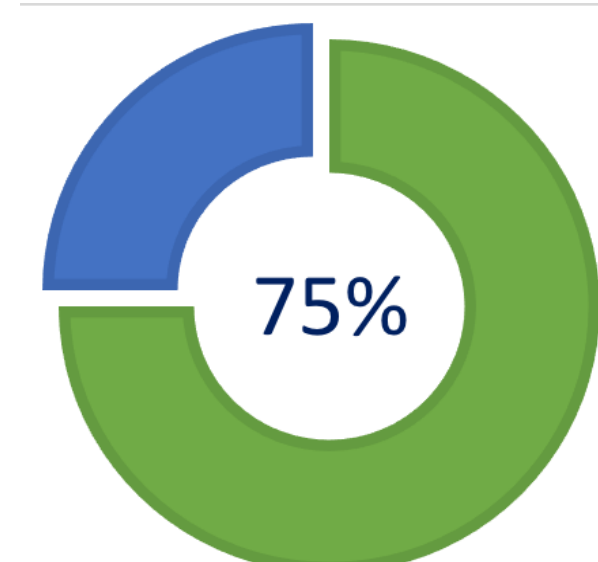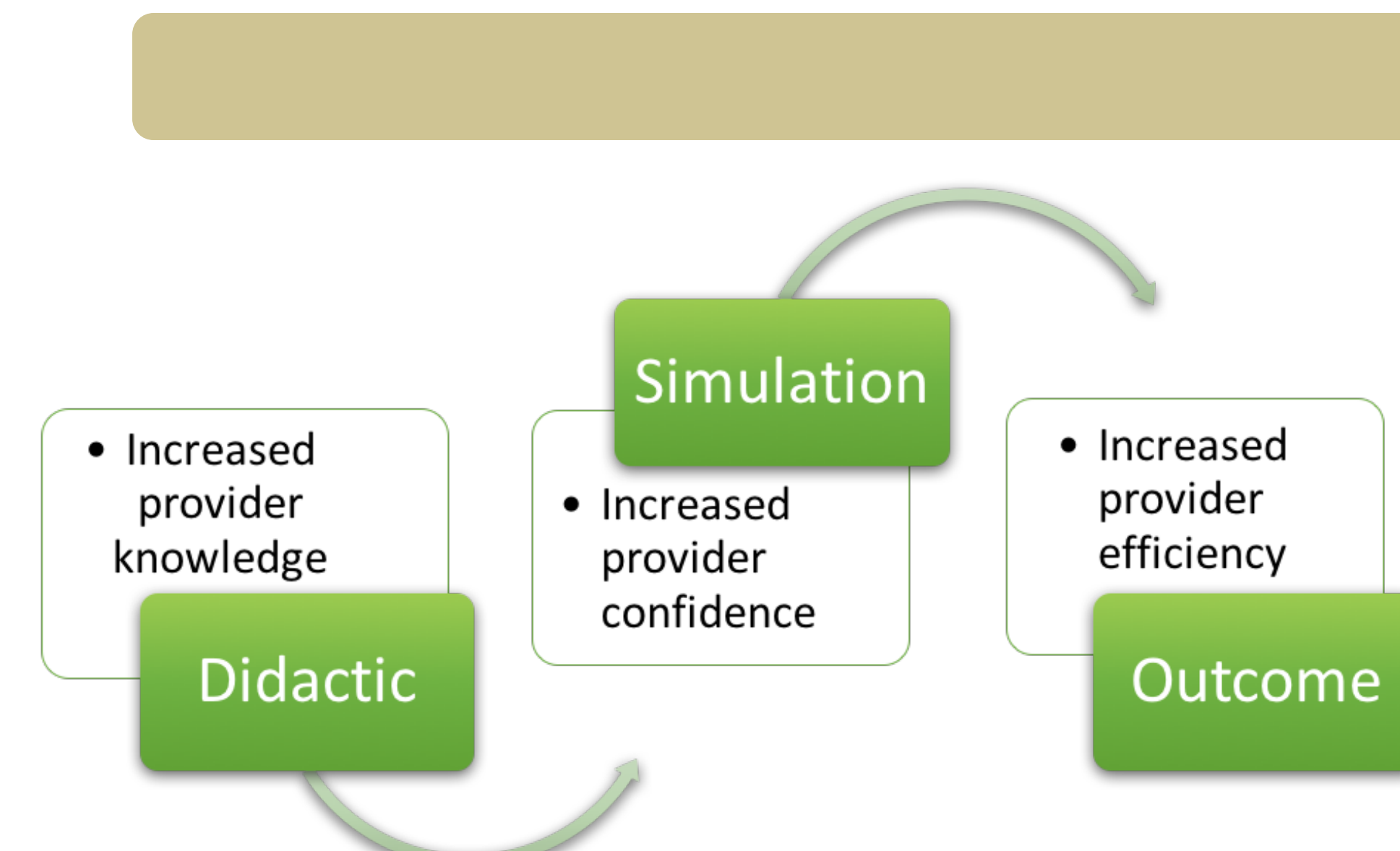
75%
Of all people who develop mental disorders have their first symptom by mid 20s

