



WiCyS 2021

Evaluation Report – October 2021

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**PREFERRED PROGRAM
EVALUATIONS**
"Unlocking Program Potential"

WiCyS 2021 - Background

The WiCyS annual conference is regarded as the flagship conference for women in cybersecurity, and is the largest cybersecurity conference with equal representation of students and working professionals. The conference is organized and held in accordance with the mission of WiCyS: to help organizations recruit, retain, and advance women in cybersecurity – all while creating a community of engagement, encouragement, and support.

WiCyS 2021 was held on September 8-10, 2021 at the Gaylord Rockies Resort in Aurora, Colorado. Registration for the much-anticipated event reached capacity a mere four hours after the general registration window opened. This year's event – the eighth annual WiCyS conference – was a wash in opportunity and excitement, as it represented the first engagement of its kind for many attendees who had not traveled or participated in a face-to-face conference since the beginning of COVID-19. WiCyS 2021 operated at a reduced capacity in order to ensure social distancing and mask protocols could be enforced.

WiCyS 2021 attracted 1,315 individuals, 750 of whom attended courtesy of a student scholarship. Travel stipends were granted to 203 deserving attendees, and 32 competitive faculty grants were awarded. Eighty-four veterans participated in the conference, and 53 of them were recipients of a veteran fellowship award. The event proudly showcased its 87 sponsors spanning seven tiers of financial support. Over 300 volunteers and members from more than a dozen conference planning committees contributed to the event in various capacities before, during, and after the three-day conference. WiCyS 2021 was attended by 95 recruiters, most of whom were present during the Career Fair held in the convention center's exhibit hall.

This year's conference schedule featuring a variety of tracks and sessions was purposely designed to target the interests of attendees ranging from college students to seasoned practitioners. The conference schedule was available via the WiCyS website and the Whova app. Via the app, registrants could also browse the conference program, view speakers and sponsors, connect with one another, and ask questions.

Lightning talks, workshops, keynotes, presentations, technical sessions, and Capture the Flag were some of the forums available for attendees to learn, explore, practice, and apply their knowledge and skills. Attendees were encouraged to network with one another during meetups, information sessions, and leadership events. A total of 25 undergraduate and graduate students presented their research during the poster session, and six students were awarded first place, runner up, and honorable mention during the closing luncheon.

The Career Fair and Career Village were open to all registrants on September 9, 2021. Exhibitors shared information about their companies/institutions, provided information about job and internship opportunities, collected resumes, and distributed swag to passersby. Some sponsors even conducted on-the-spot interviews. Students were given the opportunity to have their resumes reviewed by an experienced colleague, sit for professional headshots, and participate in mock interviews to improve their confidence and readiness.

WiCyS 2021 - Evaluation

WiCyS partnered with Blake Urbach of Preferred Program Evaluations to conduct an evaluation of this year's conference. Ms. Urbach was in attendance throughout the conference and engaged in informal interviews with participants. The purpose of the evaluation was to better understand the experience, value, and impact of the conference among its stakeholders, and to inform future WiCyS conferences.

The post-conference participant survey was designed in SurveyMonkey, and at the conclusion of the conference the survey weblink was distributed to all 1,315 attendees. A total of 447 participants responded to this survey (response rate of 34%). Similarly, a weblink to the sponsor survey was emailed to all 87 conference sponsors once WiCyS 2021 concluded. A total of 19 sponsors responded to this survey (response rate of 22%). The findings from the post-conference participant and sponsor surveys are provided in the results dashboards starting on page four of this report.

WiCyS 2021 – Informal interview summary

The evaluator spoke one-on-one with several dozen conference sponsors during her informal interviews. The sponsors were excited to be participating, and commented on the conference's ability to merge employers and entry-level job seekers in an immersive event. When asked why they chose to participate in WiCyS 2021, sponsors shared:

- We have a commitment to diversifying our workforce
- We have diversity and inclusion initiatives in place
- We are focused on hiring women and underrepresented groups in cybersecurity
- Branding
- We do not have enough talented people to fill our positions
- We want people to know we are committed to keeping their information secure
- This conference offers us a presence in front of a very talented audience of female job seekers
- We are a small firm, and it is difficult for us to compete with large companies that have broad name recognition

- This is an avenue for us to market ourselves to students and employees; to show what sets us apart and makes us a unique place to work
- We are actively recruiting for internships and employment openings

Nearly all of the employers at the Career Fair had internship opportunities for students. Several employers noted that students who satisfactorily complete an internship with their company are practically guaranteed full-time employment. A few companies noted they were conducting interviews at the conference and, if the right candidate came along, they would hire there and then.

Some of the sponsors were collecting paper copies of resumes. All of them were directing students to their website and/or QR code to submit electronic applications and resumes. A few of the sponsors had difficulty getting the QR code on their conference name badge to function as designed.

Several sponsors were encouraging their booths' visitors to connect with them on LinkedIn. One interviewee shared that several students indicated they had already applied to a job at his company (pre-conference). He asked each of these students to contact him via LinkedIn, and he intended to personally review their applications in the coming week. His desire was to ensure these students' applications received his attention and didn't get lost in the "digital shuffle."

A female interviewee remarked that she was recruiting outside the scope of cybersecurity, and considering STEM graduates in general. She was seeking employees with organization, drive, creativity, and passion. "The rest – the cybersecurity skills – can be taught." One industry partner mentioned that her company's presence at the Career Fair was twofold: to recruit students for available positions, and to showcase their commitment to protecting customers' online financial data.

