**Impact of participation in uniformed group activities at school on adolescence’ self-confidence and teamwork**

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**Abstract**

Recent concerns about extremism, and young people’s vulnerability to exposure of radicalisation and such negative influences, have increased interest in young people’s participation in civic activities. There is some evidence that such activities at school can have a positive influence on young people’s attitudes and behaviour, but such evidence has been largely based on correlational, small-scale and somewhat biased studies. This paper presents the results of the first large independent randomised controlled trial in the UK to test the impact of participation in uniformed group activities in school on young people’s social and reported behavioural outcomes. The one-year trial involved 7,781 thirteen to fourteen year olds across 71 secondary schools in England. Outcomes were measured before and after the intervention using a bespoke questionnaire survey. Attrition was negligible. The results showed positive ‘effects’ on a range of wider outcomes including self-confidence, teamwork, resilience, career aspirations, empathy and self-reported charitable activities. These effects are somewhat muted since not all pupils in the treatment schools actually took part in the intervention. Process evaluation suggests that the intervention was well-received, but strong leadership support is crucial for successful implementation. The findings provide evidence of the promise of the benefits of such uniformed group involvement for young people. If these activities are deemed worthwhile in their own right, because of the costs, then there is enough evidence here to pursue such a course.

**Key words:** uniformed group, youth social action, self-confidence, teamwork, character development, randomized controlled trial

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Introduction

Recent concerns with extremism and radicalisation of young people suggested that young people are particularly vulnerable, and common reasons for this are a sense of isolation, feeling of failure and dissatisfaction with society (Bailey 2015). Lumby (2011) suggested that schools present major risks to young people when they experience injustice, inequality and disrespect. There were recent debates in the UK parliament to promote youth participation in social action and volunteering as a way to counter such disaffection. Some commentators suggest that there is a lack of interest among young people in UK in such activities because young people are put off by the negative perception associated with such activities, and by the perception that social action activities are predominantly the preserve of the middle class (Bradbury and Kay 2005). Such activities are also rarely available in state-funded schools (Birdwell et al. 2015). Uniformed group activities such as Sea Scouts, for example, are much more likely to be offered in fee-paying schools than state secondary schools.

A cross-party collaborative campaign was launched in 2012 to encourage 10 to 20 year olds to be more actively engaged in social action. Previous research suggested that youth involvement in social action not only benefits society, but also has a positive impact on the young people’s behaviour, attitude and wellbeing. However, much research in this area has been largely correlational, small-scale and with conflict of interests (conducted by the uniformed group organisers themselves). There has hitherto been no causal evidence that participation in youth social action has the positive effects that many have assumed. To test the causal effects of youth social action the Cabinet Office and the Education Endowment Foundation co-funded a project in 2015 to provide opportunities for 13 and 14 year olds in state secondary schools in England to participate in youth social action through the uniformed group programme. This paper presents the results of a randomised controlled trial to test these effects.

The wider outcomes of schooling

Currently much of education research is focussed on pupil attainment. Few studies have considered non-cognitive outcomes as resilience, aspirations and happiness at school for their own value, but solely as a way to higher attainment. For example, happier students might perform better in tests, or children having social emotional and behavioural problems are also less likely to achieve good results in school (Patalay et al. 2016) and less likely to attain higher education qualifications (Carneiro et al. 2007). Children with good social skills, on the other hand, are more engaged in schools (Gutman and Vorhaus 2012). This paper is primarily about taking such wider outcomes as valuable in their own right.

Schools play an important role in developing these positive attributes and in enhancing young people’s enjoyment of school and of life in general. Unlike academic attainment, these wider outcomes are less stratified by young people’s background characteristics, and so should be.
easier to shift (Gorard and See 2011). One way to achieve this is the provision of positive youth civic engagement activities like those provided by the youth uniformed organisations.

We have previously looked at how young people’s views on trust, civic participation and their role in society are strongly linked to the way they are treated at school, and to a lesser extent to the kinds of school they attend (Gorard and Smith 2010; See and Arthur 2011). Schools can make inequalities worse by providing differential opportunities to learn (Schmidt et al. 2015). This applies to youth social action opportunities as much as the traditional curriculum. This might produce differences in political tolerance, volunteering, and intended political participation (Fleming et al. 2014). The 2009 International Civic and Citizenship Education Study showed that intended participation in elections and other civic activities was linked to prior experiences at school (Quintelier and Hooghe 2013). In particular, a participatory democratic climate at school was beneficial in this respect.

All of this work, including our own up until now, has been largely passive in design and many of the differences could be due to the self-selecting nature of students in some schools and the activities therein. Our question is whether such wider outcomes from schooling can be improved more deliberately and directly through interventions such as youth social action activities in school.

**Prior evidence on youth social action**

There is a growing number of youth social action programmes in the UK today. Studies suggest positive effects on a range of young people’s outcomes, such as employability, self-esteem, and confidence. However, the evidence on such wider outcomes remains very mixed. Self-esteem is not related to student dropout from school, once other factors are accounted for (Parr and Bonitz 2015). In a systematic review of civic education, no evidence was found that civic education itself has an impact on voting behaviour or voter registration (Manning and Edwards 2014). Few actual interventions have been evaluated, and where they have, the evaluations have often not been rigorous enough to assess the impact convincingly.

For example, almost all of the studies in the review conducted by the Institute for Volunteering Research (Ockenden and Stuart 2014), looking at the impact of volunteering, youth leadership and youth social action, were based on surveys of young people who volunteered to take part in these activities and made no comparisons with those who did not. Two studies, one looking at the impact of Cooperative Street-Games Volunteers (Cooperative Street-Games Volunteers 2014) and one on the impact of the Youth Action Network and Centre for Social Action (Boeck et al. 2009), also did not have comparison groups, but reported that youth volunteering and social action helped develop ‘social connectedness’ and foster positive behaviours such as empathy, cooperation, tolerance and better understanding of other people. These are unjustified causal claims because the findings were based on a survey of the volunteers, and case studies of these volunteers. Even where experimental studies have been conducted, the evidence is unclear because of high attrition and mixed results (e.g. Social and Character Development Research Consortium 2010).

