

KCLxBIT Project Report 2015–2017

Behavioural insights
in higher education
@KCLxBIT

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Executive Summary

KCLxBIT

- The undergraduate student experience is highly stratified and student disadvantage does not melt away at the doors of our university. We wished to ensure widening participation (WP) learners had as full and enriching experiences as their peers.
- The behavioural insights approach, pioneered by the Behavioural Insights Team (BIT), takes insights from the social and behavioural sciences and operationalises them into the design of policies, programmes and services. A tenet of these literatures is that behaviour is complex and difficult to predict, and that even individuals themselves may struggle to accurately predict or explain their own behaviour.
- Robust empirical research methods, particularly the use of Randomised Controlled Trials (RCTs), are a cornerstone of the behavioural insights approach.
- The KCLxBIT team was committed to evidence-led practice and continuing research. Because we were implementing approaches that had not been tried in King's before, we wanted to know whether they were having the desired effect; and, if not, to have enough information to learn and adapt the approach.

Student Voice

- We wished to understand how students both experienced and recalled their first year. To this end, we ran a set of student journey workshops with students in their second year, asking them to reflect on their experience the year previous.
- We also ran a Pulse Survey which covered a range of topics over six waves, with some topics asked repeatedly (in all six waves or across two time points), while others provided a one-off snapshot.
- This was conducted to the highest feasible standard, including staged recruitment and weighting with the aim of a final sample that was demographically representative of the first-year population, applying behavioural insights to participant retention, and the use of academically validated question scales where available.
- We found that WP students¹ varied less from non-WP students than we expected on a range of measures such as personality, family and friends' support, academic motivations and responsibilities outside university.
- We found that feeling of belongingness at King's was a key area where some groups diverged from others. This manifested particularly in feelings about peer-group relationships, but also in the difficulty that students anticipated in undertaking a range of daily university tasks.

¹ Here defined as students from a home postcode in ACORN classifications 4 and 5.

- Strikingly, WP students also expressed lower wellbeing, fewer positive and more negative emotions and more stress. This gap was particularly notable at the beginning and end of the year; it closed to insignificance in the middle part of the year.

Testing interventions

- Over the course of two years we ran ten RCTs ranging from an SMS plus email to encourage students to use study support, to complex programmes like the King's Community Ambassadors and What I Wish I'd Known.
- Overleaf (Table 1) we provide a summary of all the RCTs and what they found.

Themes

- KCLxBIT started with a challenge: to think differently about how we can understand the experiences of students, and support them to take advantage of the range of opportunities King's offers. The scope of this challenge is shown by the fact that many things we tried didn't work, for both content and practical reasons.
- **Belongingness:** Students' feelings that they belong at King's and that they're supported matter. We saw consistent gaps in who felt like they belonged, who felt like university would be difficult, and who was making friends with whom.
- **Behavioural Insights:** We also saw that small, well-designed interventions aimed at correcting beliefs about what other students were feeling could encourage students to engage with social activities and support offers. We also saw in practice the effects that planning prompts, frictions and timing can have on whether or not students undertake a behaviour.
- **Student Voice:** The Pulse Survey was, for us, a powerful illustration of how effective seeking student input can be when it's student-focused rather than institution-focused. Not only did we have a high sign-up rate (almost 50%), only 7% of those who completed Wave 1 did not return for any subsequent wave. This survey was immensely valuable for us, but it was also valuable for students: they appreciated the opportunity to reflect on how they were feeling, and the sense that King's cared about them and was checking in.
- **Evaluation:** Evaluating initiatives and services to a high standard of methodological rigour is both possible and necessary. There are challenges involved in implementing robust evaluation methods (such as RCTs), including data readiness and staff skillset, but these can be overcome through planning and partnerships.

Legacy

- KCLxBIT has changed the way King's thinks about student success, with the establishment of the Social Mobility and Student Success division, which draws together Widening Participation, Student Success and What Works to deliver an evidence-based whole-lifecycle approach to social mobility.

Table 1: Summary of findings from KCLxBIT RCTs

What	When	What we found
Exam SMS	December 2015 – January 2016	The attendance rate at first year January exams is very high, but significantly lower for WP students. Planning-focused SMS were not able to shift this, suggesting that to the extent to which students miss these exams, it is a result of deeper barriers rather than planning issues.
King's Community Ambassadors (KCA)	January 2016 – June 2017	We did not see that phone calls from 2 nd and 3 rd years to first years had any effect on their exam scores or retention to second year, although the retention rate is directionally promising. We were not able to evaluate against belongingness, which was the mechanism through which we thought KCA would be effective.
Study abroad	May 2016 & January 2017	Texting students about Study Abroad opportunities can encourage them to attend briefing sessions. There is indicative evidence that text messages focused on addressing perceptions about benefits of and barriers to Study Abroad are more effective in encouraging applications than flat reminders.
Welcome Fair	October 2016	Text messages focused on belonging and making friends significantly increased attendance at the Welcome Fair, overall. Among non-WP students only, messages focused on increasing employability increased attendance. These messages also increased sign-ups to sporting societies.
Compass	December 2016	Use of the Compass (student support) is low around December/January of first year. We find no evidence that text messages/emails can increase uptake of these services.
Online study support	December 2016	A text message plus an email focused on planning when to take an online study skills module increased sign ups to the module; adding a line about social belonging increased them by even more, particularly among WP students.
Alumni mentoring	February 2017	Engagement in alumni mentoring among first years is very low. This can be partially addressed with prompts, particularly those focused on shared King's identity.
What I Wish I'd Known (WIWIK)	November 2016 – May 2017	Students reported that they appreciated the programme, which was aimed at Bursary recipients and included a King's branded paper diary, community-building events and informational emails. We saw no impact on achievement or retention, we were not able to evaluate against belongingness, which was the mechanism through which we hypothesised WIWIK would be effective.

Acknowledgements

The team is indebted to many people who have helped and advised us in the process of developing and delivering this project.

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I. Introduction

Widening participation at King's

The outcomes and experiences of students at university are variable and often linked to student characteristics. A growing body of evidence demonstrates that student experience and outcomes are stratified by student characteristics, including the report 'Differential outcomes' for HEFCE by Dr Anna Mountford-Zimdars, IFS report and Michael Tomlinson at Cardiff Business School. This project was driven by four key facts:

- Learners from low socio-economic backgrounds tend to have less successful outcomes both in terms of academic achievement (in the first year only) and graduate employability;²
- They also report a less positive student experience in terms of social belonging;
- First generation students who do not have a history of family education often lack guidance from their parents;
- Non-traditional students tend to access student services later than and also take up student opportunities, such as study abroad, in lower numbers.

The King's College London Widening Participation Strategy³ builds on a successful outreach activity at the university and prepares King's for a full lifecycle approach to widening participation (see Figure 1). The strategy states that 'King's will adopt an inclusive approach using mainstream procedures and practices to meet the entitlements, interests and aspirations of all students to maximise their success at our university. This will be complemented by additional practices and interventions for particular student groups, such as those from a widening participation background or equality groups.

Figure 1: King's whole-lifecycle approach to Widening Participation

Stage 1 Pre-16 Outreach	Stage 2 Post-16 Outreach	Stage 3 Fair Admissions	Stage 4 Student Experience	Stage 5 Successful Graduates
Aspiration-raising activities for local students that encourage higher education participation. King's outreach programmes will support informed choice making through impartial guidance.	Targeted outreach work with students in London and beyond to improve access to King's and other universities. Activities will seek to enhance attainment and preparedness for higher study.	King's recruitment and admissions processes are fair, transparent, and identify the talent and potential of students from all backgrounds.	Excellent student and education support services that seek to address the on-course needs of students from widening participation backgrounds	Tailored support to improve the employability and career outcomes of students from widening participation backgrounds.

² The Sutton Trust Earning by Degrees report established a £4,500 pay gap between low-income graduates and high-income graduates. <https://www.suttontrust.com/wp-content/uploads/2019/12/Earnings-by-Degrees-REPORT-1.pdf> The King's College London DHLE Analysis for comparing the outcomes of under-represented graduates with their peers, graduating between 2011/12 and 2013/14 established similar variable labour market outcomes.

³ www.kcl.ac.uk/governancezone/GovernanceLegal/Widening-Participation-Strategy.aspx

The KCLxBIT project is an additional intervention aimed at improving university outcomes and experience for low socio-economic status students and specifically explore whether behavioural insights could be used to:

- Enhance academic success: exam attendance and grades;
- Improve the student experience with particular emphasis upon fostering social belonging;
- Boost graduate employability and labour market outcomes; and
- Encourage take up of King's College London services and opportunities.

This is the first application of behavioural insights in a UK university context and a key objective of our pilot year was to establish whether university systems would enable the development of mass 'nudges' and robust evaluation methods. The project was organised around the TEST methodology and EAST framework used by BIT.⁴

What do we mean by "Widening Participation student"?

Traditionally, the term Widening Participation refers to raising the aspirations and attainment of people from backgrounds that are under-represented at university. Groups of people who may be targeted in the drive to widen participation include:

- Young people from low-income backgrounds;
- Young people from low-participation neighbourhoods (where very few people go on to higher education);
- Young people whose parents did not go to university;
- Young people in or leaving care;
- Young people living with a disability;
- Young people from an ethnic minority; and
- Those returning to learning as mature students.

For KCLxBIT, we defined WP status based on the profile of students' home postcodes, according to the ACORN classifications. ACORN is a consumer classification tool that segments the UK populations based on demographic data, social factors, population and consumer behaviour. ACORN categories 4 and 5 are categorised as WP postcodes. For some components of the project, WP students categorised based on their status are recipients of the King's Living Bursary (KLB). The KLB scheme is open to every full-time home first degree student at King's whose household income is under a certain threshold.

Knowing what works: Randomised Controlled Trial methodology

The Widening Participation Department is committed to evidence-led practice and continuing research. Because we were implementing approaches that had not been tried in King's before, we wanted to be sure they were having the desired effect; and, if not, to have

⁴ www.behaviouralinsights.co.uk/wp-content/uploads/2015/07/BIT-Publication-EAST_FA_WEB.pdf

enough information to learn and adapt the approach. All interventions have therefore been evaluated using randomised control trial (RCT) methodology.⁵ For each nudge we have identified a group of interest (such as all first year undergraduates), and divided them into intervention and ‘control’, or comparison, groups by random assignment. By doing this, we create two groups that are, on average, identical but for their allocation to one group or the other. This enables us to assume that there are no systematic differences in the two groups, and therefore that any difference in the outcome observed is a result of the presence or absence of the treatment.

Statistical significance

When testing the differences in outcomes between the group receiving an initiative and those who didn’t, or between WP and non-WP students (or, indeed, any other comparison) the results reflect both the ‘true’ underlying difference in the population(s), and an element of uncertainty. In this report, to measure our degree of confidence in the results, we use the concept of statistical significance. Statistical significance effectively tells us the probability of observing a difference between groups, when in fact there is no difference. The conventional level of statistical significance used is a p-value of 0.05, which effectively means that if our results indicate there is a difference, there is a 5% chance that this difference doesn’t exist in the underlying population (a false positive). In this report, we denote where a comparison is significant at this level of confidence using an asterisk (*). It is important to note that statistical significance is only one way of thinking about whether a result is meaningful. True confidence would generally require multiple replications, by multiple researchers, with sufficiently large samples, across a variety of contexts. We suggest that readers consider the presence (or absence) of significance as a rule-of-thumb for whether an observed difference merits further investigation.

About this report

This report serves as a capstone for a project that spanned two years, ten RCTs, student workshops, and a six-wave panel study. We have provided cross-references between sections of the document where helpful, so readers can focus on the areas of interest to them.

Because of the focus of the research, which was commissioned and led by the WP team, throughout the report we have focused on comparisons in experiences and actions between WP and non-WP students. There are, of course, many other, interesting ways to cut the data. We will continue to explore these, and will post any updates or findings via the What Works website: <http://kcl.ac.uk/whatworks>. From that website you will also be able to find a link to sign up to be informed when we post more results, and you can also follow us on Twitter: @KCLWhatWorks.

⁵ For further information, we have written a primer on RCTs in WP, here: <http://blogs.kcl.ac.uk/behaviouralinsights/2017/11/20/the-whats-and-whys-of-rcts-part-1/>

II. Student Voice

The Student Journey Mapping Workshop

To inform the planning and design of interventions, we undertook a series of qualitative student journey workshops in November 2015. A balanced group of 21 undergraduate first-year students were selected to participate. In the workshop students were asked to:

- a) chronologically map their past, present and future social, academic, emotional and financial experience at university,
- b) rate the perceived importance and uptake of 40 different student services at King's,
- c) discuss the organisational techniques they employ.

The milestones of first feedback, part-time jobs and participation in societies and sports emerged as key shapers of the undergraduate experience. In addition, common themes emerged from the workshop of behaviours / situations that act as barriers or enablers for undergraduate students. These were:

- **Expectations of university** – ease of adjustment to academic work is closely linked to participant's expectations prior to joining King's. Similarly, willingness to participate in extracurricular activities and career planning was dependent on whether the students expected the focus of university to purely be academic performance.
- **Planning and time management** - participants engaged in minimal forward planning and viewed university as an experience rather than a journey. Many had no diary system, instead choosing to follow other students – word of mouth emerged as the primary and most compelling source of information.
- **Finances** – financial stress was common to all participants, irrespective of background or year of study, affecting resilience to challenges and willingness and ability to engage in different opportunities, particularly those abroad. Many were unaware of sources of financial support available.
- **Sense of belonging** – successful transition to university is reliant on building connections with the university, a peer group or a club / society. The workshops suggested that this can be particularly challenging for students who live at home but social media (e.g. Facebook) emerged as a helpful tool to address this.
- **Support systems** – engagement with personal tutors, office hours and peers from later year groups play a key role in shaping successful transition to university. Some participants said they were discouraged from engaging with staff as they believed it was advantageous to maintain a low profile.

Detailed analysis of the workshops can be found in our report 'Findings of undergraduate Student Journey Workshop'. The student journey workshop methodology is now being used by service providers across the university. The student journey methodology and findings have been presented to several conferences including NEON, FACE, AMOSSHE, the Brilliant Club, and the KCL Excellence in Teaching Conference. The project has been

written up for publication in Forum for Access and Continuing Education conference publication 'Widening Participation in the Context of Economic and Social Change'.⁶

The King's Pulse Survey

Background

The findings of the Student Journey workshops drove a lot of the interventions we tested in both years of the project. However, one finding of the behavioural sciences is that people are not good at recalling how they felt in a moment or identifying their reasons for doing something. We knew we could push things further and build off the Student Journey workshops by—instead of asking students to recall how they felt—asking them at key points in the year how things were going and what they were doing and feeling.

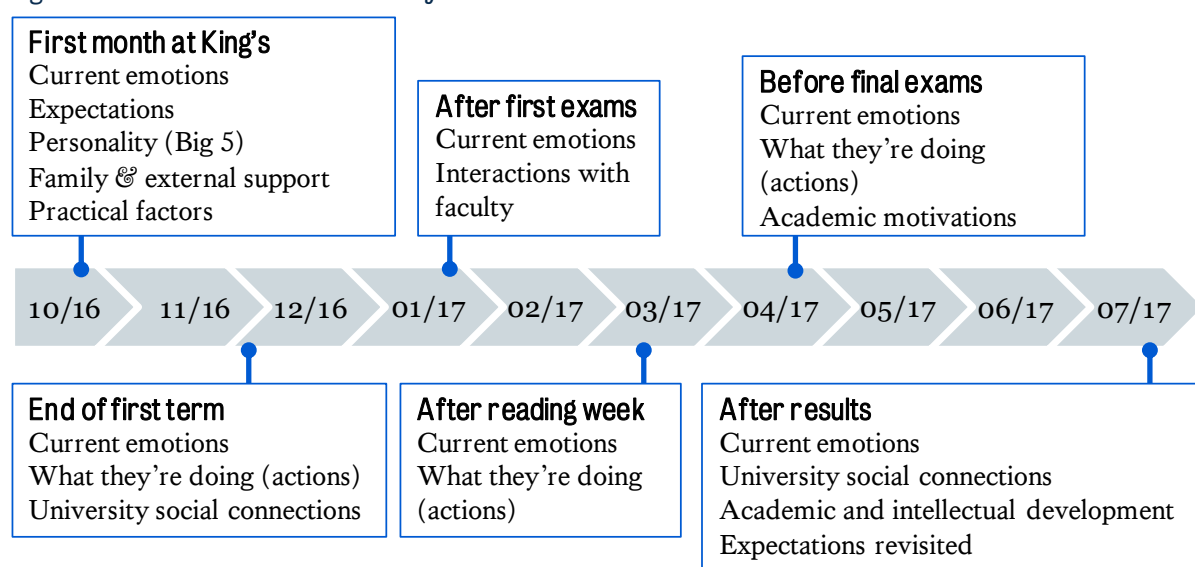
We could also do this at a larger scale than the workshops to get a more representative view of the King's experience. Hence, we developed the King's Pulse Survey, a six-wave survey that would go out to a panel of King's first years, to try and map how their year was going, as they were experiencing it.

Methodology

Survey design and timings

The Panel Survey comprised six survey waves, sent out at six points we theorised would be key moments in the year. Figure 2 shows the waves with a summary of the topics asked in each.

Figure 2: Timeline of Panel Survey waves



Recruitment

We used a phased approach to recruitment, both so we could adjust our sampling to get representativeness with the King's student population, and to avoid over-contacting the

⁶ Broadhear, S., Hill, M., Hudson, A., McGlynn, C., Mckendry, S., Raven, N., Sims, D., Ward, T. (2017) Widening Participation in the Context of Economic and Social Change'. FACE

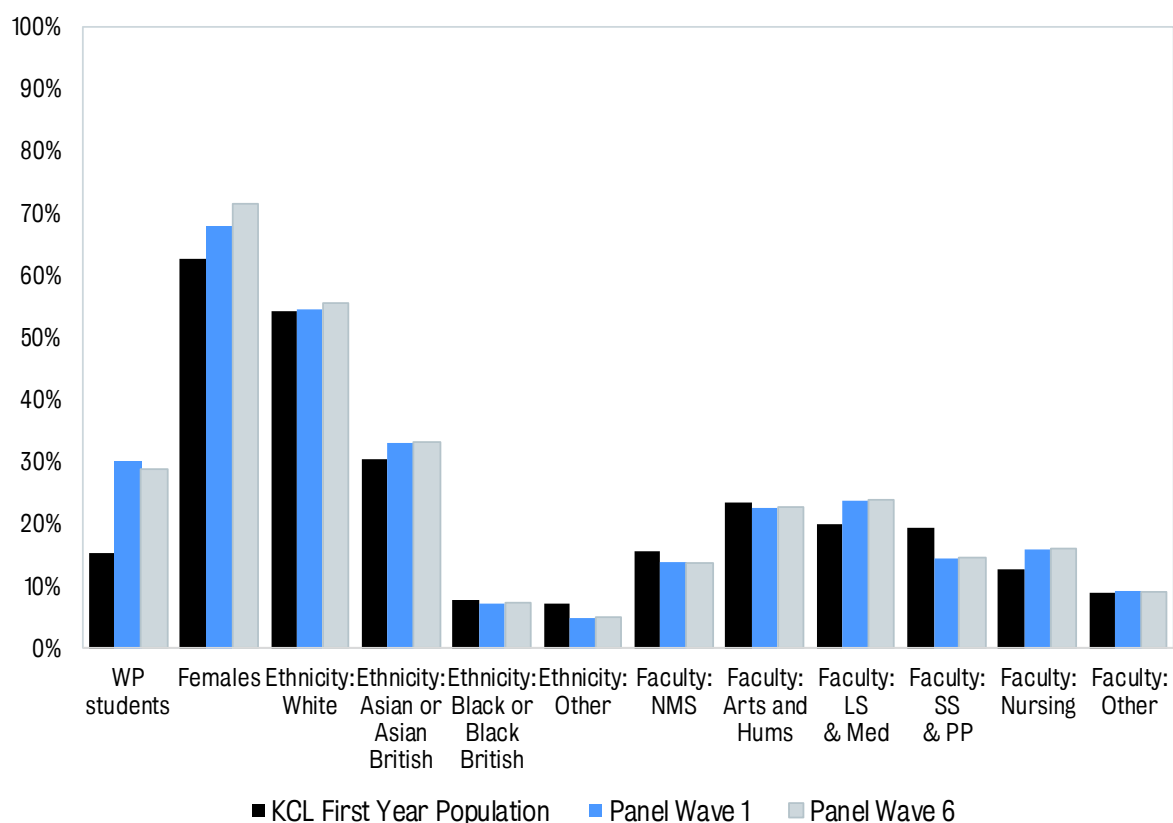
students. Accordingly, we did three rounds of invitations, observing the response rate after each one. Response rates were mainly comparable to the King's population across invitation rounds, except for males, who systematically under-responded to all rounds. We partially mitigated this by over-sampling males in the second and third round.

The phasing was as follows:

- **Round 1:** 1,000 students randomly sampled and invited via SMS then email to respond.
- **Round 2:** 800 students sampled, oversampling males, and invited via SMS then email.
- **Round 3:** 500 students sampled, oversampling males, and invited via SMS then email.

From this, we recruited 762 first year students into the Pulse Survey, a response rate of 49.5% of those we contacted. We were able to achieve a sample that was close to the King's first year population on demography, with a slight over-representation of females versus males, and of some faculties (see Figure 3). We also intentionally over-sampled WP students (who form around 30% of our panel) to ensure we could make meaningful comparisons between WP and non-WP students.

Figure 3: comparison of King's first year population to Wave 1 and Wave 6 panel respondents (not significance-tested)



Retention

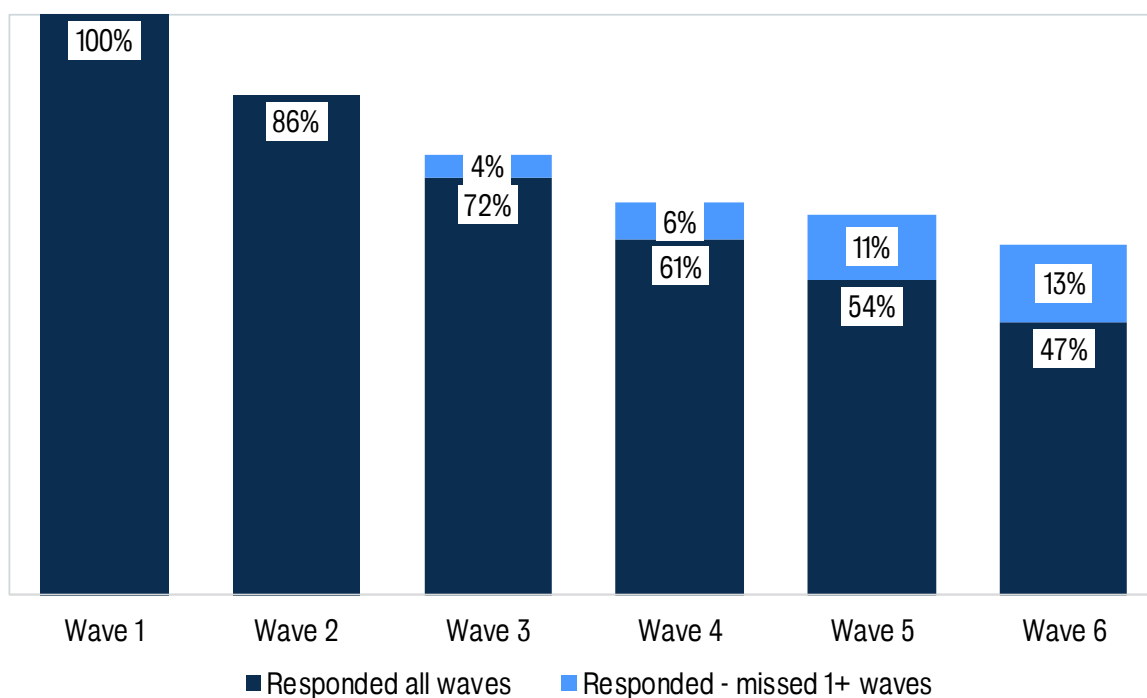
We were asking students to make a big commitment: returning six times over the year (including on their breaks) to answer a 5-10 minute survey. We knew there would be attrition out of the survey, and that it would be crucial to try and keep the response rate as

high as possible. Accordingly, we employed a range of strategies to retain students throughout the survey:

- Respondents were incentivised with a £5 Marks & Spencer e-voucher after each completed survey. We chose Marks & Spencer as these could be delivered to respondents via email, whereas other stores offered physical cards only. In addition, we theorised that £5 was a meaningful amount to be able to spend at Marks & Spencer, whereas it might feel a bit low as a, for example, Amazon voucher.⁷
- Respondents made an upfront commitment to answering all six surveys before they registered for the first one. This was based on research that suggested that this type of psychological commitment can boost retention in repeated surveys.
- Finally, they received SMS and email reminders to complete subsequent surveys.

As seen in Figure 4, we retained almost 50% of the sample through all six waves, while 5 or more, and three quarters completed at least 4. Only 7% of those who completed Wave 1 returned for none of the subsequent surveys. Looking at response patterns, we see that there wasn't a consistent pattern of attrition: students who had missed one or two waves often returned to complete subsequent waves.

Figure 4: Retention of Pulse Survey panel across waves



⁷ We also considered a higher-value lottery incentive (such as a £100 Amazon voucher), which is an efficient way to incentivise participation. However, lower guaranteed incentives are more effective, if there is budget, and lotteries rely on individuals overestimating their likelihood of winning. Over six-waves, we were concerned that students would adjust their perceived likelihood of winning down closer to the actual odds, and therefore the lottery would cease to be an incentive.

Model specification

To enable us to analyse differences between WP and non-WP students' responses to each question, we used either an ordinary least squares (OLS) regression on the average score for question scales being treated as continuous, or a linear probability model (LPM) regression on the probability of a WP/non-WP student selecting a particular option, or responding in an affirmative category.⁸ Using an OLS specification is more justified for questions with longer scales, as it treats the scale as a continuous variable and requires the assumption that the distance between a rating of, for example, 2 and 3 is the same as the distance between a rating of 9 or 10. For shorter scales, this assumption is less supported, so better practice is to classify the response into two groups (for example, 0 = 1 – 3 and 1 = 4 – 5 on a 5-point Likert scale). Another alternative would have been to use an ordinal or multinomial logistic regression, but the interpretation of the outputs of these models is more difficult, so for the purposes of this project a combination of OLS and LPM regression was considered appropriate.

Weighting, imputation and controls

In this analysis we processed the data to try and ensure the panel represents the King's first year population and the key distinction of interest (between widening participation and non-WP students).

First, on a wave-by-wave basis, each respondent's response has been **reweighted to accord with the characteristics of the King's population**. For example, male respondents' answers are up-weighted to account for the fact that males were underrepresented in our sample. This means we can say that the findings in this report are representative of the whole first-year cohort, rather than just panel respondents.⁹ However, it is important to note that we can only reweight based on observable characteristics like gender, ethnicity and faculty. To the extent that survey respondents differ on unobservable characteristics (attitudes, motivation), reweighting can't account for this.

Second, for all-wave questions such as wellbeing, we conducted **stochastic imputation of responses for respondents who had missed waves**. For each variable, we estimated an OLS regression model, generating a predicted score for each respondent. To better account for the variance in responses, we then add a random number between 0 and the standard deviation of the residuals to each imputed response. This is to avoid dropping respondents entirely for relatively minor cases of missing data.

Third, for our main comparison of interest (between WP and non-WP students), we included **control variables (ethnicity, gender and faculty)**. This is to isolate, to the extent possible, the association between responses and WP status, holding these other characteristics as constant. Note that this does not mean we are claiming a causal impact of WP-status on student experience as explored in this survey. It is likely that there are other

⁸ Usually Agree/Strongly Agree or Often/Very Often.

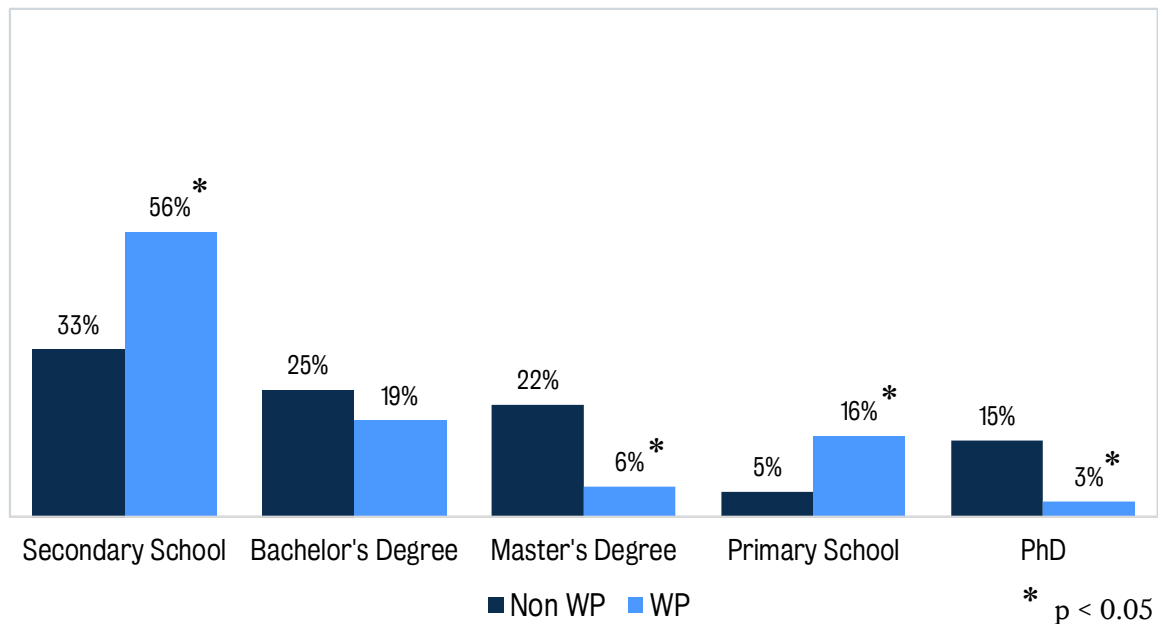
⁹ Lavallée, P. & Beaumont, J.-F. (2015), Why We Should Put Some Weight on Weights. Survey Insights: Methods from the Field, *Weighting: Practical Issues and 'How to' Approach*, Invited article, Retrieved from <http://surveyinsights.org/?p=6255>.

variables (for example, course of study, age, and personality) that are contributing to the differences that we observe.

Student Background

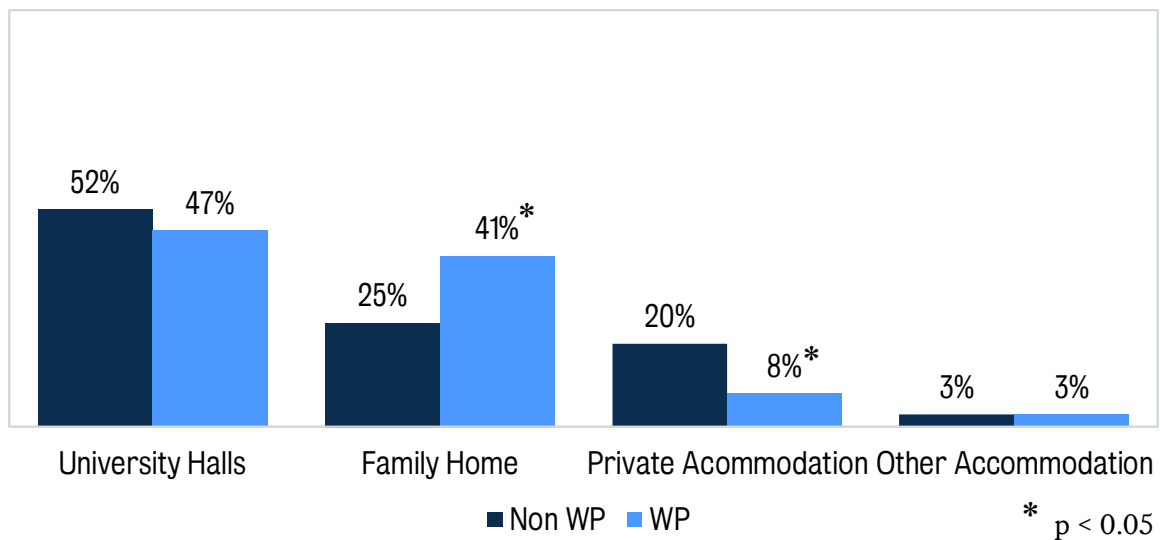
We asked students a set of questions about their context and background, to augment what we already knew from the administrative data. For example, we saw that 56% of WP students had parents whose highest level of education was secondary school, compared to 33% of non-WP students (Figure 5).

