

Attracting Young Talented Programmers to the Pharmaceutical Industry in a Post-COVID World: Adapting to the Evolving Working Landscape

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ABSTRACT

The COVID pandemic changed the world, and the Pharmaceutical Industry was not exempt from that, but perhaps in ways that were not immediately obvious, and the effects of which are now coming to fruition. The spike in popularity with remote-based working has created an office vacuum which may prove difficult to fill when the idea has spread in its appeal to junior programmers and university graduates despite their lack of industry experience, connections, and an employer's uncertainty as to their return on investment. History would argue that people junior in their careers benefit from being in an office, which evokes the questions, how do we recruit talent and build them up for their future when their fueled desire to remotely work may hinder them and the company? How does the industry adapt to changing tides and place trust in its less supervised workforce, whilst still trying to achieve client satisfaction?

INTRODUCTION

Despite reaching record numbers of placement students in the Parexel Sheffield UK office (across Statistical Programming, Biostatistics, Data Management & Technical Data Services), the retention of students post-COVID has significantly declined following years of success pre-COVID. This does not seem to be a coincidence, but rather an unexpected fallout of the pandemic which unequivocally changed the landscape as we all knew it. Nevertheless, this would be mere conjecture without the evidence to support the claim. Two questionnaires were created and distributed with two different target audiences in mind. One for Parexel staff members (82 respondents), and another for ex-placement students (23 respondents). The purpose behind this was to collate the sentiments and experiences of all respondents with respect to the impact of COVID in the workplace and identify any common trends in the respondents' attitude and behaviours towards their working environment. The information gathered was to be analysed to see if the changes forced by COVID has specifically and negatively affected students, which in so doing has caused the decline in retention. The intention behind this investigation is to adapt, learn how to improve and enact positive change where needed to the betterment of the industry and the individuals starting their careers. This paper in support of the associated poster, provides additional in-depth analysis that expands upon the results and conclusions drawn in new and meaningful ways.

WHAT QUESTIONS WERE ASKED?

Both questionnaires were carefully formulated to ask relevant questions to the intended target audience, with some similarity for direct comparisons, as well as some uniqueness for more specific considerations. Additionally, the questionnaire responses were anonymous to provide the respondents with the opportunity to give transparent and honest feedback. The prospective number of respondents varied greatly between the two questionnaires. Internally, the questionnaire was sent to over 300 staff members whom all are based out of the Sheffield office, whether they be office based or remote. In contrast, the student questionnaire was sent to 27 ex-placement students, all of whom completed their placements from the years 2020 to 2024 (5 different year groups). Provided in the table below are the questions that respondents gave their answers to.

Internal Staff Parexel Questions		Ex-Placement Student Questions	
What is your Job Title?	How does/did Working from Home affect your role (e.g. Positively)? And Why?	What year did you start your Placement?	How did you find building and maintaining connections with your fellow students? And Why?
How long have you worked at Parexel?	How likely are you to go into the office if there was an organized social/charitable event?	What Department did you work in?	How did you find building and maintaining connections with permanent members of staff? And Why?
What is your age?	How much more likely are you to participate in an organized social/charitable event if it was virtually inclusive and	Did you have the following at Parexel with whom you had 1:1's with (Mentor; Manager)?	If you had returned to Parexel (or in any other job), what would have been your working preference? And Why?

