

EVALUATION PROTOCOL

Dallaglio RugbyWorks sports for development programme to reduce the risk of violence and offending: a two-armed randomised controlled trial

ICF Consulting Services Ltd

Principal investigator: Dr Matt Barnard

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Evaluation protocol

Evaluating institution: ICF Consulting Services Ltd

Principal investigator(s): Dr Matt Barnard

YEF trial protocol for efficacy and effectiveness studies

Project title	Dallaglio RugbyWorks sports for development programme to reduce behavioural difficulties: a two-armed randomised controlled trial
Developer (Institution)	Dallaglio RugbyWorks
Evaluator (Institution)	ICF Consulting Services Ltd
Principal investigator(s)	Dr Matt Barnard
Protocol author(s)	Dr Matt Barnard, Dr Aisha Ahmad, Robert Wishart
Trial design	Two-armed randomised controlled trial with random allocation at the individual level
Trial type	Efficacy
Evaluation setting	Pupil Referral Units, Alternative Provision schools, and mainstream schools with onsite exclusion provision
Target group	CYP aged 11 to 16 years old who have been permanently excluded from mainstream and/or have had three or more

	fixed term exclusions and are at risk of being involved in youth violence, gang activity, and/or crime as a perpetrator or victim
Number of participants	900
Primary outcome and data source	Behavioural difficulties as measured by the SDQ externalising score
Secondary outcomes and data source	<p>Wellbeing as measured by WEMWBS</p> <p>Pro-social behaviour (as measured by the pro-social scale on the SDQ)</p> <p>Emotional difficulties as measured by the SDQ internalising score</p> <p>Fixed-term exclusions (based on school management information)</p> <p>Attendance (based on school management information)</p>

Protocol version history

Version	Date	Reason for revision
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Study rationale and background

In recent years, there has been a mixed picture in terms of trends relating to crime. According to the YEF's latest review of the data (YEF, 2023), although there were reductions in levels of crime during the pandemic since the end of lockdown restrictions violent crime has returned to and in fact exceeded levels previously recorded. This has included homicides increasing by 2%, violence with injury increasing by 4%, and violence without injury increasing by 11%. Worryingly the data also indicates that there was a disproportionate rise in potential child victims in 2021 (an increase of 9% compared to 2020). Adverse childhood experiences (ACEs), such as exposure to abuse and violence, come with an increased risk of young people experiencing behavioural difficulties and being involved with crime, both as offenders and victims, as the result of trauma-induced changes to both brain and body. The literature suggests that ACEs can lead to long-term negative effects for an individual, including lower levels of engagement in education, employment and training, involvement in youth offending and negative health outcomes in adulthood (Baglivio et al, 2020). Within this context, the evidence on the disproportional impact of exclusion on specific groups is well established. The YEF Children, Violence and Vulnerability (CVV) report, found that whilst the gap between exclusion rates between Black and White students is closing, Black Caribbean pupils are still more likely to be excluded than White pupils. Analysis by Just for Kids Law, for example, shows that children living in poverty and Black Caribbean and Gypsy, Roma, Traveller children in London are still much more likely to be excluded than their peers (4in10 et al, 2020). This translates to a disproportionate representation at all levels of the criminal justice system (MoJ, 2021).

Positive activities are being looked at as one approach to mitigating the behavioural and emotional impacts of ACEs and ultimately preventing CYP becoming involved in violence and offending. 'Sports-as-a-hook' interventions appear to be a particularly promising approach. The evidence indicates that sports interventions can have large effects, including a 23% reduction in externalizing behaviour and a 31% reduction in aggression (Gaffney et al, 2021). The theory of change underlying sports interventions indicates that they can influence young people by addressing challenges along the behavioural pathway. Sports interventions can influence core motivation through the role of coach as mentor and the physiological and mental health benefits of physical activity; provide alternative choices to young people through raising aspirations; and, increase young people's practical skills and self-control (Gaffney et al, 2021). As the evidence also indicates that behavioural difficulties in childhood and adolescence increases the risk of a CYP not being in education or training (EET) and the risk of violence and offending (Rodwell et al, 2018; Kalvin and Bierman, 2017), reducing behavioural difficulties is therefore believed to have a positive impact on both these outcomes. This link is supported by previous evaluations of sports-as-a-hook interventions, which have found an average of a 52% reduction in offending (Gaffney et al, 2021).

Paradoxically, however, despite the plausible causal pathways identified and large effect sizes reported in the literature, the methodological quality of previous studies means that the evidence base for sports interventions is considered weak (Gaffney et al, 2021).