Several sponsors in attendance were recruiting students for their institution's graduate programs in cybersecurity. One sponsor was delighted to share how much her company gained from its ongoing partnership with WiCyS. She spoke favorably of WiCyS' professional development engagements, and noted that her company's employees were serving as both mentors and mentees in the WiCyS Mentorship Program. Additionally, the job board/posting was crucial to finding cyber talent year-round.

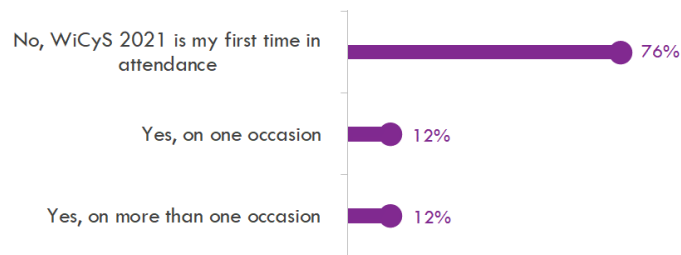
For one of the interviewees, WiCyS 2021 represented his first time at a WiCyS conference. He didn't realize that the conference attracted students and early-in-career job seekers. He plans to have a booth at the career fair during WiCyS 2022, as his company has many openings and would benefit from recruiting at this signature event for women in cybersecurity.

WiCyS 2021 Participant Survey Results Dashboard – September 2021

The WiCyS 2021 participant survey was designed to assess the experiences and perceptions of conference participants, and to inform future WiCyS conferences. At the conclusion of the conference the survey weblink was distributed to all 1,315 participants of WiCyS 2021. A total of 447 conference participants responded to the anonymous survey in whole or part. Among respondents who provided their gender, women accounted for 93%, males made up 4%, and non-binary or bi-gender participants totaled 3%.

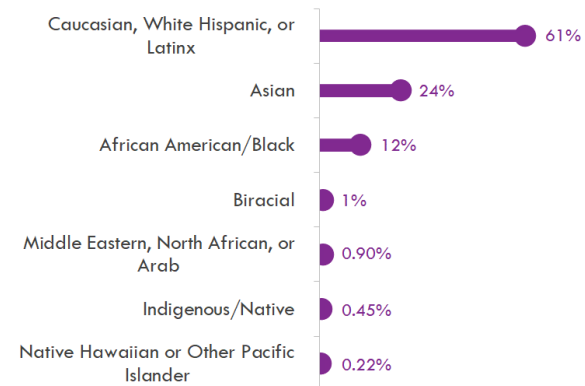
RESPONDENTS BY CONFERENCE ATTENDANCE

For three-quarters of respondents, WiCyS 2021 represented their first time participating in a WiCyS annual conference.



RESPONDENTS BY RACE/ETHNICITY

Approximately 39% of respondents identified as a racial or ethnic minority.

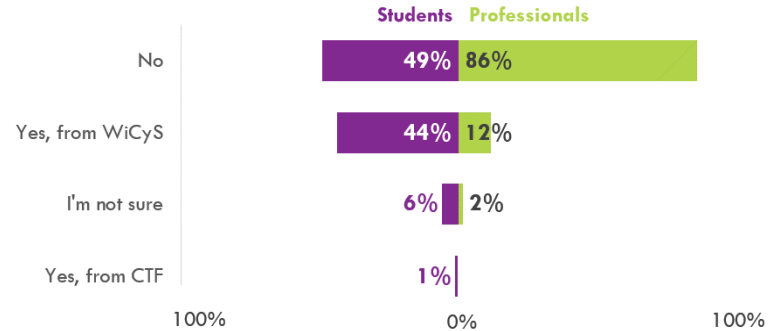


WiCyS 2021 Participant Survey Results Dashboard – September 2021



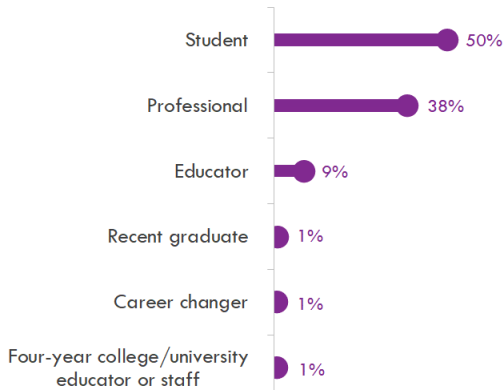
RESPONDENTS BY RECEIPT OF TRAVEL STIPEND

Nearly half of the student attendees and 12% of professionals (across all sectors in attendance) received a travel stipend to attend WiCyS 2021.



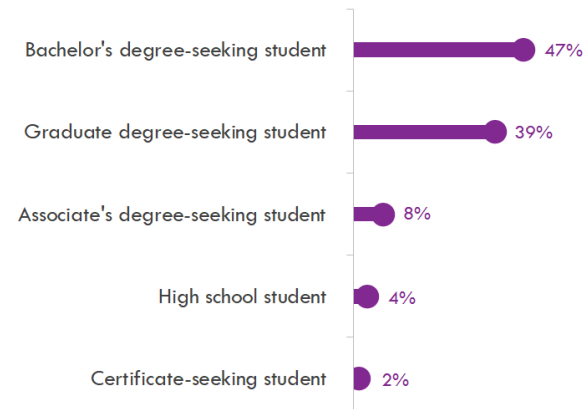
RESPONDENTS BY ROLE

Half of the respondents identified as students, and 38% identified as working professionals outside of the education sector.



RESPONDENTS BY EDUCATIONAL STANDING

Nearly half of student respondents were pursuing a bachelor's degree, and another 39% were enrolled in a graduate degree program.