Internal Staff Parexel Questions		Ex-Placement Student Questions	
	did not require attending the office?		
Are you currently Office Based, Decentralized or a Hybrid of the two?	How do the following factors matter to you within the scope of your role and job satisfaction (e.g. A social office/work environment)? And Why?	During your Placement Year, did you work in the Office or from home?	Are there any improvements/suggestions or things you wished had been different from your Placement Year?
Did you do a Student Placement Year at Parexel?	Do you find that you are able to build and maintain connections with colleagues by Working from Home just as capably as you would if you were working in an office? And Why?	How many days a week on average were you in the office?	If you could summarize your placement year in any words, what words would you choose?
Before COVID (i.e. before March 2020), how many days a week on average did you go into the office?	If you could summarize your experience working at Parexel Pre-COVID (if applicable) in one-word, what word would you choose?	Was your Placement year directly impacted by COVID (e.g. social distancing, mask wearing)?	How much was Sports and Social a factor in enjoying your Placement Year?
Post-COVID (i.e. after March 2020 and when the office re-opened), how many days a week on average did/do you go into the office?	If you could summarize your experience working at Parexel During/Post-COVID in one-word, what word would you choose?	Do you think that your Placement year was indirectly impacted by COVID (e.g. COVID changed the office environment)?	How much did you enjoy your Placement year when considering all aspects of the job?
Do you prefer to work from Home or in an Office? And Why?	Is there any other feedback you wish to share surrounding the impact of COVID and how it changed the workplace, your role or the office?*	In what ways were you affected by COVID-19 during your Placement Year (Select all that apply, e.g. Lack of face-to-face interactions, social distancing, COVID infection)?	Is there any other feedback you wish to share about your Placement Year and Experience at Parexel?*
If the COVID Pandemic had not happened, would your working pattern have changed? And Why?		Did the effects of COVID-19 make your Placement Year experience different from what you had initially expected for an office job? And Why?	

* - Question was optional to answer

DEPARTMENTAL DIFFERENCES

The longest running placement scheme and the most successful, has been in Statistical Programming (SP). Starting in the 1990's, the placement scheme has significantly grown over time, both in the number of students being hired, and the number returning to the company. There was a spike in retention between the years 2018-2020 with 10 former SP students coming back to Parexel. The placement scheme was unquestionably in its golden era, and students were both enjoying the job as well as wanting to come back. So, what changed? And why since the COVID Pandemic, has SP seen less success in retaining their students in comparison to other departments?