Figure 5: highest level of education completed by either parent (% selecting, Wave 1)



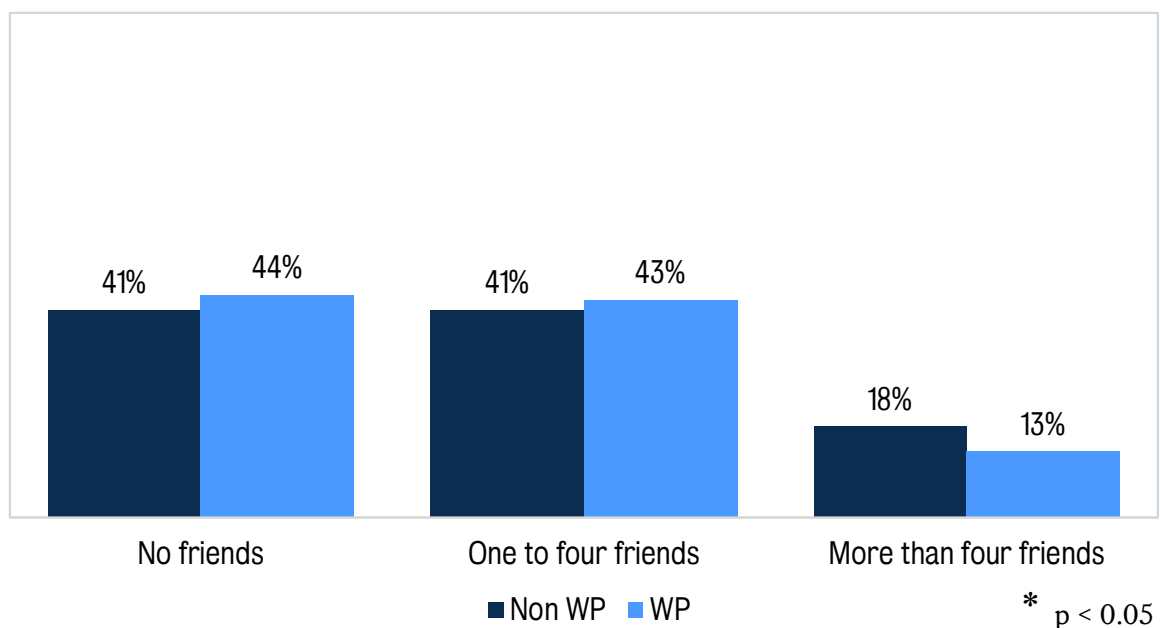
Interestingly, we saw no significant difference in the proportion of WP and non-WP students living in University Halls (although it is directionally lower for WP students). However, for those students not living in Halls, WP students were more likely to be living with their parents, while non-WP students were more likely to be living in private rented accommodation (Figure 6). Given that Halls have a relatively balanced proportion of WP and non-WP students living there, we are looking forward to working with King's Residences over the coming year on ways that residences can act as sites of connection and social-capital building for WP students.

Figure 6: Living arrangements (% selecting, Wave 1)



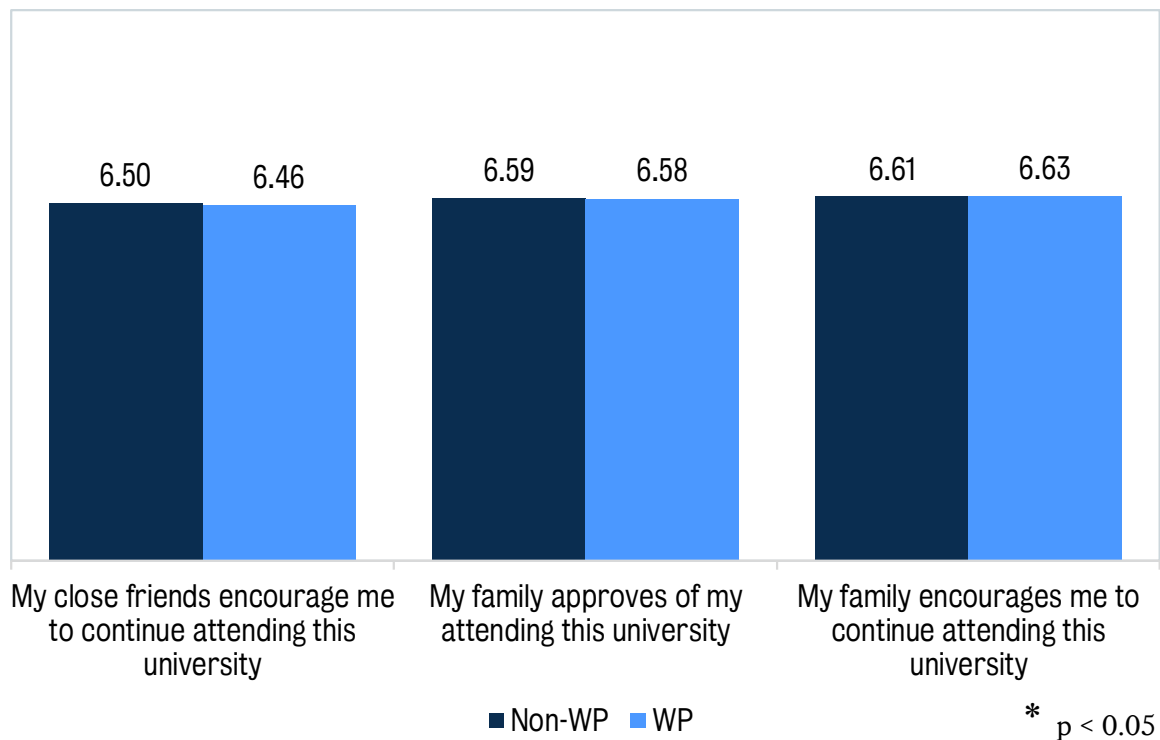
Interestingly, we saw no difference in the numbers of school friends WP students and non-WP students had at King's (Figure 7). Directionally, it appears non-WP students may tend to have more school friends at the King's, but this is not significant.

Figure 7: Number of school friends attending King's (% selecting, Wave 1)



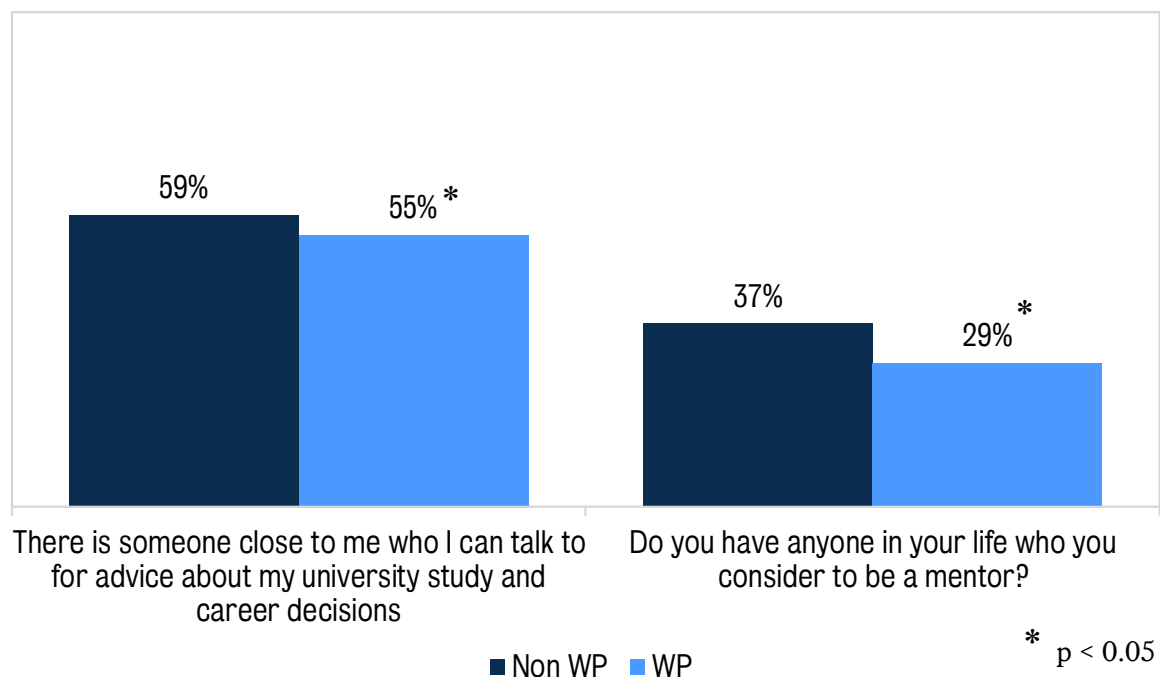
Again, we saw very similar levels of expressed support from family and friends (Figure 8), which is encouraging. It does, however, raise the question of where those students are whose parents and friends were less supportive. Further investigation is warranted, perhaps to explore the context of those respondents who expressed lower levels of agreement with this question.

Figure 8: Family and friends' support (average agreement out of 10, Wave 1)



In Wave 3, partly to link in to our Alumni Mentoring intervention (see page 63) we asked students whether they had anyone in mind who they considered a mentor (Figure 9). WP students were significantly less likely to agree that they had someone close to them who they could talk to for advice, and to be able to identify someone they considered to be a mentor.

Figure 9: Support from a mentor (% Agree/Strongly Agree, Wave 3)



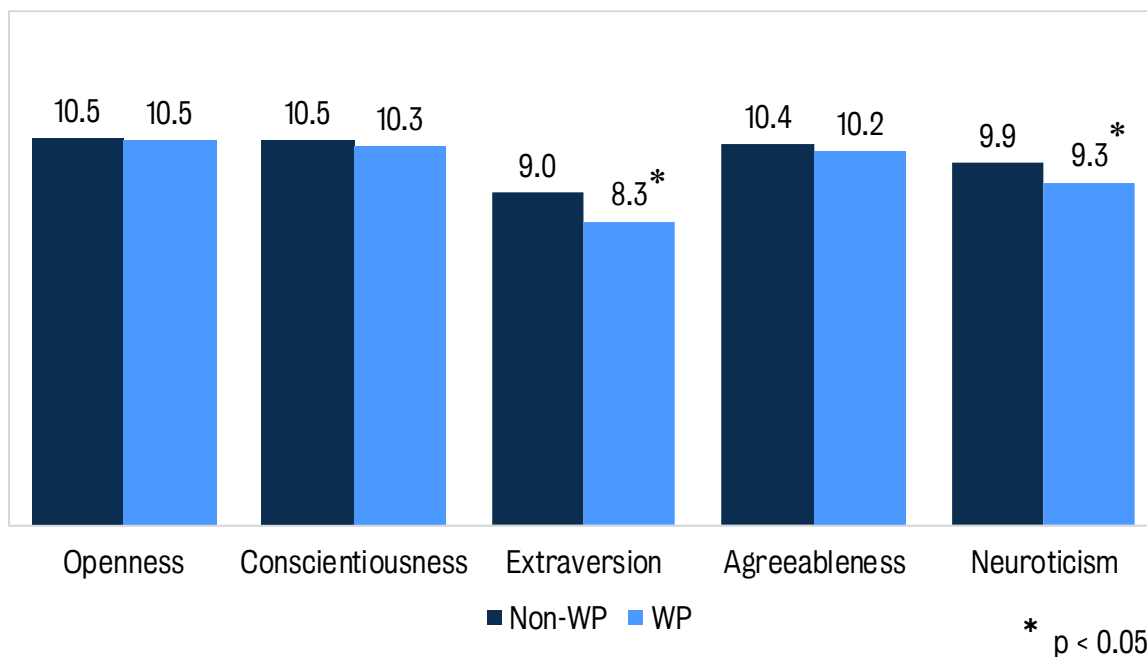
Personality and motivations

Personality is an important factor in the decisions we make, the opportunities we seek, and the outcomes we ultimately achieve. The most consistently used construct of personality in the psychological literature is the Big Five Personality Inventory (sometimes also referred to by the mnemonic OCEAN):

- **Openness to Experience:** the tendency to intellectual curiosity, and seeking novelty or variety.
- **Conscientiousness:** the tendency to be organised and dependable, self-disciplined and planned rather than spontaneous.
- **Extraversion:** the tendency to be sociable and seek the company of others.
- **Agreeableness:** the tendency to be compassionate, cooperative and compliant.
- **Neuroticism:** the tendency to reactivity and experiencing unpleasant emotions.

The association of these personality traits with various behaviours and life outcomes has been extensively studied. Conscientiousness has been most consistently shown to correlate to academic and occupational outcomes.¹⁰ We theorised that WP students might be more likely to display high levels of conscientiousness as these characteristics—persistence, commitment and drive—might be more necessary to get to university for WP than non-WP students. In fact, we found no difference on conscientiousness. Instead, we found that WP students are less extraverted and less neurotic, on average, than non-WP students (see Figure 10).

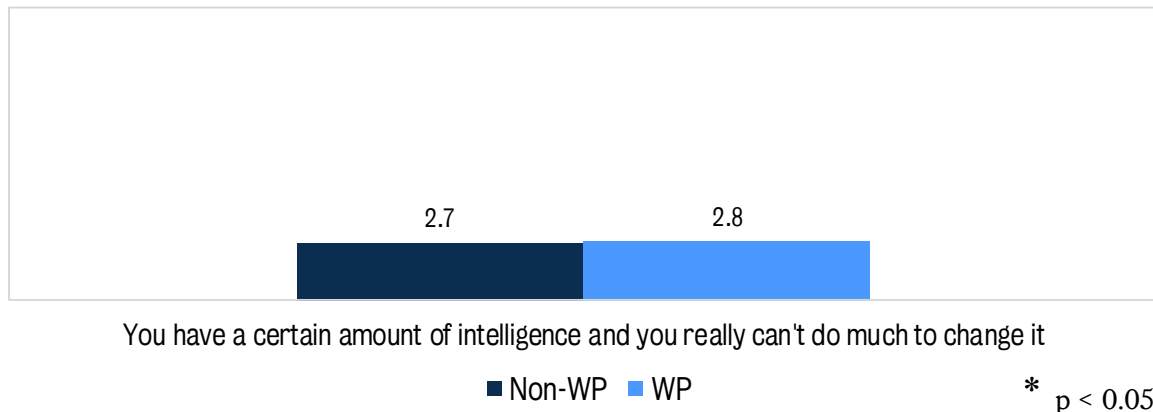
Figure 10: Ratings on the Big 5 Personality Traits (average score out of 20, Wave 1)



¹⁰ Duckworth, A. L., Weir, D., Tsukayama, E., & Kwok, D. (2012). Who does well in life? Conscientious adults excel in both objective and subjective success. *Frontiers in psychology*, 3.

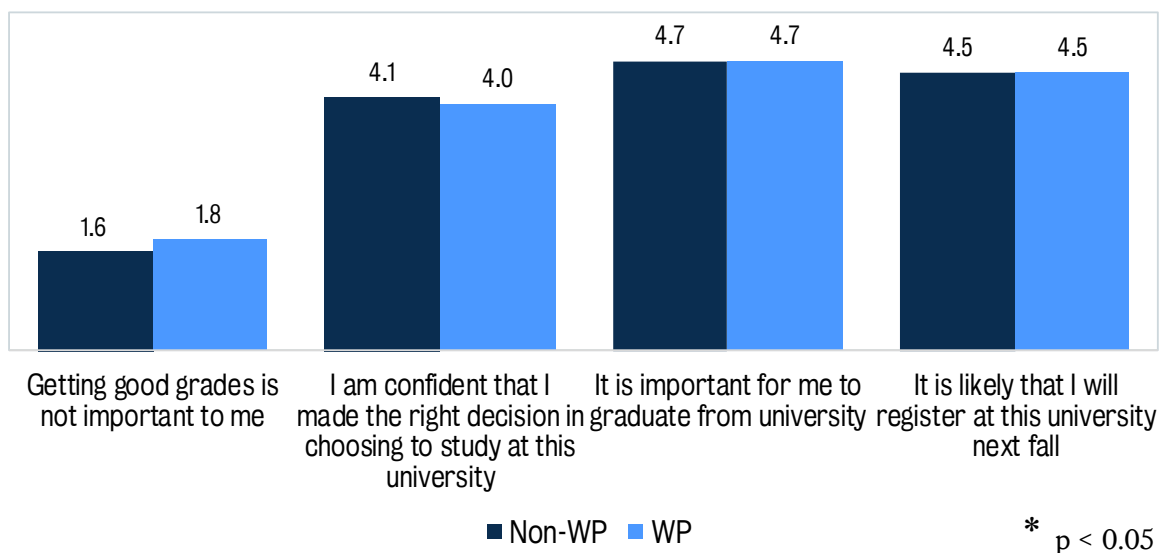
The work of Carol Dweck and colleagues^{11 12} suggests that mindset is associated with persistence and success; in particular, whether someone has a “growth” mindset or a “fixed” mindset. We therefore asked participants a growth mindset scale. We saw similar levels of low agreement with this statement across both WP and non-WP respondents (see Figure 6).

Figure 11: Mindset (average agreement, from 0 to 6, Wave 1)



We were indebted to the work of Pascarella and Terenzini¹³ at several points in this research: they developed scales that we used to understand aspects of the academic and social experience of first years, including their academic motivations inventory (Figure 12). We asked this set of questions in Wave 5, just before exams, and found no differences in the average levels of agreement between WP and non-WP students.

Figure 12: Academic motivations (average score from 1 to 5, Wave 5)



¹¹ Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child development*, 78(1), 246-263.

¹² Yeager, D. S., & Dweck, C. S. (2012). Mindsets that promote resilience: When students believe that personal characteristics can be developed. *Educational Psychologist*, 47(4), 302-314.

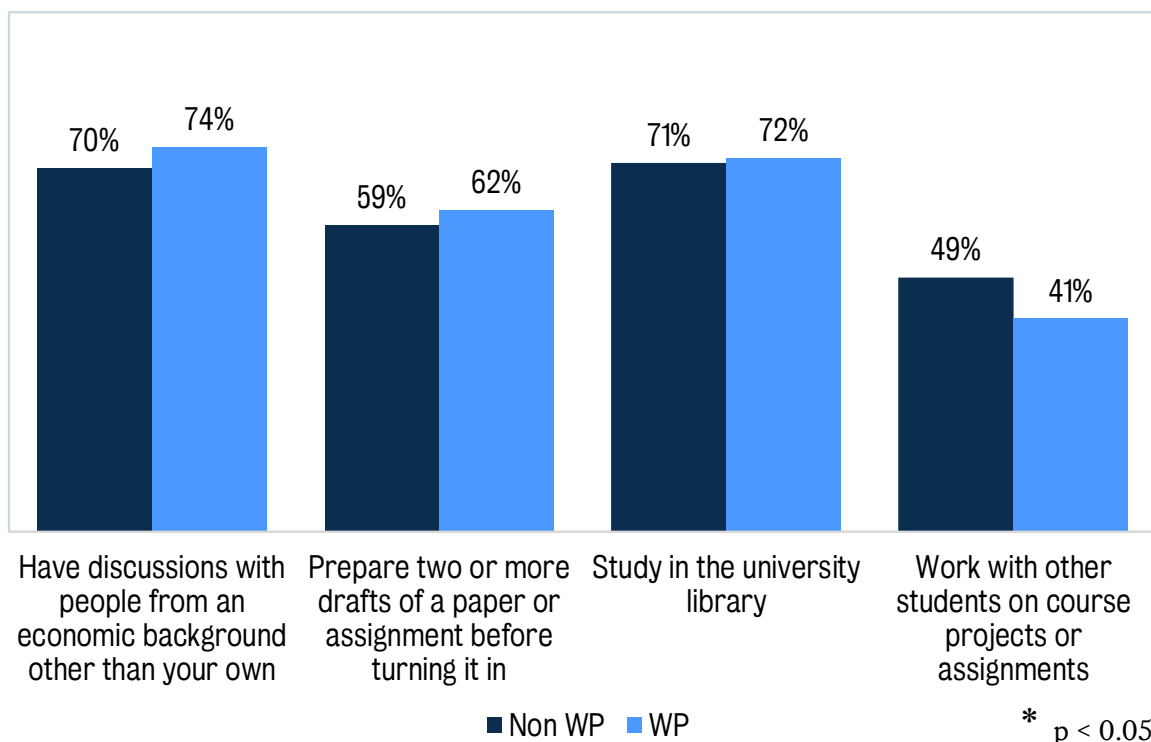
¹³ Pascarella, E. T., & Terenzini, P. T. (1980). Predicting freshman persistence and voluntary dropout decisions from a theoretical model. *The Journal of Higher Education*, 60-75.

Overall, we saw very few differences of note in the personalities and mindsets of WP and non-WP students of the same gender, ethnicity and faculty. However, the findings of significant differences in levels of extraversion and neuroticism suggests opportunity for further exploration; for example, comparing self-reported levels of extraversion to responses on some of the later items on building peer group and academic networks.

Expectations and reflections

We were interested in what students anticipated their year would be like (in Wave 1) and then in what it was like in retrospect (in Wave 6). Figure 13 compares expectations of WP and non-WP students on how they would spend their time.

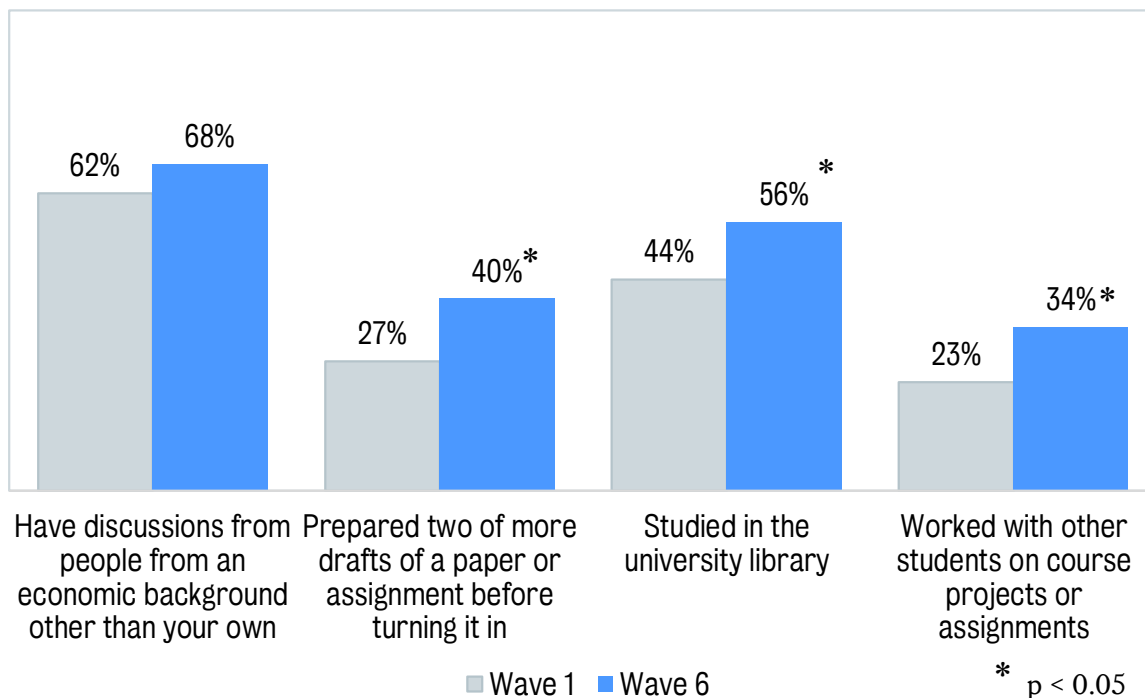
Figure 13: Expectations (% expecting to do activity often/very often, Wave 1)¹⁴



When we compare expectations and reflections among Wave 6 respondents (i.e. those for whom we have both the expectation from Wave 1 and the retrospective response from Wave 6), we see that students spent more time preparing drafts of assignments, studying, and working on group projects than they were expecting (Figure 14). We also see that those respondents who were retained until Wave 6 were less likely to say they expected to do a range of academic tasks often/very often in Wave 1 (for example, 27% of those retained to Wave 6 said in Wave 1 that they expected to prepare two or more drafts of a paper or assignment, compared to around 60% of all Wave 1 respondents). This offers some interesting insight into the patterns of attrition between Waves 1 and 6, which merits further investigation.

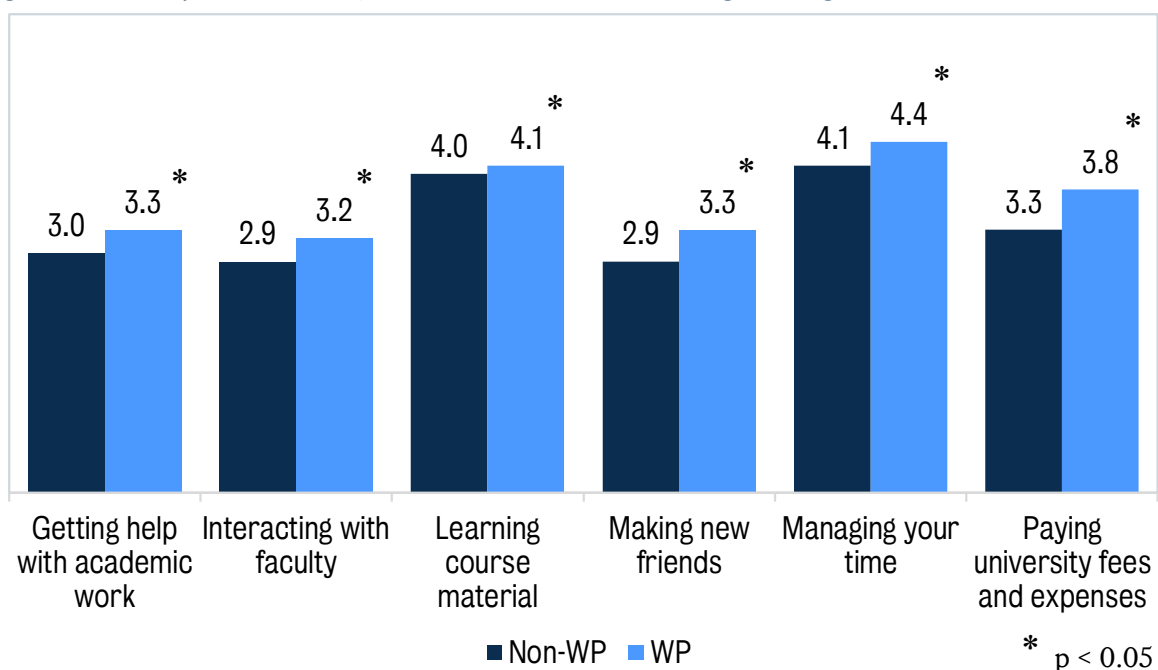
¹⁴ These questions were taken from the Beginning College Survey of Student Engagement (<http://bcse.indiana.edu>) and the National Survey of Student Engagement (<http://nsse.indiana.edu>), and adapted for terminology to make sense in a UK context.

Figure 14: Expectations vs reality (% of Wave 6 respondents expecting to do activity often/very often, Wave 1, and in hindsight agreeing they had done activity often/very often, Wave 6)



We also asked students how difficult they anticipated certain tasks would be (Figure 15).¹⁵ There was a striking difference in the difficulty that they anticipated facing while undertaking some of the basic tasks of university life. These differences are in some ways small, but significant and consistent: WP students anticipate university life will be more difficult than their non-WP peers.

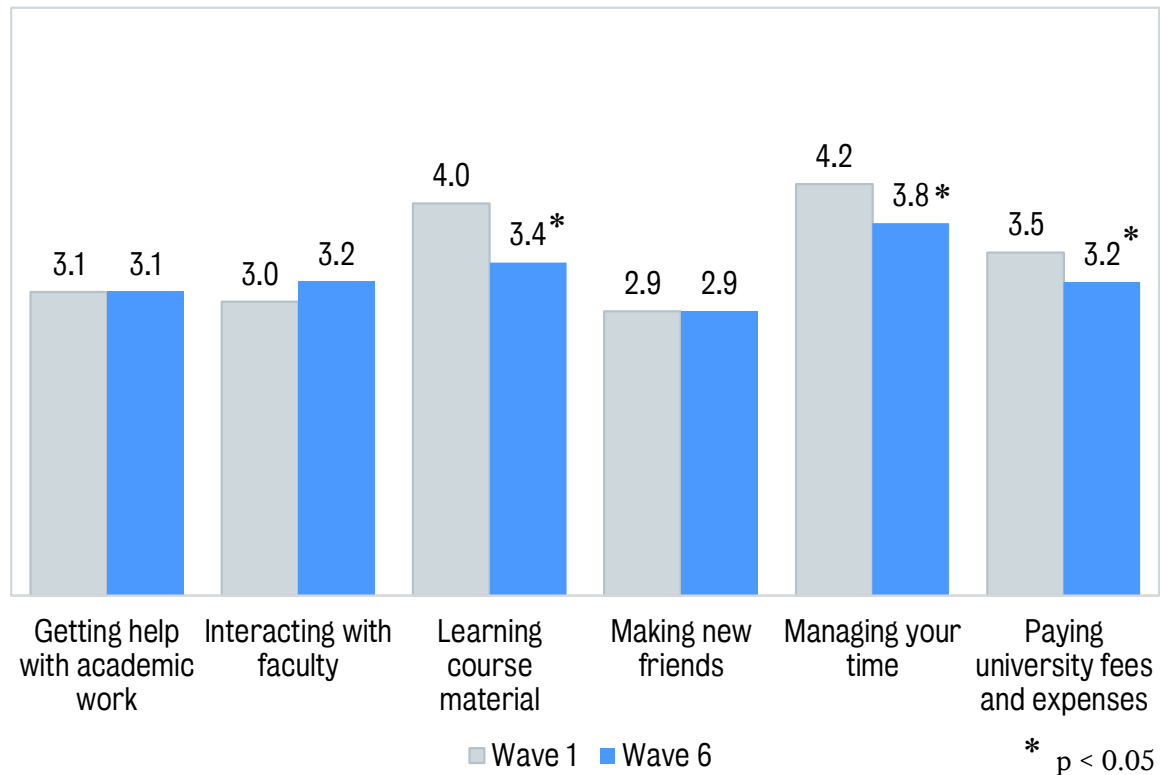
Figure 15: Anticipated difficulty of various activities (average rating, from 1 to 6, Wave 1)



¹⁵ For question source, footnote 14.

Looking overall at how difficult Wave 6 respondents felt various tasks had been, we see that they found learning course material, managing their time, and paying university fees significantly less challenging than they had anticipated they would be in Wave 1 (Figure 16). The scale of the reduction was similar for WP and non-WP groups across all categories.

Figure 16: Change in response between Waves 1 and 6 (Wave 6 respondents only)



In the final wave, we also asked students to reflect on their academic and intellectual development over the year (Figure 17).¹⁶ We found that although overall students were positive in their views, WP students were consistently marginally less positive about this (Figure 18).

¹⁶ This scale was also taken from Pascarella and Terenzini (see footnote 13).

