What is the social impact resulting from the expenditure on the Cadet Forces?

Appendices & Technical report
Year 2 interim report - Autumn 2018
1 Research questions

1. What is the social impact resulting from the UK (MoD) spending £200 million p.a. on cadets? (six-month timescale)
   i) What are the benefits to government departments, e.g. Ministry of Justice, Ministry of Defence, and Department for Education of the spending on cadets?
   ii) What impact does the spending on cadets have on the communities that they come from?
   iii) What impact does the cadet experience have on the cadets themselves? Does this impact vary across the different forces?
   iv) What is the turnover (churn) of cadets and how does this affect the impact of the cadet force as a whole?
   v) Does the length of service of the young person in the cadets have any effect on impact?
   vi) What is the social impact of working with the cadets for the adult volunteers?
   vii) Are there any changes that could be made to further develop the impact of the spending on cadets?

2. What is the benefit of the qualifications provided by CVQO? (four-year timescale)
   i) Are there any regional variations within the UK in terms of awards taken, completion rates, and impact?
   ii) How are the CVQO qualifications used by cadets and adult volunteers?
   iii) How are CVQO qualifications gained by cadets (at cadet units) regarded by the school the cadets attend?
   iv) What are the effects of holding CVQO qualifications on the performance of cadets at school?
   v) What is the social impact of working with CVQO on the students?
   vi) What is the social impact of working with CVQO on the adult volunteers?
   vii) Are there any changes that CVQO could make to the qualification package that they offer? (If these are identified and appropriate, recommendations for the development of the CVQO qualifications should be included within the report)
   viii) Are there any changes that could be made to further develop the impact of CVQO’s work?

3. What is the social impact of the Cadet Expansion Programme (CEP) on the individuals who join the cadet units, their schools, the adult volunteer instructors, their local communities and wider society? (four-year timescale)
   i) What is the impact on a school community of having cadet unit? Does this impact change over the four-year period of the study?
   ii) What is the impact on a local community of having cadet unit operating in one of its schools? Does this impact change over the four-year period of the study?
   iii) What is the impact on adult volunteers of working in a cadet unit? Does this impact change over the four-year period of the study?
   iv) What is the impact on individuals who join a cadet unit operating in their school? Does this impact change over the four-year period of the study?
   v) Are there any changes that could be made to further develop the impact of the CEP?
   vi) Which individuals and organisations have supported a cadet unit bursary, and what were their reasons for making this investment/donation?
   vii) What information about their sponsored unit have investors/donors received, and what is their reaction to it?
2 Ethical Code

This Code is informed by the principles established in the Revised Ethical Guidelines for Educational Research (2018) issued by the British Educational Research Association (BERA).¹

The research team (research staff from the University of Northampton’s Institute for Social Innovation and Impact) recognises the rights of all participants (e.g. parents/carers, students, staff and Cadet Forces Adult Volunteers (CFAVs)) who take part in the research to have their confidentiality protected at all times.

Voluntary informed consent will be sought before any surveys and/or interviews are conducted with any respondent as part of the research process. In the case of students at CEP schools, this consent will be sought by schools before any contact is made with the student by the research team. Parents/carers, staff and CFAVs have the right to refuse to participate in the research. Research participants have the right to withdraw from the process at any time during the data collection; this can be done by emailing a member of the research team, emails below.

The research team will work in accordance with Articles 3 and 12 of the United Nations Convention on the Rights of the Child and will ensure that the best interest of the children is served at all times. Children will be facilitated to give informed consent and this will be in addition to the consent given by parents or carers.

The research team is under an obligation to describe accurately, truthfully and fairly any information obtained during the course of the research. There is an obligation to incorporate accurately data collected during the course of this research into the text of any report or other publication related to the research, and to ensure that individual opinions and perceptions are not misrepresented. The research team will protect the sources of information gathered from surveys, interviews, focus groups, document scrutiny, observations and other data collection methods used for this research into the social impact of CF.

Data collected as part of the research process will be securely maintained and will be accessible only to the research team engaged in this project. The research team has an obligation to report truthfully the findings of the research in any written or verbal report. The research team will report the procedures, results and analysis of the research accurately, and in sufficient detail to allow all interested parties to understand and interpret them.

The research team will make themselves available to discuss the procedures, conduct, or findings of the research with any party involved in the research process. Data collected during the course of the research project which names individuals or institutions will be available only to the research team and will be made secure both during and after the term of the project.

The research team will communicate the findings of the research to other members of the educational research community through research seminars, conference presentation and proceedings and publications taking account of all issues of confidentiality and protection of research participants. The research team asserts their right to participate in any publication of the research findings in academic journals or other media which may ensue from the research. Once agreed, no part of this ethical statement may be changed or modified without justification and recourse to discussion with all interested parties.

Research team emails

Dr Meanu Bajwa-Patel email: meanu.bajwa-patel@northampton.ac.uk

Prof. Simon Denny email: simon.denny@northampton.ac.uk

Prof. Richard Hazenberg email: richard.hazenberg@northamton.ac.uk
3  Cadets online survey (paper version – formatting may be incorrect)

Hello

As part of our research into the impact of the cadets we need to ask you some questions.

Completing this questionnaire now and every six months, over the next two years, will help the researchers at the University of Northampton see what impact being a cadet has on you.

Please complete all of the questions.

If you are unsure of anything please ask.

To help us link all of your questionnaire’s we need to give you a code. To make your code we will ask you to write the year of your birth, e.g. 1999, your initials, e.g. WHV, and your age: 15 = code 1999WHV15

Year of your birth: ……………………Your initials: ………………Your age:……………………………..

