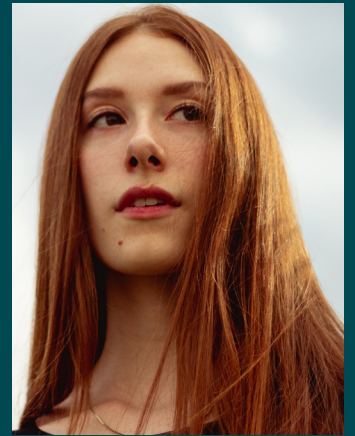


IN THE MIX WITH NCS



DOES A SUMMER OF MIXING WITH PEOPLE FROM DIFFERENT BACKGROUNDS HELP TO BUILD A MORE ENGAGED, TOLERANT AND CIVIC-MINDED GROUP OF YOUNG PEOPLE?

Jump x **mime** making information matter

A sub-group analysis of the NCS Survey 2016 & 2017 data



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This report was a collaboration between Jump Projects Limited and Mime Consulting Limited on behalf of the National Citizen Service Trust

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EXECUTIVE SUMMARY





Overview

National Citizen Service (NCS) is a government-backed initiative that brings together young people from different backgrounds, aged 16-17, to engage in a programme of activities encouraging personal, social and civic development. Around half a million young people had participated by the end of 2018.

In spring 2019, NCS Trust commissioned independent analysts Jump Projects Limited and MIME Consulting Limited to explore the programme's specific impact on social mixing, cohesion and engagement outcomes. The work builds on previous research^[1] which found that NCS can help in overcoming barriers to social integration among young people, and has an even greater impact on those who come to the programme less socially integrated to begin with.

This latest research examines the impact of the programme on its 2016 and 2017 summer cohorts, with a deeper focus on the extent to which the programme is benefiting particular groups of young people; whether according to their ethnicity, gender, disability or their socio-economic status. It is focused on an analysis of data from the DCMS-commissioned annual NCS Survey^[2].

Key findings

On balance, the findings demonstrate that the combination of mixing young people from different backgrounds, alongside a core curriculum of activities focused around social and democratic engagement, has a positive impact on young people who participate in the NCS programme. Across the range of measures examined - with the exception of just one - the analysis shows a marked improvement for NCSers post-programme, when compared to a group of similar young people who did not take part.

The work also demonstrates that the effect of the programme is greater for those NCS participants who start from a lower base across a majority of these same measures - i.e. the distance travelled between participants' survey answers before and after the programme is greater for those who start out with lower levels of social engagement and cohesion to begin with.

The programme appears to have greater positive impact on certain groups of NCS participants than others. This is especially the case for female participants, those from more economically disadvantaged backgrounds^[3], who are disabled or who are Black, Asian and Minority Ethnic (BAME). There are a number of measures where these groups show a particularly marked improvement.

Taking the core measures of interest in turn, the report highlights the following:

Agency and democratic engagement

NCS aims to support young people to feel like they can impact the world around them (referred to as agency in this report), and to encourage them to engage in the democratic process.

There are significant and positive improvements in NCS participants' feelings about whether they feel able to impact the world around them, deal with a problem in their local community and understand who has influence in their community as a result of attending the programme. Most of the sub-groups examined demonstrate an improvement, but of note is the sense of increased agency the programme gives to female participants, along with participants who have a disability. There is more of a mixed picture according to ethnicity. The biggest net benefits are most consistently felt by Black participants, and also those from a White background. However, we are unable to point conclusively to any improvement for Asian participants as a result of their engagement with the programme.

» 1

Meeting, Mixing, Mending: How NCS impacts young people's social integration, James Laurence, February 2018. This report looked at the impact of NCS using 2015 NCS Survey data.

» 2

The NCS Survey: An annual survey commissioned by the Department for Digital, Culture, Media & Sport, which is used to evaluate the impact of the programme. It consists of a survey run with participants attending the Summer and Autumn programmes, and a matching control group, both before the start of programme and approximately three months after completion. It is run by independent researchers Kantar Public. This report uses survey data related to the 2016 and 2017 summer programmes.

» 3

This includes measures related to the Index of Multiple Deprivation and eligibility for Free School Meals.

There is also positive change - albeit smaller - when it comes to NCS participants' likelihood to vote as a result of attending the programme. This is felt more strongly among those living in more economically deprived communities. However, among the different ethnic groups examined, the benefit of the programme here is only evident among White participants, with none identified for BAME groups.

Social engagement

The NCS programme aims to promote an engaged society by enabling young people to understand and deliver social action in their communities. To that end, the NCS Survey asks respondents about their participation in youth groups, and questions around both formal volunteering (e.g. giving time to help groups or organisations, giving money or organising a petition) and informal volunteering (helping others outside their family).

The findings show a significant and positive increase in the proportion of NCS participants taking part in youth groups and activities after participating in NCS. There is also a significant increase in the proportion of NCS participants who report having helped others (both formal and informal volunteering)^[4].

Whilst NCS appears to encourage participants to get more involved in their community, this is not universal across all groups. Amongst the sub-groups examined, participants from a White background consistently experience a positive increase in social engagement. Female participants also appear to benefit particularly well from the programme across these measures. However, for BAME groups it is a more mixed picture. For example, there is little or no significant benefit observed for participants from a Black ethnic background on the outcomes looked at.

Social cohesion

NCS also aims to promote a more cohesive society by mixing people from a range of backgrounds. The NCS Survey accordingly asks young people to report on their confidence in meeting new people, their attitudes towards those from a range of backgrounds - some different to their own (referred to in this report as tolerance) - their trust in others, and how they perceive levels of cohesion in their own community.

The NCS programme has a clear benefit in improving the perception that people from a range of backgrounds get on well together (so-called 'community cohesion') for most of the sub-groups examined.

Alongside a positive increase in sense of cohesion and increased participation in society through groups and volunteering, the report finds small but significant improvements in tolerance towards others. NCS participants' levels of tolerance - measured according to the extent to which they would feel comfortable with a friend or relative going out with someone from a range of different backgrounds, or who are gay or lesbian, or disabled - already start at relatively high levels. But, they do increase slightly following participation in NCS across five of the six backgrounds asked about^[5]. This positive increase in tolerance is particularly notable, relatively speaking, for the Asian demographic. The report also finds sizeable improvements in participants' confidence in meeting new people (as much as +10 to +15 percentage points) as a result of attending the programme.

Despite this, there is no impact observed on general trust in others. The suggestion here is that levels of trust are harder to shift through NCS, possibly because there may be broader environmental influences at play that operate outside the influence of the programme. It is also worth considering that the positive impact on social engagement (group participation, volunteering) observed is likely to build a greater sense of trust in the longer-term (recent work has shown that volunteering has positive associations with social cohesion outcomes for young and old)^[6].

» 4

Note that there is a risk that in the follow-up survey participants included their participation in NCS activities when considering this question.

» 5

NCS Survey question asks: "Please use this scale to show how you would personally feel about a close relative or friend going out with someone from the following backgrounds:

- Different school or college to you
- Different race or ethnicity to you
- Different religious background to you
- Richer or poorer background to you
- Who is gay or lesbian
- Who is disabled

Scale: 'Very uncomfortable' (0) to 'Very comfortable' (10)."

The report finds small net benefits for all of the backgrounds asked about apart from 'different school or college to you'.

» 6

The ABC of BAME: New, mixed method research into Black, Asian and minority ethnic groups and their motivations and barriers to volunteering, Jump Projects Ltd, January 2019.

Research on large UK national datasets has shown that volunteering is associated with higher levels of trust and social cohesion on a range of demographic groups.

INTRODUCTION

Background

National Citizen Service (NCS) is a government-backed initiative that brings together young people from different backgrounds, aged 16-17, to engage in a programme of activities encouraging personal, social and civic development.

The programme is designed to help young people build skills for work and life, while taking on new challenges and making new friends. By the end of 2018, around 500,000 young people had participated in NCS.

By bringing together young people with a diverse range of perspectives, attitudes and experiences, NCS aims to promote:

- **a cohesive society**, by mixing young people from a range of backgrounds;
- **a responsible and mobile society**, by supporting the transition into adulthood and development of employment skills such as teamwork, leadership and communication; and
- **an engaged society**, by enabling young people to understand and deliver social action projects in their communities and enhancing their involvement in the democratic process.

In spring 2019, NCS Trust commissioned independent analysts Jump Projects Limited and MIME Consulting Limited to explore the programme's specific impact on **democratic and social engagement** and on **social mixing and cohesion outcomes**.

In measuring whether the NCS programme works, previous evaluations^[7] have focused largely on the average impact of NCS on a range of cohesion and engagement outcomes. They have shown the programme to have demonstrably resulted in a number of positive outcomes for young people. Yet, young people joining the programme can face a range of barriers when it comes to mixing together and engaging, which can result in varying levels of programme impact on them.

Research rationale

In *The Mix* builds on previous research^[8] looking at the 2015 NCS cohort. This found that NCS can help in overcoming barriers to social integration among young people, and has an even greater impact on those who come to the programme less socially integrated to begin with.

This latest research explores a range of outcomes related to agency and democratic engagement, social engagement, social mixing and cohesion to understand how the programme is impacting the young people who take part using data collected from the most recent intakes of NCS participants. By digging deeper into two years' worth of existing NCS evaluation data (pooled from the 2016 and 2017 summer cohorts) *In The Mix* seeks to examine:

- whether NCS is effectively supporting its young participants in becoming more **socially engaged, civic-minded and integrated citizens**;
- whether the programme has a bigger impact on those young people who start with **lower levels** of these things to begin with, and
- how the impact of NCS is consistent or varies among **different groups of young people**, whether according to their ethnicity, gender, disability or their socio-economic status.

In doing so, this work aims to provide additional insight into the distinct pathways to impact that NCS has at different entry points in society.

» 7

The NCS Survey: An annual survey commissioned by the Department for Digital, Culture, Media & Sport, which is used to evaluate the impact of the programme. It consists of a survey run with participants attending the Summer and Autumn programmes, and a matching control group, both before the start of programme and approximately three months after completion. It is run by independent researchers Kantar Public. This report uses survey data related to the 2016 and 2017 summer programmes.

» 8

Meeting, Mixing, Mending: How NCS impacts young people's social integration, James Laurence, February 2018. This report looked at the impact of NCS at a more granular level using 2015 NCS Survey data.

Methodology

The Department for Digital, Culture, Media & Sport (DCMS), NCS's sponsoring government department, commissions Kantar Public to evaluate NCS by means of a survey that is conducted annually. The survey is run with both NCS participants and a control group of young people who did not undertake the programme, in order to establish shorter-term impact. Young people are asked to complete the survey prior to NCS and then again approximately three months afterwards.

This report consists of secondary analyses drawing on two years' worth of pooled data from the 2016 and 2017 NCS Surveys conducted with NCS summer participants (and their equivalent control group). This larger dataset provides increased overall sample sizes, enabling more detailed analyses to be conducted. The outcomes included in the analyses are drawn from the relevant questions asked in the 2016 and 2017 surveys, where they were identified as helping to understand attitudes and experiences around engagement, mixing and cohesion.

To assess whether NCS has different levels of impact for different groups of young people, the data has been tested with difference in differences (DiD) analysis consisting of two key stages:

- **Distance travelled analysis** - Conducted to determine the impact of NCS on young people on measures of democratic and social engagement, social mixing and cohesion. This involved identifying increases in the outcomes from before participating in NCS to after NCS for the treatment group of 4,486 NCS participants, as well as for a control group of 1,836 similar young people who did not participate in the programme. The charts show the weighted averages of the relevant outcomes for the participant and control groups pre- and post-NCS. **These are presented as line charts in the report.**
- **Regression analysis** - This multivariate regression analysis, conducted in line with best practice in quasi-experimental analysis detailed in [HM Treasury Magenta Book](#), allows conclusions to be drawn about the correlation observed in the data between NCS participation and an improvement in the outcome, controlling for a respondent's demographic characteristics. This gives us more confidence that the positive change can be attributed to the young person's participation in the NCS programme rather than some other factor. **These are presented as bar charts in the report.**

» 9

These variables were available to use across both 2016 and 2017 datasets and where sufficient sample sizes enabled reporting of statistically significant results. Special Educational Needs, while previously recorded in the main Kantar NCS Survey evaluation, was not available across both datasets and therefore is not included in the pooled analysis. More detail on these and other control variables are provided in [Appendix 6](#).

To understand if NCS has a greater impact for particular groups of young people, models have been run that split the estimate of the effect of NCS by sub-group. The demographic sub-groups detailed in this report are as follows^[9]:

- Index of multiple deprivation (IMD)
- Free school meals (FSM) eligibility
- Gender
- Ethnicity
- Disability

This data is collected in the surveys and are key characteristics that might typically affect the particular social outcomes that this piece of analysis focuses on. The bar charts show the coefficients from regression-augmented DiD analysis. The results for sub-groups are from interactive models on the full 2016/2017 sample (not split-sample). Sample weights from the Kantar NCS Survey analyses are included to match the control sample to the treated, and match the treated (participant) sample to the NCS participant population. Further detail on the sub-groups and how they break down in the sample analysed is detailed in [Appendix 7](#).

This analysis enables the groups of young people who have travelled the furthest distance on key outcome measures following programme participation to be pinpointed, and therefore which groups NCS has had the greatest impact on.

A full technical explanation of the methodology and analysis approach is set out in the Appendices. [Appendix 9](#) outlines important limitations to note in the methodology adopted.

Key terms

The following key terms are used throughout this report:

- **Average score**^[10]: Each question has a response scale. Each response in the scale has been assigned a value between 0 and 100. Average scores for each question use this 0 to 100 scale. For example:
 - › **For Yes/No questions:** Yes=100 and No=0. If there are 10 respondents, with 6 of them answering 'Yes' and the other 4 answering 'No', the average score will be 60%: $(6*100+4*0)/10$.
 - › **For agree/disagree questions:** Strongly agree=100, Agree=75, Neither agree or disagree=50, Disagree=25, Strongly disagree=0. Out of 10 respondents, if 4 strongly agree, 3 agree and 3 disagree, the average score will be equal to 70%: $(4*100 + 3*75 + 3*25)/10$.
- **Baseline scores**^[10]: Split into low ($\leq 30\%$ of the possible maximum), medium (between 30 and 70% of the possible maximum) and high ($>70\%$ of the possible maximum).
- **Control group:** Baseline and follow-up surveys were completed by a number of young people who chose not to participate in the NCS programme, in order to compare responses to those who did (the treatment or participant group). They are made up of young people who expressed an interest in participating in NCS, topped up with sample from an online panel.
- **Participant:** A young person who has taken part in the NCS programme and has completed the baseline and follow-up summer 2016 or 2017 surveys.
- **Respondents:** Anyone who responded to both the baseline and follow-up surveys from either the participant group or the control group.
- **Distance travelled:** Change in outcome levels between baseline and follow-up survey within the relevant treatment/control group.
- **Difference in differences (DiD):** The analysis looks at the change in score for an outcome before and after NCS for programme participants (the treatment group), and compares this to the before and after scores for the control group. The result is known as a "difference in differences" estimate of the effect of NCS on that outcome.
- **NCS net benefit:** The regression analysis produces a number that represents the association between the change in the outcome and being an NCS participant. Where this number is positive it can be seen as a net benefit of participation in NCS.
- **Regression:** An econometric technique that is used to ensure that any observable differences in the characteristic profile of the participant and control samples were taken account of in the estimation of the NCS effect and statistical significance calculations. This helps to isolate whether the effect observed was due to NCS participation and not other factors.
- **Outcome:** These are the actions, behaviours, attitudes and feelings in young people that NCS is looking to affect with the programme, e.g. participation in groups, helping others, likelihood to vote, confidence.
- **Percentage points (% points):** The difference in average scores for each question before and after participation in NCS on a 0-100 scale, where 0 is the worst possible value of the outcome and 100 is the best.
- **Statistical significance:** In this report, any difference with a 95% or higher likelihood of being a result of NCS participation is reported as being statistically significant. Significant results are reported as 'net benefit' or a 'positive effect' and this indicates a statistically significant change over time for the NCS participant group in the outcome of interest, compared to the control group.
- **Weighting:** The control and participant sample sizes are adjusted in DiD analysis using a weighting originally derived by Kantar to ensure that the participant sample is comparable to the NCS participant population and that the control group is comparable to the participant group.
- **Index of Multiple Deprivation (IMD):** A UK Government quantitative study which ranks English local areas according to their deprivation levels.