Figure 17: Reflections on academic and intellectual development (% agree/strongly agree, Wave 6)

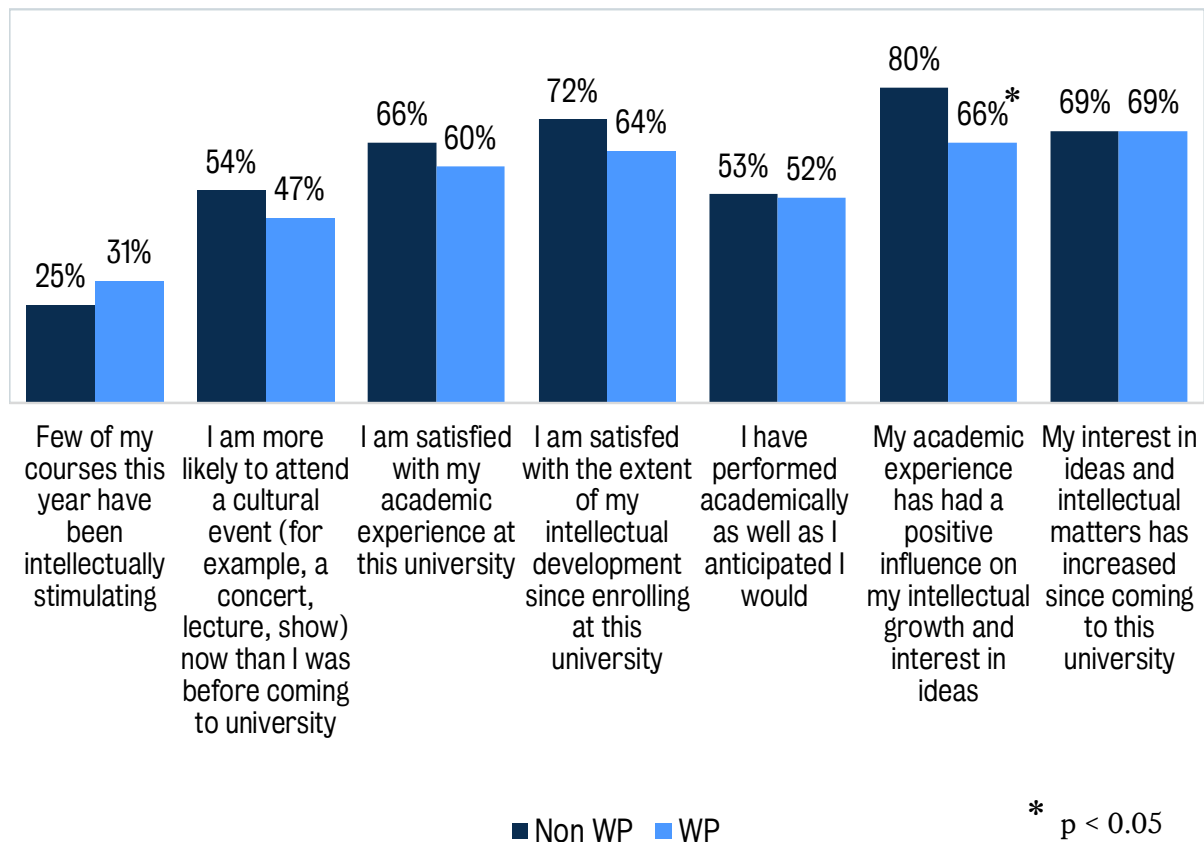
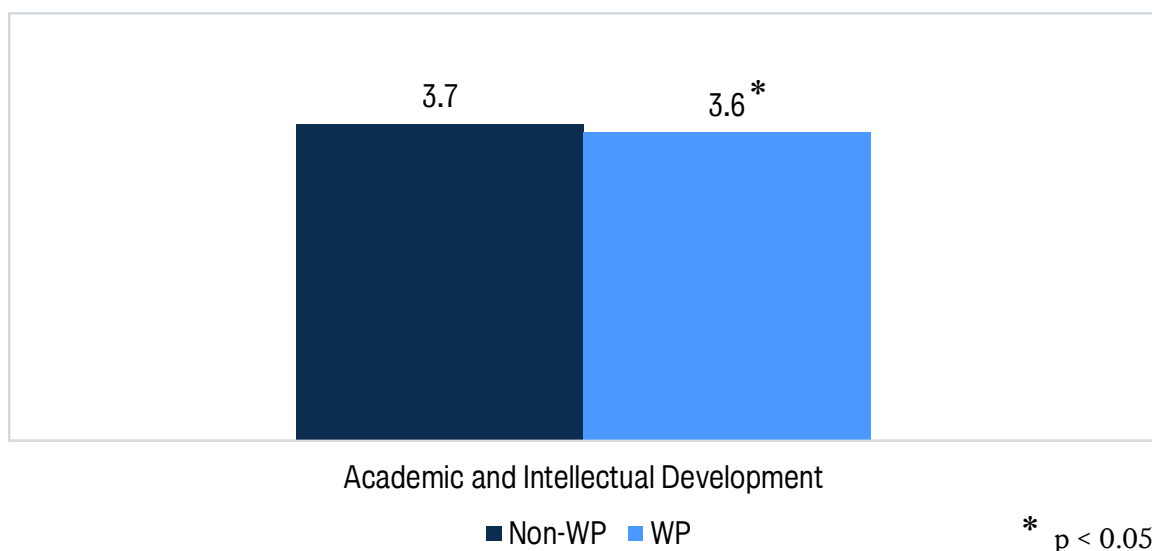


Figure 18: Overall ratings on the academic and intellectual development items (average out of five, Wave 6)



Wellbeing, Stress and Mental Health

We were interested in how students' feelings of wellbeing and stress varied over the year, so in each wave we asked them a 5-item Wellbeing questionnaire,¹⁷ the Perceived Stress Scale (4 items) and the Scale of Positive and Negative Emotions (12 items). We saw a persistent, and striking, trend across all these measures: WP students started the year expressing lower wellbeing and higher stress, fewer positive and more negative emotions. This gap closed in the middle two waves (January and March) before reopening in the final two waves, which covered the approach to exams, and the summer break (see Figure 19, Figure 20 and Figure 21).

Figure 19: Wellbeing (average rating across five questions, rating out of 10, all waves)

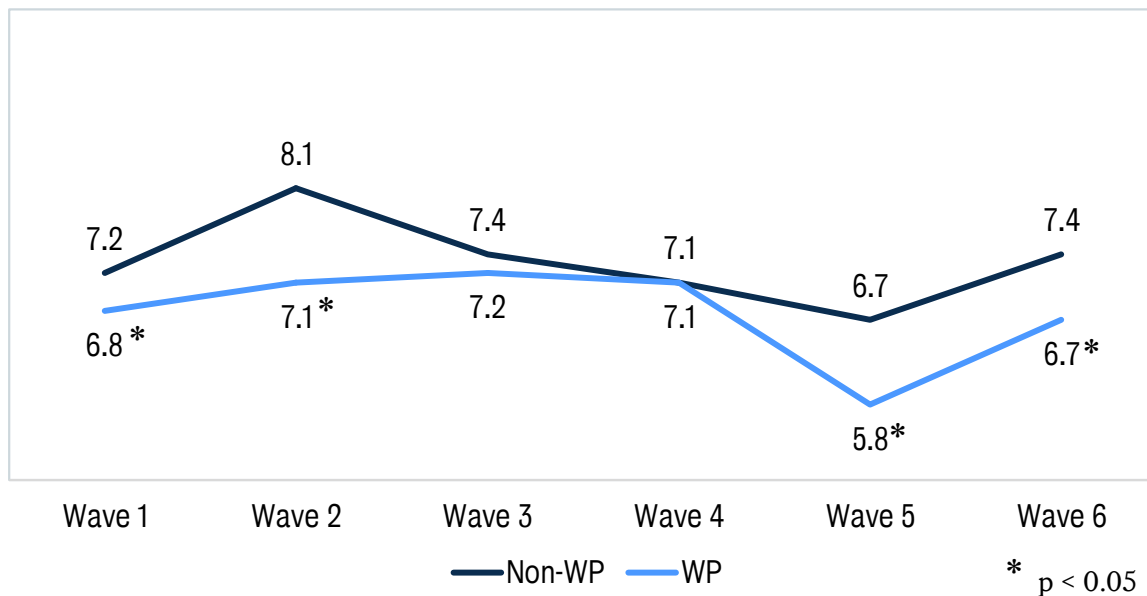
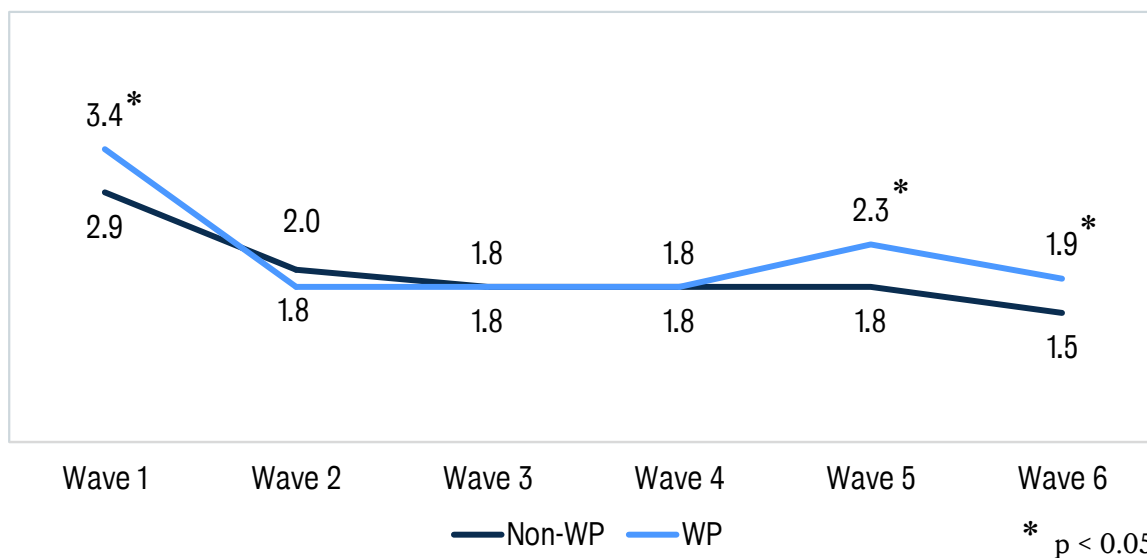
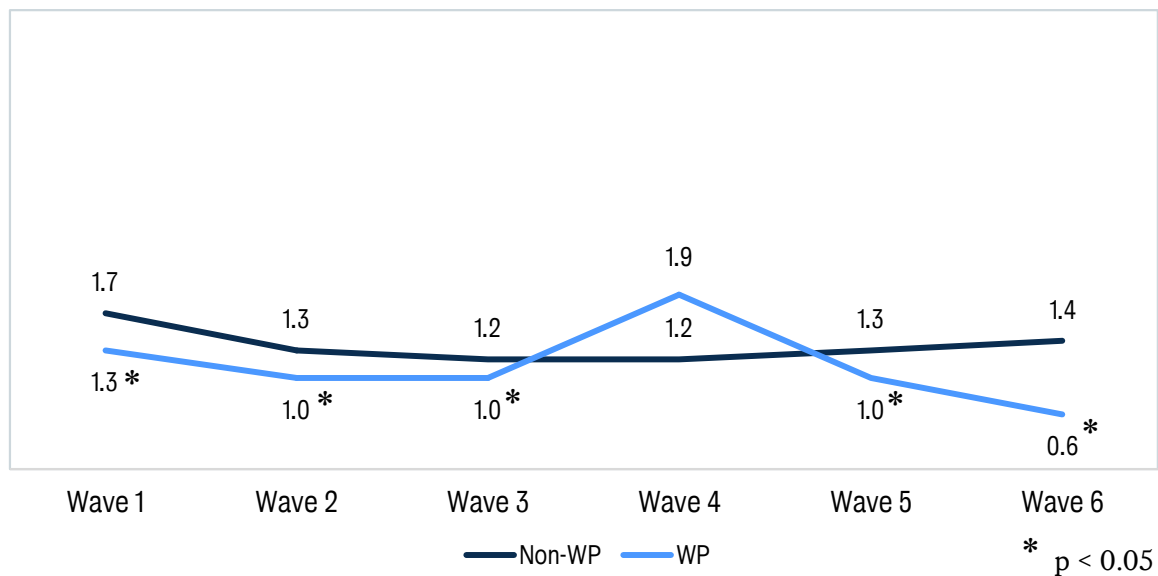


Figure 20: Perceived Stress Scale (average across four items, scored from 0 to 4, all waves)



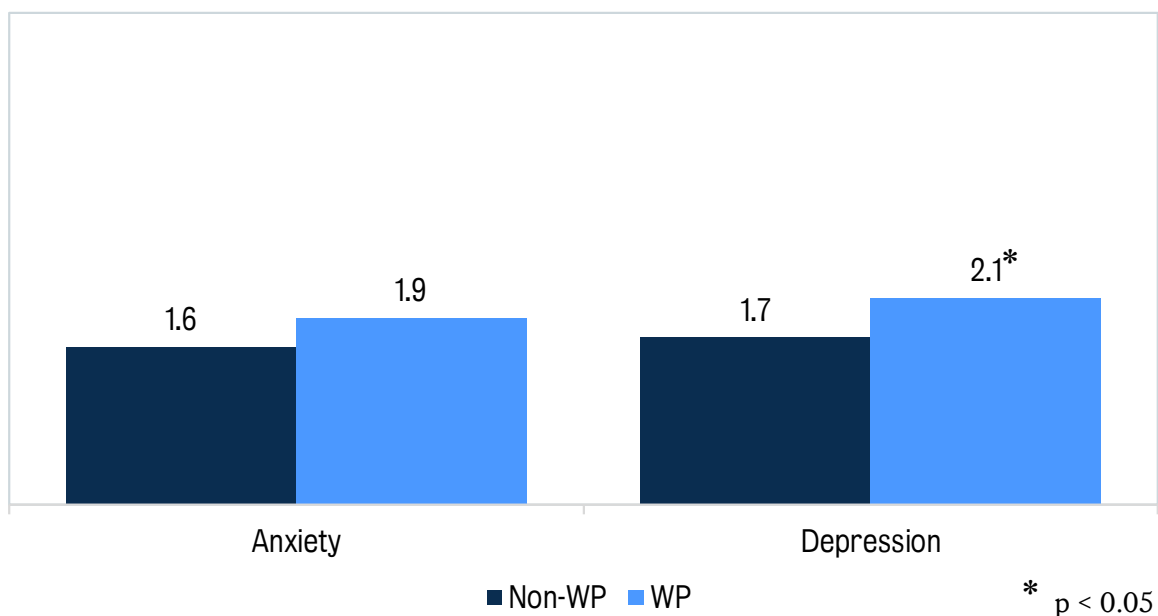
¹⁷ This comprised the average rating across four items from the Student Academic Experience Survey and a single-item Happiness scale.

Figure 21: Ratio of positive to negative emotions (all waves)



We also find some indicative evidence that WP students may experience higher levels of feelings associated with depression (Figure 22); this is based on a shortened scale and should be not be taken as a measure of mental health 'caseness'. This is, however, interesting given that in Wave 1, WP students had significantly lower scores on neuroticism, which is often associated with worse mental health outcomes.

Figure 22: Short scale of feelings associated with Anxiety and Depression (average agreement, from 1 to 4, Wave 6)



Student Identity

We asked the students several questions about their identity, including whether they identified more with their faculty or department, or the whole of King's (see Figure 23 and Figure 24).

All students overwhelmingly identified with their course (with around 65% placing it first and almost everyone placing it in their top three). WP students were significantly more likely to nominate all of King's as their top choice, and less likely to nominate their campus as number one. However, they were more likely than non-WP students to nominate their campus in the top 3. Overall, it is striking that students overall identify with their campus or the whole university more than their faculty or department.

Figure 23: Identification with areas of King's (% identifying as top choice, Wave 4)

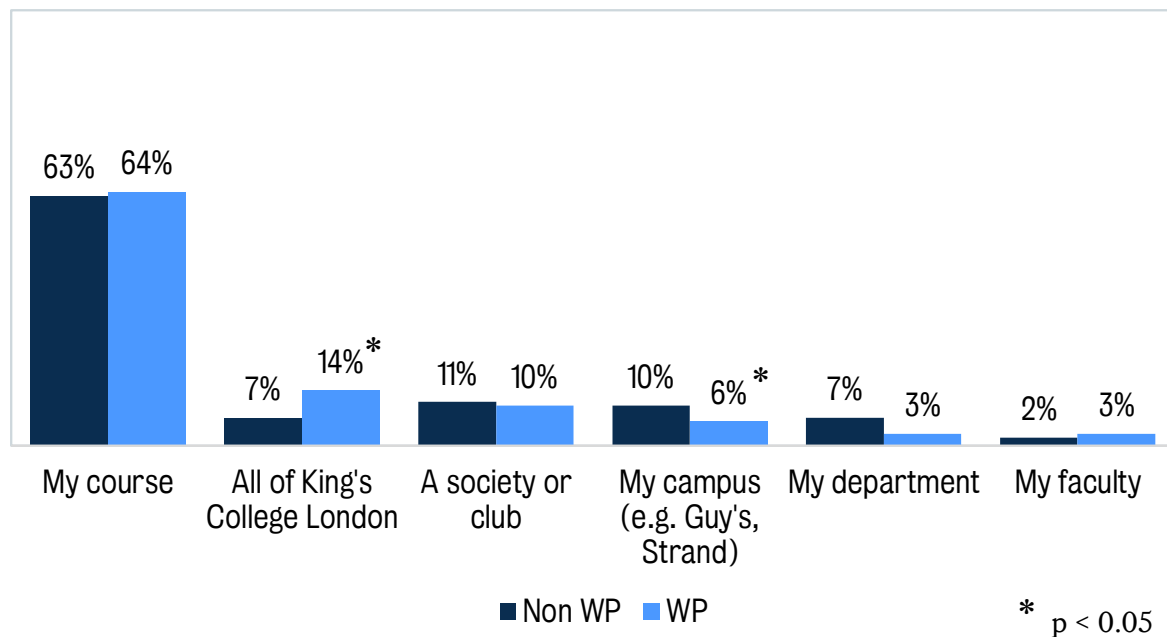
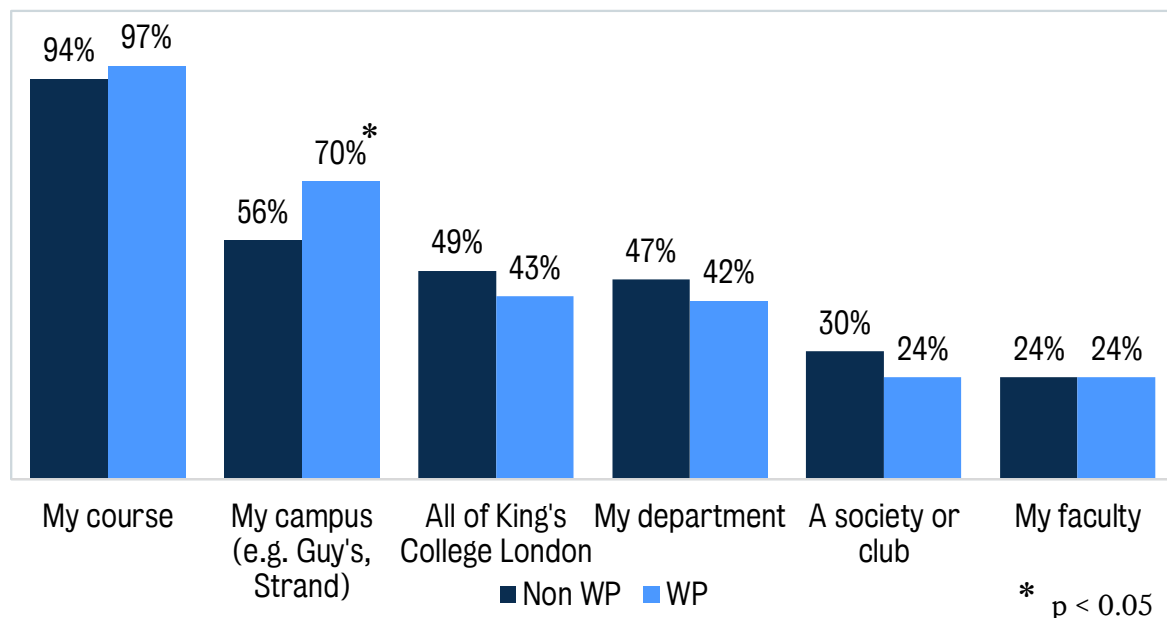
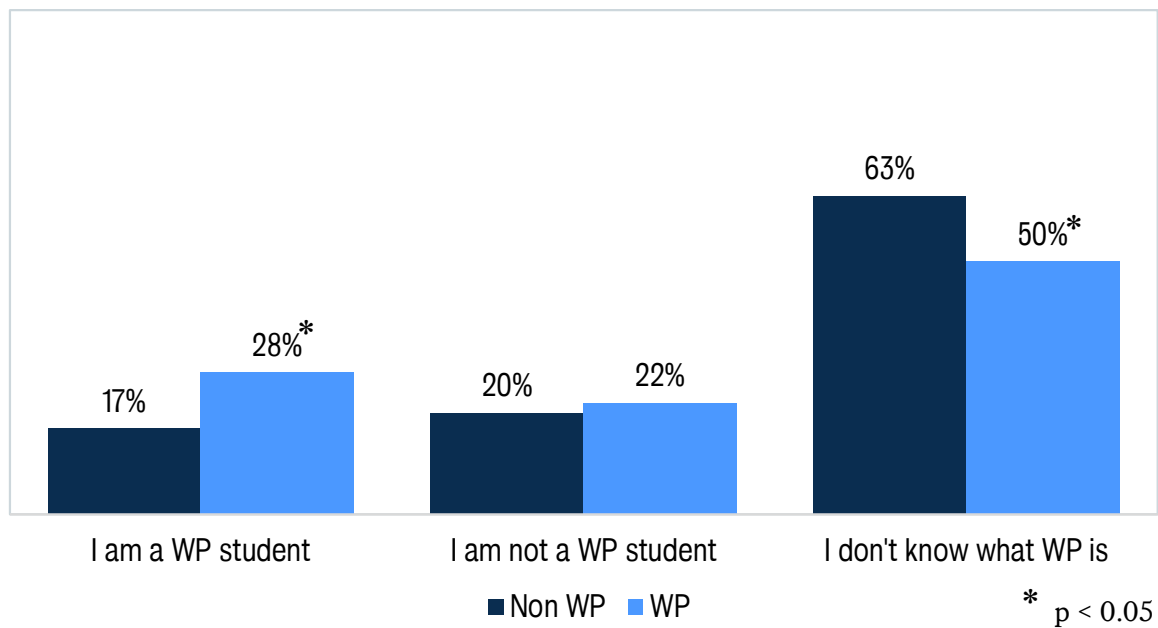


Figure 24: Identification with areas of King's (% identifying in top 3 choices, Wave 4)



We were also interested in whether or not students were aware of the term “widening participation”. Interestingly, we see only 30% of those we have identified (based on ACORN) as WP also identify with the term (Figure 25).

Figure 25: WP identity (% selecting, Wave 5)



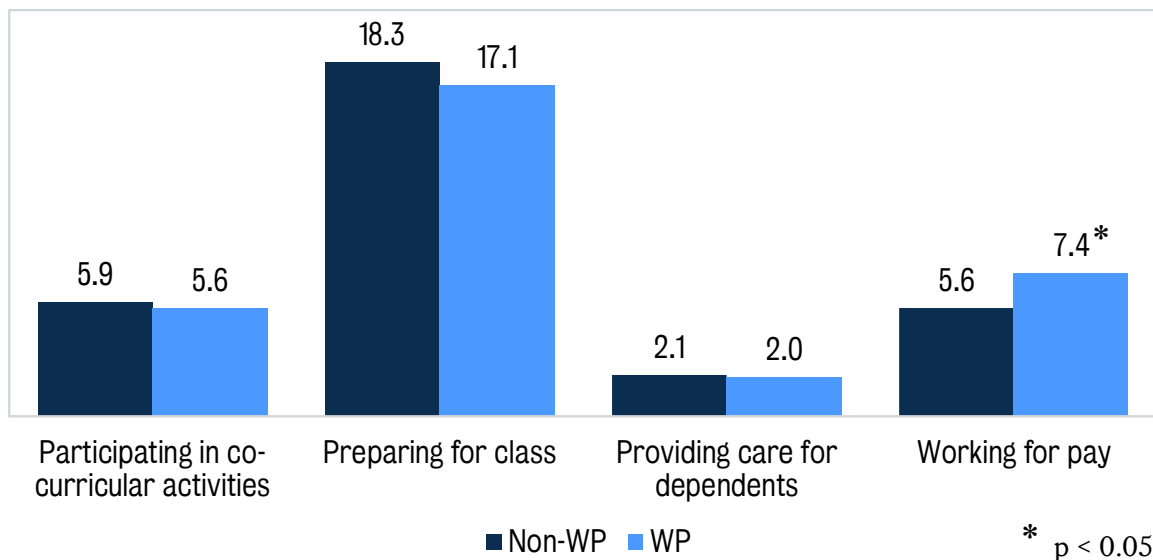
As discussed in the introduction (pg 8), there are many ways of identifying students who might be from “widening participation backgrounds”, including ACORN and POLAR, household income/bursary eligibility, or by other characteristics such as those in vulnerable student categories. It is therefore difficult to draw conclusions about those students from ACORN postcodes we classified as “WP” who responded that they weren’t WP students, and vice versa. There is a clear opportunity for future research on which WP flags are most predictive of a student identifying as WP or not.

However, the most interesting finding from this question is that despite the policy drive towards widening participation, most students overall did not know what “Widening Participation Student” was, including 50 per cent of students from postcodes in ACORN categories 4 and 5 who, even if they were themselves not from a WP background, might still be expected to attend schools or be in communities that were the target of WP activity.

Time use

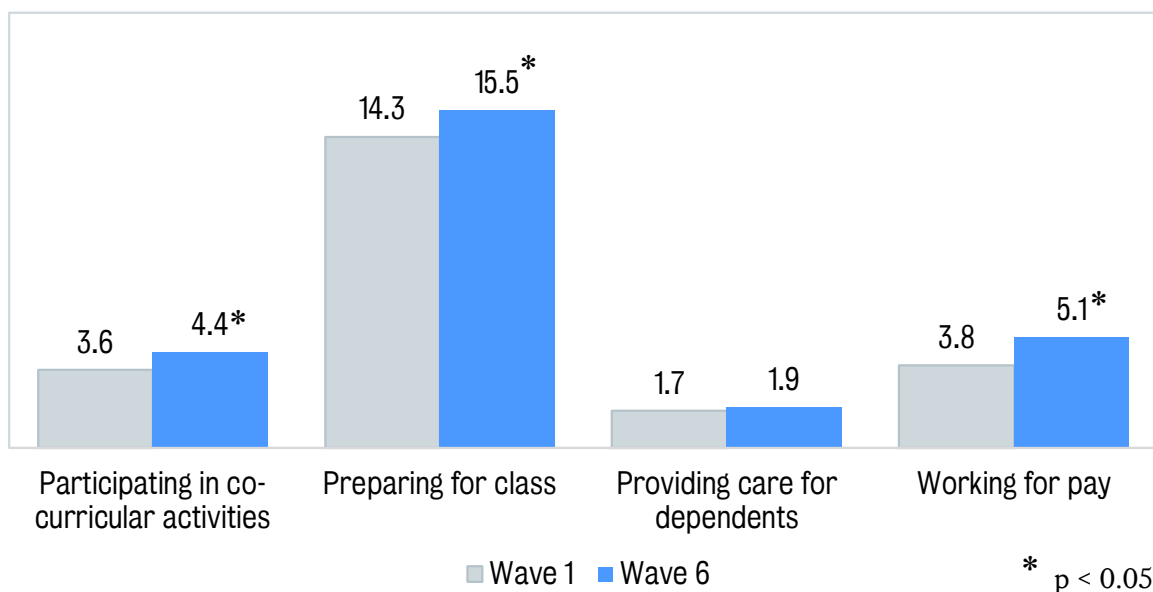
We asked students how much time they expected to spend on various activities over the year.¹⁸ WP students expected to spend significantly more time working for pay than non-WP students (Figure 26).

¹⁸ For question source, see footnote 14.

Figure 26: Expectations of how many hours will be spent (mid-point average,¹⁹ Wave 1)

When we compare the expected time use that Wave 6 respondents gave in Wave 1, to their estimated actual time use, we see, first, that those respondents who were retained to Wave 6 were those who, overall, expected to spend less time on all tasks.²⁰ However, we also see that these respondents spent significantly more time on all tasks than they expected to (Figure 27).

Figure 27: Expectations of time use vs reality (average hours Wave 6 respondents expected to do activity, Wave 1, and in hindsight estimated hours actually spent, Wave 6)



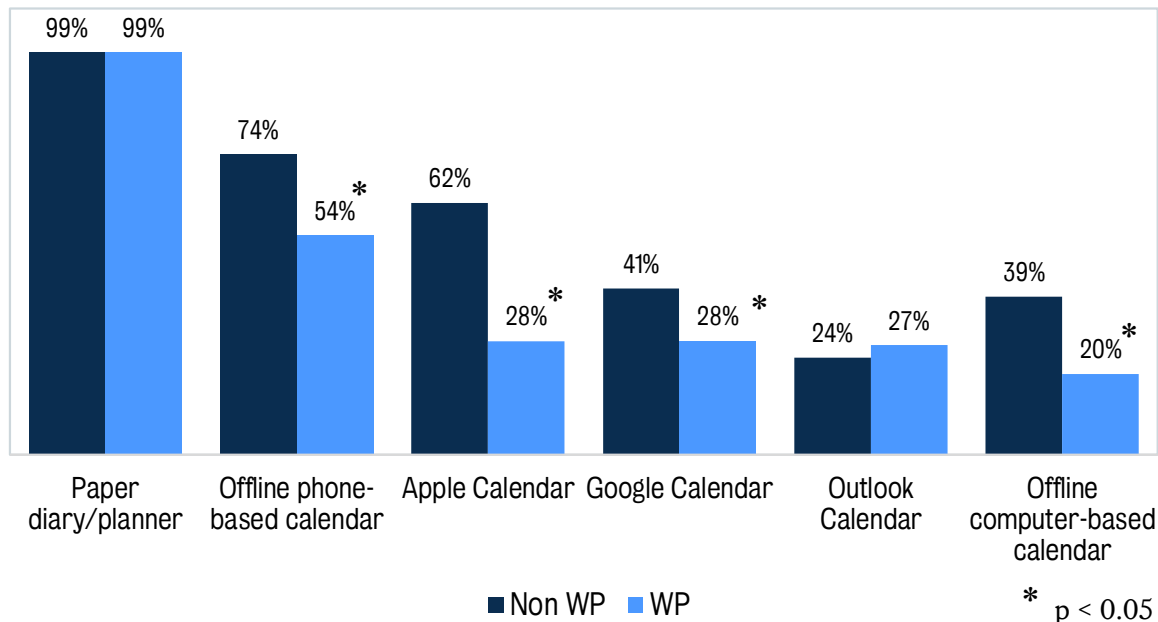
In Wave 2, we also asked students what types of time management tools they used (Figure 28). Almost all respondents (99%) said they used a paper diary to manage their time. We

¹⁹ The option categories for this question were 1-5 hours, 6-10 hours, 11-15 hours, 16-20 hours, 21-25 hours, 26-30 hours, and More than 30 hours. For each band, we selected the midpoint of the band as the number of hours expected. So, for those who estimated 1-5 hours the midpoint was 3, for 6-10 hours the midpoint was 8 and so on. We used 35 as the midpoint for responses of "more than 30 hours".

²⁰ See "Expectations and Reflections" (pg. 19) for an explanation of why this occurs.

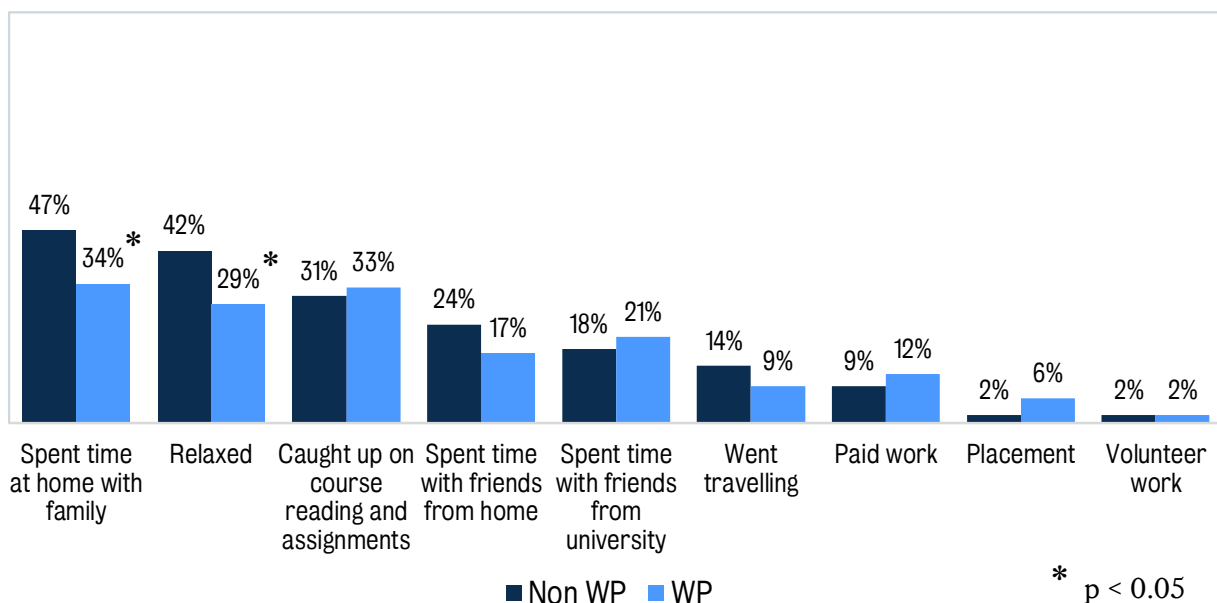
also observed that significantly fewer WP students identified using any other form of time management tool. This was asked very early in their first year; it would be interesting to establish whether use of different tools varies as students become more accustomed to university life, or whether they continue to use mainly paper diaries.