Age (tick): 12☐13☐14☐ 15☐ 16☐17☐18☐ Gender (tick): male☐ female☐

Length of service in years (tick) less than 1☐1☐2☐ 3☐ 4☐5☐6☐

Section 1

The rest of this questionnaire is to help us get a better understanding of the impact of the activities that you do with the cadets. If we understand more about the cadets we can try and make sure the MOD continues to fund the activities. All answers given are strictly confidential. They will be stored securely and you will not be identified by name in any analysis of the results. Please answer all the questions honestly. If you want to read the research afterwards, please leave your email address and we will send it to you.

Please read the 24 statements below then tick the box above the number that applies best to you for each one.

1. How well can you get teachers to help you when you get stuck on schoolwork?
   ☐ ☐ ☐ ☐ ☐ ☐
   1 – Not at all  2  3  4  5- Very well
2. How well can you express your opinions when other classmates disagree with you?

1 – Not at all  2  3  4  5- Very well

3. How well do you succeed in cheering yourself up when an unpleasant event has happened?

1 – Not at all  2  3  4  5- Very well

4. How well can you study when there are other interesting things to do?

1 – Not at all  2  3  4  5- Very well

5. How well do you succeed in becoming calm again when you are very scared?

1 – Not at all  2  3  4  5- Very well

6. How well can you become friends with other young people?

1 – Not at all  2  3  4  5- Very well

7. How well can you study for a test?

1 – Not at all  2  3  4  5- Very well

8. How well can you have a chat with an unfamiliar person?

1 – Not at all  2  3  4  5- Very well
9. How well can you prevent becoming nervous?

1 – Not at all  2  3  4  5- Very well

10. How well do you succeed in finishing the homework you are set?

1 – Not at all  2  3  4  5- Very well

11. How well can you work in harmony with your classmates?

1 – Not at all  2  3  4  5- Very well

12. How well can you control your feelings?

1 – Not at all  2  3  4  5- Very well

13. How well can you pay attention during your lessons?

1 – Not at all  2  3  4  5- Very well

14. How well can you tell your peers that they are doing something that you don’t like?

1 – Not at all  2  3  4  5- Very well

15. How well can you give yourself a pep-talk when you feel low?

1 – Not at all  2  3  4  5- Very well
16. How well do you succeed in understanding all your subjects in school?

1 – Not at all 2 3 4 5 - Very well

17. How well can you tell a funny event to a group of your peers?

1 – Not at all 2 3 4 5 - Very well

18. How well can you tell a friend that you don’t feel well?

1 – Not at all 2 3 4 5 - Very well

19. How well do you succeed in satisfying your parents with your schoolwork?

1 – Not at all 2 3 4 5 - Very well

20. How well do you succeed in staying friends with other young people?

1 – Not at all 2 3 4 5 - Very well

21. How well do you succeed in suppressing (controlling) unpleasant thoughts?

1 – Not at all 2 3 4 5 - Very well

22. How well do you succeed in passing a test?

1 – Not at all 2 3 4 5 - Very well
23. How well do you succeed in preventing arguments with your peers?

☐ ☐ ☐ ☐ ☐

1 – Not at all  2  3  4  5- Very well

24. How well do you succeed in not worrying about things that might happen?

☐ ☐ ☐ ☐ ☐

1 – Not at all  2  3  4  5- Very well

Section 2

Carefully read the statements below. Rate how well each statement applies to you by circling the appropriate number on the scale. The below key refers.

1 = Not at all true
2 = A little true
3 = Quite true
4 = Exactly true

Statement 1: I can concentrate on one activity for a long time, if necessary.

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<thead>
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<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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</thead>
<tbody>
<tr>
<td>Not at All True</td>
<td>A little True</td>
<td>Quite True</td>
<td>Exactly True</td>
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Statement 2: If I am distracted from an activity, I don’t have any problem coming back to the topic quickly.

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<th>1</th>
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<tr>
<td>Not at All True</td>
<td>A little True</td>
<td>Quite True</td>
<td>Exactly True</td>
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</table>
Statement 3: If an activity arouses my feelings too much, I can calm myself down so that I can continue with the activity soon.

1 2 3 4
Not at All True A little True Quite True Exactly True

Statement 4: If an activity requires a problem-oriented attitude, I can control my feelings.

1 2 3 4
Not at All True A little True Quite True Exactly True

Statement 5: It is difficult for me to suppress thoughts that interfere with what I need to do (-).

1 2 3 4
Not at All True A little True Quite True Exactly True

Statement 6: I can control my thoughts from distracting me from the task at hand.

1 2 3 4
Not at All True A little True Quite True Exactly True

Statement 7: When I worry about something, I cannot concentrate on an activity (-).

1 2 3 4
Not at All True A little True Quite True Exactly True
Statement 8: After an interruption, I don't have any problem resuming my concentrated style of working.

1  2  3  4
Not at All True  A little True  Quite True  Exactly True

Statement 9: I have a whole bunch of thoughts and feelings that interfere with my ability to work in a focused way (-).

1  2  3  4
Not at All True  A little True  Quite True  Exactly True

Statement 10: I stay focused on my goal and don’t allow anything to distract me from my plan of action.

