

Creative Forces 2022/23 impact evaluation report

Collaborative evaluation report led by the University of Plymouth on behalf of the SCiP Alliance Hub Leads Group

September 2023

Executive Summary

The Service Children's Progression Alliance (SCiP Alliance) is a partnership of organisations focused on improving outcomes for children and young people from Armed Forces families. The Alliance's Hub network coordinates a programme of higher education outreach activity, the Creative Forces Day (CFD), run by higher education institutions across the UK. The days unite Service children from different schools for a day on a university campus, fostering a sense of identity and connection. Simultaneously, schools gain insight into better supporting Service children. This report synthesises data collected from nine CFD events from the 2022/2023 academic year. The data were analysed using Wilcoxon signed-rank tests, descriptive statistics, and thematic analysis.

The evaluation indicates a positive impact on participants, and it is apparent that overall, they had a positive introduction to higher education, they explored relevant university subject areas, and familiarised themselves with a range of study opportunities that are available to them. Despite starting from a high baseline, it is likely the events increased participants' knowledge of, and raised awareness of Higher Education, potential careers, and had an overall positive impact on participants, with secondary school students benefiting more than primary school students. According to participant feedback, engagement with higher education in this way has the potential to strengthen participants' understanding and attitudes towards higher education.

Findings indicate that the primary school day run by the University of Portsmouth was effective in supporting participants to increase their knowledge of options, strengthening their prospective sense of belonging, and feeling supported by their schools to learn about their future careers. The secondary school day findings across six events indicate that the CFD events were highly effective in supporting secondary students with their knowledge regarding different subject areas they can study at HE, their confidence in talking to an adult at their school about their future careers and their knowledge of the benefits of studying at HE. The teacher feedback gathered at two of the events indicated that the CFD engaged their students (100%), made their students more familiar with a university environment (93%) and increased their students' knowledge of the academic and social benefits of HE (100%). Teachers indicated that following the CFD they are more able to express how their students' strengths and experiences relate to progression opportunities (66%) and more confident using learner voice to inform practice (86%).

Feedback suggests the event can be improved by enhancing engagement for participants through more interactive activities, providing a comprehensive welcome talk to clarify the event's purpose and extending campus tours for secondary students. To improve evaluation, consider students' prior exposure to higher education to provide a more accurate baseline for perception. Where possible, conduct an intersectional analysis to understand the impact of events on students who belong to more than one underrepresented group. Finally, continue collecting the data to understand trends and to enable the collection of more accurate and reliable conclusions.

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About Creative Forces

Academic research shows that children and young people in Armed Forces families are less likely to progress to Higher Education than their non-service peers. The SCiP Alliance addressed this by establishing CFD; collaborative outreach events between SCiP Alliance members and universities. It enables Higher Education (HE) institutions to unite Service children from different schools for a day on a university campus, fostering a sense of identity and connection. Simultaneously, schools gain insight into better supporting Service children. Each CFD event is unique and shaped by various factors, such as the expertise of the hosting institution and the participating schools' needs. There is no fixed programme, allowing flexibility to tailor the experience to the participants' interests and circumstances. Events will be tailored towards either a primary school or secondary school audience. However, a typical CFD event would involve activities such as an academic taster session, a tour of the HE campus, and opportunities for Service children to discuss their experiences and the support they receive at school. This support is likely to address key risks from the Office for Students' (OfS) Equality of Opportunity Risk Register, including Risk 1: Knowledge and skills, Risk 2: Information and guidance, and Risk 3: Perception of higher education (Office for Students, 2023).

The SCiP Alliance defines a Service child as a person whose parent, or carer, serves in the regular armed forces, or as a reservist, or has done at any point during the first 25 years of that person's life.

Evaluation

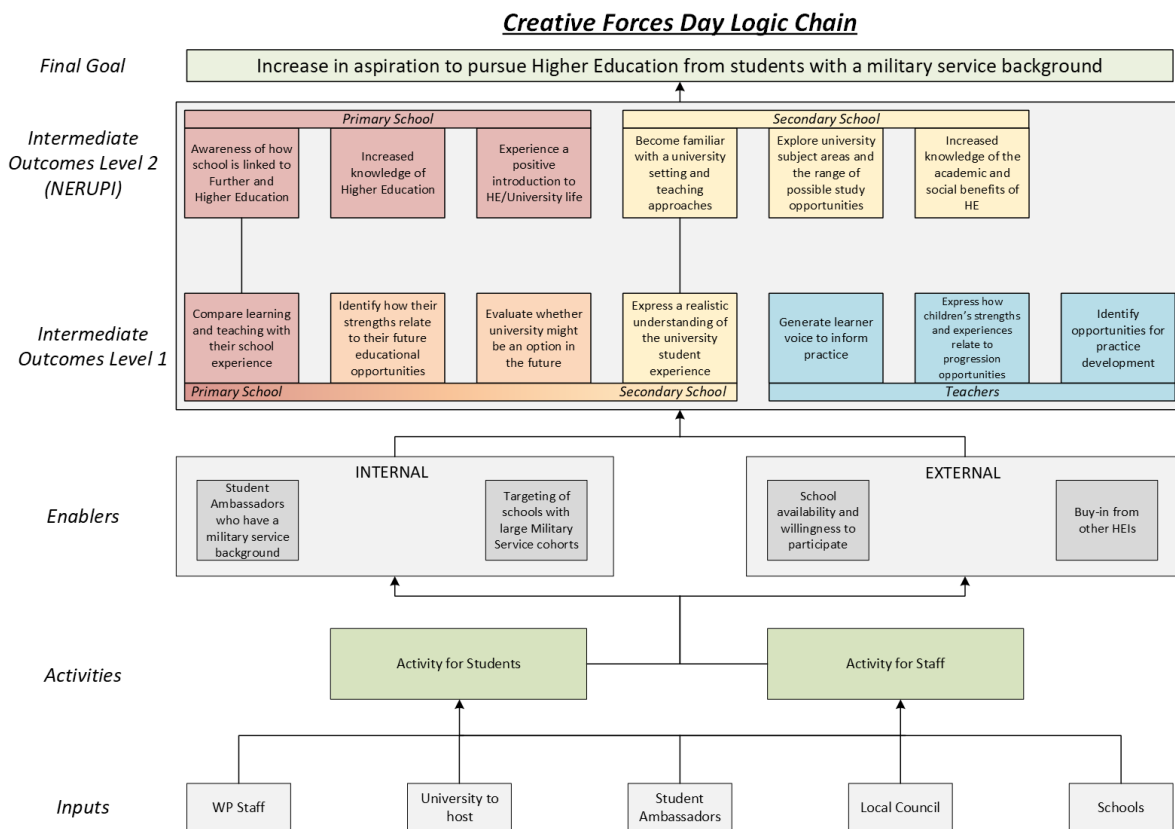
Although CFDs are delivered by different Higher Education Providers (HEPs) and Uni Connect partners across the country, there was an aim to have consistency across the events that would facilitate a national collective analysis of them. To achieve this, a toolkit was developed to enable evaluation of core outcomes expected with all Creative Forces Days, with an option of incorporating optional questions to suit more specific outcomes related to bespoke events (University of Winchester, 2022).