A large-scale experimental study by the Cabinet Office in the UK evaluated the impact of Youth Social Action (YSA) programmes on young people aged 10 to 20 in 73 schools (Kirkman et al. 2016). The evaluation consisted of three RCTs and one matched trial of youth social activities from four providers. All of the programmes included an element of
citizenship. Using validated questionnaire items as outcomes, the RCTs suggested positive effects from youth participation on young peoples’ work and life skills, such as empathy, problem solving, cooperation, grit and resilience, sense of community and educational attitudes. In addition to the survey, the study also measured observable behaviours. One involved an interview task where pupils’ performance in job interviews was assessed by experienced hirers and the other was a task where pupils were given four 50 pence pieces to decide whether they would keep the money or how much to donate to charity. The study found that compared to their non-participating counterparts, young people who participated in youth social action expressed greater interest in volunteering activities, but were less willing to donate money to charity. Pupils who participated in YSA were more likely to be judged as employable compared to control pupils.

Although promising in some respects, it is hard to judge how reliable this evidence is because there was no clear reporting of attrition and school selection criteria. There were also few details on the targeted and achieved samples. Four organisations were involved: Citizenship Foundation (CF), Community Service Volunteers (CSV), Envision and Imago. The report suggested that Envision worked with 130 schools and included 2,000 young people in their social action initiatives, but only 364 of these were surveyed. Imago was reported to be operating in 25 schools engaging 5,000 young people, but only 2,190 were included in the study. It seemed that the analysis included only those with pre- and post-test scores, thus discounting any missing cases and dropouts despite claiming intention-to-treat analysis. The report does not clarify if young people were simply assigned to the treatment or control groups or were asked to take part first and then volunteers were assigned to treatment and control groups. It is not even clear whether randomisation was at school level or individual level. The explanation on p.35 says “The sample of control students was composed of students in a classroom randomly selected by the school.” In other words, comparisons were probably not made with similar pupils who indicated interest in both control and treatment schools.

The report of the Cabinet Office initiative of National Citizen Service for 15-17 year olds by Booth et al. (2015) similarly claims success but there is very high attrition (with over 91% of pre-test students missing from the treatment groups at post-test). This makes the results untrustworthy, and the authors’ use of significance testing absurd.

The approach tested by the study described in this paper looks at the impact of participation in uniformed group activities on young people’s wider outcomes and citizenship, via the Youth United (YU) youth social action programme. Youth United is an umbrella organisation for uniformed groups, which develops new groups in secondary schools in England for Scouts, Sea Cadets, Fire Cadets and St John’s Ambulance Brigade (see below).

An evaluation of Youth United projects reported positive effects of participation in uniformed group activities on communication, empathy, grit and resilience (Family, Kids and Youth 2015). These findings were based on interview data and case study reports, without an appropriate design. Questionnaire surveys collected responses from young people aged 11 to 18 about their character outcomes. A limitation of this study was that treatment and control pupils were not randomly allocated and there was attrition of 40% for the treatment group and 67% for control pupils between pre- and post-surveys.

Evaluation of the impact of Girlguiding (Girlguiding 2012-2013) and the Duke of Edinburgh award suggests that participation increased young people’s resilience and promoted
responsible behaviour (Duke of Edinburgh 2010). Almost all of the girls in Girlguiding said that participation in the uniformed activity had increased their confidence and leadership skills. Young people’s attitudes and changes in behaviour were compared over time, but no comparisons were made with similar children not involved in these activities.

Another study looked specifically at the impact of participation in the fire and rescue services on young people identified as having a range of anti-social and behavioural problems (Ward et al. 2009). The study concluded that the structured, disciplined environment and close group work often associated with uniformed group activities did have benefits. Although not all pupils completed the course, there were reported positive outcomes in terms of behaviour and attitudes from pupils, school, home and peers. A decline in the number of offences such as hoax calls or deliberate fires committed by young people in the community was noted, and the number of permanent exclusions from school also dropped.

Surveys of the Combined Cadet Force (CCF) in two Welsh state schools suggested perceived improvements in attendance, behaviour and attitudes and social relations (Glover and Sparks 2009). Teachers reported that pupils were better organised, and had better communication and thinking skills. Again, this study did not compare similar pupils who were not in the CCF so it is difficult to say if the pupils would have made similar improvements if they had not been in the CCF.

An evaluation of cadet forces across the UK involving 5,100 cadets from the Combined Cadet Force (CCF), Sea Cadet Corps/Royal Marine Cadets, Army Cadet Force (ACF) and Air Training Corps (ATC) reported positive effects across a range of outcomes, such as leadership skills, teamwork, self-esteem, confidence and positive attitude (Moon et al. 2010). A similar evaluation carried out in 2014 reported that young people who volunteered in uniformed organisations such as The Boys’ Brigade, Catholic Guides, The Girls Brigade, Girl guides and Scouts in Northern Ireland (Volunteer Now 2014) benefitted in terms of leadership skills, teamwork and better communication skills. Unfortunately, these findings were based largely on self-reports by participants, volunteers, parents and teachers. No comparisons were made with those who were not involved in the cadet forces so we cannot be sure that the improvements were solely due to being in the cadet force. It is possible that pupils who participated in these cadet forces were already likely to have high self-esteem, or be more academically able and confident. Or the changes observed could have occurred anyway. Without proper randomisation it is hard to say if this was the case.

Although numerous studies have been conducted suggesting positive effects of uniformed group participation on young people’s personal, social and life skills, the evidence is far from clear. Almost all of these studies were evaluated by the programme organisers themselves or commissioned by the programme developers, who were often keen to show that their programme worked. Almost all of these evaluations involved interviews and/or surveys of programme participants themselves, or in a few cases comparing volunteers with non-volunteers. Rarely was a comparison group used. Results are therefore likely to be inaccurate.

There are overall signs that uniformed activities can lead to positive wider outcomes, but currently there is a lack of robust evaluation to confirm the causal impact of such organized activities at school. The time is therefore right for a large-scale robust evaluation of the impact of providing such opportunities to schools and pupils. If found to be effective, then there is justification for such organized youth groups to be introduced in schools more widely.
The intervention

The ‘treatment’ in this trial is not a single intervention as such, but a programme of activities provided by four uniformed youth organisations (the St John Ambulance, Scouts, Sea Cadets and Fire Cadets) supported by the Youth United Foundation (YU). YU is a charity supporting a network of voluntary organisations which offer established long term uniformed youth programmes. In this trial YU acted as a broker arranging for their regional uniformed organisations to set up units in schools. YU recruited the schools and the schools ran their own recruitment drive to get pupils. Schools indicated the uniformed group they were interested in and YU put them in touch with the regional contacts. Pupils were therefore not given a choice of uniformed group.

