



AFA CYBERCAMPS

SUMMER 2021 REPORT

CYBERPATRIOT
National Youth Cyber Education Program



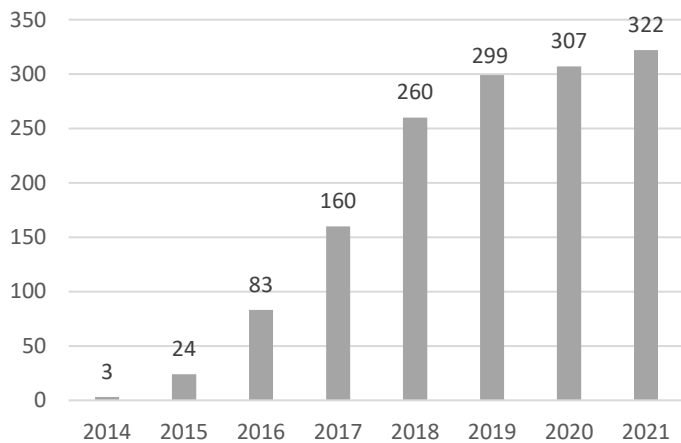
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Purpose

This report synthesizes the summer 2021 season of AFA CyberCamps. It provides camp participant demographics, effectiveness, and quality as reported in post-camp surveys of participants and instructors.

This report also tabulates recommendations for improvement received from participants and instructors. Each of these recommendations will be evaluated by AFA's CyberPatriot Program Office for possible incorporation into future CyberCamp seasons.

AFA CyberCamps



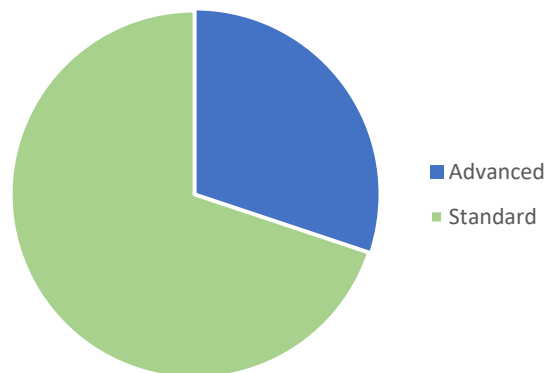
Since 2014, the non-profit Air Force Association's CyberPatriot Program Office has operated week-long CyberCamps as part of its mission to excite and motivate the nation's youth toward education and careers in STEM fields.

The popularity of AFA CyberCamps has been strong. From a modest pilot program of just three locations in 2014, the program registered 322 camp locations for the summer of 2021.



Pictured: Students participating in a Standard Camp. Photo courtesy of Marquette University and Air Force ROTX DET 930.

Of the camps registered, 225 were standard camps and 97 were advanced camps.



2021 Camp Highlights

AFA CyberCamps saw solid registration numbers for the summer of 2021. With restrictions around COVID-19 being lifted in many parts of the country, organizations were eager to offer summer learning opportunities. Between virtual camps and in-person camps, it is estimated that over 8,000 campers attended an AFA CyberCamp this summer.

To collect data on the CyberCamps, student participants were asked to complete pre- and post-camp surveys. Instructors were asked to complete a post-camp survey only. Completion of the surveys was strongly encouraged, but not required.

Standard Camps:

Standard camps are designed to provide introductory cybersecurity skills to students with little or no prior cybersecurity training. Any student with even the slightest interest in computers can successfully attend a standard camp. This year, 225 standard camps were hosted across the country. Based on the feedback received:

- 21% of camps were held virtually
- 28% female participation
- 96% of instructors rated the camp “Effective” or “Very Effective.”
- 96% of instructors indicated they would likely recommend AFA CyberCamps to a colleague (or host another camp)
- 85% of students rated their camp experience as “Good” or “Excellent”
- Student knowledge increased at least one full point across all topics covered during the week

Advanced Camps:

Advanced camps are designed to build on the skills learned in a prior standard camp or to further develop skills learned from participation in CyberPatriot’s National Youth Cyber Defense Competition. Students are expected to have a basic background in cybersecurity in order to successfully complete an advanced camp. This year, 97 advanced camps were hosted across the country. Based on the feedback received:

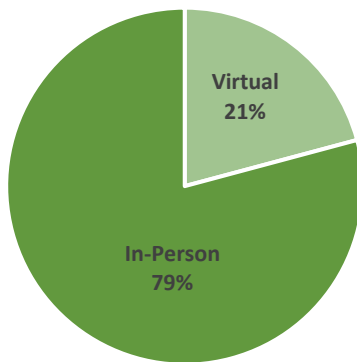
- 53% of camps were held virtually
- 27% female participation
- 100% of instructors rated the camp “Effective” or “Very Effective.”
- 100% of instructors indicated they would likely recommend AFA CyberCamps to a colleague (or host another camp)
- 89% of students rated their camp experience as “Good” or “Excellent”
- Student knowledge increased at least one full point across all topics covered during the week

Standard Camps

Camp Demographics

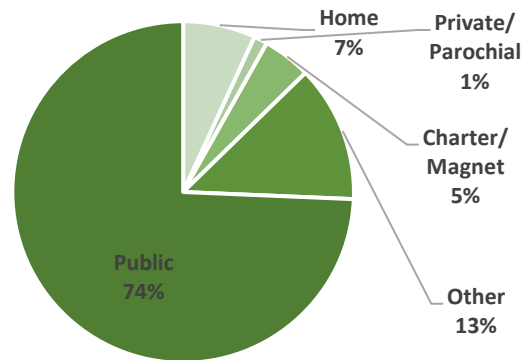
Camp Type

Camps started to rebound back to in-person lessons. Only 21% of standard camps were held virtually (24 instructor respondents).



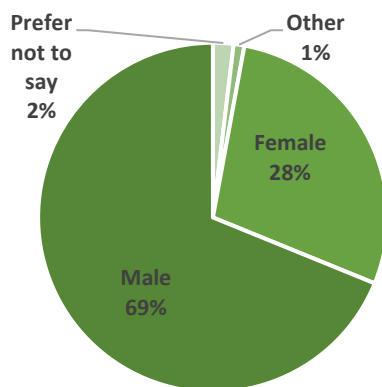
School Type of Attendees

Of the 1,210 student respondents, 74% are enrolled in public schools.



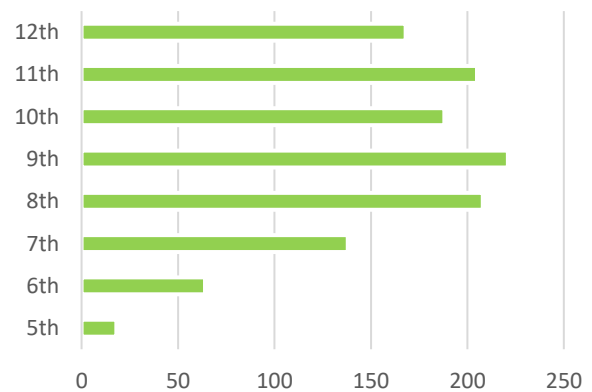
Gender

Of the 1,210 student respondents, 28% identified as female.



Grade / Age

Of the 1,210 student respondents, 33% are middle school-aged (grades 6-8). The age range of respondents is 10-18 years old.

