

# Preparing Future Physicians to Identify and Treat Children with Autism Spectrum Disorder: An Educational Intervention

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#### PROJECT RATIONALE

# Problem:

Inadequate
training
regarding autism
spectrum
disorder (ASD)
in medical
school and
residency
programs

Medical students
and residents
feeling
uncomfortable
and unprepared
to treat children
with ASD
(Austriaco et al.,
2019)



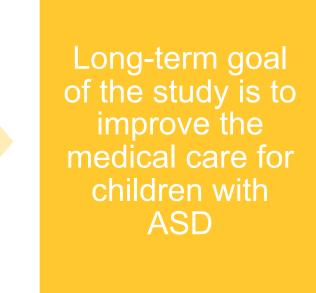
Implement an educational intervention that teaches future

physicians abou

ASD

Study Goals:

to improve the knowledge and comfort level of medical students and residents on identifying, diagnosing, and treating children with ASD



- Among 8-year-old children in the US, 1 in 44 diagnosed with ASD (Maenner et al., 2021)
  - Increasing prevalence of children with ASD
  - Pediatricians should be trained to provide quality medical care to children with ASD
- Pediatric residents and medical students report inadequate training regarding ASD (Austriaco et al., 2019)
- Inadequate training leads to low comfort level in managing children with ASD

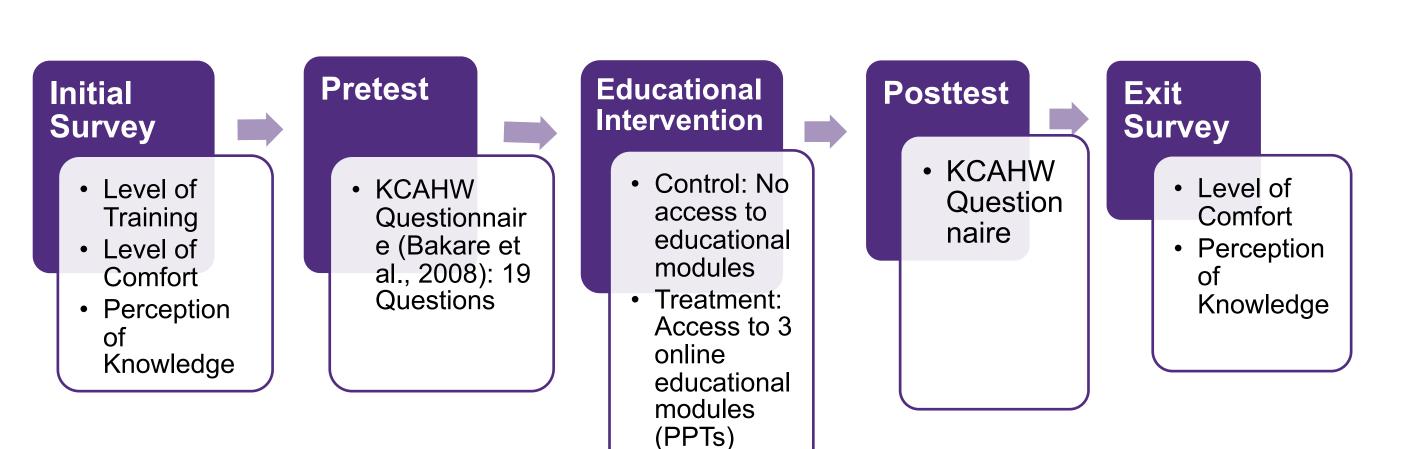
## METHODS

Developed 3 online modules incorporating slides from the Central Missouri Rapid Response Collaborative and videos from the CDC's Autism Case Training