1  2  3  4
Not at All True  A little True  Quite True  Exactly True

Section 3

1. I’ve been feeling optimistic about the future

1  2  3  4  5
None of the time  Rarely Some of the time  Often  All of the time

2. I’ve been feeling useful
<table>
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<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the time</td>
<td>Rarely</td>
<td>Some of the time</td>
<td>Often</td>
<td>All of the time</td>
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</table>

3. I've been feeling relaxed

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<th>3</th>
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<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the time</td>
<td>Rarely</td>
<td>Some of the time</td>
<td>Often</td>
<td>All of the time</td>
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4. I've been feeling interested in other people

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<th>5</th>
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<tbody>
<tr>
<td>None of the time</td>
<td>Rarely</td>
<td>Some of the time</td>
<td>Often</td>
<td>All of the time</td>
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5. I've had energy to spare

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<th>5</th>
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<tr>
<td>None of the time</td>
<td>Rarely</td>
<td>Some of the time</td>
<td>Often</td>
<td>All of the time</td>
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6. I've been dealing with problems well

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<th>3</th>
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<th>5</th>
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<tr>
<td>None of the time</td>
<td>Rarely</td>
<td>Some of the time</td>
<td>Often</td>
<td>All of the time</td>
<td></td>
</tr>
</tbody>
</table>

7. I've been thinking clearly

[12]
8. I've been feeling good about myself

9. I've been feeling close to other people

10. I've been feeling confident

11. I’ve been able to make up my own mind about things

12. I’ve been feeling loved
13. I’ve been interested in new things

14. I’ve been feeling cheerful

Section 2

We need the following details to help us to understand your individual backgrounds and circumstances. All details given are treated confidentially and stored securely. Your details will only be used by the researchers and you will not be named individually in the research. All disclosures will be anonymous. Please tick the box that best describes your personal situation.

25. What is your ethnic group? Please circle the number.

White

1. English / Welsh / Scottish / Northern Irish / British
2. Irish
3. Gypsy or Irish Traveller
4. Any other White background, please describe .............................................

Mixed / Multiple ethnic groups

5. White and Black Caribbean
6. White and Black African
7. White and Asian
8. Any other Mixed / Multiple ethnic background, please describe ……………………………

Asian / Asian British

9. Indian
10. Pakistani
11. Bangladeshi
12. Chinese
13. Any other Asian background, please describe………………………………………………..

Black / African / Caribbean / Black British

14. African
15. Caribbean
16. Any other Black / African / Caribbean background, please describe…………………..

Other ethnic group

17. Arab
18. Any other ethnic group, please describe ………………………………………………………

26.

a) Do you have free school meals?
Yes □ No □ Don’t know □

b) How many days of school do you miss in an average month? □

c) Have you ever been in trouble with the police?
Never □ Arrested Only □ Arrested & Reprimanded □
Arrested & Convicted in Court □

27. Do you have any diagnosed Special Educational Needs or Disabilities (SEND)
Yes □ No □ Prefer not to say □
Please share brief details…………………………………………………………………………………………

28. Please explain below what impact you think being in the cadets has had on your school life? e.g. attendance, confidence, behaviour etc.

Thank you for your time and help with this research, if you have any questions you can email the researchers at the university: meanu.bajwa-patel@northampton.ac.uk or richard.hazenberg@northampton.ac.uk

If you would like us to share the research results with you then please write your email address below

........................................................................................................................................................................
4 Interview consent form

Research being conducted as part of the social impact of the

Cadet Forces evaluation

The University of Northampton’s Institute for Social Innovation and Impact (ISII) has been commissioned by the MoD to undertake a research project designed to answer the following questions:

1) What is the social impact resulting from the UK MoD spending £160 million p.a. on cadets?
2) What is the social impact of cadets and the Cadet Expansion Programme?

Today’s interview may be audio recorded to ensure that we are able to obtain the richest dataset from the session. The recordings will be transcribed for analysis; no one outside of the research team will have access to the transcriptions or recordings. The information will be used to compile a report for the MOD about the social impact of cadets and may also be used in research seminars, conference presentations and proceedings and publications taking account of all issues of confidentiality and protection of research participants.

The research team asserts their right to participate in any publication of the research findings in academic journals or other media which may ensue from the research.

You will not be named in the report, all findings will be anonymised. All data will be stored and used in accordance with the General Data Protection Regulation (GDPR) (EU) 2016/679. Should you wish to access the findings from this research please contact a member of the research team at their email address below.

If you are happy to take part in this research and proceed with the interview please complete the section below.

Name: ............................................................ Signature: .............................. Date .................
Thank you for taking the time to support this research. If you have any queries following today’s interview, please do not hesitate to contact a member of the research team:

Dr Meanu Bajwa-Patel email: meanu.bajwa-patel@northampton.ac.uk

Professor Simon Denny email: simon.denny@northampton.ac.uk

Dr Richard Hazenberg email: richard.hazenberg@northampton.ac.uk
5  Cadet Survey Analysis: T1, T2, & T3

Descriptive statistics

The overall T1 cadet sample consists of 852 pupils, 520 (61.0 %) of whom are male and 332 (39.0 %) are female; the overall T2 cadet sample consists of 773 pupils, 480 (62.1 %) of whom are male and 293 (37.9 %) are female; the overall T3 sample consists of 145 pupils, 91 (62.8 %) of whom are male and 54 (37.2 %) are female (see Figure 1). Among 52 cadets who took part at both T1 and T2 surveys, 27 (55.1 %) were male and 22 (44.9 %) were female, and among 121 pupils took part in T2 and T3 surveys, 76 (62.8 %) were male and 45 (37.2 %) were female. Only 10 pupils took part in all three rounds of the survey data collection, half of whom were female (N = 5; 50 %).

At T1, cadets were on average 15.26 (SD = 1.66) years old, with male and female cadets being equally old (t(850) = -0.589, p = .556); at T2, cadets were on average 15.30 (SD = 1.64) years old, with male and female cadets being equally old (t(648) = -0.313, p = .754); at T3, cadets were on average 15.92 (SD = 1.47) years old, with male and female cadets being equally old (t(143) = -1.226, p = .222); see Figure 2). As regards cadets’ ethnic background at T1, 91.2 % of cadets were White, 8.1 % belonged to different BME groups, and 0.7 % of cadets did not disclose their ethnic background; at T2, 92.4 % of cadets were White, 6.6 % belonged to different BME groups, and 1.0 % of cadets did not disclose their ethnic background; at T3, 93.8 % of cadets were White and 6.2 % belonged to different BME groups (for further breakdown see Table 1).

