

● AEROSPACE

Aviation careers and recruitment



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The seventh generation

Does aviation have an image problem? **STEPHEN BRIDGEWATER** speaks to the next generation of aviation professionals and argues that the problem may lay more in awareness than perception.

Since Wilbur and Orville first took to the skies in 1903 there have been six generations of aviation professionals, but where will the seventh come from? The days of an enthusiastic youngster being invited up to the cockpit mid-flight or cleaning aeroplanes in exchange for flying lessons are mostly over and, with airfield gates locked and the number of airshows dwindling, the opportunities to expose young people to aviation and engineering are few and far between.

How this is affecting the perception of aerospace as a career option is something that many have pondered and in researching this subject we spoke to six youngsters of differing ages to gauge their views. Those interviews appear in full as an Insight Blog on the Society's website and snippets are reproduced here.

While these six vox pops provide an interesting bellwether of first-person opinion, the UK Department for Transport (DfT) recently

completed a more in-depth survey of a diverse range of 2,326 young people aged 16-24 years old. The online study was designed to collect quantifiable data on how well understood and considered careers in aviation and maritime are, identify drivers and barriers to working in these sectors, and to demonstrate how those from diverse backgrounds view the industries. The results were very telling.

Exposure to aviation

Just over half (51%) of the young people interviewed had had some form of exposure to aviation. Around one in six had family or close friends that work in the field (16%), just over a quarter (27%) lived near an airport and 12% lived near other facilities, such as flying schools.

The most common aviation activity young people had engaged with was attending airshows or events (17%), followed by plane spotting (11%), Young

DOES THE MODERN AIR CADET SYSTEM EXPOSE YOUNG PEOPLE TO SUFFICIENT AEROSPACE INSPIRATION?

people were also asked if they ever travel by air and the majority (80%) said they do.

Interestingly, when asked about their exposure to aviation, 53% of young people from white ethnic groups said yes compared to just 39% of those from black ethnic groups. The mix between male and female was fairly evenly split with 53% of males replying yes compared to 49% of females and the split between socio-economic backgrounds was also reasonably even.

Careers advice

A persistent trend among our six interviewees was a lack of aerospace representation within their school and college curricula. So where are young people obtaining their careers advice in 2022? Of those interviewed as part of the DfT study, 55% said they conducted their own research online. Around half (47%) also lent on professional careers advisers, teachers (45%) or parents and guardians (50%) for information while just 30% attended careers fairs and only 28% spoke directly to employers. Interestingly, just 20% relied on social media for careers information.

Knowledge and perceptions

According to the DfT, three-in-ten (30%) young people surveyed said they would consider a career in aviation, while just over half (51%) would not. Nearly one-fifth (18%) said they did not know. Delving deeper, young men were more likely than young women to consider an aerospace career (36% compared to 24% of young women) and the DfT says the perception of aviation being a male-dominated industry and the resulting disincentive among females came through in qualitative interviews.

By ethnicity, young people from Asian British ethnic groups were less likely than their peers to consider a career in aviation (25% compared to 30% across other ethnic groups). There was

some evidence that cultural preferences for well-known, more 'traditional' careers, such as medicine, law or finance underpinned this.

The DfT also found concern about climate change to be a factor deterring young people from pursuing or staying in a career in aviation.

Qualitative interviews conducted by the DfT revealed that having a positive impact on the world was a desirable characteristic for careers, and the impact of the aviation industry on climate change jarred with this ideal. That said, some did recognise that being part of trying to better the industry in this regard could be exciting.

"As it stands at the moment, it is non-renewable and damaging towards the environment," said one 18-21-year-old white male interviewed by the DfT. "I guess I have a slight moral objection. However, I know a slight moral objection is not going to stop the sector advancing. If I worked in the sector, I could try implementing technologies that help reduce environmental impact."