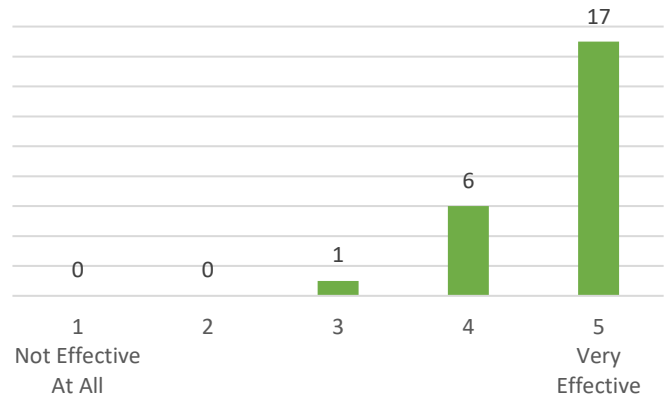


Camp Effectiveness

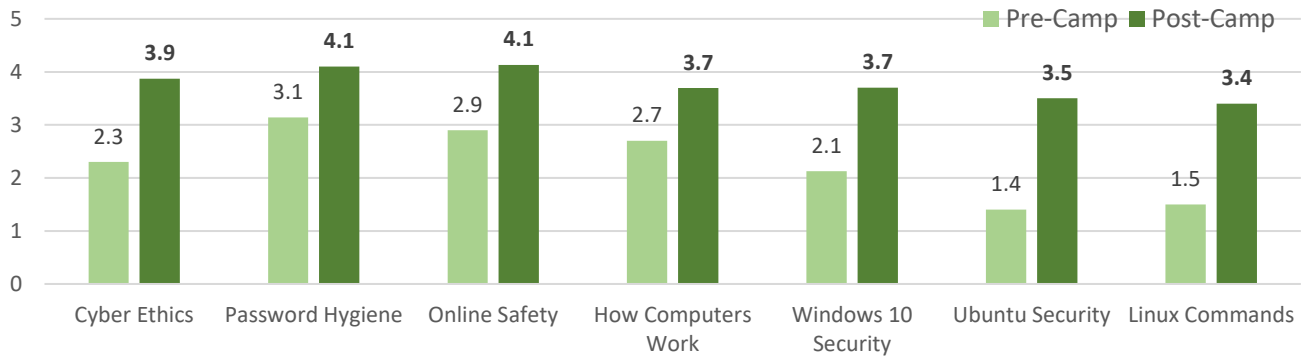
Knowledge Improvement Assessment

To measure the educational effectiveness of the camp, we asked the instructors, “Overall, how would you rate the effectiveness of this camp in improving students' knowledge of cybersecurity?” They rated on a scale of 1-5, with a rating of 1 being “Not Effective at All” and a rating of 5 being “Very Effective.”

Of the 24 instructor respondents, 96% rated the camp “Effective” or “Very Effective.”



Both before and after the camp, students were asked to rate their knowledge of specific topics on a scale of 1-5, with a rating of 1 being “No Knowledge” and a rating of 5 being “Expert Knowledge.” The average pre-and post-camp knowledge ratings show at least a full point increase in knowledge across every topic after completing the camp.

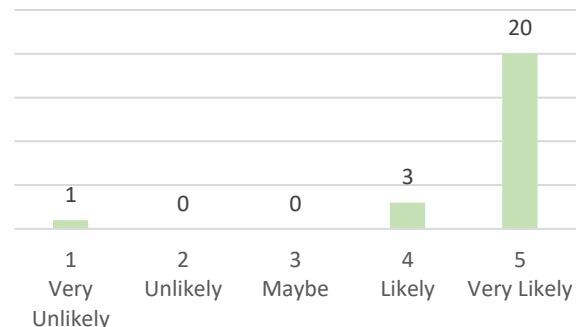
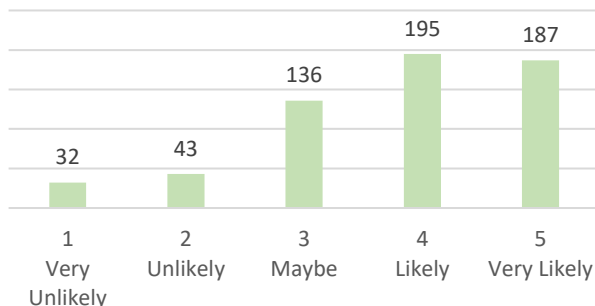