» 10

The detailed correspondence between the initial response categories, the rebased average scores, and the baseline score sub-groups can be found in [Appendix 5](#) of this report.

CHART 1

Change in involvement in formal volunteering activities over time

How to interpret the analysis

This section aims to support the reader in understanding how to interpret the analysis, using a worked example. 'Chart 1' example shows the weighted mean difference experienced by NCS participants compared to the control group. 'Chart 2' example reveals the benefit in this change due to participating in NCS, estimated with more robust regression-augmented DiD analysis.^[11]



The chart titles are displayed in the top left and top right side of each page and correspond to the number represented beside the chart.

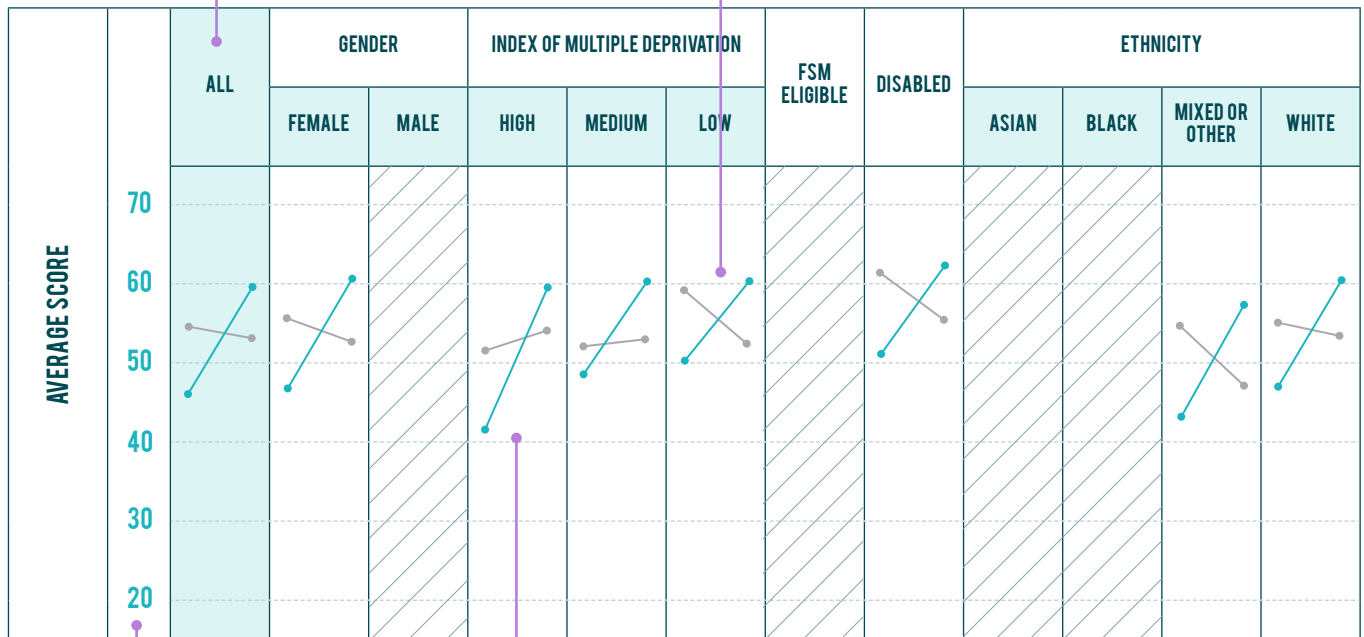
Line charts show the before and after trends for the treatment group of NCS participants and the control group. These show distance travelled within each group, but are not subject to statistical tests between the groups, so cannot be interpreted as the net benefit of NCS.



Scores for total sample (all) and different sub-groups are shown in each column.

EXAMPLE

1



2. "Have you given your time to help in any of the following ways outside of school or college hours in the last three months?" (Includes help at local club, contacted media/council/school, raising money for charity, helping others, helped out other organisations, organised a petition) Scale: 'No' or 'Yes'

The axis shows the average score for each question.

See [Appendix 5](#) for how scores are re-based from 0 to 100. Charts have been truncated - in this instance from 20 to 70 to conserve space and because no results were recorded outside of this range.

The blue lines show the average scores for NCS participants while the grey shows the control group.

The left hand data point reflects the average score in the baseline survey, and the right-hand data point reflects the score in the follow-up survey. **This reveals the weighted change over time ('distance travelled') for NCS participant and control groups.**

The specific question from the 2016 & 2017 NCS Surveys is shown, along with the scale used for responses.

Note: The original scales are rebased from 0 to 100 for consistency between questions (see [Appendix 5](#)). Where a question is asked only in one survey this is indicated.

Calculating net benefits

Net benefit scores are based on regression-augmented DiD modelling between the participant group and the control group. This means regressing the difference between the baseline and follow-up average outcome scores between those in the NCS participant group and those in the control group, controlling for (holding constant) a series of demographic controls that may also drive outcome levels (known as 'confounders'). This quasi-experimental regression technique provides greater confidence that the effect detected is actually associated with NCS participation.

CHART 2

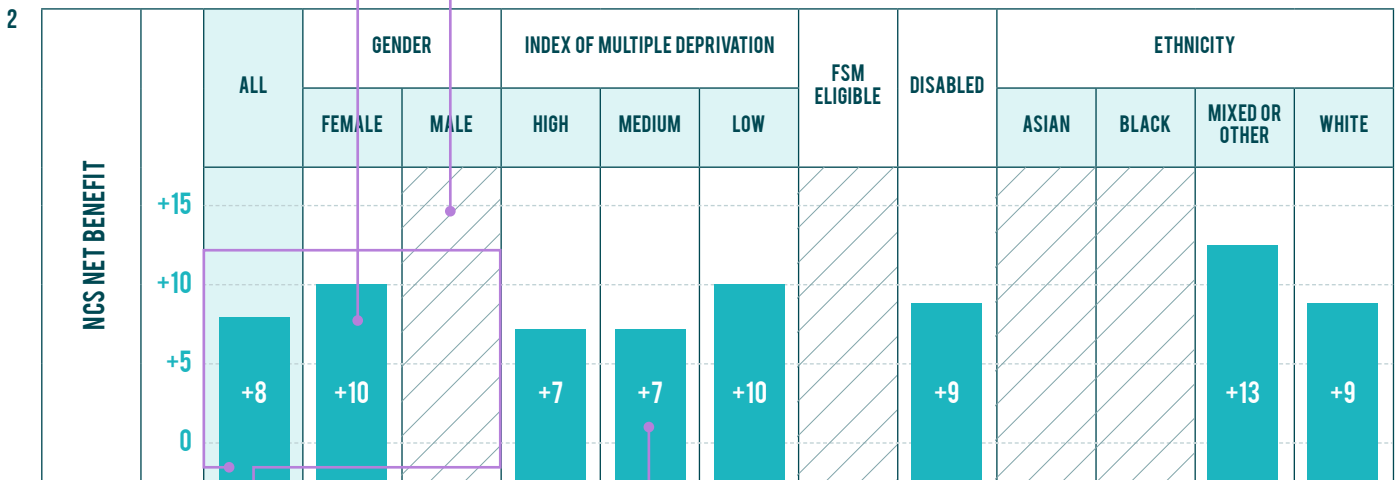
Net benefit of NCS participation vs control (% points)

The net benefit score shows DiD results e.g. for females this is the benefit related to the outcome (such as giving an increased amount of time to helping at a local club) associated with being a female NCS participant as opposed to a female control group respondent, which in this case equals +10% points.

Sub-groups that do not show a statistically significant difference between the participant and control group ('Not Sig') will be blocked out like this on the bar chart and will not have a line chart.

Note: Non-significant results indicate that there is a non-negligible probability that the difference observed between treatment and control groups could have been caused by random chance. As such no clear conclusions can be made on the impact of NCS on these sub-groups within the data.

EXAMPLE



In this example, the association between NCS and formal volunteering is significant across all the NCS participant sample (+8% points). The effect is greater for the female sub-group (+10% points) while for males we cannot conclusively say there is a net benefit, as it is not statistically significant and, therefore, not displayed.

Note: We did not run statistical tests to account for the differences between sub-groups, so the report does not aim to highlight comparisons between, in this instance, male vs. female participants.

All statistical tests relate to the difference between the NCS treatment group and the control group, within each sub-group. In this example, the overall and female results are statistically significant at the 95% confidence level, whereas the male result is not (as demonstrated by the fact that it is blocked out). Net negative effects are coloured in red (see chart 26).

The bars show the % point difference between the baseline to endline change in outcome levels in NCS participants in each sub-group and the equivalent change in the control sample of the same sub-group, using regression calculations.

This can be seen as the 'net benefit' to participating in NCS.

» 11

Note: The line values and the values in the bar charts are calculated in slightly different ways. The line charts present weighted before and after averages for the participant and control groups, whereas the numbers in the bar charts are the result of regression analysis with control variables and sample weights. This means that the DiD of the line values do not exactly match the net benefit score in the bar chart. As the bar chart values use a more statistically robust calculation, they are a better indicator of the net benefit of NCS, whereas the line values should be used as an illustration based on weighted information on the start and end points.

AGENCY & DEMOCRATIC ENGAGEMENT





One of the key objectives of the NCS programme is to support young people in understanding their ability to impact the world around them (referred to as agency in this report) and to enhance their involvement in the democratic process.

Within NCS there are distinct elements of the curriculum that address these topics. This section analyses whether young people report improvements in these areas as a result of taking part in the programme.

It shows that there are significant and positive improvements in young people's feelings about whether they feel able to impact the world around them, deal with a problem in their local community and understand who has influence in their community as a result of attending the programme. Most of the sub-groups examined demonstrate an improvement, but of note is the sense of increased agency the programme gives to female participants in particular, along with participants who have a disability.

There is more of a mixed picture according to ethnicity. The biggest net benefits are most consistently felt by Black participants, and also those from a White background. However, we are unable to point conclusively to any improvement for Asian participants as a result of their engagement with the programme.

There is also positive - albeit smaller - change when it comes to young people's likelihood to vote. This is particularly the case in more economically deprived communities, though when it comes to ethnicity, among the different BAME groups examined, the benefit of the programme is less evident.

CHART 3

Change in sentiment about feeling able to impact on the world around them over time

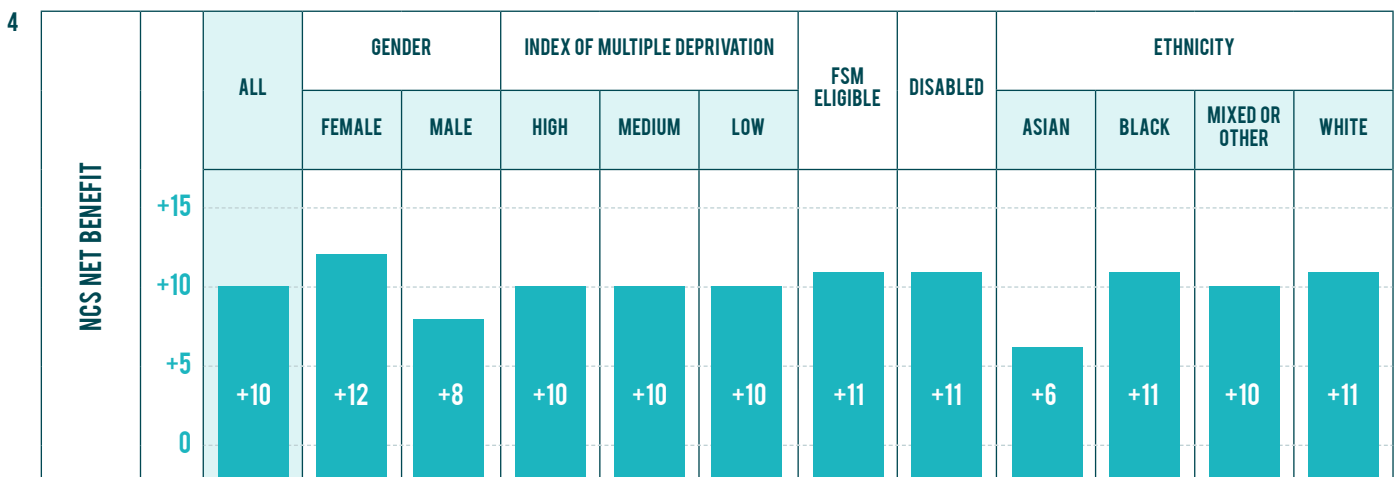
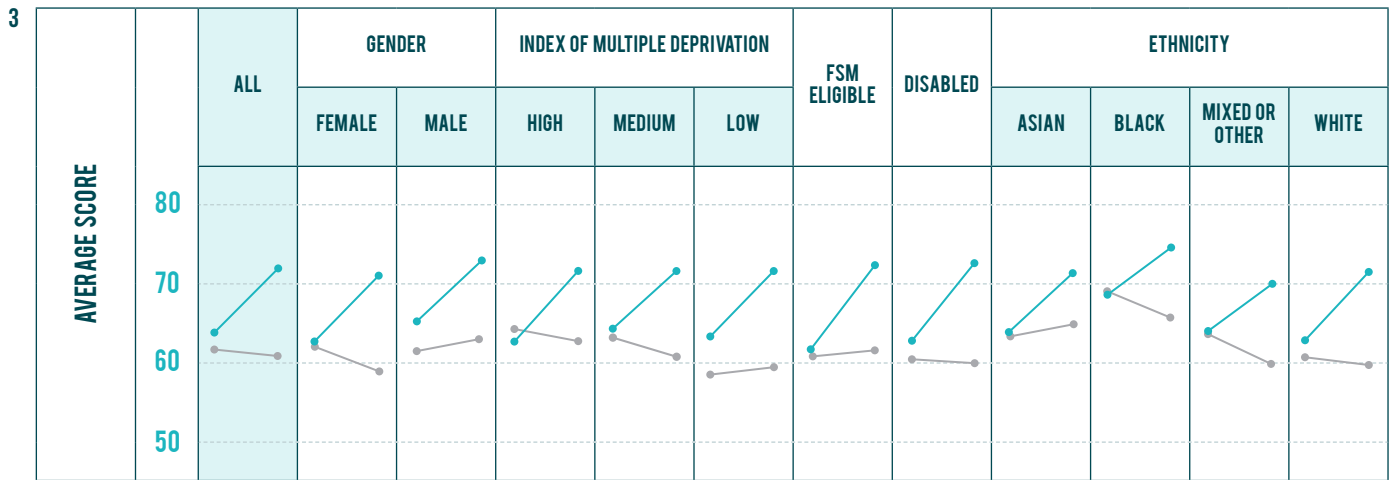
Ability to have an impact on the world

NCS participants' sense of being able to have an impact on the world around them is positively affected by their involvement in NCS.

- The NCS programme can be seen to provide a boost to participants' feelings of agency; specifically their feeling that they can have an impact on the world around them.
- Overall, there was a net benefit of 10% points for this outcome among NCS participants, compared to the control group.
- While significant increases were evident across all sub-groups examined on this measure, female participants experienced the greatest improvement: a net benefit of 12% points, suggesting the NCS programme could be of particular benefit to this group when it comes to improving their sense of agency.
- Participants living in the most deprived regions started with a lower sense of agency compared with their equivalent control group. However, NCS participants from across all deprivation levels showed significant improvements in their sense of agency as a result of the programme (10% points).

CHART 4

Net benefit of NCS participation vs control (% points)



5(a). "How much do you agree or disagree with the following statement? - I feel able to have an impact on the world around me." Scale: 'Strongly disagree' (1) to 'Strongly agree' (5)

Understanding who has influence in local area

Overall, understanding of who has influence in their local area improves after NCS, with participants from Black and Mixed ethnic backgrounds experiencing the greatest benefits.