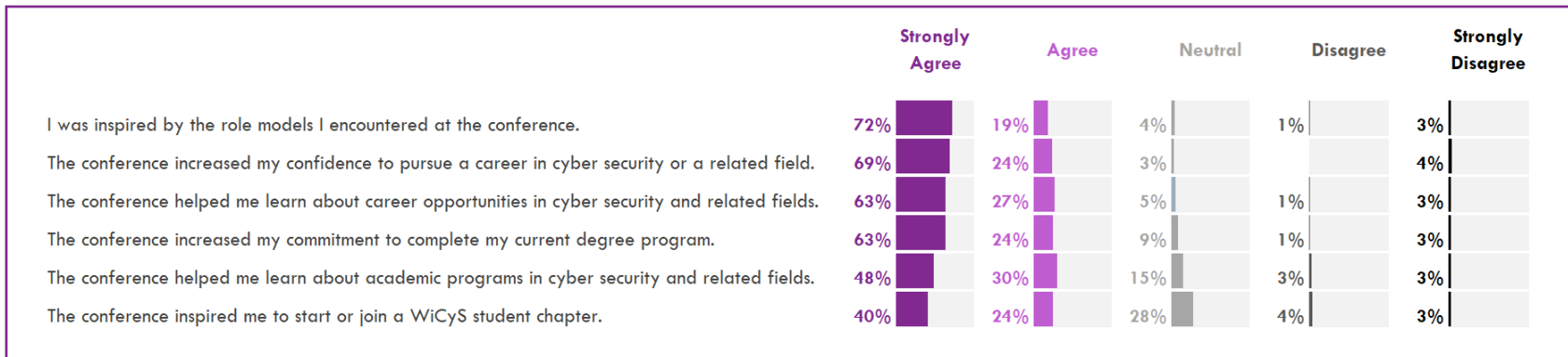


WiCyS 2021 Participant Survey Results Dashboard – September 2021



STUDENT-CENTERED CONFERENCE UTILITY

Respondents who identified as students were asked to rate the influence of attending WiCyS 2021 on their academic pursuits. Over 90% of respondents reported feeling inspired by the role models they encountered during the conference. Nine out of 10 respondents also experienced a gain in self-confidence and knowledge of careers in cybersecurity. Nearly two-thirds of students indicated their interest in starting or joining a WiCyS student chapter.

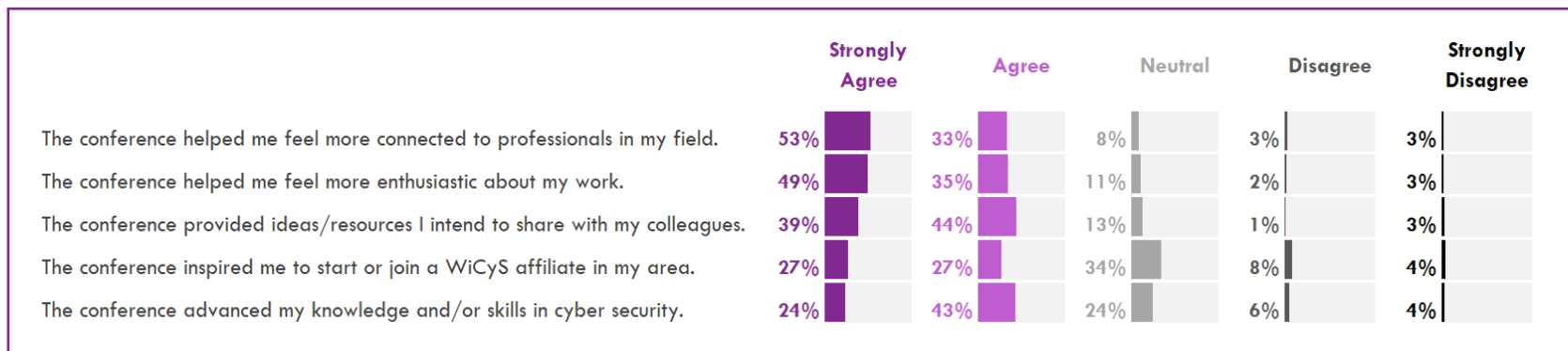


WiCyS 2021 Participant Survey Results Dashboard – September 2021



PROFESSIONAL-CENTERED CONFERENCE UTILITY

Respondents who identified as professionals (across all sectors in attendance) were asked to rate the influence of attending WiCyS 2021 on their professional pursuits. Eighty-six percent of respondents reported feeling more connected to professionals in their field, and over 80% intend to share ideas and resources from the conference with their colleagues. Over two-thirds of these attendees gained knowledge or skills in cyber security, and more than half expressed interest in starting or joining a WiCyS affiliate.

