



**The Impact of Beyond the Bell's
CyberPatriot Program on Cybersecurity
Knowledge and Career Aspirations**

2015-16

Prepared for

Los Angeles Unified School District

Beyond the Bell Branch

By



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Summary

CyberPatriot is Beyond the Bell's (BTB's) signature technology career preparation program and is offered as part of the ASSETs program. CyberPatriot prepares students in grades 7-12 for the Air Force Association's National High School Cyber Defense Competition. The competition is entirely online and challenges student teams across the United States to find and remove vulnerabilities from computer operating systems and networks.

Participants in the BTB CyberPatriot programs receive training, mentorship, and internship opportunities from industry and academic partners. Lead corporate partners are Aerospace Corporation, CISCO, Dun and Bradstreet (a major financial contributor), JPL, Northrop Grumman, and Space X. Engineers from Los Angeles Unified's Information Technology Department provide technology support and are critical in helping BTB teams master networking. BTB also engages CyberPatriot alumni who return from college to their schools and teach a new generation the fundamentals of security, and how to prepare for the CyberPatriot competition.

As BTB's primary academic partner, California State University, Northridge (CSUN), provides a venue for training and local competitions. CSUN students coach BTB CyberPatriot teams as they progress toward competition. Cal Poly Pomona and West Los Angeles Community College also provide training and support for BTB teams.

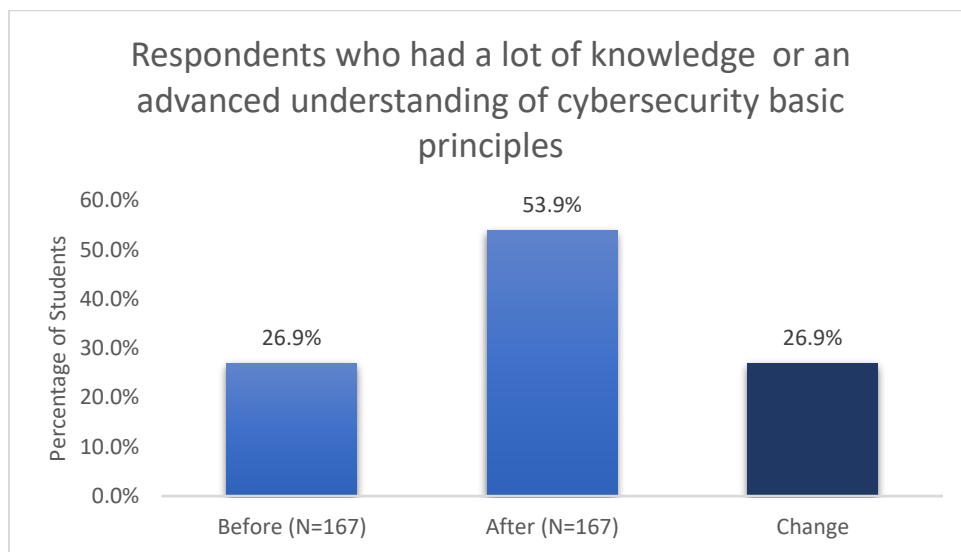
During the 2015-16 competition season (CyberPatriot VIII), BTB commissioned ERC to perform a pre- and post-survey among participants to determine if participation in the program leads to interest in higher education and/or a career in a STEM field.

Survey findings showed that after participating in CyberPatriot, students (n=167) were:

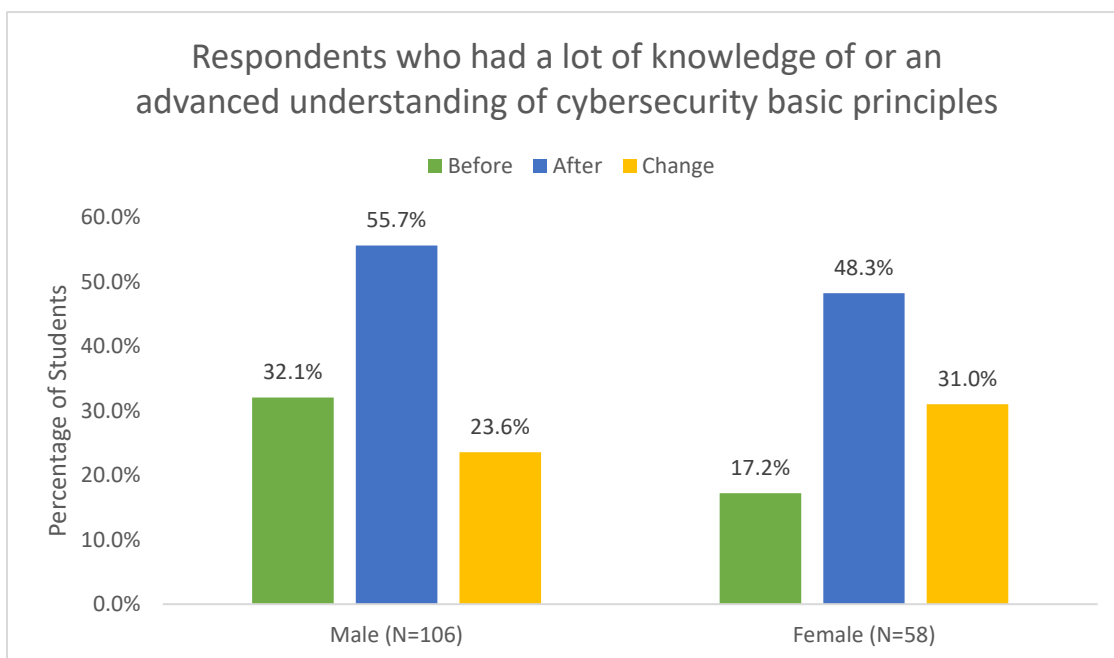
- 26.9% more likely to have a lot of knowledge or an advanced understanding of basic cybersecurity principles. (This percentage was 31.0% for females).
- 14.4% more likely to know a lot about cybersecurity career opportunities as well as how to pursue them. (This percentage was 15.5% for females)
- 9.6% more likely to be somewhat or very likely to pursue an education or career in a STEM field.
- 2.4% more likely to be somewhat or very likely to pursue a career in cybersecurity. (This percentage was 6.9% for females).

Knowledge of Cybersecurity Principles

Before the 2015-16 CyberPatriot program, 26.9% of participants perceived themselves to have a lot of knowledge or an advanced understanding of basic cybersecurity principles. This percentage grew to 53.9% after competing in CyberPatriot VIII, a 26.9% gain (rounded to the nearest tenth).

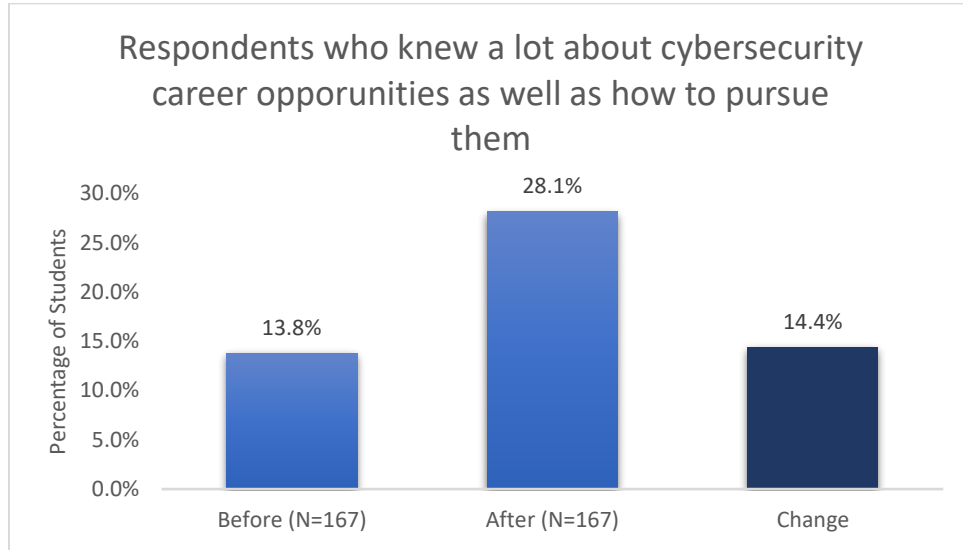


Females showed a greater post-survey gain than males in the percentage of participants who perceived themselves to have a lot of knowledge of or an advanced understanding of basic cybersecurity principles. This percentage increased 31.0% among females compared with 23.6% among males. However, males showed a higher percentage than females on both the pre-survey and the post-survey.