Figure 28: Use of time management tools (% selecting, Wave 2)



Lastly, in Wave 4, we asked students how they had spent their time during reading week, if they had one (Figure 29). We found that WP students were less likely to have spent time at home with family, and less likely to have relaxed. It is not clear what these students were doing instead. Although some of the averages are directionally higher (for example “Paid work”), these are not close to statistically significant.

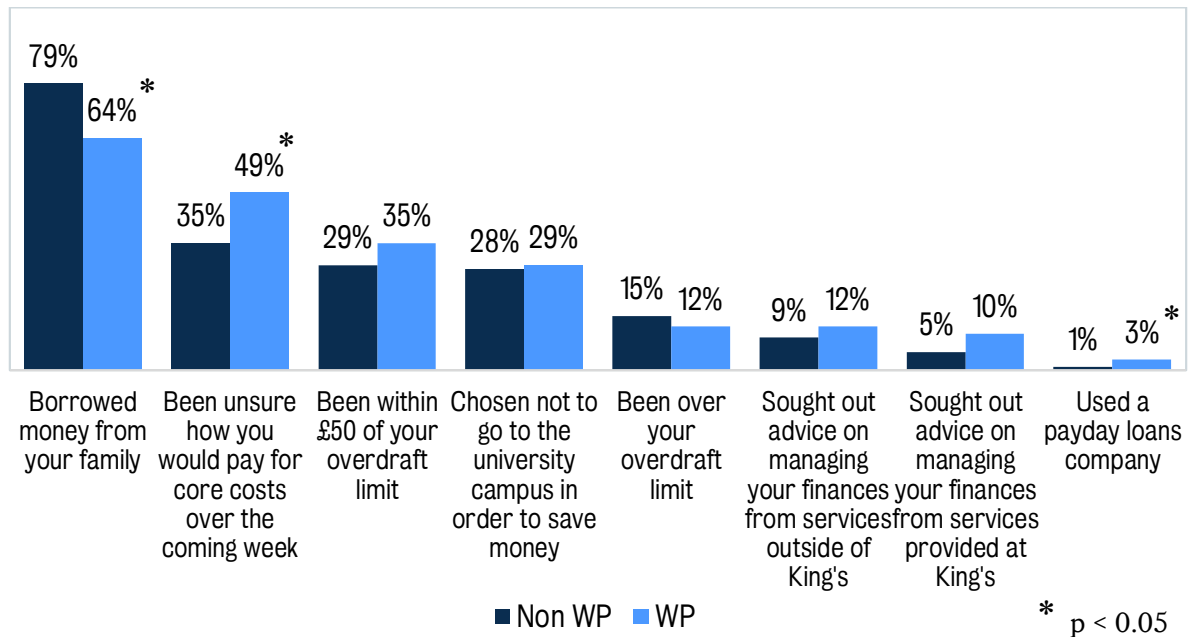
Figure 29: Reading week time use (% saying they had done, Wave 4)



Money

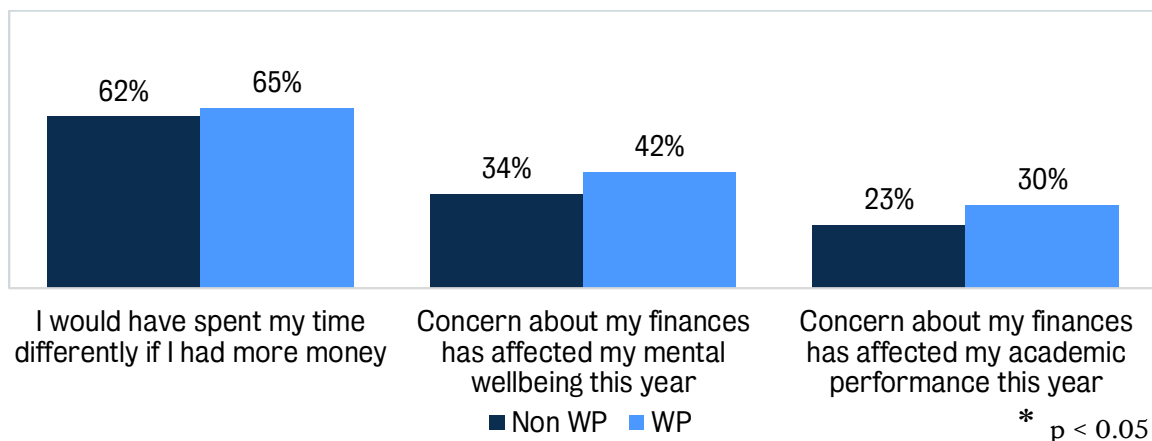
In Wave 6, we asked students about how their first year experience had been with regards to money (Figure 30). We found that 80% of non-WP students and 65% of non-WP students had borrowed money from their family. Strikingly, almost half of WP students said they had been unsure of how they would pay for core costs during the coming week. A small proportion of students identified that they had used a payday loans company, this was significantly higher for WP students (3% vs. 1% for non-WP).

Figure 30: First year money issues (% saying they had done, Wave 6)



We also asked students how money had affected their time at King's (Figure 31). Almost two thirds said they would have spent their time differently if they had more money—it's worth noting that we did not ask which activities students felt they had foregone (for example, students might have been thinking they would have done more eating out). A third of students agreed that concern about their finances had affected their mental wellbeing and one in four students felt that it had affected their academic performance; both were directionally but not significantly higher for WP students.

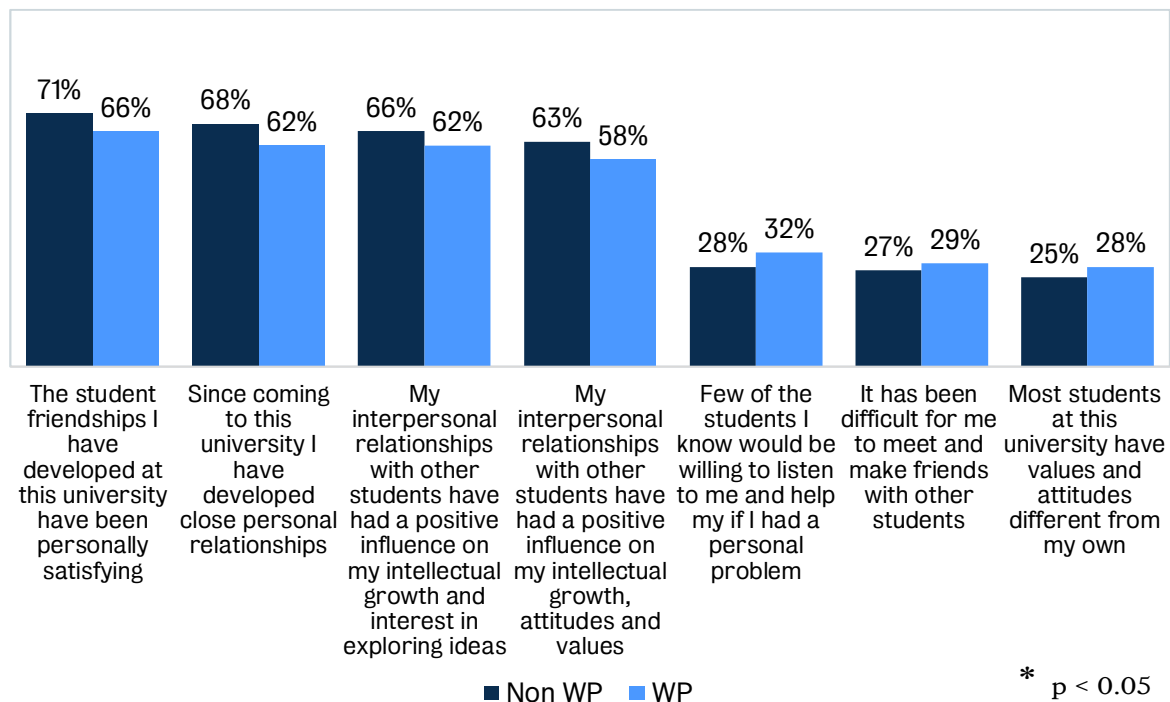
Figure 31: Consequences of money issues (% agree/strongly agree, Wave 6)



University Friendships

We were interested in whether students had developed strong friendships with other students over the course of their first year. To gauge this, we used Pascarella and Terenzini's²¹ Peer Group Scale, which we asked in Wave 2 and again in Wave 6. In Wave 2, we saw directionally that WP students were less positive about their peer groups (Figure 32).

Figure 32: Ratings of peer group interactions (% agree/strongly agree, Wave 2)



When we repeated the set of questions in Wave 6, we saw that, among Wave 6 respondents, they were overall more positive and more likely to agree with that their friendships were meaningful (Figure 33). However, an overall the imbalance between WP and non-WP students persists (Figure 34). In addition, we also saw significantly lower ratings for some faculties and by ethnicity (specifically, among Black and Black British students) in Wave 2, and in Wave 6 Black and Black British students continued to be less positive about their peer group, and males were also significantly less positive than females in this wave.

²¹ See footnote 13.

Figure 33: Change in ratings of peer group interactions (Wave 6 agreeing/strongly agreeing, Wave 2 and Wave 6)

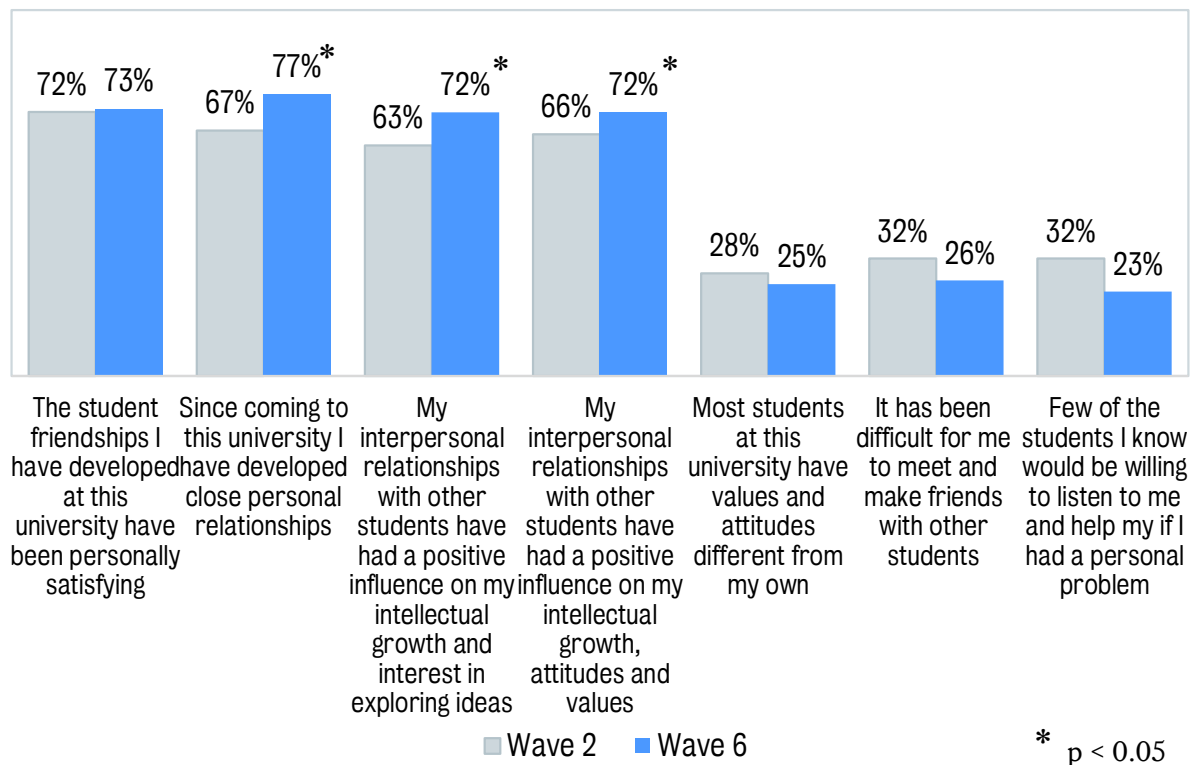
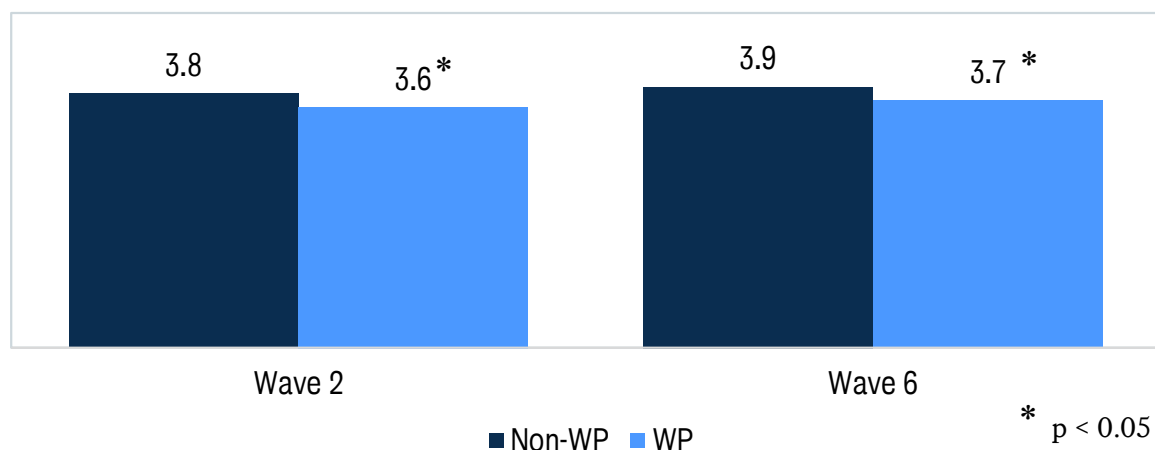
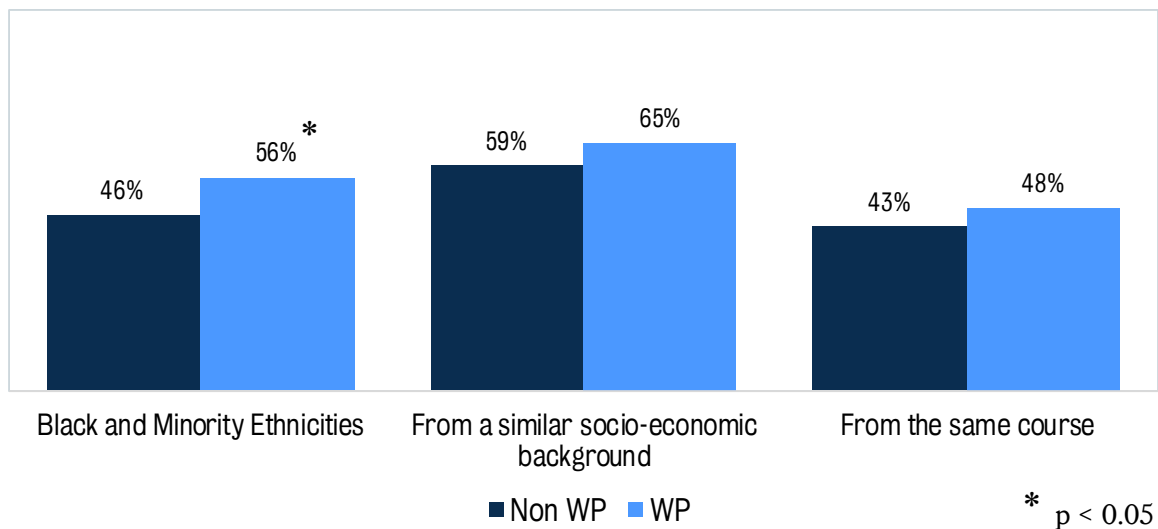


Figure 34: Overall average ratings of peer group interactions (out of five, Wave 2 vs. Wave 6)



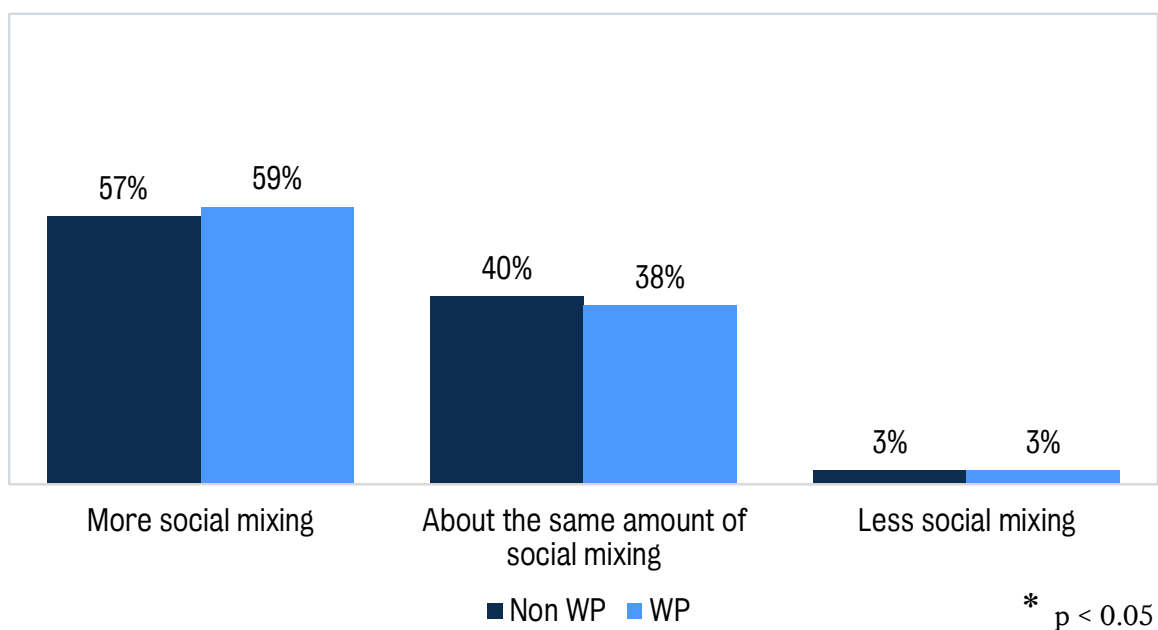
We also asked students about their friendship groups: we asked them to think of up to five people they have most enjoyed spending time with at King's, not necessarily King's students, and then to tell us those students' genders, ethnicities, socio-economic background and how they knew the individual. We found that WP students were significantly more likely to nominate friends from black and minority ethnic backgrounds, that more than half of students (WP and non-WP) felt their friends were from similar socio-economic backgrounds, and that many students had enjoyed spending time with others on their course (Figure 35).

Figure 35: Percentage of close friends... (Wave 5)



Lastly, we asked students whether they thought there should be more social mixing at King's (Figure 36).

Figure 36: Views towards social mixing at King's (% selecting. Wave 5)



Interactions with the University

We wished to know how students felt about their interactions with faculty. To gauge this, we used the Pascarella and Terenzini²² "Faculty Interactions" scale (Figure 37). Overall, students found the teaching staff excellent, and thought they were interested in students, but fewer than half felt teaching staff were interested in them beyond academic areas, and in

²² See footnote 13.

general students did not find teaching staff particularly accessible outside class time. On this scale, we found no difference overall between WP and non-WP students (Figure 38).

Figure 37: Faculty interactions (% agree/strongly agree, Wave 3)

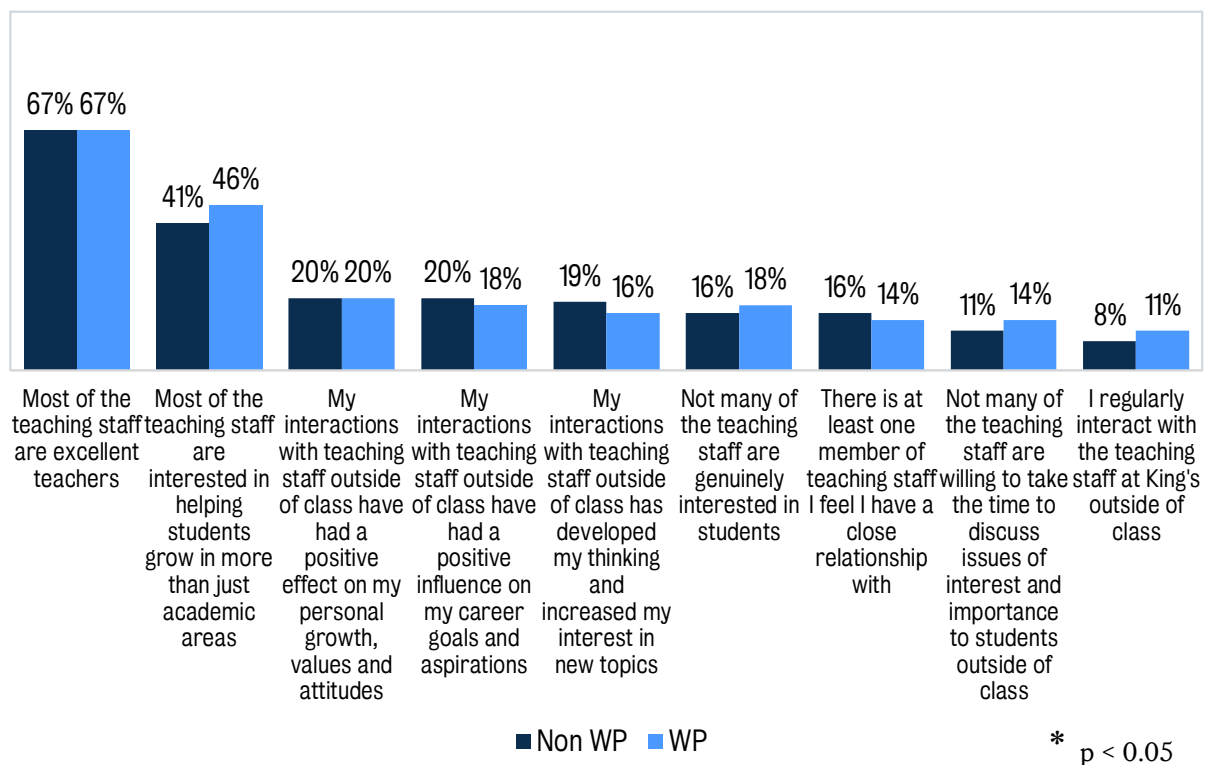
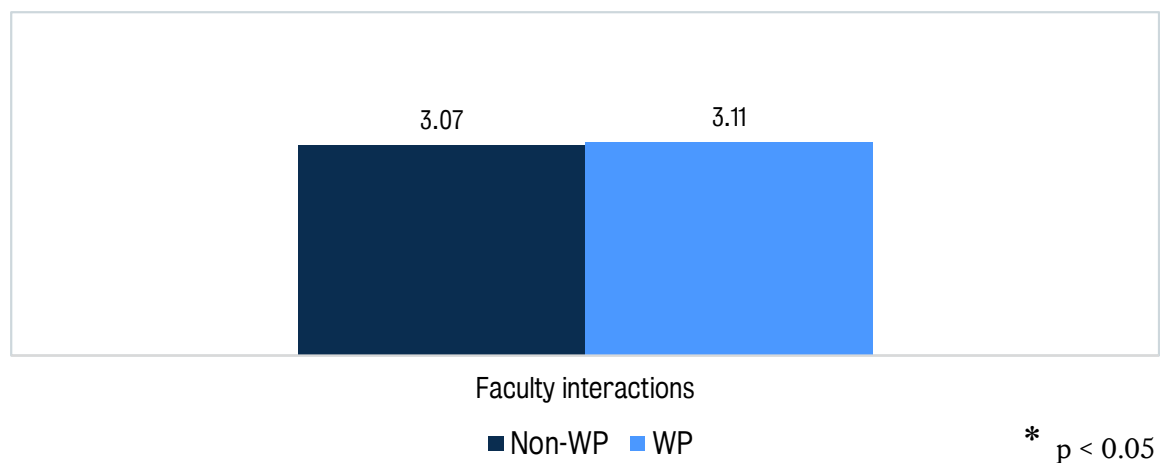
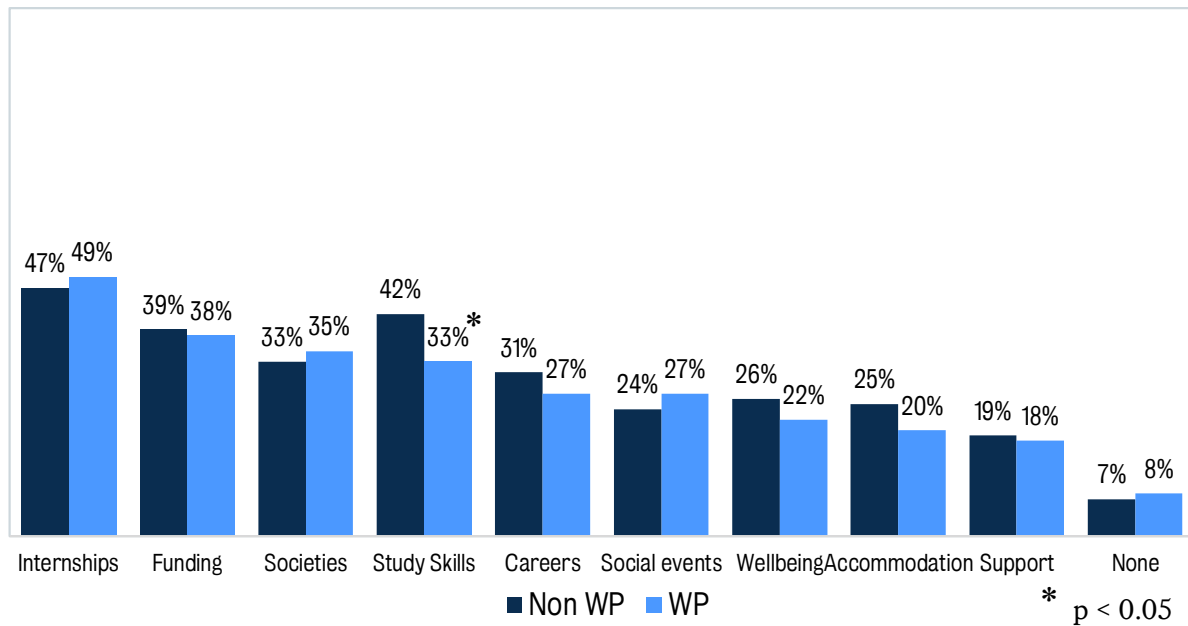


Figure 38: Overall average ratings of faculty interactions (out of 5, Wave 3)



In Wave 4, we asked students which areas they would like to receive more guidance from King's on (Figure 39). Almost half the students nominated Internships (interestingly, in comparison, only a third nominated Careers, which is arguably the same thing). For non-WP students, the second most frequently nominated area was Study Skills; however, WP students were significantly less likely to nominate this. Other areas of high interest were Funding and Societies.

Figure 39: Areas where more guidance sought from King's (% selecting, Wave 4)



III. Trialling interventions

Background

The undergraduate student experience is highly stratified and student disadvantage does not melt away at the doors of our university. We wished to ensure widening participation learners had as full and enriching experiences as their peers.

The behavioural insights approach takes insights from the social and behavioural sciences and operationalises them into the design of policies, programmes and services. A tenet of these literatures is that behaviour is complex and difficult to predict, and that even individuals themselves may struggle to accurately predict or explain their own behaviour. Robust empirical research methods, particularly the use of Randomised Controlled Trials (RCTs), is a cornerstone of the behavioural insights approach.

We were committed to evidence-led practice and continuing research. Because we were implementing approaches that had not been tried in King's before, we wanted to know whether they were having the desired effect; and, if not, to have enough information to learn and adapt the approach. We therefore evaluated all the interventions trialled in KCLxBIT using RCTs.

Randomised Controlled Trials

Year 1: Exam SMS

The aim of this intervention was to help students attend exams by encouraging them to put the session in their diary or to consider their travel plans in advance and how they might overcome any obstacles that are likely to arise. The Student Journey Workshops (pg 10)

suggested two major withdrawal points for first years: Christmas in the first year (often manifesting in failure to attend exams in January) and the post-exam period in the first year.

This trial included 3196 first year undergraduate students, of whom 1577 were in the treated group. Approximately 500 of these students fell into ACORN categories 4 and 5 and were therefore classed as WP students. Participants were randomly allocated to the treatment or the control condition. Participants in the control group received no text messages, while treated participants received three from a service named 'King's Tips'. The full text of the messages is in Table 2.

Table 2: Exams SMS content

Message date	Content
Message 1 – 17/12/2015	“Hi [Name], this is King's Tips, a pilot service from King's College London. We will occasionally text you to help you make the most of your time at uni. More details: www.kcl.ac.uk/xx We hope you are enjoying your well-earned break [Name] and suggest you plan the work ahead to prevent last minute stress! King's Tips”
Message 2 – 04/01/2016	“Welcome back #FirstName#! We hope you are settling back in. Don't forget, Student Services are always ready to help answer any of your needs. Find them online - https://tx.vc/r/1Pk4/jXXpg/7SMX6TR and on campus @ the Compass. King's Tips”
Message 3 – 08/01/2016	“Hello #FirstName#. Good luck for your exams! Check your exam location & plan your journey to arrive 45 mins before the start. Remember your ID! King's Tips”

Faculty administrators provided data for the analysis. One key finding was that approximately a third of the phone numbers supplied by students to King's records were no longer correct by the time we delivered this intervention; this means we had to investigate the effect of the “intention to treat” participants with the messages.

We found no significant effect of the text messages on exam attendance (see Figure 40).

Figure 40: Estimated likelihood of not attending January exams among first year students and KCL, by treatment allocation

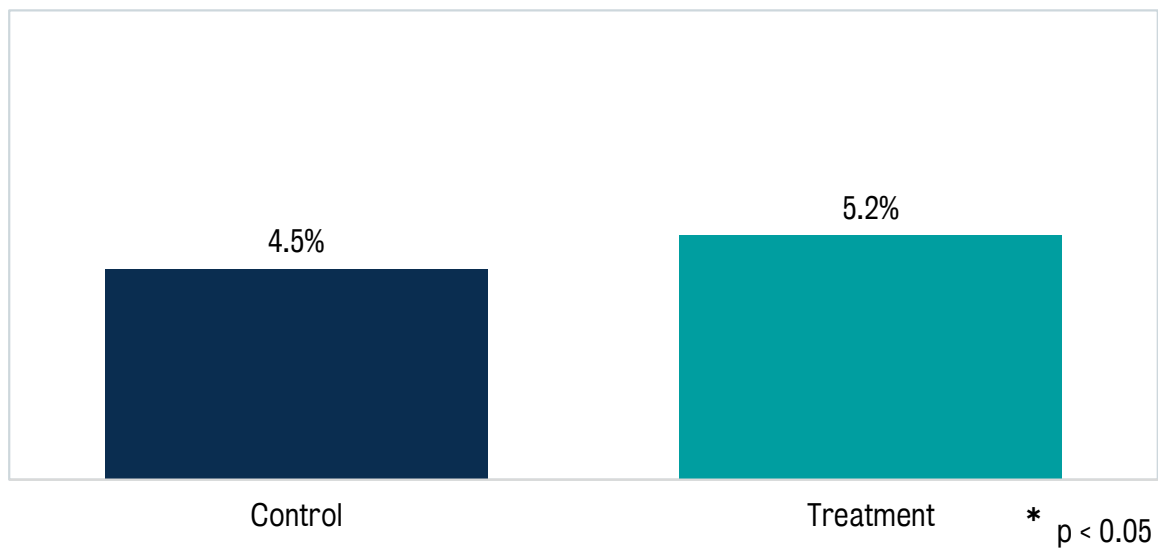
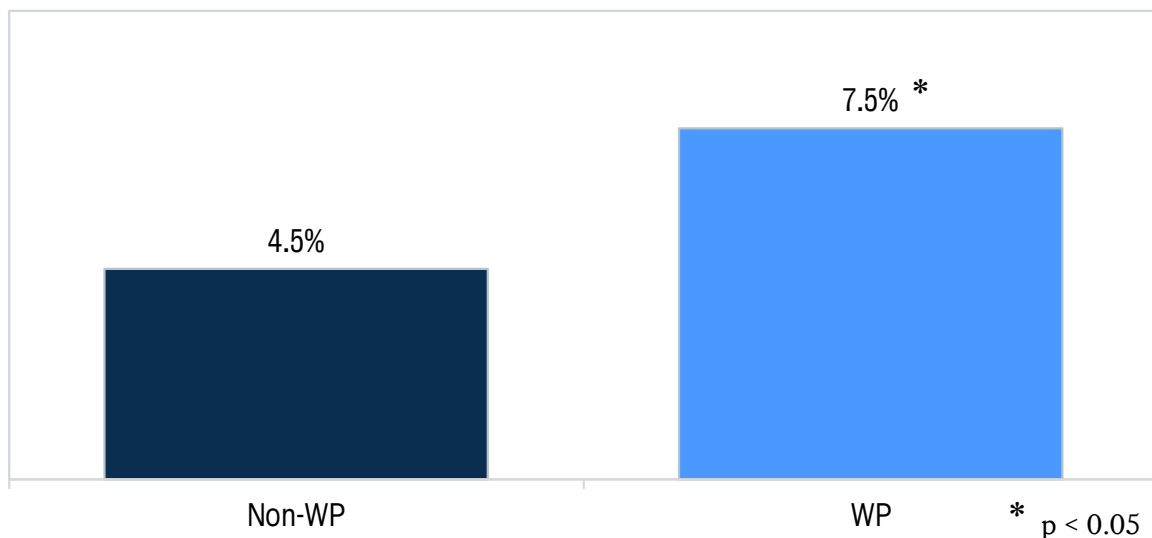


Figure 41: Estimated likelihood of not attending January exams among first year undergraduate students, by WP status



The proportion of students who attend their first January exams is very high – we didn't know this until we collected the outcome data. The 4.5%-7.5% of students who don't return are possibly facing structural challenges that are difficult to 'nudge', or are facing other issues than planning, which is what the intervention focused on. We didn't see an effect on attainment either, which is perhaps not surprising given the messages were focused on planning and attendance.