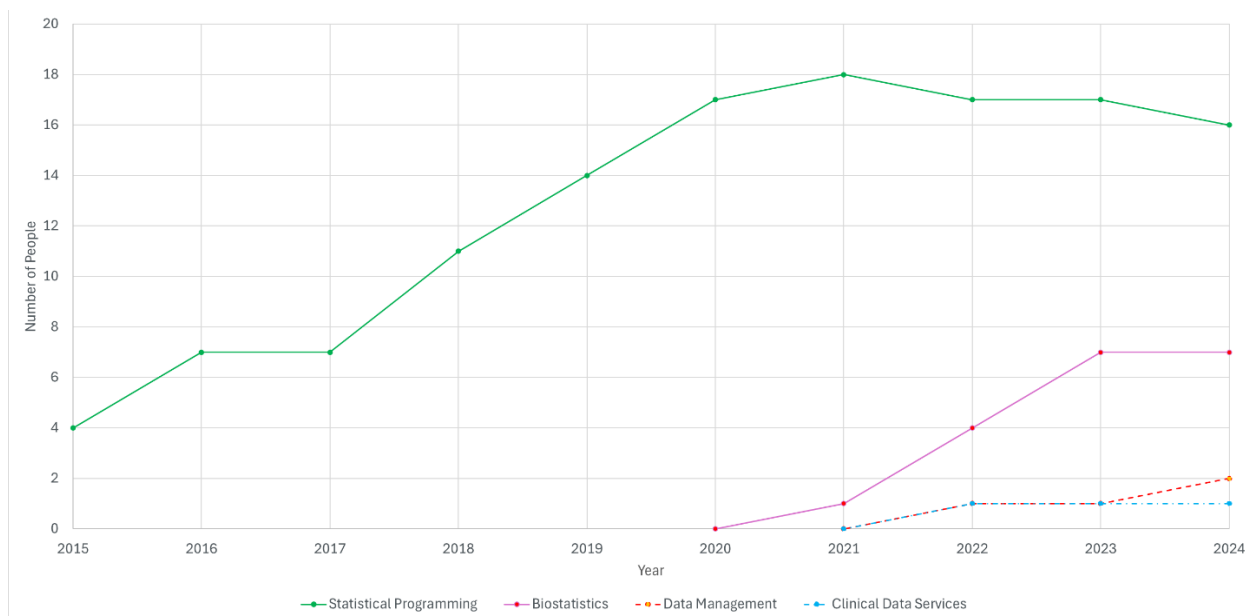


Figure 1 – Cumulative Retention of Students Across Departments

As seen in Figure 1, the number of SP students returning to Parexel peaked with 18 in 2021 before a slight decline started to occur. It is also the last year a SP student returned, with this student being one of the last to experience what office life was like before COVID (student year 2019), as well as coming from a year that had 5 students for the first time. When interpreting this data, there are a couple of possible correlations to consider that could explain the decline in retention as observed. The first is whether as suspected, COVID changed the working landscape to such a degree, that students experiences were fundamentally changed for the worse. It could be argued that given such a historical and monumental event, no one was prepared to immediately adapt to the new way of working that was thrust upon everyone during lockdowns. This would be a completely fair reaction however, how could anyone have been prepared for what happened and to instantly know how to adjust what was common office working practice? Should we therefore be kinder and more lenient with how we view this time period when COVID was at its peak, and forgive the lack of retention as we globally moved to a new world order? The answer is not that simple. As it doesn't explain that in the years since COVID when things were practically back to normal, why we have sustained a zero-retention rate of SP students. It evokes the questions, what are we possibly doing wrong and not evolving with the times in? And if we are not doing anything wrong, what is it that has changed?

What is interesting, is that 3 other departments have managed to retain students in a post-COVID working environment. Albeit the student that returned to Biostatistics in 2021 was formerly a SP student, it was still a gain for the company and a win for Biostatistics (this student was the other last individual to experience the office culture pre-COVID). Besides this one student, Biostatistics success rate at retaining placement students however is 0% in its brief run time between 2020-2022. Since then, Biostatistics have found alternative and more successful schemes. They have implemented two programs, one of which has resulted in the hiring of 4 biostatistics apprentices to date, who are completing their studies part time whilst working to become fully qualified statisticians. The other is the Jayne Fountain scholarship program created in memory of a cherished colleague, granted to 1 individual at the University of Sheffield per year. This scholarship has so far seen 2 former recipients of the scholarship come work at Parexel upon completion of their studies. Most notably, both schemes were introduced after the COVID pandemic in 2020, and since then, they have 6 new members of staff with more possibly on the way. Biostatistics have therefore proven themselves to be the most successful department at both attracting and retaining junior members of staff in recent memory. What could the SP department possibly learn from this success? Is it a sign that the placement scheme has run its course and is no longer the ideal method of finding and retaining talent? Could we adopt a similar approach and establish a prestigious scholarship program with a world-renowned University that will help build a lasting and mutually beneficial relationship? It is seriously worth considering changes to reap the potential rewards.

Conversely, Data Management (DM) and Clinical Data Services (CDS) introduced their own placement schemes in recent years and have had some success in retaining some students, more so than SP. Is there something that the other departments are doing that we are not? One likely answer is the choice of remote work or a flexible hybrid of being office based and remote. Looking at the 9 junior members of staff that have started at Parexel in these 3 departments, all of them have been granted the opportunity to choose how they work. Three of the biostatisticians are working remote in addition to the sole returnee for CDS, and the other five (2 DM, 3 biostatisticians) are all hybrid, working in the office to their liking, but being allowed to work from home every now and again if they wanted. As we found out from the student questionnaire, the desire to not be solely office based was astronomically high. Only 1 individual would want to be office based, the other 22 selected either remote working or a hybrid of the two. COVID

has most certainly accelerated these desires and changes, but is it possible SP have not caught up yet? Are we being as flexible as the other departments are? The sentiments from the students would indicate we are not. A few comments that stood out from the questionnaire were: 'I would have liked if the attitude was a bit more lax towards students working from home occasionally'; 'I think hybrid working will also be a selling point for a lot of students'; 'I wish I had the ability to work at home and the opportunity to return as a graduate'. Ultimately, a balance needs to be struck. This could work by trusting junior members of staff to remote work more and implementing measures to ensure they meet high performance standards. Whether that be assigning them a career mentor, having more regular check-ins or getting feedback from those they work with. The alternative is continuing to lose talented individuals by being too rigid and not adapting to the changed world. Irrespective of how successful a placement scheme has been historically, if it is not kept up to date and is evaluated more often as well as listening to what people want, we sadly risk letting our competitors poach talent where they are more flexible, and we are not.

PUTTING THE SPOTLIGHT ON THE STUDENTS

The other correlation to consider from Figure 1, is whether the increase in the number of SP students per year has diluted the talent pool too much.

