

# HMS MEDscience

## SURVEY HIGHLIGHTS BROCHURE

HIGH SCHOOL STEM PROGRAM AT HARVARD MEDICAL SCHOOL



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**MEDscience**  
HARVARD MEDICAL SCHOOL



**HMS MEDscience** is a high school STEM education initiative inspiring students to think without limits and engaging them in science through hands-on experiences.

Our mission is to bridge the inspiration gap in STEM education by providing students with opportunities in science that enhance the necessary 21st century skills for success in academic and career settings.

**The purpose of the survey is to measure student outcomes. Data was collected from 223 students participating in the HMS MEDscience program Fall Semester 2019.**

## CORE FINDINGS INCLUDE:



### LEARNING ENVIRONMENT

- **99%** of our student participants agree or strongly agree that the pedagogy of the MEDscience program helped them learn and retain the material better.
- **96%** agree or strongly agree that the cases with the simulator deepened their understanding of biology concepts.

### BIOLOGY CONTENT

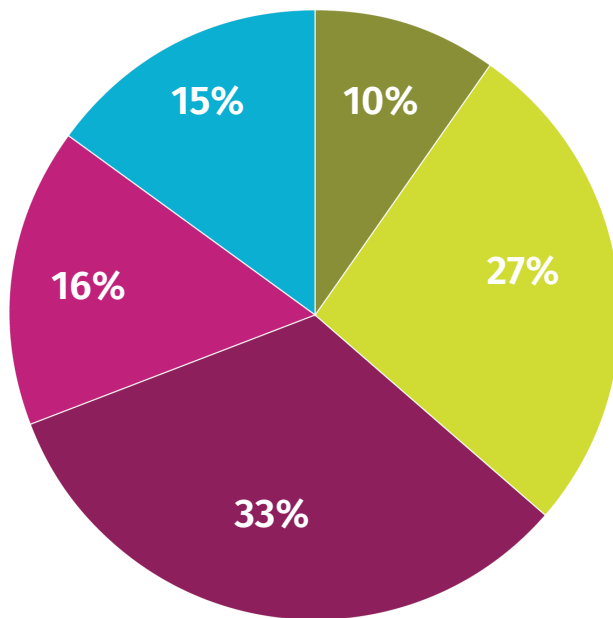
- Before the program, only **38%** of our participants understood causes and treatments for heart disease. After, **95%** reported that they understand the causes and treatments of heart disease.
- Students saw similar growths in regards to understanding the physiological mechanism of an asthma attack and inhaler treatment, and how insulin works in your body in correspondence to diabetes.

### SELF-EFFICACY, LEADERSHIP & TEAMWORK

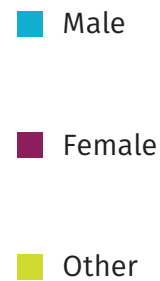
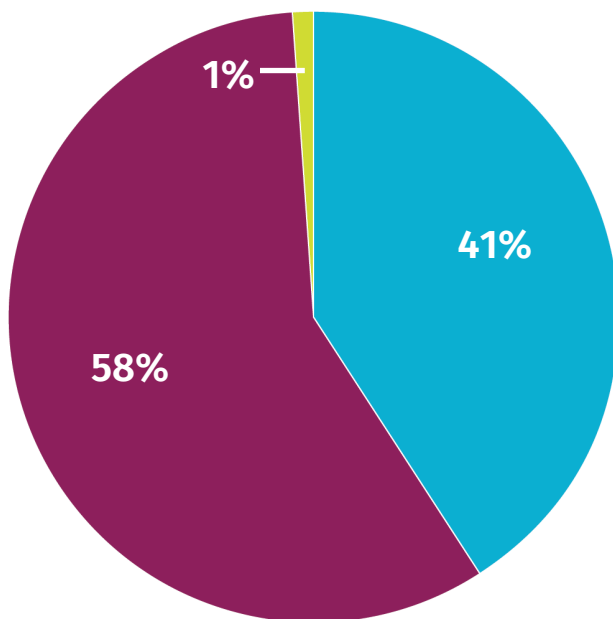
- **91%** report that after participating in HMS MEDscience, they are more confident in sharing their ideas in class, even if they might be wrong
- **98%** of our student participants agree or strongly agree that after participating in HMS MEDscience he/she is comfortable working in teams in emergency situations.