Years 1 and 2: King's Community Ambassadors

Although there is a good range of services available at King's, some students feel that more should be done to create opportunities for them to express how they feel and that the onus

should not always be on them to seek the services they need. They also feel that King's can sometimes be large and lonely.

The aim of King's Community Ambassadors was to help first year students settle into university by having a 2nd or 3rd year student phone them at specific points in the year to ask them questions about their time so far, get feedback on their experience and direct them to the relevant support services where needed. We hoped to increase student retention rates as well increase students sense of belonging through peer-to-peer support.

KCA was developed by Student Services—now Student Success—while the KCLxBIT project team supported on message design and evaluation. In the first year of the project, we partnered with the Faculty of Natural and Mathematical Sciences to pilot KCA, and our final sample size for this intervention was 727 students who had a mobile number on record. Of these, 362 were in the treated group. Approximately 180 of these students were classed as WP students. Students in the control group received no communication, while treated students received three rounds of phone calls with a text message before each round of calls to inform them they would receive a call in the following days. The content of the text and dates of the subsequent calls are given in Table 3.

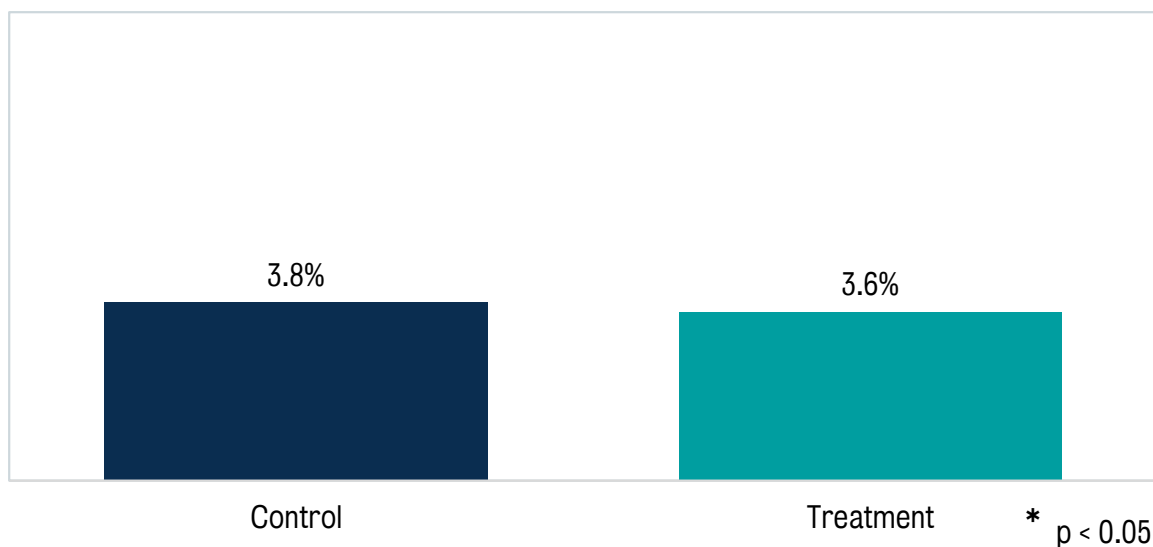
Table 3: Content of KCA communications

Communication	Date	Message content
Text message 1	26/01/2016	Hi #FirstName#, it's King's College London Community Ambassadors. We will call you on Wednesday or Thursday to discuss how you are doing and how you can make the most of your time at uni. For more details: #link
Phone call round 1	27/01/2016 28/01/2016	
Text message 2	26/04/2016	Hi #FirstName#, it's King's Community Ambassadors. We will call you on Weds or Thurs to discuss how you are doing and how you can make the most of your time at uni. For more details, click here: #link
Phone call 2	27/04/2016 28/04/2016	
Text message 3	20/06/16	Hi #FirstName#, it's King's Community Ambassadors. We will call you tomorrow to discuss how you are doing and how you can make the most of your time at uni. For more details, click here: #link
Phone call 3	21/06/16	

We analysed the effectiveness of the pilot intervention, comparing NMS students who were allocated to KCA with those who were in the control. We didn't exclude individuals who didn't answer the calls, meaning that this was an "intention to treat" analysis, similar to the exam SMS trial (pg 35).²³

Overall, we found no significant difference in withdrawal rates between the two groups (see Figure 42). However, it is worth noting that dropout rates are already quite low – they are 3.8% in the control group – meaning that 96.2% of students re-enrolled.

Figure 42: The effect of treatment assignment in the King's Community Ambassador programme on withdrawal rates for 2015/6 first year NMS students across treatment and control groups



For Year 2 of King's Community Ambassadors, the number of Faculties included as part of the invention was expanded to three Faculties, with the aim of establishing whether a larger group may show whether the scheme has any effect on student retention rates. The groups selected for Year 2 of the pilot were students in the Faculty of Natural and Mathematical Sciences, the School of Bioscience Education, and the History, Liberal Arts, Theology, Classics, Film Studies in the Faculty of Arts and Humanities. We also moved the first set of calls to November to pre-empt Christmas withdrawals.

As for Year 1, to be eligible for this trial students had to be a first-year undergraduate student from one of the selected Faculties and have a mobile phone number on record. The number of students for all three Faculties in this intervention were as follows:

- Faculty of Natural and Mathematical Sciences: 881 students.
- School of Bioscience Education: 661 students.
- Selected Departments from the Faculty of Arts and Humanities: 599 students.

²³ The reason for this is that we can't change the composition of the treated group without doing the same to the control. Since we couldn't observe which students in the control group wouldn't have picked up their phones if they had been treated, and therefore couldn't exclude them, we also couldn't exclude no answers from the treatment analysis.

There were 2141 students overall and the final sample size for the intervention was 2095 over all three Faculties. As in Year 1, participants were randomly allocated to the treatment or the control condition. Participants in the control group received no communication, while treated participants received three rounds of phone calls with a text message before each round of calls to inform them they would receive a call in the following days.

The content of the text and dates of the subsequent calls are outlined in Table 4.

Table 4: Content of KCA Year 2 communications

Communications	Date	Message content
Text message 1	11/11/2016	Hi #Name, it's King's College London. We will call you on ~Monday or Tuesday to discuss how you are doing and how you can make the most of your time at uni. For more details: #link
Phone call round 1	14/11/2016 15/11/2016	
Text message 2	27/01/2017	“Hi #Name, its King’s College London. We want to make sure you’ve got everything you need while you’re here, so a student from 2 nd /3 rd year is going to call you on Monday or Tuesday evening to check in and answer any questions you might have. For more details: #link. P.S. the call will be a withheld number, but it’s us!”
Phone call 2	30/01/2017 31/01/2017	
Text message 3	21/04/2017	“Hi #Name, its King’s College London. We want to make sure you’ve got everything you need while you’re here, so a student from 2 nd /3 rd year is going to call you on Monday or Tuesday evening to check in and answer any questions you might have. For more details: #link. P.S. the call will be a withheld number, but it’s us!”
Phone call 3	24/04/2017 24/04/2017	

Retention was again the primary outcome measure for King’s Community Ambassadors, referring to whether a student withdrew between 1 November 2016 and 13 September 2017.

In addition to retention, we also included two exploratory outcome measures:

- A measure of student attainment, calculated as the pass rate for each student, taken as a fraction of the classes they passed out of the total number of modules they completed.
- The response to a survey question “I feel like I belong here at King’s”, students were asked to respond on a scale between 1 (Strongly Disagree) and 5 (Strongly Agree). This was administered via an SMS/email survey where students could text back the number corresponding to their response, or click through to an online survey.

Unfortunately, we found no significant impact of the Kings Community Ambassadors on withdrawal rates (see Figure 43), or on academic attainment for Year 2 (see Figure 44). We were only able to collect belongingness responses from 846 of the 2095 students in scope for KCA, and saw no significant effect for these students (see Figure 45). However, the students in the KCA group had directionally more positive results on all indicators.

Figure 43: The effect of treatment assignment in the King’s Community Ambassador programme on withdrawal rates for 2016/7 first year students from the selected Faculties for Year 2

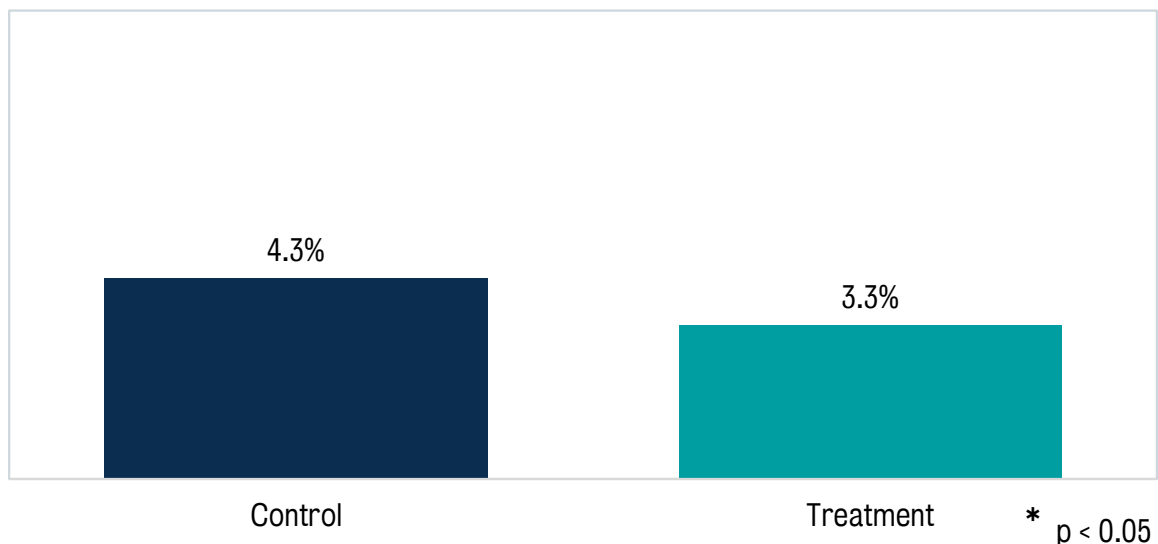


Figure 44: The effect of KCA treatment assignment on the 2016/2017 exam pass rate

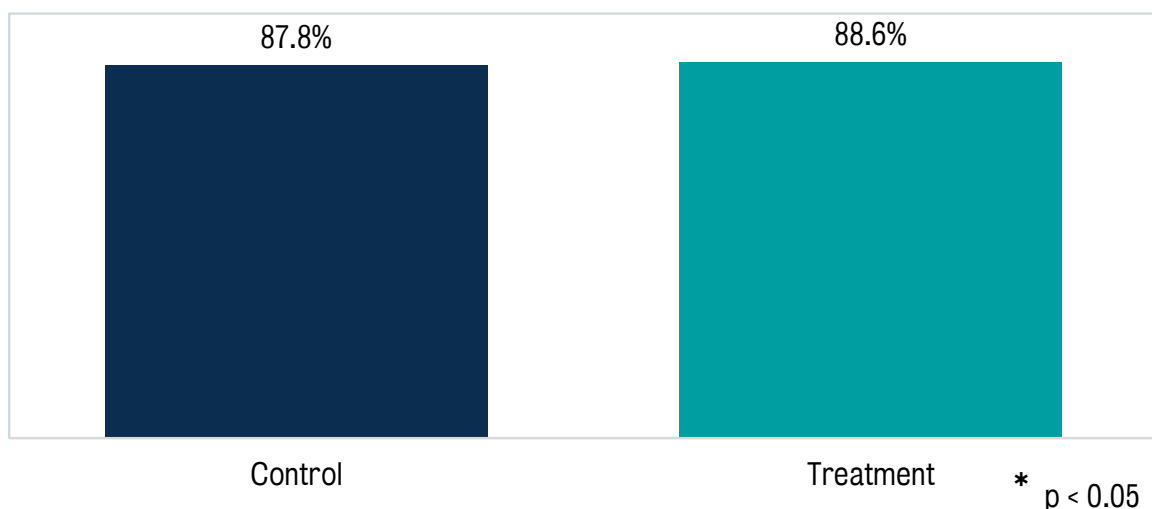
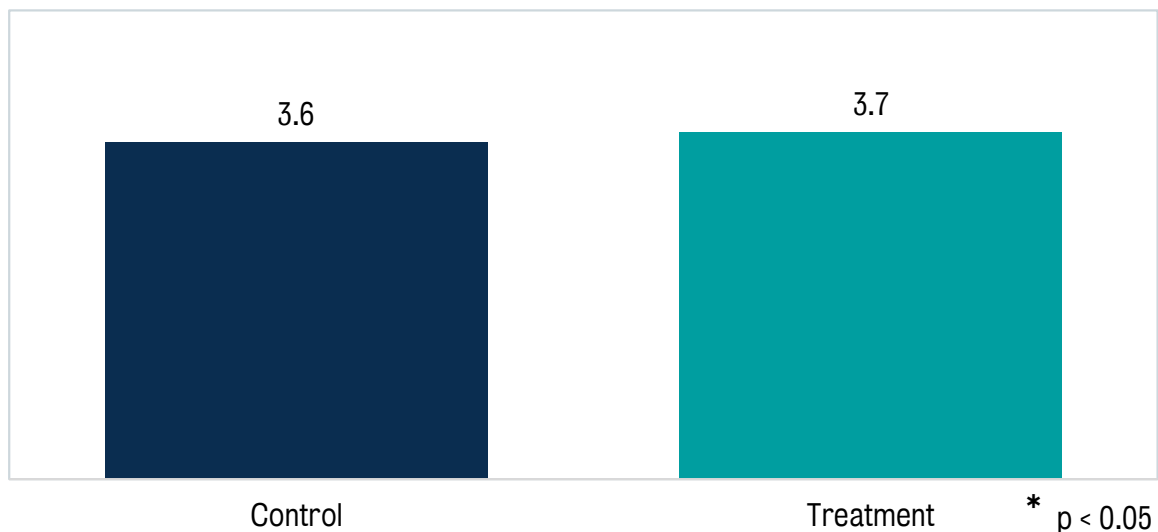


Figure 45: The effect of treatment assignment in the King's Community Ambassadors programme on self-reported belonging (1-5) ratings



Overall, we saw no significant impact on retention of KCA in either Year 1 or Year 2. The results of the trial show how difficult measures such as retention and attainment are to shift overall. It is promising that the results of the trial are directionally positive. We wished to evaluate KCA against a softer measure of belonging in Year 2, but owing to logistical challenges we weren't able to collect this from a sufficient number of the students in scope for KCA. KCA is running with all faculties in 2017/18, and we're continuing to evaluate the impact of KCA on attachment to King's, using a quasi-experimental approach.

Years 1 and 2: Study abroad

Study Abroad is a standout element of many people's university experience. However, take-up is surprisingly low – only around 3-5% of a cohort apply in the main funding round at King's. We therefore identified Study Abroad as an under-used opportunity very early in the project.

In Year 1, we wished to increase the number of students considering and applying for Semester 2, 2016/17 Study Abroad opportunities, which closed in May 2016. Our final sample size for this intervention was 4273 students, of which 2103 were in treatment and 2170 were in control.

We designed a set of messages to prompt students in the treated group about a briefing session, and to help them remember and plan for deadlines. The later messages were written from the perspective of a current third year student, to act as a credible messenger about the benefits of Study Abroad. Table 5 gives the full text of the messages.

Table 5: Content of Study Abroad messages (Year 1)

Message date	Message Content
Message 1 18/03/2016	Hi #Name, King's Tips will email you on Sunday with advice from students on making the most of your time at King's. Don't miss it! King's Tips
Email	[Emailed with information regarding a Study Abroad 101 session.]
Message 2 22/03/2016	Hi #Name, Go to [building], tomorrow, 2pm for the Study Abroad 101 briefing. Study abroad is an amazing experience, good for career prospects and there's lots of financial support available.
Message 3 30/03/2016	Hi #Name, Study Abroad was an amazing experience. I was surprised at how much funding you can get, and even save money on tuition fees. Find out more about funding here #link & where you can go here #link. Ayala, 3rd yr Law
Message 4 11/04/2016	#Name, with Study Abroad you can spend a semester in places inc Singapore, Sydney & Stockholm. Check out the full list- #link & talk to your Study Abroad tutor listed here #link. Application deadline is 18 May! Ayala, 3rd yr Law
Message 5 21/04/2016	Hi #Name, the deadline to Study Abroad in Semester 2 2016/17 is 18th May. Use the holiday to check your eligibility and think through your application. Why do you want to go? How does it contribute to your goals? Check out the Q's #link & share a draft with your Study Abroad Tutor. It helped me! Ayala, 3rd year Law
Message 6 11/05/2016	Hi #Name, don't lose your chance to Study Abroad in Semester 2 next year: deadline is Wed 18 May #link. Financial support is available. Get your application ready now! Have questions? Text KHELP and your query to 60777. Ayala, 3rd year Law

Figure 46 shows that the treatment messages (two SMS messages and an email preceding this session) significantly increased the rate of students attending the Study Abroad 101 information session; however, this did not translate to a significant increase in applications (Figure 47).

Figure 46: Estimated likelihood of attending the Study Abroad 101 session, by treatment status

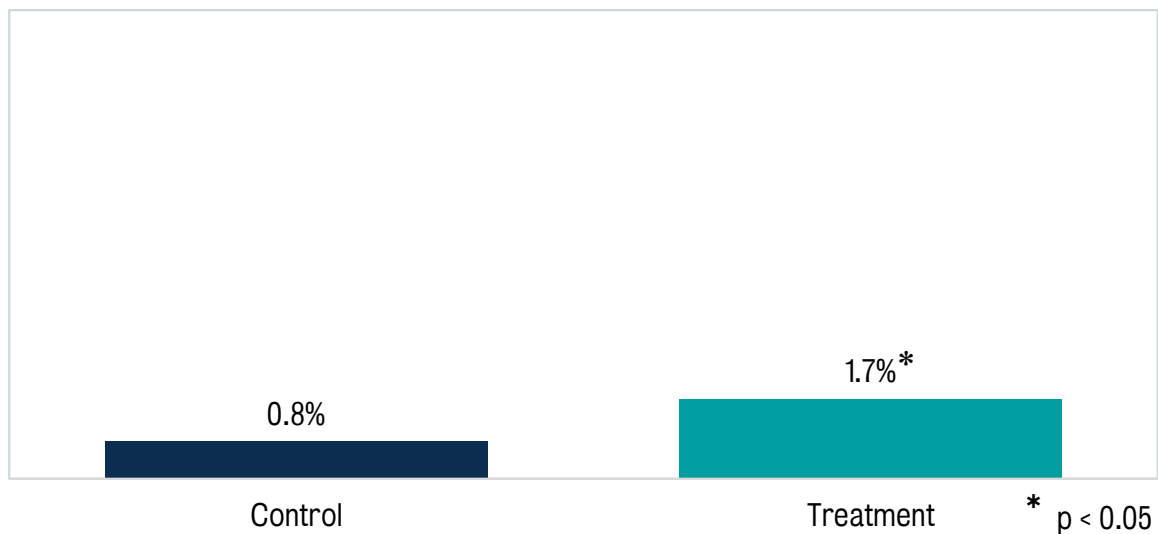
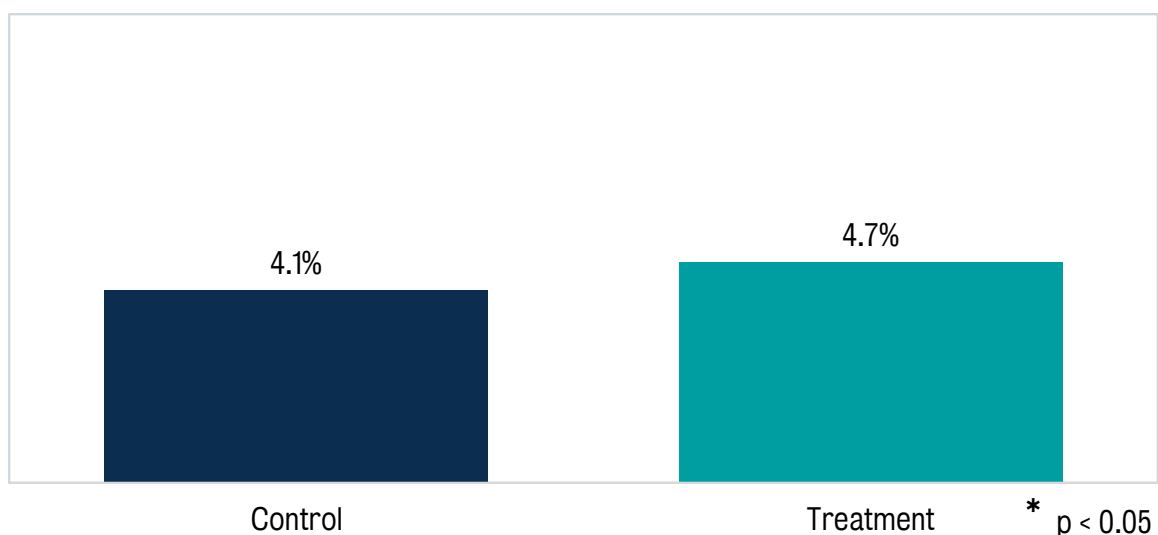


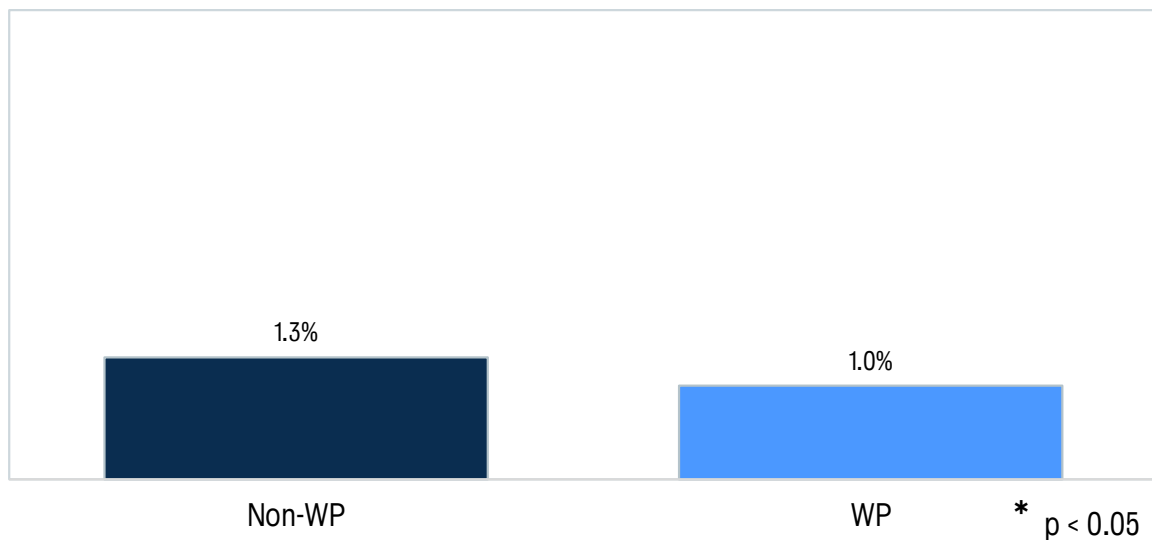
Figure 47: Estimated likelihood of applying for Study Abroad, by treatment status



A complicating factor was that we discovered after we sent the messages that many students weren't eligible for Semester 2 Study Abroad because of their course of study, meaning that we contacted many students who couldn't take up the opportunity. However, because this eligibility varies greatly at the course level, we were not able to confidently identify those students who were eligible. Based on our rough investigations, it appears that, as you would hope, the treatment effects observed below were overwhelmingly concentrated in students who were indeed eligible.

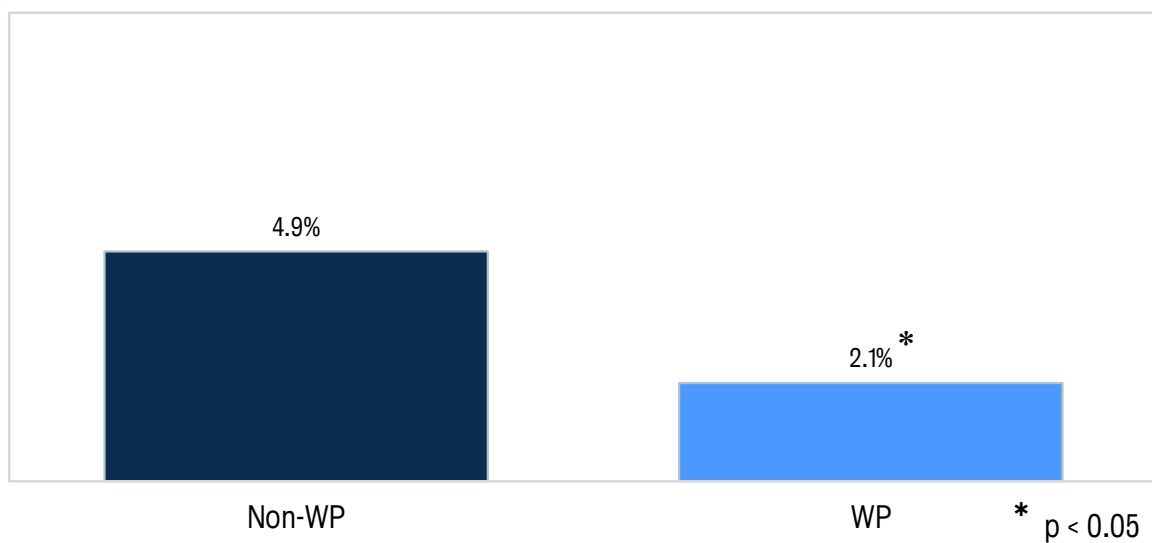
Focusing on WP students, we see that they were as likely as non-WP students to attend Study Abroad 101 (around 1% of our whole sample attended – see Figure 48).

Figure 48: Estimated likelihood that a student attended Study Abroad 101, by WP status



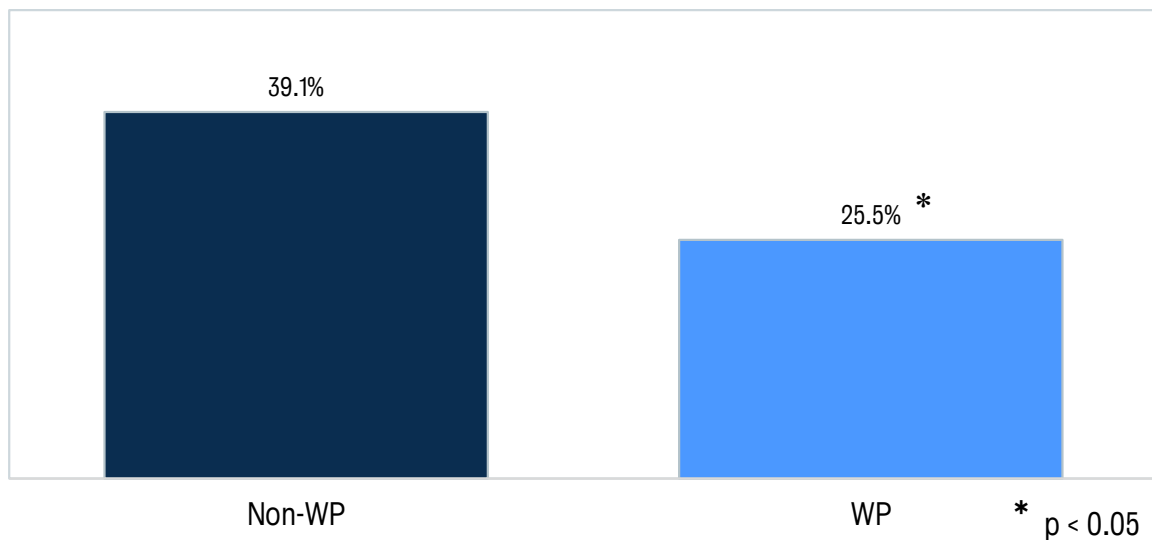
However, when we look at applications, we see that WP students are significantly less likely to have applied for Study Abroad (see Figure 49).

Figure 49: Likelihood of applying for Study Abroad



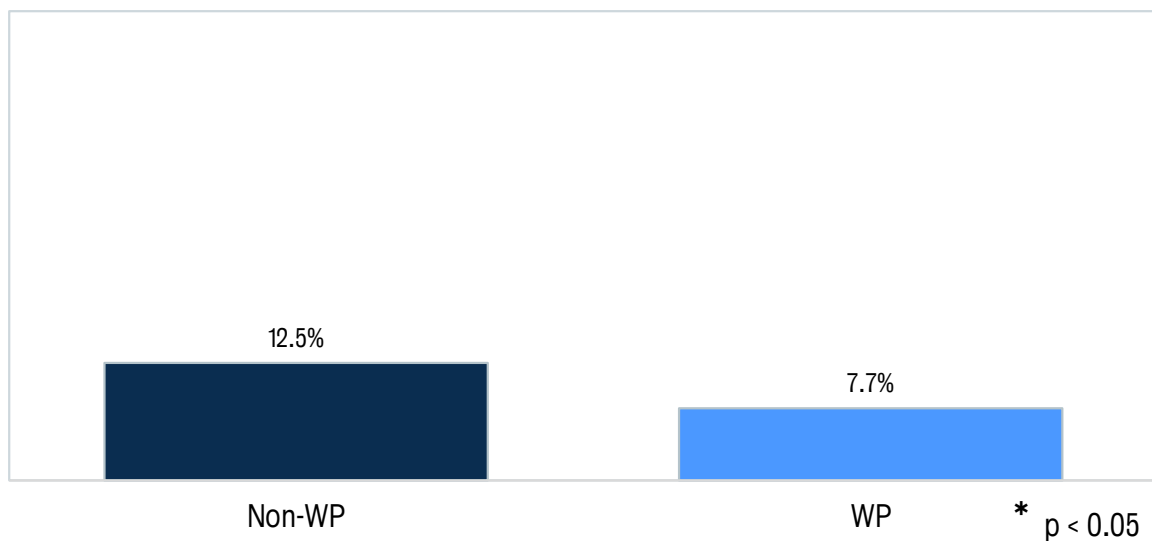
Breaking it down, we see that this has two causes. First, WP students, as a result of their course of study, were significantly less likely to be eligible for the study abroad window we were targeting (see Figure 50).