Although these organisations have separate missions, activities, formats and delivery, they share the core aims of promoting volunteering, inspiring young people to do community work, to learn new skills such as life-saving, and to be active citizens. Each group had their own syllabus and structured activities. The number of planned sessions varied with uniformed groups. For the St John Ambulance it was 30 including 12 sessions on first-aid training. The Sea Cadets time-tabled 33 weeks of activities, the Fire Cadets 38 sessions while the Scouts planned for 30 sessions. The average number of weekly sessions across all units was 24, with most sessions lasting two hours. Occasionally offsite activities were conducted after school for practical training, such as boating activities in the local boating area or fire training in the local fire station.

Each of the uniformed groups has unique aims and activities. The Fire Cadet force aimed to equip young people with life skills to interact and respond to potentially risky situations in their community. Fire Cadets were issued safety gears to wear during training (hard hats, boots and overalls). All sessions were conducted by specially trained instructors from the local Fire and Rescue Service, in line with the delivery of the Level 2 BTEC Award in the Fire and Rescue Service in the Community. This included a mixture of operational firefighting activities, such as hose running, shipping a standpipe, foam drill and search and rescue techniques. The cadets also learnt and practised the standard drills, safety words of command, fire and water safety, first aid and concepts related to the structure and role of the Fire and Rescue Service, as well as activities to develop teamwork, leadership and communication skills. Visits were arranged for cadets to the Fire Control room and the Marine Rescue Unit. Fire cadets also had the opportunity to attend a 3-day residential camp. At the end of their training cadets received a completion certificate and a first aid awareness certificate. Upon successful completion, cadets received an externally and internally verified BTEC Level 2 award in Fire and Rescue Services in the Community. Awards were also given for the most improved fire cadet and the most outstanding cadet as encouragement for their participation. These awards were presented at a graduation ceremony.

Sea Cadets provided training on a naval theme in which young people were given an opportunity to learn and practise life skills needed in water, led by trained personnel from the Marine Society and Sea Cadets. The usual sessions consisted of 45 minutes of recreational or fun activities followed by 45 minutes of Sea Cadet activity. The latter included basic drills, semaphore (using Sea Cadet flags), first aid, orienteering, seamanship, meteorology and camping skills (and boating sessions - canoeing, sailing, kayaking and rowing. All Sea Cadets worked towards the BCU (British Canoeing Union) and the RYA (Royal Yachting
Association) Stage 1 qualification. They also took part in a weekend outward bound where they tried zipwire, campfires, abseiling, problem-solving, bush-craft and caving. Visits were organised for the cadets to the local Sea Cadet Unit where students witnessed the full range of Sea Cadet activities. They also had the opportunity to attend taster lessons on marine engineering. At the end of the course, trophies were awarded for the Best Cadet, Most Improved Cadet and for all round commitment.

The St John Ambulance (SJA) course consisted of a combination of theory and practical sessions as well as physical activities. The course included a mandatory 12 one-and-a-half hour sessions on First Aid skills to qualify for the first aid qualification. These sessions were conducted outside school hours by trained SJA officers. All participating pupils were enrolled as SJA cadets, and were issued a polo shirt as uniform to wear during the weekly sessions. They were also issued with a personal First Aid Kit which they could keep. All pupils completed the Cadet First Aider programme to qualify as Trainee Cadet First Aiders. This enabled them to support their school at events such as Sports Day and school trips. The weekly sessions followed a scheme-of-work where cadets learnt how to treat a range of injuries and conditions including recognising heart attacks, asthma, supporting an unconscious breathing casualty, CPR, choking, minor and severe bleeding and bandaging, making emergency phone calls and casualty communication and care. At the end of the course, pupils’ first aid skills were assessed. Upon successful completion of the assessment, pupils received a certificate certifying they are first-aid qualified.

The aim of the Scouts programme is to provide an opportunity for learning new skills and teamwork, in units conducted by teacher volunteers and instructors from the Scouts association. In one school the sessions were delivered by four/five Scouts trainers once a month, with a teacher overseeing the programme throughout. Pupils learnt map reading, outdoor cooking, team-building, tent-pitching and first aid. The weekly sessions were about one to one and a half hours long. In one school the programme was developed by the teacher to tailor the activities to feed into the Duke of Edinburgh award. Most of the sessions were conducted within the school compound. The Scouts programme also included outdoor activities. One unit went to Matlock to visit a local mountain biking centre (Great Tower Windermere Activity Centre). At the centre, the Scouts learnt a range of skills, such as climbing and raft building.

The uniformed groups also incorporated volunteering activities. The Fire Cadets, for example, took part in a number of social action events, which included fundraising activities (bag packing at local supermarkets) and events to help the local community (supplying food and helping out at the local foodbank and facilitating bingo events at the local old people’s homes). They also helped raise money from cakes donated by local businesses to buy games for a local children’s hospital. Some cadets organised and ran afternoon activity sessions for pupils at a Special school. The Sea Cadets picked their own charity projects to work with. The St John Ambulance cadets volunteered as first aiders at their individual schools’ sports days as well as becoming involved with a range of SJA promotional activities in their local areas. Some units also volunteered their services coaching children and adults to play cricket and netball.

In this trial new units were set up based within schools and run as part of the schools’ extra-curricular activities. Each uniformed group was overseen by a project manager. At the regional level, ‘development workers’ appointed by the relevant uniformed group managed and organised the activities within schools. The sessions were delivered by trained staff from
the uniformed youth organisations and in some cases also involved adult volunteers, including teachers.

Methods

Our evaluation of the intervention was a simple two-armed randomised controlled trial with randomisation at the school level. School level randomisation was preferred here because both the funders and the developers wanted to test the spill-over effects of the uniformed group on the whole cohort within the school, in addition to the impact for those pupils actually participating.

