What Works for Children's Social Care

Trial Evaluation Protocol

Creative Mentoring

Evaluator (institution): King's College London

Principal investigator: Susannah Hume

Creative Mentoring

Intervention Developer	The Mighty Creatives
Delivery Organisations	The Mighty Creatives
Evaluator	Evidence Development and Incubation Team
Principal Investigator(s)	Susannah Hume
Protocol Author(s)	Miriam Styrnol, Susannah Hume, Omar Shakir, Gabrielle McGannon
Type of Trial	Randomised Controlled Trial (RCT)
Age or Status of Participants	15 – 18 years old
Number of Participating Local Authorities	8
Number of Children and Families	240 young people
Primary Outcome(s)	Attainment as measured by the highest level qualification an individual has received by the end of the academic year (AY) 2021-2022.
Secondary Outcome(s)	• Educational enrolment • Behaviours and relationships with professionals and peers • Self-esteem • Resilience • Wellbeing
Contextual Factors	Appreciation of benefits of creative activity among referral partners, level of understanding of the programme within local authorities, overall demand for creative mentoring within local authorities, applicability of learning from Derbyshire programme to the new context, sustainable funding to allow for partner buy-in and programme development, 2021 COVID-19 contingency planning: assuming digital or socially distanced delivery will still be effective, though additional resources and support may be required for both mentors and mentees

Summary

This protocol describes a planned evaluation of the impact of Creative Mentoring, an intervention that provides personal development support for Children Looked After (CLA) and Care Leavers (CL) aged 15-18. This trial will be tested during the 2021 calendar year with the final report to be published in late 2022.

Creative Mentoring will provide professional development support in the form of 1:1 creative mentoring to young people who are CLA and CL aged between 15-18 with the aim to reawaken aspirations, explore possibilities, reimagine the future, build employability skills and confidence through positive socialisation – reducing the risk of CYP registering as Not in Employment, Education or Training (NEET) or becoming debilitated by poor mental health. Young people will receive up to 24 hours of mentoring over 3 months. Mentoring sessions will take place in a young person's school, home or a community setting. Due to ongoing restrictions because of COVID-19, some session may also take place remotely. The evaluation of the mentoring sessions will be conducted from March – October 2021 with outcome data to be received at the end of the AY 2021/2022.

The research design of the trial consists of a two-armed randomised controlled trial. Randomisation will occur at the individual level, stratified by local authority (LA). Individual-level randomisation has been chosen to serve the pilot stage of the project as it offers the most pragmatic option to implement; provides the highest level of statistical power within a relatively small sample size and remains feasible as the extra-curricular nature of the project avoids the risk of spillovers within a school.

All young people who are identified by the Virtual School, Local Authority or other direct referral channels as a CLA or CL within the last six years are in scope. Pupils, and parents/guardians for those participants aged 15, will be provided with Information Sheets and given the opportunity to opt out of the evaluation. Following this, all participants who have opted into the evaluation will be randomly allocated to treatment and control groups, with the clustering at the LA level. Those who opt out will not be included in the randomisation and their data will be excluded from any further data collection and analysis activities.

This trial will be a 'mixed-methods' randomised controlled trial meaning that we aim to collect and compare both quantitative and qualitative outcome measures from randomly allocated sets of treatment and control participants.

The primary outcome variable will be academic attainment, as measured by the highest level qualification, with a pass grade or above, a young person has received by the end of the academic year (AY) 2021-2022. We will align the coding of this outcome measure with the educational definitions provided by the Department for Education. We expect that the vast majority of 15- to 18-year-olds should be eligible to receive a qualification in either or both of AY2020-21 and AY2021-22. Secondary outcome measures include educational enrolment; as well as scores on a variety of survey measures such as: behaviours and relationships with professionals and peers (as measured via Strength and Difficulties Questionnaire), self-esteem (as measured via the Rosenberg Self Esteem Scale), resilience (as measured via the RS-14) and wellbeing (as measures via the Warwick Edinburgh Mental Wellbeing Scale). Lastly, a cost evaluation will also be conducted.

Table of contents

Summary 2
Table of contents 3
Background and Problem Statement 5
Intervention and Theory of Change 6
Creative Mentoring 6
Impact Evaluation 8
Research questions 8
Design 8
Randomisation 9
Participants 10
Sample size / MDES calculations 11
Missing Data 12
Strategies for retention of sample 13
Outcome measures 14
Primary outcome 14
Secondary outcomes 14
Analysis plan 17
Primary Analysis 17
Secondary Analysis 19
Enrolment in qualifications 19
Survey responses 19
Interview transcripts 20
Multiple comparisons 20
Exploratory Analysis 20
Analysis of Harms 21
Contextual Factors Analysis 21
Implementation and process evaluation 22
Aims 22
Research questions 22
Fidelity 22
Reach and reception 22
Mechanism 22
Design and methods 22
Semi-structured interviews 22
Focus groups 23

Online surveys 23
Administrative data 24
Strategies for participant retention 24
Cost evaluation 25
Ethics & Participation 25
Registration 27
Data protection 27
Personnel 28
Timeline 28
Appendix 1: Coding for Ordinal Qualification Level Variables 30
Appendix 2: Power Calculation Code 33

Background and Problem Statement

Young people with social care experience have worse education outcomes than their peers[1], and are at high risk of mental health challenges[2].

What Works for Children's Social Care (WWCSC) is committed to establishing a high-quality evidence base to improve children's social care. In 2020, WWCSC issued an Open Funding Round to develop sector-led innovations in children's social care and contribute to the establishment of the evidence base through rigorous programme evaluation. The Open Funding Round selected seven programmes to receive funding for 12 months, along with independent evaluations from WWCSC's panel of evaluators. The Mighty Creatives (TMC) successfully applied for funding to establish a new intervention, Creative Mentoring. TMC work across the East Midlands, delivering arts and cultural programmes to children and young people.

This trial focuses on evaluating the Creative Mentoring programme. Creative Mentoring will provide personal development support to young people who are children looked after (CLA) or care leavers (CL) through 1:1 creative mentoring. The creative mentors will work with young people aged 15 to 18 to build social and personal skills with the aim of improving engagement with education and emotional wellbeing. Through this pathway the Creative Mentoring programme ultimately hopes to reduce the likelihood of care-experienced young people finding themselves Not in Education, Employment or Training (NEET).[3]

TMC's Creative Mentoring intervention will extend a pilot of the creative mentoring programme established by the Derbyshire Virtual School. An evaluation of Derbyshire's Creative Mentoring intervention was conducted by the University of Derby and the Derbyshire Virtual School in 2019. The evaluation used observations, interviews, focus groups and repeated assessments to measure social and personal outcomes such as increased confidence, building positive relationships, improvements in mental health and development of independent life skills. Interim findings from the pilot's evaluation reported positive outcomes for young people on the programme including increased social skills, particularly regarding forming positive adult relationships, the development of general life skills as well as artistic and creative skills, and showed improved participation, engagement and confidence through Creative Mentoring.

This evaluation will focus on testing the impact of the approach on improving educational attainment and emotional wellbeing among young people who are CLA and CL.

---

[1] Both looked after children and children in need have large attainment gaps in all key stages compared to children who do not have experience with care. Department for Education (2019) *Outcomes for Children Looked After by Local Authorities in England, 31 March 2018*. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/794535/Main_Text_Outcomes_for_CLA_by_LAs_2018.pdf

[2] Of looked after children who completed a Strengths and Difficulties Questionnaire in the year ending 31 March 2019, 39 per cent had scores that were a cause for concern for their emotional and behavioural health, and a further 13 per cent were assessed as borderline between of concern and normal scores. Department for Education (2019) *Children Looked After in England (including adoption), year ending 31 March 2019*. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/850306/Children_looked_after_in_England_2019_Text.pdf

[3] Home For Good (2020) Statistical Report. https://www.homeforgood.org.uk/assets/site/Statistics_Final_2020.pdf

Intervention and Theory of Change

Creative Mentoring

This trial will be the first randomised controlled trial (RCT) of the Creative Mentoring intervention. TMC will assign young people a 1:1 mentor who will use creative practices in a person-centred and informal way to develop a trusting relationship with the young person. Each young person is eligible for 24 hours' of mentoring over roughly 12 weeks.