General Camp Ratings

To measure the overall camp experience, students (593 respondents) and instructors (24 respondents) were asked how likely they would be to recommend an AFA CyberCamp to a friend or colleague. In total:

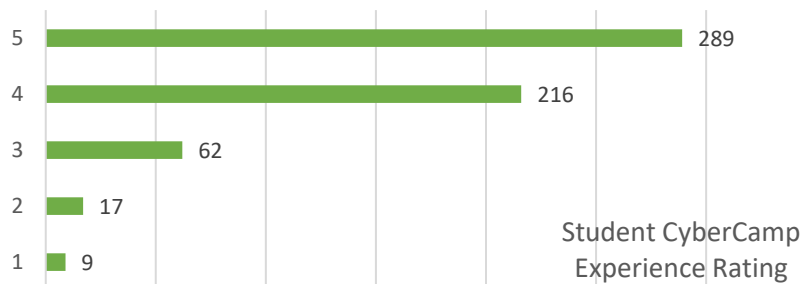
65% of students would recommend to a friend

96% of instructors would recommend to a colleague



In total, 85% of student respondents gave “Good” or “Excellent” ratings to their camp experience.

(1=Very Poor, 5=Excellent)



Takeaways – Comments

Camper Comments

“I feel that the group as a whole was able to grow closer together and new friendships were created between the cadets. I have a very strong feeling that once we start up again, we can get many more people who are interested in all this. I think that if we want to have a stronger relationship between the cadets, we should try to do activities outside of school that will allow everyone to get a better understanding of one another.”

“I loved this place it was amazing and cool loved Kahoot! quizzes and the videos were very cool as well.”

“This CyberCamp Program is amazing and will be helpful in the future.”

“Overall, this camp was very exciting, as well as it helped me understand how certain software work, as well as teamwork, communication, and dedication also!”

“This isn’t an improvement; I just want to say thank you so much for making the camp so fun and enjoyable and I definitely hope to see you all again next year in cyberspace :)”

“This camp was fun, and it helped spark my interest in computers.”

Instructor Comments

“We did both in-person and virtual camps in 4 locations across Michigan and love the improvements you have made to the workbook! Thanks for all the support.”

“Great curriculum looking forward to hosting another next year.”

“The Kahoot! quizzes were one of my favorite activities to administer and watch. It was always hilarious. Would love them for each section to reinforce learning.”

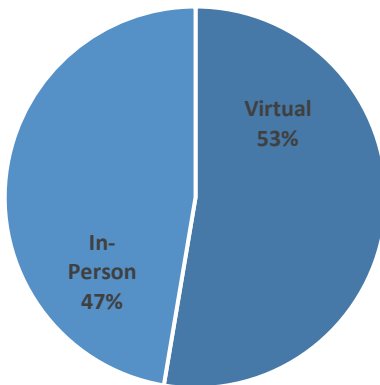
“Everything was pretty easy to follow and implement.”

Advanced Camps

Camp Demographics

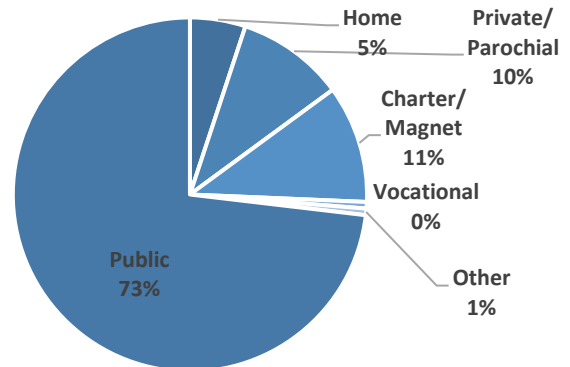
Camp Type

The majority of advanced camps were held virtually. (10 instructor respondents)