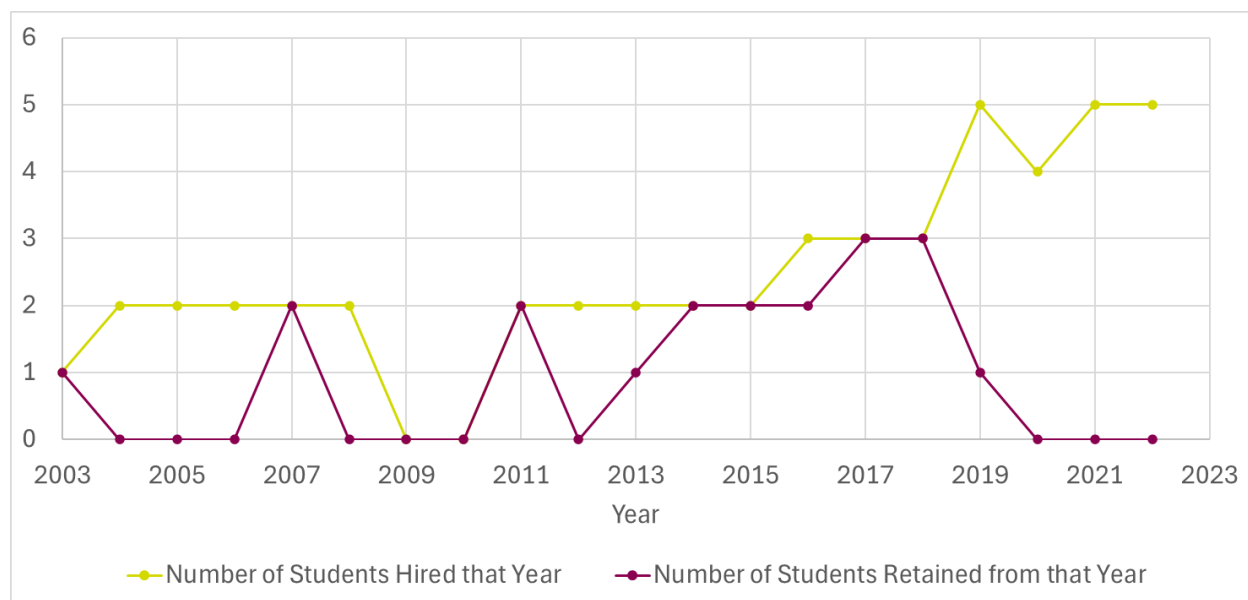
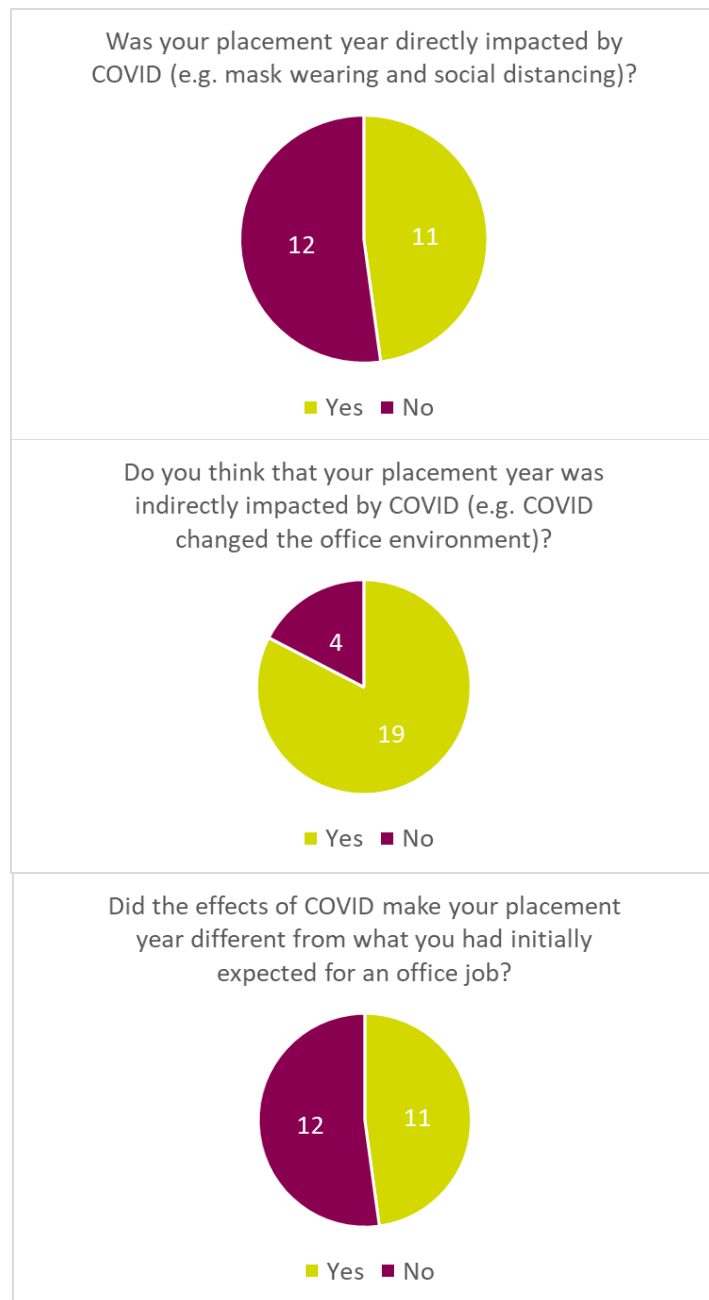