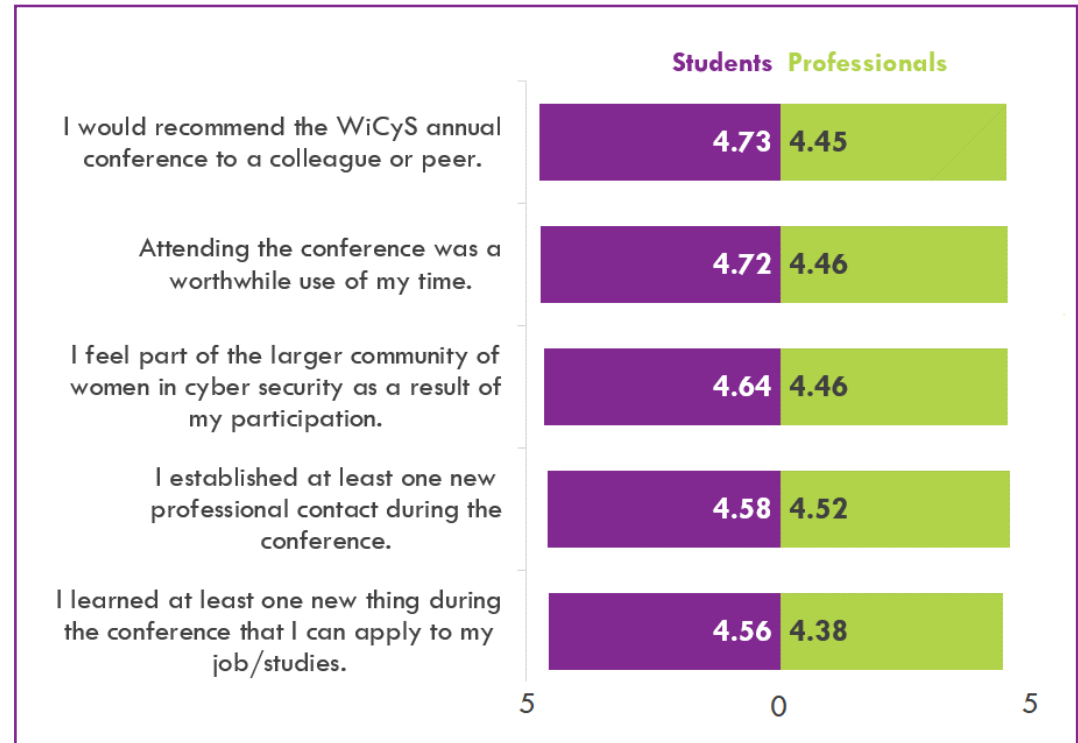


WiCyS 2021 Participant Survey Results Dashboard – September 2021



ATTENDEE PERSPECTIVES ON WICYS 2021

Using a scale of “strongly agree” (5) to “strongly disagree” (1), respondents were asked to rate the structure, composition, logistics, and value of WiCyS 2021. The weighted average for students and professionals highlights the experiences of these two groups of attendees. Participants gave high marks to the conference’s networking opportunities, inclusive environment, and community-building. Students and professionals found WiCyS 2021 to be a worthwhile engagement offering practical takeaways for their studies or job.

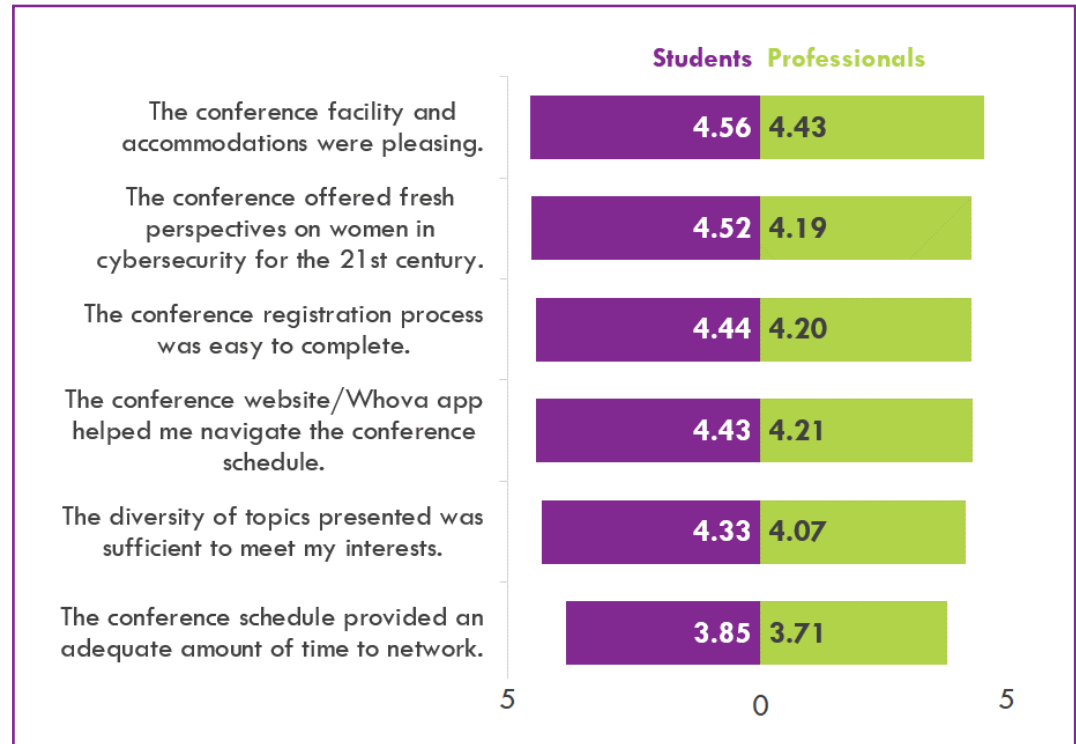


WiCyS 2021 Participant Survey Results Dashboard – September 2021



ATTENDEE PERSPECTIVES ON WICYS 2021 (CONTINUED)

Attendees were pleased with the accommodations and the ability of the conference to offer fresh perspectives on women in cybersecurity. Providing a greater variety of presentation topics, scheduling designated blocks of time for networking, and offering more guidance on the use of the Whova app are items for consideration in future planning.