Methods

Project design: A didactic and simulation-based learning exercise evaluation comparing self-perceived knowledge and confidence level pre-and post-intervention

Setting: This quality improvement project was conducted at the University of South Florida College of Nursing

Sample: Participants recruited for the intervention included first year ARNP students enrolled in the Advanced Diagnostics NGR6064C course scheduled January 8th, 2018 to May 4th, 2018. Of the 62 individuals enrolled in the course, only 37 attended the didactic section and completed the pre-survey questionnaire, and 34 individuals completed the post-didactic questionnaire. On the day of the simulation, the 37 students who participated in the didactic portion met criteria to participate in the simulation, and all 37 students elected to complete the post-simulation questionnaire

Results

- **Simulation** — Increased provider confidence
- **Didactic** — Increased provider knowledge
- **Outcome** — Increased provider efficiency

- Convenience sampling of ARNP students (N=37) of any gender over 18 years of age who were enrolled in the first-year Advanced Diagnostic NGR6064C course
  - Participants must have been able to communicate in English for the purposes of this project.
  - Exclusion criteria included participants who chose to attend the simulation session but did not attend the didactic presentation.
    - These students were allowed to participate in the simulation, but were not offered the option to complete a post-survey questionnaire.

Demographic	Results
Age Group (%)	21-29 (73%) 30-39 (19%) 40-49 (8%)
Program Concentration (%)	BS-MS (43.2%) BS-DNP (48.6%) BSN-PhD (8.2%)
Experience (%)	Mental Health (16.2%) Pediatrics (18.9%) None (64.9%)
PHQ-A Familiarity (%)	Yes (35.1%) No (64.9%)
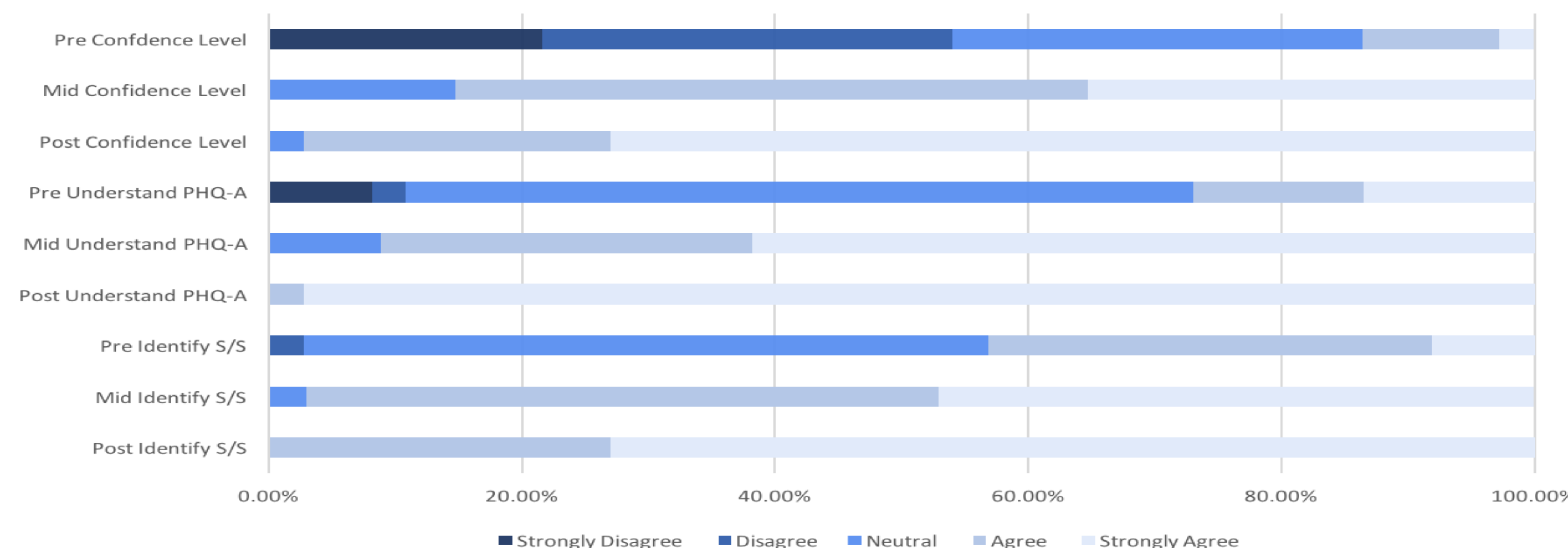
I feel that I am able to correctly identify signs and symptoms of depression in adolescents