# STUDENT DEMOGRAPHICS

## ETHNICITY

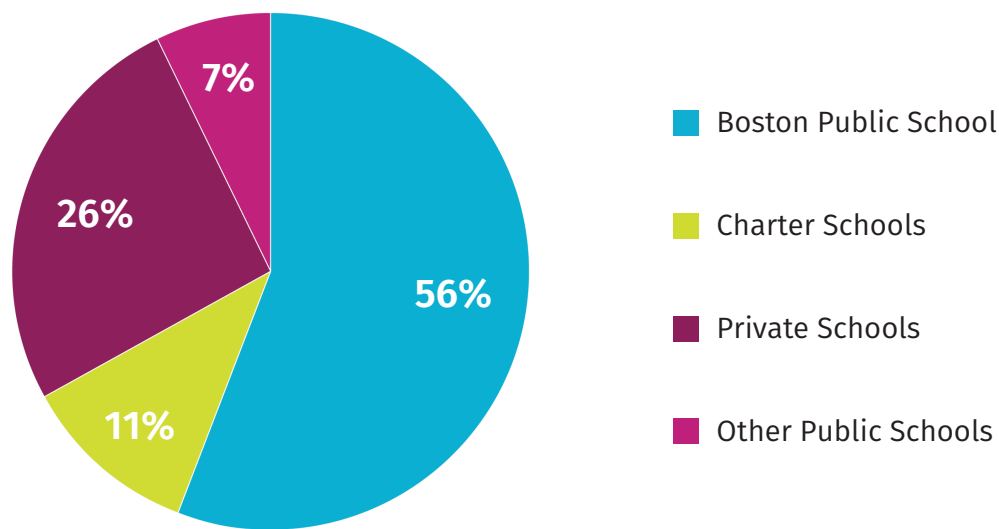


## GENDER



# HIGH SCHOOLS INVOLVED

*Academic Year*  
2019 - 2020



## PARTICIPATING BOSTON PUBLIC HIGH SCHOOLS

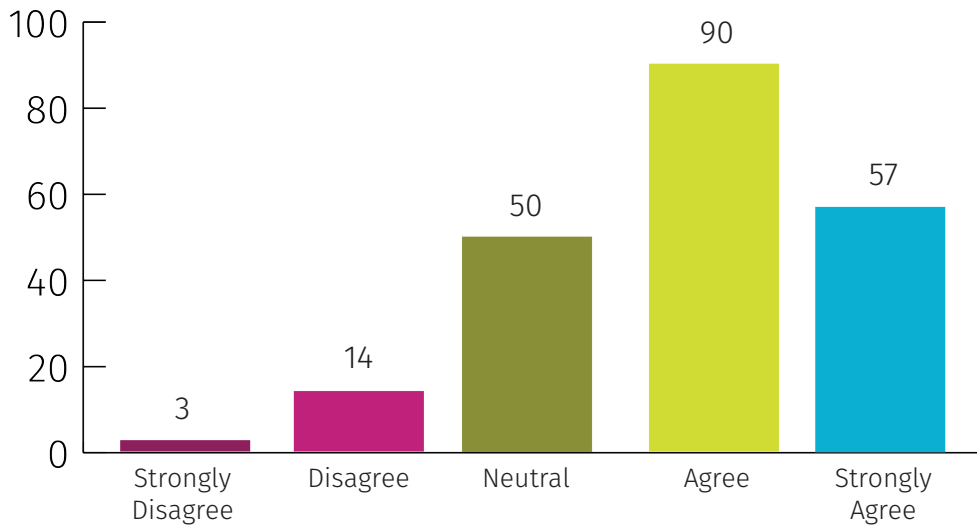
- Boston Community Leadership Academy
- Boston Day & Evening Academy
- Boston Green Academy
- Boston International Newcomers
- Boston Latin Academy
- Boston Latin School
- Brighton High School
- Charlestown High School
- Community Academy of Science & Health
- Dearborn STEM Academy
- Edward M. Kennedy Academy for Health Careers
- Fenway High School
- Greater Egleston High School
- John D. O'Bryant School of Mathematics and Science
- Lilla G. Frederick Pilot Middle School
- Madison Park Vocational High School
- Margarita Muniz Academy
- Mary Lyon Pilot High School
- The English High School
- Urban Science Academy