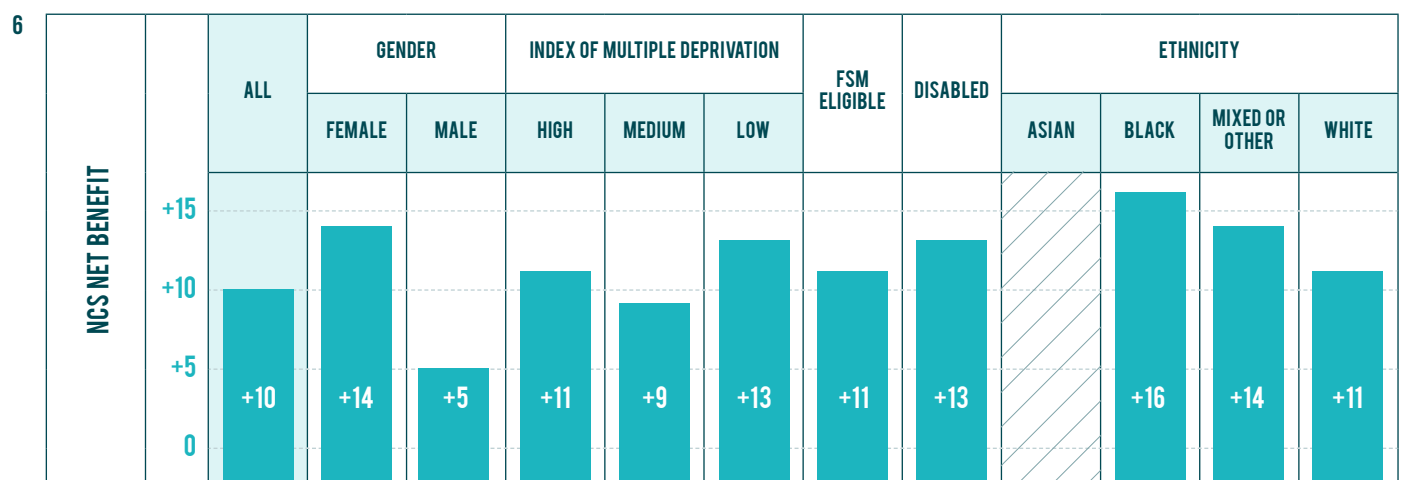
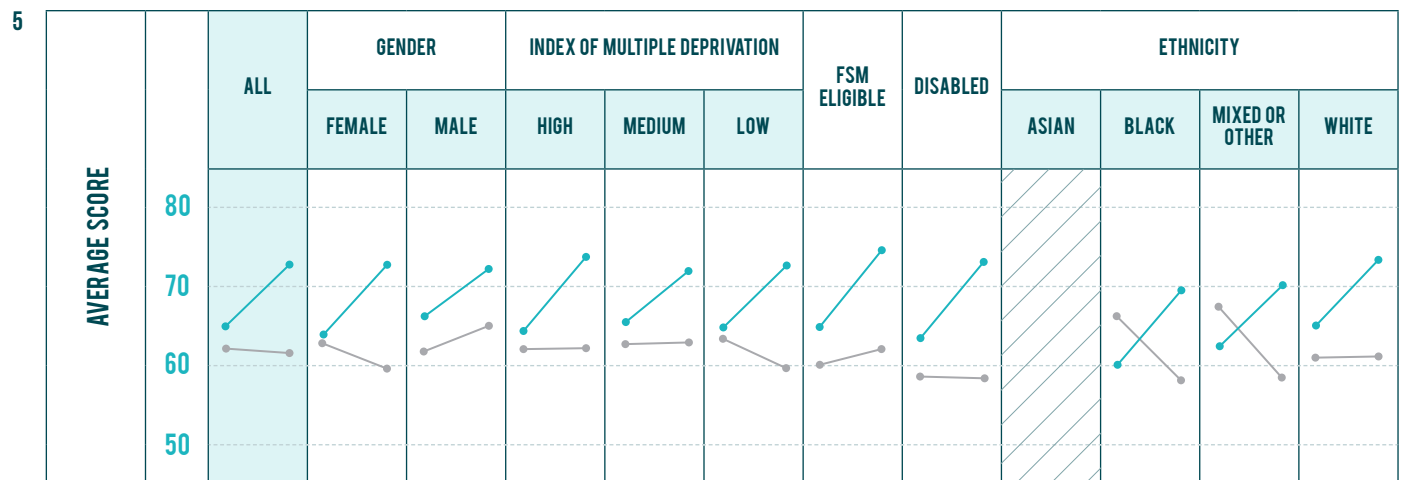
- NCS can be seen to further increase participants' sense of agency by improving their awareness of the organisations and people who have influence in their local area.
- Overall, there was a net increase in agreement levels for this measure of 10% points compared to the control group. And there is a net benefit across almost all of the sub-groups included in the analysis.
- Female NCS participants again experienced a far greater increase (+14% points) in terms of their understanding of who has influence as a result of the programme.
- There is a more mixed picture when it comes to ethnicity. The biggest net benefit is seen among NCS participants from a Black ethnic background: a net benefit of 16% points compared to their equivalent control group. However, it is worth noting that their initial levels of understanding, before participating in the programme, were 6% points lower than their equivalent control group, and the line charts show that Black ethnic groups increased over time while their equivalent control group decreased considerably. White and Mixed/Other participants also show a net benefit (of +11 and +14 % points respectively). However, the analysis is unable to conclusively show a net benefit among Asian participants

CHART 5

Change in understanding of who has influence in one's local area over time

CHART 6

Net benefit of NCS participation vs control (% points)



5 (b). "How much do you agree or disagree with the following statement? - I understand the organisations and people that have influence in my local area." 'Strongly disagree' (1) to 'Strongly agree' (5) Note: this question was asked in 2016 only, and so only draws on 2016 survey data.

Knowledge of how to deal with local problems

CHART 7

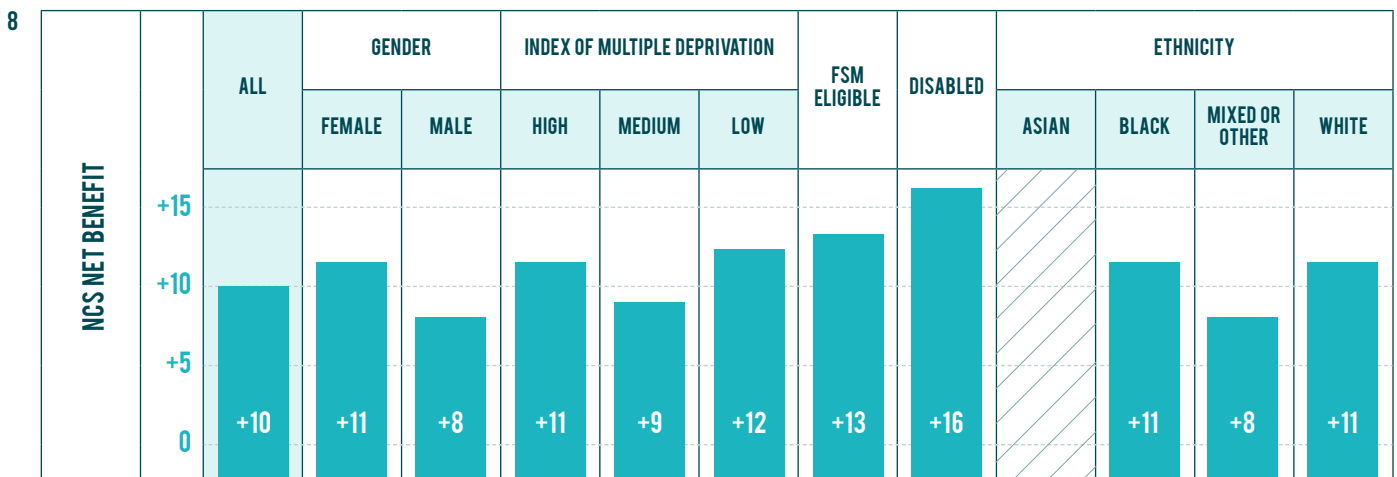
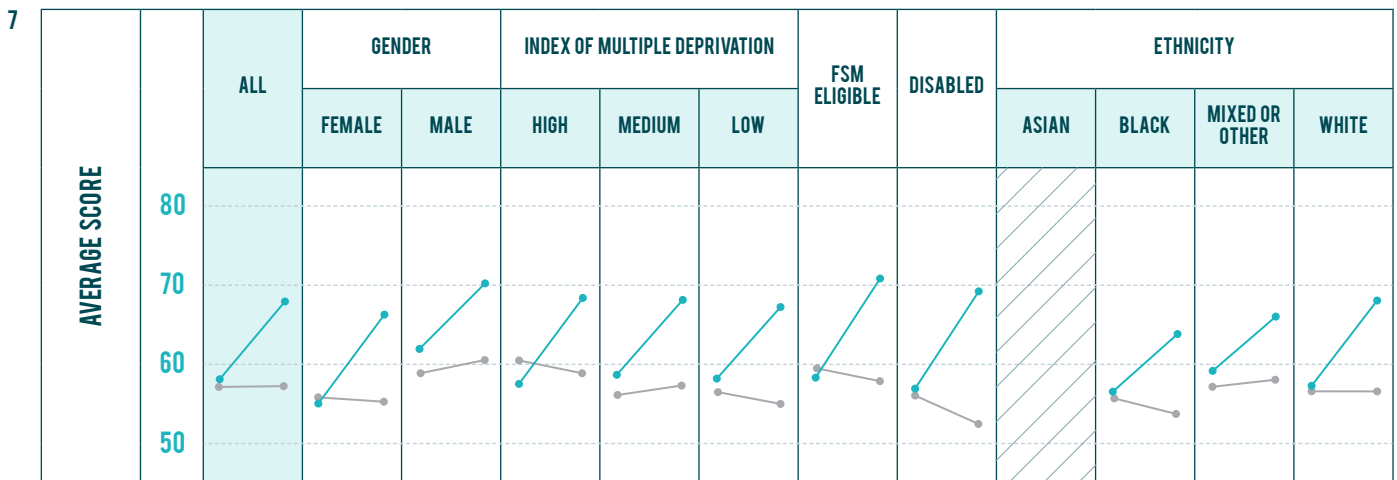
Change in knowledge of how to deal with problems in one's local area over time

NCS participation is positively associated with increasing levels of knowledge in how to deal with problems locally, especially for disabled participants.

- NCS can be seen to empower young people further by improving their understanding of how to deal with a problem in their local area if they wanted to.
- This was demonstrated by an overall increase of 10% points compared to the control group for this measure.
- Improvements in this area were seen for almost all sub-groups examined, with the most sizeable impact seen among NCS participants with a disability. This group reported an increase of 16% points as a result of attending the programme compared to their equivalent control group.
- Female participants, while starting from a lower baseline, also showed a strong net improvement (+11% points), suggesting not only that they have a potentially greater need for confidence-boosting activities provided by NCS, but also that they stand to benefit more from participation in the programme when it comes to improving their sense of agency.
- NCS participants in the most deprived areas had the lowest levels of awareness of how to deal with problems local to them prior to going on NCS, and showed greatest distance travelled. This translated into a +11% point net benefit among this group. This is further reflected in the FSM eligible group who show a considerable net improvement (+13% points).
- Again, there is a more mixed picture among the different ethnic groups examined, with participants from both White and Black backgrounds showing a net improvement of +11% points. However, the analysis was unable to demonstrate a clear net benefit for Asian participants.

CHART 8

Net benefit of NCS participation vs control (% points)



5(d). "How much do you agree or disagree with the following statement? - I would know how to deal with a problem in my local area if I wanted to." Scale: 'Strongly disagree' (1) to 'Strongly agree' (5)

Likelihood to vote

NCS is positively associated with increases in democratic engagement among participants across a range of backgrounds, though this is not the case for those from a BAME background.

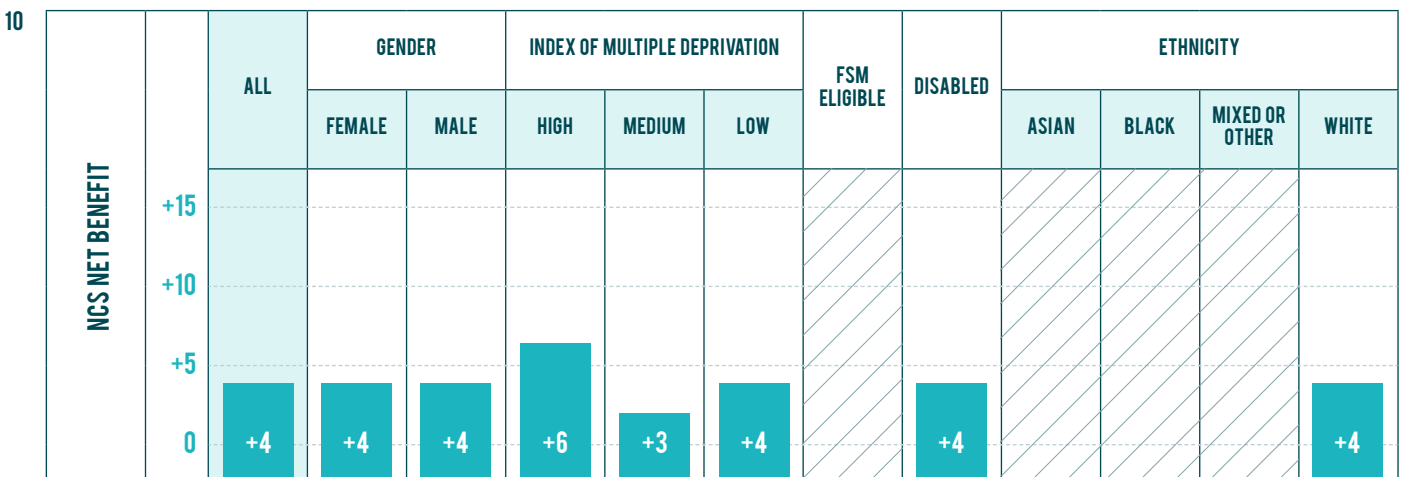
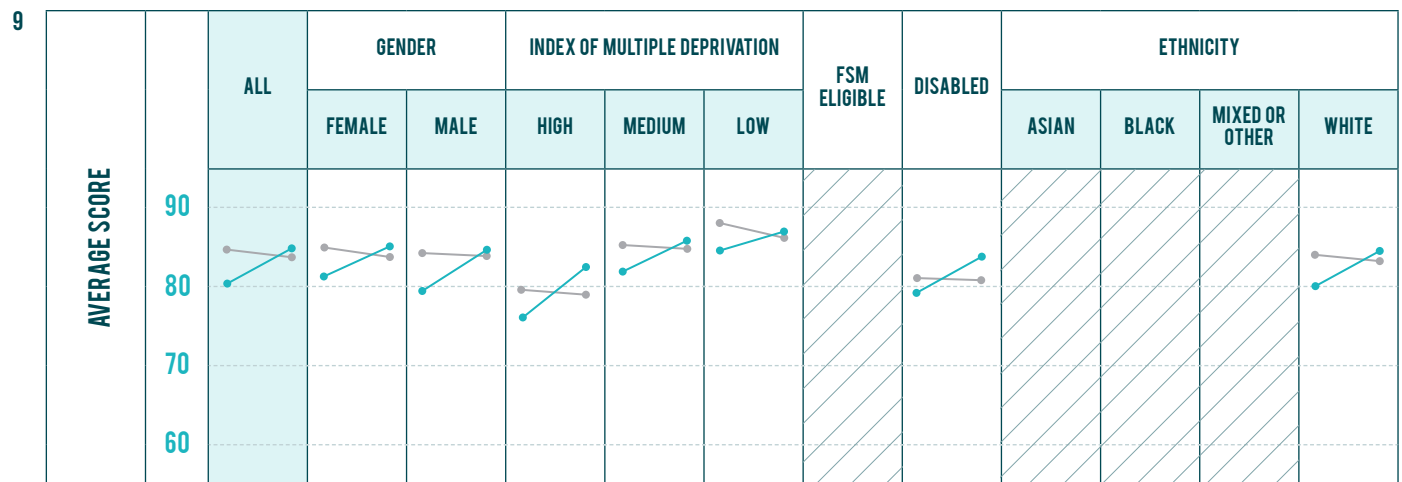
- NCS appears to encourage young people from different backgrounds to engage in the democratic process.
- Overall, NCS participants' likelihood to vote increased by 4% points after taking part in the programme, while the control group remained level over time. However, NCS participants showed lower levels of democratic engagement prior to going on the programme, meaning they had greater room for improvement.
- Positive movements were seen among NCS participants regardless of their gender or deprivation level, compared with their counterparts who had not been on the NCS programme, and young people with a disability also saw improvements.
- Among the ethnic groups examined, White participants were the only group to show significant improvements in likelihood to vote over time. Among NCS participants from a BAME background, the analysis is unable to detect an impact from the programme in terms of encouraging these groups to vote.
- Those from the most economically deprived areas had the lowest propensity to vote initially, but travelled furthest over time. Young people from these areas had the greatest shifts when it came to democratic engagement, with their net likelihood to vote increasing by 6% points after NCS participation.
- While many sub-groups did experience a positive net benefit here, improvements are somewhat smaller than for other measures in this section, and results are insignificant for four groups. This may be because the starting positions (baseline scores) are considerably higher than for other measures.