Participants

The one-year trial involved 71 secondary schools in six areas in the north of England, which had responded to the request to participate by indicating the uniformed group they would like to offer their pupils. Pupils therefore had no choice of uniformed group. Opt-out consent forms were sent to parents by participating schools. Thirty-eight of the schools were randomised to treatment and 33 to control. More schools were randomised to treatment because YU wanted to offer the programme to close to the number originally intended, which was 40. This was to encourage them to remain in the trial in terms of providing the necessary data. A total of 7,781 Year 9 (age 13-14) pupils from these schools were involved in the project, of which 4,012 were in the treatment schools and 3,769 were in the control schools. Of these 3,377 (1,733 treatment and 1,644 control) reported in the initial survey that they would like to take part in the kinds of activities offered by YU. These are known as the ‘volunteers’ and are used in this trial as the main comparison when contrasting those in control schools and those in treatment schools. The advantage of using these ‘volunteers’ is that it reduces the impact of motivation or volunteering since both groups are equally motivated in volunteering to participate. However, because the uniformed groups could only offer a limited number of places subject to availability of the uniformed group capacity to provide trainers, only around 20 to 30 pupils per school actually took part in the activities. A total of 633 pupils in the treatment schools are known to have participated in the uniformed group activities.

No school dropped out from the trial, but 27 ‘volunteer’ pupils (and 64 from all pupils) were missing data from the post-test (14 treatment and 13 control), which represents attrition of around 1%. In addition, some pupils did not provide a valid response to all items in the survey.

Five treatment schools were not able to open their Scouts unit because of a combination of poor uptake by pupils, lack of teacher volunteers and change of management. Two SJA schools could not get a teacher volunteer to run the unit. One school allocated to treatment indicated after randomisation but before the programme started that they would like to offer the Duke of Edinburgh award instead. These all received no YU intervention, but agreed to remain in the trial and were analysed as being in the intervention group.

Instruments and measurements

The aim of this paper is to assess the potential impact of youth participation in uniformed group activities on pupils’ self-reported non-cognitive outcomes. Two measures (teamwork and self-confidence) were singled out at the outset as of particular interest to YU and the
funders. Progress was measured using a bespoke survey questionnaire developed by the evaluators with input from the Cabinet Office and the EEF, and administered once before randomisation and again after the intervention. For the post-intervention survey, evaluators were present in all of the schools to observe the administration. This was to ensure that the survey was conducted consistently across all schools and to note any intentional or incidental biases in the way the survey was conducted (since participation was no longer blind).

The questionnaire items were taken from previously validated or standard instruments, provided by the Office for National Statistics, the Cabinet Office, reviews of the literature, prior studies by the evaluators, and professional advice. We selected those items that were considered measurable and malleable in individuals, and deemed important by stakeholders either in their own right or because they are linked to behavioural outcomes including attendance and participation at school. All have clear audit trails leading to their derivation. For example, the item on self-esteem is the one recommended for single item use by Rosenberg (1965). The instrument was pilot tested in two primary schools in areas not involved in the trial to ensure that the language was suitable for all pupils to respond with minimal assistance, and appropriate for the span of reading-age of Year 9 pupils.

The questionnaire items were mostly pre-coded tick-boxes for ease of completion. Some of these items were reverse coded to try and encourage pupils to focus on the meaning of each one. These refer to the negative items such as “I like to be told exactly what to do” and “I am often afraid to try new things”.

The questionnaire consisted of seven question groups. The first three were about pupils’ involvement in youth social action and uniformed group activities. We asked respondents whether they had participated in similar activities to those offered by YU and whether they would be interested in joining if their school offered them the chance. This was to help identify ‘survey volunteers’ in all schools. The last question group was about pupils’ career aspiration. Questions 4 and 5 were based on short stories (vignettes) in which the socially desirable responses were not immediately obvious. These questions were specifically to assess social responsibility and generosity. Question group 6 was a set of 11 single-item questions on a range of wider outcomes covering concepts including teamwork, communication, motivation, self-esteem, confidence, resilience, civic mindedness and future intentions. These were Likert style questions but with responses from 0 (not at all true) to 10 (completely true).

In addition, we also collected data on ‘dosage’ from the attendance records provided by the respective uniformed groups.

**Analyses**

The main analyses involved comparing the 3,377 ‘volunteer’ pupils in the control and treatment schools. These are pupils who reported in the pre-intervention survey that they would like to take part in a youth social action activity like the ones offered by YU. This is deemed the fairest comparison reducing the impact of motivation, because only a subset of pupils in the treatment schools could actually receive the intervention, and it is not clear otherwise who their counterparts would be in the control schools. In addition, we compared all pupils in the treatment schools with all pupils in the control schools. This was to test the spill-over effect of the intervention, to see whether simply by being in the same school as those who actually participated in uniformed activities could affect pupil outcomes.
Additional analyses were also carried out comparing pupils in treatment schools who reported participating in the intervention with all other pupils in the treatment schools not involved in the intervention. Although this does not have the force of a trial because there are likely to be systematic differences between the two groups, it allows us to assess the impact of being actively involved in the intervention. Further analyses of each kind were conducted to estimate the impact of the intervention on pupils eligible for free school meals (FSM). We also correlated a measure of attendance used to assess ‘dosage’ for those who actually participated with the two headline outcomes (self-confidence and teamwork).

For most of the survey items, the impact was calculated via differences in the gain scores (difference between means of the pre-intervention survey scores and the post-intervention scores) for each group, divided by the pooled standard deviation and expressed as Hedge’s g ‘effect’ sizes. For measures of social responsibility and generosity (vignettes) and also aspiration we presented the results in the form of changes in frequencies which were converted into standardized pre- and post-intervention odds ratios for the two groups.

A simple sensitivity analysis was conducted to check whether the level of missing data and cases was big enough to alter the findings. This took into account the ‘effect’ sizes, the group sizes and the level of attrition to create the number of counterfactual cases needed to disturb the finding, also known as the Number Needed to Disturb (NNTD). This is calculated as the effect size multiplied by the number of cases in the smaller group, minus the number of cases missing or with missing data (Gorard et al. 2017). The bigger the result is the more secure the finding, as it means it would take that many additional missing extreme counterfactual cases to change the published result.