Figure 50: Estimated likelihood that a student was eligible for Study Abroad, by WP status



Second, even among our plausibly eligible subgroup, WP students were still close-to-significantly ($p < 0.1$) less likely to have applied (see Figure 51).

Figure 51: Estimated probability of applying for student abroad, by WP status (plausibly eligible subgroup)



The first-year study abroad trial proved that well-timed texts can increase student attendance at informational sessions. We also found that WP students were less likely to apply for Study Abroad. However, we were limited by the narrower eligibility for the Semester 2 study abroad deadline, which we didn't identify until after the trial was in the field.

To take the research further, in the second year, we focused on the main study abroad deadline, which is for full-year and Semester 1 opportunities, and closes in January each year. We aimed to encourage first year students to attend the King's Study Abroad Fair and then to apply for study abroad opportunities.

In Year 2, we also chose to text students in our control group, as the first year's trial had shown that text messages would increase attendance. The focus in this trial was therefore on the content of the messaging, and whether the additional elements included in the different trial group messages would increase their impact. The Study Abroad Fair was on 15 November 2016, while the key deadline for most Semester 1 and full year opportunities was 7 January 2017.

Our trial group messages were focused on two themes: the possible barriers to student applying, and the benefits to be gained from studying abroad. Our aim was to find out which type of messaging would be more effective in increasing attendance at the fair, as well as actual applications for study abroad opportunities. The approaches used were selected based on findings from existing literature.

In this trial we took 4174 first year students at King's and randomly allocated them to four conditions:

- The control group received two messages informing them of the time and location of the study abroad fair, with a link to the event signup. They received a further message at the start of the winter break suggesting they take the time to apply for study abroad programmes.
- The benefits group received three messages at the same time as the control group, and an additional reminder three days before the January deadline. All these messages contained the same content as the control group messages, but also included additional information on the benefits of studying abroad.
- The barriers group received three messages at the same time as the control group, and an additional reminder three days before the January deadline. All these messages contained the same content as the control group messages, but also included additional information which addressed some of the key perceived barriers to studying abroad.
- The benefits + barriers group also received the same three messages as the control group, and an additional reminder three days before the January deadline. The messages contained either additional information addressing perceived barriers or focused on benefits of studying abroad.

Table 6 (overleaf) gives the full text of the messages.

Table 6: Study abroad year 2 trial messages

Message date	Control	Benefits	Barriers	Benefits + Barriers
11/11/2016	Hi #name, King's offers lots of ways to study abroad. More info @ the Study Abroad Fair. Tues 11-2 @ Great Hall, Strand campus #link	Hi #name, studying abroad is an incredible opportunity to travel the world, experience a different culture, and make lifelong friends. "What I loved was the atmosphere, and the people were so welcoming." More info @ the Study Abroad Fair. Tues 11-2 @ Great Hall, Strand campus. #link	Hi #name, lots of students worry about the cost of studying abroad, but for King's students it is often cheaper. For example, for one semester abroad you pay at least £3000 LESS in tuition fees for the year. More info @ the Study Abroad Fair. Tues 11-2 @ Great Hall, Strand campus #link	Mix of benefits & barriers messages
14/11/2016	Hi #name, King's offers lots of ways to study abroad. More info @ the Study Abroad Fair. Tues 11-2 @ Great Hall, Strand campus. #link	Hi #name, when you study abroad you often take some amazing courses that you can't take at King's - or anywhere in the UK! And new experiences in the classroom are only part of it. More info @ the Study Abroad Fair. Tmrw 11-2 @ Great Hall, Strand campus #link	Hi #name, did you know that most of our study abroad placements take more than one student from King's? You can meet up before you go, so you'll know someone when you arrive. More info @ the Study Abroad Fair. Tmrw 11-2 @ Great Hall, Strand campus #link	

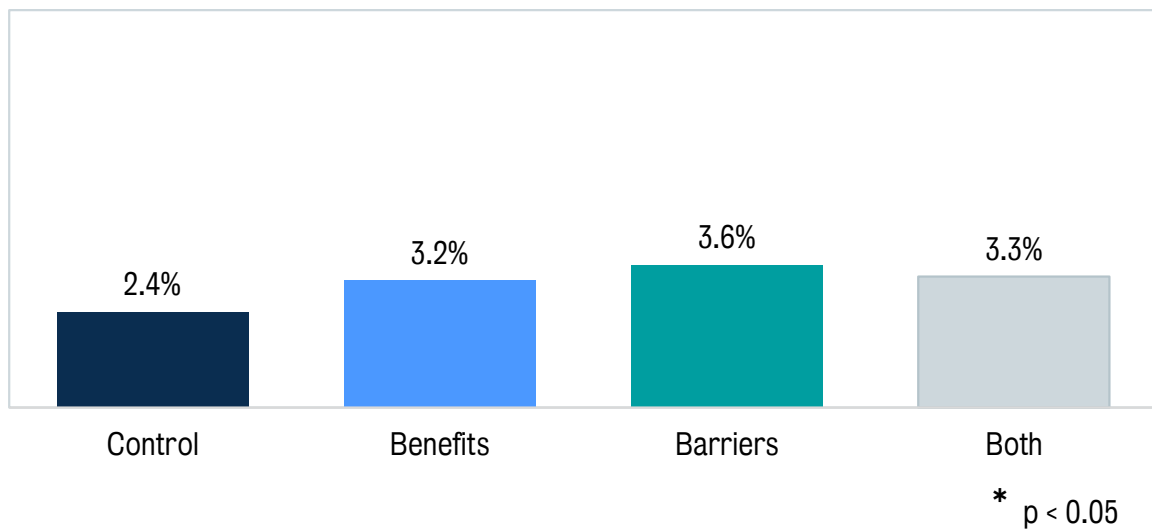
Message date	Control	Benefits	Barriers	Benefits + Barriers
20/12/2016	Hi #name, the deadline to study abroad for a full year or just your first semester is January 6th. Why not take some time over the holidays to apply? #link	Hi #name, the deadline to study abroad for a full year or just your first semester is January 6th. This could lead to one of the most exciting experiences of your life. Why not take some time over the holidays to apply? #link	Hi #name, the deadline to study abroad for a full year or just your first semester is January 6th. Don't forget that King's provides a huge amount of support, so that everyone can take advantage of this opportunity. Why not take some time over the holidays to apply? #link	
03/01/2017	No message	Picture yourself somewhere amazing, with a whole bunch of new opportunities, adventures and friends. The deadline for applications to study abroad is on Friday. Don't miss this amazing opportunity. #link	"Studying abroad would be incredible but..." With all the support King's offers to study abroad there's no reason not to make it happen. The deadline for applications to study abroad is on Friday. Don't miss this amazing opportunity. #link	

It was intended that the King's Study Abroad team would scan students' cards as they entered the Fair; however, due to a technical issue this data was not collected. This meant that we were unable to carry out analysis on our primary outcome measure.

In January 2017, the Study Abroad team provided details, by student numbers, of who had applied and been accepted for study abroad, and so our analysis for this trial is based solely on study abroad application data.

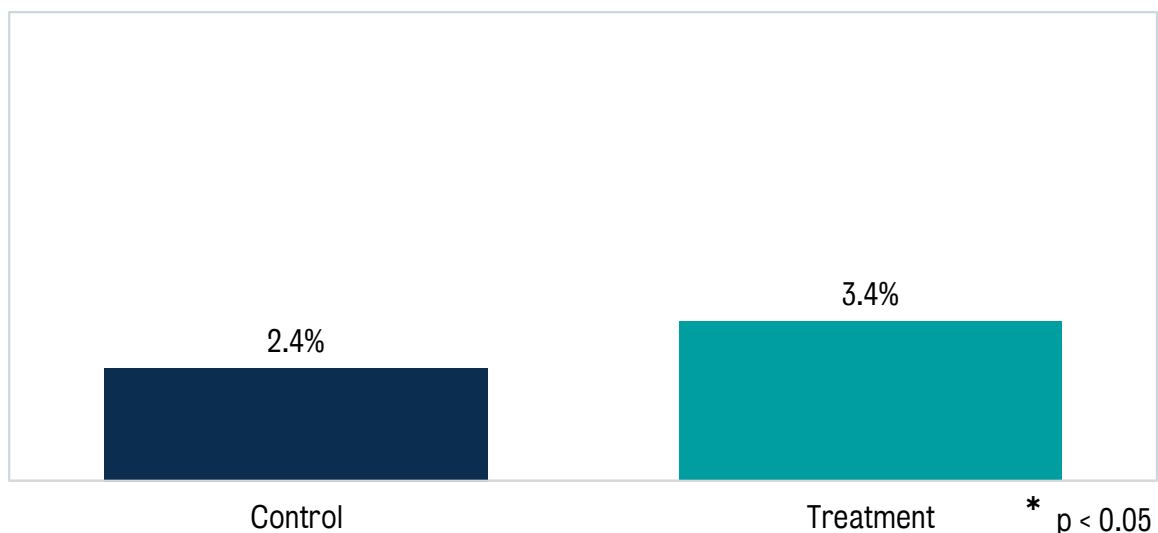
Looking, therefore, only at application rates, none of the treatment groups in this trial had a significant effect on the number of applications when looking at the entire trial group (Figure 52).

Figure 52: Impact on study abroad applications, overall



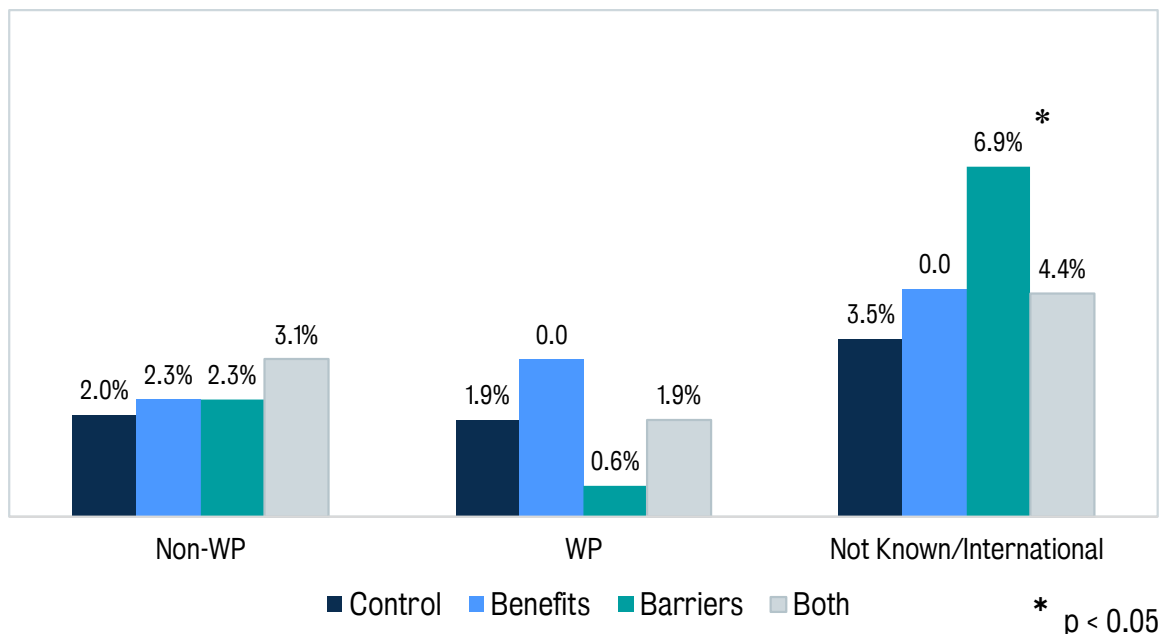
Overall, all three of our treatments are directionally higher than the control in terms of Study Abroad applications. Furthermore, combining the three treatments to increase the power of the analysis shows an increase in applications of one percentage point, significant at the 10% level (Figure 53). This provides some cautious evidence that messages focused on addressing students' perceptions about Study Abroad may be more effective than simple reminder messages in encouraging applications.

Figure 53: Combined effect of study abroad trial groups compared to control



When we break down the groups by WP status (Figure 54), we see that the barriers messages appear to significantly increase applications amongst those without a known ACORN status (largely international students). We should be cautious about a single result, but this group may be more open to a year abroad in general as they are already away from home.

Figure 54: Impact on study abroad application by different ACORN groups



The first-year trial clearly showed that text message nudges are effective in increasing attendance at informational sessions. Our second-year trial was designed primarily to test different forms of message against a similar outcome; specifically, attendance at the Study Abroad Fair. Losing the primary outcome data inevitably had an impact on the trial. Had we known these circumstances, it is likely we would have chosen not to text our control group.

It is also possible that the barriers to taking up Study Abroad opportunities may be more structural in nature, which would explain why our text message approach was ineffective in creating changes in student behaviour. However, the combined effect of the treatment groups does suggest a possibility that further attempts to address this issue via text message nudging might be successful. Overall, the results from this trial are promising and merit further investigation.

Year 2: Welcome Fair

The King's Welcome Fair runs for three days at the start of the academic year and is an opportunity for students to find out about the clubs and societies available at King's and sign-up to join them. We therefore wanted to encourage first year students to attend the Welcome Fair, with the final aim of increasing sign-ups to clubs and societies, using a series of messages in the run-up to, and during, the event.

Participating in extracurricular activities is an important part of being at university. It is an opportunity to meet other students, build social networks, and develop soft skills²⁴ which are often valued by employers and can improve labour market outcomes after

²⁴ Clark, G., Marsden, R., Whyatt, J.D., Thompson, L. and Walker, M., (2015). 'It's everything else you do...': Alumni views on extracurricular activities and employability. *Active Learning in Higher Education*, 16(2), 133-147.

graduation.^{25 26} Participation can also improve outcomes within university by improving academic attitudes.^{27 28} In addition, being a part of a university club or society may enhance students' sense of belonging within university which in turn has positive impacts for academic engagement and retention. There is some evidence from the US that the benefits of campus participation are particularly significant for students from ethnic minority and low-income backgrounds.²⁹ However, a recent study from the University of Edinburgh found students from Widening Participation backgrounds are half as likely to hold positions in the university's clubs and societies.³⁰

We designed two different sets of messages. One focused on addressing barriers to belonging – reassuring students that it was normal not to know anyone when arriving at university and to feel overwhelmed, but presenting societies as an opportunity to meet other students to support them through the transition. The second emphasised the positive impacts of society participation on employability as well as emphasising their social benefits. Both sets of messages also encouraged students to make a specific plan with a link to the *Citymapper* app to help them plan their route.

The Welcome Fair ran from Friday 23 to Sunday 25 September 2016. Ahead of this we randomly allocated all first-year students to one of three groups. The control group (1407 students) did not receive any text messages about the Welcome Fair, although they would have received information about it through the existing communications with first year students. The other two groups (Employability, 1433 students, and Belonging, 1406 students) each received a set of three text messages (see Table 7).

Table 7: Welcome Fair messages

Message date	Employability	Belonging
19/9/2017	Hi #FirstName#, Students who join societies and clubs get better grades, are happier and more employable. Give it a go at Welcome Fair Fri & Sat @ Barbican Centre. #link	Hi #FirstName#, Welcome Fair is the best opportunity to meet societies and sports clubs. It's a great way to meet like-minded new people. Find it at the Barbican Centre on Friday and Saturday - don't miss out! # link

²⁵ Andrews, J., & Higson, H. (2008). Graduate employability, 'soft skills' versus 'hard' business knowledge: A European study. *Higher education in Europe*, 33(4), 411-422.

²⁶ Stuart, M., Lido, C., Morgan, J., Solomon, L. and May, S., (2011). The impact of engagement with extracurricular activities on the student experience and graduate outcomes for widening participation populations. *Active Learning in Higher Education*, 12(3), 203-215.

²⁷ Fredricks J.A., and Eccles J.S. (2006). Is extracurricular participation associated with beneficial outcomes? Concurrent and longitudinal relations. *Developmental Psychology*, 42(4): 698-713.

²⁸ Darling, N. (2005). Participation in extracurricular activities and adolescent adjustment: cross-sectional and longitudinal findings. *Journal of Youth and Adolescence*, 34(5): 493- 505.

²⁹ Kuh, G.D., Cruce, T.M., Shoup, R., Kinzie, J. and Gonyea, R.M., (2008). Unmasking the effects of student engagement on first-year college grades and persistence. *The Journal of Higher Education*, 79(5), 540-563.

³⁰ Sanford-Ward, M. (2016). EUSA study shows need for widening participation in University societies. [online] The Student Newspaper. Available at: <http://www.studentnewspaper.org/eusa-study-shows-need-for-widening-participation-in-university-societies/> [Accessed 16 Aug. 2016].

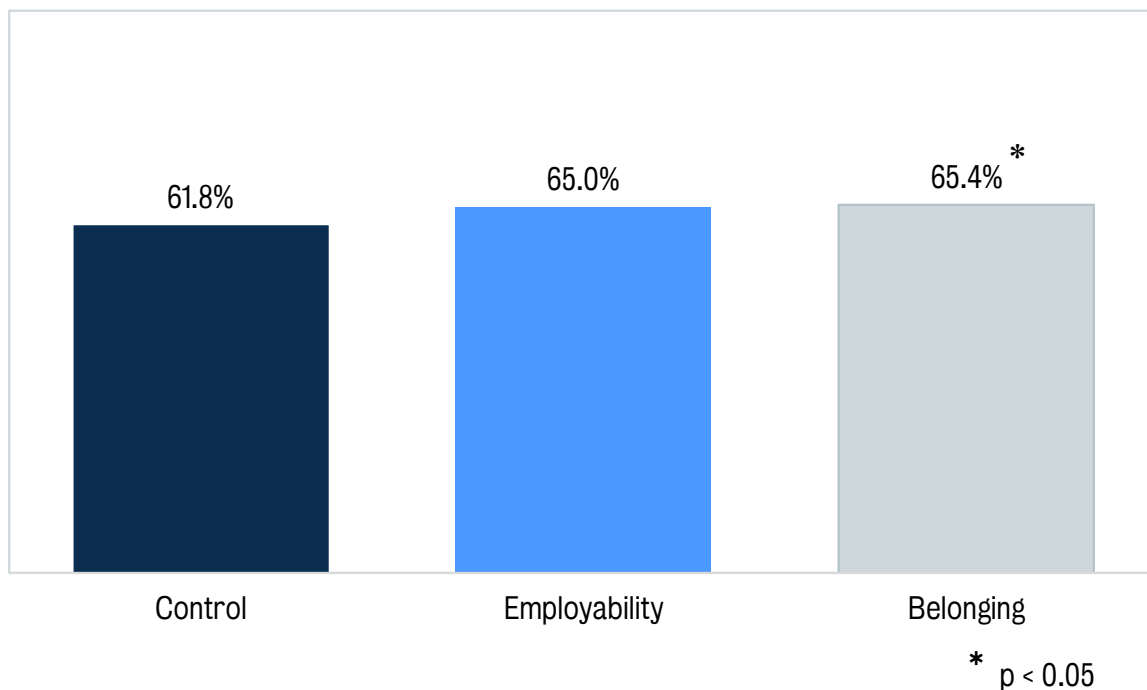
Message date	Employability	Belonging
23/9/2017	Hi #FirstName#. Build your skills & networks by joining a society or club. Employers value these experiences. Explore Welcome Fair today or tomorrow @ Barbican Centre and see what's on offer. #link	Hi #FirstName#, lots of students are concerned about making friends in their first few weeks at uni. Don't worry! There is a society or club for everyone. Find yours at Welcome Fair @ Barbican Centre today & tomo: #link
24/9/2017	Hi#FirstName#, it's not too late to find your society or club! Welcome Fair runs today @ Barbican - last entry 4pm! Input Barbican Exhibition Hall 2 as your destination and CityMapper will get you there: #link P.S. Have you heard about the freebies?	Hi#FirstName#, it's not too late to find your society or club! Welcome Fair runs today @ Barbican - last entry 4pm! Input Barbican Exhibition Hall 2 as your destination and CityMapper will get you there: #link P.S. Have you heard about the freebies?

The primary outcome measure for this trial was whether a student attended the Welcome Fair. Students entering the Welcome Fair swiped their King's ID card in order to enter, and this data was recorded by the King's College London Student Union (KCLSU) and subsequently shared with BIT for analysis.

The secondary outcome measure was whether a student had signed up for at least one society, either at the Welcome Fair or later in the year (data was provided in July 2017). However, this dataset is incomplete, as it relies on the societies recording membership and providing it to KCLSU. Societies that charge for membership are required to maintain a membership record, and therefore we have fairly comprehensive membership information for these societies. However, several large societies are free, and therefore the data likely don't represent a full picture of their membership.

Looking across all students (Figure 55), the messages centred on belonging had the greatest impact on attendance, resulting in a 6 per cent increase. Employability messages increased attendance by just over 5 per cent, and the increase was not significant at conventional levels ($p < 0.1$).

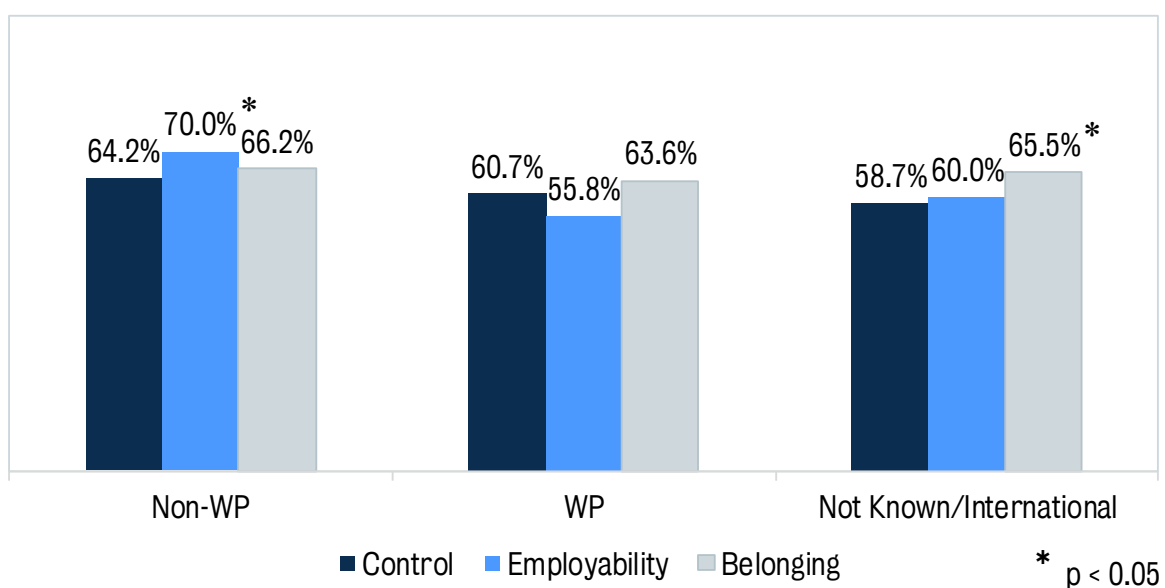
Figure 55: Proportion of students attending the Welcome Fair



Reactions to the messages varied across groups (Figure 56). Amongst non-WP students, the employability messages were the most effective and increased attendance by 9%, whilst the belonging messages only increased attendance by 3% which was not significant at conventional levels.

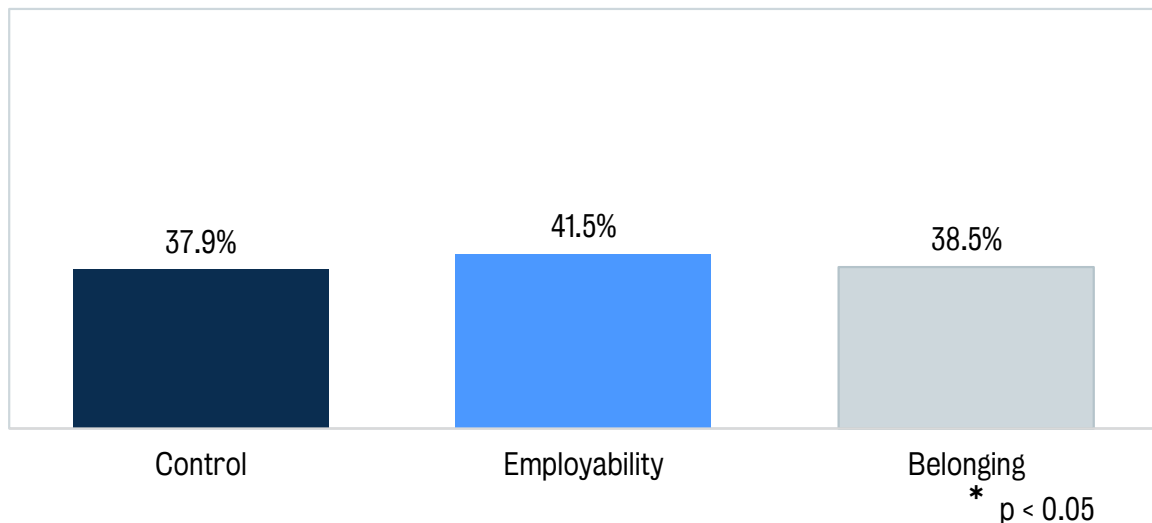
Amongst WP students, the belonging message was directionally higher, while employability was directionally lower than the control, but neither of these differences are significant.

Figure 56: Proportion of students attending the Welcome Fair, by WP status



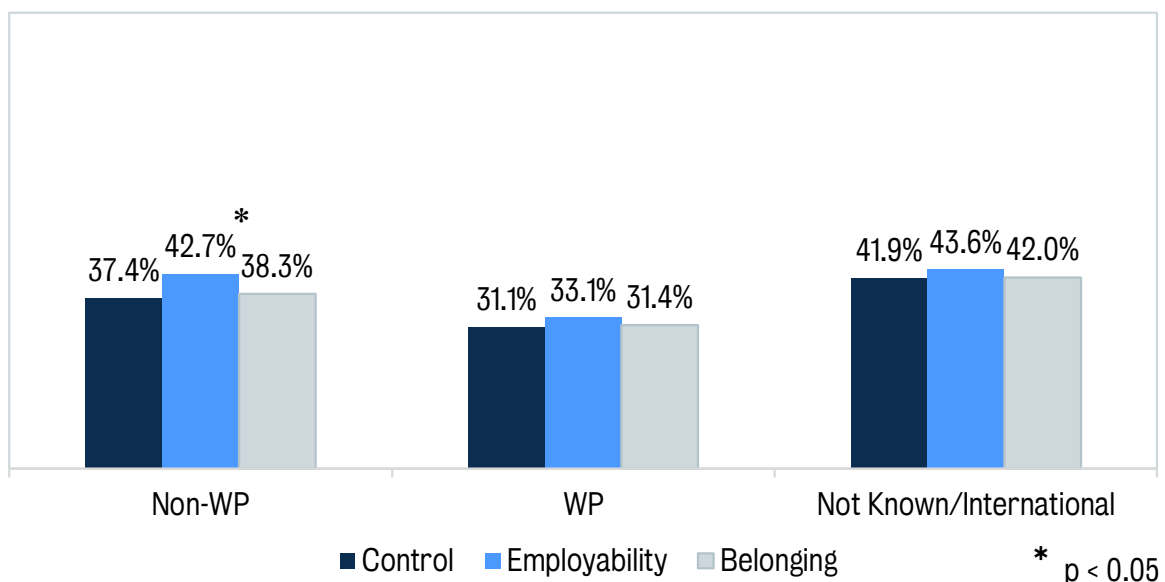
Looking at our secondary outcome, we find some evidence that employability messages increased recorded sign-ups to societies, but the belonging messages did not ($p < 0.1$, Figure 57). This is interesting given that attendance was increased more by the belonging messages.

Figure 57: Proportion of students joining a society



Looking at the subgroups, it is evident that the increase in sign-ups the employability group are driven by non-WP students (Figure 58). Further analysis suggested that sign ups were mainly to sports societies.

Figure 58: Proportion of students joining a society, by WP status



However, it is worth bearing in mind that WP students may have been more likely than non-WP students to join free societies (either because they were of more interest or because of the cost barrier), and therefore this data may be incomplete. Likewise, it may be that the belongingness messages made students to be more likely to join societies that tend to be free

(identity/culture-based societies, for instance) rather than those that had a membership fee (such as sporting societies). Because the dataset is incomplete, the analysis above should be treated with caution.

This trial has several important lessons for approaches to student engagement. Firstly, it demonstrates that text messages to students can be an effective mechanism for increasing engagement, both for one-off events (such as the Welcome Fair) and for potentially harder to shift outcomes such as participation in clubs and societies.

However, it also demonstrates the importance of good design and rigorous testing when creating engagement initiatives. Responses to the messages differ by group, which means the results of this trial can be used to improve the targeting of messages in the future. The fact that messages around employability were effective with non-WP students but not WP students suggests opportunities for further research about approaches that work best for WP students.

Year 2: The Compass

This trial aimed increase the number of first year King's students accessing support through the Compass student service help desks.³¹ The Compass is the initial point of contact for students to access support services available at King's. The Compass staff offer information & guidance, provide students with certain types of documentation, and can refer them to additional services (such as the Student Advice Service). The Compass is therefore a key source of information and support for all students. The service desks are located in each of the King's libraries. Students can log an inquiry either online, in person or by phone. All queries, regardless of how they are submitted, are logged and coded by the Compass staff.

The trial aimed to investigate whether micro-affirmation messages, delivered via SMS, are more effective than a simple factual message in increasing take up of support. Micro-affirmations – defined as small acts to remind someone of their value and accomplishment - have been considered within the organisational context to foster inclusion and support amongst people who feel they don't belong in the environment.³² Positive messages can help reframe the challenge and direct students to resources that will help them improve future performance.

In this trial 4280 first year King's students were randomly allocated to one of three trial arms:

- Control (1426 students): students were not contacted.
- Factual Messaging (1430 students): one text message and one email providing information about The Compass.
- Micro-affirmation/Belonging Messaging (1424 students): one text message and one email using micro-affirmations around challenges faced by students, in addition to the same content as in the factual messaging arm.

³¹ Since summer 2017, the Compass is referred to as Student Services.

³² Rowe, M. 2008. Micro-affirmations and micro-inequities. *Journal of the International Ombudsman Association*, 1(1), 45–48.

Both treatment groups received a text message on 8 December 2016, and an email on 11 December 2016 providing a brief overview of the Compass help desk services and a link to the Compass webpage. Those in the factual group received only this content, whilst those in the micro-affirmation group received slightly longer messages, containing the content of the factual group, and an additional paragraph containing a micro-affirmation around the idea that many students struggle in their first term (see Table 8). This structure allowed us to specifically test the additional effect of micro-affirmations, on top of basic information, on engaging students in support services.

Table 8: Compass trial messages

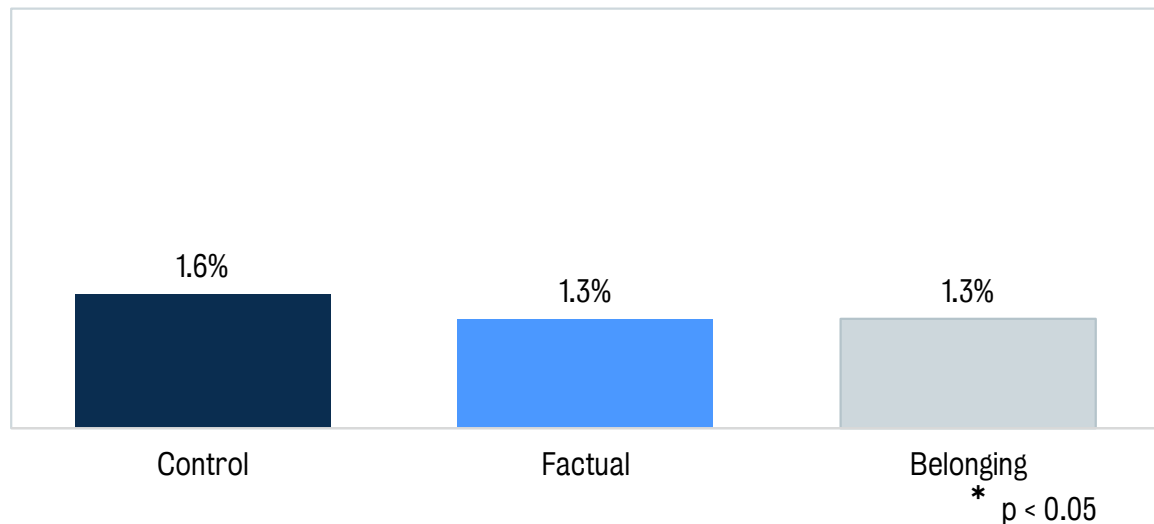
Message date	Factual	Belonging
08/12/2016 Text message	Hi #name, the Compass team provide information and support on everything from academic to personal and financial challenges. Find out more: #link	Hi #name, you've now been part of the King's community for a term, and first year students have told us it's good to have some extra support at this time of year. The Compass team provide information and support on everything from academic to personal and financial challenges. Find out more: #link
11/12/2016 Email	Subject line: The answer to all your questions! Hi #name, The Compass team have a help desk at every campus. The Student Support Officers there can provide guidance and information on a range of issues. If you'd prefer, you can also log a question online and the team will get back to you. Find out how to contact The Compass here: #link Enjoy your winter break, King's Tips	Subject line: The answer to all your questions! Hi #name, Most people struggle with something in their first term at university. It could be academic feedback, financial issues, missing home, or maybe you're not sure who is best to help you. The Compass team have a help desk at every campus. The Student Support Officers there can provide guidance and information on a range of issues. If you'd prefer, you can also log a question online and the team will get back to you. Find out how to contact The Compass here: #link Enjoy your winter break, King's Tips

The outcome measure for this trial was whether a student logged a query on the Compass via any of the available routes (online, telephone and in person) between 8 December 2016 and 16 December 2016. The Compass recorded the student number of every student logging a query in any form at the help desk. They provided the student numbers for all queries logged between 8 December 2016 and 16 December 2016 (the final day of term), and additionally for all queries logged between 17 December 2016 and 20 January 2017. However, we found when the data was provided that student numbers weren't always

consistently or accurately recorded, which meant we weren't able to match all queries back into the analysis.