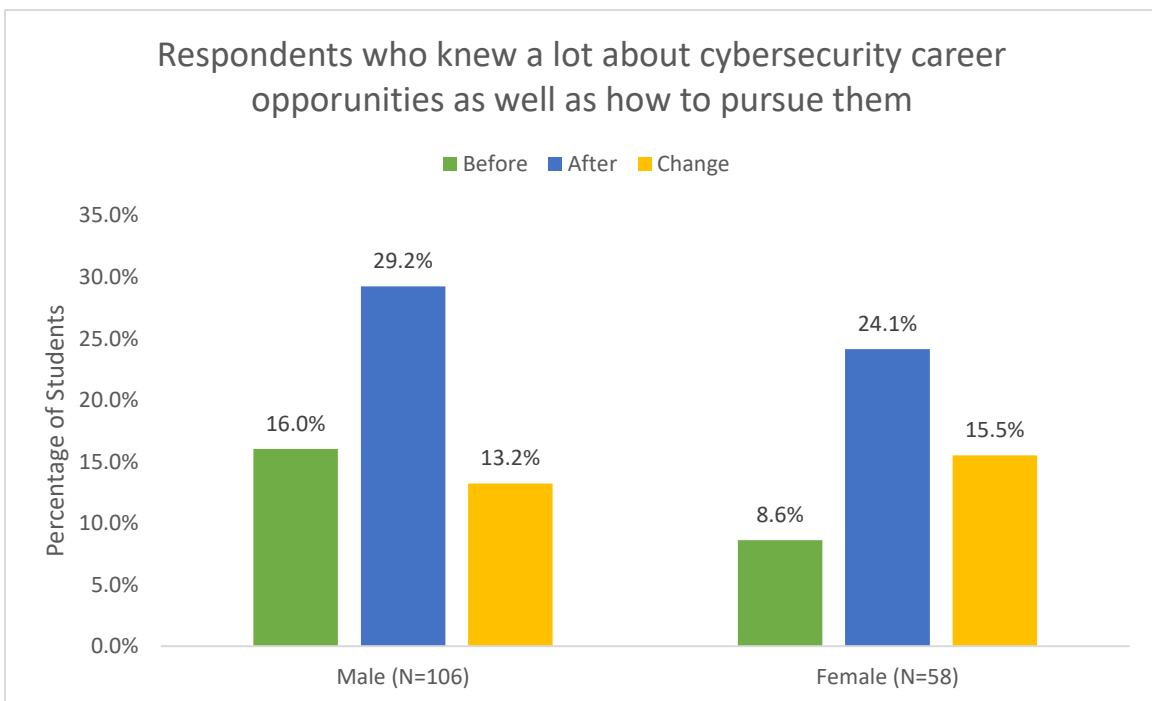


Knowledge of Cybersecurity Careers

Before the 2015-16 CyberPatriot program, 13.8% of participants perceived themselves to know a lot about cybersecurity career opportunities or how to pursue them. This percentage grew to 28.1% after competing in CyberPatriot VIII, a 14.4% gain (rounded to the nearest tenth).

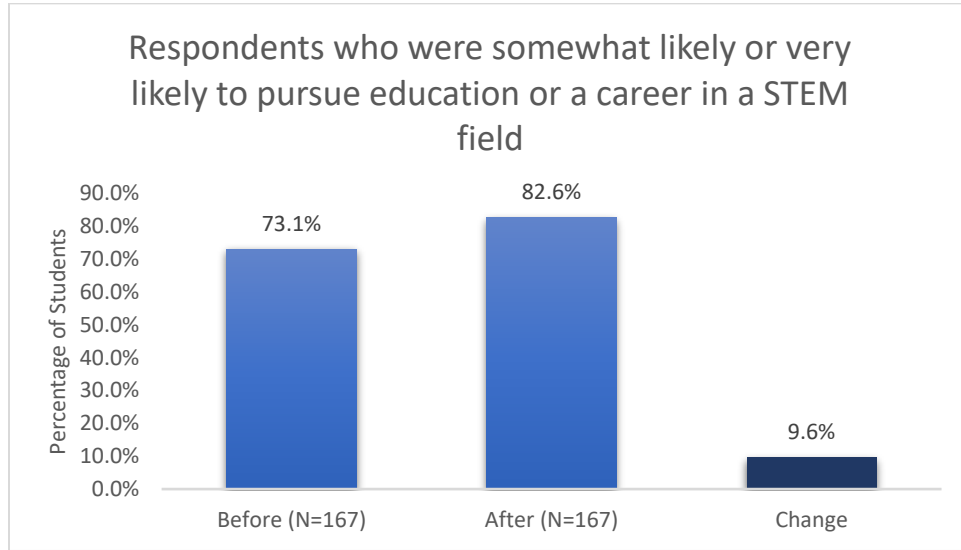


Females showed a slightly greater post-survey gain than males in the percentage of participants who knew a lot about cybersecurity careers and how to pursue them. This percentage increased 15.5% among females compared with 13.2% among males. However, males showed a higher percentage than females on both the pre-survey and the post-survey.