The toolkit presents an outline of a logic model for the event, which provides a visual representation that helps to define the key elements of the project: activities, intermediate outcomes, and final goals. This proposed model (Figure 1) outlines the resources which go into the event, the activities themselves, the intended outcomes, and the enablers. Mapped into this logic chain are also some key outcomes from the NERUPI (Network for Evaluating and Researching University Participation Interventions) framework. NERUPI is an established evaluation model designed specifically for HE outreach, and whilst there is no common evaluation framework across all HEPs, the NERUPI framework is often used for this process; it was acknowledged by the Office for Fair Access that it provides a *"very rigorous theoretically informed methodology for linking Widening Participation (WP) aims and objectives to impact evidence"*.

Questionnaires

Pre- and post-event questionnaires for both primary and secondary age students were used consistently for most of the CFDs that were analysed for this report. Similarly, for some events, accompanying teachers were asked to fill in a post-event questionnaire.

These questionnaires included core questions, that have been carefully mapped to the NERUPI framework and were designed to measure outcomes that would be expected of all CFDs (Figure 1). There was also a bank of



optional questions which could be added to the secondary school survey when certain activities were included within a day, such as a subject taster session or student finance talk, for example. These too were mapped against the appropriate NERUPI objectives.

Figure 1. Creative Forces Day Logic Chain. Hayton, Annette & Bengry-Howell, Andrew. (2016). Theory, evaluation, and practice in widening participation: A framework approach to assessing impact. London Review of Education. 14. 41-53.

Personal information such as first in family (HE) status and whether a family member is currently serving/has served in the military were captured in both the primary and secondary questionnaires. Post-activity feedback questions were included in learner and teacher surveys to allow for reflection on programme content.

Other feedback

During these events, additional or alternative evidence was captured by participating HEPs and Uni Connect partners to align with their own evaluation frameworks and targets, e.g., interviews, observational methods or other evaluations. An example of this was the collaborative approach to evaluation conducted by the University of Portsmouth, which is highlighted in their [blog](#).

Data Analysis

After receiving anonymised data from the different institutions that delivered CFDs, the data was collated and organised by the evaluation team at University of Plymouth. Incomplete records were removed from the

quantitative sections that evaluated pre- and post- questions, e.g., a record where a student rated statements at the beginning but not at the end. By removing incomplete records, data consistency and integrity is maintained, increasing reliability and validity of results. Additional feedback was analysed separately and is presented in the [additional feedback](#) section of this report.

Quantitative

The CFDs evaluation toolkit included guidance documents to conduct the relevant statistical analysis for pre- and post-event quantitative responses, i.e., central measures and parametric tests to determine whether the positive changes resulting from pupils' attendance at CFDs events were statistically significant.

Therefore, the relevant quantitative data was analysed using the CFDs toolkit alongside Transforming Access and Student Outcomes in Higher Education's (TASO) guidance to conduct a paired T-test (TASO, 2021). It should be noted that, as will be explained in the [findings](#), the distribution of the data was non-parametric. In this case, the Wilcoxon signed-rank non-parametric test was performed. Additionally, where only post-event data was available, descriptive statistics were used to illustrate the trends resulting from the analysis.

Qualitative

An inductive approach was adopted for qualitative data, performed by individually coding each comment with a theme. It should be noted that in some cases, individual comments were coded once or, in some cases, multiple times depending on the themes. Therefore, the count of the thematic responses (TR) is not always equal to the total number of individual responses.

Limitations

The main limitations of this evaluation relate to the content and structure of the CFDs, which differed between institutions, perhaps resulting in differences in how participants viewed the day. Consequently, there are unidentified variables that could introduce bias into the outcomes and, there may be additional factors influencing the findings. While most participants may have family members in the Armed Forces, differences in backgrounds and other protected characteristics could create barriers leading to non-representative findings. For example, a service child from a socioeconomically disadvantaged area may have a different experience than one from a more affluent area. Additionally, the sample size for the primary evaluation is smaller than the secondary one. This means that, although the total sample size still provided valuable feedback, it might not represent the views and experiences of all beneficiaries. Similarly, the limited responses obtained from school staff makes triangulation a challenge.

Findings

Primary

The University of Portsmouth delivered a CFD event in April 2023 to KS2 participants from five (5) different primary schools. During this event, pupils had an opportunity to visit the university campus and take part in a subject workshop. Furthermore, they were given the chance to meet, connect and discuss their unique lived experiences with pupils from other schools that also had a family member serving in the military services.

Pre- and post-activity surveys were collected from 51 participants and after removing incomplete surveys, the sample size for this dataset was reduced to 43 clean surveys for pre-and post-activity comparison analysis. Out of the 43 participants that completed the survey:

- 58% said they would be the first in their immediate family to pursue Higher Education.
- 98% reported that someone in their family is a serving member of the military services, with 68% serving in the Royal Navy, 26% in the Army, and 2% in the Royal Air Force.
- The twenty (20) valid postcodes shared by students were used to look at measures of the postcode areas' deprivation and underrepresentation in higher education. It is important to note percentages of area-based measures of underrepresentation might be skewed and not illustrative of the total population:
 - 29% belonged to areas of high social deprivation (IMD Q1¹)
 - 65% belonged to a neighbourhood where not many people go on to higher education (POLAR4 Q1²)
 - 80% belonged to a neighbourhood where not many people, that attend to a state-funded mainstream school in England, go to higher education (TUNDRA (MSOA) Q1³).

Respondents were asked to state their opinions, before and after the event, regarding six (6) core statements relating to the outcomes highlighted in the Creative Forces Day Logic Chain for this evaluation (Figure 1). When comparing the mean value resulting from ratings given by the participants (Figure 2), statements number two (2), three (3) and six (6) showed the highest increase.