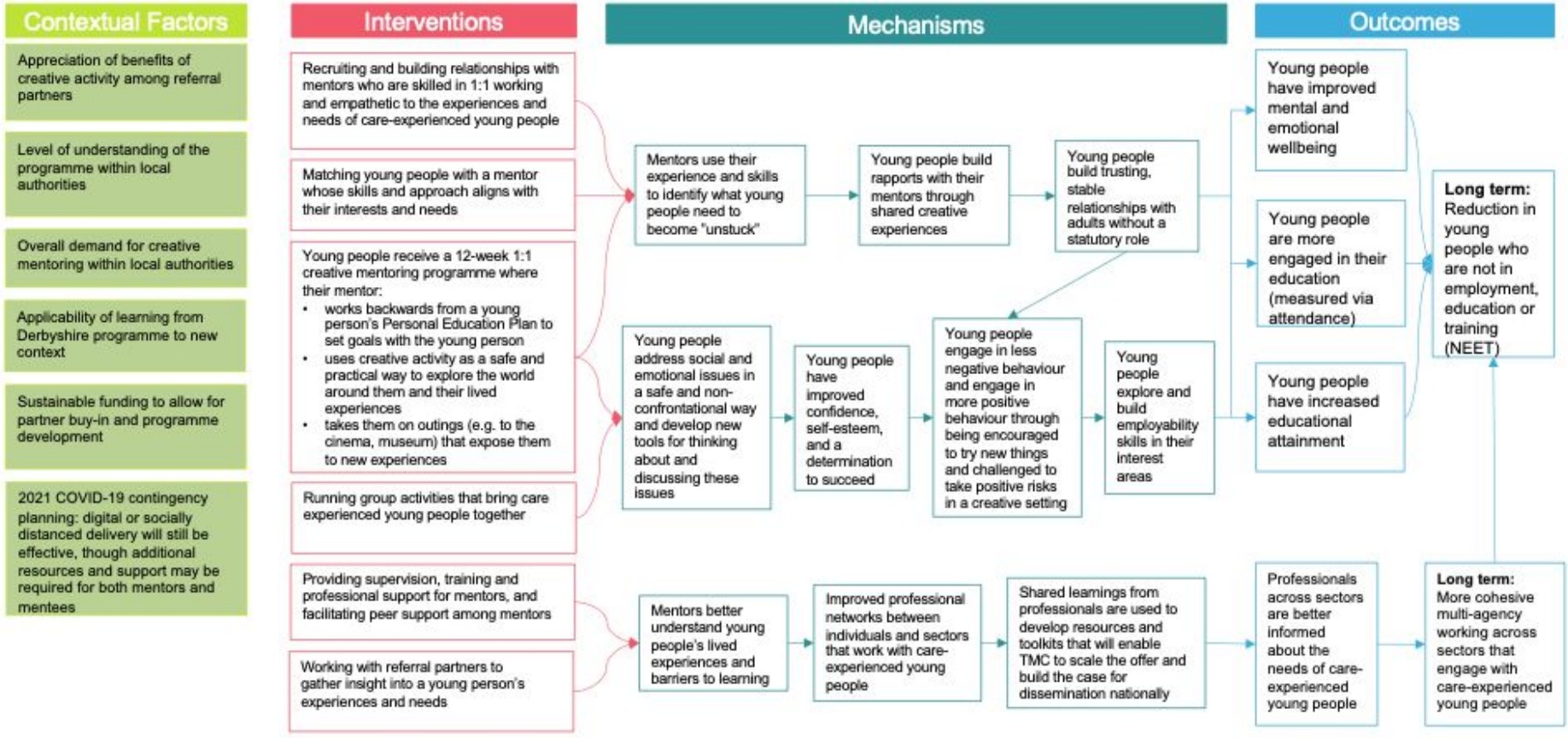
Creative Mentoring activities can take place at a young person's home, in their school or in a community setting. Within the current restrictions due to the COVID-19 outbreak, some sessions have also been delivered remotely. Sessions are usually two hours long and take place once a week.

The intervention has the following components:

1. Creative mentors deliver weekly 1:1 sessions with young people where creative activities are used for social and personal development;
2. Creative mentors use an outcomes-focussed approach to goal setting with young people, goals are periodically reviewed and updated;
3. Young people engage in group activities with other care-experienced young people, facilitated by creative mentors and TMC;
4. Creative mentors take young people on excursions to explore new interests or experiences;
5. TMC provides supervision, training and professional support to mentors, as well as facilitating peer support between mentors;
6. TMC works with the referral partners to share understanding of young people's experiences and needs.

The logic model for Creative Mentoring is provided in Figure 1 overleaf.

Figure 1: Creative Mentoring Logic Model



Impact Evaluation

Research questions

The primary research question focuses on the impact of the Creative Mentoring programme on the target group:

- How does participation in the Creative Mentoring programme impact education attainment for young people who are CLA or CL (as measured by the highest level of qualifications, with a pass grade or above, an individual has received by the end of the Academic Year (AY) 2021-2022)?

The secondary research questions are as follows:

- How does participation in the Creative Mentoring programme impact educational qualifications for young people who are CLA or CL (as measured ordinally by the level of qualification an individual is recorded as being enrolled in either at a school, further, or higher education institution six months after participation in the Creative Mentoring programme)?
- What is the impact of the Creative Mentoring programme on young people who are CLA or CL's behaviour towards peers and professionals (as measured by the Strengths and Difficulties Questionnaire)?
- What is the impact of the Creative Mentoring programme for young people who are CLA or CL's ability to develop relationships with peers and professionals (as measured by the Strengths and Difficulties Questionnaire)?
- What is the impact of the Creative Mentoring programme on the self-esteem of young people who are CLA or CL (as measured by the Rosenberg (1965) Self-Esteem Scale)?
- What is the impact of the Creative Mentoring programme on the resilience of young people who are CLA or CL (as measured by the RS-14)?
- What is the impact of the Creative Mentoring programme on the wellbeing (as measured by the Short Warwick-Edinburgh Mental Wellbeing Scale) for young people who are CLA or CL?

Design

Trial type and number of arms		Two-armed randomised controlled trial
Unit of randomisation		Individual
Stratification variables (if applicable)		Local Authority
Primary outcome	variable	Attainment of an educational qualification
	measure (instrument, scale)	An ordinal variable which assigns the highest qualification, with a pass grade or above, an individual has received by the end of the AY2021-2022, as recorded in the National Pupil Database (NPD) or the Individualised Learner Record (ILR). Ordering by educational qualification levels will closely follow the definition by the

		Department for Education (DfE).[4] Subsequent coding schema is available in the Appendix 1.
Secondary outcome	variable	Enrolment in an educational qualification
	measure (instrument, scale)	Ordinal variable indicating the level of qualification an individual is recorded as being enrolled in six months after Creative Mentoring. Obtained using the NPD, Higher Education Statistics Authority record or the Individualised Learner Record (for school, higher and further education respectively). This will similarly follow the DfE's National Vocational Qualification (NVQ) levelling and is also be coded as per the scheme in the Appendix 1.
Secondary outcome(s)	variable(s)	Behaviours and relationships with professionals and peers
	measure(s) (instrument, scale)	Self-reported Strengths and Difficulties Questionnaire (YouthInMind, 2020)
Secondary outcome(s)	variable(s)	Self-Esteem
	measure(s) (instrument, scale)	Rosenberg (1965) Self-Esteem Scale
Secondary outcome(s)	variable(s)	Resilience
	measure(s) (instrument, scale)	RS-14 Original Resilience Scale (The Resilience Center)
Secondary outcome(s)	variable(s)	Wellbeing
	measure(s) (instrument, scale)	Short Warwick-Edinburgh Mental Wellbeing Scale (Warwick Medical School)

Randomisation

Randomisation will occur at the individual level in a two-armed trial, stratified by Local Authority (LA). We expect that referrals to TMC will generally come through either LAs or Virtual Schools (VS). Referrals that come through a VS will be assigned to the LA responsible for appointing the head of that Virtual School for the purpose of stratification. If referrals are received via other channels (e.g. a Pupil Referral Unit), we will work with TMC to identify the appropriate LA for that individual to be assigned to.