In T1, cadets came from five Cadet Sections: Sea Cadets (13.3 %), Army Cadet Force (9.7 %), Air Training Corps (73.9 %), Combined Cadet Force RAF (1.5 %), and Combined Cadet Force Army (1.5 %); in T2, cadets came from seven Cadet Sections: Sea Cadets (18.5 %), Army Cadet Force (14.0 %), Air Training Corps (55.9 %), Combined Cadet Force RM (0.4 %), Combined Cadet Force RN (0.5 %), Combined Cadet Force RAF (9.6 %), and Combined Cadet Force Army (1.2 %); in T3, cadets came from five Cadet Sections: Sea Cadets (18.6 %), Army Cadet Force (10.3 %), Air Training Corps (55.9 %), Combined Cadet Force RAF (12.4 %), and Combined Cadet Force Army (2.8 %) The percentage distribution of cadets across the Cadet Sections is depicted in Figure 3. The gender distribution (N) of cadets across the Cadet Sections is presented in Figure 4.

While the length of service among cadets who participated in T1 survey varied between less than one and nine years and the average time spent in service was 3.26 (SD = 1.83) years, the length of service among cadets who participated in T2 survey varied between less than one and nine years and the average time spent in service was 3.50 (SD = 1.83) years. As regards T3, the time of service varied between one and nine years and the average time spent in service was 4.19 (SD = 1.75) years. Thus, while the length of the service was somewhat similar in T1 and T2 samples, it was slightly longer in T3 sample.
Figure 1. Gender distribution in T1 (left), T2 (middle), and T3 (right) samples (%).

Table 1. Ethnic distribution across the Cadet Organisations in the T1, T2, and T3 samples (%).

<table>
<thead>
<tr>
<th></th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
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<tbody>
<tr>
<td>Asian</td>
<td></td>
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<tr>
<td>Bangladeshi</td>
<td>0.10</td>
<td>0.40</td>
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<tr>
<td>Chinese</td>
<td>0.40</td>
<td>0.10</td>
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<tr>
<td>Indian</td>
<td>1.90</td>
<td>2.20</td>
<td>1.40</td>
</tr>
<tr>
<td>Pakistani</td>
<td>0.40</td>
<td>0.10</td>
<td>0.70</td>
</tr>
<tr>
<td>Other</td>
<td>0.40</td>
<td>0.88</td>
<td>1.40</td>
</tr>
<tr>
<td>Black</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African</td>
<td>0.40</td>
<td>0.00</td>
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<tr>
<td>Caribbean</td>
<td>0.60</td>
<td>0.30</td>
<td>---</td>
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<tr>
<td>Other</td>
<td>0.21</td>
<td>0.10</td>
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<tr>
<td>Mixed</td>
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<tr>
<td>White and Asian</td>
<td>1.40</td>
<td>0.90</td>
<td>2.80</td>
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<tr>
<td>White and Black African</td>
<td>0.50</td>
<td>0.00</td>
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<tr>
<td>White and Black Caribbean</td>
<td>0.50</td>
<td>0.80</td>
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</tr>
<tr>
<td>Other</td>
<td>1.10</td>
<td>0.80</td>
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<tr>
<td>White</td>
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<tr>
<td>English/Welsh/Scottish/</td>
<td>9.70</td>
<td>92.10</td>
<td>93.10</td>
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<tr>
<td>Category</td>
<td>T1 Mean</td>
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<tr>
<td>Gypsy or Irish Traveller</td>
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<td>0.70</td>
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<tr>
<td>Other</td>
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<tr>
<td>Arab</td>
<td>0.40</td>
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<tr>
<td>Any other</td>
<td>0.40</td>
<td>0.30</td>
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<tr>
<td>Not known / not provided</td>
<td>0.70</td>
<td>1.00</td>
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Figure 2. Cadet age by gender in T1 (left), T2 (middle), and T3 (right) samples (N).
Figure 3. Distribution of cadets across the Cadet Sections at T1 (left), T2 (middle), and T3 (right) (%).

Figure 4. Gender distribution of cadets across Cadet Sections at T1 (left), T2 (middle), and T3 (right) (N).
Eligibility to receive free school meal was used as a measure of cadets’ socio-economic deprivation. At T1, 10.4% of all cadets were entitled to a free school meal, 87.7% of all cadets did not receive a free school meal, and 1.9% of cadets were not sure about their eligibility to a free school meal; at T2, 8.5% of all cadets were entitled to a free school meal, 88.6% of all cadets did not receive a free school meal, and 2.8% of cadets were not sure about their eligibility to a free school meal; at T3, 11.0% of all cadets were entitled to a free school meal, 88.3% of all cadets did not receive a free school meal, and 0.7% of cadets were not sure about their eligibility to a free school meal (see Figure 5). At both T1 and T2, there were as many male as female cadets in the group that was eligible for a free school meal as in the group that was not eligible for a free school meal ($X^2(1) = 1.607$, $p = .208$ at T1 and $X^2(1) = 0.294$, $p = .292$ at T2); at T3, in the group eligible for a free school meal there were more female than in a group that was not eligible for a free school meal $X^2(1) = 7.500$, $p = .012$. As regards the eligibility to a free school meal across the ethnic groups, there was no statistically significant difference in the proportion of cadets of White and BME ethnic background between the group that was eligible to a free school meal and the group that was not eligible to a free school meal at T1 ($X^2(1) = 0.742$, $p = .533$), T2 ($X^2(1) = 0.435$, $p = .611$), and T3 ($X^2(1) = 1.200$, $p = .598$). The two aforementioned results are depicted in Figure 6 below.