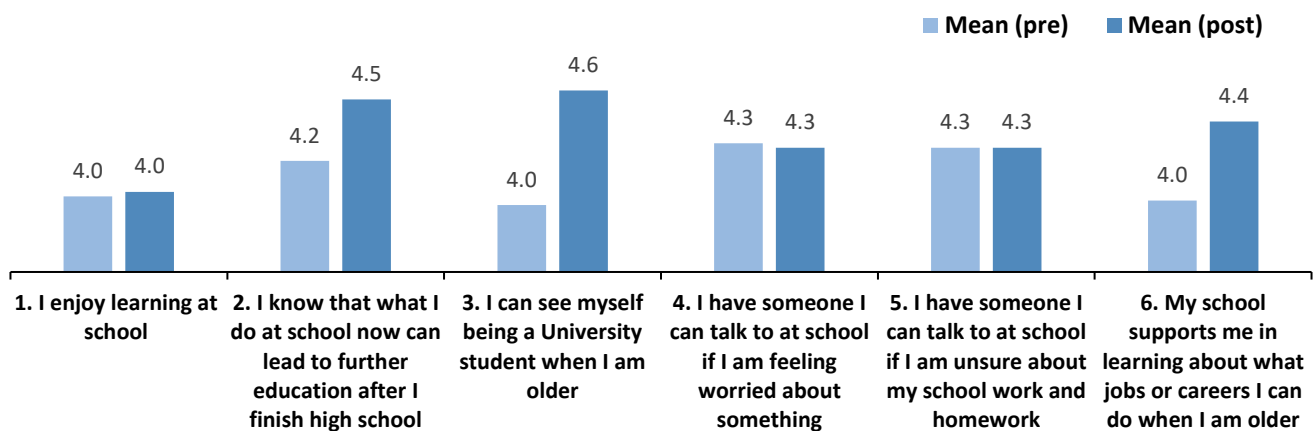


Figure 2. Mean level of agreement from ratings provided by primary-age participants (scale: 1 = Disagree a lot – 5 = Agree a lot)

¹ [The Index of Multiple Deprivation \(IMD\)](#) is calculated from a basket of measures that classify areas in England by level of deprivation, dividing them into five quintiles where Quintile 1 contains the most deprived 20 per cent of the English population, and Quintile 5 the least deprived 20 per cent.

² [Participation of Local Areas \(POLAR4\)](#) is an area-based measure that classifies groups areas across the UK based on the proportion of young people (under 21 at age of entry) who participate in higher education. Quintile 1 contains the areas with the lowest 20 per cent of participation rates, and Quintile 5 the areas with the highest 20 per cent of participation.

³ [Tracking Underrepresentation by Area \(TUNDRA\)](#) is an enhanced area-based measure that uses tracking of state-funded mainstream school pupils in England to calculate young participation. TUNDRA is a different measure to POLAR4 because it uses data-linking to track students from KS4 to participation in HE, it focuses on the participation rate of state-funded mainstream school pupils and only applies to England. Quintile 1 contains the areas with the lowest 20 per cent of participation rates, and Quintile 5 the areas with the highest 20 per cent of participation.

To test the statistical significance for each of the statements, it was appropriate to use the non-parametric Wilcoxon signed-rank test, as the assumptions for the paired T-test were not met (see Appendix 1. On average, respondents provided a higher rating after the event for the three statements mentioned above compared to before. Findings from the Wilcoxon signed-rank tests shown in Table 1 indicate this increase was statistically significant, i.e., $p\text{-value} < 0.05$. Meanwhile, the other statements show no demonstrable differences.

Based on the Wilcoxon test results, these three statements have a significant impact on post-survey ratings, indicating that the intervention was effective in; supporting participants to increase their knowledge of options that can lead to FE, strengthening their prospective sense of belonging, and feeling supported by their schools to learn about their future careers. When considering the *Mdn*, *IQR*, *p* and *d*, prospective sense of belonging showed the most significant difference out of the three statements. This result demonstrates the event effectively made primary participants feel like university could be an option in the future for them. Findings suggest that the NERUPI pillar impacted the most by the event was CHOOSE, which focuses on developing students' capacity to navigate the Higher Education (HE) and graduate employment sectors and make informed choices. Therefore, it can be argued that the CFD helped primary students start identifying links between HE and careers.

Table 1. Wilcoxon Signed-Rank test (Primary)

Statement	<i>Mdn</i> (before)	<i>Mdn</i> (after)	<i>IQR</i> (before)	<i>IQR</i> (after)	<i>n</i>	<i>Z</i>	<i>p</i>	<i>Cohen's D</i> (<i>d</i>)
1	4.00	4.00	2.00	2.00	43	-4.29	7.72E-01	0.03
2	4.00	5.00	1.00	1.00	43	-4.85	3.18E-02	0.33
3	4.00	5.00	2.00	1.00	43	-5.37	1.06E-03	0.51
4	5.00	5.00	1.00	1.00	43	-4.73	8.22E-01	0.02
5	5.00	5.00	1.00	1.00	43	-4.42	9.54E-01	0.00
6	4.00	5.00	2.00	1.00	43	-5.20	7.90E-03	0.38

At the end of the event, participants were asked to rate two statements at the end of the event on a five-point scale, with options that included 'Strongly disagree' to 'Strongly agree' (see Figure 3a and 3b). Of 43 respondents, 98% agreed or strongly agreed that they enjoyed the activities they took part in. Similarly, of 40 respondents, 85% said they agreed or strongly agreed that they had the chance to talk about their experiences of being a "service child".

a) I enjoyed the activities I took part in today (n=43)



b)

I have had the chance to talk about my experiences of being a "service child" today (n=40)

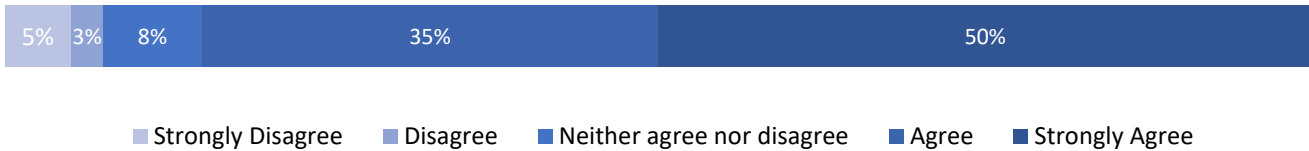


Figure 3a and 3b. Primary-age level of agreement regarding two post-activity statements

Participants were given the opportunity to answer several open-ended questions, which allowed respondents to provide detailed and nuanced answers in their own words that can result in a deeper understanding of their thoughts, feelings, and experiences. In the pre-survey, respondents were asked what they are most looking forward to about the University visit. This elicited a total of 33 responses, with 28% stating that they were most looking forward to the activities, *“Doing science experiments because science is my favourite subject”*, 17% said the opportunity to learn something new, *“Learning new things”* and 14% said the campus tour, *“Looking around the campus”*.