Randomisation will occur at the individual level for three reasons. First, it provides the greatest level of statistical power given the sample size; second, most of the mentoring is extra-curricular, reducing concern about spillovers within setting; and third, this is a pilot evaluation and individual-level randomisation is the most pragmatic option.

The treated individuals will receive 24 hours of Creative Mentoring over 12 weeks, while the control group will not receive Creative Mentoring but will continue to receive any other

[4] The Department for Education's qualification levelling is available here: https://www.gov.uk/what-different-qualification-levels-mean/list-of-qualification-levels

business-as-usual support they are eligible for. We will consent-randomise, meaning that all those who are randomised will have previously consented at the recruitment stage prior to the point of randomisation.

A randomly selected subset of the treated and control groups will also be approached to participate in interviews as part of the process evaluation.

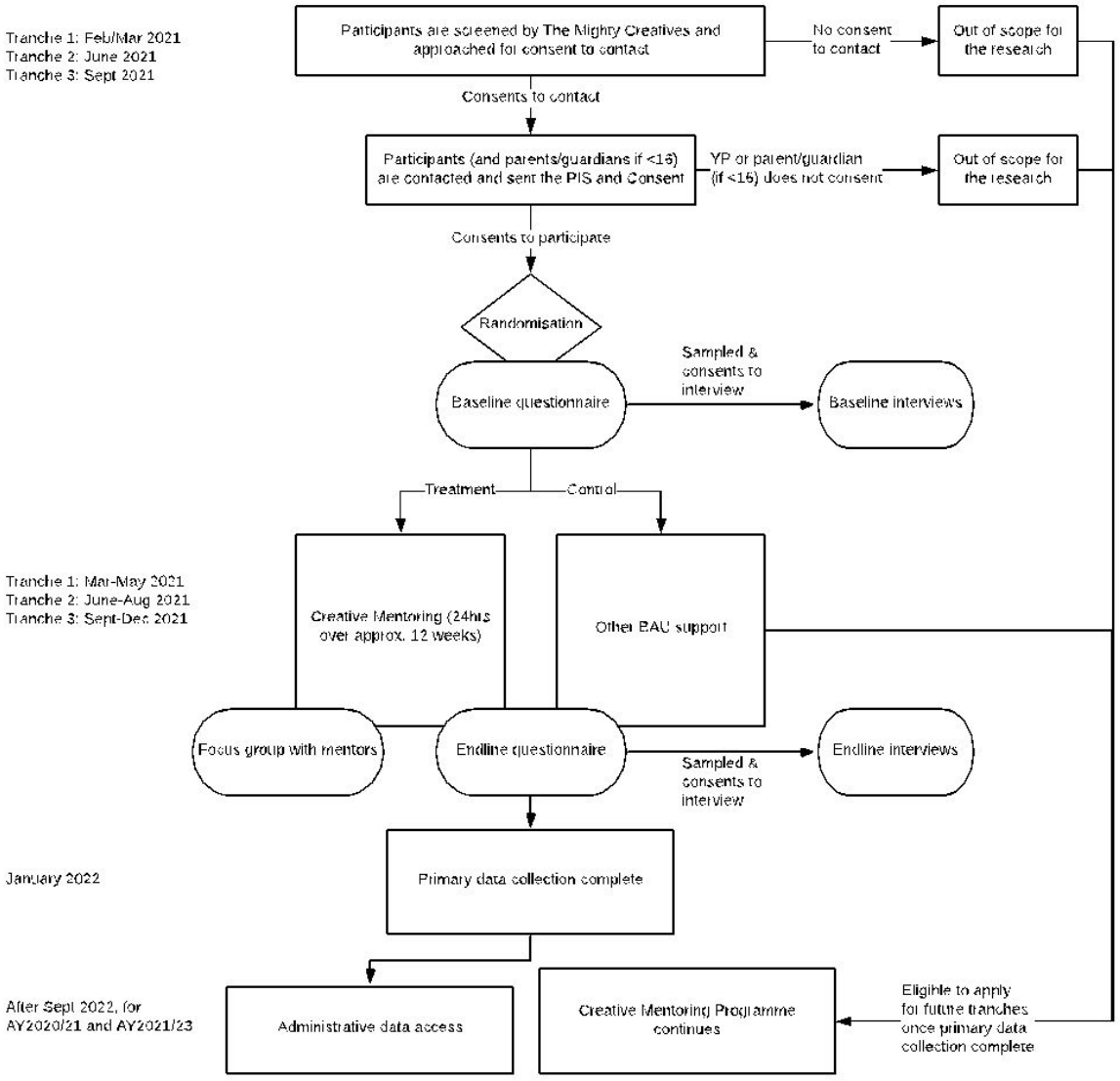
Participants

Creative Mentoring will be delivered to young people aged 15 to 18 years old. Referrals are received through delivery partners, including local authorities, virtual schools, and secondary schools. All young people referred onto the programme will be identified by the local authority/virtual schools as being CLA or CL. Once a referral is received, TMC will assess the referral to ensure that the young person meets the eligibility criteria for the Creative Mentoring programme.

All young people, along with the parents/guardians/corporate parents of those who are under 16 will be provided with Information Sheets and Consent Forms and asked whether they wish to opt in to the programme and evaluation. Those who do not opt in will not be eligible for Creative Mentoring during the evaluation period and therefore will not be forwarded to the point of randomisation. For those who do opt in, Unique Pupil Numbers (UPNs) will then be collected before the point of randomisation.

Figure 2 gives the trial flow. The programme will be delivered in three tranches, each lasting approximately 12 weeks. Therefore, the process outlined will occur three times over the 12 months of the programme.

Figure 2: Trial flow diagram



Sample size / MDES calculations

Calculations to determine minimum detectable effect size have been conducted in R using the `pwr` package (see Appendix 2). The following table below summarises the power calculations based on measurement of the primary outcome variable – the level of qualification achieved.

In regard to sample size, we currently expect that there will be approximately 240 young people who are referred, confirmed to be eligible, and consent to participate the three tranches.

Our primary outcome is accessed via the national administrative record, so we do not expect attrition, except if participants withdraw from the trial before the anonymisation date. Therefore, we conservatively estimate our total endline sample size to be around 220.

Our power calculations show a covariate adjusted MDES of 0.19-0.28 depending on the baseline/endline correlation across attainment. This means, given the estimated sample size

we expect to receive, there needs to be a small to medium underlying minimum effect size between Creative Mentoring and attainment for this evaluation to significantly detect it.

As this is a pilot evaluation with a significant qualitative component to understanding impact, we view this MDES as acceptable.

		MDES (Proportion of a Standard Deviation)
Non-adjusted MDES		0.38
Baseline/Endline correlations across attainment for an individual between pre- and post-intervention periods		0.5 – 0.6[5]
Covariate-adjusted MDES		0.24 – 0.28
Alpha		0.05
Power		0.8
One-sided or two-sided?		Two-sided
Level of intervention clustering		No clustering
Sample Size (young people) at endline	Treatment	110
	Control	110
	Total	220

Missing Data

It is unlikely that there will be large levels of missing data in our primary outcome given the use of administrative data. If students are not recorded as completing a qualification, we will assume that they have not done so, rather than assuming their qualification record is missing. This is also the approach we will take to our enrolment secondary outcome.

However, if participants cannot be matched to the administrative NPD data, then multiple imputation will be used in order to preserve power. This will be done by gaining additional data on the participant who is not registered in the NPD from other data sources, such as LAs or TMC's database; data of other, and historical statistics on the outcomes of care-experienced young people. This additional data will allow us to build a counterfactual student and we will use their characteristics provided from external sources to estimate their hypothetical outcomes based upon the existing set of NPD data. For covariates, which are all factor variables, missingness will be coded as a separate factor level.

