

Purpose

The purpose of this study is to educate teachers and school administrators about the dangers of adolescent vaping.

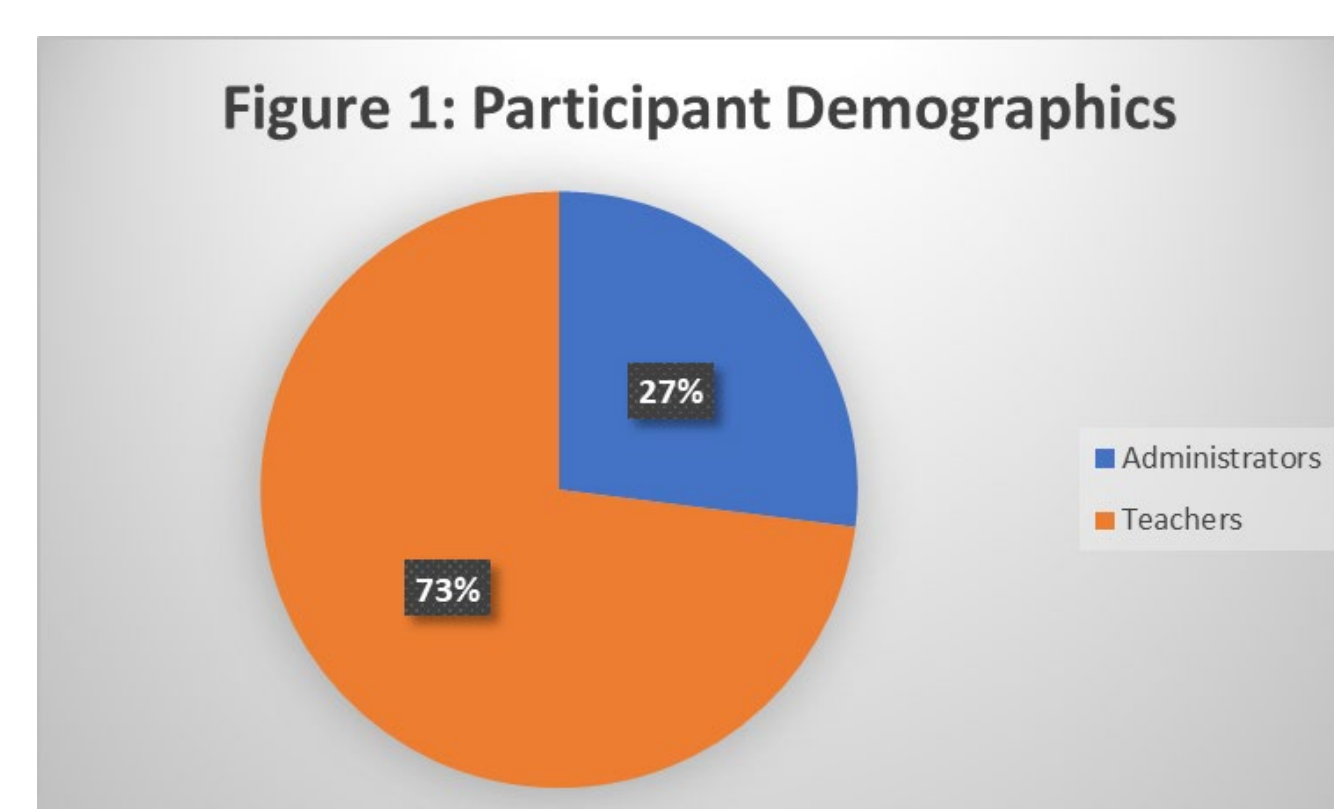
- Create course on adolescent vaping and how it is dangerous for middle school and high school age students.
- Use gathered data to locate areas that may need additional vaping education
- Find school administrators who would like to have pharmacy students present to their students about the dangers of vaping

Methods

- **Study Design:** Non-randomized Controlled Trial
- **Survey:** Software provided by Qualtrics. 10 multiple choice questions with pre and post-test questions being the same.
- **Study Active:** September 26, 2019- February 1, 2020
- **IRB Approval:** SIUE IRB Approval #480
- **Study Participants:** Teachers and administrators from most Midwestern states
- **Primary Objective:** Observe an increase in vaping knowledge after enrolling in the online vaping course
- **Control group-** Pre-test survey participants
- **Treatment group-** Post-test survey participants
- **Exclusion Criteria:** All completed and partially completed surveys were included in the analysis.
- **Statistical Tests:** Pair Student t-test

Results

- Total Course Enrollment: 441
- Total # of Surveys Taken: 340
- Pre-Test: 217
- Post-Test: 123