In the post survey, participants were asked to reflect on their favourite aspect of the day, resulting in 40 responses in total. The predominant themes revolved around two key elements: the activities and the campus tour. Specifically, 30% mentioned a particular activity, *“Seeker Challenge”* and 23% highlighted the creative parts of the day, *“The drawing”*. Equally, 20% said the opportunity to see parts of the university on the campus tour, *“Walking round the different buildings”*.

Participants were also asked for feedback on how to make the activities better. Under a quarter of participants (17%) suggested making activities more fun, *“Making it more fun”* and to integrate more interactive games into the day, *“Doing a word search when you search around the room for words”*. Finally, 11% wanted more opportunities to work as a team, *“Working as a team”*.

Secondary

The data here represents six CFD secondary school events held by Anglia Ruskin University (ARU), University of East Anglia (NEACO), University of Portsmouth, University of Surrey (HEON), Wessex Inspiration Network and Bath Spa University and University of Winchester.

Through a full day of engaging activities, students had the chance to learn about higher education, the careers that are available beyond higher education-level study and to explore university life and their identity as a Service child. Pre- and post-activity surveys from 207 participants were collected and after removing incomplete surveys, the sample size for analysis was to 202 respondents from years 7, 8, 9 and 10, across 15 secondary schools. Out of the 202 participants that completed the survey:

- 15% reported that if they were to progress to HE, they would be the first in their immediate family to do so, with 64% stating they did not know.
- 89% said that someone in their family is a serving member of the military services; 62% of which said their family member was serving in the Army, 7% in the Royal Navy and 19% in the Royal Air Force.
- From 141 valid postcodes, 4% of participants belonged to IMD Q1, 45% belonged to POLAR4 Q1 and 57% to TUNDRA (MSOA) Q1.

Respondents were asked to state their opinions, before and after the event, regarding five (5) core statements relating to the outcomes highlighted in the Creative Forces Day Logic Chain for this evaluation (Figure 1). When comparing the mean value resulting from ratings given by the participants (Figure 4), statement two shows the highest increase at the end of the event.

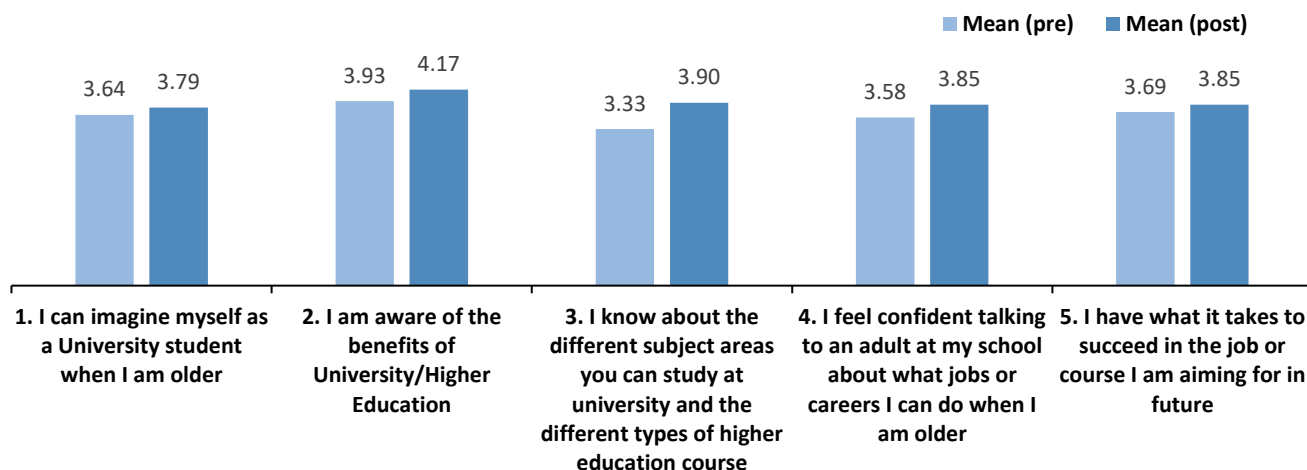


Figure 4. Mean level of agreement from ratings provided by secondary-age participants (scale: 1 = Disagree a lot – 5 = Agree a lot)

Similar to the dataset from the Primary participants, the assumptions of the paired T-test were not met (see Appendix 2.). Therefore, a Wilcoxon signed-rank test was used to identify the statistical significance of each statement. Table 2 illustrates results from this test, indicating that higher ratings at the end of the event were statistically significant for all statements, i.e., *p-value* < 0.05. When looking at *Mdn*, *IQR*, *p* and *d* values together, it can be argued that in order of significance and effect size, the following statements showed the highest impact: statement 3, statement 4 and statement 2. These findings indicate the CFD event was highly effective in supporting secondary students with their knowledge regarding different subject areas they can study at HE, their confidence in talking to an adult at their school about their future careers and their knowledge of the benefits of studying at HE. Statements 3 and 4 align with the CHOOSE pillar from NERUPI, which indicates that CFDs supported secondary students to explore university subject areas and the range of possible study opportunities and evaluate whether university might be an option in the future. Meanwhile, Statement 2 aligns with the KNOW pillar, which focuses on increasing knowledge of the academic and social benefits of HE.