It is important to note that any impact found will be considerably lower than its true value for the following reasons. All analyses were conducted using intention-to-treat, meaning that all pupils included in the original randomisation were included in the analysis, even if they or their school dropped out of the treatment. Only a minority of pupils in treatment schools actually got to receive the intervention because although the funders wanted a whole-school comparison, the uniformed group organisations did not have the resources to offer the activities to all Year 9 pupils in each treatment school. There were also likely to be control pupils who although did not take part in the YU uniformed group programme were already or had been previously members of uniformed youth organisations or had been involved in volunteering activities outside school. This could also potentially dilute the impact. All of these factors were clear at the outset, and taken into account by the funders. Finally, the actual number of sessions delivered in eight of the treatment schools was under 20 (where the average planned session was 30). This could further dilute the impact.

**Process evaluation**

In order to understand how the programmes of activities work we also carried out a full process evaluation. The in-depth data was collected using a combination of strategies, including consultations with programme organisers, documentary analyses of programme syllabi, schemes of work and attendance records, interviews with trainers, teaching staff, pupils and parents, semi-structured email interviews with programme trainers and teachers, and observations of and participation in the actual uniformed group activities.

As evaluators we visited the sites where activities took place – including schools, fire stations and boating areas. Two schools from each of the uniformed groups were randomly selected
for the observation visits – making a total of eight schools. For each school, two visits were arranged, one at the beginning of the trial and one towards the end in order to capture changes in pupils’ behaviour and attitude. In total, 16 site visits were made to observe the programme in operation.

At these site visits we observed pupils’ attitudes, behaviour, their commitment and levels of participation. We conducted ad hoc interviews with teachers, trainers and pupil participants to obtain feedback on their perception of the impact of the programme, and some of the issues encountered. Additional data was also collected directly from the uniformed groups through their regional project managers. The SJA, for example, provided case study reports and their own evaluations of pupil participation, and the Fire Cadets collected their own feedback on pupils’ participation.

All researchers visiting the sites were given a broad standard brief on what to look for during the visits. The instruments were deliberately minimally structured to allow evaluators to probe and respond to whatever they found. All data and observations were considered relevant and used to inform our findings. These data were then collated and analysed by evaluators initially blind to the trial outcomes and independent of the impact evaluation. This was to avoid being influenced by the results because knowledge of the results can bias the reporting of the process evaluation.

**Did uniformed activities make a difference?**

For the two outcomes of interest (self-confidence and teamwork) selected before the trial by YU, a small differential improvement was noted for the volunteers in the treatment schools compared to volunteers in control schools (Tables 1 and 2; effect size = +0.10 and +0.07 respectively). However, it has to be remembered that because not all the survey volunteers in the treatment schools actually took part in the programme, this effect could be considerably smaller than it would have been if all of them had actually taken part. Here the results are presented based on the gains or progress scores.

**Table 1 – Progress in self-confidence comparing ‘volunteers’**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Pre-mean</th>
<th>SD</th>
<th>Post-mean</th>
<th>SD</th>
<th>Gain score</th>
<th>SD</th>
<th>‘Effect’ size</th>
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<td>Treatment</td>
<td>1,717</td>
<td>5.7</td>
<td>3.0</td>
<td>7.6</td>
<td>2.0</td>
<td>1.9</td>
<td>3.7</td>
<td>-</td>
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<tr>
<td>Control</td>
<td>1,630</td>
<td>5.8</td>
<td>3.0</td>
<td>7.4</td>
<td>2.0</td>
<td>1.5</td>
<td>3.6</td>
<td>-</td>
</tr>
<tr>
<td>Overall</td>
<td>3,347</td>
<td>5.7</td>
<td>3.0</td>
<td>7.5</td>
<td>2.0</td>
<td>1.7</td>
<td>3.7</td>
<td>+0.10</td>
</tr>
</tbody>
</table>

*Note: The number of counterfactual cases minus attrition needed to disturb this result would be approximately 136. This is a substantial finding.*

**Table 2 – Progress in teamwork comparing ‘volunteers’**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Pre-mean</th>
<th>SD</th>
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<td>1.2</td>
<td>3.6</td>
<td>-</td>
</tr>
<tr>
<td>Control</td>
<td>1,630</td>
<td>5.5</td>
<td>2.8</td>
<td>6.5</td>
<td>2.4</td>
<td>1.0</td>
<td>3.5</td>
<td>-</td>
</tr>
<tr>
<td>Overall</td>
<td>3,347</td>
<td>5.4</td>
<td>2.8</td>
<td>6.6</td>
<td>2.5</td>
<td>1.1</td>
<td>3.6</td>
<td>+0.07</td>
</tr>
</tbody>
</table>

*Note: The number of counterfactual cases minus attrition needed to disturb this result would be approximately 87. This suggests it is a secure finding.*
Comparing all pupils in the treatment schools with all in the control schools (not just the volunteers) produced the same results although the differences are even more muted (Tables 3 and 4).

Table 3 – Progress in self-confidence, comparing all pupils in treatment and control schools

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Pre-survey</th>
<th>SD</th>
<th>Post-survey</th>
<th>SD</th>
<th>Gain score</th>
<th>SD</th>
<th>‘Effect’ size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>3944</td>
<td>5.8</td>
<td>2.8</td>
<td>7.3</td>
<td>2.1</td>
<td>1.6</td>
<td>3.5</td>
<td>-</td>
</tr>
<tr>
<td>Control</td>
<td>3553</td>
<td>5.9</td>
<td>2.8</td>
<td>7.3</td>
<td>2.0</td>
<td>1.5</td>
<td>3.4</td>
<td>-</td>
</tr>
<tr>
<td>Overall</td>
<td>7497</td>
<td>5.8</td>
<td>2.8</td>
<td>7.3</td>
<td>2.0</td>
<td>1.5</td>
<td>3.4</td>
<td>+0.03</td>
</tr>
</tbody>
</table>

Comparing only those known to have participated with the other pupils in the treatment schools, the effects were further muted (Tables 5 and 6).