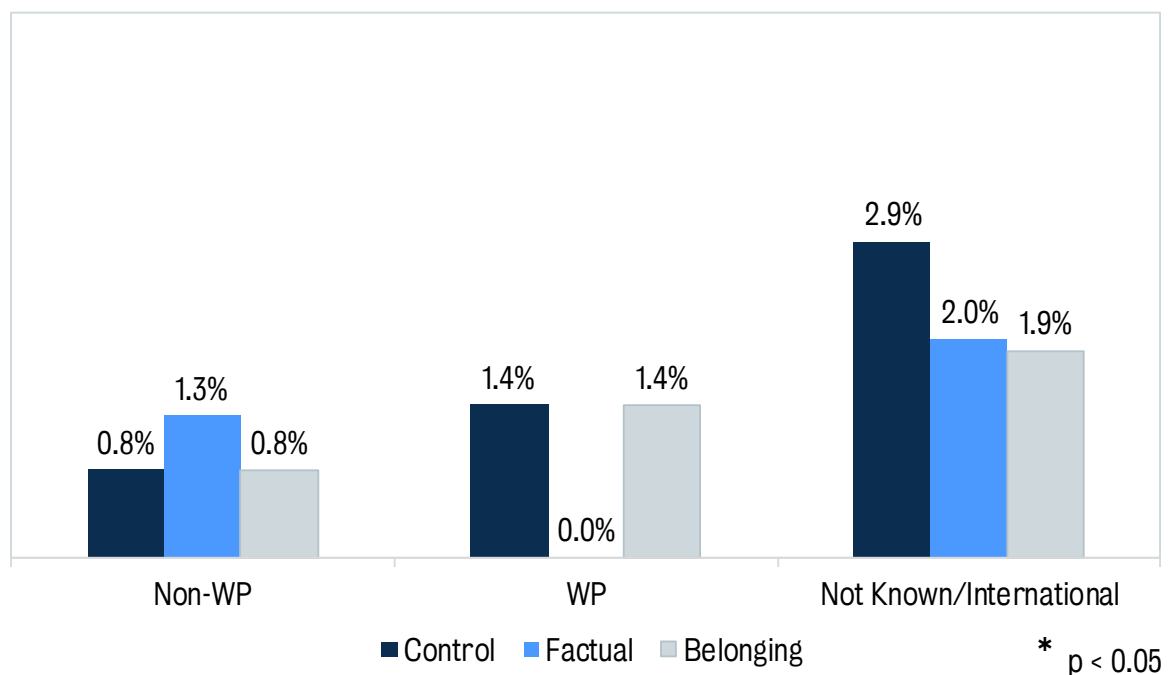
We found that the messages did not have a significant effect on logged queries at the Compass help desks (Figure 59).

Figure 59: Overall impact of Compass nudge



Students without a known ACORN status were more likely to log a query in all conditions, which could be due to a larger number of questions regarding practical matters when living abroad, for example relating to VISA applications and other legal requirements for non-EU students. There were no significant differences between WP and non-WP students, and the overall numbers of enquiries made by students in all trial groups were very low (Figure 60).

Figure 60: Compass trial results by ACORN group analysis



This trial did not produce any significant or indicative results. The results are likely to be affected by issues with the quality of the data collected, but this may also reflect a relatively small number of students who had queries that they wanted help with.

Year 2: Online study support

Students arriving at university will inevitably have varying levels of comfort with using online tools as part of their studies. There is research to suggest that students from a disadvantaged background are less likely to be “ICT Savvy” or have people close to them who can help them set-up and use ICT efficiently.^{33 34} This suggests that WP students at King’s may face a greater challenge coming to grips with online environments such as the King’s Learning and Skills Service (KLaSS). Our hypothesis was that an intervention which encourages students to log on regularly and become familiar with the website could help address this gap.

This trial aimed to encourage first year students to enrol for online study skills courses provided by King’s through KLaSS. The trial investigated whether messages that promote belonging with a planning prompt or messages with only a planning prompt can increase students’ engagement with an online learning environment.

Students who had already signed up to use KLaSS previously were not included in this study, resulting in just over 1000 students being excluded and leaving us with a final sample of 3247. The students were randomly allocated to three conditions; Control (1080 students), Planning (1088 students), and Planning + Belonging (1079 students). The control group did not receive any messages. Both treatment groups received a text message and an email on 16 December 2016 providing a link to KLaSS, some suggestions of its uses, and encouraging students to set time aside based on the literature around effective planning.

Those in the Planning group received only this content whilst the messages to those in the Planning + Belonging group included additional content around belonging. The Belonging message highlighted the fact that many students needed help adapting to the style of studying at university.

The messages were sent at the end of the first term to encourage students to use the service over the winter break. Table 9 gives the full text of all messages.

³³ Barraket, J., & Scott, G. (2001). Virtual equality? Equity and the use of information technology in higher education. *Australian Academic & Research Libraries*, 32(3), 204-212.

³⁴ Ipsos, M. O. R. I. (2008). Great expectations of ICT: How higher education institutions are measuring up. Retrieved from: <http://www.webarchive.org.uk/wayback/archive/20140616001632/http://www.jisc.ac.uk/media/documents/publications/jiscgreatexpectationsfinalreportjune08.pdf>.

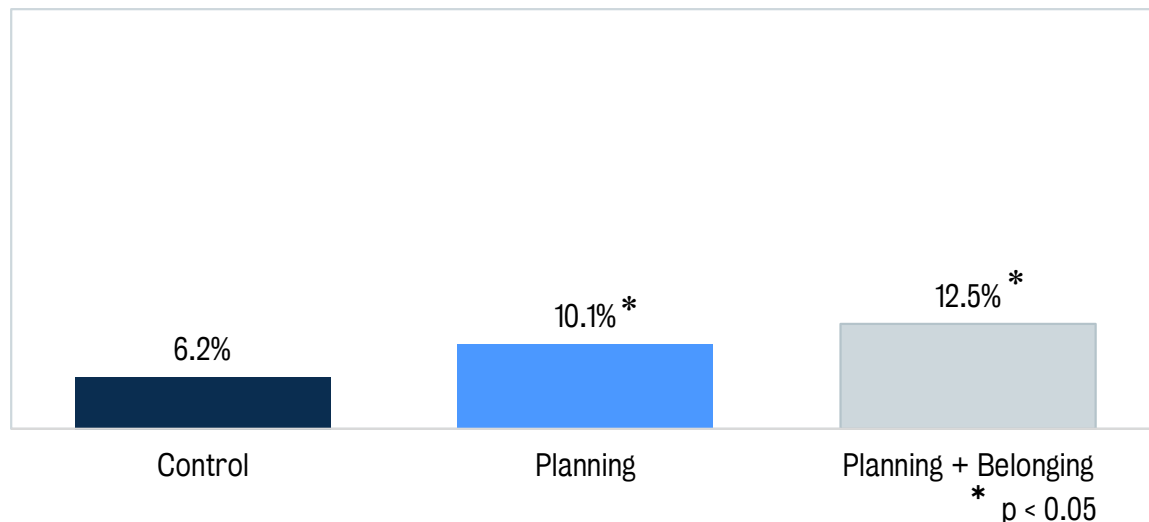
Table 9: Study skills trial messages

Message date	Planning	Planning + Belonging
16/12/2016 Text message	<p>Hi #name, boost your academic performance over the holidays with King's Learning & Skills Service (KLaSS). It can help with a range of key study skills.</p> <p>We've sent you an email with more info or sign up now: #link</p>	<p>Hi #name, lots of King's 1st years find adapting to university study takes time. Boost your academic performance over the holidays with King's Learning & Skills Service (KLaSS). It can help with a range of key study skills. We've sent you an email with more info or sign up now: #link</p>
16/12/2016 Email	<p>Subject line: King's Tips: Sign up on KLaSS for study skills support and more!</p> <p>Hi #name</p> <p>King's Learning and Skills Service (KLaSS) offers lots of activities and information to help you get to grips with the study skills you need at university.</p> <p>SIGN UP BUTTON</p> <p>Want to boost your exam revision? Want to improve your essays? Need a hand with referencing or resources? Want tips on note taking?</p> <p>KLaSS can help you with all this and more - see what it has to offer now.</p> <p>Tip: Research has shown you're more likely to do something when you plan when you'll do it. Pick a day to log on to KLaSS and spend some time boosting your skills.</p>	<p>Subject line: King's Tips: Sign up on KLaSS for study skills support and more!</p> <p>Hi #name</p> <p>There are lots of study skills that might be new to you at university so if you're feeling a bit uncertain about a few things, don't worry, you're not the only one! To help you out, King's has set up the KLaSS service.</p> <p>4 out of 5 first year students are currently using King's online learning resources.</p> <p>King's Learning and Skills Service (KLaSS) offers lots of activities and information to help you get to grips with the study skills you need at university.</p> <p>SIGN UP BUTTON</p> <p>Want to boost your exam revision? Want to improve your essays? Need a hand with referencing or resources? Want tips on note taking?</p> <p>KLaSS can help you with all this and more - see what it has to offer now.</p> <p>Tip: Research has shown you're more likely to do something when you plan when you'll do it. Pick a day to log on to KLaSS and spend some time boosting your skills.</p>

This structure allowed us to specifically test the additional effect of belonging messages on students using online study support. The outcome measure was a binary variable recording whether a student logged onto KLaSS between 16 December 2016 and 16 January 2017. Data on the number of students signing up to the KLaSS modules was provided by colleagues in the King's IT team.

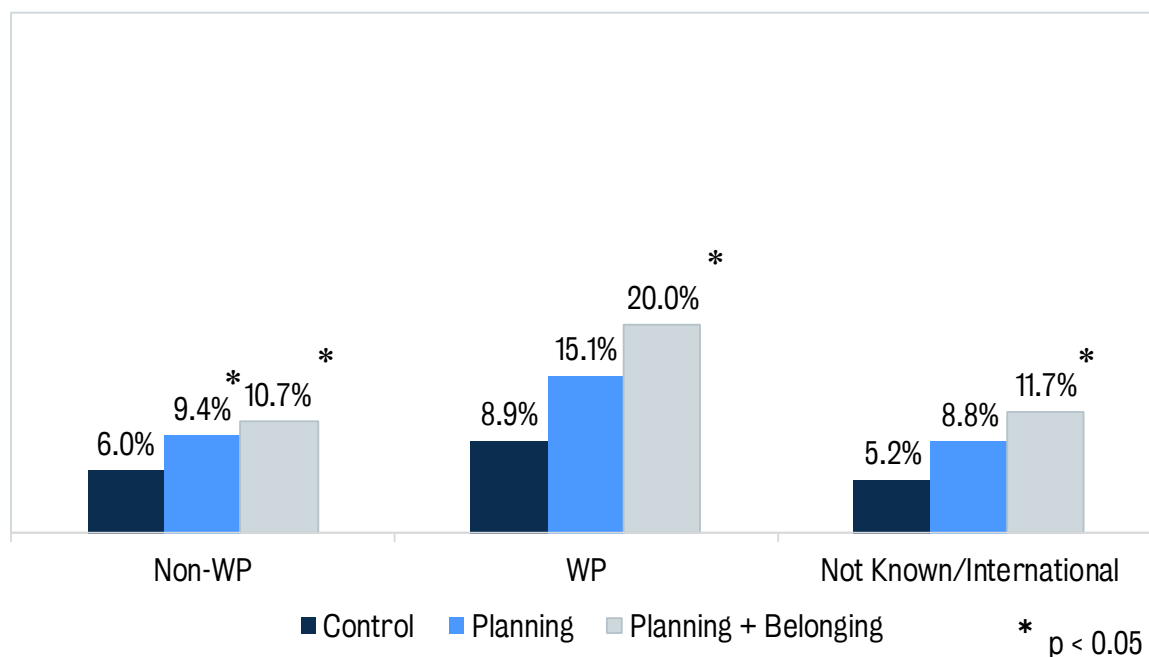
The trial produced significant results, with both treatment groups having a significant effect on sign-ups to the KLaSS modules (Figure 61).

Figure 61: Proportion of students signing up to the Study Skills module, overall



The effect sizes appear to be most substantial amongst WP students, although only the effect of the Planning + Belonging treatment was significant for this group (Figure 62).

Figure 62: Proportion of students signing up to the Study Skills module, by WP-status



This trial has demonstrated that messages which include a social belonging element are significantly more effective in getting students to sign up for online modules than messages that focus solely on planning an action. The importance of the social belonging message for WP students in particular resonates with our findings from the Welcome Fair trial (pg52), where the message around belonging was also most effective in getting students to attend the fair. These findings suggest that WP students benefit from additional encouragement relating to their sense of belonging. Reassuring them that any difficulties or insecurities they may be facing are a common part of the student experience seems to encourage them to engage with student activities and support available.

This finding is additionally convincing given the fact that the two trials where this proved to be the case were targeting very different types of activities – one being focused on physically attending an event, while the other was registering for an online independent study module.

Year 2: Alumni Mentoring

Our final engagement trial aimed to encourage students to use the King's Connect, an online platform that allows current King's students to contact alumni to ask questions and build mentoring relationships. As with other trials, we were particularly interested in finding out if texting would be effective in getting WP students to sign up to the platform, and thus encourage them to take up mentoring opportunities. Low-SES individuals are consistently found to have less social capital,³⁵ with implications for their success in labour markets. Specifically, lower social capital impacts on career success through three channels; access to information, access to resources, and career sponsorship.³⁶ Career sponsorship, in particular, is a key component of mentoring,³⁷ however students may also use the King's Connect platform for more straightforward information-gathering tasks.

Whilst students from low-SES backgrounds will generally have more to gain from mentoring, differences in socio-economic background may also present an additional barrier to forming strong mentoring relationships.³⁸ The shared experience of studying at King's may enable stronger mentoring relationships despite potential differences in background. Our trial design tested whether including personal identity messaging would enhance the effectiveness of the nudge. These texts emphasised the fact that King's Connect is solely available to King's students, using the personal identity approach to present it as a unique opportunity. The Factual + Identity also used the behavioural insight that scarcity makes people take action, by urging students not to miss out on this opportunity.

The trial was run in February to coincide with the reopening of registrations to the platform. Students who had already created registration with King's Connect were excluded from

³⁵ Halpern, D. (2005). *Social Capital*. Cambridge: Polity Press

³⁶ Seibert, S. E., Kraimer, M. L., & Liden, R. C. (2001). A social capital theory of career success. *Academy of management journal*, 44(2), 219-237

³⁷ Noe, R. A. 1988. An investigation of the determinants of successful assigned mentoring relationships. *Personnel Psychology*, 41: 457-479

³⁸ Grossman, J. B., & Garry, E. M. (1997). *Mentoring: a proven delinquency prevention strategy*. US Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention.

this study, leaving us with a final sample of 4729, who were randomly allocated to three conditions; control, Factual, and Factual + Identity:

- The control group (1574 students) did not receive any messages
- Both treatment groups received two text messages, the first on 9 February 2017 and the second on 12 February 2017. These texts provided some information about the King's Connect platform and a link to sign up.

Those in the Factual group (1579 students) received only this content whilst the messages to the Factual + Identity group (1576 students) contained an additional paragraph which focused on their identity both as a King's student and as a first-year student specifically.

Table 10 gives the full text of the messages.

Table 10: Alumni Mentoring messages

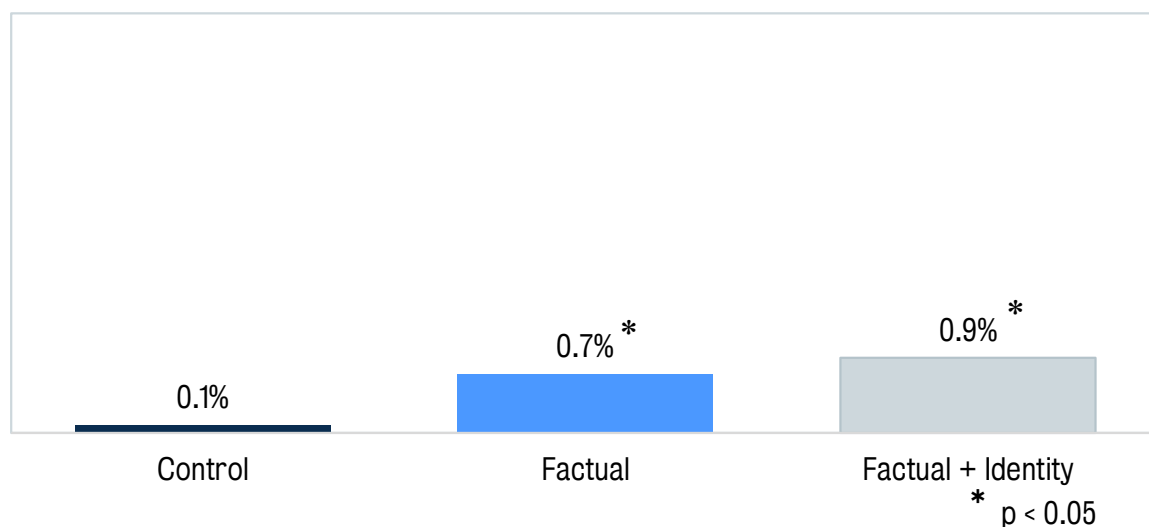
Message date	Factual	Factual + Identity
09/02/2017	Hi #name, King's Connect lets you contact 1800 King's alumni to build mentoring relationships. They can provide support to you through your studies and help you think through questions from module choices to summer plans. Sign up here: #link	Hi #name, King's has alumni all over the world working in incredible jobs. As our student you have a unique opportunity to speak to them and learn from their experiences. King's Connect lets you contact 1800 King's alumni to build mentoring relationships. They can provide support to you through your studies and help you think through questions from module choices to summer plans. Don't miss out, sign up here: #link
12/02/2017	Hi #name, did you know all the alumni on King's Connect have signed up just so that you can get in touch with them? They want to help you get the most out of your time at King's. Sign up here: #link	Hi #name, as a 1st year student you'll have lots of questions and decisions to make about your studies over the next few years. It can be great to ask someone who's been in your shoes and has ended up where you want to be. Did you know all the alumni on King's Connect have signed up just so that you can get in touch with them? They want to help you get the most out of your time at King's. Sign up here: #link

This structure allows us to specifically test the additional effect of personal identity messaging in increasing sign-ups to King's Connect. The sign-up process has two stages: students first have to complete an online questionnaire expressing their interesting in

registering, which the King's Connect team review before sending them the sign-up link, through which they can complete their registration. Our primary outcome measure was whether or not students completed the questionnaire between the first text and the end of reading week (24 February 2017). Students who had previously signed up but had not completed their registration were excluded from the analysis.

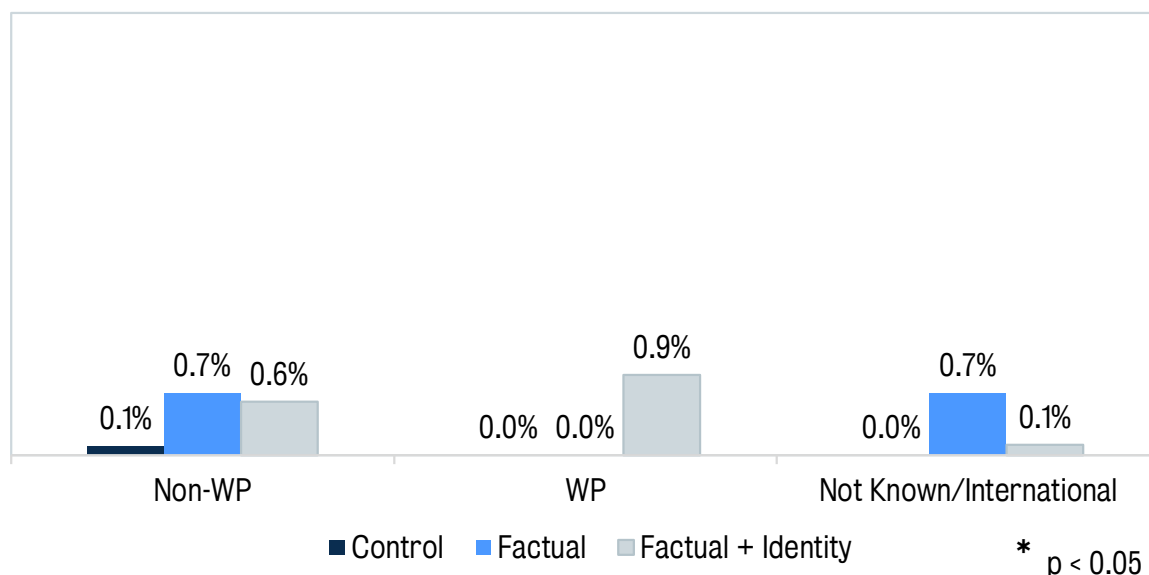
Both treatments had a significant effect on registrations to the platform, but it is important to note that this was from a baseline close to zero, so even with the highly significant increase, the overall number of students taking it up remains extremely low (Figure 63).

Figure 63: Proportion signing up for Alumni Mentoring, overall



When the results are broken down by sub-group, we can see that no WP students in either the control or the factual group signed up for the platform in the analysis period (Figure 64). Overall, because of the very low numbers of individuals concerned, it is not possible to draw conclusions about the effectiveness of the messages in particular subgroups.

Figure 64: Proportion signing up for Alumni Mentoring, by WP status



The sign ups to King's Connect were extremely low in general during the trial period. If the trial were run at a point in time when students were generally better informed of the platform, it might be more effective. It is also possible, however, that there are more structural barriers to students registering for the King's Connect platform. It is possible that students do not see the relevance of having a mentor in their first year. It may be interesting to test if such a trial would have different outcomes with second or final year students. This highlights the importance of timeliness of any nudge trials. Even though we understand the benefits of mentoring to first year students, if the students do not internalise this, the trial will not be effective.

Year 2: What I Wish I'd Known

What I Wish I'd Known (WIWIK) is a wrap-around programme of support for first year King's students who are recipients of the King's Living Bursary (KLB), which is awarded to students based on an assessment of their household income levels. The programme is designed to enhance the sense of belonging experienced by WP students at King's and equip them with resources to help them make the most out of their student experience and succeed academically.

The WIWIK programme was designed by the Widening Participation team, based on insights from academic literature relating to attainment and attendance for widening participation students and the type of support that may benefit them. The KCLxBIT team supported with some intervention design and evaluation. Research from the USA has suggested that the lower sense of belonging at university felt by students from disadvantaged backgrounds may be contributing to their higher rates of dropout and lower attainment.^{39 40} Based on this evidence, social belonging is at the heart of the WIWIK intervention.

The programme also seeks to address potential differences in the social and cultural capital of students from different backgrounds, which are largely acknowledged to play a role in shaping the experiences of students at university and account for some of the differences experienced by students from lower socio-economic status students and their wealthier counterparts. Cultural capital refers to the general cultural background, knowledge, experiences, disposition, and skills that students use to navigate an educational setting.⁴¹ Research has shown that students from higher socio-economic status backgrounds given advice by parents or family members who have often been to university themselves and are more likely to have been prepared by their schools.⁴² In contrast, students from disadvantaged backgrounds are less likely to have parents that attended university, and on

³⁹ Walton, G. M., & Cohen, G. L. (2011). A brief social-belonging intervention improves academic and health outcomes of minority students. *Science*, 331(6023), 1447-1451.

⁴⁰ Vincent Tinto, *Leaving College: Rethinking the Causes and Cures of Student Attrition* (University of Chicago Press, 1993).

⁴¹ Lamont, M. & Lareau, A. "Cultural capital: allusions, gaps and glissandos in recent theoretical developments," *Sociological Theory*, vol. 6, pp. 153-168, 1988.

⁴² Forsyth, A and Furlong, A (2003) *Losing out? Socioeconomic disadvantage and experience in further and higher education* Policy Press/JRF, Bristol

arrival will need to devise their own strategies of engagement⁴³ which may contribute to the reduced participation with university activity.

We hoped students would benefit from the experience of the programme membership itself, as well as the targeted package of support that it entailed. The aim of the trial was to test whether such a cohesive offer of support leads to improved attendance, attainment, and general engagement with King's.

The WIWIK pilot ran from December 2016 to June 2017 and involved all 944 students in their first year of study who were recipients of the King's Living Bursary. Half of these students – 472 individuals – were randomly selected as participants in the programme, while the other half made up the control group. The control group were not informed of any part of the programme.

The programme was centred around advice from 2nd and 3rd year King's students (similar to KCA, pg 37, but more focused), who shared their tips about what they wish they had known in first year. WIWIK students were pointed towards extracurricular events or alternative study options and offered opportunities to build their networks. The majority of the programme messaging was sent in the name of our two WIWIK Presidents. One of the presidents was a King's alumnus, and the other a current King's PhD student, who had also completed her undergraduate degree at King's. These near-peer presidents were invited to represent the programme due to their own WP student backgrounds, and their willingness to share their stories, experience and advice.

Throughout the programme, students received monthly emails and text messages which contained advice and information on themes such as study skills and student finances.

Table 11 gives examples of some of the messages sent out to WIWIK recipients, while Figure 65 shows what they looked like.

Table 11: Examples of What I Wish I'd Known programme messages

Message date	Message Content
12/01/2017	Welcome to Semester 2, #FirstName#! Is there something you plan to do differently this semester? Making firm plans makes it more likely that you'll achieve your goals. Sounds simple but it's true. Why not use your What I Wish I'd Known diary to set time aside for the key actions you want to take this semester. We'll be in contact in the next few weeks. Any questions, email wish@kcl.ac.uk Maia & Ryan, Presidents of What I Wish I'd Known

⁴³ Forsyth, A and Furlong, A (2003) *Losing out? Socioeconomic disadvantage and experience in further and higher education* Policy Press/JRF, Bristol

Message date	Message Content
31/01/2017	Hi #FirstName#, When I started uni I thought libraries were only for silent work but the King's libraries are really relaxed, with different study spaces to suit your style. I find I get a lot more done in the libraries than at home, and King's has subject librarians for every faculty who always help me find the best resources. You can ask librarians for help in person with all sorts of things, or chat with them online: #link Maia
16/02/2017	Hi #FirstName#, this is Ryan, your alumni president. I really struggled financially during my time at King's, and was not aware of the support I could have asked for. King's actually have a dedicated service for helping students with their finances, with info on everything from budgeting to applying for grants. Find out more here: #link I've also sent you an email with more info, so check your King's inbox.
15/03/2017	Hi #FirstName#, it's Maia from the What I Wish I'd Known programme. We thought it would be useful to talk about study skills this month in preparation for essay deadlines and exams. We filmed a quick video with our top tips & info on support services at King's. Check it out here: #link#. Also, look out for an e-mail from us in the next couple of days!

Figure 65: Example What I Wish I'd Known programme e-mail



Dear Hannah,

We hope your second semester at King's is going well so far. As promised, we are getting in touch with advice and information on useful services available at King's. This month, we are focusing on the theme of **student finances**.

There are lots of services at King's to help you manage your finances and get help if you need it. Find our best links below.

Where to turn to at King's for advice with your finances

Go to one of the **weekly money drop-in sessions** run by The Student Advice Team at all King's campuses. You can get initial advice and guidance to assess the help you need and set up a follow-up meeting to discuss your situation in more detail.

Visit the **King's Money site** which has a huge range of information on topics from student funding to banking to tax and benefits.

Check out the range of **Money Mentors advice videos**, as well as the Student Advice Service videos such as "London on a budget" and "Money saving tips for students".



If you are feeling financially strained, rest assured you are not alone. Below, our alumni president Ryan (who had financial issues during his time at King's) shares some of his top tips for how to manage your money.

Ryan's top tips:

Discounts: "Hailing from the north, I hate spending my own money and for that reason, I became adept at discounts. Three tips here: 1. Get a three-year NUS card. Costs more but worth it longer term. 2. Your young person's railcard works on the tube but no one ever tells you - just ask at an office (when they're open!) 3. Sign up for Money Saving Expert's weekly email. Sure it's aimed at my nan, but every now and then there's a great discount to be had."

Nights Out: "They make TV shows here! It sounds a bit weird, but they actively recruit for audience members - I got to go along to some average MTV show back in the day and enjoyed a free bev with Russell Brand and



Getting help: "Don't make the same mistake as me. I left in a quagmire of debt and it was only later that I realised you can speak to the bank. Speak to yours. If you're overdrawn or you've got a nasty credit card it's actually in their interests to help. Oh, and get another 3 year NUS card..."

Savings: "Budget. Budget. Budget. I can't recommend it enough. Excel may have been resigned to a year nine IT lesson, but now it's time to dust off those spreadsheet skills (if you've forgotten how to use it, download a

We will be in touch later in the month with information on financial support for study abroad opportunities. If you would prefer us to contact you at an alternative e-mail address, or if you have any other questions or feedback, please let us know at wish@kcl.ac.uk.

Best wishes,

Ryan

& The What I Wish I'd Known team

P.S. We hope you have now received a copy of our What I Wish I'd Known Diary 2017 in the mail. We recommend making use of it to manage your workload (and your social calendar too!). If you haven't received a diary let us know - we might have the wrong address on file for you.



All students on the programme also received a What I Wish I'd Known programme diary in the mail (see Figure 66). The inside covers of the diaries included a collection of tips from 2nd and 3rd year students, meaning the diary became an additional way to encourage students to engage with the opportunities available to them as King's students. Research from the USA has shown that sending students a gift from the university – branded or otherwise – helps emphasise students' connection to the organisation and increases their sense of belonging.⁴⁴ This in turn has been found to have a direct positive effect on institutional commitment and significant indirect effects on intentions to persist, and actual persistence.

Figure 66: The What I Wish I'd Known diary cover and inner pages



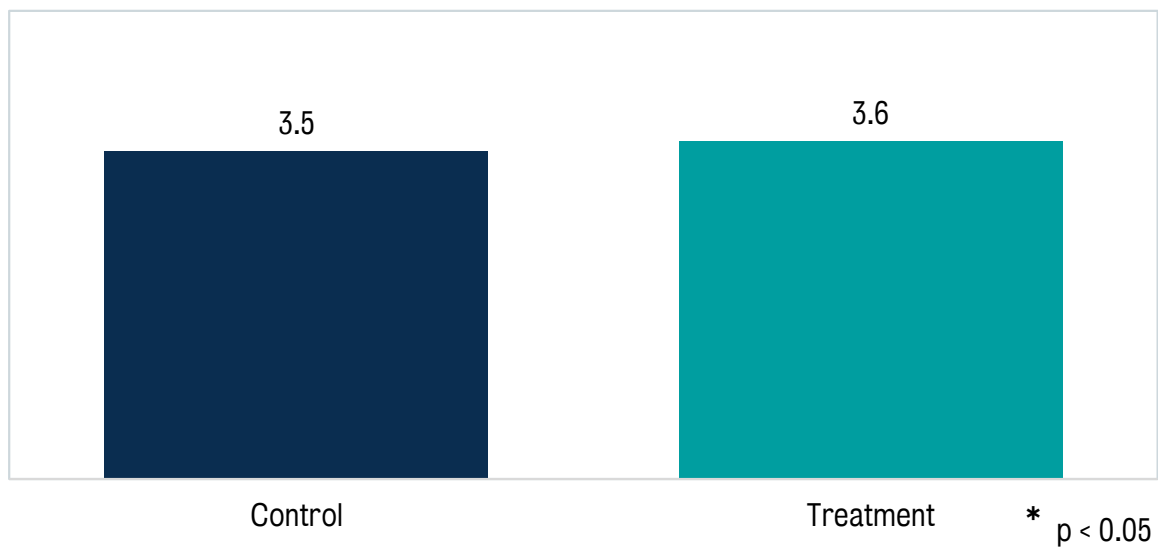
Analysis of the trial outcomes has not distinguished between the impacts of the different programme components, but looks at their overall impact on a range of outcomes for first year WP students.