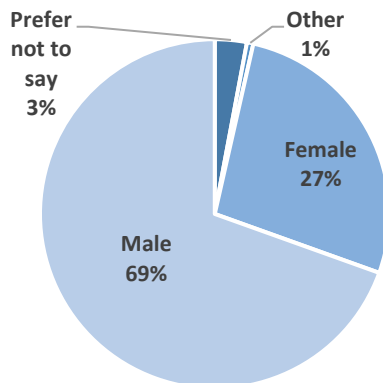
School Type of Attendees

Of the 338 student respondents, 73% are enrolled in public schools.



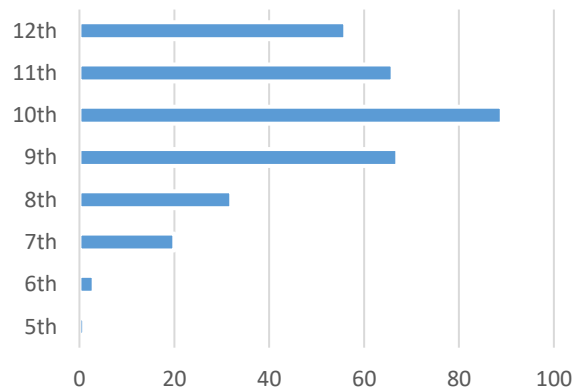
Gender

Of the 338 student respondents, 27% identified as female.



Grade / Age

Of the 338 student respondents, 82% are high school students (grades 9-12). Advanced camp registration had one participant in 5th grade.

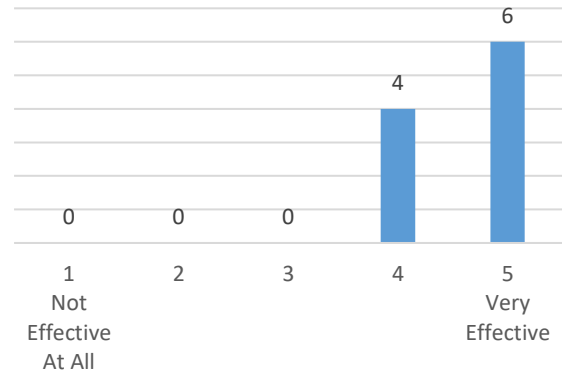


Camp Effectiveness

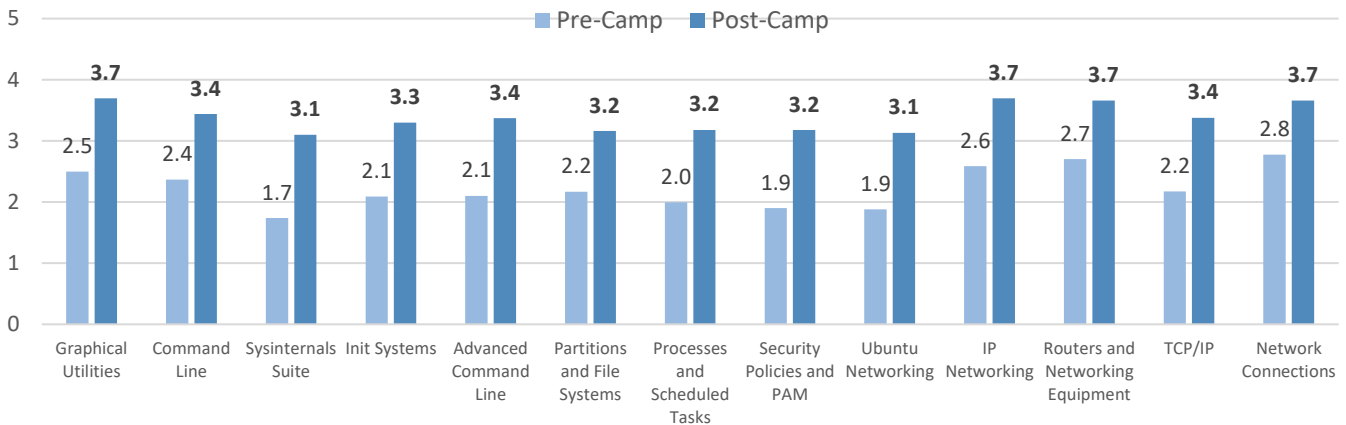
Knowledge Improvement Assessment

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Of the 10 instructor respondents, 100% rated the camp “Effective” or “Very Effective.”