Preaching to the converted

The RAeS has a thriving and successful Young Persons Network, as do organisations, such as the Air League and the Honourable Company of Air Pilots, but in conversations with their members many come from aviation backgrounds. They often have family members who are engineers, designers or pilots and many come from military families. Does that mean we are merely 'preaching to the converted'?

So what can we take away from this sample of British youngsters? Firstly, while the aerospace sector does have an image problem, it has more of an awareness problem. Some of the young people we spoke to considered themselves 'not clever enough' to become engineers or pilots but others were simply not aware of the job opportunities within the industry.

ACCORDING TO THE DFT STUDY, 36% OF YOUNG MEN COMPARED TO JUST 24% OF YOUNG WOMEN WERE LIKELY TO CONSIDER AN AEROSPACE CAREER.



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Have I thought about a career in aerospace?

George (8)

George's parents own a country pub and, like most of his year group, he plays computer games, builds Lego and has more electronic equipment than the Apollo astronauts. He's also an 'outdoors' child, happy up to his elbows in grease or dismantling his bike.

What does George want to be when he grows up? "Not sure," he understandably replied. How about a pilot? "I'm not clever enough," he suggested. What about an engineer, you like getting your hands dirty? "Maybe" he shrugged. While it is perhaps understandable that an eight-year-old does not know what he wants to do for a living, it was sad to hear that he had ruled out aviation on the grounds of a perceived need for super intelligence.

Tom (18)

Tom is studying for A Levels in maths, further maths and physics. He is passionate about the environment and described his desire to "make a difference."

"I'm hoping to pursue a career in the sciences," he explained, "and want to use those skills to help develop renewable energies."

When it came to careers advice, despite living less than ten miles from Derby, nobody had suggested that this gifted student might consider working at Rolls-Royce's aero engines division. So, would Tom consider a career in aerospace? "It had never occurred to me before," he told us. "But I think I'd like to look more into the space sector and sustainable energies."

Cally (21)

"At school I was always told I was gifted in science and maths," Cally* explained. "I had always enjoyed anything mechanical and decided to study aeronautics at university."

Cally, who describes herself as 'Black British', started her degree studies in the autumn of 2019 but immediately felt "like a fish out of water. I was one of only three girls on the course and when I looked around the lecture hall I couldn't see anybody like me. There were a few male Asian students, but I was certainly in a minority. Then the pandemic struck and we were sent home from uni. By then I had made a group of friends and was enjoying myself, but now I was uprooted and working from home. I guess there are some degrees where distance learning works, but it doesn't for a hands-on subject like mine where you need access to laboratories and – ultimately – things like wind tunnels."

Cally felt she was paying tuition fees for a course that she couldn't utilise to its full and rent on accommodation she couldn't use. She is now trying to decide whether to return to university in 2023 or pursue another career path.

When asked if she would consider studying to be a commercial pilot she laughed. "Isn't it a bit like driving a bus?" she asked. "Anyway, even if I wanted to, my parents couldn't afford to pay for the qualification and I'm already in enough student debt. The last thing I want to do is take out yet another loan just to get a qualification."

** at her request we have changed Cally's name for the purposes of this feature.*

Aaron (13)

Aaron loves computer games, racing cars and "watching funny stuff on YouTube". His teachers say he has an aptitude for science and maths and is predicted to do well in academia. "I'd like to work in motorsport when I grow up." Aaron told us, "perhaps in engineering or maybe in aerodynamics."

Why motorsport? "It's exciting and it's fast and it looks fun." Has Aaron thought about putting his interest in aerodynamics to use within the aviation sector instead? "Not really," he admitted, "but I guess that could be fun too."

Has aerospace and aeroplanes been discussed in any of his classroom subjects to date? "We learned a bit about the Battle of Britain in history," he recalled "and we did a cool thing about rockets in science."

David (24)

David qualified as a commercial pilot two years ago. "I opted not to go to university because I had no defined career goals," he revealed. "Then one evening I was watching the movie *Catch Me If You Can*, in which somebody pretends to be a pilot. I wondered how easy it would be so I started doing some research."