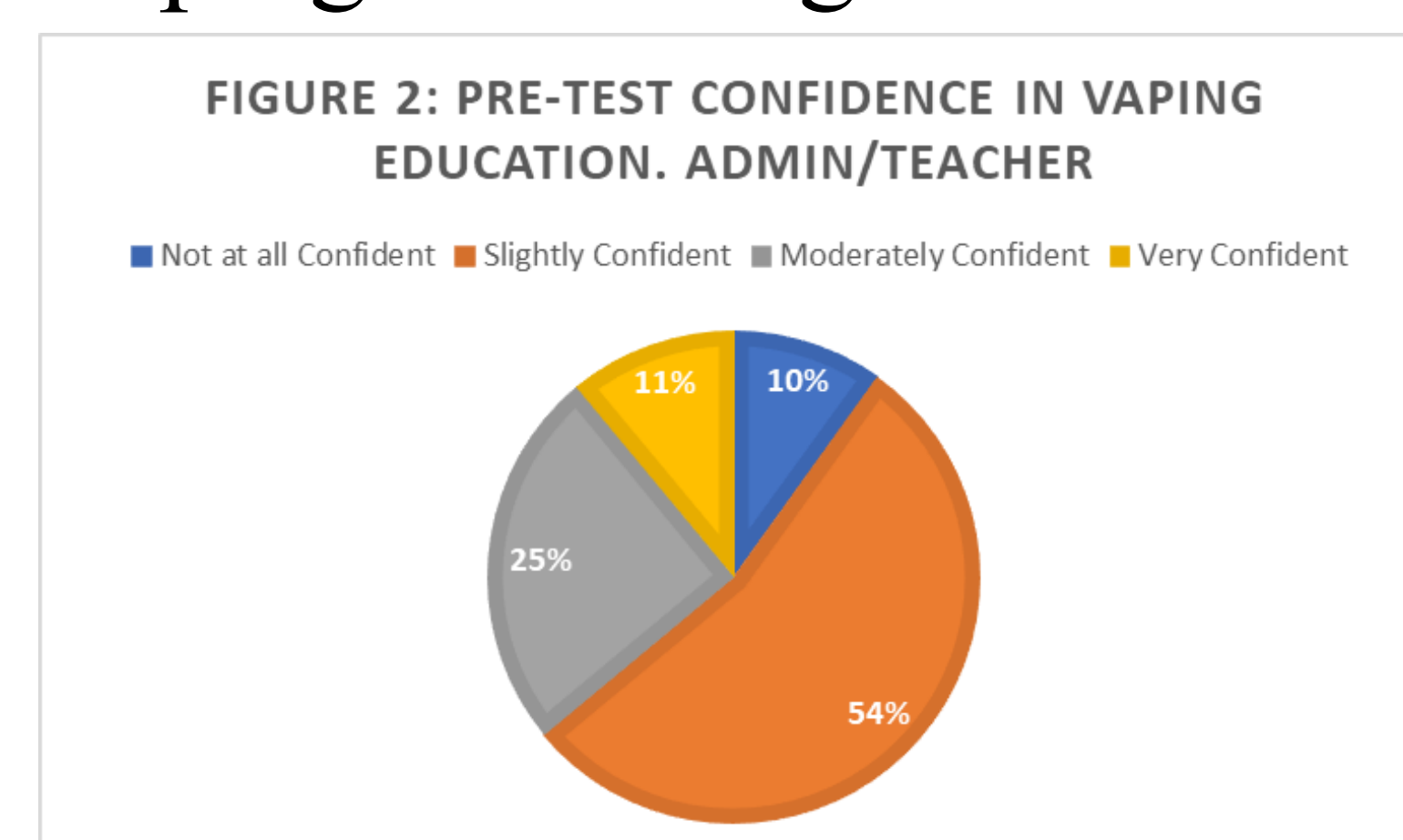


Administrator Demographics

- 50% from high schools, 30% from middle schools, 20% from elementary schools
- 52% had a student population of 251-1000
- Half of schools reported 40% of student receive free or reduce lunches
- 13% of schools did not have a vaping policy in their school handbook
- 30% of administrators enforce the vaping policy weekly and 82% enforce the policy monthly
- 94% report all students receive the same punishment

Vaping Education Confidence

- 64% of study participants reported either feeling slightly confident or not at all confident in their vaping knowledge
- 25% reported being slightly confident
- 11% Reported feeling very confident in their vaping knowledge



Teacher Demographics

- 58% taught high school students, 25% middle school and 17% elementary
- 81% reported never receiving training about vaping or its effects
- Interestingly, 75% of teachers have never seen a student vaping
- 82% of teachers reported having school policies regarding vaping

Pre and Post-Test Data

- Table 1 shows the pre and post-test mean. P-value shows statistical significance between the two tests
- Average increase in percentage correct between the pre and post-test is 37%
- Results show that the course achieved its purpose

Zip Code	Count
IL	208
IN	3
MO	4
NH	1
MN	1

Table 1

Difference in % correct between pre and post-test			
Question	Pre-Test	Post-Test	Difference
1	42	94	52
2	77	98	21
3	29	60	31
4	37	97	60
5	43	94	51
6	37	87	50
7	54	81	27
8	31	88	57
9	73	76	3
10	81	97	16
Pre-Test Mean			50.4
Post-Test Mean			87.2
p-Value of Mean			0.000231
Pre-Test Median			42.5
Post-Test Median			91
Avg Difference in % Correct			37
Standard Deviation of Differences			20
Median of Differences			41
Coefficient of Variation of Differences			0.5

Limitations

- Unable to stop participants from looking answers up online
- Not assessing confidence before and after taking the course
- Participants could enter multiple surveys
- Nonrandomized study
- Did not adjust for confounding variables

Strengths

- Large sample size
- Controlled Trial
- Diverse sample
- Collaborative nature of study
- Study shows promising results for further exploration

Conclusion

- Study shows a statistically significant finding in the improvement of vaping knowledge
- Education is important to help prevent the increase in adolescent vaping
- Collaborative practice between educators and health care professionals would be beneficial to prevent further increases in adolescent vaping

Acknowledgements

- Special thanks to our partners:
1. Illinois Principals Association
 2. Illinois Pharmacists Association