Table 5 – Progress in self-confidence, comparing uniformed pupils with other pupils

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Pre-survey</th>
<th>SD</th>
<th>Post-survey</th>
<th>SD</th>
<th>Gain score</th>
<th>SD</th>
<th>Post-test ‘Effect’ size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant s</td>
<td>286</td>
<td>5.6</td>
<td>3.1</td>
<td>7.6</td>
<td>2.1</td>
<td>2.0</td>
<td>3.9</td>
<td>-</td>
</tr>
<tr>
<td>Non-participant s</td>
<td>3067</td>
<td>5.8</td>
<td>3.0</td>
<td>7.4</td>
<td>2.0</td>
<td>1.7</td>
<td>3.6</td>
<td>-</td>
</tr>
<tr>
<td>Overall</td>
<td>3353</td>
<td>5.7</td>
<td>3.0</td>
<td>7.5</td>
<td>2.0</td>
<td>1.7</td>
<td>3.7</td>
<td>+0.1</td>
</tr>
</tbody>
</table>

Table 6 – Progress in teamwork, comparing uniformed pupils with other pupils

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Pre-survey</th>
<th>SD</th>
<th>Post-survey</th>
<th>SD</th>
<th>Gain score</th>
<th>SD</th>
<th>Post-test ‘Effect’ size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant s</td>
<td>288</td>
<td>5.5</td>
<td>2.8</td>
<td>6.6</td>
<td>2.5</td>
<td>1.1</td>
<td>3.7</td>
<td>-</td>
</tr>
</tbody>
</table>
The effects (in terms of gains from pre- to post-test) for all the other items are summarized in Table 7. The table shows that nearly all of the differences are in favour of the treatment schools, with the largest differences in the self-confidence and resilience items whether we compare volunteers or all pupils in treatment and control schools.

Subgroup analysis comparing pupils eligible for FSM suggests that in several respects FSM pupils gain more from the intervention – in terms of happiness, civic-mindedness, and empathy (final column of Table 7). It is intriguing that the desirability of ‘being told what to do’ has also increased, and this could be a factor stemming from the nature of the intervention, and the health and safety and other instructions involved.

Table 7: The ‘effect’ sizes for all attitude scale items

<table>
<thead>
<tr>
<th>Item</th>
<th>All pupils</th>
<th>‘Volunteer’</th>
<th>FSM-eligible</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am good at explaining my ideas (communication skills)</td>
<td>+0.03</td>
<td>+0.06</td>
<td>-0.03</td>
</tr>
<tr>
<td>I like meeting new people (social skills)</td>
<td>0</td>
<td>+0.04</td>
<td>+0.07</td>
</tr>
<tr>
<td>I can work with someone who has different opinions (teamwork)</td>
<td>+0.01</td>
<td>+0.07</td>
<td>-0.04</td>
</tr>
<tr>
<td>I can do most things if I try (self-confidence)</td>
<td>+0.03</td>
<td>+0.10</td>
<td>+0.04</td>
</tr>
<tr>
<td>Once I have started a task I like to complete it (resilience)</td>
<td>+0.05</td>
<td>+0.09</td>
<td>-0.09</td>
</tr>
<tr>
<td>I want to try and make my local area a better place (civic-mindedness)</td>
<td>+0.04</td>
<td>+0.07</td>
<td>+0.17</td>
</tr>
<tr>
<td>I like to be told exactly what to do (creativity)</td>
<td>+0.06</td>
<td>+0.04</td>
<td>+0.12</td>
</tr>
<tr>
<td>I am often afraid to try new things (initiative)</td>
<td>0</td>
<td>+0.01</td>
<td>0</td>
</tr>
<tr>
<td>I feel happy most days (happiness)</td>
<td>+0.01</td>
<td>+0.04</td>
<td>+0.11</td>
</tr>
</tbody>
</table>
Analyses of the two social action vignettes show similar improvements among pupils in the treatment schools. They clearly became more generous (or empathetic) in reporting allowing a teacher to spend more time with a struggling pupil even if it meant less help for themselves compared to those in control schools (Table 8). Similar results are seen when we compare all pupils (post odds ratio 1.05).

Table 8 – Change in generosity odds ratio from pre- to post-survey, Youth United ‘volunteers’

<table>
<thead>
<tr>
<th></th>
<th>Pre- generous</th>
<th>Pre- not generous</th>
<th>Pre-Odds ratio</th>
<th>Post- generous</th>
<th>Post- not generous</th>
<th>Post-Odds ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>576</td>
<td>1,142</td>
<td>0.94</td>
<td>473</td>
<td>1,247</td>
<td>1.09</td>
</tr>
<tr>
<td>Control</td>
<td>571</td>
<td>1,065</td>
<td>-</td>
<td>417</td>
<td>1,200</td>
<td>-</td>
</tr>
</tbody>
</table>

Treatment pupils are also slightly more likely to report being socially responsible about clearing up mess rather than wanting others to, or simply ignoring it (Table 9). Comparing all pupils (not just volunteers), the post odds ratio is 1.15.

Table 9 – Change in social responsibility odds ratio from pre- to post-survey, Youth United ‘volunteers’

<table>
<thead>
<tr>
<th></th>
<th>Pre- ‘responsible’</th>
<th>Pre- ‘non-responsible’</th>
<th>Pre-Odds ratio</th>
<th>Post- ‘responsible’</th>
<th>Post- ‘non-responsible’</th>
<th>Post-Odds ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>1,436</td>
<td>276</td>
<td>0.99</td>
<td>1,459</td>
<td>265</td>
<td>1.02</td>
</tr>
<tr>
<td>Control</td>
<td>1,360</td>
<td>260</td>
<td>-</td>
<td>1,376</td>
<td>256</td>
<td>-</td>
</tr>
</tbody>
</table>

And they are substantially more likely to report having been involved in charitable or other volunteering activities over the last year (Table 10). This difference could be attributable to activities entailed in the intervention, although the survey attempted to get pupils to draw a distinction between activities organised via the school (such as YU for the treatment group) and participation outside school.

Table 10 – Change in charitable activity odds ratio from pre- to post-survey, Youth United ‘volunteers’
The intervention also appeared to have a positive effect on young people’s career aspirations. The volunteers in treatment schools displayed considerably higher career aspirations than volunteers in control schools (Table 11).