"For some reason I had thought you needed to be a 'Straight A' student to fly a plane, perhaps because I had a friend who had wanted to join the RAF and was rejected. However, the more I looked into the things the more it seemed to be achievable."

David's training was paid for by a combination of his savings, a loan and "the bank of mum and dad."

"In hindsight I could have been tempted into aero engineering. I always enjoyed tinkering with cars and I would have found working on airframes a great challenge. In fact, having seen how much the engineers get paid compared to my 'baby airline pilot' salary I sometimes wonder if I made the right choice!"

Lily (19)

Lily works as a teaching assistant in a primary school, but would she consider a role in aviation? "Absolutely, it's amazing," she told us, "but it seems so unattainable. It seems only open to the elite."

"Being a pilot, an aerospace engineer or a designer is just not talked about in school, I guess it's not considered a 'normal' job. It's not in the same category as 'achievable' career goals, such as being a teacher, nurse or doctor."

"If I'd wanted to become a doctor my teachers would have known how to steer my education accordingly, but if I'd said I wanted to be a pilot or an aircraft designer I would probably have had to go and do the research myself."

When we were having assemblies given by people from different colleges there was one session by BAE Systems," Lily recalls. "I did investigate an aircraft engineering course, but I felt that there was no way I was smart enough for it."



RAF Museum

Above: Smiles all-round at the RAF Museum's Summer-Time Advanced Aerospace Residency (STAAR) scheme.

Worryingly, of the 2,326 young people surveyed by the DfT, 1,172 admitted that they would not consider a career in aviation. Here's why:

Nature of reason	% citing
Not interested in it	68%
Is not a career for someone like me	31%
Too difficult/technical/difficult to get into	19%
The industry's impact on climate change	16%
I don't know what roles are available	16%
Career uncertainty in the context of Covid	14%
Wouldn't want to travel so much	13%
I don't want to work in a dirty or noisy environment	13%
Not well known as a career	13%
Fear of flying	12%
Takes a long time to train	12%
Too expensive to train/study for	11%
Is a career without much positive impact on the world	9%
Lack of flexible working	9%
Isolating role	8%
Too dangerous	7%
Poorly paid	6%
Dying industry	4%
Negative publicity about the industry	3%



Via Lily Cooper

“IF I'D WANTED TO BECOME A DOCTOR, MY TEACHERS WOULD HAVE KNOWN HOW TO STEER MY EDUCATION ACCORDINGLY, BUT IF I'D SAID I WANTED TO BE A PILOT OR AN AIRCRAFT DESIGNER I WOULD PROBABLY HAVE HAD TO GO AND DO THE RESEARCH MYSELF”

Lily Cooper, 19

Over the past decade, significant effort has been spent to ensure that opportunities to join this sector are available to all, regardless of race, religion, gender or belief. This is a great step forward but, if young people are not aware of the possibilities, that work will all be in vain. The aerospace sector is at its most exciting point in decades. Private space flight, swarming drones, eVTOLs, sustainable fuels and alternative powerplants are just a handful of the radical developments under way and Britain's aerospace industries are at the forefront of these and other advances.

Could one of Britain's 13 million under 18s be the next Frank Whittle, Kelly Johnson or Igor Sikorsky? If we do not enthuse them now, then we may never know. In the words of Lily: "Aviation and aerospace need to be talked about in schools in the same way as being a teacher, doctor or retail worker are discussed as career options. It needs to stop being perceived as unattainable but, most of all, it just needs to be discussed."

RAeS schools outreach

For more information about how the RAeS is working to promote aerospace careers visit www.aerosociety.com/careers-education/

Resources

DfT Young people's perceptions of Aviation and Maritime careers survey: <https://www.gov.uk/government/publications/aviation-and-maritime-careers-young-peoples-perceptions>.