CHART 9

Change in likelihood to vote over time

CHART 10

Net benefit of NCS participation vs control (% points)



6. "At the next General Election where you are old enough to vote, how likely are you to vote?"
Scale: 'Absolutely certain not to vote' (1) to 'Absolutely certain to vote' (10)

SOCIAL ENGAGEMENT





The NCS programme aims to promote an engaged society by enabling young people to understand and deliver social action in their communities.

To that end, the NCS Survey asks respondents about their participation in youth groups, and questions around both formal volunteering (e.g. giving time to help groups or organisations, giving money or organising a petition) and informal volunteering (helping others outside their family). This section reports on whether NCS helps to improve participants' levels of engagement in their community.

It finds a significant and positive increase in the proportion of young people taking part in youth groups and activities after participating in NCS. There is also a significant increase in the proportion of NCS participants who report having helped others (both formal and informal volunteering).

Whilst NCS appears to encourage participants to get more involved in their community, this is not universal across all groups. Amongst the sub-groups, participants from a White ethnic background consistently experience a positive increase in social engagement. Female participants also benefit particularly well from the programme across the measures. However, for BAME groups it is a more mixed picture (with no significant net benefit witnessed for participants from a Black ethnic background for the outcomes looked at).

CHART II

Change in participation in youth groups or other extra-curricular activities over time

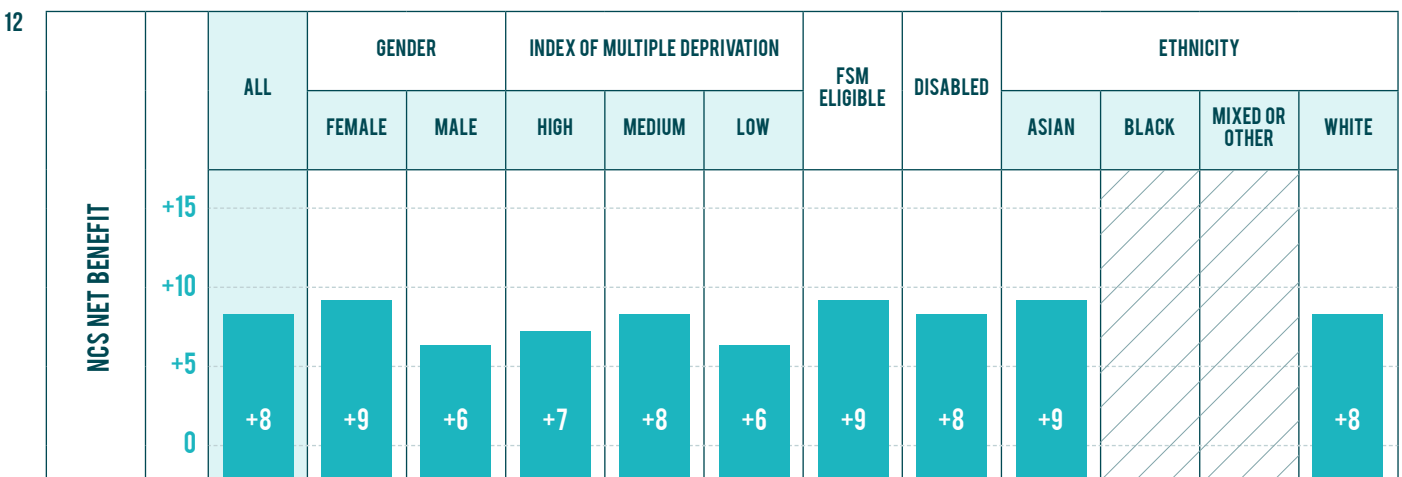
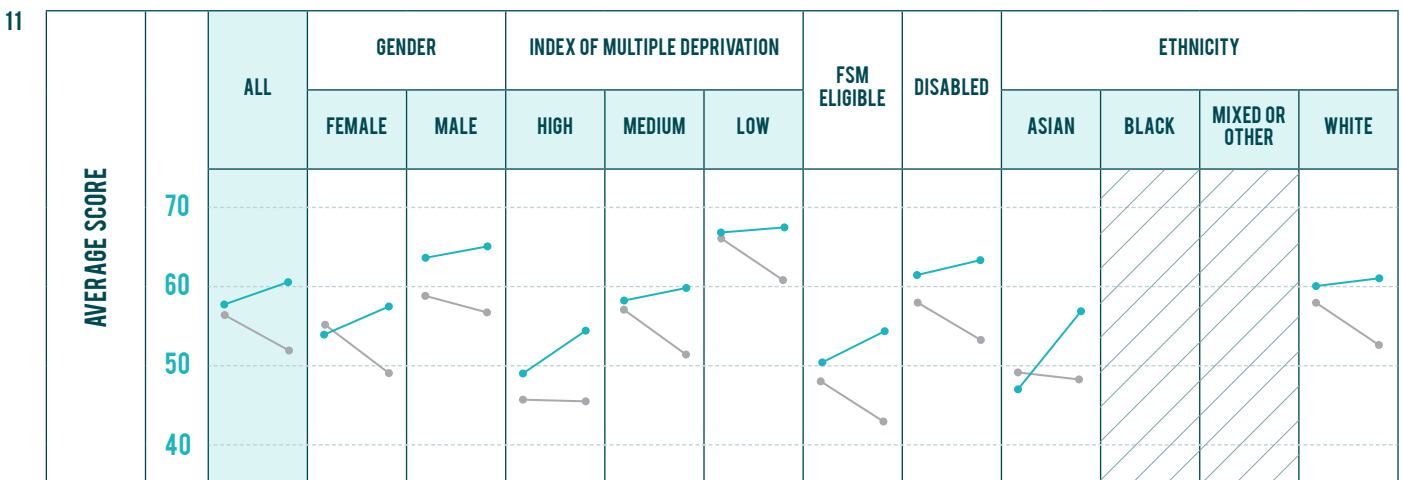
Participation in youth groups and activities

NCS participation is associated with positive shifts in participation in youth groups and other activities.

- NCS participation encourages young people to engage more in activities in their local community.
- Participants reported increased levels of involvement in youth groups or activities after taking part in the programme, with a net benefit of 8% points when compared to the control group.
- A positive shift in engagement is evident across most of the sub-groups examined, whereas a decrease in participation was witnessed in the respective equivalent control groups. The control groups' decline should be kept in mind when considering the magnitude of the net benefit in this section.
- Ethnicity presents more of a mixed picture. Participants from an Asian background appear to have been particularly encouraged to participate in youth groups and activities as a result of NCS: a net benefit of 9% points, compared to their equivalent control group. However, there was no significant change seen for the other BAME categories. Of all the ethnic groups, Asian participants started with the lowest level of engagement prior to NCS, and travelled the furthest distance.
- Also notable is the +9% point net benefit for participants eligible Free School Meals.

CHART I2

Net benefit of NCS participation vs control (% points)



1. "Have you taken part in any youth groups or activities such as sports clubs, dance or drama clubs, scouts/guides or cadets outside of school or college hours in the last three months?" Scale: 'No' (0) 'Yes' (1)

Formal volunteering – giving time to help groups and organisations, giving money or organising a petition

NCS helps to promote formal volunteering outside of school or college, with some groups more likely to give time to helping groups or organisations - though this is not the case for all.

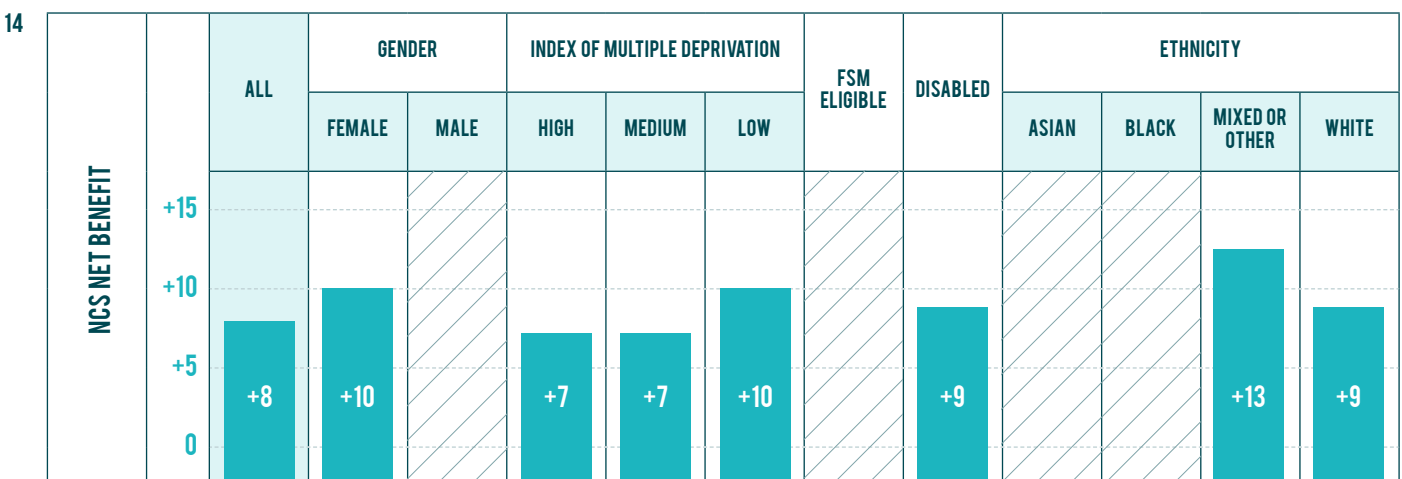
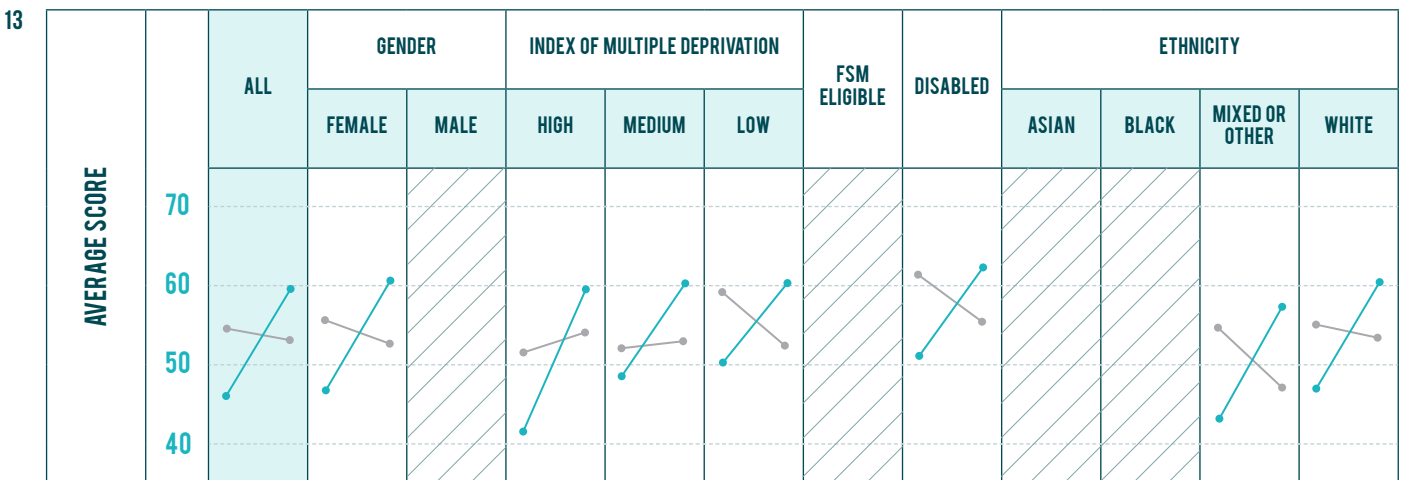
- NCS appears to boost participants' motivation to formally volunteer in their communities outside of school or college hours.
- Overall, the likelihood of NCS participants taking part in any formalised volunteering activities¹² increased by 8% points when compared with the control group.
- A number of sub-groups experienced significant improvements compared to their equivalent control group, with the largest net benefit being for participants from a Mixed/ Other ethnic background (+13% points).
- Female participants reported significant uplifts in formal volunteering after NCS participation, with a net increase of 10% points, which may suggest the particularly important role of NCS in encouraging females into social action activities.
- However, male participants did not experience significant change here, nor on the informal volunteering measure. Furthermore, Asian and Black participants did not appear to see a benefit from the programme for this measure - indeed, this is true for Black participants on all the social engagement measures examined.
- Those eligible for Free School Meals did not see a net benefit either, but this sub-group did experience a benefit in the other measures in this section.

CHART 13

Change in involvement in formal volunteering activities over time

CHART 14

Net benefit of NCS participation vs control (% points)



2. "Have you given your time to help in any of the following ways outside of school or college hours in the last three months?" (helped at a local club, raised money for charity, organised a petition, helped out other organisations, contacted someone about something affecting local area, done something to help other people) Scale: 'No' (0) 'Yes' (1)

CHART 15

Informal volunteering – helping others outside of your family but not as part of an organisation

Change in involvement in activities that help others over time

NCS also helps to encourage more informal volunteering, but again this looks different across the sub-groups examined.