Figure 2 – Number of SP Students Hired per Year plotted against the Number of SP Students retained from that Placement Year Group

Looking at the data in Figure 2, it could not be more polarizing. It doesn't seem to be a coincidence that when there were 4 or more SP students (2019 – 2024), the retention has been consistently at its lowest since before 2009. In stark contrast, in the years when there were 2-3 students per year, the retention consistency was at its best (2011-2018). Most notably, there was a span of 5 consecutive years where 2 or more students from that year were hired back (2014 – 2018). What if the lack in retention has nothing to do with COVID at all, and instead is being caused by an overinflated number of students? It is entirely plausible that when the placement scheme expanded to 5 students as well as hiring from universities beyond just Sheffield Hallam and University of Sheffield, that we opened the doors to new issues not previously encountered. By taking on more students, the measure of success needed to get a placement role decreased, as the threshold required to perform well on the assessment day lowered. Has that resulted in taking on students who in previous years, would not have been successful in obtaining the placement? It is difficult to say and would possibly discredit any of the talented individuals we have had in recent years. But what could be true, is that having more students means there is less of a spotlight on them. It is easier to blend in so to speak, as our attentions divide more so than if we had 2 or 3 students. Perhaps that is where Biostatistics, DM and CDS are seeing success, by focusing more on the fewer individuals they hire, which gives them more opportunity to build them up and tailor to their needs. By having less students, they will get more attention and will also be more likely to have to interact with permanent members of staff which would develop other soft and professional skills. Based on the student questionnaire results, the question above as to whether the lack of retention has nothing to do with COVID but rather the overinflating of the number of students could be both right and wrong to say. Rather, it is an unfortunate combination of both, though not in the most obvious of ways.

As shown in the accompanying poster, on a scale of very difficult (1) to very easy (10), students found it easier to build and maintain connections with each other (average 8.09/10), as opposed to with permanent staff members (average 6.39/10). What makes this stand out even more are the results from other questions in the questionnaire and paints a picture as to what is happening. 14 of the students said they had a lack of face-to-face interactions, and

19 said they had more virtual interactions. Therefore, the problem is not necessarily that there are more students than ever before, but a problem that the ratio of students versus staff members in the office is severely outweighed. In recent years, the student population would account from anywhere between approximately 20% to 50% of the people in the office on any given day. This gives the appearance of overinflation, when in fact we shouldn't be surprised the students are building connections with each other better than staff, because there are too few staff regularly going into the office for them to connect with. It could be argued that they would be more likely to want to return if they developed an affinity to the staff, which is easier to do than with the company itself or other students who may not want to return. COVID is the culprit of these effects but only to a certain extent.