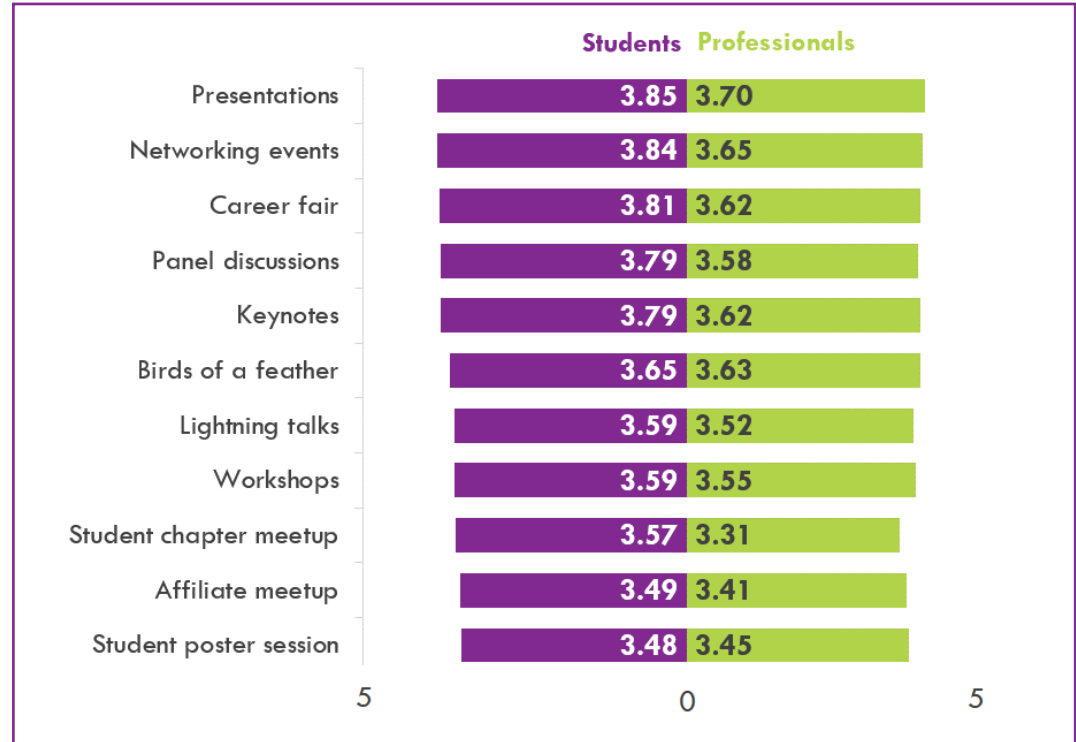


WiCyS 2021 Participant Survey Results Dashboard – September 2021



ATTENDEE PREFERENCES ON CONFERENCE FORUMS

Using a scale of “strongly agree” (5) to “strongly disagree” (1), respondents were asked to rate the value of conference forums offered as part of WiCyS 2021. The weighted average for students and professionals highlights the preferences of these two groups of attendees. (“Not applicable” was eliminated from the calculation.) The highest ranked forums among students and professionals include presentations, networking events, and career fair. Students were more likely than their counterparts to favor panel discussions and keynotes.



WiCyS 2021 Participant Survey

Results Dashboard – September 2021



Explain how attending WiCyS 2021 benefited you personally and professionally

“It helped me to determine my career path.”

“Increased my network”

“I met some amazing women and I’m feeling inspired to continue my journey in changing careers into Cybersecurity.”

“I made a lot of network connections and discussed job opportunities with sponsors.”

“Huge learning experience and met lots of kind and brilliant people”

“As a cyber professional it is fantastic to meet those outside my organization”

“Always an inspiring event that motivates my work”

“It helped me connect with new talents and learn more about how I can bring information to others that are interested in pursuing a career in CyberSecurity”

“Found several candidates for my company and met fellow Cybersecurity professionals.”

“This was my first WiCyS conference. It was one of the few times I was in a room of female fellow professionals and students who could be counted on one hand. I made more connections here than I have in 3 years in school and almost 4 years as a professional in the field.”

“Meeting people, learning in workshops. Everything I did was another signal that I’m on the right path for my next career step.”

WiCyS 2021 Participant Survey

Results Dashboard – September 2021



Explain how attending WiCyS 2021 benefited you personally and professionally

“Growth! I grew personally and professionally. I made new connections through networking. An attendee at the workshop I gave has asked me to apply for a job at his organization. I’ve been asked by another of my workshop attendees to help his team members at work better understand how to use a technology I presented. I’ve been asked to share my expertise. How mind-blowing is that?! Both of these opportunities I now have exist because of WiCyS.”

“I always recommend this conference to many colleagues and always gain so many connections & knowledge. I especially love engaging with the students.”

“I made a lot of connections with companies all under one roof!”

“I’m inspired by the women role models in cybersecurity. They make me feel more confident pursuing my career in cybersecurity. I realize that a woman has no limitations. She can undertake any role and achieve anything she wants.”

“A lot of network growing with peers and potential mentors from many places. Something which shows a higher level of commitment. A better idea of how to take charge of career and education direction.”

“Before I came to the conference, I felt mentally exhausted from all of the applications I have put out there to only get rejection emails in return. I felt alone, being the only girl in my cybersecurity courses. Now, I feel proud and alive again! Motivated! Empowered! I just wanted to cry of enjoyment after it was all finished. I hope to attend many more WiCyS conferences here on out. Attending this conference has helped me a lot. It has thought me to not be afraid of going towards what I want.”

WiCyS 2021 Participant Survey

Results Dashboard – September 2021



Explain how attending WiCyS 2021 benefited you personally and professionally

“This gives me a better perspective on where my concentration should be”

“Due to Covid and being the parent of an unvaccinated child, I will not be attending school this semester. My goal is to find a remote paid internship, and I met and exchanged contact information with 2 recruiters in passing conversation during meal times. I had a seat at the table! It has been incredible.”

“Opportunity to meet professionals I’ve only known on social media or zoom/Teams. Made important contacts and helped students with informal mentoring.”