This study aims to evaluate Dallaglio RugbyWorks' (DRW's) sports for development programme through a two-armed randomised controlled trial (RCT), randomised at an individual level and with the control group receiving business-as-usual from pupil referral units, alternative provision schools, mainstream schools with alternative provision, and in some cases children's social care services. The Dallaglio RugbyWorks programme aims to reduce behavioural difficulties through raising the aspirations of CYP, developing their life skills, focussing on their mental health and improving their physical wellbeing. Improvements in these outcomes are expected to lead to increased likelihood of the CYP being in education, employment and training (including reduced school exclusions) and reduced likelihood of violence and offending (impacts which are likely to be self-reinforcing). The study incorporates an implementation and process evaluation, which involves collecting quantitative and qualitative data from CYP in both intervention and control groups and from coaches and management staff. In addition, the study will include an analysis of the costs of delivery. The rationale behind the approach is that RCTs are an effective way of assessing the net impact of an intervention and an individual randomisation approach was selected as the most feasible and efficient way of generating a sufficient sample size.

Intervention

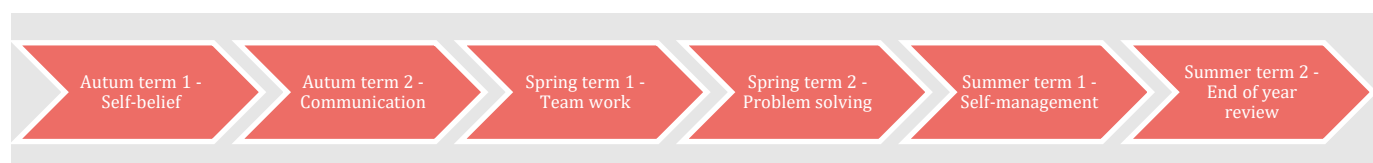
DRW is a 38-week (full academic year) sports-based programme that utilizes rugby and multi-sport as a tool to cultivate a positive, prosocial identity in young people aged 11-16 at risk of offending and provides support in establishing and maintaining a relationship with a coach who guides them in setting future goals. The intervention involves four key sets of activities or support.

- **Rugby-based learning:** weekly group sessions of up to 16 young people involve drills and non-contact practice games that focus on developing key life skills such as self-belief, teamwork, communication, problem-solving, self-management all built around the key elements, including completion, of the level 1 and level 2 qualifications in Sports Leaders by the young people. The weekly sessions are augmented by a regional tournament to provide a training focus.
- **Digital platform:** The weekly sessions are supported by an online app, Player Profiles, which allows young people to assess their current skill set, identify and plan progression against a set of goals and access a range of relevant resources and support. Young people register for Player Profiles on DRW laptops/devices and then access on their own devices or on with coaches on their tablets or via school computer suites.

- **Workshop-based learning:** Alongside the rugby-focussed sessions, participants attend a series of four workshops over the lifetime of the intervention (18 workshops in total). The first and second are focused on employability skills (1 per half term; n=6) and digital skills (1 per half term; n=6) including writing effective CVs and developing interview skills. These workshops are enhanced by career taster days (1 per term; n=3), which involve employers designing specific work-related days. Each employer builds a day based around the nature of their work. For example, the Fire Service offer very practical days, whereas office-based environments often offer Dragons Dens or quizzes. The common themes are tours of the workplace and talks from inspiring employers and business owners. The fourth workshop focuses on mental wellbeing (1 per term; n=3).
- **Mentoring:** Young people get one hour every three weeks from a dedicated DRW staff member. It is up to the mentor and the young person whether this session is structured as 20 minutes per week, over 3 weeks or as a block of 1 hour, once every 3 weeks. They decide this based on the needs of the young person, their attention span and the time available. The mentoring is not counselling or therapy. It is an opportunity for the young person to have a child centred conversation. We aim to focus on goals and aspirations, and we use an asset-based approach for these sessions. The purpose of the mentoring is to build trusted adult relationships and gain an understanding about the young person's aspirations. In the evening sessions, the named DRW staff member will use that time to have more informal conversations with young people, these are more likely to be over a game of pool as opposed to a structured conversation.