Figures 3, 4 & 5 (top to bottom)

When looking at Figures 3, 4 and 5, some of the results were as expected but there were surprises too, particularly in Figure 5. As a range of years were surveyed, there is not much to gleam from Figure 3, all it confirms is who experienced a restricted office environment and who didn't. As previously considered, the time during which COVID was its peak should be viewed with an eye of leniency and grace, it would be understandable why we may not have retained students from those years of unprecedented and sudden global change. Where it gets interesting is the number of students who collectively agree, COVID indirectly impacted their placement year by somehow changing the working environment (Figure 4). It would have been a surprise if the students did not mostly think this. However, despite this there was a split decision as seen in Figure 5 as to who thought that the effects of COVID made their expectations of an office job different to what they would have been otherwise. What is a startling revelation, is that only 9 of the 23 students surveyed from the years 2021-2024 (considered as the backend years of COVID) said Yes to this question. What does that say about the impression that has been given about office life to the students who said No to this question? It can't be an altogether positive one, otherwise why did so many students return to the company before COVID happened? There would be many members of staff who would recall a vastly different office environment that was more social, collaborative and overall had a sense of community about it. This is also where it can be argued that COVID may have been a catalyst for these adverse effects, but in the years since COVID was at its peak, it would appear that SP or the office in general, has not wholly and sufficiently dealt with the damage the pandemic caused.

The unfortunate side effects of that as we are seeing, is junior members of staff feeling isolated and not catered for potentially leading to a shortfall in retention. The solution would not be to force everybody back into the office for the benefits of junior members of staff as this may

go against the benefits others experience. There does however need to be a concerted effort at building an office environment that fosters effective network building beyond relying upon Parexel Sports and Social (S&S) events. The direct face to face mentorship and connections a student makes with staff members on their placement year may be pivotal in encouraging them to want to come back. Is the dilution of the talent and overinflation of the student population an illusion created by COVID due to the lack of staff going into the office, forcing students to mostly turn to each other? Regardless, it has emphasized more greatly the issues with the office vacuum of which there are definite areas for improvement to better accommodate, support and nurture the next generational talents.

CULTIVATING A POSITIVE OFFICE CULTURE

As depicted in the poster, there was a slightly stronger sway towards partaking in social or charitable events if they happened in the office as opposed to being virtually inclusive. This was evidence that despite the popularity with remote working, there was still an element of desire to interact with your fellow colleague’s face to face. Whilst the questionnaire was opinion based, further evidence to support this claim was gathered based on actual office attendance.