Figure 5. Pupils’ eligibility to a free school meal (FSM) in the last six years at T1 (left), T2 (middle), and T3 (right) (%).
An average absence from school per month varied between zero and 30 days, with 0.93 \((SD = 2.31)\) day being the average monthly absence among cadets participating in the survey at T1, between zero and 31 days, with 0.88 \((SD = 2.49)\) day being the average monthly absence at T2, and for those cadets who participated in the survey at T3, the average absence from school per month varied between zero and 14 days, with 0.94 \((SD = 1.80)\) day being the average monthly absence. Among the cadets, the vast majority (97.5 % at T1, 98.2 % at T2, and 97.9 % at T3) had never had any trouble with the Police, whereas the remaining 2.6 % at T1, 1.8 % at T2, and 2.1 % at T3 had a criminal record of a kind (see Figure 7).
Results

General Self-Efficacy

Mean general self-efficacy score among all cadets who participated in T1 survey was 3.45 (SD = 0.68), among those cadets who participated in T2 survey it was 3.43 (SD = 0.70), and among those cadets who participated in T3 survey it was 3.49 (SD = 0.63), meaning that on average, the cadets reported rather high and somewhat same general self-efficacy at T1, T2, and T3. There were no statistically significant differences in the level of general self-efficacy between either T1 and T2 paired samples ($t(51) = -0.557$, $p = .567$) or T2 and T3 paired samples ($t(120) = 0.141$, $p = .888$). This means that there has been no change in general self-efficacy among the cadets that would occur between February, 2017, and January, 2018.

---

2 Due to a small number of cadets in the longitudinal sample ($N = 10$), the differences in the three measured constructs were examined by comparing T1 and T2 outcomes among those cadets who completed both T1 and T2 survey, and further by comparing T2 and T3 outcomes among those cadets who completed both T2 and T3 survey. While this approach is not recommended and repeated measures ANOVA should be used instead to compare outcomes at three data collection points, due to only 10 cadets having participated at all three data collection occasions performing repeated measures ANOVA was not possible.
As regards the differences in mean general self-efficacy between the two genders among cadets participating at T1, while the average general self-efficacy among the male cadets is 3.55 (SD = 0.68), among the female cadets it is 3.28 (SD = 0.66). Thus, the female cadets reported significantly lower general self-efficacy than the male cadets, as shown by the results of the t-test of \( t(850) = 5.718, p < .001 \). Among cadets participating at T2, the average general self-efficacy among the male cadets is 3.49 (SD = 0.70) and among the female cadets it is 3.32 (SD = 0.69). Thus, the female cadets reported significantly lower general self-efficacy than the male cadets, as shown by the results of the t-test of \( t(771) = 3.228, p = .001 \). Among cadets participating at T3, the average general self-efficacy among the male cadets is 3.55 (SD = 0.54) and among the female cadets it is 3.38 (SD = 0.75). There were no statistically significant differences between general self-efficacy among female and male cadets \( (t(86) = 1.466, p = .146) \).

The mean level of general self-efficacy among all cadets participating in T1, T2, and T3 survey by gender is presented in Figure 8 below.

![Figure 8. Average general self-efficacy among cadets participating in T1 (left), T2 (middle), and T3 (right) samples by gender.](image)

Mean general self-efficacy scores among cadets participating in T1, T2, and T3 survey by the Cadet Section are depicted in Figure 9. Among those cadets that participated at T1, mean general self-efficacy reported by cadets from the different Cadet Sections varied between 3.39 (SD = 0.70) among the Sea Cadets and cadets from the Combined Cadet Force Army (SD = 0.86), and 3.80 (SD = 0.76) among the cadets from Combined Cadets Force RAF. As shown by the results of one-way ANOVA, cadets from the different Cadet Sections did not differ in their average general self-efficacy \( (F(4) = 1.445, p < .217) \). Among those cadets that participated at T2, the mean general self-efficacy reported by cadets from the different Cadet Sections varied between 2.78 (SD = 0.83) among the Combined Cadets Force RM and 3.52 (SD = 0.56) among the cadets from the Combined Cadets Force RAF. Among those cadets that participated at T3, the mean general self-efficacy reported by cadets from the different Cadet Sections varied between 3.46 (SD = 0.34) among the Combined Cadets Force Army and 3.66 (SD = 0.58) among the cadets from the Combined Cadets Force RAF.

\(^3\) Conducting one-way ANOVA for T2 was not possible due to small numbers of cadets in three Cadet Sections (< 10).
Figure 9. Average general self-efficacy by Cadets Section among cadets participating at T1 (above), T2 (middle), and T3 (below).

Among cadets participating in T1 survey, there were no statistically significant differences in the reported general self-efficacy between White and BME cadets ($t(828) = -1.384, p = .167$) and between
those cadets who were eligible to free school meal and those who were not eligible to free school meal \((t(102) = -1.241, \ p = .217)\). Among cadets participating in T2 survey, BME cadets reported higher general self-efficacy than White cadets \((t(763) = -1.971, \ p = .049)\). However, there was no statistically significant difference in the level of general self-efficacy between cadets who were eligible to free school meal and those who were not eligible to free school meal \((t(749) = -1.034, \ p = .301)\). As regards those cadets who participated in T3 survey, there were no statistically significant differences in the reported general self-efficacy between White and BME cadets \((t(143) = -0.003, \ p = .998)\) and between those cadets who were eligible to free school meal and those who were not eligible to free school meal \((t(142) = -0.263, \ p = .793)\).