“I am more affirmed to believe in my self and my career transition to the field”

This conference benefited me greatly because I’m an undergraduate student who is completely new to Cyber. I feel the pressure, as a senior, to learn as much about Cyber as possible. It offered me insight on which specialties within Cyber there are, allowing me options to choose from, not just hacking.”

“I feel confidence to pursu[e] my career in Cybersecurity field. The workshops, the speakers, the orientation, the resources that WiCyS provide us are amazing and very useful and informative. I gain[ed] so much knowledge and network from this event. I would recommend WiCyS to my fellow student when I’m back to campus and I definitely would like to attend WiCyS conference every year.”

“I met so many role models and I was inspired every second of the conference.”

WiCyS 2021 Participant Survey

Results Dashboard – September 2021



Explain how attending WiCyS 2021 benefited you personally and professionally

“Meeting other women who are on the same journey and had similar starts to their journey has made me feel so comfortable moving forward in my career. I learned so much from the workshops and keynotes and I feel that as I take time to build my portfolio, I’ll be able to keep those connections with some of the professionals that I’ve met and even work with one some day.”

“Knowing that I am not alone is extremely reassuring that I can be in this field. Also, I know that anyone can submit a research paper or talk to the conference and hope to do so in the near future.”

“I really enjoyed the Federal Scholarship Info Session hosted by Dr. Ambareen Siraj, I am AMAZED by the abundance of resources and funds available by the federal government. Because of this, I now know where to look at and where to apply for my graduate studies in cyber . . .”.

“I felt supported, learned new things, improved my resume.”

“I pivoted into cyber from a non-cyber field, and did so during covid. Because I work remotely, I’ve met only one person from my company in person. WiCyS helped me feel connected to and enthusiastic about the wider cyber security community.”

“I feel more confident and part of a greater community”

WiCyS 2021 Participant Survey

Results Dashboard – September 2021



Suggestions for improving the WiCyS annual conference

“Allow the app the capability to register for events versus having to go the website. There was much confusion on that. Signing up via the app did not mean one was signed up for an event. Very frustrating, missed a day (approx. 3-4)) of events because I signed up via the app and not the website so my name was not on the attendee list and I was not able to enter the conference room.”

“The WiCyS website isn't user friendly for downloading resumes. We need a process to download in bulk; otherwise, it's an inefficient process that takes days to download 2,000+ resumes.”

“Not much beyond just more time! I love all the options presented I just wish I didn't have to skip out on so many of them as you can only be one place at once.”

“I think we needed maybe one additional day so that the presentation, workshops, and keynotes were not so close in time and that everyone who wants to attend could.”

“Directions, instructions for transportation to and from airport/venue and schedule were not clear enough. Linking to local schedules for shuttles, timings, clean instructions and signs will come is handy for attendees.”

WiCyS 2021 Participant Survey

Results Dashboard – September 2021



Suggestions for improving the WiCyS annual conference

“It would be better if there were demos during ctf session, so that attendees wouldn't be clueless during the competition later on.”

“I wish there could be longer hours allotted for career fair or could have extended the career fair for two days. This is not a big deal BUT I find the keynote speaker Morgan Adamski's speech triggering, while there is nothing wrong with the 9/11 incident being her motivation to enter into cybersecurity, by only emphasizing foreign extremism being the biggest threat to US national security is divisive and certainly disturbing . . .”.

“I think the career fair employers should do on the spot interviews and hiring not just tell everyone to apply online.”

“Ensure that the site is willing to accommodate those with handicaps or age-related issues. Denver site was extremely spread-out and very few places to sit and rest when moving between rooms.”

“A way people who have medical or disabilities can purchase an extra pass so their aid can attend that is helping them.”

“Vegetarian food option can be improved, main course was a bunch of vegetables mostly”

“The doors closing on attendees and not being able to attend meals even though many seating spots (with served salads) were available.”

WiCyS 2021 Participant Survey

Results Dashboard – September 2021



Suggestions for improving the WiCyS annual conference

“Make the schedule easier to read and allow people to 'save' sessions so they can create a personalized schedule. On the last day, when people have checked out of their rooms, don't leave large gaps between events - there's nothing for people to do. I left Friday morning because of it.”

“Not enough seating or availability in many of the sessions; several times, all active sessions were overflowing with people, leaving groups of attendees without a session. Social distancing wasn't just hard, but nearly impossible.”

“Not enough power outlets in *session spaces* (would be a great opportunity for a sponsor to provide power towers in the session spaces)”

“The interview rooms were not obvious for attendees. Raytheon hung up a company tshirt outside the door to direct interviewees.”

“The talks given could be more technical. Sessions on empowerment are great and definitely useful but there seemed to be a lot more of those than I expected and less on the technical aspects of security.”

“Encourage more technical and community colleges to participate.”

“I would love to see a few options for sessions geared towards professionals more. Many of the how to sessions and workshops were wonderful but more beginner level to include the students. I love that they have the option to attend and learn. Would just like to see some offerings with more advanced learning.”

WiCyS 2021 Participant Survey

Results Dashboard – September 2021



Suggestions for improving the WiCyS annual conference

“The CTF could be organized or structured better - Maybe have groups of students, as in, couple proficient students with less proficient students, so there is some level of knowledge transfer. I guess there were many that were attempting to solve the challenges but there were some hiccups and there weren't a lot who could help out someone who was trying out the CTF for the first time.”

“Would also kindly suggest that speakers or any other person in general who is leading or speaking in a session will be unequivocally discernable about political statements/affiliations.”

“There seems to be a very strong focus on government industry and operational cyber. I would like to see more focus on privacy, strategy and business cyber focus areas. Even entry level jobs exist in these areas and we are hiring for them!!”