- 1. Understanding ASD
- 2. Screening and Diagnosing ASD
- 3. Treating ASD

Participants: Clinical medical students (M3 & M4) and pediatric residents

Analysis: Descriptive statistics, repeated-measures ANOVA, and linear regression



# IMPACT OF EDUCATIONAL INTERVENTION

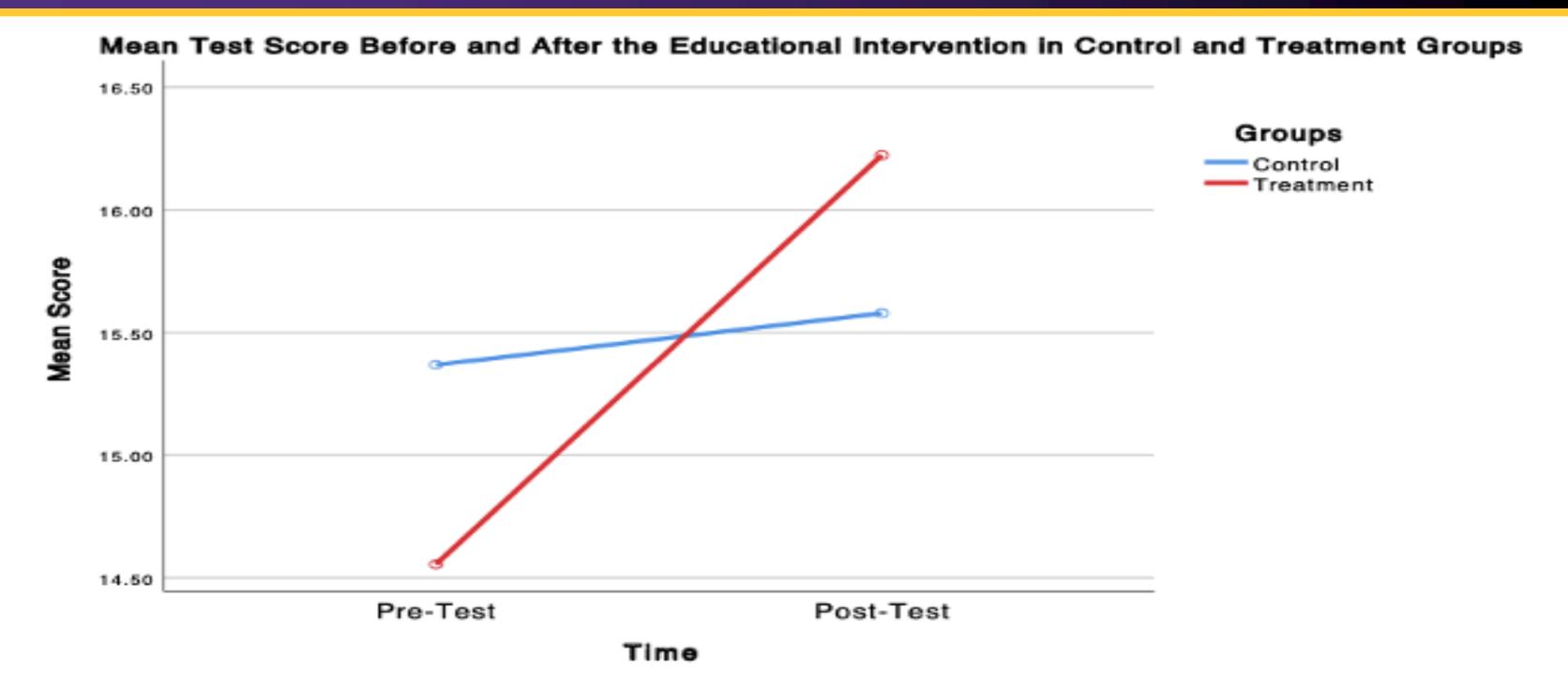


Figure 1: Mean pretest and posttest scores among the control and treatment group

Mean of Self-Reported Comfort Level Score Before and After Educational Intervention Between Control and Treatment Groups