Measure	MD	Std. Error Diff	95% CI LL	95% CI UL	t	Sig (2-tailed)
Pre Didactic/ Post Didactic	.838	.158	.522	1.153	5.295	*.000
Post Didactic/ Post Simulation	.405	.133	.141	.670	3.058	.003
Pre Didactic/Post Simulation	1.243	.136	.973	1.514	9.159	*.000

MD= Mean Difference; CI= confidence level; LL= lower limit; UL= upper limit.

I understand that the PHQ-A instrument is an important component of the evaluation of adolescent depression

Measure	MD	Std. Error Diff	95% CI LL	95% CI UL	t	Sig (2-tailed)
Pre Didactic/ Post Didactic	1.216	.210	.798	1.634	5.799	*.000
Post Didactic/ Post Simulation	.568	.128	.312	.823	4.427	*.000
Pre Didactic/Post Simulation	1.784	.170	1.444	2.123	10.472	*.000

MD= Mean Difference; CI= confidence level; LL= lower limit; UL= upper limit.

I feel confident in utilizing the PHQ-A instrument when screening for adolescent depression
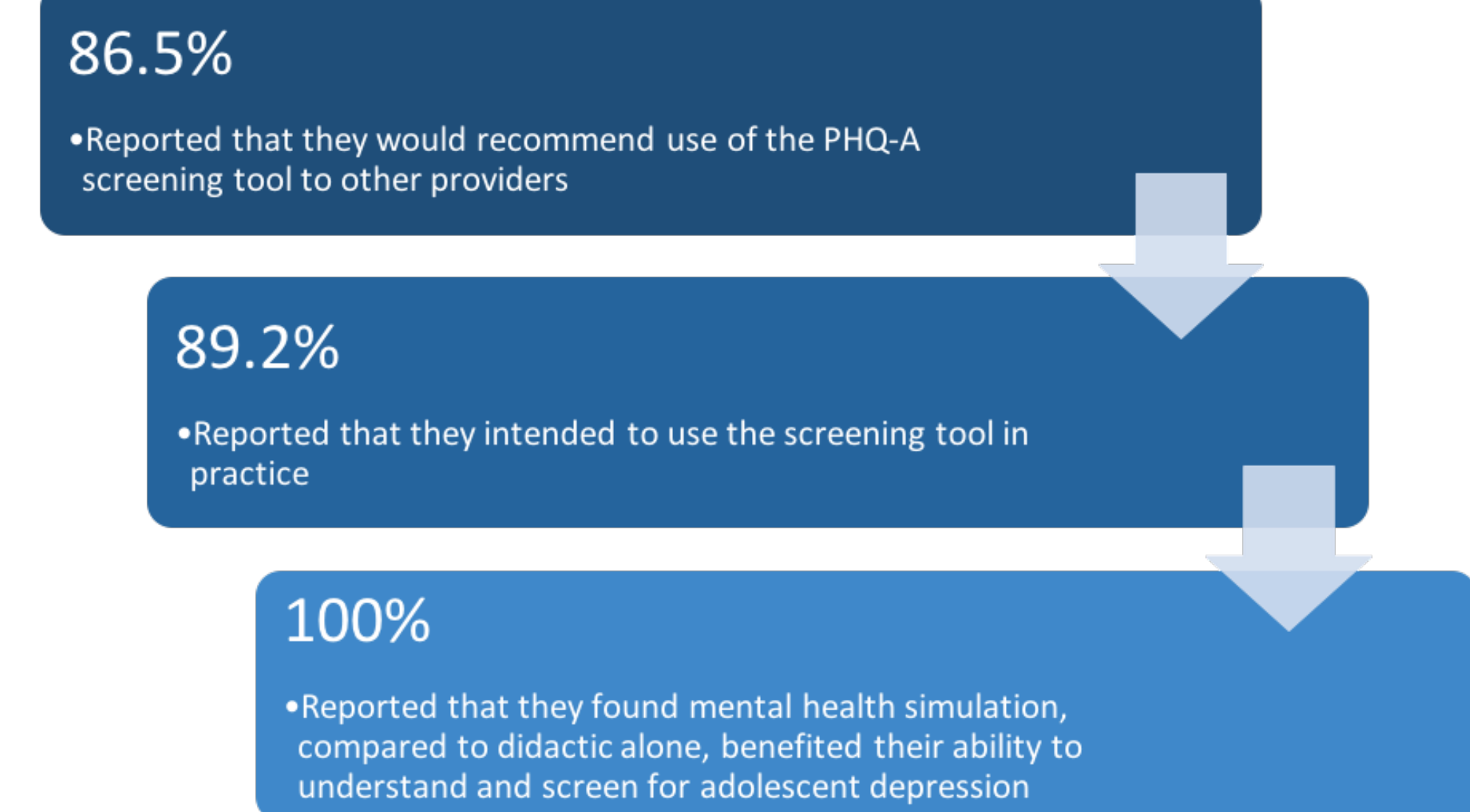
Measure	MD	Std. Error Diff	95% CI LL	95% CI UL	t	Sig (2-tailed)
Pre Didactic/ Post Didactic	1.703	.210	1.285	2.120	8.126	*.000
Post Didactic/ Post Simulation	.595	.148	.298	.891	4.009	*.000
Pre Didactic/Post Simulation	2.297	.191	1.916	2.678	12.021	*.000