Table 11 – Change in career aspiration odds ratio from pre- to post-survey, Youth United ‘volunteers’

<table>
<thead>
<tr>
<th></th>
<th>Pre-professional</th>
<th>Pre- not professional</th>
<th>Pre-Odds ratio</th>
<th>Post-professional</th>
<th>Post- not professional</th>
<th>Post-Odds ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>1,014</td>
<td>685</td>
<td>0.88</td>
<td>994</td>
<td>727</td>
<td>1.04</td>
</tr>
<tr>
<td>Control</td>
<td>1,007</td>
<td>600</td>
<td>-</td>
<td>927</td>
<td>706</td>
<td></td>
</tr>
</tbody>
</table>

Note: this table compares those listing a career choice with all others

Analysis of dosage showed a small positive correlation between the number of sessions attended by each pupil who took part in the intervention activities and the gains made in teamwork and self-confidence (both +0.07). Although this does not present a ‘fair test’, the results are significant because they suggest that active involvement, rather than intention to participate or just being in the same school where the uniformed group activity takes place, is important for achieving the results.

Whichever way we analysed the results are invariably in favour of the treatment, even just being in the treatment schools (regardless of participation) can have a positive effect. Given that not all volunteers in the treatment schools were able to participate in a uniformed group for reasons given above, a smaller muted effect was to be expected. It is therefore possible to conclude that uniformed group activities work in improving civic engagement and other wider outcomes.

**What did the participants think of it?**

Generally, the uniformed activities were well-received by the pupils, teachers and trainers who took part. Feedback from stakeholders (parents, teachers, trainers and pupils) suggests that pupils benefited from these experiences and their lives enriched. Of particular benefit were the weekend residential stays, organised by the Fire Cadets, the Sea Cadets and SJA. These were described by trainers as providing the best experience for pupils who would otherwise not have such opportunities. Teachers and trainers said they had observed positive changes in pupils’ behaviour which they claimed was a result of the experiences.

One headteacher was so impressed with the Fire Cadet programme that he had volunteered to be a ‘Champion Headteacher’ for the project. He said:
I just wanted to let you know how positively we are feeling about the Fire Cadet programme. The students are fully engaged and enthused and already we are seeing a positive impact in terms of confidence and teamwork. Having watched a couple of the sessions I feel that much of the success so far is down to your organisation of the activities and the delivery of your Fire Fighters who have been excellent.

Headteacher

Marked improvements in pupil behaviour were reported by teachers, delivery staff and parents. At the Fire Cadets graduation ceremony attended by parents and Fire Cadet personnel, the pupils demonstrated confidence by coming up individually to make their own personal speech about their experiences. All the parents we spoke to commented on how pleased they were with their children’s development. Trainers and delivery staff echoed similar comments about how the cadets had grown over the year, from shy cumbersome individuals to confident and competent young adults.

Teachers were very happy with the range of activities experienced by the young people and the support given to their pupils, and were particularly impressed with the pupils’ commitment to the programme. Trainers reported that pupils had benefited in terms of skills in teamwork, confidence and first aid.

Overall the cadets thoroughly enjoyed attending the SJA cadet unit and it is clear that each cadet has gained in social skill alongside their First Aid skills.

SJA trainer

The pupils’ views were often positive. All the young people we spoke to reported that they enjoyed their experience and that they would have liked to continue with the uniformed group if they were offered it the following year. Many also said they would recommend it to their friends. Some Fire Cadet pupils had collectively written to the Fire Service to ask for the programme to be continued in their school.

The SJA pupils were particularly impressed with the professionalism of the trainers and the quality of the training they received. Pupils talked enthusiastically about the first aid skills they had learnt. And although not all had the opportunity to use their skills, some said they had used their skills outside school.

The Scouts rated enjoyment as top of the list of things they liked about the programme. Many boys said they enjoyed the life skill sessions more than the fun sessions. In terms of what they had gained from their experience, the Scouts said that the programme had helped to “keep us engaged in doing something useful after school, otherwise we would just go home and sit in front of the TV.” A number of boys also said that they were enjoying school more now. One said he was now more open to new ideas.

The Sea Cadets were similarly positive about the programme. Almost all of the pupils said they had learnt a lot and would have no hesitation recommending it to their school mates.

Below are some unprompted comments from pupils:

When this course is finished I was saying to my mum that I don’t want to
stop here. I want to go on, like learning more, to help myself improve.

I am wanting to join the Royal Marines Cadets at City of Liverpool Sea Cadets. I have already been to look around. The Sea Cadets after school club has been great!

I enjoyed it a lot.

Individual pupils also reported how they had developed in terms of skills and character.

I have got a lot stronger at working in a team and delegating. I enjoyed building a shelter with a small team at Colomendy and I have a great partnership with J at our weekly boating sessions.

During our short time with Sea Cadets, we have sharpened our already existing skills e.g. Teamwork and Leadership, while learning new life enhancing and helpful ones, all through the activities we have performed.

The Sea Cadets has been Great
It has taught me new skills

We as a team have achieved what we came here for, new skills, experience, but most importantly... a good time.

Parents also expressed their appreciation for the opportunity to take part in these activities.

Just wanted to thank you and all the staff who gave their time at the DofE [Scouts] practice expedition at the weekend. Tim had a great time and although it was only the practice part of the award, he has a great sense of achievement at completing it.

Your time and effort is much appreciated, please pass on my thanks to the other members of the team also.

Besides learning skills associated with each of the uniformed groups, pupils also had the opportunity to be involved in volunteering projects where they practised organizational and leadership skills. One Cadet Team Leader said she was very touched by the gestures and all round efforts of the young people.

**Barriers to implementation**

The process evaluation highlighted some possible barriers to full implementation of such a programme. One of these relates to young people’s motivation to participate. Some children attended the first few sessions and found that uniformed group activities were not for them. A few dropped out due to reported peer pressure. Some were excluded for bad behavior, or because the activities were not considered appropriate for them for health and safety reasons. The latter is important for future development – to allow pupils with physical and learning challenges to participate more fully.
The other barriers to implementation are to some extent all related to leadership support. Recruiting staff volunteers to oversee the uniformed group was found to be quite challenging in a number of schools, and in some cases schools were unable to start a unit as a result. Because some units were run within standard school time, this made it difficult to plan for off-site activities like water sports or fire station training - leading to an impoverished version of the intervention. School bureaucracy with health and safety requirements meant that a detailed run-down of the activities and a risk assessment report had to be submitted weeks in advance. A visit to the Fire Station, for example, was cancelled because the risk assessment report could not be produced in time. The Sea Cadets’ water sports sessions were reduced because outside school hour activities had to be coordinated with school activities. In a number of units sessions were often cancelled (sometimes without warning) for other school activities.