Table 2. Wilcoxon Signed-Rank test (Secondary)

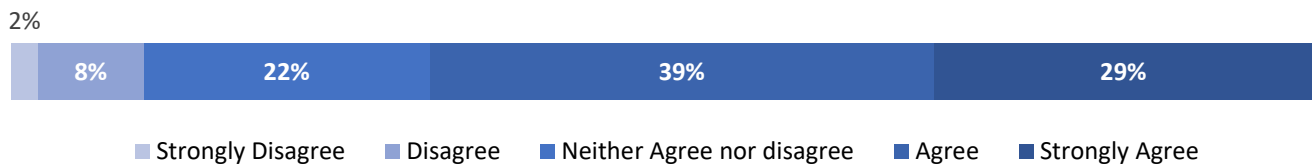
Statement	Mdn (before)	Mdn (after)	IQR (before)	IQR (after)	n	Z	p	Cohen's D (d)
1	4.0	4.0	2.0	2.0	202	-11.23	5.66E-03	0.14
2	4.0	4.0	0.0	1.0	202	-11.29	9.40E-05	0.27
3	3.0	4.0	1.0	2.0	202	-10.47	8.08E-11	0.54
4	4.0	4.0	1.0	2.0	202	-10.64	9.67E-05	0.27
5	4.0	4.0	1.0	1.0	175	-10.10	1.08E-02	0.17

Of 202 respondents, 86% agreed or strongly agreed with the statement 'I enjoyed the activities I took part in today'. Similarly, of 196 respondents, 68% agreed or strongly agreed with the statement 'I have had the chance to talk about my experience of being a "service child" today' (see figure 5a and 5b)

a) I enjoyed the activities I took part in today (n=202)



b) I have had the chance to talk about my experiences of being a "service child" today (n=196)



■ Strongly Disagree ■ Disagree ■ Neither Agree nor disagree ■ Agree ■ Strongly Agree

Figure 5a and b. Secondary-age level of agreement regarding two post-activity statements

The pre-survey asked respondents what they were most looking forward to about the University visit. 151 individual responses were provided, with 14% saying they were most excited about the campus tour, "The tour of the university", 11% said they wanted to find out about the opportunities available to them, "Looking at all the different opportunities for me" and 9% said they wanted to learn about HE, "What it is like at university".

In the post survey, one of the questions encouraged participants to recall what their favourite part of the university visit was. This elicited a total of 198 responses, 31% of which indicated a particular activity they engaged in, "mission possible was my favourite". Similarly, 17% said the campus tour was their favourite part, "Looking around the campus" and 12% said the refreshments, "The free food and tea".

Participants were also asked for feedback on how to make the activities better, which offered a variety of suggestions for improvement. From a total of 175 responses, several comments (14%) suggested no changes, with a number explicitly stating that it was an overall good event, "do nothing it was perfect". However, 14% said they would like more interactive elements to the activities, "Maybe the sessions could be more interactive and practical", 7% said they would have liked a more extensive campus tour, "Giving us a full tour" and 7% said more time to make the sessions longer, "Having longer to do them [the sessions] like the tour because we didn't get to see everything".

Teachers

The information presented here was gathered from fourteen (14) respondents from seven secondary schools who attended two CFD events at the University of Surrey and Bath Spa university. The percentages below represent those who said they agreed or strongly agreed with the following in the post-survey:

- 100% said the CFD engaged their students.
- 93% said as a result of the CFD, their students are more familiar with a university environment.

- Out of 13 respondents, 100% said as a result of the CFD their students have increased knowledge of the academic and social benefits of HE.
- Out of 9 respondents, 66% said following the CFD they are more able to express how their students' strengths and experiences relate to progression opportunities.
- Out of 9 respondents, 89% said following the CFD they now feel more confident using learner voice to inform practice.

Teachers were asked what they think are the key things their students will take away from the event. 38% of the comments said they felt their students left with an increased understanding of HE, *"Greater understanding of university environment."*, 19% said increased confidence/self-belief, *"That they have a voice, are strong resilient individuals"* and 19% said knowing about their options, *"Opening to options post 16/18"*.

They were also asked to give an example of opportunities for practice development the event had helped them identify. Eight (8) teachers provided comments, with 38% saying student voice, *"We need access to our Service Childrens' voices more frequently"*, 25% said greater support for students from a service background, *"Early identification and certain support strategies"*, and 13% mentioned the greater need for signposting, *"Our school facilities need to be advertised and shared so they can reach their potential"*.

Finally, teachers were asked to give any further suggestions or comments. Six (6) teachers provided comments, with two (2) providing an overall positive comment, *"Excellent event, well timed and engaging"*. Two (2) stated their students needed more background information at the beginning of the day, such as a welcome talk, to learn about the event and what the day will entail, *"Students needed more contextual info about the day right at the beginning because the studio tour seemed a bit random"*. One (1) teacher commented that their students would have benefitted from more subject and career insight related to the armed forces, *"Examples of degrees that can take you higher in the armed forces with relative salaries to show students what they can realistically earn..."*. Finally, one (1) teacher mentioned that they would like greater opportunities for their students to visit a HE campus, *"More opportunities to come to the university"*.

Additional feedback

Additional feedback was collected by universities that delivered CFD events. Three universities used a selection of optional questions that were available for inclusion in the secondary school survey, particularly when specific activities like subject taster sessions or student finance talks were part of the day's agenda. These optional questions also align with relevant NERUPI objectives, and organisers of each event had the flexibility of asking questions of their own choosing. One university collected process evaluation to review participants' opinions about different elements of the CFD event, and two universities conducted tailored evaluations for their events. Below is a summary for the different findings:

University of Winchester

Participants were asked if they understood how the subjects they are currently studying at school, relate to subject areas at a university. Nine (9) students answered this question and 44% said they agreed or strongly agreed with this statement, which was a 22% decrease in the post survey compared to the pre.

University of Surrey

Students were asked if they feel motivated to do well in their current studies. Of 27 respondents, 81% said they agreed or strongly agreed with this statement, which was a 7% increase.

University of East Anglia (NEACO)

The additional questions asked related to participants' academic skills. Of 16 respondents, those who agreed or strongly agreed with the 4 statements are summarised below:

- 69% can find key ideas easily when reading a text for their studies, increase of 25%
- 63% can clearly explain my ideas, even when writing about complicated things, 38% increase
- 44% can assess how reliable information is when reading a text for their studies, remained the same
- 75% can confidently explain my ideas in small group discussion, remained the same

University of South Wales and SSCE Cymru

The University of South Wales survey had seven (7) participants; as responses were anonymous, it was not possible to differentiate between pupils and teachers. In the survey, different elements of the event were evaluated and respondents rated these elements from 1 (poor) to 5 (excellent). The percentages of participants who answered 4 or above and a summary of the qualitative results are shown below:

- 57% Overall event, Why HE/Student life session and Signposting session
- 71% Welcome session and Virtual reality interactive session
- 86% Interactive session with forces fitness
- When asked about how this event could be improved, constructive comments suggested to do more team building exercises, make it more interactive and make sure to ask pupils are still part of the forces, to ensure they feel included.
- An additional comment suggested the event was successful in welcoming pupils and in helping the students bond with those that share a similar background.