MD= Mean Difference; CI= confidence level; LL= lower limit; UL= upper limit.

- Participants were asked to complete a pre-survey prior to the didactic presentation, a post-didactic survey, and a post-simulation survey to gauge effectiveness of the intervention (all three surveys utilized the same three questions).
- The Likert scale method was utilized for the purposes of this project; on a scale from 1-5, 1 indicated that the participant strongly disagreed, 5 indicated that the participant strongly agreed, and 3 was neutral.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Pre Confidence Level					
Mid Confidence Level					
Post Confidence Level					
Pre Understand PHQ-A					
Mid Understand PHQ-A					
Post Understand PHQ-A					
Pre Identify S/S					
Mid Identify S/S					
Post Identify S/S					

Discussions

- Results of the project illustrate that a simulation experience, in addition to a didactic presentation, is a simple, yet impactful means of increasing provider knowledge and confidence level in mental health education
- There was a significant increase in self-reported confidence level between baseline scores (M=2.41) and post-simulation survey scores (M=4.70) with a mean difference of 2.297 points; ($p < .001$)
- There was a significant increase in self-reported knowledge level between baseline scores (M=3.49) and post-simulation survey scores (M=4.73) with a mean difference of 1.243 points; ($p < .001$)
- There was a significant increase in understanding of the PHQ-A tool between baseline scores (M=3.19) and post-simulation survey scores (M=4.97) with a mean difference of 1.784 points; ($p < .001$)
- In conclusion, this project affirmed the hypothesis that simulation in mental health education, in addition to didactic-based education, is an efficient means of increasing knowledge and confidence level in screening for depression.

86.5%
- Reported that they would recommend use of the PHQ-A screening tool to other providers

89.2%
- Reported that they intended to use the screening tool in practice

100%
- Reported that they found mental health simulation, compared to didactic alone, benefited their ability to understand and screen for adolescent depression

Limitations

- Many students attended the simulation experience but did not attend the lecture, resulting in data that could not be used to support the intervention.
- Identifiers were not used in the collection of the data.

Acknowledgements

USF HEALTH
COLLEGE OF NURSING
UNIVERSITY OF SOUTH FLORIDA