

## Abstract:

Adverse Childhood Experiences, or ACEs, have a tremendous impact on lifelong health: physical and behavioral, as well as future violence, victimization, and perpetration. According to Dr. Robert Block, former president of American Academy of Pediatrics, “ACEs are the single, greatest, unaddressed public health threat facing our nation today.” Our null-hypothesis was that ACEs scores would not correspond with behavioral health screening tools, used at ONE Health Ohio, measuring depression, addiction, and trauma. After collecting the behavioral health history from 100 adult patients through NextGen, a significant correlation was commonly present between childhood trauma and utilization of screening tools: PHQ-2, PHQ-9, MDI-10, DAST and AUDIT . In all cases, the null-hypothesis was rejected. The importance of individuals seeking help to overcome trauma is crucial but not limited to, combating future health issues such as physical illness or mental illness (including addiction) which may lead to early death.

## Background:

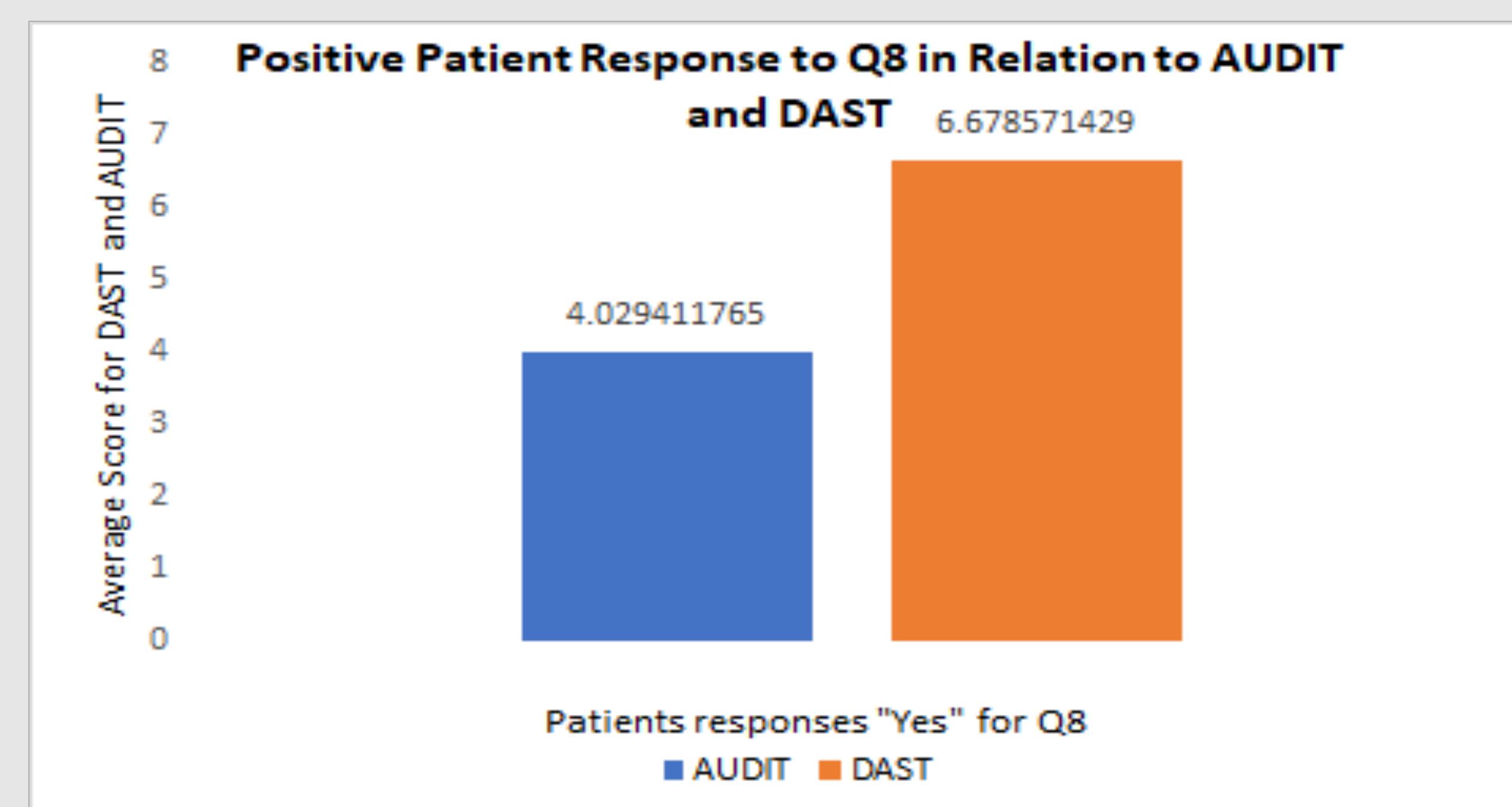
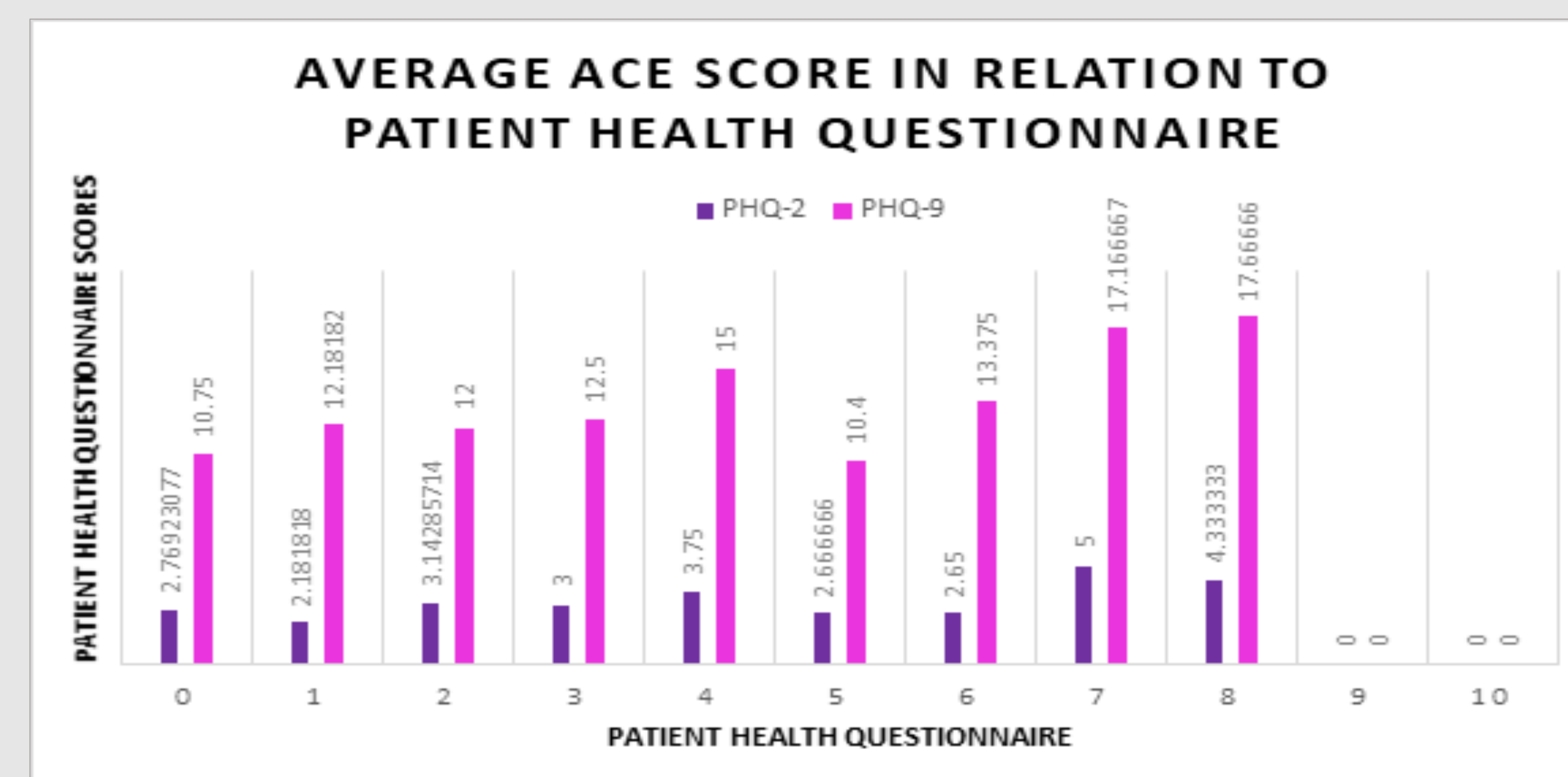
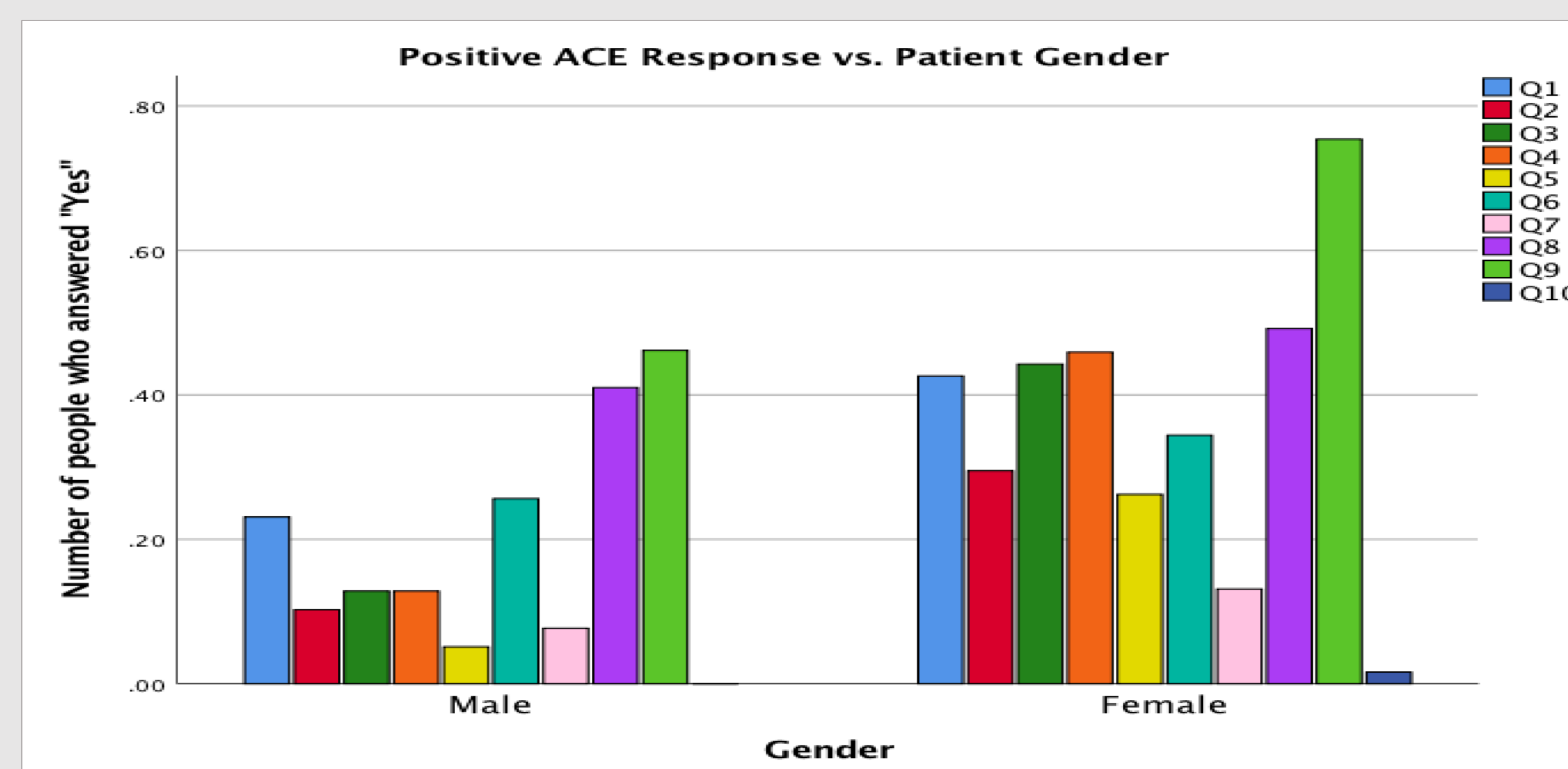
- ONE Health Ohio is a federally qualified health center, FQHC, with a mission to “improve the health and well-being of people in our communities by providing quality health care particularly to the uninsured and underinsured.”
- The vision of ONE Health Ohio CEO and pediatrician, Dr. Ronald Dwinells is "To find solutions and help others, we need to understand their problems. Difficulties in childhood can lead to devastating health and life consequences. Being aware of these difficulties by understanding ACEs will help our patients (especially the children) lead more productive lives. It is an important first step!"