For secondary measures derived from surveys, we expect coverage at baseline will be fairly complete, but there will be a level of attrition between baseline and endline. If missingness at either baseline or endline is uncorrelated with treatment assignment and attrition is <5%,

[5] Baseline/Endline correlations are estimated between 0.5-0.6 using "Analysis of use of Key Stage 2 data in GCSE predictions" (Benton & Sutch, 2014) Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/429074/2014-06-16-analysis-of-use-of-key-stage-2-data-in-gcse-predictions.pdf

complete case analysis will be used. If attrition is greater than or equal to 5%, Multiple Imputation by Chained Equations within experimental group will be used to impute the outcome, using baseline measures, available outcomes and covariates. With survey outcomes there is a high risk that missingness will be correlated with treatment assignment, as control participants have less incentive to engage with the evaluation, then it is Missing Not At Random (MNAR) and no form of imputation is able to adjust for this. We will take a range of steps to minimise the risk of data MNAR (see below), but if missingness is correlated with treatment assignment, then complete case analysis will be used, with discussion of the implications of the missingness for interpreting treatment estimates.

Strategies for retention of sample

Asking participants to complete two surveys over the course of the year requires a significant buy-in and commitment – especially for participants in the control group who have no direct engagement with the Creative Mentoring programme. To minimise attrition out of the survey it is therefore crucial to try and keep the response rate as high as possible. Accordingly, we plan to employ a range of retention strategies to achieve high survey response levels.

- Research has shown that survey engagement for participants is comparatively high if topics are framed to appeal to inherent interests of participants[6]. Our recruitment and 'keep warm' messages will thus highlight the personal relevance of the survey's findings to both treatment and control group. For example: gaining a better understanding of their individual experiences and what it really means to be a CSC-experienced young person and/or the importance of those findings in shaping interesting and effective support for them and future cohorts. We will work with staff at TMC, as experts in the programme and target groups, to shape messages' content to appeal to most of the eligible target group whilst also keeping messages relatively broad - herewith maximising recruitment effects while also reducing associated biases[7].
- Personalised reminder messages will be sent to participants to encourage completion. Reminder messages will be adjusted according to the response behaviour of each participant, respondents who have yet to complete the survey will be sent a personalised (by using their first name) message inviting them to engage, whereas prompt responders will be thanked for their participation. Adding such a personal element to follow-up communications gives participants a sense of being valued and, according to Dillman's (1987) social exchange theory[8], makes them more likely to reciprocate in an equally favourable manner, i.e., participating in the survey.
- We will also offer a lottery incentive for the participant surveys. Research has shown that, where a lottery incentive is offered alongside messaging that emphasises survey content that appeals to the inherent interests of participants, lottery incentive

[6] Groves, R. M., Peytcheva, E. (2008). The Impact of Nonresponse Rates on Nonresponse Bias: A Meta-Analysis. Public Opinion Quarterly, 72(2), 167–189. [Online]. [Last accessed: 22/01/2011]. Available from: https://doi.org/10.1093/poq/nfn011.

[7] Dolan, P., Halpern, D., King, D., Vlaev, I.,Hallsworth, M. (2010). MINDSPACE: Influencing behaviour through public policy. [Online]. [Accessed 22/01/2021]. Available from: https://www.instituteforgovernment.org.uk/sites/default/file/publications/MINDSPACE.pdf.

[8] Dillman D, Smyth J, Christian L. Internet, Phone, Mail, and Mixed-Mode Surveys: The Tailored Design Method, 4th Edition. (2014). ISBN: 978-1-118-45614-9

designs can increase completion rates[9]. Therefore, in all communications regarding the survey we will highlight the relevance of the survey content to the participant's own experience, as well as including details on incentives. In recognition of the fact that a lottery is a less attractive incentive than a guaranteed incentive, we will offer £20 Uber Eats vouchers (compared to £10 guaranteed incentives for interview participants).

Outcome measures

Primary outcome

The primary outcome will be attainment as measured ordinally by a participant's highest level of qualification recorded by the end of AY2021-22. We expect that the vast majority of 15- to 18-year-olds should be eligible to receive a qualification in either or both of AY2020-21 and AY2021-22. The end of AY2020-21 will be within the study period (Tranche 1 of mentoring activities should be completed and Tranche 2 may have commenced by then). 15- and 16-year-olds should receive their GCSEs in mid-2021 and mid-2022 respectively, while those aged 16 and above will be able to sit further Level 2 or Level 3 qualifications, which they would be expected to complete in either mid-2021 or mid-2022. It is therefore appropriate to compare the average level of qualification achieved by the end of AY2021-22 between the treatment and control groups[10].

We will align the coding of qualifications to the DfE definitions; see Appendix 1 for further details. A participant will be assigned to a level if they achieve a pass grade in any of the qualifications for that given level. This approach recognises the diversity of pathways taken by young people with experience of care, and the fact that focusing on grades in particular qualifications (e.g. A-levels) is likely to lead to the loss of a large proportion of sample, or unacceptable levels of variation in the outcome across qualification. Using an outcome that follows the DfE's definition of qualification levels will also increase the replicability and consistent measurability of our results, helping TMC use the findings of this evaluation for external uses.

Secondary outcomes

Our first secondary outcome will be an ordinal variable for enrolments in education six months after they've completed the Creative Mentoring programme. We will apply the same coding for qualification levels as with our primary outcome, see Appendix. This will be drawn from the NPD (for school education), Higher Education Statistics Agency (HESA) records (for higher education (HE)) and ILR (for further education (FE)). We propose to measure enrolment as an ordinal variable to pick up potential effects that are beyond the evaluation period and to assess potential impacts of Creative Mentoring in reducing long-term NEET. For example, this means that we are able to distinguish effects for individuals who received Creative Mentoring and are now motivated to enter HE or FE-in-HE qualifications after completing their A-levels (or equivalent entry-requirements).

Other secondary outcomes will be collected through two methods:

[9] Zhang C, Lonn S, Teasley SD. Understanding the Impact of Lottery Incentives on Web Survey Participation and Response Quality: A Leverage-salience Theory Perspective. Field Methods. 2017;29(1):42-60. doi:10.1177/1525822X16647932

[10] Due to the ongoing disruptions of COVID-19 in the summer of 2021, the awarding of Level 2 and Level 3 qualifications will occur differently to other years, but ex-ante we would not expect this to impact the qualification outcomes of treated and control participants differently.

1. Online questionnaires that will be administered directly following consent, and then again 12 weeks later, after the treatment group has been exposed to the Creative Mentoring intervention.
2. Semi-structured interviews with a sub-set of treated and control participants to explore whether treated participants differ in the way they talk about themselves and their experiences. Interviews will be conducted with 60 participants, balanced across the treatment and control groups in three tranches of project delivery. Balance checks will be conducted to ensure a balance of age, gender and local authority. Baseline interviews will be held prior to the commencement of activity for each tranche of project delivery, with endline interviews held following the end of project activities for each tranche.

We refer to this as a 'mixed methods' RCT as it seeks to collect and compare qualitative insights from randomly-allocated treatment and control participants, alongside more conventional RCT data collection.

The secondary outcomes and their outcome measures are outlined below.

Wellbeing. We will use the Short Warwick-Edinburgh Mental Wellbeing Scale to measure any changes to young people's wellbeing over the course of the intervention[11]. This is a wellbeing questionnaire developed to enable the monitoring of mental wellbeing in the general population and the evaluation of projects, programmes and policies which aim to improve mental wellbeing. It is a seven-item questionnaire that is validated on respondents aged 13 and up for a sample of 100 participants or more.

Wellbeing will be explored in the semi-structured interviews through the following prompts:

- Can you tell me about a time in the last few weeks where you've had to solve a problem?
    - How did you decide what to do about the problem?
    - How easy or hard is it usually for you to deal with problems when they come up?
    - If that same problem came up again today, would you deal with it the same way or differently?
- Where would you like to be in five years?
    - What will you need to do to get there?
    - Do you have the support you need to get there?