Study Higher (Oxford Brookes University)

The event delivered by Study Higher to students from military families focused on educational pathways. Their main aims related to enabling students to reflect on post-16 options and benefits of HE, to find out about student finance and additional financial support and to establish a positive association with HE and its community. One school attended this event, with 15 students from Year's 9 and 10. Below is a summary of findings for this event:

- 87% of students could see university as an option for them
- 73% thought they would enjoy university
- 53% thought they could afford to go to university
- 47% could imagine themselves as a HE student
- 67% said they would enjoy being a student

- Qualitative data indicates that at the end of the event all students were able to name at least one qualification/subject they could do post-16 and two-thirds were able to identify that loans were available for students to fund university out of which six students knew how to access financial support.

York St John University and Inspiring Choices

A qualitative study was conducted by York St John University and Inspiring Choices with pupils from four schools that took part in a campus day where they engaged in a HE activity, were given a campus tour and participated in either a focus group or a foster session. Pupils were asked about their experiences of being a service child in secondary education, and their plans for FE and/or HE. Findings revealed that:

- The support for military service children could be broken down into help from universities and help from schools
- Pupils wished for more support when starting at a new school; school tours and buddy schemes could be beneficial.
- Universities could support these pupils with outreach opportunities; campus visits, financial/accommodation guidance, student life sessions.
- Military service children are aware of the key differences between school and university, and the benefits of HE.
- The most noticeable barrier for military children that emerged from this study relates to moving; this factor impacts different aspects of their student life e.g., sense of belonging (making friends), different curriculums, GCSE or A-level options.

Conclusion

This report has provided a comprehensive analysis of 9 Creative Forces Days in 2022/23. The evaluation indicates a positive impact on participants, and it is apparent that overall, they had a positive introduction to higher education, they explored relevant university subject areas, and familiarised themselves with a range of study opportunities that are available to them. It's important to observe that participants, especially those in secondary school, began with latently favourable attitudes towards higher education and career awareness, pre-event. Although average responses increased across all questions post-event, these high responses could be attributed to students' previous encounters or familiarity with higher education. It's possible that participants were already starting from a high baseline in terms of their perceptions of future educational opportunities, a factor not accounted for in the evaluation.

Nevertheless, the most significant change for primary school students was that the event was likely to increase their capacity to navigate HE and make informed choices; they agreed they could see themselves being a university student when they were older. For secondary school students, the most significant change was their enhanced knowledge of subject areas and the range of possible study opportunities at HE level.

Recommendations

- Based on feedback from participants, it is recommended to enhance the engagement level of activities for both secondary and primary students. This could be accomplished by incorporating interactive components into the activities, such as Slido, Kahoot, or Mentimeter. Additionally, secondary students expressed a desire for a more comprehensive campus tour to explore the university and its facilities, while teachers indicated a preference for a more thorough welcome talk at the beginning of the day that explains the reasons why the students are taking part in the event.
- There is an opportunity in the survey to quantify students' prior engagement with, or exposure to, higher education. Because the current evaluation does not take this into account, participants may be starting from a high base in terms of their perceptions of future educational opportunities.
- Based on respondents' demographic, it is suggested to evaluate how distinct student traits may interact with one another. Data indicates that from respondents that may have family members in the forces, a relatively high number of primary students who provided their postcode, also come from areas of high deprivation (IMD Q1), as well as a high percentage of both primary and secondary students belong come from areas of low participation in HE (POLAR4 Q1, TUNDRA Q1). The intersectionality where students belong to more than one underrepresented group, highlights that they might require further support to access and succeed in HE, and to successfully progress to employment or further study.
- To evaluate the programme's effectiveness and facilitate in-depth analysis with an expanded sample size, continue collecting impact evaluation data. The collection of data over time is crucial for conducting longitudinal studies that involve different groups or cohorts of individuals, these would likely offer valuable insights into changes, challenges, and opportunities.

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- York St John University with Inspiring Choices
- University of Winchester

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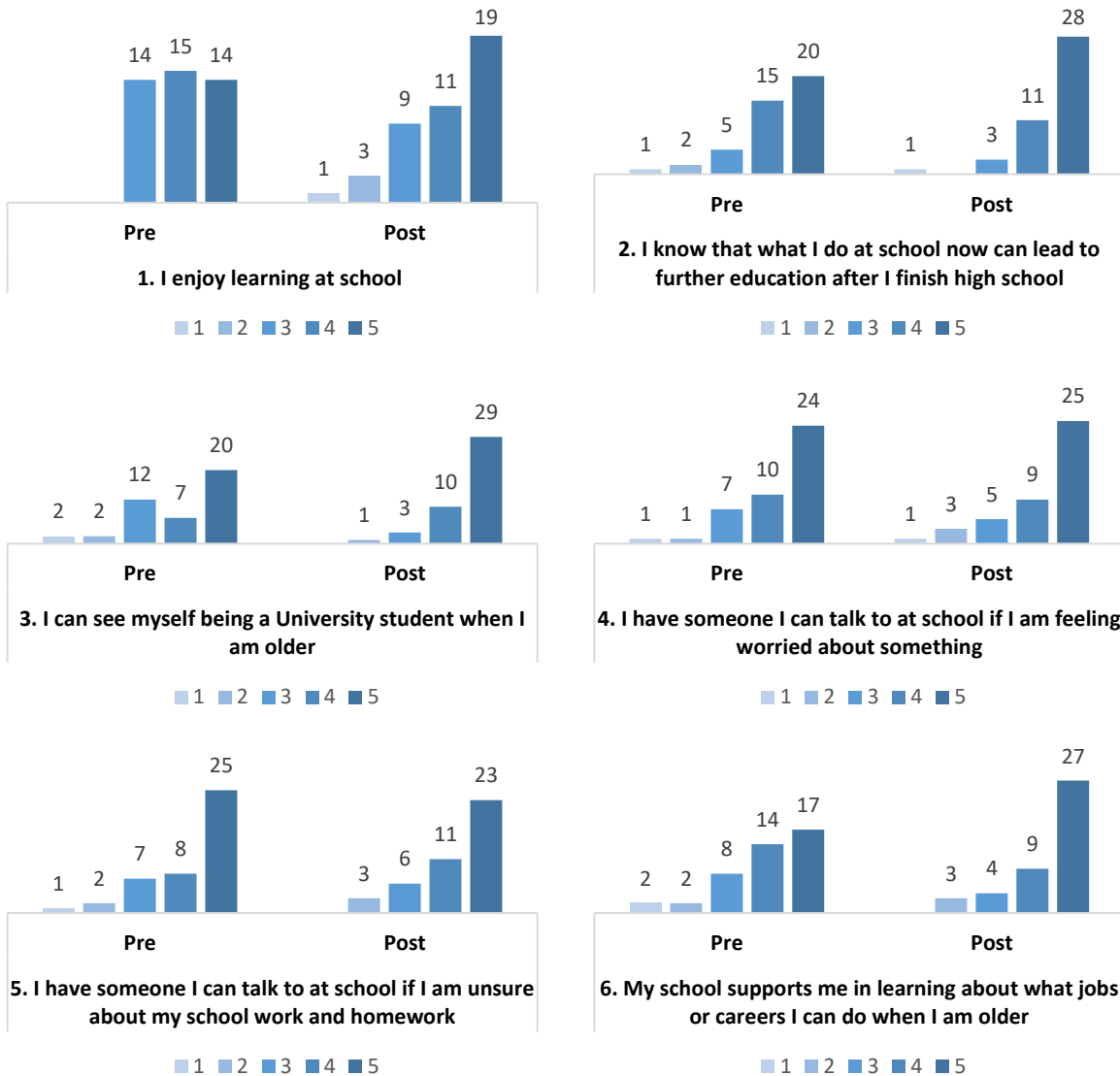
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Appendix 1.