## Methods:

- We received training from ACE coordinator in order to understand more about ACEs.
- All group members received HIPAA certification to work with confidential information.
- Everyone analyzed data for n = 100 adult patients to calculate ACE scores.
- Behavioral health screening tools compared to ACE score include:
  - Drug Abuse Screening Test (DAST)
  - Alcohol Use Disorder Identification Test (AUDIT)
  - Major Depressive Inventory-10 (MDI-10)
  - Patient Health Questionnaire-9 (PHQ-9)
  - Patient Health Questionnaire-2 (PHQ-2)
- All members compared ACE scores to screening tools scores and organized the data into tables.

## Results:

- Out of n= 100 adult patients, the average ACE score was **2.92**. (Range of score: 0-10)
- We used Excel pivot tables to determine correlations between various ACE scores and the behavior health screening tools.
- The most prominent correlation was between patients having answered “Yes” to questions 1, 4, and 9. About 30% of patients had a positive response for both question 1 and question 4, and for both question 4 and 9. Twenty four percent of patients were positive for all three.
- We performed statistical analysis, obtaining p-values, to determine if the data was statistically significant. All of the p-values were less than 0.05, proving the correlations significant.



## Results Continued:

PHQ-9 Score:	Patients that answered "Yes" to Q 1, 4, and 9:
0	0
3	1
5	1
6	0
7	1
8	2
9	2
10	0
11	0
12	2
13	2
14	0
15	1
16	1
17	0
18	1
19	1
20	2
21	0
22	1
23	0
24	2
25	0
26	1
27	0
N/A	3
Total	24

## Future Work:

- Analyze data from a larger sample size (n).
- Study data from minors.
- Allow patients to personally fill out ACE questionnaire, then compare their score to that found from NextGen.
- Measure ACE information at ONE Health Ohio with data from a different FQHC.
- Compare family history of trauma with previously gathered behavioral health screening tools.