Behaviours and relationships with professionals and peers. The self-directed Strengths and Difficulties Questionnaire[12]. The SDQ is a commonly used behavioural screening questionnaire for children and young people. It has 25 questions divided into five scales including emotional symptoms, conduct problems, hyperactivity/inattention, and peer relationships problems.

Behaviours and relationships with professionals and peers will be explored in the semi-structured interviews through the following prompts:

[11] Tennant, R., Hiller, L., Fishwick, R. et al. The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): development and UK validation. Health Qual Life Outcomes 5, 63 (2007). https://doi.org/10.1186/1477-7525-5-63

[12] Goodman, R., Meltzer, H. & Bailey, V. The strengths and difficulties questionnaire: A pilot study on the validity of the self-report version. European Child & Adolescent Psychiatry 7, 125–130 (1998). https://doi.org/10.1007/s007870050057

- What's an average day of school like for you?
    - How do you get on with others at school (students/teachers)?
    - What do you usually do during break times?
    - What subjects do you like/not like? Why?
- What do you usually do outside of school?
    - Who do you do those things with?
    - What is it about that activity that you enjoy?

Self-esteem. We will use the Rosenberg (1965) Self-Esteem Scale to measure any changes to young people's self-esteem over the course of the intervention[13]. The Rosenberg Self-Esteem Scale is a widely used self-esteem questionnaire that measures global self-worth by assessing both positive and negative feelings about the self in adolescents and adults. It is a 10-item questionnaire.

Self-esteem will be explored in the semi-structured interviews through the following prompts:

- What's something that you're good at? It doesn't have to be to do with school, it can be a hobby or something you do for fun.
    - How does it make you feel when you do the thing that you're good at?
    - Are many other people you know good at that thing too?
- Can you tell me about a time when someone treated you unfairly?
    - How did you react to being treated that way?
    - Why do you think you reacted like that when they were unfair to you?
    - Do you think you would react the same way again if it happened now?

Resilience. We will use the RS14[14] to measure any changes to young people's resilience over the course of the intervention. RS14 is a self-rating scale that measures individuals' resilience in any setting. It consists of 14 resilience-related statements where respondents are invited to rate how well they apply to their experience. The RS14 is widely used in academic research and evaluation with young people aged 12 and above.

Resilience will be explored in the semi-structured interviews through the following prompts:

- What's something that you're good at? It doesn't have to be to do with school, it can be a hobby or something you do for fun.
    - How does it make you feel when you do the thing that you're good at?
    - Are many other people you know good at that thing too?
- Where would you like to be in five years?
    - What will you need to do to get there?
    - Do you have the support you need to get there?

[13] Rosenberg, M. (1965). Society and the adolescent self-image. Princeton, NJ: Princeton University Press.
[14] Full scale available at: https://www.resiliencecenter.com/products/resilience-scales-and-tools-for-research/the-rs14/

Analysis plan

Primary Analysis

All of our analysis will be on the Intention to Treat (ITT) basis, which means we will compare outcomes between those allocated to treatment to those that were not, regardless of actual compliance. This approach recognises that one of the key components of impact is how effectively the programme is able to engage and retain participants.

Ordinal Fixed Effects Logistic Model

For our primary outcome, attainment, the analysis will use an ordinal fixed effects logistic model. This will be used because the variation in year groups under analysis means there is inherent differences in the maximum qualification an individual could receive by the end of AY2021-2022. A fixed effect model indexing by year group allows the comparison of outcomes between treated and control participants in the same year group on an individual basis, for every year group under consideration. This enables us to aggregate treatment effects per year group to test the overall treatment effect of Creative Mentoring without bias from heterogeneity in year groups. This strategy also means we do not have to cluster or stratify by year group when randomising.

A logistic regression has been chosen because ordered dependent variables with few categories violate the assumptions of OLS. Coding qualification levels, as defined in the Appendix, only creates five potential categories in scope for AY2021-2022. Thus, we cannot assume normality in our ordinal outcome variable. Nor can we expect quasi-normality that is often seen with more than five categories, even if we were to transform our outcome to a continuous variable. Thus, our fixed effects logistic model takes the following simplified specification:

$$Y^{*}_{ig} = \alpha_i + \beta_1 D_{ig} + \beta_{2:6} X'_{ig} + \beta_{7:12} L_{ig} + \gamma_g + \varepsilon_{ig}$$

Where:

- Y^{*}_{ig} is the latent outcome variable for individual i in a year group g. The latent variable is tied to the observed ordered variable Y_{ig}, the highest qualification earned by individual i in a year group g, by the observation rule as per Baetschmann et al. (2011)[15] and given below;
- α_i is an individual fixed effect. In this case, it is the baseline probability that individual i will achieve a qualification conditional on school enrolment;
- D_{ig} is the binary treatment assignment of individual i in a given year group g;
- X'_{ig} is a vector of characteristics of individual i in a given year group g, comprising of gender (coded as male, female, or other/not specified), year group (coded as Year 10, Year 11, Year 12, or Year 13 with appropriate transformations for FE colleges), and most recent type of CSC intervention (coded as Child in Need, Child Protection Plan, or Looked After, with Child in Need as the reference category). All the above will be accessed via the NPD where possible – see Missing Data section for further clarification;

[15] (Baetschmann et al, 2011). Consistent Estimation of the Fixed Effects Ordered Logit Model. Available at: http://ftp.iza.org/dp5443.pdf

- L_{ig} is a Local Authority covariate vector. We will use LA level data to find: the proportion of SEN and FSM students, percentage of students attaining Level 3 qualifications by age 19, percentage of schools with a vacancy rate of greater than 5%[16] and overall secondary school pupil absence, for a given individual i in a given year group g. This data will be accessed using DfE's public data at the LA level[17];
- γ_g is the year group fixed effect;
- ε_{ig} is the time-varying, logit-distributed error-term.

The observational rule that transforms the model's latent outcome variable, Y^*_{ig}, to the observed ordered variable, Y_{ig}, is given by:

$$Y_{ig} = k \quad \text{if} \quad \tau_k < Y^*_{ig} \leq \tau_{k+1} \ , \quad k = 1, \ldots, K$$

Where:

- τ is the cut-off point that is ordinally increasing per qualification level, k;
- K is the number of total categories, which is 4 in this case.

Robustness checks

The ordered logit will also be subject to a dosage-response robustness check, as those who attended more sessions would be expected to have stronger treatment effects if it is the treatment causing the difference in outcomes.

We will graph the function of the relationship between the probability of individuals falling within an ordinal category with treatment allocation. This will allow us to identify any outliers, potential skewness or heaviness of tails of the dose-response curve. In the unlikely case of heavy skew, the following Ordinary Least Squares (OLS) model will be preferred.

We will also run an OLS regression model, which is less appropriate for the functional form of the outcome variable, but easier to interpret. Although this does not segregate or index by year group, we will first run preliminary tests to investigate whether, on average, year group composition was the same between the treatment and control group across the three tranches. If so, then the OLS regression should produce similar, more interpretable, treatment estimates to the ordinal logistic regression, conditional on our outcome being normally distributed.

We will use the same outcome as above, but use direct observations as opposed to a latent variable. Assuming quasi-normality means the OLS will be specified as follows:

$$Y_i = \alpha + \beta_1 D_i + \beta_{2:6} X'_i + \beta_{7:12} L_i + \beta_{13} A_i + \varepsilon_i$$

Where:

- Y_i is the highest level of qualification received by the end of AY2021-2022, for a given individual i, observed using the coding in the Appendix;
- D_i is the treatment assignment, coded for 1 if an individual i received Creative Mentoring and 0 if they did not;

[16] This is used by the DfE as a measure of school quality in a LA
[17] (Department of Education, 2021). LA Level data. Publicly available at: https://www.gov.uk/government/publications/education-statistics-by-la-district-and-pupil-disadvantage

- A_i is the baseline for our outcome variable. In this case, that is the maximum qualification level individual i has received by the end of AY2020-2021;
- ε_i is a robust standard error term;
- Other terms as specified above without indexing by year group.