Statements for Primary participants

1. I enjoy learning at school
2. I know that what I do at school now can lead to further education after I finish high school
3. I can see myself being a university student when I am older
4. I have someone I can talk to at school if I am feeling worried about something
5. I have someone I can talk to at school if I am unsure about my school work and homework
6. My school supports me in learning about what jobs or careers I can do when I am older

Histograms



Descriptive statistics

Statement	Survey	n	Mean (M)	Median (Mdn)	Std. Deviation	Min	Max	P25	P75
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1	Pre	43	4.00	4.00	0.82	3	5	3	5
	Post	43	4.02	4.00	1.08	1	5	3	5
2	Pre	43	4.19	4.00	0.98	1	5	4	5
	Post	43	4.51	5.00	0.83	1	5	4	5
3	Pre	43	3.95	4.00	1.17	1	5	3	5
	Post	43	4.56	5.00	0.73	2	5	4	5
4	Pre	43	4.28	5.00	0.98	1	5	4	5
	Post	43	4.26	5.00	1.07	1	5	4	5
5	Pre	43	4.26	5.00	1.05	1	5	4	5
	Post	43	4.26	5.00	0.95	2	5	4	5
6	Pre	43	3.98	4.00	1.10	1	5	3	5
	Post	43	4.40	5.00	0.93	2	5	4	5

Statistics from T-Test

Statement	Survey	n	Mean (M)	Median (Mdn)	Pearson Median Skewness	t Stat	p value (T<=t) one-tail	Below 0.05
1	Pre	43	4.00	4.00	0.00	-0.15	4.42E-01	FALSE
	Post	43	4.02	4.00	0.06			
2	Pre	43	4.19	4.00	0.57	-1.83	3.75E-02	TRUE
	Post	43	4.51	5.00	-1.77			
3	Pre	43	3.95	4.00	-0.12	-3.62	3.89E-04	TRUE
	Post	43	4.56	5.00	-1.81			
4	Pre	43	4.28	5.00	-2.20	0.18	5.72E-01	FALSE
	Post	43	4.26	5.00	-2.08			
5	Pre	43	4.26	5.00	-2.13	0.00	5.00E-01	FALSE
	Post	43	4.26	5.00	-2.34			
6	Pre	43	3.98	4.00	-0.06	-2.95	2.62E-03	TRUE
	Post	43	4.40	5.00	-1.95			

Ranks from Wilcoxon Signed Rank Test

Statement	Neg. Ranks	Pos. Ranks	Ties	Neg. Ranks Sum	Pos. Ranks Sum	Mean. Rank Neg.	Mean. Rank Pos.	Sum Pos. Ranks	Sum Neg. Ranks
1	0	1	0	0	117.5	NA	1	117.5	0
2	0	1	0	0	71.0	NA	1	71.0	0
3	0	1	0	0	28.0	NA	1	28.0	0
4	0	1	0	0	81.5	NA	1	81.5	0
5	0	1	0	0	107.0	NA	1	107.0	0
6	0	1	0	0	42.0	NA	1	42.0	0

Statistics from Wilcoxon Signed Rank test

Statement	W	p value	Below 0.05	Z Score	Cohen's D
1	117.50	0.77	FALSE	-4.29	0.03

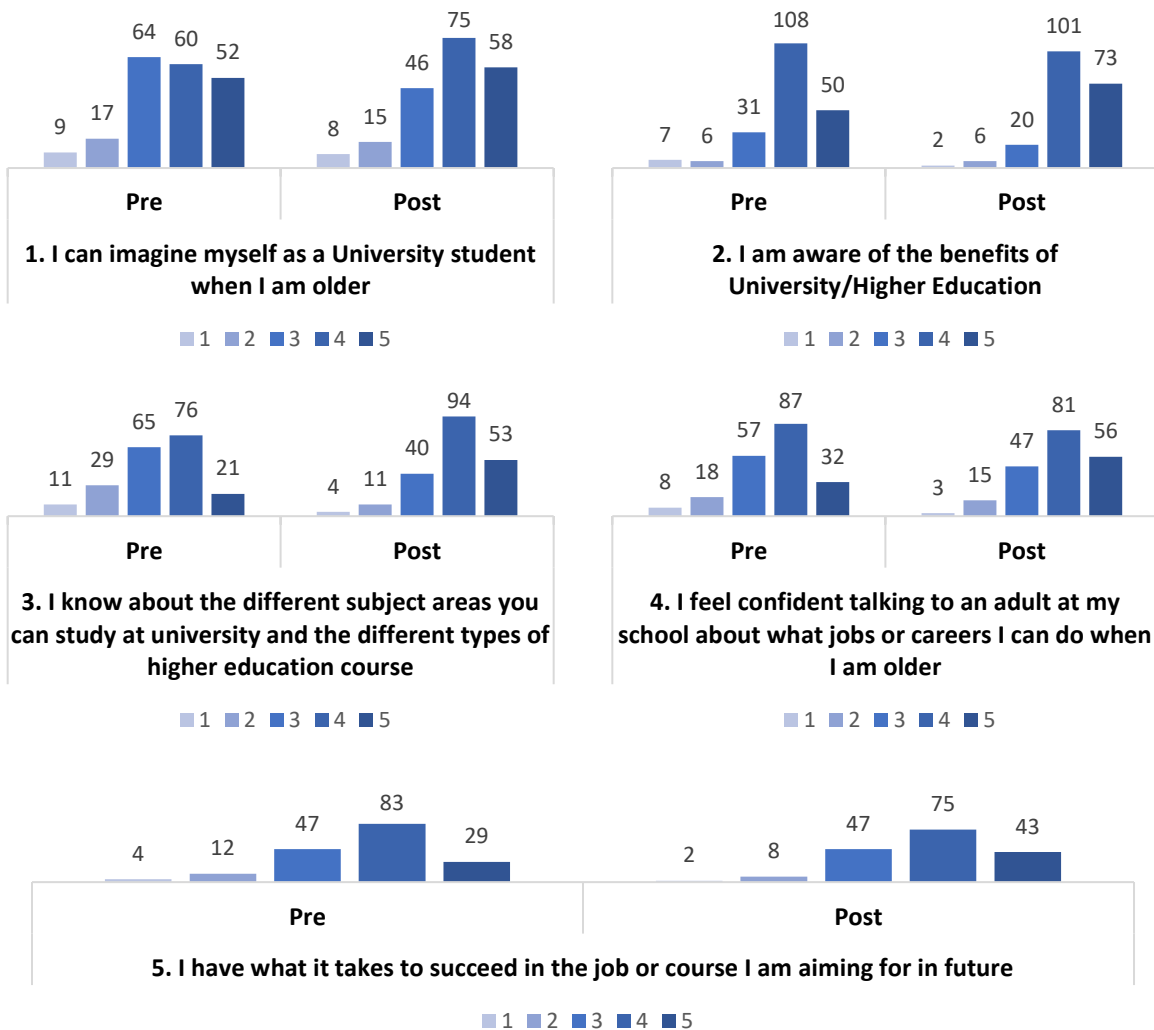
2	71.00	0.03	TRUE	-4.85	0.33
3	28.00	0.00	TRUE	-5.37	0.51
4	81.50	0.82	FALSE	-4.73	0.02
5	107.00	0.95	FALSE	-4.42	0.00
6	42.00	0.01	TRUE	-5.20	0.38