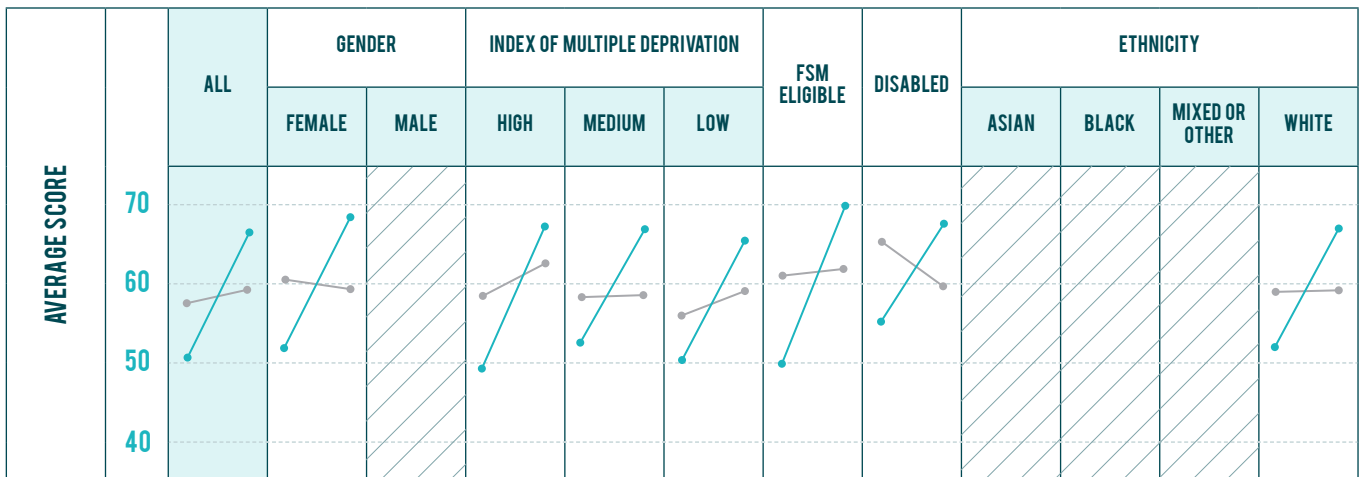
- As with formal volunteering, NCS appears to boost participants' likelihood of providing support to others in their local community, outside of their family.
- The likelihood of NCS participants engaging in informal volunteering activities^[13] increased by an 8% points following programme participation when compared with the control group.
- In line with the uplift in formal volunteering, the impact is most marked for females, with a net increase of 10% points. There was no significant change in levels of informal volunteering for male participants.
- Those eligible for Free School Meals reported increased levels of informal volunteering over time (in contrast to formal volunteering), with a net benefit of 10% points when compared to their equivalent control group.
- Similar levels of uptake were seen among participants with a disability, with a 9% point net increase in this group engaging with people in their local community following NCS participation.
- White participants experienced a significant net benefit over time, but there was no significant change for participants from a BAME background. Indeed, volunteering (both formal and informal) shows the biggest variation in terms of net benefit by ethnicity, with only those from a White background experiencing a positive increase across both.

CHART 16

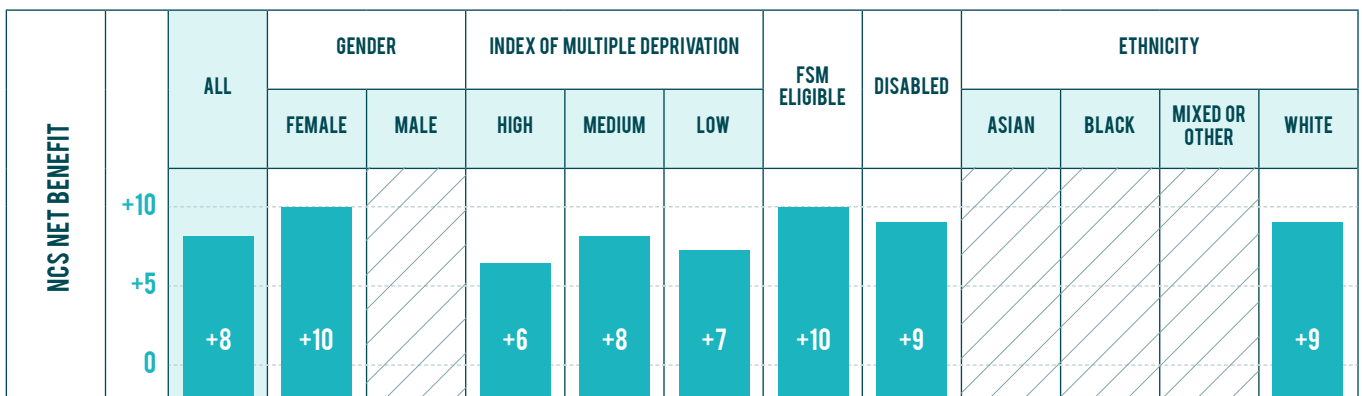
Net benefit of NCS participation vs control (% points)



15



16



3. "Have you helped anyone not in your family in any of these ways in the last three months? Do not include anything you were paid to do. (Babysitting or caring for children, cooking/cleaning/laundry/gardening, shopping/collecting pension/paying bills, taking care of someone who is sick or frail, looking after a pet for someone)" Scale: 'No' (0) 'Yes' (1)

» 12^[PG.20] / 13^[PG.21]

Only counting respondents answering 'yes' who also stated that they had at least 4 hours of activity in a typical recent month across formal and informal volunteering. Respondents stating that they had carried out one of these activities but without stating the number of hours have been excluded from the analysis. Respondents stating that they had carried out one of these activities but had less than 4 hours in Q4 are re-coded as 'No'. These scores were derived by merging the responses for the different activities asked about. Note that there is a risk that in the follow-up survey young people included their participation in their NCS activities as an involvement in one of these volunteering activities (see [Appendix 9](#) for details).



SOCIAL COHESION





The NCS programme has an objective to promote a more cohesive society by mixing people from a range of different backgrounds. The NCS Survey asks young people (before and after the programme) to report on their confidence in meeting new people, their attitudes towards those from a range of backgrounds - some different to their own (referred to in this report as tolerance) - their trust in others, and how they perceive the cohesion in their own community.

The report finds small but significant improvements in tolerance towards others as a result of attending the programme, including those who are gay or lesbian, who are disabled, or who are from a different ethnicity or religious background, or from a richer or poorer background, to themselves (though it is worth noting that tolerance levels among participants were already high before attending the programme). At the same time, there were sizeable improvements in confidence in meeting new people (as much as +10 to +15 percentage points across all sub-groups examined).

The NCS programme has a clear benefit in improving the perception that people from a range of backgrounds get on well together (so-called 'community cohesion') for most of the sub-groups examined.

Despite this, there is no impact observed on general trust in others.

The results suggest NCS is effective at improving immediate perceptions and behaviours that result from mixing with different people as part of the programme, but that views about trust may be harder to shift, possibly because there may be broader environmental influences at play that operate outside the influence of the programme.

CHART 17

Confidence in meeting new people

Change in confidence in meeting new people over time

NCS helps to build confidence when it comes to meeting new people, regardless of background - with sizeable net benefits witnessed.

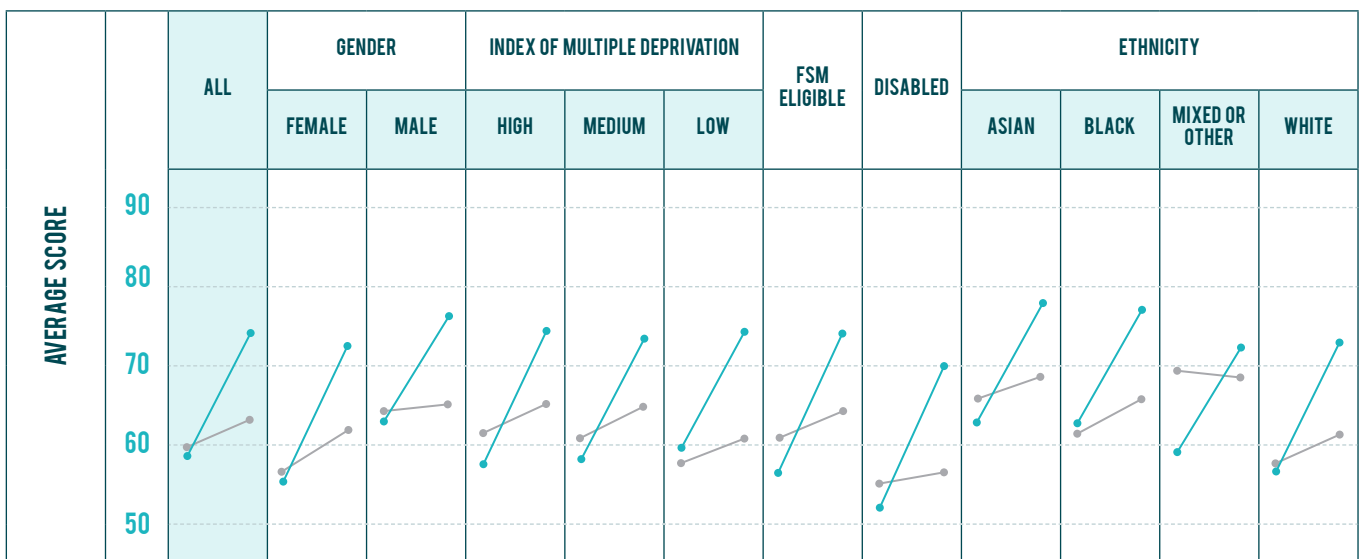
- The act of meeting and mixing with new people on the NCS programme seems a wholly positive one. Participants demonstrate greater levels of confidence in meeting new people as a result of attending.
- Overall, NCS participants' confidence levels in meeting new people increased by 12% points after taking part in the programme, relative to the control group.
- Significant benefits were seen across all the sub-groups looked: at least 10% points, with the greatest net benefit witnessed for disabled participants. Prior to NCS they had the lowest confidence levels of all the sub-groups, only to see a net benefit of 15% points after taking part in the programme. This shows that NCS has particularly positive associations with social mixing and cohesion for young people with a disability.
- For all but two groups (those from the least economically deprived communities and Black ethnic groups) the baseline confidence levels for NCS participants was lower than their equivalent control group; however, all ended up higher than the control group after participating in the programme. This suggests that NCS has a strong positive impact on confidence, regardless of an individual's demographic group and starting level.

CHART 18

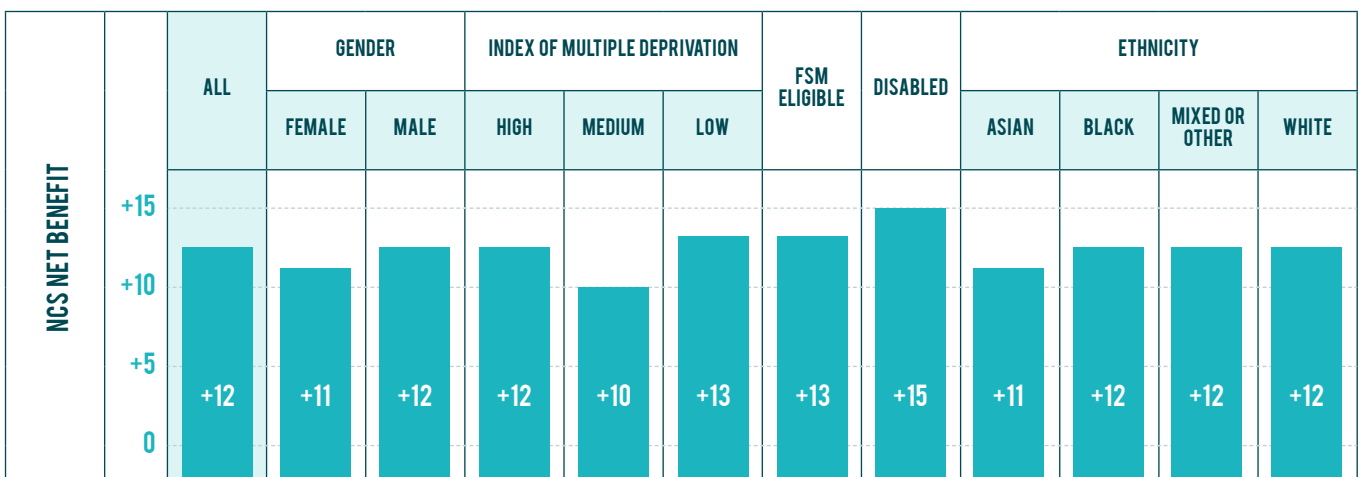
Net benefit of NCS participation vs control (% points)



17



18



10 (a). "How do you feel about the following things, even if you have never done them before...? – Meeting new people"
Scale: 'Not at all confident' (1) to 'Very confident' (5)

Getting along with others

NCS participation has positive associations with participants' perceptions of their own ability to get along with others, particularly for those from more deprived areas.

- Alongside boosting confidence in meeting new people, NCS participation also improves participants' sense of feeling able to get along with people more generally.
- Overall, there was a net benefit of 6% points for this outcome among NCS participants, demonstrating that NCS participation supports the development of social skills. Conversely, agreement among those who had not taken part in the programme remained fairly level over time.
- NCS participants from the most deprived areas had the highest net benefit of 9% points in contrast to those from less economically deprived communities.
- An equally positive shift was experienced by Black participants (+9% points), while both Asian and Mixed/ Other participants also saw a confidence boost, albeit slightly smaller (+7% points).
- For all groups, the baseline levels for NCS participants was lower than their equivalent control group. However, all ended up higher than their equivalent control group after participating in the programme. This suggests that NCS has a strong positive impact on encouraging young people to get along with others, regardless of an individual's own demographic background and starting level.

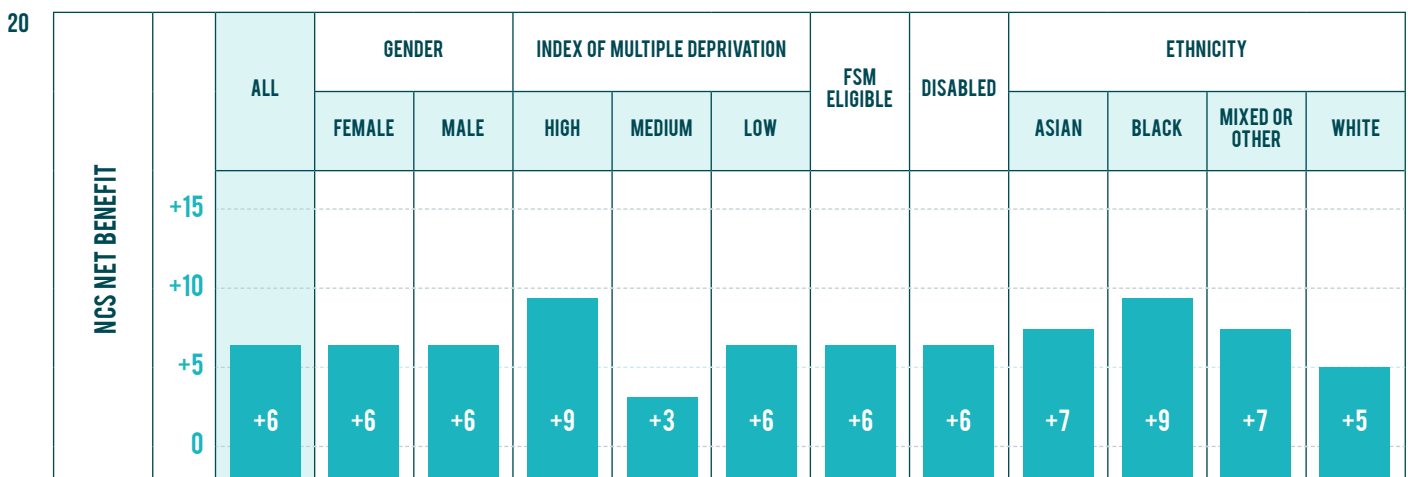
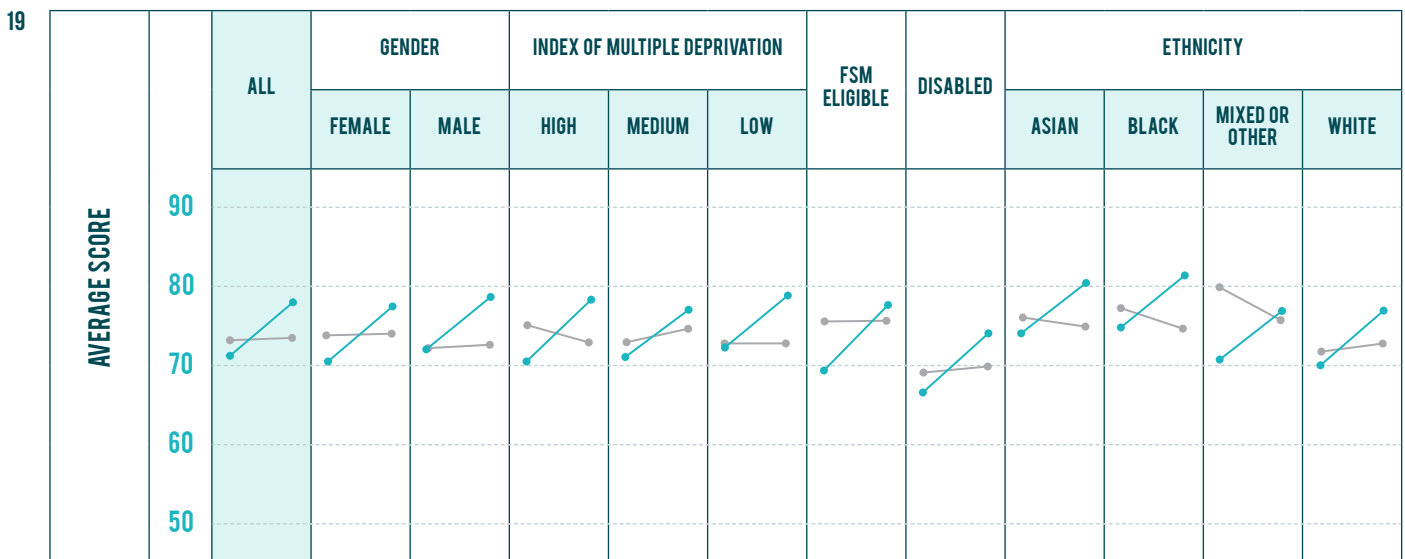
CHART 19

Change in how easily one gets along with people over time

CHART 20

Net benefit of NCS participation vs control (% points)

NCS PARTICIPANTS
CONTROL



12 (a). "How much do you agree or disagree with the following statement? - I get along with people easily" Scale: 'Strongly disagree' (1) to 'Strongly agree' (5)

CHART 21**Change in comfort with different people going out with a friend or close relative over time**

» 14

Note: There might be an element of social desirability bias at play in people's responses to these comfort questions.