Secondary Analysis

Enrolment in qualifications

The differences in year groups across our sample will be less of an issue in our secondary analysis. This is because there will be a wider range of potential qualification levels that a student may be enrolled onto relative to the expected range of attainment categories as per the primary analysis. For example, six months after completing the Creative Mentoring programme there is scope for older individuals who may have attained a maximum of a Level 3 qualification (e.g., A levels) to enrol onto a higher education course which may be classified up to a Level 7 qualification (e.g., integrated masters). Therefore, we expect this may create up to four new potential categories (see Appendix for NVQ levels) that individuals may be able to enrol onto, that would not otherwise be picked up in attainment. As such, we expect the potential range of enrolment categories to be large enough to assume quasi-normality. Accordingly, we propose to use an OLS regression with 'highest enrolled qualification level' as a continuous variable.

Assuming balance in year groups across our treatment and control due to effective randomisation, we do not need to index by year group as with the primary analysis. This is further supported by including a baseline measurement to account for any potential differences in enrolment between the treatment and control pre-intervention. Thus, we plan to compare the average qualification level that individuals are enrolled into six months after Creative Mentoring, as extra relative between the entire treatment versus the entire control group, without indexing. This has been done to preserve power and the OLS will take the following specification:

$$Y_i = \alpha + \beta_1 D_i + \beta_{2:6} X'_i + \beta_{7:12} L_i + \beta_{13} A_i + \varepsilon_i$$

Where:

- Y_i is the highest level of qualification that individual i is enrolled onto six months post-intervention, as per the beginning of AY2022-2023;
- A_i is the baseline recording of the highest level of qualification that individual i is enrolled onto, as per the end of AY2020-2021;
- Other variables are specified as per the continuous linear regression in the primary analysis above

Survey responses

Similarly, for our other secondary outcomes, these differences across year groups are far less of a concern given these variables are intrinsic and qualitative based. Although age may have some effect on factors such as wellbeing, an individual's age/year group will not directly limit the range of their outcomes as was the case with our primary outcomes. Moreover, our survey responses are not binary and, as such, an OLS model including year group as a covariate will suffice in finding potential differences between the treatment and control group. The survey analysis will take the following specification for each of the different outcomes:

$$Y_i = \alpha + \beta_1 D_i + \beta_2 A_i + \beta_{3:11} X'_i + \beta_{12} L_i + \varepsilon_i$$

Where:

- Y_i is the given survey outcome variable for individual i;
- A_i is the baseline level of the given secondary outcome recorded prior to Creative Mentoring for individual i;
- Other terms specified as above

Interview transcripts

Interviews and focus groups will be recorded and transcribed in full by a professional transcription service that has a non-disclosure and data sharing agreement in place with King's College London. Qualitative data will be analysed thematically to explore participants' experiences, view and perceptions. These will be reflected in a rough coding framework based on the prepared interview topic guide.

All qualitative analysis of the interviews will be conducted by at least two members of the team who will review and identify key themes within each transcript and code their emerging findings independent from each other. To the extent possible, coding will be done blind to treatment allocation. After the initial round of independent coding the researchers will review and discuss emerging themes to check assumptions (and modify the coding framework if needed).

In the analysis, we will particularly focus on the following elements:

- The words that are used
- The context of what is said (especially when using quotes)
- Consistency in responses
- Frequency or extensiveness of comments
- Intensity of the comments
- Specificity of responses
- Key themes

Where diverging opinions occur, these will be discussed, and an agreement reached that is reflected in the final coding framework. Once all code is reviewed and agreed, cross-analysis will be used to identify the reappearance of domains, as well as the categories within each domain.

Multiple comparisons

For the primary outcomes, no adjustment for multiple comparisons will be used. As there are five secondary outcomes, the Hochberg step up procedure will be used to adjust for multiple comparisons in secondary analysis, per the WWCSC statistical guidance.

Exploratory Analysis

We intend to construct exploratory analysis that will utilise the natural variation in time through the different tranches. This will help us assess any potential short- to medium-term trends as well as any compounding effects of the Creative Mentoring programme. This will be useful as it provides preliminary insights into the extent to which effects are sustained over the medium term. This will be done in the form of sub-group analysis where groups are split into the tranche in which they received the intervention. There will be more elapsed time from when Tranche 1 individuals completed Creative Mentoring to the end of the evaluation period than for Tranche 3 individuals, so we will be able to investigate whether there are intensifying or fading effects for earlier, compared to later, tranches. For example, if individuals from Tranche 1 have a greater improvement in outcomes than those from Tranche 3 this may provide preliminary evidence of Creative Mentoring having an intensifying effect over time and vice versa.

This will use the same ordinal logistic fixed effect model as per the primary analysis and is specified as follows:

$$Y^{*}_{ig} = \alpha_i + \beta_1 D_{ig} + \beta_{2:6} X_{ig} + \beta_{7:12} L_{ig} + \beta_{13} T^{'}_{ig} + \gamma_g + \varepsilon_{ig}$$

Where:

- $T^{'}_{ig}$ is a vector of dummy variables for whether an individual i in year group g belongs to a given tranche or the control group;
- The other terms as specified as per the ordinal logit model in the primary analysis above.

The individual binary variable terms per tranche will allow us to test whether certain tranches saw particularly different outcomes in attainment than other tranches relative to the control. We have avoided using a linear term that combines different tranches into one continuous variable to avoid overspecification and collinearity, given the relatively low sample size of the evaluation.

Analysis of Harms

There are a number of potential harms that could arise from this intervention. As most mentoring activities take place in a 1:1 setting between an adult mentor and potentially vulnerable participants, there is a risk that participants might feel uncomfortable or unduly pressured to participate in the intervention. To mitigate against these risks, TMC follows a strict Safeguarding Policy for, both, participants and mentors.

There is also the potential that because Creative Mentoring is extra-curricular and needs to be completed in addition to other schooling commitments, it could result in students allocating less time to other important academic or non-academic activities. If these impacts feed through to attainment or the SDQ, then they will be identified via the analysis specified above. In addition, the process evaluation will explore possible harms arising through qualitative work with participants and mentors.

Contextual Factors Analysis

A number of contextual factors may be relevant to the effectiveness of Creative Mentoring. The delivery of the programme is dependent upon referrals from LAs and VSs, and therefore may be influenced by level of demand within different referral organisations. The willingness

of these partners to refer young people will depend upon them viewing the Creative Mentoring programme as a valuable opportunity, which may also be related to their general outlook around supporting those with experience of children's social care. There will also likely be elements of delivery that are affected by the COVID-19 pandemic. Though Creative Mentoring is usually delivered face-to-face, social distancing guidelines may require some project activities to occur virtually.

We will explore the possibility of analysing the impact of these contextual factors on the effectiveness of the intervention. However, we expect that this will be mainly considered as part of the process evaluation, rather than the analytical strategy.

Implementation and process evaluation

Aims

The process and implementation evaluation will have the following primary research aims:

- To evaluate the factors that facilitate and hinder implementation of the Creative Mentoring programme, including the extent to which fidelity is maintained across different settings, mentors and demographic factors.
- To assess the confidence of staff members, trainers and stakeholders of the scheme and elements within settings or mentoring relationships that may influence the efficacy of the programme.
- To understand the perception and engagement of participants across the year groups and regions and how these may impact the programme's impact on attainment and attitudes of participants.

Research questions

The implementation and process evaluation will seek to answer the following questions:

Fidelity

1. To what extent does delivery in different settings adhere to the logic model?
2. What are the primary enabling factors in programme implementation?
3. What are the primary barriers to programme implementation?
4. Have there been any planned or unplanned changes to delivery in any of the settings and what flow on effects (if any) have these caused?

Reach and reception

5. What is the experience of young people who have been involved in the programme?
6. What is the experience of mentors and other stakeholders who have been involved in the programme?