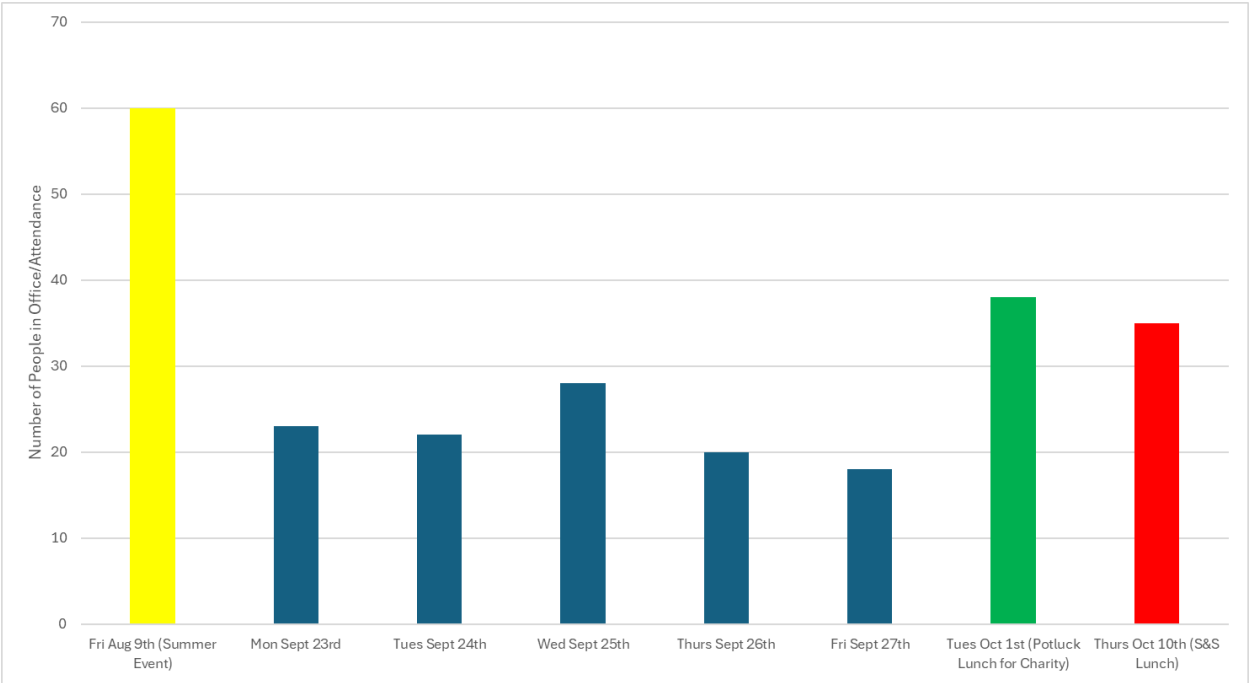


Figure 6 – Number of People in Office for Specific Events versus a general week attendance

Figure 6 immediately supports the notion that a proportion of people want a social office environment. On a general working week in September 2024 that had no special events happening, the office attendance is overshadowed by days on which an event was taking place. The office capacity post-COVID is 53 people, therefore the Summer Event on the 9th August 2024 should be viewed with some scrutiny. However, it is worth noting that the Summer Event took place directly across from the office location, merely less than 5 minutes’ walk away, so most of those attending was in the office on that day. It has been included here to highlight that people will travel and participate in events and interact and socialize with their colleagues if given an encouraging opportunity too. This brings naturally occurring benefits such as building team morale and a sense of camaraderie amongst your peers. In addition to the Summer Event, office attendance also rose significantly on the 1st and 10th October 2024. When comparing the general Tuesday and Thursday of the w/c 23rd September against the dates in October, office attendance increased by 72% and 75% respectively. When breaking this down by levels of seniority, it further emphasizes that at all levels, staff will look to engage with a socially active office.

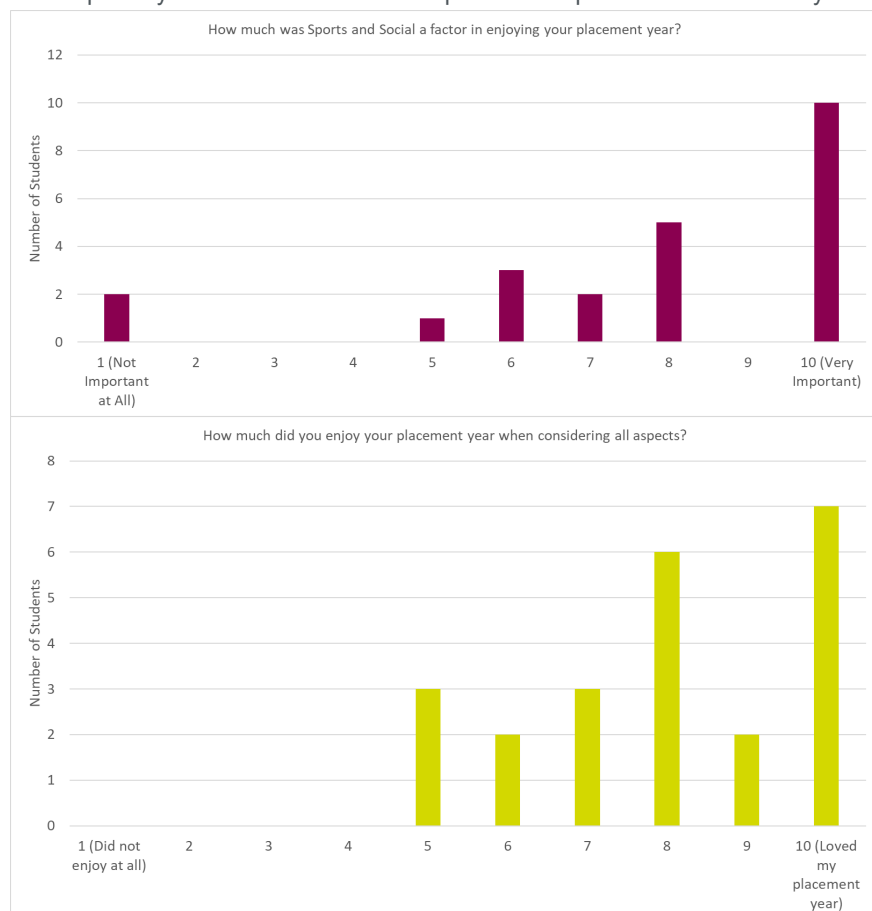
Mon 23 rd	Tues 24 th	Wed 25 th	Thurs 26 th	Fri 27 th	Thurs 10 th Oct
15/23 Junior (Includes 5 students) 4/23 Senior 3/23 Manager / Director 1/23 Other	13/22 Junior (Includes 5 students) 6/22 Senior 1/22 Manager / Director 2/22 Other	17/28 Junior (Includes 5 students) 7/28 Senior 3/28 Manager / Director 1/28 Other	11/20 Junior (Includes 4 students) 5/20 Senior 1/20 Manager / Director 2/20 Other	12/18 Junior (Includes 4 students) 3/18 Senior 2/18 Manager / Director 1/18 Other	18/35 Junior (Includes 5 students) 11/35 Senior 5/35 Manager / Director 1/35 Other
	Number of new people in on this day compared to the previous day: 4	Number of new people in on this day compared to the previous days: 6	Number of new people in on this day compared to the previous day: 2	Number of new people in on this day compared to the previous day: 1	