## OTHER PARTICIPATING HIGH SCHOOLS

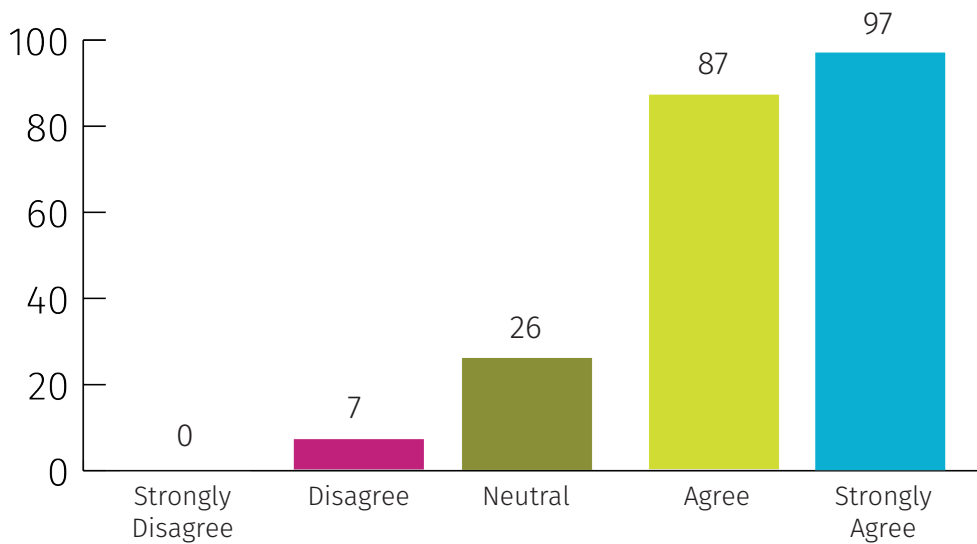
- Bais Yaakov of Boston
- Beacon Academy
- Beaver Country Day School
- Boston College High School
- Boston University Academy
- Brookline High School
- Buckingham Browne & Nichols
- Cathedral High School
- Codman Academy
- Dexter Southfield
- Excel Academy Charter School
- Fessenden School
- German International School
- Lexington Christian Academy
- Maimonides School
- Newton North High School
- Newton South High School
- Noble & Greenough School
- Notre Dame Academy
- Milton Academy
- Prospect Hill Academy Charter School
- The Rivers School
- Roxbury Latin School
- Watertown High School