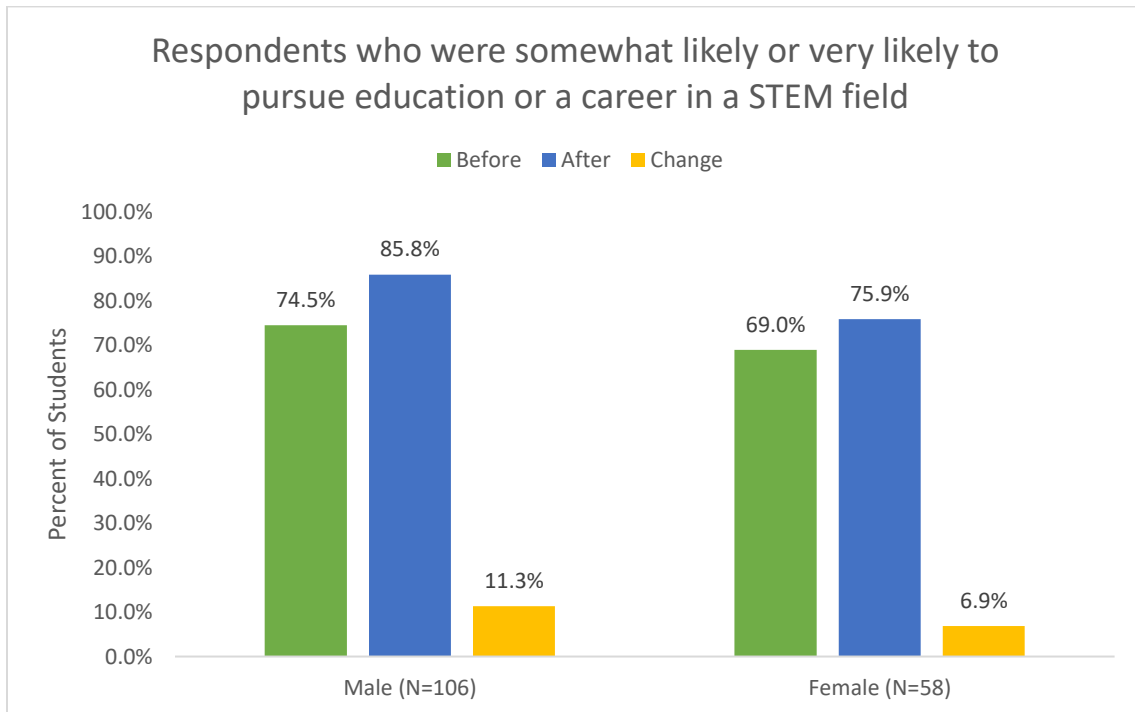


Likelihood of Pursuing an Education or Career in a STEM Field

Before the 2015-16 CyberPatriot program, 73.1% of participants perceived themselves as somewhat likely or very likely to pursue education or a career in a STEM field. This percentage grew to 82.6% after competing in CyberPatriot VII, a 9.6% gain (rounded to the nearest tenth).

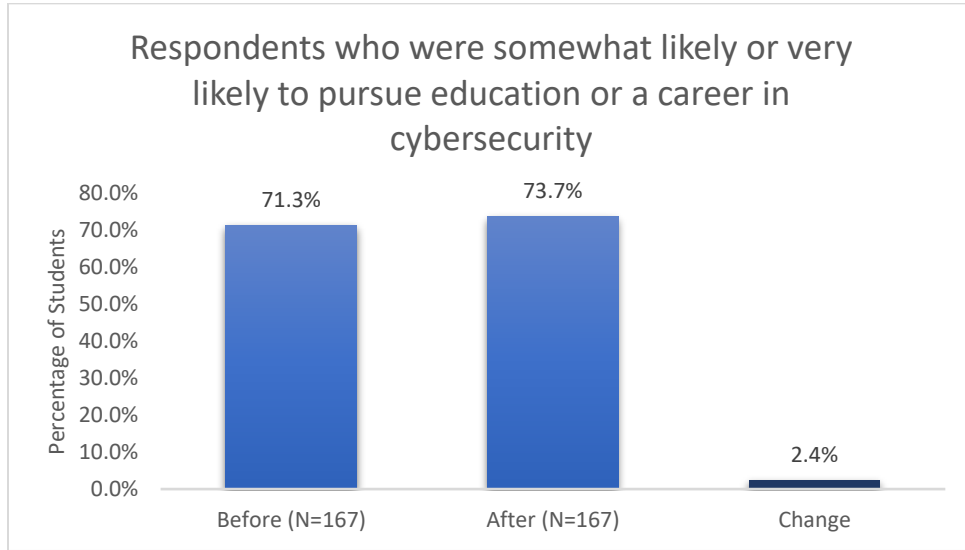


Males showed a greater post-survey gain than females in the percentage of participants who perceived themselves as somewhat likely or very likely to pursue education or a career in a STEM field. This percentage increased 11.3% among males compared with 6.9% among females.



Likelihood of Pursuing an Education or Career in Cybersecurity

Before the 2015-16 CyberPatriot program, 71.3% of participants perceived themselves as somewhat likely or very likely to pursue education or a career in cybersecurity. This percentage grew to 73.7% after competing in CyberPatriot VIII, a 2.4% gain (rounded to the nearest tenth).



Females showed a greater post-survey gain than males in the percentage of participants who perceived themselves as somewhat likely or very likely to pursue education or a career in cybersecurity. This percentage increased 6.9% among females while decreasing by 0.9% among males.