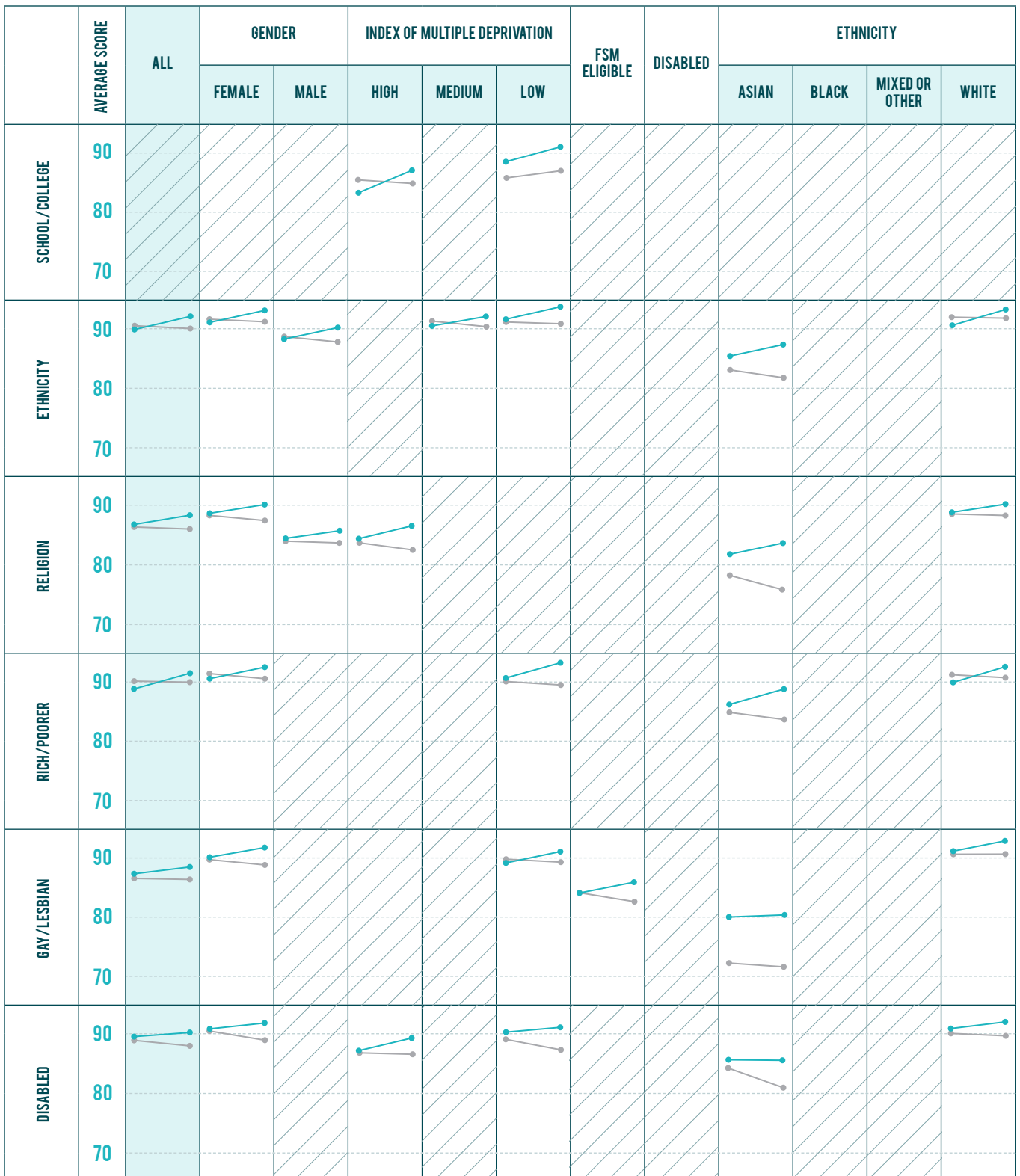
Tolerance towards other people

NCS appears to have a small but significant positive impact when it comes to participants feeling more tolerant towards other people.¹²⁴¹

- NCS's aim to promote a more cohesive society by encouraging young people from a range of backgrounds to mix seems to be effective at increasing tolerance towards others, though to a smaller degree than the other cohesion measures included in this report.
- NCS participants' levels of tolerance - measured according to the extent to which they would feel comfortable with a friend or relative going out with someone with a range of different backgrounds - increases slightly over time. There is a small net benefit of 2% points for five of the six backgrounds asked about, compared to the control group.
- All of sub-groups examined see levels of comfort increase above their respective control groups' after NCS participation. Conversely, comfort levels among the control groups generally stay constant or decrease slightly.
- Results are fairly mixed at the sub-group level, although lack of statistical significance may be driven by the fact that baseline levels are already high, leaving less room for improvement in this measure.
- Notable are NCS participants from an Asian background. They appear to elicit more of a positive benefit from the programme in terms of attitudes around tolerance. They show more positive net benefits, ranging from a low of +4% points to a high of +7% points in the case of comfort levels associated with people of a different religion. It is important to note that some of this may be the result of their lower starting point before the programme relative to other sub-groups.

Change in comfort with different people going out with a friend or close relative over time

21



18. "Please use this scale to show how you would personally feel about a close relative or friend going out with someone from the following backgrounds." e.g. "...who is gay or lesbian." Scale: 'Very uncomfortable' (0) to 'Very comfortable' (10)

Tolerance towards other people - continued

CHART 22

Net benefit of NCS participation vs control (% points)

» 15
 Note: There might be an element of social desirability bias at play in people's responses to these comfort questions.

- These findings suggest that NCS participation can help young people become more comfortable with people from different backgrounds, or who are gay/ lesbian or who have a disability, or at least keeps them at the same level.
- The magnitude of the increase is, however, small and this is likely due to the fact that initial tolerance levels were already high in the first instance with both participants and the control group averaging scores of around 9 out of 10¹⁵. This means there is relatively little opportunity for improvement in responses.
- However, it is also notable that baselines among the control group were also high. It may, therefore, be the case that young people across society have greater tolerance of other people, and of those from different backgrounds. This would make it hard to detect impact among either group. This makes it all the more important that NCS has been able to demonstrate improvements in a number of the measures, albeit these improvements are small.



22

	AVERAGE SCORE	ALL	GENDER		INDEX OF MULTIPLE DEPRIVATION			FSM ELIGIBLE	DISABLED	ETHNICITY			
			FEMALE	MALE	HIGH	MEDIUM	LOW			ASIAN	BLACK	MIXED OR OTHER	WHITE
SCHOOL/ COLLEGE	+5	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG
	0	NOT SIG	NOT SIG	NOT SIG	+3	NOT SIG	+3	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG
ETHNICITY	+5	+2	+1	+3	NOT SIG	+2	+3	NOT SIG	NOT SIG	+5	NOT SIG	NOT SIG	+1
	0	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG
RELIGION	+10	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG
	+5	+2	+2	+2	+3	NOT SIG	NOT SIG	NOT SIG	NOT SIG	+7	NOT SIG	NOT SIG	+2
RICH/POORER	+5	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG
	0	+2	+2	NOT SIG	NOT SIG	NOT SIG	+3	NOT SIG	NOT SIG	+4	NOT SIG	NOT SIG	+2
GAY/LESBIAN	+5	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG
	0	+2	+3	NOT SIG	NOT SIG	NOT SIG	+2	+4	NOT SIG	+5	NOT SIG	NOT SIG	+2
DISABLED	+5	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG
	0	+2	+2	NOT SIG	+3	NOT SIG	+2	NOT SIG	NOT SIG	+4	NOT SIG	NOT SIG	+2

18. "Please use this scale to show how you would personally feel about a close relative or friend going out with someone from the following backgrounds." e.g. "...who is gay or lesbian." Scale: 'Very uncomfortable' (0) to 'Very comfortable' (10)



Community cohesion

CHART 23

Changes in perception of how people get on in one's local area over time

NCS participants' perceptions of how people get on in their local area shows positive improvement over time, particularly for NCS participants with a disability.

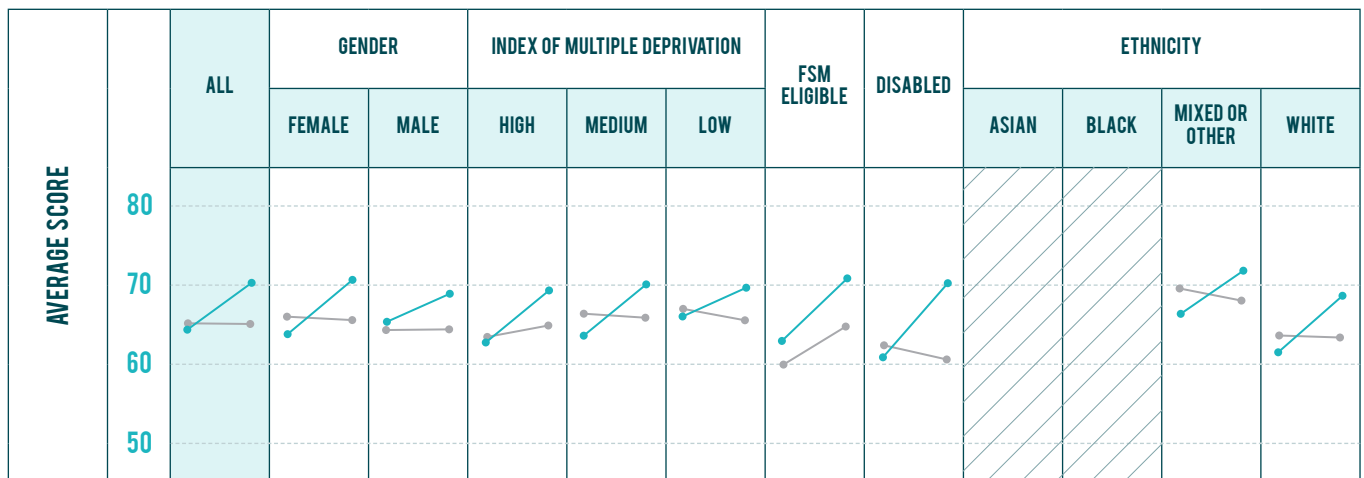
- NCS also appears to be effective in increasing participants' views about cohesion and tolerance in their own local areas; specifically that theirs is an area where people from different backgrounds get on well together.
- Overall there was a net benefit of 6% points for this outcome among NCS participants. This reveals a positive impact on feelings of cohesion, while the levels of the control group remained stable over time.
- The effect of NCS participation was the most positive (+11% points) for those participants with a disability, compared to the respective control group. This indicates that for this group, in particular, there were positive shifts in perceptions around social cohesion as a result of the programme.
- Female participants, while starting from a lower baseline than their male counterparts, showed a net increase of 7% points over time. This again shows that NCS can be particularly effective in encouraging feelings of social cohesion among this group.
- Among different ethnic groups examined, significant improvements in community cohesion were only seen among White and Mixed/ Other groups.

CHART 24

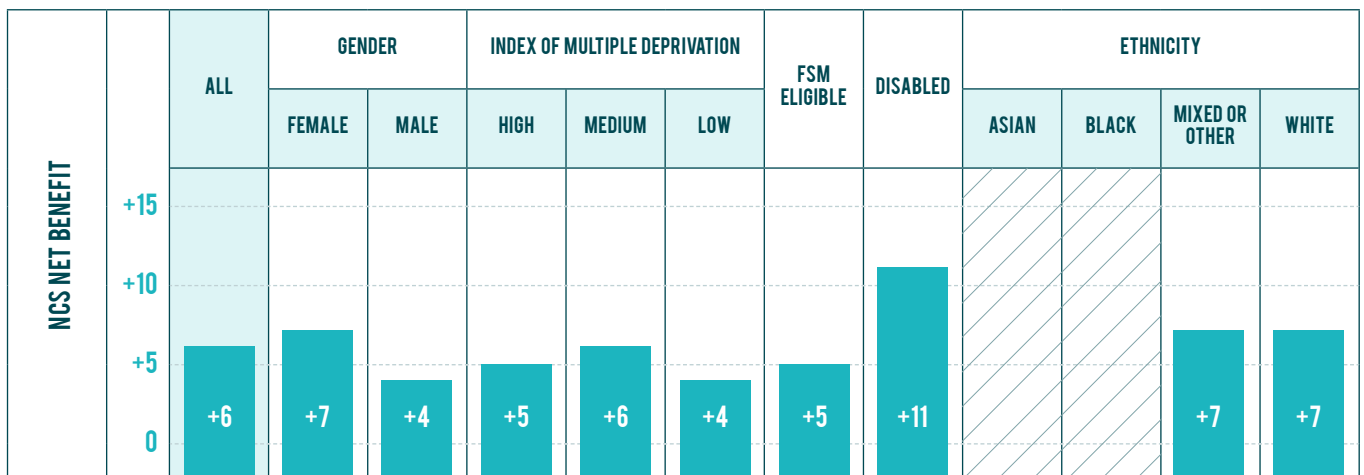
Net benefit of NCS participation vs control (% points)



23



24



5 (c). "How much do you agree or disagree with the following statement? - My local area is a place where people from different backgrounds get on well together" Scale: 'Strongly disagree' (1) to 'Strongly agree' (5)

Trust in others

NCS participation is not associated with improvements in trust overall, and with limited effectiveness at the individual sub-group level.

- Trust is the one measure examined in this report that has not demonstrated any evidence of improvement for NCS participants.
- There are some limited exceptions. Males reported a net benefit of +4% points in trust, as did participants from a White ethnic background.
- Conversely, there was a negative net benefit of -8% points for those from a Mixed/Other ethnic background.
- Unlike the other measures examined in this report around knowledge of or feelings towards others, this question had a 3-point scale. This may mean it is harder to shift opinion on these questions compared to a 5-point or 10-point scale.
- It may also be the case that the positive shifts across other measures around participation in groups and volunteering will, over time, increase feelings of trust. There is literature to support that every day engagement with different groups, together with volunteering, positively impacts on people’s sense of belonging and trust in those around them^[16].