Dallaglio aims to work with each young person for at least 4 hours per week. The split is over the year 50% physical activity linked to skill development, 30% structured workshops and 20% engagement with employers. The youth club/evening intervention varies between 1 hour and 1.5 hours per week depending on the timetabling of the provision and availability of youth centres. The evening provision focuses on activities. The programme aims to be young-person centred, to follow a youth work and asset-based approach and to be trauma-informed, with all delivery and non-delivery staff training in trauma-informed practice. The maximum coach to CYP ratio is 2:16, with a minimum of 2:5. The intervention is structured over the academic year with a different focus each half term, as set out in figure 1 below.

Figure 1: RugbyWorks session focus over academic year



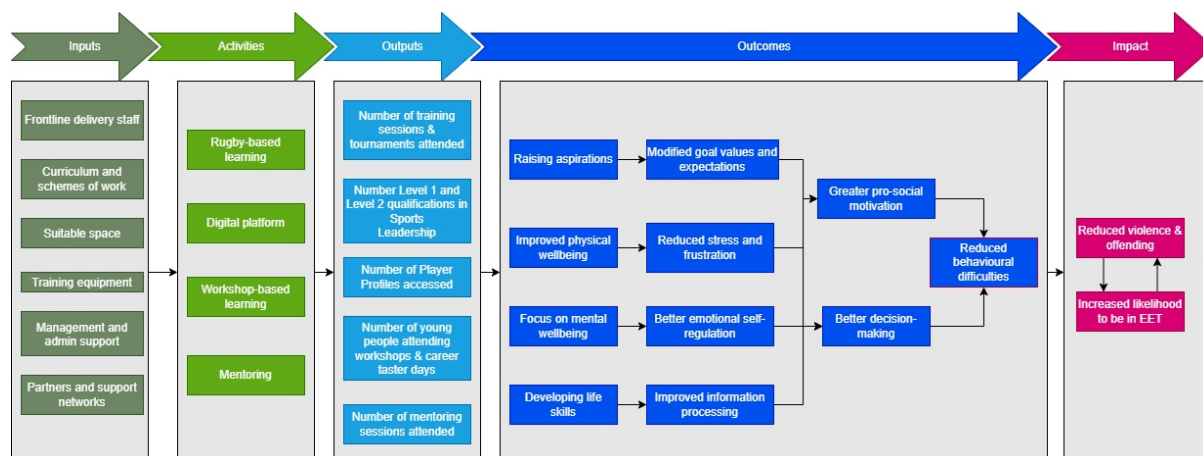
In addition to the formal sessions, RugbyWorks works with, and provides referrals to, community sport clubs for young people who would like to take their participation further or try other sports, which happens at the end of the intervention period. RugbyWorks also runs holiday activity programmes which can be accessed by participants, as well as working with other community-based venues such as youth clubs.

All DRW coaches have a sports coaching qualification or youth work qualification. Delivery Leads work towards achieving both qualifications. Programme Managers have or work towards achieving a level 3 Youth Work qualification. The delivery team receive 1 hour minimum of monthly management supervision plus 1.5 hours monthly of professional supervision to discuss their practice and for reflection. All coaches receive the following compulsory training as a minimum: safeguarding level 1, health & safety, internal safeguarding processes, first aid essentials, diversity & inclusion and trauma informed training. Training is delivered by a variety of internal and external specialists including EduCare and Rock Pool Life.

In addition to the above qualifications and support, all members of the team delivering interventions have access to the following list of training courses of which all core delivery staff members must complete within their first year of working for DRW, which amounts to 150 hours of training. This training covers the following areas: safeguarding young people (level 2); first aid day course; child protection in sport and leisure; UK data protection; adverse childhood experiences; child abuse linked to faith or belief, child exploitation, child neglect, child on child sexual violence & harassment; domestic abuse: children and young people; extremism and radicalisation awareness; harmful sexual behaviours; online safety; raising awareness of child on child abuse; raising awareness of honour based abuse and forced marriage; safeguarding children with SEN and disabilities; serious youth violence; substance misuse risks; tackling obesity; the Prevent Duty; understanding the role of the safeguarding lead; ADHD awareness; autism awareness; looked after children; mental wellbeing in children and young people; raising awareness of LGBT; suicide awareness and prevention; trauma informed practice in schools; understanding anxiety; understanding low mood and depression; understanding self-harm; young carers; concussion awareness; effective health and safety for children with SEND and ASN; food hygiene and safety.

The logic model agreed with the DRW during the development phase of the project is included in figure 1 below.

Figure 1: Dallaglio RugbyWorks logic model



Two main causal pathways through which DRW influences its outcomes were identified (informed by the integrated model of behaviour (Barnard, 2023)): the first is increasing motivation for pro-social behaviour; and, the second helping CYP make better choices through improved decision-making.