As previously alluded to but confirmed here, the ratio of junior members of staff compared to senior and manager/director members of staff is quite disproportionate. It highlights and proves true the sentiments raised by the ex-placement students in their questionnaire regarding the lack of seniority in the office day to day. There are

glimmers of hope though that this could be rectified. When looking at the levels of seniority on the Thursday 10th Oct, if you combine senior members of staff and managers/directors, the ratio is almost 1:1 on that day when comparing against junior members of staff. In contrast to each day of a general week, that ratio practically becomes 2:1 (two junior members of staff to every one senior) each day. This is disregarding any departmental differences which if considered, would produce ratios that would further support what ex-placement students said in the questionnaire. The point is that if given reason, permanent members of staff will come to the office which will have positive domino effects on those around them such as passive knowledge sharing. The key is providing reasons for them to come in, even if they don't realize themselves that their presence will have a positive influence around them. We can't expect all staff to consider how their attendance or absence from the office affects junior members of staff, but perhaps we should look towards our managers and directors to lead by example. If a standard or expectation is being set, those setting it should also embody those values within fair reason. An easy suggestion that could be implemented would be to encourage managers (if applicable) to host their monthly/quarterly team meetings in the office. It is not unreasonable to ask if staff members who may be still localized to the office to some degree to venture into the office for face-to-face meetings. Junior members of staff can learn in person, put faces to names they may have come across and have interactions that make them feel valued and attended to. Additionally, it will force accountability, ensure focus and set professional and behavioral standards that can otherwise be lost from people remote working. There is likely a current reliance on Social/Charitable events to drive up attendance in the office which even though this is a good thing, these events are too few and far between as well as only appealing to certain individuals. More should be done from a team working perspective to get more people into the office on a more frequent basis.

CONCLUSION

Throughout this paper and the accompanying poster, conclusions and suggestions for improvement have been drawn in multiple ways that address different aspects of the potential issues as they have been identified. A final conclusion



Figures 7 & 8 (top to bottom)

to be drawn from this questionnaire study is quite simply a positive one. As per figures 7 and 8, when asked, the ex-placement students provided their rating on the impact of S&S on their placement year, as well as their overall enjoyment of their placement experience. The averages based on these results were 7.78 and 8.00 respectively. What this reveals is that despite all the challenges that COVID has caused, the students were happy or satisfied with their experience to a certain extent. Undeniably however when you look at the range of scores, particularly in the overall aspect, it is concrete proof that improvement is needed to increase the collective job satisfaction of these junior members of staff. There are issues and challenges that are holding them back and quite possibly preventing them from reaching their true potential at the company. S&S is clearly an important factor in these students enjoying their placement years. The repercussions of losing a social office environment could be catastrophic in retaining any future candidates and this must

be protected. We must strive to be more proactive in admitting where our strengths and weaknesses lie and tackling them head on. Additionally, we need to consult the feedback of staff and students more frequently and be willing to have difficult conversations regarding where improvements can be made. We have already seen years of success with building generations of talent, and COVID may have interfered with that, but the excuse of COVID no longer applies. It is on our collective shoulders to build a lasting working environment that benefits all ages and years of experience, which will serve the company productively in the long term.

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