Mechanism

7. Is there a perception that the programme is more effective for different groups?
8. Are there any unintended consequences arising from the programme?

Design and methods

Semi-structured interviews

We will include process questions in the semi-structured interviews we will conduct with young people in the treatment group (n=30), recruited as described in the Impact Evaluation section of the protocol. Participants will be randomly selected, and the arising sample will be balance-checked to ensure a balance of participants across age, gender and local authorities. The process module of the interviews will explore:

- Young people's relationships with their mentors
- Any barriers or facilitators to building positive relationships
- The level of engagement young people had with the Creative Mentoring programme
- Any barriers or facilitators to high levels of engagement
- Young people's experiences with and opinions of the Creative Mentoring programme and the activities they have been involved in
- Young people's perceptions of the strengths and weaknesses of the programme

Interviews with young people will be expected to last 30 to 60 minutes and will occur at the beginning and end of each tranche of programme delivery. All participants are given the choice for the interview to take place via phone or Zoom.

Process questions will not be asked in baseline interviews but will be added to the endline interview topic guides for participants in the treatment group. Participation in interviews will be incentivised with a £10 Uber Eats voucher.

Focus groups

We expect 30 – 40 professional mentors will be involved across the overall programme. To ensure that the focus group insights are reflective of the wider mentor cohort and to reach saturation of focus group insights, we plan to run three focus groups, one per trance of project delivery. The focus groups will aim to understand:

- The extent of mentors' exposure to the Creative Mentoring programme
- Mentors' experiences of working with similar programmes and perceptions of how Creative Mentoring compares to these offers
- Perceptions of programme impact on young people's engagement with education
- Perceptions of programme impact on young people's wellbeing
- Examples of observed changes in participants (both positive and negative)
- Mentors' perceptions of the strengths and weaknesses of the programme
- Suggestions for improvements to the programme
- Opinions of supervision and training offered by TMC
- Experiences of peer support with other creative mentors
- Any personal and/or professional development benefits the mentors experienced through the programme
- Perceived impact of the programme on joint working and information sharing between professionals

Each focus group will include between six and ten mentors and will last 60 to 90 minutes. Focus groups will be held at the end of each tranche of project delivery and, COVID-19 circumstances permitting, in person. If it is not possible to hold the focus groups in person

they will be conducted via an appropriate video conferencing software, such as Zoom. Participation will be compensated with a £20 John Lewis voucher.

Online surveys

A pre- and post-programme survey will be sent to key contacts at each of the project delivery partner organisations (particularly LAs and VSs) at the beginning and end of the overall delivery in April 2021 and January 2022, respectively. The surveys will be conducted online using the online survey platform Qualtrics and designed to take no more than 15 minutes to complete. The pre-programme survey will collect information about:

- Prior use of programmes to support care-experienced young people
- Reasons for participating in the programme
- Expectations of participation
- Anticipated barriers or facilitators for programme implementation
- Understanding of the Creative Mentoring programme and its remit

The post-programme survey will ask questions about:

- Satisfaction with programme implementation
- Understanding of the Creative Mentoring programme and its remit
- Perceived strengths and weaknesses of the programme
- Perceptions of programme impact on young people's engagement with education
- Perceptions of programme impact on young people's wellbeing
- Perceptions of programme impact on joint working and information sharing between professionals
- Assessment of the sustainability of the programme
- Whether any additional support was provided to young people in the control group in the absence of receiving the Creative Mentoring programme

A named contact will be sought in each delivery partner organisation and a link to Qualtrics will be sent directly to the contact for both the pre- and post-programme surveys. Where responses are not received after one week, a follow up email will be sent weekly for three consecutive weeks. Any missing survey respondents after this period will be discussed with TMC to enquire about alternative contact details that could be used to elicit a response from the delivery partner organisation.

Administrative data

We will also collate and analyse pre-existing administrative data from TMC's Collective Outcomes Tool[18] to understand levels of engagement, how participants engaged and demographic characteristics including age, gender, local authority and care experience. If any qualitative feedback is received as part of routine administrative data collection this will also be incorporated into the IPE data analysis.

Strategies for participant retention

To minimise attrition across the various data collection mechanisms we plan to employ a range of retention strategies to maintain engagement with the trial:

[18] Further information is available at: https://themightycreatives.com/wp-content/uploads/2020/02/tmc-collective-outcomes-tool-1550760244-1.xlsx

- To minimise participant burden but also increase retention of responses we have chosen data collection mechanisms that are as frictionless as possible for respondents. We have chosen to conduct focus groups for mentors to minimise the time commitment that will be required from working professionals. Further, conducting these focus groups online will also reduce the burden of travel to participants and is envisioned to boost rates of signup. Participant interviews will be conducted via phone or Zoom for similar reasons of reducing friction for interviewees.
- Staff from delivery organisations who will be asked to complete the repeated e-survey will make an upfront commitment to answering both surveys as part of the consent landing page for the pre-survey. This is based on research and previous experience in the team that has shown that this type of nudge minimises attrition rates in repeated survey designs[19].
- Moreover, weekly chaser emails reminding named contacts in delivery organisation to complete the survey will be sent for three consecutive weeks after the initial survey has been sent.
- To ensure uptake and engagement with the qualitative data collection methods, monetary incentivisation will be used for interviews and focus groups. We theorise that £10 and £20 will be a meaningful amount compensating participations for their time and effort whilst not crowding-out any intrinsic motivation to participate in the evaluation. Incentivisation will be particularly important for the retention of our interview control group and will be saliently highlighted in any communication to control group participants.

Cost evaluation

We will include a cost analysis of the Creative Mentoring programme as part of the main report on our findings. Information on costs will be obtained from TMC and partner organisations. We will provide a simple cost tracking template to TMC that will measure both expected expenditure on the programme, as well as unexpected costs or the value of unbudgeted resources that have been utilised for Creative Mentoring.

Analysis of the incremental resource implications of the project will also be conducted, focussing specifically on the cost of time spent by partners referring young people to the programme and managing their attendance on the programme, and time spent to facilitate hosting of programme sessions. Data on time allocated to implementation and delivery by staff in referral organisations such as local authorities, schools and virtual schools will be collected via partner surveys delivered post-intervention, combined with records on the number of young people referred and programme sessions delivered by each partner organisation.

Variation in survey responses between partner organisations will be used to characterise uncertainty around average (mean) estimates. Results of the cost analysis will be expressed in terms of incremental cost per unit change in the primary outcome.

[19] Hinrichs, J. R. (1975). Effects of sampling, follow-up letters, and commitment to participation on mail attitude survey response. *Journal of Applied Psychology*, 60(2), 249. https://doi.org/10.1037/h0076490

Ethics & Participation

The research design is subject to approval by the King's College London Social Sciences, Humanities and Law Research Ethics Subcommittee. The protocol will be updated with the reference number once approval is granted.

Opt-in consent will be sought for all young people enrolling in the project, as well as their parents/guardians/corporate parent depending on the age group. A Participant Information Sheet and Consent Form will be emailed to the parent/guardian/corporate parent of all children and young people who are eligible to participate in the programme. Young people aged over 13 are recognised as being able to consider their own involvement - we will also distribute a separate tailored Participant Information Sheet that emphasises that the young person is under no obligation to take part, even if an adult wants them to.

In order to ensure young people are given informed consent, what qualifies as consent will vary depending on the age group. Participants aged 15-16 will be asked to both consent themselves and obtain consent from their parents or guardians. Where the LA acts as the corporate parent consent will be sought as part of the referral process. We will not seek parent/guardian/corporate parent consent from those 16 and over as it is the view of the King's College London College Research Ethics Committee that young people at this age are capable of, and should be allowed to, consent or not on their own behalf.

Participants will be made aware that they are able to withdraw from the research until 31 January 2022. The participant information document explains that after this point, data will have been combined and analysed that it won't be possible to remove them after that point. If a young person chooses to withdraw from the study neither the research team nor the partner university will retain participant information except the minimum necessary to know who has opted out.