Another issue is pupil behaviour. Trainers explained that since they were dealing with issues like fire or water they had to take safety seriously. Discipline is therefore an important element in the training, and the absence of a teacher during the training made it difficult for them to manage pupil behaviour. Some unit leaders thought the lack of school leadership support and frequent staff changes had led to poor attendance and disciplinary issues among pupils. This indicates the low priority that schools gave to the programme.

Discussion and recommendations

Summary and implications for users

Overall the intervention can be said to be a success in that it had provided opportunities for disadvantaged children to learn important life skills and to participate in youth social action and volunteering activities. Positive changes in pupils’ behaviour were observed and reported by teachers, delivery staff, parents and the young people themselves. There were many anecdotal accounts of such changes although we could only report a summary of these here.

The impact evaluation shows that such a programme can enhance young people’s personal, social behaviour and aspirations. It is important to recall that the ‘effect’ sizes may be small because they are muted by the fact that only a minority of pupils in the treatment schools actually participated in the programme, and for fewer sessions than planned. Effects on FSM-eligible pupils were generally stronger. Effects were seen when comparisons were made with survey volunteers as well as among all pupils in the treatment schools. Positive effects were consistently found across all indicators (even those coded negatively). This suggests that, if there is an effect, this is not caused by motivation or self-selection. Improvements were also seen in the social vignettes that assessed empathy and social responsibility.

This is an important finding as it is the first from a true randomised trial in the UK of the impact that participation in uniformed group activities could have on young people’s personal and social behavior, and aspirations.

How robust is the finding?
The trial is rated as 4*, as assessed using the procedure described in Gorard (2015). Table 12 summarises the impact for the two outcomes of interest. The sensitivity test using NNTD suggests that the results are very robust to attrition, with NNTD for both items higher than the level of attrition. The average cost for schools to run such a programme is £400. If schools
think that these activities are enjoyable and worthwhile in their own right, and the costs can be reduced, the intervention is promising. If schools want to do these activities anyway, then any wider outcomes or even an impact on attainment could be a bonus.

Table 12 – Summary of impact findings from two headline indicators

<table>
<thead>
<tr>
<th></th>
<th>Effect size</th>
<th>Effect size FSM-only</th>
<th>Quality of evidence</th>
<th>NNTD-attrition</th>
<th>Approx cost per pupil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Youth United – Self-confidence</td>
<td>0.10</td>
<td>0.04</td>
<td>4*</td>
<td>136</td>
<td>£400</td>
</tr>
<tr>
<td>Youth United – Teamwork</td>
<td>0.04</td>
<td>-0.04</td>
<td>4*</td>
<td>87</td>
<td>£400</td>
</tr>
</tbody>
</table>

Note: Costs varied with uniformed groups depending on the nature of the activities, the size of the unit (the larger the size, the more cost-effective it will be), the equipment/ facilities needed and whether the delivery staff were paid or volunteers. The general estimated costs, excluding BTEC and some additional activities like residential ranged from around £20 per pupil for SJA to over £400 per pupil for the Fire Cadets.

What lessons can be learnt?
We learnt from this trial that setting up the units, maintaining them, and getting sufficient pupils to take part can be challenging. Here we summarise some suggestions for state secondary schools thinking of implementing such a programme.

When considering such a programme, schools need to make sure that they have the leadership support to ensure that the programme is given priority in terms of time, staff involvement and use of facilities. In this trial schools with strong leadership support were able to deliver the programme successfully and their pupils were perceived to have benefited much from the experience. For example, one Fire Cadet school reported 100% retention. Pupil behaviour and teamwork were described as outstanding. The enthusiasm of cadets was reported to be exceptional.

Schools must be willing to allocate a regular time for the programme. This time should be protected. In schools where this time was protected the units were able to complete the planned number of sessions. Where training time was not protected, other school activities often took priorities. For example, some schools used the time for detention classes. The school hall, which was used for some training, was often used for other extra-curricular activities as well. This can signal to pupils that the uniformed group activities are less important, affecting the morale of staff and pupils.

Schools also need to consider availability of and access to proper training facilities. For uniformed activities such as the Fire Cadets and the Sea Cadets accessibility to training facilities is essential, such as access to a fire hydrant or a suitable boating lake.

For effective implementation it is also important to consider what the optimum number of participants should be, which will depend on the capacity of the uniformed organisations and the availability of teachers within the school to oversee the training sessions. If the units are too large, it may be difficult to manage efficiently, and if they are too small it becomes unviable and not cost-effective.

Implications for research
The use of vignettes with less obvious socially desirable responses than an ordinal or Likert scale were successful, and perhaps show that what is needed now is research with better measures of social action outcomes than the self-reports adopted here and by the Cabinet Office. Such outcomes could be longer term life outcomes, such as employment, health, citizenship and general well-being. These long-term measures would involve tracking individuals along their life course, and funders must be willing to bear the greater expense of a more realistic approach to assessing the wider outcomes of schooling.

As this was a one-year intervention, with many units having fewer sessions than planned, some pupils did not have the full experience of being part of their respective uniformed organisations. Future research could look at whether continuous participation for three or more years yields stronger results. Long-term impact of school participation in uniformed activities in terms of employability could also be explored.

**Ethical concerns**

Opt-out consent was obtained from all participants. For the survey and interviews, participants were assured of confidentiality and anonymity, and that no individuals or schools will be identified or identifiable. The study was conducted in adherence to the British Educational Research Association’s ethical guidelines. The research had the ethical approval of Durham University’s ethics committee.

**References**


Kirkman, E., Sanders, M., Emanuel, N. and Larkin, C. (2016) Does participating in social action boost the skills young people need to succeed in adult life? *Evaluating Youth*