CHART 25

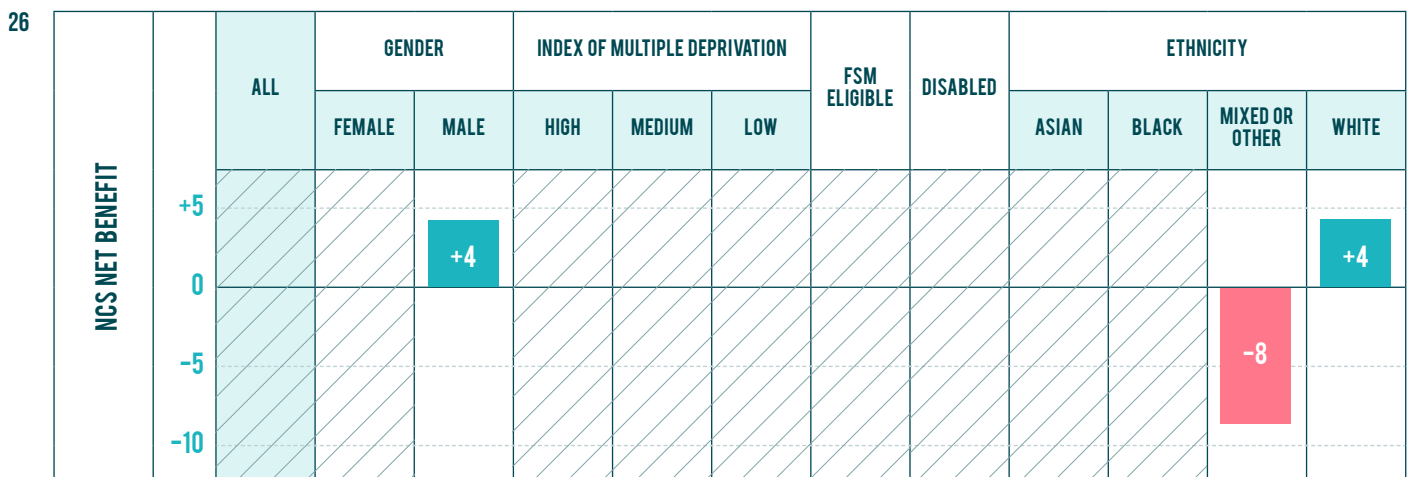
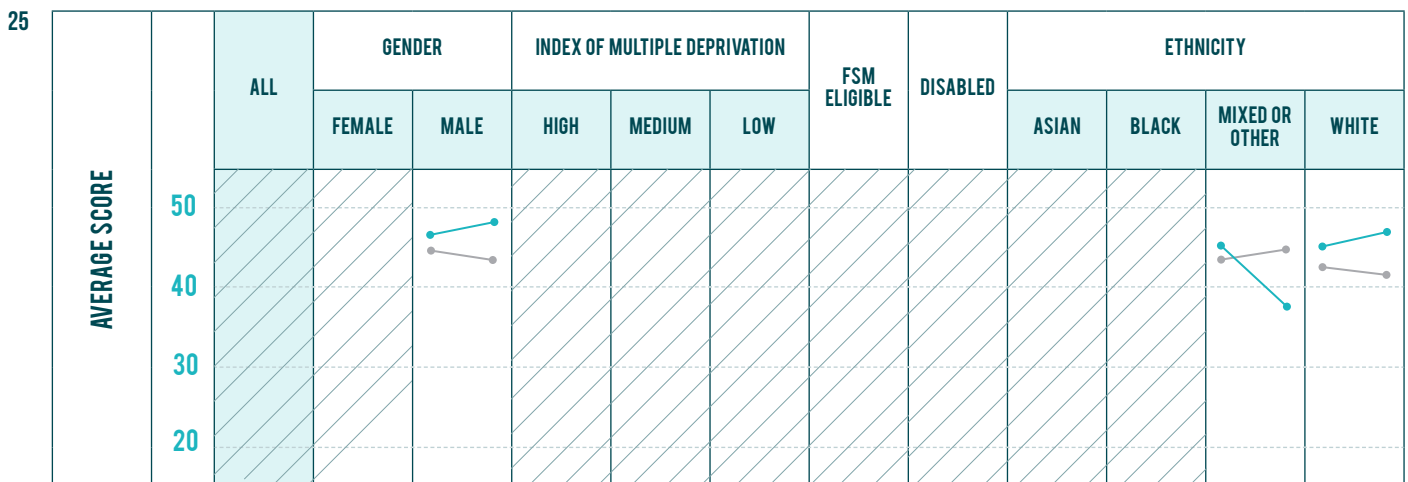
Change in levels of trust in other people over time

CHART 26

Net benefit of NCS participation vs control (% points)

» 16

The ABC of BAME: New, mixed method research into Black, Asian and minority ethnic groups and their motivations and barriers to volunteering, Jump Projects Ltd, January 2019.



17. 'Generally speaking, would you say that people can be trusted, or that you can't be too careful in dealing with people?' Scale: 'You can't be too careful in dealing with people' (0) to 'Most people can be trusted' (2)

PARTICIPANTS WITH A LOW BASELINE





NCS seeks to engage, unite and empower young people, building their confidence so they can go out there and achieve their dreams, no matter where they are from or what their background is. As such, this analysis has looked at the extent to which NCS is benefitting those coming to the programme with lower levels of agency, democratic or social engagement and tolerance to begin with.

This section explores improvements reported by participants who responded with low scores in the baseline survey (i.e. before commencing NCS) across measures of agency and democratic engagement, social engagement, and social mixing and cohesion.

The analysis finds that there are substantial improvements for NCS participants with a low baseline compared with the equivalent baseline scores for those in the control group for the majority of measures examined.

CHART 27**Summary of net NCS benefits by baseline score^[17]****Summary of net NCS benefits by baseline score**

The net benefit of NCS participation is particularly strong for young people who start with lower levels of agency and democratic engagement, social engagement, and social mixing and cohesion to begin with. This group arguably has the most potential to benefit from the NCS programme.

- There were substantial improvements for this group compared with the control group for the majority of measures examined in this report.
- The analysis is also broken down by the score that respondents gave to the baseline survey, since this affects the potential for improvement. The respondents are split into three baseline score sub-groups, named 'Low,' 'Medium' and 'High.' The correspondence between all outcome values and baseline score sub-groups can be found in [Appendix 5](#).
- Note that the values of the various outcomes may be subject to 'regression to the mean' effects, where extreme values have a tendency to revert to population averages. Regression to the mean effects are likely to determine an increase in the outcome over time for the low baseline score group and, respectively, a decrease for the high baseline score group, which may be mistaken for NCS programme effects.
- This analysis controls for the baseline score sub-group, and therefore the NCS net benefit estimate captures differences between NCS participant respondents on a low baseline and control group respondents also on a low baseline. So, even when controlling for these regression to the mean effects, the net benefit to NCS participants is strong and significant.
- For further discussion of this analysis, please see the technical note in [Appendix 2](#) detailing the augmented regression model.

Summary of net NCS benefits by baseline score

27

		ALL	BASELINE SCORE			
			LOW	MEDIUM	HIGH	
AGENCY & CITIZENSHIP	Q5	ABILITY TO HAVE AN IMPACT	+10	+13	+11	+9
		UNDERSTANDING OF WHO HAS INFLUENCE	+10	+18	+12	+8
		KNOWLEDGE OF HOW TO DEAL WITH A LOCAL PROBLEM	+10	+15	+8	+9
	Q6	LIKELIHOOD TO VOTE	+4		+8	+3
SOCIAL ENGAGEMENT	Q1	PARTICIPATION IN YOUTH GROUPS AND ACTIVITIES	+8	+15		
	Q2	FORMAL VOLUNTEERING	+8	+13		
	Q3	HELPING OTHERS	+8	+13		
SOCIAL COHESION	Q5	COHESION OF DIFFERENT BACKGROUNDS	+6	+13	+8	+3
	Q10	CONFIDENCE IN MEETING NEW PEOPLE	+12	+18	+13	+8
	Q12	GETTING ALONG WITH OTHERS	+6		+7	+6
	Q17	TRUST IN OTHERS			+4	
	Q18	COMFORT WITH DIFFERENT SCHOOL/COLLEGE		+18	+4	
		COMFORT WITH DIFFERENT ETHNICITY	+2	+33	+6	
		COMFORT WITH DIFFERENT RELIGION	+2	+26	+5	
		COMFORT WITH RICH/POORER	+2			+1
COMFORT WITH GAY/LESBIAN		+2	+16	+5		
	COMFORT WITH DISABLED	+2	+37	+6		

» 17

Note: The white cells in questions 1, 2 and 3 have no value since it is not possible to have a medium score for a question where yes or no are the only possible answers. Grey cells indicate where the findings are not statistically significant at 95% confidence level. The purple cells are where either the participant, control or both base sizes are lower than 50. While the numbers of respondents in these groups are low, the net benefit scores have been included where significant as they are indicative of the general trend of high net benefit scores seen among the low baseline group across other key measures. However, they should be treated as indicative only.

CONCLUSIONS

This report is the first time that multiple years of evaluation data has been pooled, enabling a greater level of analysis across different demographic sub-groups as to the impact of the NCS programme.

By the end of the analysis, we can be confident in stating that when it comes to social mixing, cohesion and engagement NCS is working well for participants in the most part, with broadly positive findings for the majority of outcomes tested.

There are clear indications of the programme's value in developing and supporting young people from a range of different backgrounds, and particularly among more vulnerable groups.

There is evidence from examining the 2016 and 2017 summer NCS Survey data that NCS can be even more beneficial to female participants and - for certain outcomes - to young people from lower socio-economic groups, who are eligible for Free School Meals, come from particular ethnic backgrounds, and who have a disability.

A question posed by these results is how NCS can ensure it continues to reach those young people who stand to benefit most from its activities.

TECHNICAL APPENDICES

Appendix 1 - Difference in Differences approach

The approach used in this report is Difference in Differences (DiD) analysis. The essence of this approach is to compare the (after - before) difference (also known herein as 'distance travelled') for a group of NCS participants and a control group of similar young people who have not participated in the programme. The main advantage of this approach compared to a simple before - after comparison is that the control group allows us to cancel out the changes in the measured outcomes which might have occurred for reasons different from the programme, for example, due to the young people getting older or simply due to the passage of time.

There are two main data requirements to perform Difference in Differences analysis.

First, data must be collected both for NCS participants and for a control group of respondents (preferably as similar as possible) who did not participate in the programme. Second, the same respondents must be followed in time, with data being collected at least twice - once before NCS participation (baseline data) and once afterward (follow-up data). The DiD estimate of the effect of NCS on a particular outcome O can be defined as:

$$\widehat{DiD} = (\overline{O_{after, participants}} - \overline{O_{before, participants}}) - (\overline{O_{after, control}} - \overline{O_{before, control}}) \quad (1)$$

The first difference represents the change in the outcome that participants experienced after they participated in the programme. However, it may be 'contaminated' by sources of bias which may cause changes over time in outcome levels for reasons unrelated to programme participation. These can include selection bias and regression to the mean effects, or the influence of external factors such as aging or global trends in society.

The control group serves the purpose of taking these potential biases into account and cancelling them out. The underlying assumption is that all these factors will have changed in the same way for the control group (parallel trends) between the two points in time (baseline and follow-up), and therefore subtracting the second difference in equation (1) will result in an estimate of the change in outcome that can be attributed to NCS participation - that is, the effect of the programme on the outcome. Hence the name of the model (Difference in Differences).

Note that the validity of this estimator is not dependent on the treatment and control groups being identical for all possible observable characteristics, or on both groups starting with the same initial outcome levels. The only condition that is strictly necessary is that the change in the outcome for both groups in absence of the programme is expected to be the same (also known as the 'parallel trends' assumption). The more evidence there is to believe that it holds, the higher the degree of confidence in the estimates.

The automatic fulfilment of this condition is not guaranteed and is impossible to test without more waves of pre-treatment data. It could be possible, for example, that lower baseline scores for NCS participants would lead to higher improvements in the outcomes as a consequence of regression to the mean effects. Therefore, slightly more complex methods (described later) are used which aim to make the treatment and control groups more comparable before estimating the effect of NCS.

Given the nature of the available data, the remainder of this appendix notation is based on distance travelled (that is, the before-after difference) as the central element of interest. This is defined as follows:

$$O_{after} - O_{before} = \Delta O$$

Equation (1) above can then be rewritten as follows:

$$\widehat{DiD} = \Delta O_{participants} - \Delta O_{control}$$

Appendix 2 - Augmented regression model

A simple Difference in Differences model disregards any other information except the value of the outcome, indicators of time (before/after) and NCS participation (participant/control). An extension of the model was therefore performed to also utilise the demographic information contained in the data, as well as the baseline score levels for the respective outcomes, to account for regression to the mean effects.

Intuitively, the inclusion of a control variable (such as gender) means that any change in the outcome (difference) which can be better explained by that control variable will be partialled out from the estimate of the programme effect, which will then capture only the differences unexplained by the included control variables. The inclusion of baseline score in the control variable set will likewise capture most of the bias from regression to the mean effects, as the tendency of low baseline scores to revert to a higher value (and vice versa) will be captured in the coefficient of the low (high) baseline score dummy variable.

The augmented model is based on an Ordinary Least Squares (OLS) regression model with the before-after difference (distance travelled) as the dependent variable and NCS participation as the main independent variable, with demographics and the baseline score levels for the respective outcome used as control variables. A list of all variables can be seen in [Appendices 4](#) and [6](#):

$$\Delta O_i = \gamma NCS_i + X_i\beta + u_i$$

Here, O_i is distance travelled as defined above, NCS_i indicates participation in the programme, X_i is a vector of control variables including the constant, and u_i is the error term.

Note that this model specification is used rather than the more classical longitudinal data approach, because all control variables are collected at baseline. The only variables that can be tracked over time in the data are the outcome variables.

The estimated coefficient $\hat{\gamma}$ will be the regression-augmented DiD estimate of the effect of NCS on the outcome. $\hat{\beta}$ will be the vector of coefficients of control variables which capture their respective influence on the outcome. The set-up implies that the data is not treated as longitudinal, but rather uses a difference over time for the outcome and the levels at baseline for all control variables

Regression-augmented analysis of sub-groups

In the regression-augmented version, analysis can be performed for all sub-groups for a given criterion in a single estimation with the help of a regression model with interaction terms, for example:

$$\Delta O_i = \gamma_1 NCS_i * Male_i + \gamma_2 NCS_i * Female_i + X_i\beta + u_i$$

In this set-up, because the standard vector of control variables X includes the relevant demographic variable on its own, the coefficients of the interaction terms represent the association with NCS participation of any positive or negative changes in the outcome within that particular sub-group. This is what is reported as the main findings from the sub-group analysis.

This model set-up is performed on the same sample as the main model each time - the full sample of respondents with available follow-up data and non-missing outcome. However, every sub-group criterion is used in a separate model. In general, there is therefore a possibility that one sub-group split (e.g. by gender) is also influenced by another (e.g. ethnicity), if the ethnic distribution of males and females were very uneven. However, cross-tabulations show that this is not a severe issue. Furthermore, including all sub-group splits in the same model would have reduced parsimony and made interpretation much less straightforward.

Appendix 3 - Other technical details

Handling of missing values

Missing values are handled in the following manner:

- Respondents with missing follow-up data are not included in any analysis.
- Respondents with a missing outcome variable (either baseline or follow-up) are excluded from the analysis of that outcome variable only.
- Respondents with a missing control variable are coded as 'not stated' for the respective variable, which is considered in the models as a separate category of the variable. No imputation is therefore required.

Weighting

The Simple DiD and regression-augmented analysis is weighted by the sampling weights derived by Kantar in their 2016 and 2017 survey datasets. The composition and purpose of this weighting is two-fold:

- First, the participant group was weighted to be representative of 2016 and 2017 NCS participants in terms of age, gender and regional provider, using information from NCS Trust. This weight also accounted for different rates of non-response across participant sub-groups.
- Second, the control group was weighted using kernel-based Propensity Score Matching to become more comparable in terms of the observable demographic characteristics to the NCS participant group. The resulting weight is equal to the number of times each control respondent was used as a match for an NCS participant.

The combination of regression-augmented DiD analysis and PSM-based weighting allows for an even better balance between the participant and control groups.

Appendix 4 - Outcome variables

The outcomes included in the analysis are drawn from the relevant questions asked in the 2016 and 2017 surveys, where they were identified as helping to understand attitudes and experiences around engagement, mixing and cohesion.

In this study the outcome variables are defined by the answers to the survey questions listed below along with their original response scales^[18]. All scales have been later linearly transformed so that the most positive possible answer option is represented by 100 and the most negative by 0 (see [Appendix 5](#) for further detail). Every model is run for every outcome variable separately.