“There should be more presentations/workshops geared toward currently working professionals (they were all very basic and clearly student-oriented)”

“More workshops or presentations with technical content”

WiCyS 2021 Sponsor Survey

Results Dashboard – September 2021

The WiCyS 2021 sponsor survey was designed to assess the experiences and perceptions of conference sponsors, and to inform future WiCyS conferences and Career Fairs. The survey weblink was distributed to all 87 sponsors of WiCyS 2021 at the conclusion of the conference. A total of 19 conference sponsors responded to the anonymous survey in whole or part.

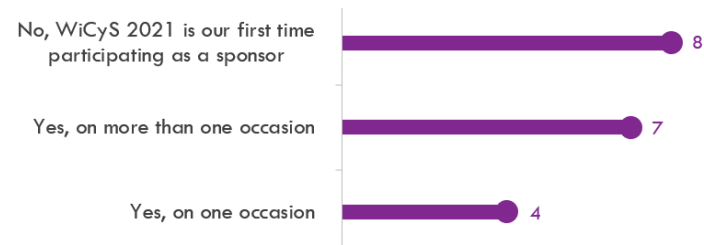
RESPONDENTS BY TYPE OF COMPANY

Forty-two percent of respondents represent a privately held for-profit business.



YEARS OF CONFERENCE SPONSORSHIP

Fifty-eight percent of respondents represent a company that has been a sponsor of the WiCyS annual conference on at least one occasion.

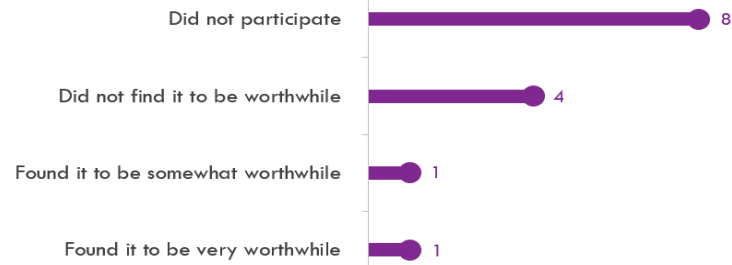


WiCyS 2021 Sponsor Survey Results Dashboard – September 2021



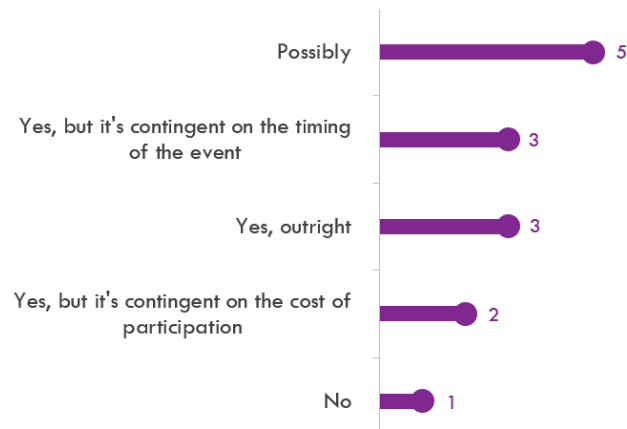
WICYS 2021 VIRTUAL CAREER FAIR

Among the six respondents who participated in the WiCyS 2021 Virtual Career Fair in August 2021, two-thirds indicated they did not find it to be worthwhile.



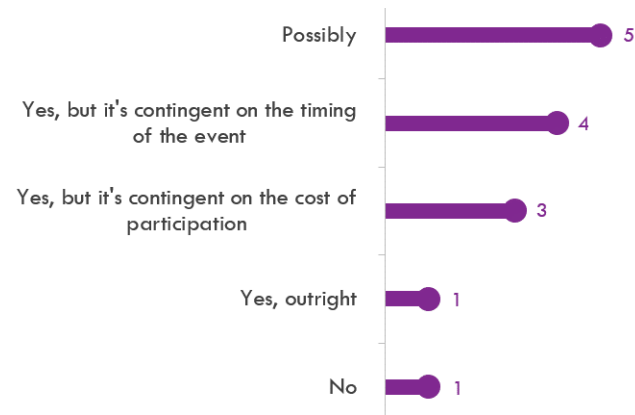
PRE-WICYS 2022 VIRTUAL CAREER FAIR

Thirty-six percent of respondents are interested in participating in the pre-WiCyS 2022 Virtual Career Fair subject to the timing and cost of the event.