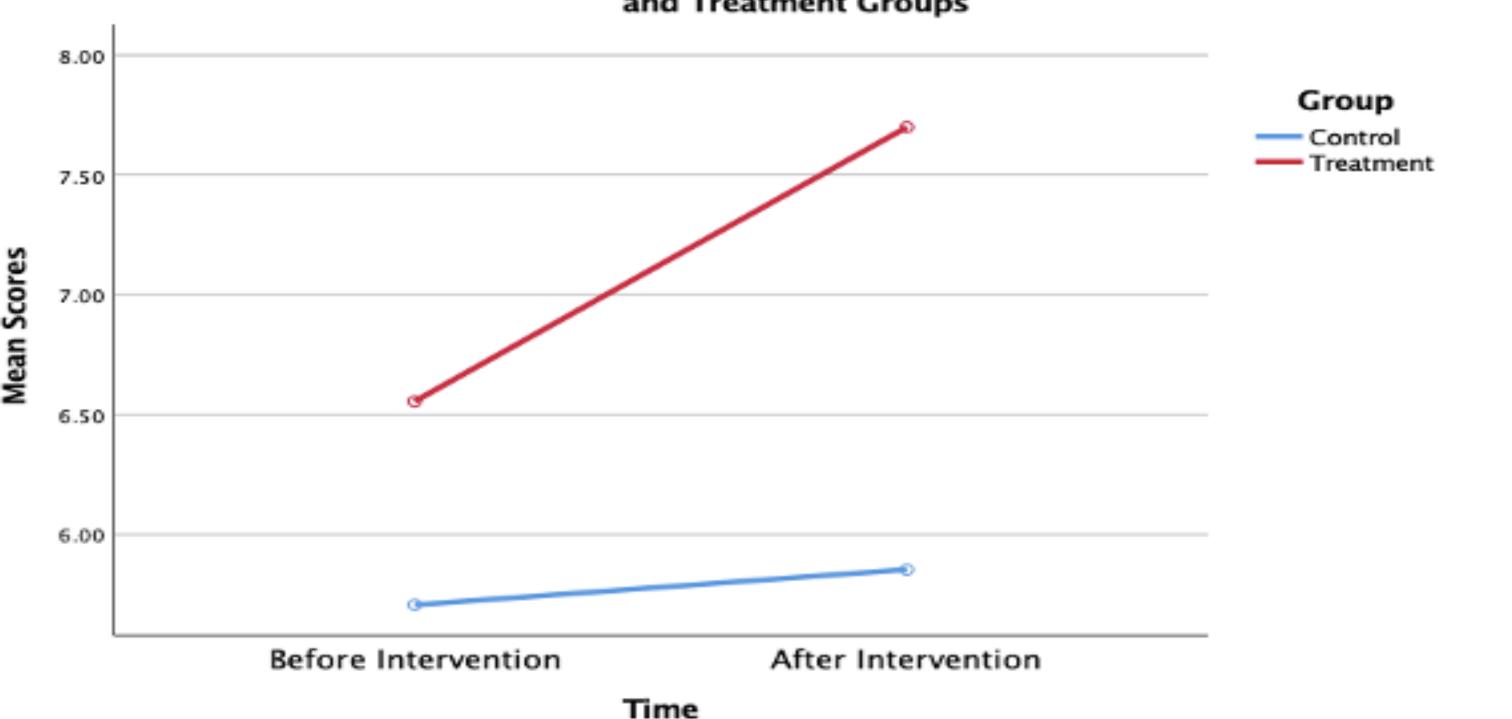


Figure 2: Mean self-reported comfort level scores among the control and treatment group

- 28 participants (control = 19, treatment = 9)
- 64.3% felt that the previous training they had received (in medical school and/or residency) had not sufficiently prepared them for clinical practice

#### Is the educational intervention effective?

- Compare control and treatment groups: statistically significant difference in pretest and posttest means (p=0.034, Figure 1)
- Compare control and treatment groups: statistically significant difference in self-reported comfort level mean scores before and after modules (p= 0.006, Figure 2)
- No statistically significant difference in self-reported perception of knowledge (p=0.066)
- Linear regression model: 1.456 point increase in the change in test scores between control and treatment group
- Linear regression model: 0.997 point increase in the change in reported comfort level between control and treatment group

# LESSONS LEARNED AND FUTURE DIRECTIONS

- Future physicians at ECU feel inadequately trained to identify, diagnose, and treat children with ASD
- Online modules improve knowledge and comfort level regarding ASD
- Limitations:
  - Small sample size
  - Unequal control and treatment group size
- Future directions:
  - Follow-up study to show efficacy of online modules in larger sample size
  - Does improved knowledge and comfort level impact patient outcomes?

Identify problem  Future physicians feel inadequately trained to diagnose and treat children with ASD



Implement educational intervention  3 online modules targeted to teach future physicians to identify, diagnose, and treat children with ASD



Ensure intervention is effective

 Educational modules lead to an increase in knowledge (test scores) and comfort level



 The improvement in knowledge and comfort level leads to better patient care for children with ASD

## ACKNOWLEDGEMENTS

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- CDC for access to the Autism Case Training (ACT) videos
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- Mary Lenfestey, MD in the ECU Department of Pediatrics

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