**Self-Regulation**

Average self-regulation score for cadets was 2.96 at T1 and T2 and 2.99 at T3 \((SD = 0.48 \text{ at T1, } SD = 0.52 \text{ at T2, and } SD = 0.51 \text{ at T3})\). There was no statistically significant difference in the level of self-regulation between T1 and T2 paired samples \((t(51) = 0.102, \ p = .919)\), meaning that there was no change in self-regulation among the cadets between February, 2017, and July, 2017. However, there was a difference between T2 and T3 paired samples \((t(120) = 2.339, \ p = .021)\) showing that self-regulation among the cadets was higher in July, 2017, than in January, 2018.

As regards the differences in mean self-regulation between the two genders, at T1 the average score among the male cadets was 3.03 \((SD = 0.46)\) and among the female cadets it was 2.86 \((SD = 0.50)\). This means that the female cadets on average reported significantly lower self-regulation than the male cadets, as shown by the results of the t-test \(t(850) = 5.075, \ p < .001\). Among cadets who participated in T2 survey, the average score among the male cadets was 3.30 \((SD = 0.50)\) and among the female cadets it was 2.90 \((SD = 0.54)\). This means that the female cadets on average reported significantly lower self-regulation than the male cadets, as shown by the results of the t-test \(t(577) = 2.722, \ p = .007\). Among cadets who participated in T3 survey, the average score among the male cadets was 3.07 \((SD = 0.48)\) and among the female cadets it was 2.86 \((SD = 0.55)\). This means that the female cadets on average reported significantly lower self-regulation than the male cadets, as shown by the results of the t-test of \(t(143) = 2.361, \ p = .020\).

The average level of self-regulation reported by all cadets participating in T1, T2, and T3 survey by gender is depicted in Figure 10 below.
Mean self-regulation scores among cadets participating at T1, T2, and T3 survey by Cadet Section are presented in Figure 11. At T1, the mean self-regulation varied between 2.83 (SD = 0.41) among the cadets from Army Cadet Force and 3.10 (SD = 0.58) among the cadets from Combined Cadets Force RAF. As shown by the results of the one-way ANOVA, cadets from the different Cadet Sections do not differ in self-regulation ($F(4) = 2.232, p < .064$). At T2, the mean self-regulation varied between 2.70 (SD = 0.98) among the cadets from Combined Cadets Force RM and 3.15 (SD = 0.33) among the cadets from Combined Cadets Force RN. At T3, the mean self-regulation varied between 2.90 (SD = 0.67) among the cadets from Combined Cadets Force Army and 3.07 (SD = 0.51) among the cadets from Combined Cadets Force RAF.

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4 Conducting one-way ANOVA for T2 was not possible due to small numbers of cadets in three Cadet Sections (<10).
Among cadets participating in T1 survey, there were no statistically significant differences in reported self-regulation between White and BME cadets ($t(828) = 1.052, p = .293$) and between those cadets who were eligible to free school meal and those who were not eligible to free school meal ($t(828) = -1.725, p = .085$). Among cadets participating in T2 survey, BME cadets reported higher self-regulation than White cadets ($t(763) = -1.993, p = .047$). However, there was no statistically significant difference in the level of self-regulation between cadets who were eligible to free school meal and those who were not eligible to free school meal ($t(749) = -0.735, p = .462$). Among cadets participating in T3 survey, there were no statistically significant differences in reported self-regulation between White and BME cadets ($t(143) = -0.713, p = .477$) and between those cadets who were eligible to free school meal and those who were not eligible to free school meal ($t(142) = -0.858, p = .392$).

**Well-Being**

Mean general well-being score reported by all cadets participating at T1 survey was 3.62 ($SD = 0.79$), among cadets participating at T2 survey it was 3.56 ($SD = 0.82$), and among cadets participating at T3 it was 3.55 ($SD = 0.86$). This means that on average the cadets reported relatively high general well-being at T1, T2, and T3. There was no statistically significant difference in the level of general well-being between T1 and T2 paired samples ($t(51) = 1.062, p = .293$) showing that no change in general well-being occurred among the cadets between February, 2017, and July, 2017. However, there was
a significant change between T2 and T3 paired samples (t(120) = 2.444, p = .016), meaning that the cadets’ well-being has declined between July, 2017, and January, 2018.

As regards the differences in general well-being between the two genders among cadets participating in T1 survey, average well-being of the male cadets was 3.75 (SD = 0.75) and of the female cadets it was 3.41 (SD = 0.81). As shown by the results of the t-test t(663) = 6.224, p < .001, the female cadets on average reported significantly lower general well-being than the male cadets. Among cadets participating in T2 survey, average well-being of the male cadets was 3.67 (SD = 0.74) and that of the female cadets was 3.42 (SD = 0.91). As shown by the results of the t-test t(524) = 3.956, p < .001, the female cadets on average reported significantly lower general well-being than the male cadets. Among cadets participating in T3 survey, average well-being of the male cadets was 3.69 (SD = 0.70) and that of the female cadets was 3.32 (SD = 1.04). As shown by the results of the t-test t(82) = 2.311, p < .023, the female cadets on average reported significantly lower general well-being than the male cadets.

The mean level of general well-being among all cadets participating at T1, T2, and T3 surveys by gender is depicted in Figure 12 below.