Greater pro-social motivation: there are a complex set of factors that can motivate young people to exhibit behavioural difficulties, including anti-social or aggressive behaviour. **Stress and frustration** are seen as immediate triggers for aggression, and the ‘frustration displacement’ hypothesis indicates that this can also increase the tendency to strike out at others more generally (King, 2012). The DRW intervention aims to **improve mental and physical wellbeing**, and this can lead to a reduction in aggression by reducing the amount of stress young people experience through issues such as anxiety, anger or physical ill health. At a more fundamental level, the intervention’s role in supporting young people through **raising aspirations**, including through role modelling (Morgenroth et al, 2015) can influence a young person’s core goals, both in terms of changing the value they place on different goals (**goal value**) and the degree to which they believe those goals are attainable (**goal expectancy**). Particularly relevant for individuals from minoritized ethnic backgrounds, the mechanisms within role modelling include changing self-stereotyping (seen as influencing goal expectations) as well as the admiration of and identification with the role models (seen as influencing goal values).

Better decision-making: an individual’s information processing ‘system’ and their ability to emotionally self-regulate both influence their choices about how to respond to a threat or provocation (Pinker, 2011; Sapolsky, 2017). DRW aims to affect both these things. Cognitive distortions or pathological belief systems are embodied in mantras such as ‘beat or be beaten’ or ‘I am the law’, which can frame individual’s beliefs about the costs and benefits of aggression (King, 2012). **Developing life skills** can challenge these thinking patterns, changing the conceptual framework that young people use to interpret social cues and improving their

information processing abilities. This enables them to make a more realistic assessment of the impact of their actions and help them develop strategies to think through their response. In terms of self-regulation, trauma and stress can increase a young person's emotional response to a perceived threat and limit their ability to modulate their reaction and exercise self-control (Sapolsky, 2017). The **focus on mental wellbeing**, including through developing a relationship between coaches as mentors, can lead to **better emotional self-regulation.**

There is strong research evidence indicating that behavioural difficulties in childhood and adolescence and higher levels of aggression increase the risk of a CYP not being in **education, employment or training (EET)** and of **violence and offending** (Rodwell et al, 2018; Kalvin and Bierman, 2017). Reducing behavioural difficulties is therefore believed to have a positive impact on both these distal outcomes, and these outcomes will be self-reinforcing through a positive feedback loop. Being excluded from a normal peer group causes dysregulated behaviour, and therefore reintegration into EET is likely to enhance the skills and motivation the CYP have gained from the intervention. Reintegration in EET is also likely to improve CYP academic performance and enhance their attainment.

Business as usual

Young people in APS have been excluded from mainstream education and are generally between the ages of 11-16 and receive the education provision offered by pupil referral units (PRUs). Pupil referral units do not have to follow the national curriculum and young people generally receive a minimum curriculum based on core subjects, with some tailored learning and access to therapeutic support and social workers (subject to local resources).

The support available in mainstream schools for participants includes:

- provision for children identified as having a special education need co-ordinated by a special education needs co-ordinator, which can be delivered at the school or local authority level and will cover: special educational, health and social care provision, including online and blended learning; other educational provision (for example sports or arts provision, paired reading; arrangements for resolving disagreements and for mediation; arrangements for travel to and from schools¹;
- the mandatory health education curriculum covering relationships, health and sex education and including the mental wellbeing training module;

¹ DfE. *Schools: guide to the 0 to 25 SEND code of practice (pdf)*. London: DfE [Available at: <https://www.gov.uk/government/publications/send-code-of-practice-0-to-25>]

- support from local mental health support teams (in some areas)²;
- in some schools, third sector mental health support, for example by organisations such as Place2Be.

In addition to school-based support, young people may be receiving support from other local statutory and third sector organisations, including:

- **Children’s Social Care Services** – if they are on a child protection plan they will regularly meet with a social worker and they and their carers may be receiving a range of support services, including parenting programmes or support for parents/carers with mental health, addiction or domestic abuse issues; children designated a child in need may also receive support, as may their parents/carers though it is likely to be at a lower level. Support offered varies across different local authorities.
- **Child and adolescent mental health services (CAMHS)** – children who have been identified as having a mental health condition may have been referred to the local CAMHS service, where they can receive support from a psychiatrist, who may prescribe medication, and from psychotherapists. The support available and waiting lists vary across different integrated care boards, who are responsible for commissioning local NHS services.
- **third sector organisations, such as Young Minds.**

If DRW did not exist, young people would not have the same level of support around mental and physical wellbeing, employability and life skills. They may also not have the same opportunities to develop trusted adult relationships.