2016 BASELINE SURVEY QUESTION NUMBER	QUESTION DESCRIPTION	ORIGINAL RESPONSE SCALE
1	Participation in youth group activities	0/1 (No/Yes)
2	Have you given your time to help in any way outside of school or college hours in the last three months?	0/1
	Helped at a local club in the last three months?	
	Raised money for charity in the last three months?	
	Organised a petition in the last three months?	
	Helped out other organisations in the last three months?	
	Contacted someone about something affecting local area in the last three months?	
	Done something to help other people in the last three months?	
	None of these	
3	Have you helped anyone not in your family in any way in the last three months?	0/1
	Baby sitting or caring for children in the last three months?	
	Cooking, cleaning, laundry, gardening in the last three months?	
	Shopping, collecting pension, or paying bills for someone in the last three months?	
	Taking care of someone who is sick or frail in the last three months?	
	Looking after a pet for someone in the last three months?	
4 ^[18]	In a typical recent month, can you say approximately how many hours in total you have spent helping out in any of the ways listed in Q2 and Q3?	Continuous + 0 to 4 categorical grouping
5(a)	I feel able to have an impact on the world around me	1 to 5
5(b)	I understand the organisations and people that have influence in my local area	1 to 5
5(c)	My local area is a place where people from different backgrounds get on well together	1 to 5
5(d)	I would know how to deal with a problem in my local area if I wanted to	1 to 5
6	At the next General Election where you are old enough to vote, how likely are you to vote?	1 to 10
10	How confident do you feel about the following things? - meeting new people	1 to 5
12	How much do you agree? - I get along with people easily	1 to 5
17	Would you say that most people can be trusted?	1 to 3
18	Approval of friends going out with disabled people	0 to 10
	Approval of friends going out with gay/lesbian people	
	Approval of friends going out with people from a different race or ethnic background	
	Approval of friends going out with people of a different religion	
	Approval of friends going out with people from a richer or poorer background	
	Approval of friends going out with people from a different school or college	

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Question 4 was used to further qualify responses to questions 2 and 3. Only respondents stating they have spent at least 4 hours a month helping out are included as having a positive response to question 2 or 3. The average scores were derived by merging the responses for the different activities asked about.

Appendix 5 - Re-basing scores

Each response scale was rebased evenly across a 0 to 100 (percentage point) scale for consistency. The different types of questions are shown below, along with how each score maps to the 0 to 100 scale.

QUESTION TYPE	QUESTIONS USING THIS SCALE	RESPONSE GIVEN	0-100 SCORE CONVERTED TO	BASELINE SCORE CATEGORY
'No'/'Yes'	Q1 / Q2 / Q3	No	0	Low
		Yes	100	High
'Strongly disagree' to 'strongly agree'	Q5 (A to D) / Q12	Strongly disagree (1)	0	Low
		Disagree (2)	25	Low
		Neither agree or disagree (3)	50	Medium
		Agree (4)	75	High
		Strongly agree (5)	100	High
'Absolutely certain not to' (1) to 'absolutely certain to' (10)	Q6	1	0	Low
		2	11	Low
		3	22	Low
		4	33	Medium
		5	44	Medium
		6	56	Medium
		7	67	Medium
		8	78	High
		9	89	High
		10	100	High
'Not at all confident' to 'very confident'	Q10	Not at all confident (1)	0	Low
		Not very confident (2)	25	Low
		Neither confident nor not confident (3)	50	Medium
		Confident (4)	75	High
		Very confident (5)	100	High
'You can't be too careful' to 'most people can be trusted'	Q17	You can't be too careful (0)	0	Low
		It depends (1)	50	Medium
		Most people can be trusted (2)	100	High
'Very uncomfortable' (0) to 'very comfortable' (10)	Q18	0	0	Low
		1	10	Low
		2	20	Low
		3	30	Low
		4	40	Medium
		5	50	Medium
		6	60	Medium
		7	70	Medium
		8	80	High
		9	90	High
10	100	High		

Appendix 6 - Control variables

Below is the list of variables included in the regression-augmented models to make the treatment and control groups more comparable. The list refers to the pooled 2016/2017 data analysis. The 2015 dataset contained a significantly different set of control variables and therefore was not pooled together in this study.

All variables were treated as categorical and included into the regression model as factor variables - an indicator variable (dummy variable) was created for each level of the variable except for the first, which was taken as the reference category.

The 2017 data contains the extra variable Special Educational Needs (Yes / No / Not stated). However, this was discarded to allow pooling with the 2016 data.

VARIABLE DESCRIPTION	CATEGORIES
ACORN demographic classification	Affluent achievers, Comfortable communities, Financially stretched, Rising prosperity, Urban adversity
Index of Multiple Deprivation (IMD) decile	1 (most deprived) to 10 (least deprived)
Free School Meals (FSM) eligibility	No, Yes, Not stated
Gender	Female, Male, Other, Not stated
Age	15, 16-17 (the data only has this together), 18+, Not stated
Religion	Christian, Any other religion, No religion, Not stated
Ethnicity	White, Asian, Black, Mixed or Other, Not stated
Disability status (lasting for longer than one year)	No, Yes, Not stated
Carer status Is there anyone living with you who you look after or give special help to because they are elderly, or have a long standing illness or disability?	No, Yes, Not stated
Dataset ID To account for time trends	Summer 2016, Summer 2017
Baseline score A classification into 3 categories of the level at baseline of the same outcome currently analysed - to account for regression to the mean effects	Low, Medium and High

Appendix 7 - Sub-groups analysed

For the analysis, the report breaks down the NCS participant group by individual sub-groups based on self-reported information recorded in the baseline survey. The analysis did not include carers as a sub-group due to small sample size. Religious belief was not included as this was considered a more sensitive topic requiring a more in-depth, mixed method approach. However, both of these factors (as [Appendix 6](#) makes clear) are included in the control variables for the augmented difference in difference analysis. The unweighted and weighted^[19] sample breakdowns for the sub-groups analysed are as follows:

CRITERION	LEVEL	PARTICIPANT SAMPLE SIZE		CONTROL GROUP SAMPLE SIZE	
		Unweighted	Weighted	Unweighted	Weighted
Gender	Female	2,977 67.57%	2,543 57.72%	1,327 71.85%	1,111 60.13%
	Male	1,323 30.03%	1,753 39.79%	516 27.94%	730 39.51%
	Not stated	106 2.41%	110 2.49%	4 0.22%	7 0.36%
Disabled	Yes	818 18.57%	788 17.89%	372 20.14%	369 19.96%
Free School Meals (FSM)	Yes	785 17.82%	787 17.85%	342 18.52%	351 18.99%
Ethnicity	Asian or Asian British	632 14.34%	666 15.12%	248 13.43%	232 12.57%
	Black or Black British	323 7.33%	350 7.93%	130 7.04%	111 6.00%
	Mixed or Other ethnicity	273 6.20%	291 6.60%	133 7.20%	108 5.83%
	White	3,069 69.66%	2,970 67.41%	1,335 72.28%	1,396 75.57%
	Not stated	109 2.47%	129 2.93%	1 0.05%	1 0.03%
Index of multiple deprivation (IMD) ^[20]	High (deciles 1-3)	1,156 26.24%	1,148 26.06%	489 26.48%	507 27.43%
	Medium (deciles 4-7)	1,455 33.02%	1,434 32.54%	562 30.43%	604 32.72%
	Low (deciles 8-10)	1,180 26.78%	1,143 25.93%	472 25.55%	430 23.30%
	Not Stated	615 13.96%	681 15.46%	324 17.54%	306 16.55%

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The sample was weighted for the DiD and regression-augmented analysis, as detailed on [page 42](#) of this report.

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The Index of Multiple Deprivation is published by the Government and the ONS for all LSOAs (Lower Layer Super Output Areas in England). NCS Survey respondents are asked to provide their address and postcode, which is matched to the respective LSOA via census data and subsequently the IMD of the LSOA can be looked up in the IMD databases and assigned to the respondent

Appendix 8 - Full summary of results by question & sub-group

This grid summarises the net benefit, in percentage points, of NCS participation compared with the equivalent control group (i.e. the data from the bar charts in earlier report sections). Positive differences for NCS participants compared to the control are shown as green. The red cell shows a negative change for the participants compared to the control. Grey cells indicate where the findings are not statistically significant at the 95% confidence level.

		ALL	GENDER		INDEX OF MULTIPLE DEPRIVATION (IMD)			FSM	DISABILITY	ETHNICITY				
			F	M	HIGH	MEDIUM	LOW	ELIGIBLE	YES	ASIAN	BLACK	MIXED /OTHER	WHITE	
AGENCY & CITIZENSHIP	Q5	ABILITY TO HAVE AN IMPACT	+10	+12	+8	+10	+10	+10	+11	+11	+6	+11	+10	+11
		UNDERSTANDING OF WHO HAS INFLUENCE	+10	+14	+5	+11	+9	+13	+11	+13		+16	+14	+11
		KNOWLEDGE OF HOW TO DEAL WITH A LOCAL PROBLEM	+10	+11	+8	+11	+9	+12	+13	+16		+11	+8	+11
Q6	LIKELIHOOD TO VOTE	+4	+4	+4	+6	+3	+4		+4				+4	
SOCIAL ENGAGEMENT	Q1	PARTICIPATION IN YOUTH GROUPS AND ACTIVITIES	+8	+9	+6	+7	+8	+6	+9	+8	+9			+8
	Q2	FORMAL VOLUNTEERING	+8	+10		+7	+7	+10		+9			+13	+9
	Q3	HELPING OTHERS	+8	+10		+6	+8	+7	+10	+9				+9
SOCIAL COHESION	Q5	COHESION OF DIFFERENT BACKGROUNDS	+6	+7	+4	+5	+6	+4	+5	+11			+7	+7
	Q10	CONFIDENCE IN MEETING NEW PEOPLE	+12	+11	+12	+12	+10	+13	+13	+15	+11	+12	+12	+12
	Q12	GETTING ALONG WITH OTHERS	+6	+6	+6	+9	+3	+6	+6	+6	+7	+9	+7	+5
	Q17	TRUST IN OTHERS			+4								-8	+4
	Q18	COMFORT WITH DIFFERENT SCHOOL/COLLEGE				+3		+3						
		COMFORT WITH DIFFERENT ETHNICITY	+2	+1	+3		+2	+3			+5			+1
		COMFORT WITH DIFFERENT RELIGION	+2	+2	+2	+3					+7			+2
COMFORT WITH RICH/POORER		+2	+2				+3			+4			+2	
COMFORT WITH GAY/LESBIAN		+2	+3				+2	+4		+5			+2	
	COMFORT WITH DISABLED	+2	+2		+3		+2			+4			+2	

Appendix 9 - Limitations & suggestions

Statistically insignificant results: For increased ease of communication, this report only includes statistically significant results. DiD results which are not statistically significant at the 95% confidence level are blocked out. This is because there is no statistical confidence that the effects detected would not be produced through random chance, and reporting them may lead to inaccurate conclusions being reached. Full regression output tables are available on request.

Comparison between sub-groups: DiD models test the statistical significance of the difference between NCS participants and non-participants in each sub-group. This means that comparisons between the effects between different sub-groups (e.g. males vs females) are not based on statistical tests of significance, and should therefore be treated with care. Further modifications of the estimation model could be undertaken to show the significance of the difference between the impacts for the different sub-groups, by including the uninteracted NCS participation variable in the model. However, this would require significant time to be invested in cases where many sub-groups exist (e.g. ethnicity). Alternatively, a more detailed and technical presentation of results may include confidence intervals around the DiD results, to enable comparison between sub-groups. This is available on request.

Bonferroni corrections: Adjustments can be made to the threshold P values to qualify a result as statistically significant when several dependent or independent statistical tests are being performed simultaneously on a single data set. However, the number of coefficients tested for statistical significance is very high: 40 outcomes * 18 sub-groups = 720 coefficients. The Bonferroni correction would therefore indicate to use a very low significance threshold, which would discard most findings as insignificant and be too conservative for practical purposes. Using a significance threshold of 5% strikes a compromise between displaying all findings and applying a very conservative threshold, which discards only those results with a high probability of having occurred by chance.

Matching: Using the weights derived by Kantar (2016, 2017) in regression analysis is equivalent to matching the treated and control groups to become more comparable to each other. The weights for control respondents were generated by Kantar using kernel density-based Propensity Score Matching, such that control respondents that are more similar to an average NCS participant get a higher weight. All in all, using these weights and also including the available control variables listed in Appendix 6 in the regression model ensures to the best possible extent that the NCS participant and control groups are comparable to each other.

Selection effects: There are possible selection effects in that the more confident, outgoing, progressive you are the more likely NCS will appeal to you and the more likely you are to participate rather than express interest and not eventually participate (the control group). This could introduce a positive bias into the treatment group throughout the analysis to the extent that these unobserved factors are not correlated with any of the control variables included in the regression.

Social desirability bias: Attitudinal questions can be subject to social desirability bias, whereby the respondent 'launders' their response to appear more like the kind of person they believe the interviewer wants them to be. While this bias is stronger in face-to-face than online/self-completed surveys (of which the latter is used for the NCS Survey), it may be more present in questions related to - such as - comfort with different backgrounds (which could account for the high baseline scores in these questions).

Attritional bias in follow-up survey: Those attending NCS but who did not respond to the follow-up survey may be driven by having had a less positive experience. The selection out of the survey of such respondents could therefore be leading to positive bias in the follow-up survey responses.

Regression to the mean effects: Regression to the mean effects are the tendencies of outcomes to revert to its average population value. For example, perhaps some unusual event not long before data collection made the respondent particularly happy. One would expect that this effect would fade off with time, and the respondent's level of happiness would eventually get closer to an average level.

In the context of sub-group analysis disaggregated by baseline score, following this frame of thought, it is likely to observe an improvement for the sub-group that started with a low baseline score just because their follow-up values naturally reverted close to the average. Similarly, for the high baseline score sub-group, one is likely to observe a decrease. Therefore, the model includes the baseline score sub-group as a control variable in the regression augmented DiD analysis. This implies that the regression estimate stands for the net benefit to NCS participants compared to control respondents from the same baseline score sub-group, which should have experienced similar regression to the mean effects. This comes a good way to mitigate this source of bias, but still zero bias is not guaranteed (because of different starting positions within the same sub-group, for instance).

Appendix 9 - continued

Sample sizes: Demographic sub-groups with the lowest sample sizes are above 400 (with at least 100 control observations and over 200 treated), which gives sufficient statistical power. The number of participants for some key sub-groups can be seen in Appendix 7. In particular, the Black and Mixed/Other ethnic groups are among the least numerous, which explains in part the often encountered lack of statistical significance for these categories.

When it comes to the question around tolerance of different backgrounds (Q18), where either control or participant sample size is lower than 50, these have been marked with a purple colour to flag the low base size and should be treated as indicative only ([see page 36](#))

Findings on formal and informal volunteering: In the follow-up surveys, respondents were instructed to answer these questions based on what else they had done recently apart from the National Citizen Service. However, there is still a risk that in the follow-up survey respondents included their participation in NCS activities. This is because the most common type of extra formal or informal volunteering stated by respondents was "other" rather than a specific type that could be seen to not be NCS-related.

In order to address this, a minimum threshold for hours volunteered was included in the analysis (Q4 in the survey asks respondents *"In a typical recent month, can you say approximately how many hours in total you have spent helping out in any of the ways listed in Q2 and Q3?"*)

For the analysis, only those reporting 4 or more hours in a typical recent month are included in the positive results. This provides a stronger indication that the volunteering is not part of the NCS programme which ended three months previously and could not be considered a 'typical month'. This enables us to have more confidence that the positive results can be more robustly attributed to the impact of the NCS programme.

The questions and wording are however somewhat open to interpretation and the results should be treated with an element of caution. A recommendation going forward for NCS may be to more closely align the questions on types of volunteering to those found in wider UK data sets like Community Life that are also asked of 15-19 year olds.



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