Over the course of the programme it became apparent that we would be unable to obtain the full outcome data we had planned for the What I Wish I'd Known programme. We had hoped to collect a measure of belongingness through the re-enrolment survey to evaluate WIWIK and KCA (pg 37), but when this was not possible we conducted a text message based survey asking all 2nd year students to what extent they agreed with the statement "I feel like I belong at King's". Students were able to submit their response directly via text message.

We conducted an exploratory analysis on the effect of WIWIK assignment on responses to the belonging: 42% (n=399) of the sample answered this question. We found no evidence that students who were assigned to the WIWIK programme had higher self-reported levels of belonging (Figure 67).

⁴⁴ Forsyth, A and Furlong, A (2003) Losing out? Socioeconomic disadvantage and experience in further and higher education Policy Press/JRF, Bristol

Figure 67: Self-reported belonging among KLB recipients, by treatment assignment



The What I Wish I'd Known programme did not have a significant impact on students' retention rates (Figure 68) or academic attainment (Figure 69). As noted previously, retention at King's is overall high and significant impact on this would have been difficult to achieve, and the programme content did not have a specific emphasis on exam attainment.

Figure 68: Withdrawal rates among KLB recipients, by treatment assignment

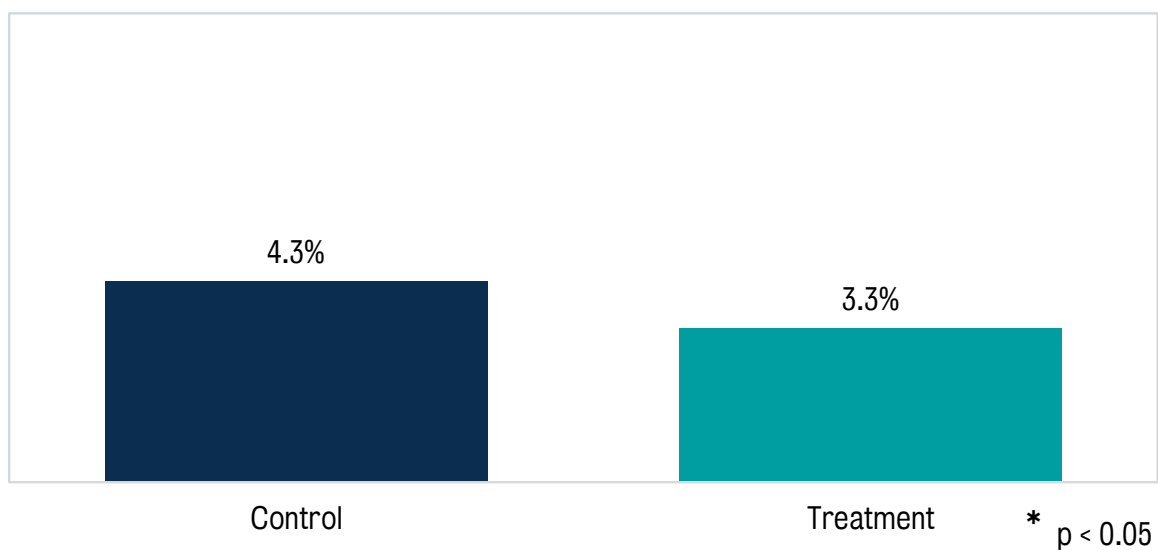
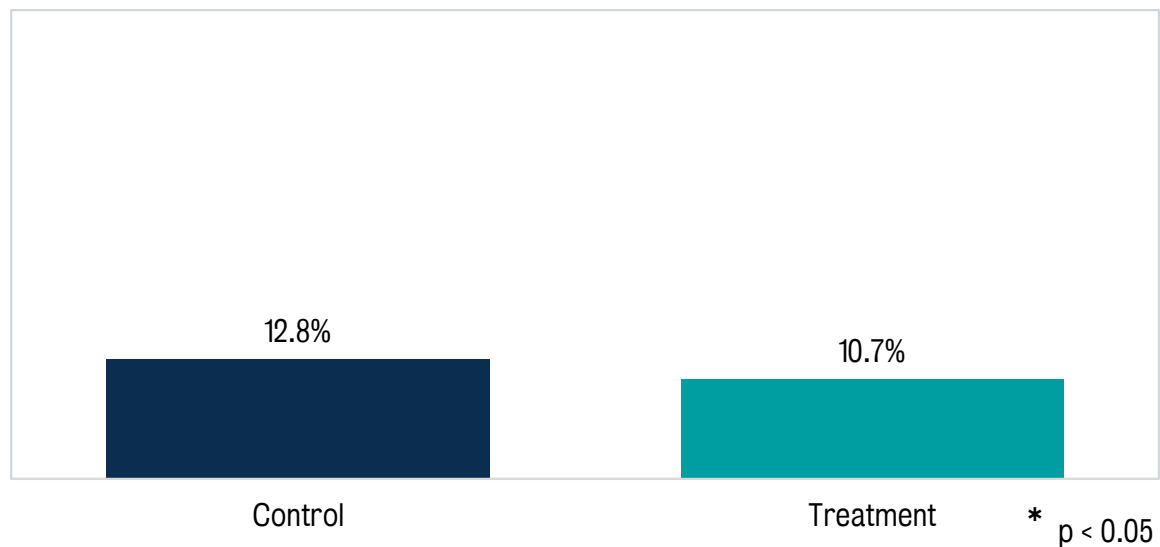


Figure 69: Proportion of KLB recipients not passing their exams, by treatment assignment



The What I Wish I'd Known programme was born out of our aim to test whether behavioural insights can be used to increase WP students' sense of belonging at King's. Our inability to collect our primary outcome data has meant that we have not been able to draw definite conclusions of the outcome of this first year of the programme. Qualitative feedback received from students was largely positive, with many students stating the programme made them feel supported by King's.

The programme is being re-run in the 2017/18 academic year, with improvements made based on difficulties we faced in the pilot year. We are continuing to evaluate elements of WIWIK via RCT.

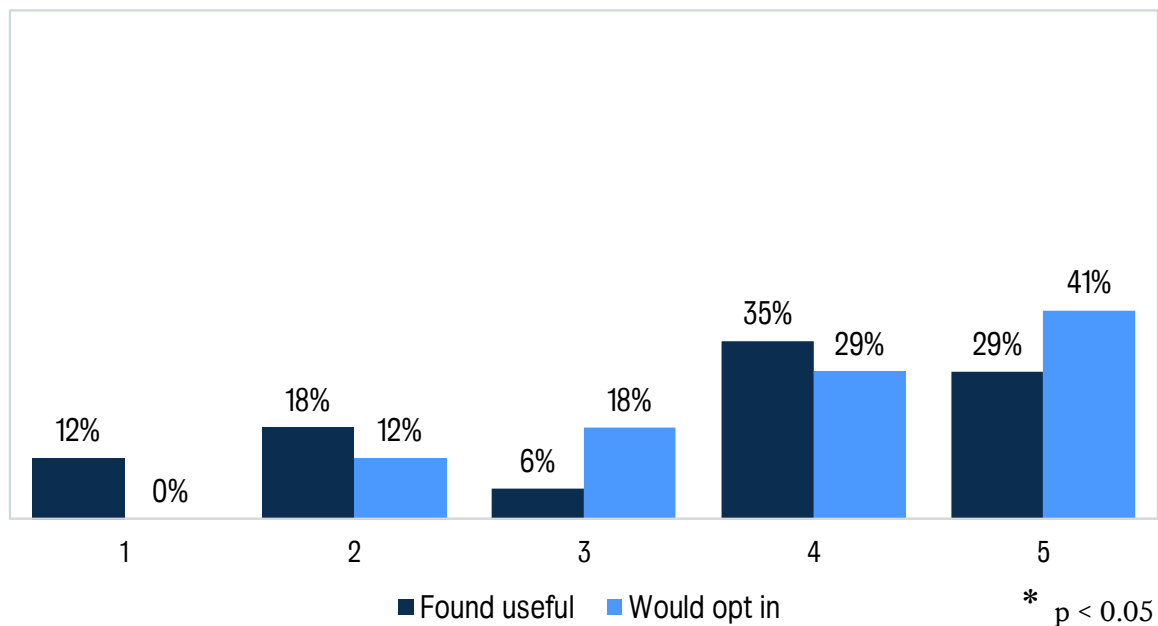
IV. The Legacy of KCLxBIT

Students' views on KCLxBIT

In both the first and second years of the project, we wish to seek students' feedback on the experience of being involved in the project.

In the first year, we conducted short feedback interviews via telephone with 21 students who had received an intervention in the pilot year. While some students did comment that the texts they had received this year had not been particularly useful to them, they remained open to the experience of receiving texts: just over 64% of students said they had found the experience useful this year, but over 70% agreed that they would opt into receiving text messages again in the future (Figure 70).

Figure 70: Students' responses to whether they found the texts useful and would opt in in future (where 1 is strongly disagree and 5 is strongly agree, not significance-tested)



One respondent noted that they would like to receive more texts about anything and that the exam texts had been helpful, whilst another reported enjoying the experience of the university being in touch during revision over Christmas:

It was useful. It was nice for King's to stay in touch while I was at home revising.

In the second year of the project, we also sought feedback from students about the experience of taking part in the Pulse Survey. Reactions among Wave 6 respondents were highly positive: almost all agreed they enjoyed participating in the survey (Figure 71), and that it covered key aspects of their experience at King's (Figure 72).

Figure 71: Enjoyment of the survey (% saying they had enjoyed, Wave 6, not significance-tested)

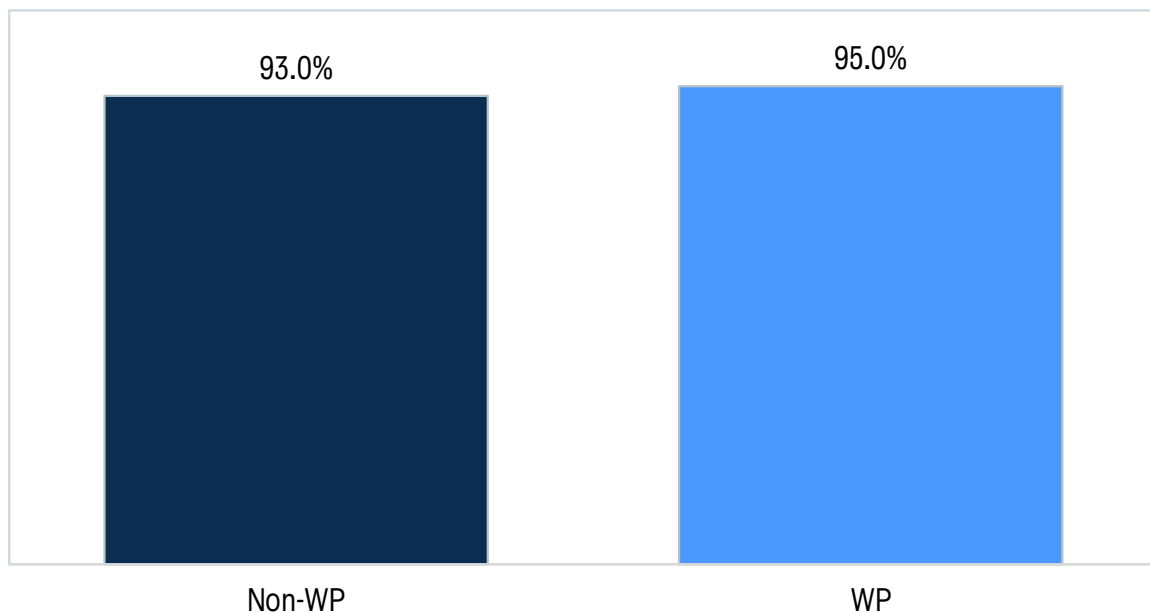
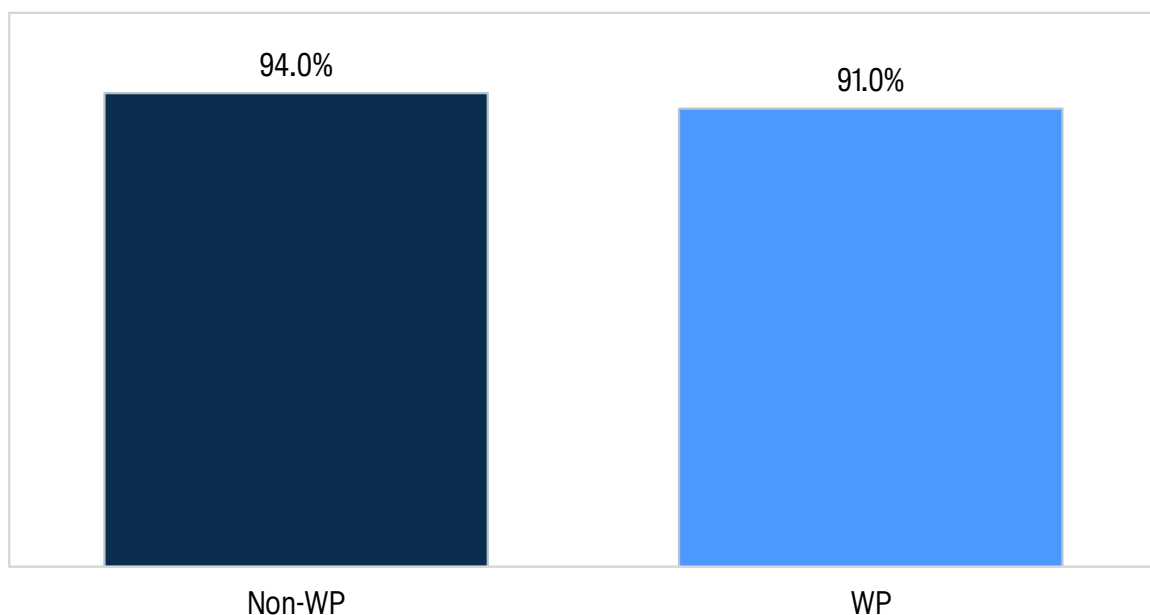


Figure 72: Agreement that the survey covered key aspects of King's experience (% agreeing, Wave 6)



Students particularly appreciated the opportunity to reflect on their experience:

"Got me to think and be mindful of the effects of key areas around my studies, finances, social circles and university experiences"

"Fairly neutral, it was interesting to reflect on how I have developed."

"I didn't find it a bad experience, in fact quite an eye opening experience since it made me think actively about important aspects of my life I might have neglected a

bit more. I didn't enjoy the survey per say, but that's not to say it wasn't a positive experience."

They also appreciated that it signalled that King's cared about their experience more broadly:

"It is good to know that you are concerned and taking into account what students think and feel not just about university but their lives in general."

In addition, we also emailed out to the students involved in the panel to ask whether they'd be interested in participating in a video about the experience. We had over 100 respond, of which we interviewed 13. The video is available here: <https://vimeo.com/254823472>.

The same themes stood out: that participants in the survey had found it a valuable opportunity to reflect on how they were feeling and what they were doing, and that they appreciated the interest King's was showing in their lives and experience more broadly than just academia.

What we learned

Behavioural insights

This project achieved its aim in evidencing that it is possible to operationalise behavioural insights in a UK higher education environment. We've found that behavioural insights offer a scalable and cost-effective approach to improving the student experience for all students. Below, we provide some reflections on the themes that arose most strongly through the research, which we will seek to explore further in coming years.

Belonging

Understanding why and when students feel like they fit in at King's was a major theme of the project. However, an individual's sense of belonging is amenable to change. An approach used in more than one successful intervention encourages students to see the challenges and doubts they face as they start university as a common experience which will decline over time.^{45,46}

Throughout our trials we tested the impact of messages which drew on this theme of normalising challenges, whilst also presenting a certain action as a potential solution or aid. In our Welcome Fair trial we found that these messages outperformed more conventional messaging around employability, specifically for students from a widening participation background. And in our online study support trial, we found that messages which included an additional line focused on belonging outperformed messages which encouraged students to form a plan alone.

However, there is still work to be done to further unpick how more intensive programmes of support can have a long-run impact on enhancing student belonging. Whilst our WIWIK

⁴⁵ Ideas42 (2016). *Fostering a Sense of Belonging: Forming a new narrative about freshman year*

⁴⁶ Walton, G. M., & Cohen, G. L. (2007). A question of belonging: race, social fit, and achievement. *Journal of personality and social psychology*, 92(1), 82.

and KCA trials had directionally positive results, there is not currently enough evidence to establish what works in the UK student context.

Planning

There is strong evidence of an “intention-behaviour gap” in which individuals who intend to carry-out an action fail to do so.^{47,48} This gap is exacerbated when individuals do not support their intentions with details of how, when and where the action will take place⁴⁹ and can be reduced by encouraging individuals to form a concrete plan^{50,51} – particularly if what they intend to do is relatively simple, requiring action at a single time-point.⁵²

We used planning prompts in two of our most successful trials – first in the Welcome Fair trial where we encouraged students to plan their route in advance and provided a link to Citymapper, and secondly in the Online Study Support trial where we asked students to set aside a specific day on which they would log on to the KLaSS study skills module. Whilst we found both of these sets of messages had a significant impact on students completing the prompted action, the design of the trials means that we cannot isolate the specific impact of the planning prompt alone. Planning prompts therefore present a promising area for further research in the university context.

Frictions

Even small hassles or “frictions” in a process can have a surprisingly large impact on the number of people completing it.⁵³ As a result, one of the first things to address when looking to increase a given behaviour is how to make it as simple and hassle-free as possible.

We applied this approach throughout the project, looking for ways in which the messages we sent students could help to make the process easier. This included a link to the Citymapper site to help students find directions to the Welcome Fair, and making sure any links we sent took them directly to the most relevant page. However, the trials we were running as part of this project (particularly in the texting trials) were intended to explore how light-touch nudges could impact behaviour and the student experience - larger system-level changes were not within scope.

This presented challenges when the services or provisions we were directing students towards then required several further stages for students to engage with. One example was in the process of signing up to the King’s Connect platform, which involved a multi-stage

⁴⁷ Prestwich, A.J., Perugini, M and Hurling, R (2010) Can implementation intentions and text messages promote brisk walking? A randomized trial. *Health Psychology*, 29 (1). 40 - 49.

⁴⁸ Sheeran, P. (2002). Intention-behaviour relations: A conceptual and empirical review. In M. Hewstone and W. Stroebe (Eds.), *European Review of Social Psychology*. (Vol. 12, pp. 1-36.): Chichester, UK: John Wiley & Sons.

⁴⁹ Sheeran, P., Milne, S., Webb, T. L., & Gollwitzer, P. M. (2005). Implementation intentions. In M. Conner and P. Norman (Eds.), *Predicting Health Behaviour: Research and Practice with Social Cognition Models*, 2nd edition (pp. 276-323): Buckingham: Open University Press.

⁵⁰ Leventhal, H., Singer, R., & Jones, S. (1965). Effects of fear and specificity of recommendation upon attitudes and behavior. *Journal of Personality and Social Psychology*, 2, 20-29.

⁵¹ Milkman, K. L., Beshears, J., Choi, J. J., Laibson, D., & Madrian B. C. (2013). Planning prompts as a means of increasing preventive screening rates. *Preventive Medicine*, 56, 92-93

⁵² Rogers, T., Milkman, K. L., John, L. K., & Norton, M. I. (2015). Beyond good intentions: Prompting people to make plans improves follow through on important tasks. *Behavioral Science & Policy*, 1(2).

⁵³ Behavioural Insights Team (2014). *EAST: Four simple ways of applying behavioural insights*. Retrieved from: https://www.bi.team/wp-content/uploads/2015/07/BIT-Publication-EAST_FA_WEB.pdf

process. In cases like this it is worth exploring ways of reducing the number of steps required to get from intention to commitment.

Timing of offers

Throughout the trials we ran we tried to think about when the appropriate timing would be – for example, using the winter break to prompt students to access online study support. However, there are also questions raised by the trial which would be interesting to explore further. In the Welcome Fair trial the messages focusing on the employment benefits of joining societies clearly did not chime with WP students despite having a significant positive impact on the attendance of non-WP students. Does this mean that employability messages don't "work" for WP students? Possibly. But another hypothesis is that the timing is wrong – after taking a big step (such as going to university) students may need a bit of time to settle-in before thinking about what to do next. This may be less the case for students from conventional university backgrounds (non-WP) who grew up expecting to go to university, have seen lots of people around them do so, and feel less uprooted by the experience.

Similarly, we found generally low take-up of the Study Abroad programme - across all students, but particularly those from WP backgrounds. There are several factors which could be contributing to this, but one is that students wanting to spend the whole of their second year abroad had to apply after just one term at King's when they may not have had a chance to think it through fully or decide what they wanted from their time at King's.

For now, these are hypotheses. But they are ones which deserve further investigation as the programme of work at King's continues.

Student voices

Students are interested in helping to design the services they interact with at King's. The Pulse Survey, in particular, surprised us with the response rate, both initially and across the waves. It was striking that students involved in the survey appreciated both the opportunity to feed back to King's, and the opportunity to reflect themselves. Students commented on how unique the survey was in asking them about themselves, rather than asking them for feedback on aspects of the university. Several students have fed back that this prompted them to reflect on their own experience in ways they would not have otherwise done. This seemed to have a knock-on positive impact on their experience in either of two ways – for some it allowed them to self-correct in areas which needed improvement, while for others this reflection made them more aware of how well things were going. Throughout the survey, students were reactive to prompts reminding them to respond to the surveys, and were quick to communicate any issues with accessing the surveys or receiving their M&S voucher rewards, which indicated high levels of engagement.

Evaluation and service design

KCLxBIT has demonstrated that forms of research and evaluation that were in the past prohibitively difficult can be undertaken by appropriately skilled university staff. With a relatively small core project team of around two full-time equivalents, we were able to run

ten RCTs, including two major programme evaluations (KCA and WIWIK), and a six-wave survey in two years.

We were able to achieve this because of the skillset of the team, strong partnership networks across the university, but also because we planned for evaluation from the beginning, and worked with the relevant areas on the ongoing digitisation, systematisation and linking of administrative datasets, and to create data where it didn't yet exist.

Things will go wrong

Almost no element of this project went off without a hitch, but despite that it has been immensely valuable, not only for what we've learned about students' experiences and how they can be supported, but for what we've learned about the day-to-day details of running evaluations, getting data together, and collaborating across the university. Below, we draw together some of the things that went wrong, in the hope that it will encourage others to push the boundaries of what they can do, and learn.

An important learning point from this project has been our need to reflect on our data readiness across King's. To design the trials, we had to discover what data would be available to evaluate against, and figure out how to access it. Where data was available, this had naturally not previously been collected for the purposes of running an RCT, and sometimes the format and quality of the data had to be negotiated to enable the running of our trials. This didn't always go to plan: for example,

- We didn't know the overall level of attendance at January exams (pg 35) until we'd collected the outcome after the trial—at which point we realised it was high enough to be difficult to shift;
- In the Study Abroad trial (pg 42), in Year 1, we realised after texting students that many of them weren't eligible for the Study Abroad opportunities we were targeting, while in Year 2 a technical glitch meant that we couldn't collect our primary outcome data (gate scans to the Study Abroad Fair);
- In the Year 2 Student Support trial (pg 57), we found when we received the data that advisors didn't always record the Student IDs of students with queries; and
- We only found out halfway through the implementation of KCA (Year 2, pg 37) and WIWIK (pg 66) that we would not be able to collect the belongingness measure through the re-enrolment task as anticipated.

Reflection on how we can improve our data collection practices continues, and our colleagues have many options under consideration.

From the beginning of the project we faced the challenge of adapting the existing format of student contact data to the purposes of our text message trials. When we texted everyone in our treated group for the January exam SMS trial (pg 35), a surprisingly high proportion were not delivered. Our colleagues have since introduced new prompts for students to update their contact information throughout the year, which had an immediate impact on the quality of contact information King's holds. In the second year of the project we also

texted all students at the beginning of the year, first to give them an opportunity to opt out (very few did) and second, so we could exclude those with invalid numbers from our trials.

During the first year of the project we learned that calls from a campus landline to a mobile phone display as coming from an 'unknown number'. This made students less likely to pick up the call and may have been a deterrent for female students, who had a lower pick-up rate. For the second year of the King's Community Ambassador phone calls (pg 37) we invested in a new call platform which allows a phone number to display instead.

We were also new to using mass SMS software; for example, in the first round of invitations into the Pulse Survey (pg 11), students replied to say they hadn't been able to sign up; this was because our text messaging platform had been abridging the length of the survey links we included in the messages.

Although we could wish to have avoided some of these things going wrong, every piece of research in this project allowed us to learn something useful, whether it was but students' experiences and actions, about how to use software and platforms to best advantage, or how to push further on King's collection and use of data.

How this has changed practice at King's

What Works, Social Mobility and Student Success

To continue to embed evidence-based practice and innovative approaches into King's ways of working, the What Works Department has been established within Social Mobility and

What Works objectives

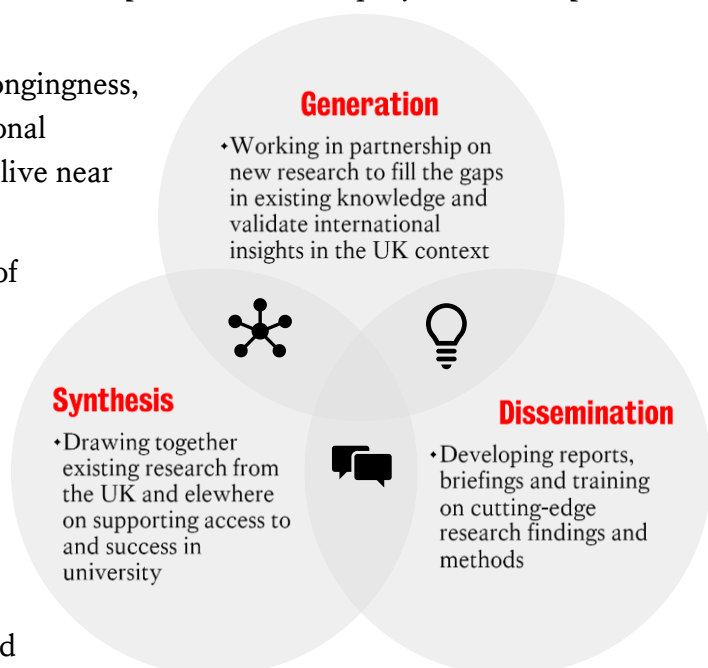
- To contribute to understanding of what works in enabling people to access and succeed at university.
- To promote empiricism and innovation in widening participation.
- To support the sector to think differently about designing and evaluating their initiatives.

Student Success Division. To support our objectives (see box, left) What Works has three functions, as outlined in the diagram below. These functions reflect our spiritual alignment to the broader What Works movement, which is dedicated to understanding and spreading effective practice.

The department's work programme will draw a broad range of sources and inputs into a three-strand work programme focusing on behavioural insights, research and evaluation,

and data science, with the end goal of providing the outcomes from all three strands as broadly as possible throughout the sector. Examples of lines of enquiry we seek to pursue are:

- How can we build student belongingness, particularly among non-traditional students and those who do not live near campus?
- How can we enhance the role of King's in building social and civic capital?
- Can we identify students who may need additional support from how they interact with King's in their first month?



In order to address these questions, and others, the department will draw on student voice techniques, including both seeking information from students about their experience and making them part of the conversation around solutions; cutting-edge quantitative and data science approaches; and partnerships with academics within and beyond King's to ensure we are drawing on the latest academic expertise, and making this accessible to interested practitioners.

We will also seek partnerships and collaborations with other interested universities and organisations to contribute to the evidence base in what works in promoting social mobility and student success in settings broader than King's.

Evaluations

High-quality evaluation is an ethical and practical imperative. Programmes and initiatives require time, from students, educators and widening participation staff, and the decision to do one thing comes at the cost of an alternative foregone. From an ethical standpoint, we want to know that we are delivering to students the maximum benefit in return for the time and attention they have given us. On the practical side, we want to know our resources are going towards the best things they can be.

Based on the success of the programme of RCTs conducted through KCLxBIT, the partnership between King's and BIT has expanded to include two RCTs in WP outreach, which will be reporting findings over the coming year. In addition, the What Works Department will support the rest of the division, and the university more broadly, to implement high-quality evaluations of new and existing services. In some cases, this will mean running RCTs, but the goal is to select the right method for the evaluation (from focus groups to RCTs), and to implement them to the highest standard of quality.

Learner analytics

One thing that was striking was the volume of data that King's held about its students: almost every interaction a student has, from enrolment scanning into events to signing up for study skills support, or creating a profile on the careers portal, is linked to the same identifiers. Simply through the process of drawing together the data needed to evaluate the initiatives as part of KCLxBIT, we built up an incredibly rich dataset about the experiences of the 2016/17 first year cohort. We're now working with the King's Informatics Department, to understand how we can take this data further, to understand "what makes a good first year at King's" through an MSc project.

The digitisation and linking of these data holdings creates a huge opportunity to explore how we can turn administrative data into a vehicle for supporting students. The key question, however, is how we ensure that students have given both legal and (more importantly) psychological consent to their data being used in this way. We will explore this further over coming months as part of development of a King's wide approach to learner analytics. The voices and contributions of students will be crucial to achieving a successful approach.

Students as partners in service design

The proportion of students who continuously responded to the Panel Survey demonstrated a willingness to be involved in initiatives which they perceive to benefit them. Respondents revealed that they appreciated the opportunity to reflect on their experiences and offer feedback, which simultaneously provided us with valuable insight on how students were feeling. There is clearly value in engaging students in a strategic way, which benefits them and the institution mutually. Consequently, our approach to capturing the student voice has developed to engage students in shaping their experiences, through design thinking and participatory research. This revised approach moves away from the archetypal and tokenistic involvement of students towards a more meaningful engagement, allowing them

to shape and improve their own experiences. By positioning students as active partners in service design and evaluation, they become advocates for themselves and their peers.

In addition, our convening of the Student Surveys Management Group will enable a more strategic approach to engaging students in research and evaluation across the institution. Aligning survey questions and ensuring their salience will minimise the burden on students; leading to increased meaningful engagement and actionable outputs.

Incorporating wellbeing and belonging into registration

One of the stand out insights from this project was that the experience at King's varies dramatically by demography and context. Some of this is captured in current administrative data (such as grades and continuation), but for many students, the experience is subtler than that: it's about their feeling that they belong at King's, their wellbeing, and their confidence in navigating the system. Understanding these elements of student success, and how we can support students to feel like they belong at King's, has been a core element of KCLxBIT.

In 2018/19, we will be trialling including wellbeing and belongingness questions in the Enrolment Task for all new and returning undergraduates. These questions are all based on national student engagement surveys, or relevant academic research. They will provide a resource across the university, to those wishing to understand student experience, and in time will provide a rich dataset to track the dynamics of students' attachment to King's across the course of their degrees.

Conclusion

KCLxBIT was a ground-breaking project for King's, for the type, quantity and focus of the research. We conducted workshops with students, a multi-wave survey, and ten RCTs ranging from light-touch text messages to long-term, complex interventions. We demonstrated the feasibility not only of running complex research to inform student support practices, but also of iteratively mixing these methods, learning quickly from one strand of research and applying those learnings in another.

KCLxBIT was born out of a challenge: to think differently about how we can understand the experiences of students, and support them to take advantage of the range of opportunities King's offers. The scope of this challenge is shown by the fact that many things we tried didn't work, for both content and practical reasons. However, there was so much value in both the successes and the bumps in the road that it has led to the institutionalisation of the behavioural insights approach, coupled with robust research and evaluation methods, within King's.

We look forward to engaging in a broader discussion with others in the sector about the next stage of development of research of this nature, and how the approaches showcased here can help promote social mobility and student success across institutions.