# AFTER THE PROGRAM

**Participating in emergency simulations has helped raise my self confidence.**

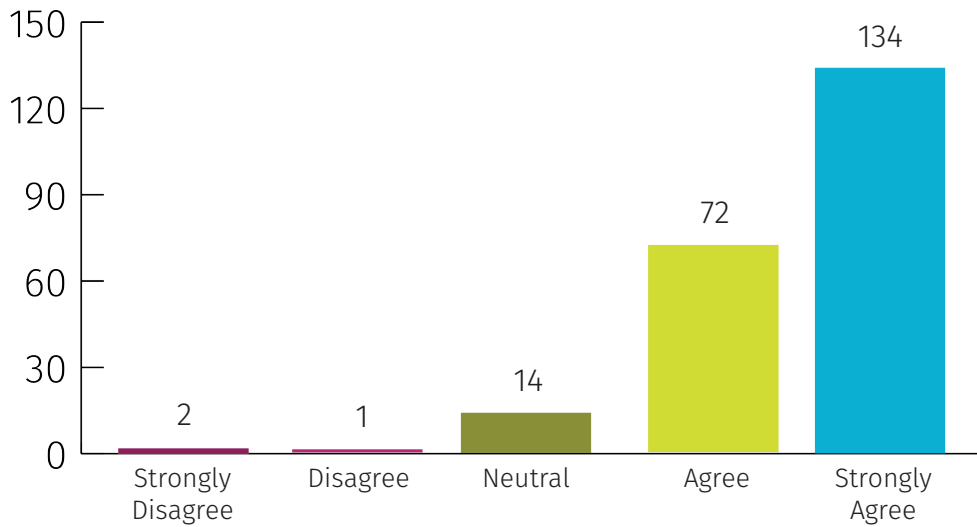


**Participating in medical emergency simulations deepened my understanding of biology concepts.**

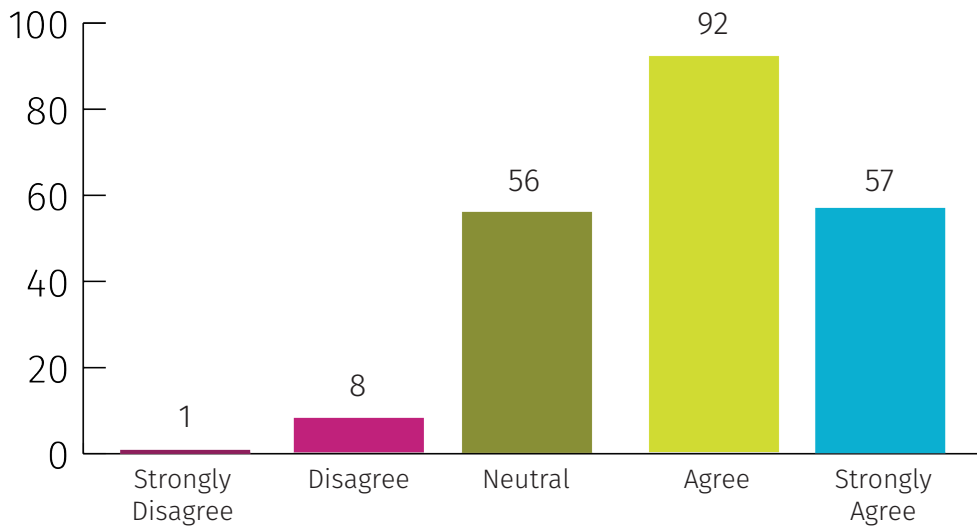


# AFTER THE PROGRAM

**I would recommend this class to a friend.**

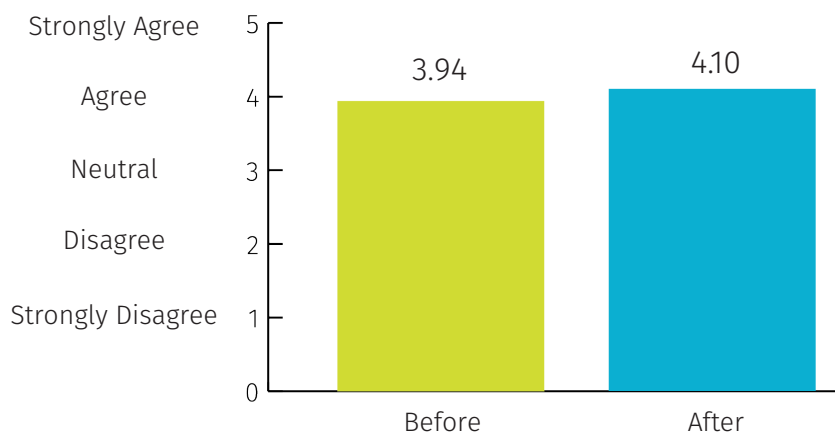


**Participating in medical emergency simulations helped me to be motivated to work harder in school.**

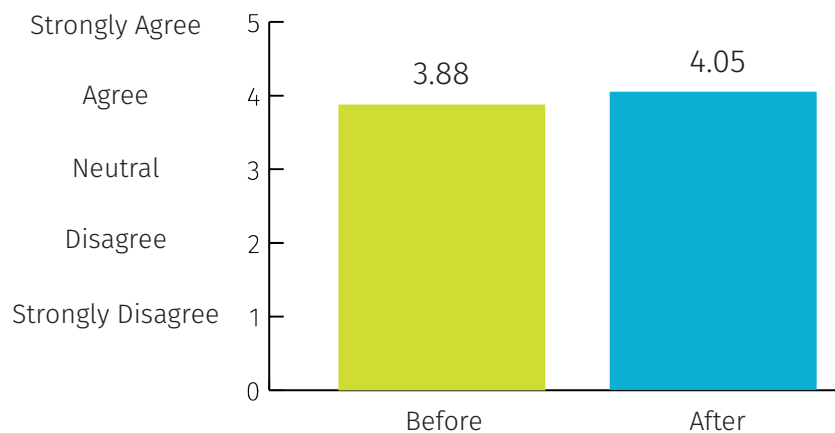


# BEFORE VS AFTER THE PROGRAM

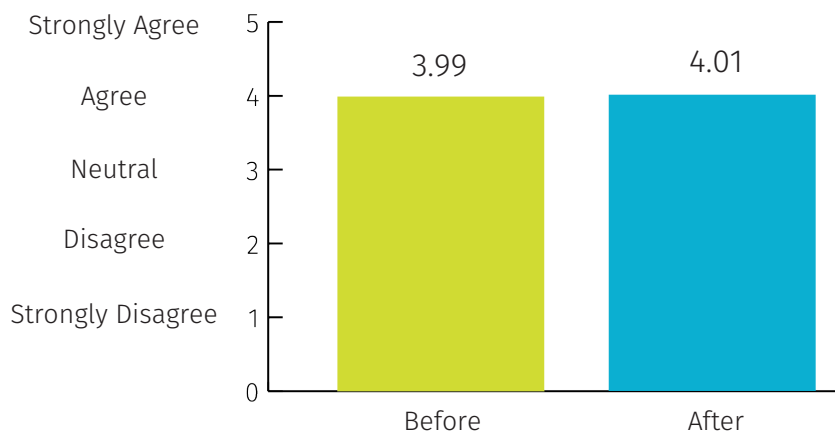
**I am interested in pursuing a career in science, technology, engineering, mathematics (STEM) or healthcare.**



**I am comfortable working in teams in emergency situations.**



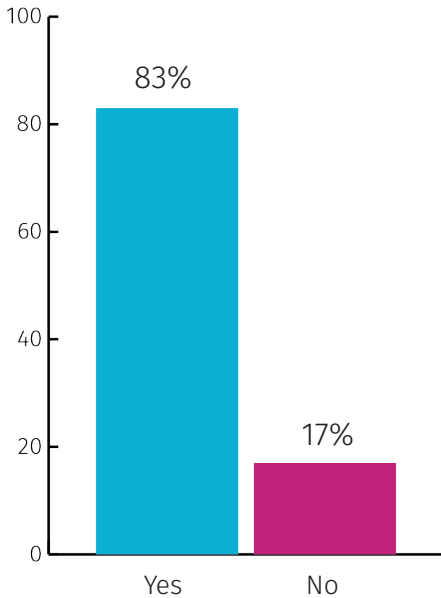
**I think I could be successful in a biology or healthcare career.**



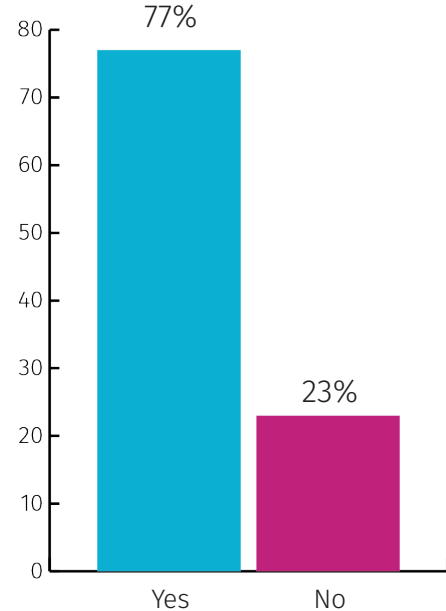


# OPEN RESPONSE QUESTIONS

**My experience in HMS MEDscience has made me more confident in my ability to work effectively in groups.**



**Did MEDscience change how I think about solving problems?**



*"I really learned to listen to other people's ideas and try to build off of them. I realized that to be successful as a team, and for the benefit of the patient, it is important to consider everyone's ideas."*

***"Before this class I usually take a 'back seat' while working in groups, never taking a leadership role. This class taught me both how to listen to other people's ideas as well as being the leader of a group."***

*"I learned how to effectively communicate with others and understand my weakness in the group so I can enhance my skills for when I work in groups in the future."*

***"I felt as if my voice mattered and it gave me a lot of confidence."***

*"I realized that you can't do everything by yourself and that in situations like those, working in groups is more efficient."*

***"MEDscience has taught me that I must be confident in myself and express my thoughts in many different ways. I have learned to take into account all aspects of a problem instead of focusing in on a singular part... It has also taught me to trust the people around me and take into account their opinions as well."***

*"Instead of relying on past knowledge, I really enjoyed how MEDscience forced me to think on my feet and analyze each situation with a fresh perspective, while not forgetting past information."*

***"I actually got in the habit of thinking outside of the box."***

*"This program helped me find my voice."*