All staff or research assistants who interact with pupils will be DBS-checked and trained and supervised by the project team, and we will work with colleagues at What Works for Children's Social Care to ensure that safeguarding is best-practice and appropriate for vulnerable participants.

In terms of identifying risks to participants, the following table outlines identified risks and notes about how they may be mitigated.

Possible risk	Notes on mitigation
Young people might feel coerced to take part when they are approached.	It is important we consider the power imbalance between young people, parents/guardians, local authorities, schools, mentors and the evaluation and project teams. The Participant Information Sheet and Consent Form will make it clear that agreeing to participate in the research project is entirely voluntary and will have no bearing on future opportunities to participate in Creative Mentoring or any other programmes run by The Mighty Creatives. We will also treat consent as an ongoing process to participate in the research project and will reiterate the option of not participating in the

	programme to all participants whose details will be shared with the research team.
When young people are approached to participate in the evaluation, they may feel that their questionnaire responses or decision to withdraw their data might have consequences for their relationship with The Mighty Creatives.	The participant information sheet will offer young people a contact email they can reach out to withdraw their data if they wish, and make it clear that withdrawing their data from the evaluation will not impact their standing with The Mighty Creatives or impact their eligibility for any future programmes run by The Mighty Creatives.
Young people may disclose experiences of harm or risks of harm in the course of participating in the evaluation.	All researchers will be familiar with the King's safeguarding policy and King's *Reporting a Safeguarding Concern* flowchart. Researchers will be provided with the contact details for the relevant Lead Safeguarding Officers (LSOs) and Designated Safeguarding Officers (DSOs) within King's before commencing any research activity. This will ensure that researchers can promptly contact an LSO or SDO in the event of a safeguarding disclosure. Further, all staff will familiarise themselves with TMC's safeguarding procedure and the safeguarding procedures of any relevant partner organisations (e.g. local authorities, schools, virtual schools). All staff involved in the trial will hold an up-to-date Disclosure and Barring Service clearance to work with vulnerable groups.

Registration

The protocol will be registered with the Open Science Framework once ethical clearance is obtained, and prior to data collection commencing.

Data protection

All data will be held according to the King's Data Protection Policy and Procedure. All data collection will adhere to ethical practice ensuring the confidentiality of information shared and the secure handling of data in accordance with the GDPR and King's College London's Data Protection Policy.

All young people and/or their parents/guardians will opt in to data collection and will be provided with an Information Sheet that will explain to them the reason for collecting and processing their data, detail how long it will be stored for and that if/how it will be shared with

other parties, and provide them with the mechanism to ask that their data be removed or to raise a complaint[20].

The restrictions of COVID-19 mean that researchers at King's will be working at home for key portions of the project, and data security will need to be handled accordingly. Owing to the sensitive nature of the data, which will include care-status of individual young people, data will be stored on a secure section of the King's server, with access limited to those who have a direct purpose for using it as part of the project.

Data drawn from the National Pupil Database will be accessed in accordance with protocols set by the Department for Education and the Office for National Statistics, using the Secure Research Service. Access to individual files and folders will be on a by-permission basis only with higher restrictions for files including sensitive or individual-level data sources put in place. Rights to edit access permissions to those files and folders will be limited to personnel with a research need to access the data. The Principal Investigator will control access to the folder and will regularly review who has access and if it is still required.

Personnel

Name	Title	Responsibilities
Susannah Hume	Director of Evaluation, Evidence Development and Incubation Team (EDIT) in the Policy Institute	Principal Investigator
Miriam Styrnol	Evaluation Associate, EDIT	Co-investigator
Omar Shakir	Research Assistant, EDIT	Analytical lead
Gabrielle McGannon	Research Assistant, EDIT	Qualitative research lead

Timeline

Task	Timing
Trial Protocol published	February 2021
Tranche 1: baseline participant questionnaires/interviews	March 2021
Pre-intervention surveys to delivery partners	April 2021
First tranche of project delivery	*March 2021 – May 2021*

[20] https://www.kcl.ac.uk/research/support/rgei/research-ethics/kings-college-london-statement-on-use-of-personal-data-in-research

Tranche 1: endline participant questionnaires/interviews	May 2021
Tranche 1: focus group with creative mentors	May 2021
Tranche 2: baseline participant questionnaires/interviews	June 2021
Second tranche of project delivery	*June 2021 – August 2021*
Tranche 2: endline participant questionnaires/interviews	August 2021
Tranche 2: focus group with creative mentors	August 2021
Tranche 3: baseline participant questionnaires/interviews	September 2021
Third tranche of project delivery	*September 2021 – December 2021*
Tranche 3: endline participant questionnaires/interviews	December 2021
Tranche 3: focus groups with creative mentors	January 2022
Post-intervention surveys to delivery partners	January 2022
Interim Report	March 2022
Data obtained from NPD, HESA and ILR	August 2022
Final Report	September 2022

Appendix 1: Coding for Ordinal Qualification Level Variables

DfE's NVQ Level[21]	Variable Coded As	**Qualifications** (where grades are not specified a student must achieve at least one pass grade)
No qualifications	0	• Not receiving any of the below qualifications
Entry level	1	• Entry level award • Entry level certificate (ELC) • Entry level diploma • Entry level English for speakers of other languages (ESOL) • Entry level essential skills • Entry level functional skills • Skills for Life
Level 1	2	• First certificate • GCSE - grades 3, 2, 1 or grades D, E, F, G • Level 1 award • Level 1 certificate • Level 1 diploma • Level 1 ESOL • Level 1 essential skills • Level 1 functional skills • Level 1 national vocational qualification (NVQ) • Music grades 1, 2 and 3
Level 2	3	• CSE - grade 1 • GCSE - grades 9, 8, 7, 6, 5, 4 or grades A*, A, B, C

[21] As defined here:
https://www.gov.uk/what-different-qualification-levels-mean/list-of-qualification-levels

		• Intermediate apprenticeship • Level 2 award • Level 2 certificate • Level 2 diploma • Level 2 ESOL • Level 2 essential skills • Level 2 functional skills • Level 2 national certificate • Level 2 national diploma • Level 2 NVQ • Music grades 4 and 5 • O level - grade A, B or C
AS Levels split from Level 3	4	• AS level
Level 3 without AS Levels	5	• A level • Access to higher education diploma • Advanced apprenticeship • Applied general • International Baccalaureate diploma • Level 3 award • Level 3 certificate • Level 3 diploma • Level 3 ESOL • Level 3 national certificate • Level 3 national diploma • Level 3 NVQ • Music grades 6, 7 and 8 • Tech level
Level 4	6	• Certificate of higher education (CertHE) • Higher apprenticeship • Higher national certificate (HNC) • Level 4 award • Level 4 certificate • Level 4 diploma

		• Level 4 NVQ
Level 5	7	• Diploma of higher education (DipHE) • Foundation degree • Higher national diploma (HND) • Level 5 award • Level 5 certificate • Level 5 diploma • Level 5 NVQ
Level 6	8	• Degree apprenticeship • Degree with honours - for example bachelor of the arts (BA) hons, bachelor of science (BSc) hons • Graduate certificate • Graduate diploma • Level 6 award • Level 6 certificate • Level 6 diploma • Level 6 NVQ • Ordinary degree without honours
Level 7	9	• Integrated master's degree, for example master of engineering (MEng) • Level 7 award • Level 7 certificate • Level 7 diploma • Level 7 NVQ • Master's degree, for example master of arts (MA), master of science (MSc) • Postgraduate certificate • Postgraduate certificate in education (PGCE) • Postgraduate diploma
Level 8	10	• Doctorate, for example doctor of philosophy (PhD or DPhil) • Level 8 award • Level 8 certificate • Level 8 diploma

Appendix 2: Power Calculation Code

```
library(pwr)
N <- 110 # sample size per arm

c <- 0.6 # baseline-endline correlation

pwr <- pwr.t.test(n = N, d = NULL, power=0.8, sig.level=0.05)
d.raw <-pwr$d
d.adj <- (1-(c^2))*d.raw
```