DRW is committed to ensuring that all young people are treated with respect and do not experience discrimination or disadvantage as a result of being in the control group. CYP assigned to the control group in this evaluation will receive business as usual as described above.

Incentives

The participants involved in the trial are vulnerable young people who are more likely than average to have complex and unstable lives. This means that it will be challenging to achieve a high response rate for the data collection, particularly for the follow-up data collection at follow up. Drawing on lessons from behavioural science, we believe that incentives can be an

² Further details available at: <https://www.gov.uk/guidance/mental-health-and-wellbeing-support-in-schools-and-colleges>

important tool in achieving a high response rate. We have designed an approach based on the following principles:

- **Provide a significant initial thanks:** behavioural science indicates that initial feedback sets expectations and can be an important influence on encouraging repeated behaviour. This is particularly relevant for the CYP in the target group as goal setting, long term planning and delayed gratification are all issues that contribute to their risk of offending and are common challenges for the individuals who will be recruited for this trial.
- **Maintain regular contact:** regular keeping in touch points help maintain and reinforce behaviour and also provide early warning if there is likely to be an issue in obtaining follow-up data.
- **Ensure equity between participants and independence from the intervention:** treating the intervention and control groups the same ensures there is no undue incentive to be in one group or the other and or the possibility of their behaviour being influenced differently. It also means that if CYP drop out of the intervention, the keeping in touch process has already been established.

Based on these principals, all CYP involved in the trial will be offered the following incentives in the form of vouchers:

- £10 for completion of baseline measures;
- £5 per month for confirming their contact details have not changed or updating them if they have changed;
- £20 for completion of the follow-up measures.

In addition, CYP who take part in qualitative interviews will receive an additional £30 voucher.

Reflecting the risk of losing contact with CYP when they move between provisions (from a PRU back to mainstream schools or from a mainstream school to a PRU) DRW has budgeted for additional resource in order to do follow up these CYP. At the agreement stage with the school, we will ask them to sign up to the overall trial, to share secondary outcome data and to provide details on young people who may move to new provisions so that we can follow up with them. These specific requests will be included, where appropriate, in the consent process that young people and their parents sign in order to take part in the trial. We also intend, in the consent process, to secure parental/guardian/carer contact details. DRW already has an existing information sharing protocol that they use for their work with schools and this will form the basis of an amended and adapted protocol that will include the sharing of data with ICF.

Delivery period

The intervention lasts one academic year and for the purposes of the trial the project will be delivered over two academic years. The first cohort will start in September 2024 and end in July 2025; the second cohort will start in September 2025 and end in July 2026).

Impact evaluation

Research questions

1. The **primary research question** addressed by the efficacy trial will be: What is the impact of DRW sports for development programme (a sports-as-a-hook rugby programme focused on socio-emotional learning) on the **behavioural difficulties** of children and young people aged 11-16 who are at risk of or involved in youth violence, gang activity, and/or crime as a perpetrator or victim compared to business as usual?
2. The **secondary research questions** addressed by the efficacy trial will be:
 - a. What is the impact of DRW sports for development programme (a sports-as-a-hook rugby programme focused on socio-emotional learning) on the **wellbeing** of children and young people aged 11-16 who are at risk of or involved in youth violence, gang activity, and/or crime as a perpetrator or victim compared to business as usual?
 - b. What is the impact of DRW sports for development programme (a sports-as-a-hook rugby programme focused on socio-emotional learning) on the **emotional difficulties** of children and young people aged 11-16 who are at risk of or involved in youth violence, gang activity, and/or crime as a perpetrator or victim compared to business as usual?
 - c. What is the impact of DRW sports for development programme (a sports-as-a-hook rugby programme focused on socio-emotional learning) on the **pro-social behaviour** of children and young people aged 11-16 who are at risk of or involved in youth violence, gang activity, and/or crime as a perpetrator or victim compared to business as usual?
 - d. What is the impact of DRW sports for development programme (a sports-as-a-hook rugby programme focused on socio-emotional learning) on the **fixed term exclusions** of children and young people aged 11-16 who are at risk of or involved in youth violence, gang activity, and/or crime as a perpetrator or victim compared to business as usual?
 - e. What is the impact of DRW sports for development programme (a sports-as-a-hook rugby programme focused on socio-emotional learning) on **attendance** of children and young people aged 11-16 who are at risk of or involved in youth violence, gang activity, and/or crime as a perpetrator or victim compared to business as usual?