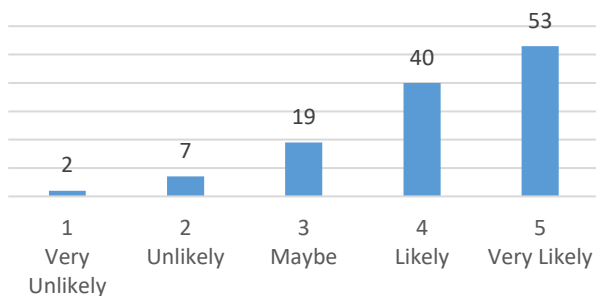
Both before and after the camp, students were asked to rate their knowledge of specific topics on a scale of 1-5, with a rating of 1 being “No Knowledge” and a rating of 5 being “Expert Knowledge.” The average pre-and post-camp knowledge ratings show a full point increase in knowledge across nearly every topic after completing the camp.



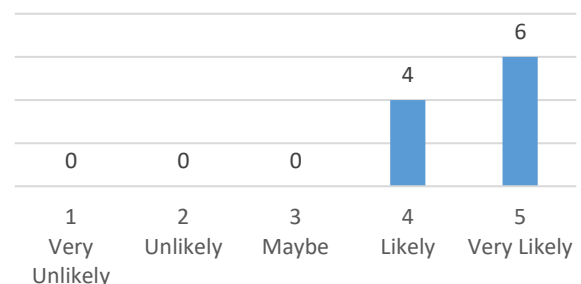
General Camp Ratings

To measure the overall camp experience, students (338 respondents) and instructors (10 respondents) were asked how likely they would be to recommend an AFA CyberCamp to a friend or colleague. In total:

77% of students would recommend to a friend

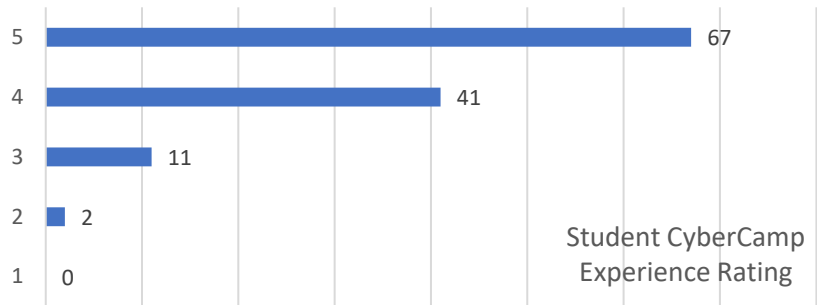


100% of instructors would recommend to a colleague



In total, 89% of student respondents gave “Good” or “Excellent” ratings to their camp experience.

(1=Very Poor, 5=Excellent)



Takeaways – Comments

Camper Comments

"It challenged my mind but now I know how to keep my computer system safe"

"I had a lot of fun learning about Cybersecurity topics! In addition, there was a lot of information and materials that I learned which can help me in later competitions."

"I really enjoyed the demo images. I have always had a hard time with Windows, and it really expanded my knowledge on the subject!"

"I liked that there were lots of activities; I only wish there had been more time to cover material."

Instructor Comments

"This was a wonderful experience! Thank you!"

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**CyberPatriot is the Air Force Association's
National Youth Cyber Education Program.**

**For additional information, visit
www.uscyberpatriot.org**