![Figure 12. Average general well-being among cadets at T1 (left), T2 (middle), and T3 (right) by gender.](image)

Mean general well-being among cadets participating at T1, T2, and T3 surveys by the Cadet Section are presented in Figure 13. Among cadets participating at T1 survey, the average well-being score reported by cadets from the different Cadet Sections varied between 3.59 (SD = 0.70) for the cadets from Army Cadet Force and 4.18 (SD = 0.65) for the cadets from Combined Cadets Force RAF. However, as shown by the results of Kruskal-Wallis test for independent samples⁵, cadets from the different Cadet Sections did not differ in their reported well-being (X²(4) = 8.855, p < .065). Among cadets participating at T2 survey, the average well-being reported by cadets from the different Cadet Sections varied between 3.43 (SD = 0.58) for the cadets from Combined Cadets Force Army and 3.70 (SD = 0.11)

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⁵ Due to the varying numbers of participants in different Cadet Sections and unequal variances (X²(4) = 3.465, p = .008), a Kruskal-Wallis test for independent samples was conducted instead of one-way ANOVA.
for the cadets from Combined Cadets Force RN\(^6\). Among cadets participating at T3 survey, the average well-being reported by cadets from the different Cadet Sections varied between 3.52 (SD = 0.87) for the cadets from Air Training Corps and 3.94 (SD = 0.59) for the cadets from Combined Cadets Force Army.

\(^6\)Conducting one-way ANOVA for T2 was not possible due to small numbers of cadets in three Cadet Sections (< 10).
There were no statistically significant differences among cadets who participated at T1, T2, and T3 survey in the reported general well-being score between White and BME cadets \((t(828) = -0.013, p = .990 \text{ at T1}, t(763) = 0.600, p = .952 \text{ at T2}, \text{ and } t(143) = 0.581, p = .562 \text{ at T3})\) and between those cadets who were eligible to free school meal and those who were not eligible to free school meal \((t(103) = -1.349, p = .182 \text{ at T1}, t(749) = -1.084, p = .279 \text{ at T2}, \text{ and } t(142) = -0.192, p = .848 \text{ at T3})\).

6 School data analysis – Propensity Score Matching

As part of our analysis of the social impact of the CEP the research team recruited a sample of secondary schools across the UK who agreed to supply anonymised school data on their cadets and a matched comparison group of students\(^7\). Differences in aspects of school life, such as attendance or attainment, between these two matched groups could be attributed to the impact of being in the CCF. At the time of this report being produced, relevant data (appendix) was available from four schools, three of whom form part of a Multi-Academy Trust (MAT). To investigate the impact of participating in the CCF on the attendance levels of the cadets and the matched group not participating in the CCF a propensity score method was utilised. In the statistical analysis of observational data, the impact evaluation is a statistical matching technique that attempts to estimate the effect of a treatment, policy, or other intervention by accounting for the covariates that predict receiving the treatment (through propensity score matching (PSM)). The basic premise is to find in a large group of non-participants with similar characteristics (that do not change because of the programme, which in this case are gender, school year group, English as an additional language, SEND, eFSM, and Pupil Premium).

We first investigated the data from Longtown School, names have been anonymised. Calculating the simplest difference between the means of the two groups of our survey, we can have a first evaluation of the impact. The mean of the attendance for the control group is 95 and the mean of the beneficiaries is 96. Thus, the difference between the two shows a

\(^7\)NB Randomized control trials are the ‘gold standard’ for evaluating the effects of interventions, for example being in the cadets, however, they are not always possible or ethical when studying human subjects and therefore we have used more observational techniques – in this case using the propensity score model.
small positive impact of the CCF program on the beneficiaries’ attendance level. However, in order to have a less biased measure, we then used PSM. The covariates used to estimate the propensity score were: gender, school year group, English as additional language (EAL), SEND, eFSM, and Pupil Premium. The table below shows the results of the Nearest Neighbour Matching.

Table 2: The effect of the cadet program on the attendance of the students from Longtown School.  

<table>
<thead>
<tr>
<th></th>
<th>Average treatment effect on the cadets</th>
<th>N of control group</th>
<th>N. of the cadets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole sample</td>
<td>1.49</td>
<td>154</td>
<td>165</td>
</tr>
<tr>
<td>Male</td>
<td>0.98</td>
<td>74</td>
<td>90</td>
</tr>
<tr>
<td>Female</td>
<td>2.09</td>
<td>80</td>
<td>75</td>
</tr>
<tr>
<td>Year 8</td>
<td>1.36</td>
<td>42</td>
<td>45</td>
</tr>
<tr>
<td>Year 9</td>
<td>1.80</td>
<td>56</td>
<td>61</td>
</tr>
<tr>
<td>Year 10</td>
<td>1.47</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>Year 11</td>
<td>-0.10^</td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td>Year 12</td>
<td>0.96^</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Year 13</td>
<td>1.30^</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>English as additional language</td>
<td>1.51</td>
<td>136</td>
<td>137</td>
</tr>
<tr>
<td>English as additional language</td>
<td>1.08</td>
<td>20</td>
<td>28</td>
</tr>
<tr>
<td>Free school meal - none</td>
<td>1.32</td>
<td>149</td>
<td>154</td>
</tr>
<tr>
<td>Free school meal</td>
<td>3.63^</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Pupil premium - none</td>
<td>1.12</td>
<td>136</td>
<td>143</td>
</tr>
<tr>
<td>Pupil premium</td>
<td>3.32</td>
<td>18</td>
<td>22</td>
</tr>
</tbody>
</table>

^ Non significant results, critical values <1.96.

The above table presents the results which show a positive impact of the CCF program on the students participating. The impact is greater for females (2 percentage points) than males (1 percentage points) and for students in year 9, (1.8 percentage points). The year group shows also some negative impact for Year 11, however these results are not significant. Moreover, the major positive impact can be seen for the students that did not have EAL (1.5 percentage points.

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8 The pupil premium is additional funding for state schools in England, it aims to raise the attainment of disadvantaged pupils and close the gap.

9 Results from the SEND are not included because the matching procedure reduce significantly the observations.
points), for the students that were eFSM (3.63 percentage points, although this result is not significant), and those receiving Pupil Premium funding (PPF) (3.32 percentage points).