Appendix 2.

Statements for Secondary participants

1. I can imagine myself as a university student when I am older
2. I am aware of the benefits of University/Higher Education
3. I know about the different subject areas you can study at university and the different types of higher education course
4. I feel confident talking to an adult at my school about what jobs or careers I can do when I am older
5. I have what it takes to succeed in the job or course I am aiming for in future

Histograms



Descriptive statistics

Statement	Survey	n	Mean (M)	Median (Mdn)	Std. Deviation	Min	Max	P25	P75
-----------	--------	---	----------	--------------	----------------	-----	-----	-----	-----

1	Pre	202	3.64	4.0	1.09	1	5	3	5
	Post	202	3.79	4.0	1.06	1	5	3	5
2	Pre	202	3.93	4.0	0.91	1	5	4	4
	Post	202	4.17	4.0	0.80	1	5	4	5
3	Pre	202	3.34	3.0	1.03	1	5	3	4
	Post	202	3.90	4.0	0.92	1	5	3	5
4	Pre	202	3.58	4.0	0.99	1	5	3	4
	Post	202	3.85	4.0	0.96	1	5	3	5
5	Pre	175	3.70	4.0	0.90	1	5	3	4
	Post	175	3.85	4.0	0.88	1	5	3	4

Statistics from T-Test

Statement	Survey	n	Mean (M)	Median (Mdn)	Pearson Median Skewness	t Stat	p value (T<=t) one-tail	Below 0.05
1	Pre	202	3.64	4.00	-1.00	-2.87	2.28E-03	TRUE
	Post	202	3.79	4.00	-0.59			
2	Pre	202	3.93	4.00	-0.23	-4.14	2.51E-05	TRUE
	Post	202	4.17	4.00	0.65			
3	Pre	202	3.34	3.00	0.98	-7.28	3.71E-12	TRUE
	Post	202	3.90	4.00	-0.34			
4	Pre	202	3.58	4.00	-1.27	-4.04	3.74E-05	TRUE
	Post	202	3.85	4.00	-0.46			
5	Pre	175	3.70	4.00	-1.01	-2.63	4.66E-03	TRUE
	Post	175	3.85	4.00	-0.50			

Ranks from Wilcoxon Signed Rank Test

Statement	Neg. Ranks	Pos. Ranks	Ties	Neg. Ranks Sum	Pos. Ranks Sum	Mean. Rank Neg.	Mean. Rank Pos.	Sum Pos. Ranks	Sum Neg. Ranks
1	0	1	0	0	908.5	NA	1	908.5	0
2	0	1	0	0	856.0	NA	1	856.0	0
3	0	1	0	0	1545.0	NA	1	1545.0	0
4	0	1	0	0	1398.5	NA	1	1398.5	0
5	0	1	0	0	921.0	NA	1	921.0	0

Statistics from Wilcoxon Signed Rank test

Statement	W	p value	Below 0.05	Z Score	Cohen's D
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1	908.5	5.66E-03	TRUE	-11.23	0.14
2	856.0	9.40E-05	TRUE	-11.29	0.27
3	1545.0	8.08E-11	TRUE	-10.47	0.54
4	1398.5	9.67E-05	TRUE	-10.64	0.27
5	921.0	1.08E-02	TRUE	-10.10	0.17

Appendix 3.

Formulas for Statistical tests in R

- Pearson's Median Skewness
 1. Pearson's Median Skewness= $3 * (\text{Mean}(\text{value}) - \text{Median}(\text{value}) / \text{Standard deviation}(\text{value}))$
- T-test (one-tailed)
 1. `t.test(pre-survey, post-survey, paired = TRUE, alternative = "less")`
- Wilcoxon Signed Rank Test
 1. `wilcox.test(pre-survey, post-survey, paired = TRUE, correct = TRUE)`
 2. $Z \text{ score} = (W(\text{value from Wilcox.test}) - n(\text{pre-survey}) * (n(\text{pre-survey}) + 1) / 4) / \sqrt{(n(\text{pre-survey}) * (n(\text{pre-survey}) + 1) * (2 * n(\text{pre-survey}) + 1) / 24)}$
 3. Where ties or zeroes were present, R made the relevant correction to the data distribution.
- Cohen's D effect size
 1. Mean difference (Mean (post-survey) – Mean (pre-survey))
 2. Cohen's D (Mean difference/Standard deviation (pre-survey))
 3. Compare value with Cohen's D scale: Small effect = 0.2 | Medium Effect = 0.5 | Large Effect = 0.8