WICYS 2022 VIRTUAL CAREER FAIR

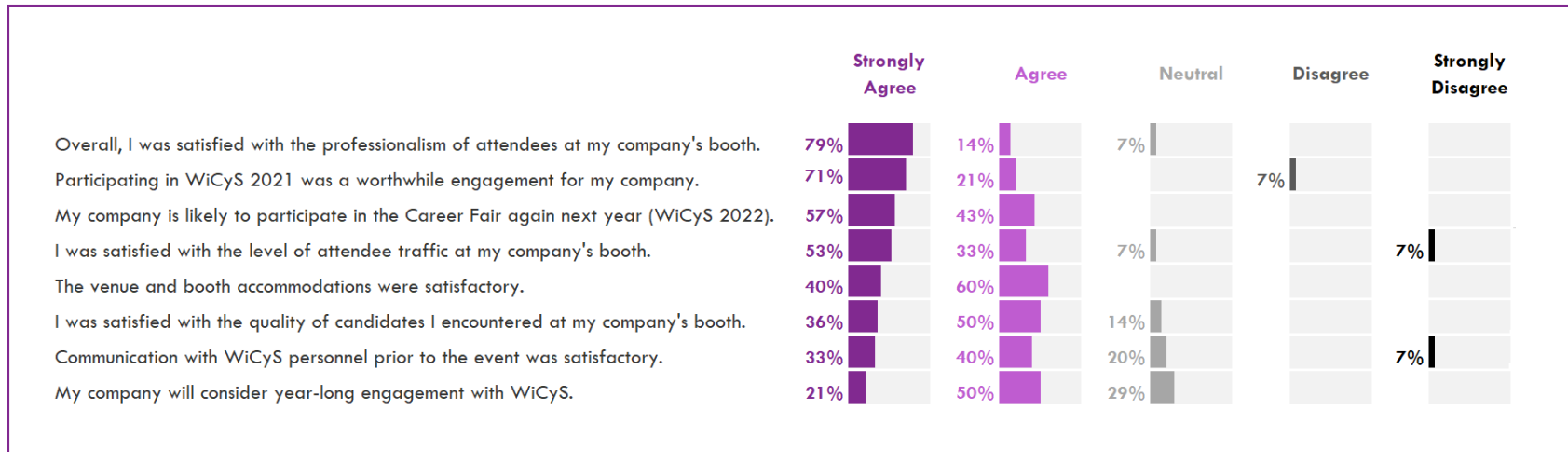
Fifty percent of respondents are interested in participating in the WiCyS 2022 Virtual Career Fair subject to the timing and cost of the event.



WiCyS 2021 Sponsor Survey Results Dashboard – September 2021



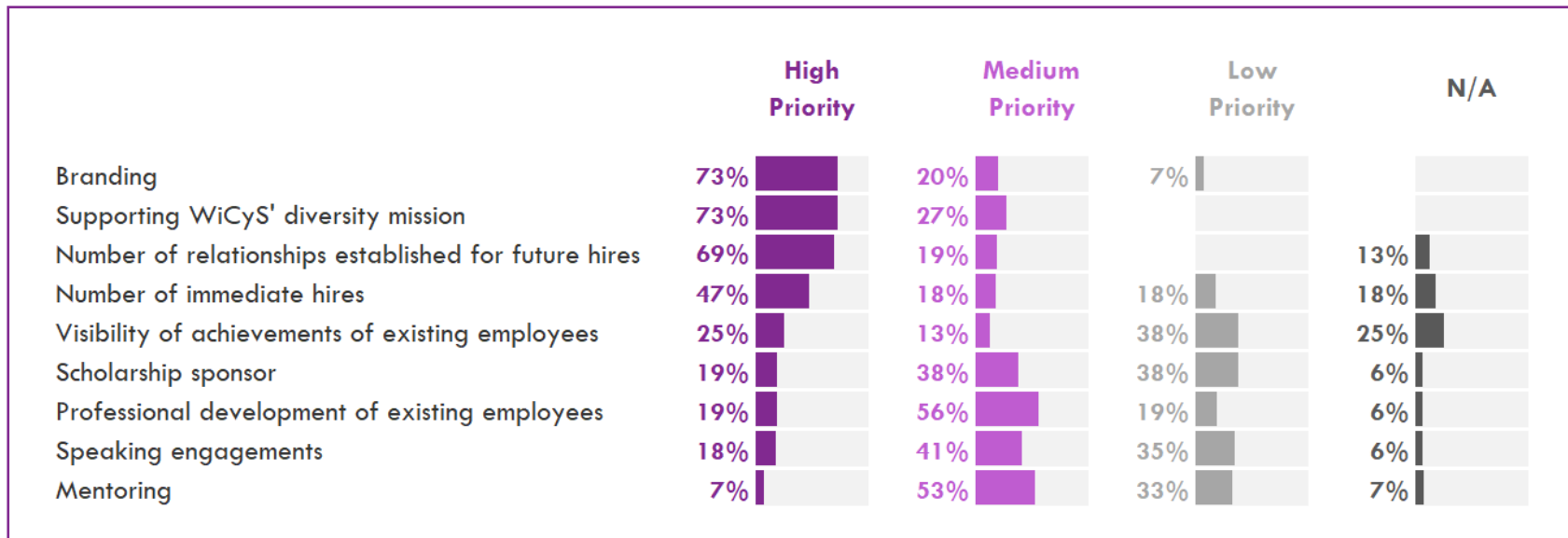
Respondents were asked to rate their satisfaction with several components of WiCyS 2021 using a scale of “strongly agree” to “strongly disagree.” Sponsors were overwhelmingly pleased with the level of attendance and their booth, and the professionalism of attendees they encountered. Ninety-two percent of respondents indicated that participating in WiCyS 2021 was a worthwhile event, and nearly three-quarters will consider a year-long engagement with WiCyS. Per 27% of sponsors, there is room for improvement regarding pre-conference communication with WiCyS personnel.



WiCyS 2021 Sponsor Survey

Results Dashboard – September 2021

Respondents were asked to rate the priority level of several opportunities as they relate to their company’s WiCyS 2021 sponsorship. The top four opportunities given a “high priority” rating were branding, supporting WiCyS’ diversity mission, establishing relationships for future hires, and number of immediate hires. The most common “low priority” opportunities include showcasing the achievements of existing employees, being a scholarship sponsor, speaking engagements, and mentoring.



WiCyS 2021 Sponsor Survey

Results Dashboard – September 2021



Respondents were asked to rate the priority level of recruiting several classifications of worker at their company. The top four worker groups given a “high priority” rating were employees with 6-10 years in the workforce, more than 10 years in the workforce, veterans, and employees with 0-5 years of work experience. More than two-thirds of respondents assigned a “low priority” rating to high school interns.