The same analysis was done on data from the three schools in the Metro MAT. The simplest difference between the means of the two groups, showed the control group as 92.68 whilst the mean of the beneficiaries was 96.18. However, as above, in order to have a less biased measure, we used PSM. This time the covariates to estimate the propensity score were: gender, schools (as there were three schools within the Metro MAT), school year group, EAL, SEND, eFSM, and PPF.

Table 3: The effect of the cadet program on the attendance of the Metro MAT students\textsuperscript{10}.

<table>
<thead>
<tr>
<th></th>
<th>Average treatment effect on the cadets</th>
<th>N of comparison group</th>
<th>N. of the cadets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole sample</td>
<td>2.74</td>
<td>469</td>
<td>121</td>
</tr>
<tr>
<td>Male</td>
<td>3.67</td>
<td>249</td>
<td>85</td>
</tr>
<tr>
<td>Female</td>
<td>0.52\textsuperscript{^a}</td>
<td>214</td>
<td>36</td>
</tr>
<tr>
<td>MH school</td>
<td>5.79</td>
<td>50</td>
<td>31</td>
</tr>
<tr>
<td>ML school</td>
<td>3.61</td>
<td>88</td>
<td>32</td>
</tr>
<tr>
<td>MW school</td>
<td>0.38</td>
<td>330</td>
<td>58</td>
</tr>
<tr>
<td>Year 8</td>
<td>1.91</td>
<td>149</td>
<td>70</td>
</tr>
<tr>
<td>Year 9</td>
<td>3.41</td>
<td>118</td>
<td>22</td>
</tr>
<tr>
<td>Year 10</td>
<td>3.08</td>
<td>117</td>
<td>18</td>
</tr>
<tr>
<td>Year 11</td>
<td>6.38</td>
<td>86</td>
<td>11</td>
</tr>
<tr>
<td>English as additional language - none</td>
<td>2.57</td>
<td>424</td>
<td>98</td>
</tr>
<tr>
<td>English as additional language</td>
<td>6.09</td>
<td>44</td>
<td>23</td>
</tr>
<tr>
<td>Free school meal - none</td>
<td>1.24</td>
<td>402</td>
<td>87</td>
</tr>
<tr>
<td>Free school meal</td>
<td>8.69</td>
<td>64</td>
<td>34</td>
</tr>
<tr>
<td>Pupil premium - none</td>
<td>0.59</td>
<td>376</td>
<td>71</td>
</tr>
<tr>
<td>Pupil premium</td>
<td>5.91</td>
<td>83</td>
<td>50</td>
</tr>
</tbody>
</table>

\textsuperscript{^a} Non significant results, critical values <1.96.

The impact estimate for the whole sample is equal to 2.74 percentage points. In this case, the impact is greater for males (3.67 percentage points) than females (0.52 percentage points).

\textsuperscript{10} The results from the Year 7, Year 12, and special education need are not included because the matching procedure reduce significantly the observations.
(although the female result is not significant). Moreover, the impact seems to be greater on the students from MetroHouse (MH) School, 5.79 percentage points, and MetroLow (ML) School, 3.61 percentage points. When looking at year groups, the major impact was on the students from Year 9 (3.41 percentage points) and Year 11 (6.38 percentage points). With respect to the other characteristics, the major impact is on the students that have EAL (6.09 percentage points), the students that were eFSM (8.69 percentage points), and those in receipt of PPF (5.91 percentage points).

Both sets of data from the sample CCFs show a positive impact on attendance for those students who are cadets. For Longtown School the impact on attendance is seen most clearly for Year 9 students, for those students whose first language is English and for those students in receipt of the PPF. For the students in the Metro MAT schools, the higher impact is seen in two of the three schools, MetroHouse and MetroLow but all three show a positive impact. The impact on attendance is seen most clearly for Year 9 and Year 11 students, for EAL students and for those in receipt of the Pupil Premium.

This data suggests that being in the CCF improves student attendance, this supports the findings from the qualitative data analysed so far in this project and the small scale Greater Manchester study reported in the first interim report. The highest impact is on disadvantaged students, those in receipt of PPF and those eFSM, in relation to the social impact of the CF this an important finding. DfE\textsuperscript{11} data shows that for students at the end of Key Stage 4, Year 11, absence increases, for each student with the same prior attainment and characteristics for each session increase in overall absence figures across Key Stage 4 there is a 1.8% reduction in their chances of achieving 5 A*-C grades/or equivalent (including English and Maths). Each extra day missed in Key Stage 4 was associated with a lower attainment outcome, if being a cadet means some students improve their attendance then their attainment will improve. If these students are disadvantaged, i.e. eFSM or in receipt of the PPF then the impact will be greater. Data from the Education Endowment Fund\textsuperscript{12} shows that

the attainment gap is greatest for disadvantaged students (and those with SEND), a majority of 19 year olds who have been eFSM leave education without good level English and Maths qualifications. DfE\textsuperscript{13} estimates on lifetime productivity returns linked to achieving five or more good GCSEs shows that, returns can be in excess of £100,000 compared to those with level 2 qualifications. Even moderate improvements in GCSE attainment can lead to significant increases in their economic benefits to society, so improving the attainment of disadvantaged backgrounds will result in increased national income. A lack of progress in addressing the attainment gap and social mobility in general is costing the UK dearly, a recent report from The Sutton Trust\textsuperscript{14} showed that even a modest improvement in social mobility could lead to an increase in the UK economy of 2% or £39 billion. The analysis outlined here suggests that CCFs could be part of the solution to the attainment gap and help improve social mobility across the UK.

NB We are aware that a complete impact evaluation would have required a sensitivity analysis. However, this goes beyond the key scope of this study. In fact, the main scope was to investigate the direction of differences in attendance levels between the two groups.

\textsuperscript{13} https://www.gov.uk/government/publications/gcses-a-levels-and-apprenticeships-their-economic-value