The outcome for the primary research question will be measured using the externalising behaviours score which is derived from two sub-scales of the Strengths and Difficulties Questionnaire (SDQ), using the self-reported version. The outcome for the wellbeing secondary research question will be measured using the Warwick-Edinburgh Mental Wellbeing Scales (WEMWBS), again self-reported; the outcome for the pro-social research question will be the internalising score on the SDQ, which is derived by summing the emotion and peer problems scales; the outcome for the pro-social research question will be the pro-social subscale on the SDQ; the outcome for the fixed term exclusions and attendance research questions will be based on school management information. For full details of the outcome measures see the Outcome Measures section below.

Design

Table 1: Trial design

Trial design, including number of arms		Two-arm randomized controlled trial
Unit of randomisation		Individual young person
Stratification variables (if applicable)		Pupil referral units, Alternative Provision schools, and mainstream schools with onsite exclusion provision
Primary outcome	variable	Behavioural difficulties
	measure (instrument, scale, source)	Externalising score based on the sum of two sub-scales of the Strengths and Difficulties Questionnaire (self-report version)
Secondary outcome(s)	variable(s)	Wellbeing Emotional difficulties Pro-social behaviour Fixed-term exclusions & Attendance

	measure(s) (instrument, scale, source)	Warwick-Edinburgh Mental Wellbeing Scales Internalising score based on the sum of two subscales of the Strengths and Difficulties Questionnaire (self-report version) Pro-social scale of the Strengths and Difficulties Questionnaire (self-report version) School management information
Baseline for primary outcome	variable	Behavioural difficulties
	measure (instrument, scale, source)	Externalising score based on the sum of two subscales of the Strengths and Difficulties Questionnaire (self-report version)
Baseline for secondary outcome	variable	Wellbeing Emotional difficulties Pro-social behaviour
	measure (instrument, scale, source)	Warwick-Edinburgh Mental Wellbeing Scales Internalising score based on the sum of two subscales of the Strengths and Difficulties Questionnaire (self-report version) Pro-social scale of the Strengths and Difficulties Questionnaire (self-report version)

The evaluation will be an efficacy trial run as a two-armed randomised controlled trial. Randomisation will occur at the level of the individual young person and allocation to intervention and control arms will be in the ratio of 1:1. The trial is defined as an efficacy trial as it is delivered directly by the developers rather than on a large scale by professionals not involved in the development of the approach. A two-arm design was chosen as it is an effective way to answer the primary research question and multi-arm trials require larger sample sizes, which was not felt to be feasible for the delivery organisation. The allocation

ratio of 50:50 is the most statistically efficient design and therefore minimises the cost and time to undertake the trial; a similar logic applies to the choice to randomise at an individual level.

The primary outcome will be behavioural difficulties, measured by using the externalising score based on the sum of two sub-scales of the SDQ. The secondary outcomes will be wellbeing as measured by the WEMWBS, pro-social behaviour, as measured by the pro-social scale on the SDQ, and fixed term exclusions and attendance, as measured by school management information.

Randomisation

Recruitment and enrolment into the study will be undertaken by a DRW practitioner. Randomisation will take place at the start of the academic year, with the DRW practitioner meeting eligible young people within the provisions in groups, providing information about the trial, confirming eligibility, gaining consent to take part in the trial and supporting the young person to complete the baseline data collection via an online digital portal. The list of recruited young people will be shared with the ICF.

The randomisation process will consist of the following five steps.

1. At the start of the trial, the trial statistician will create a random order, stratified by provision and with varied block length (this will prevent manipulation of the randomisation mechanism). This random ordering will be used throughout the trial for randomisation. At the point of generating this random ordering, the trial statistician is blind to the identity of the young people (as this will take place prior to recruitment).
2. DRW practitioner will facilitate young people to complete the baseline data collection point. (having been trained on the data collection processes by ICF prior to the start of the trial).
3. The completed surveys will be returned to ICF who will then randomise the control and participating group. They will be randomised to the intervention or control group based on the chronological order in which their baseline data collection is complete, within their provision strata.
4. An ICF researcher will use the random ordering to identify the allocation of the young person and this will be shared with the practitioner.
5. The practitioner will then meet with the young person to inform them of the randomisation, confirming the result in an email or text message that also provides the £10 voucher, which is given as thanks to the young people in the trial.
6. The practitioner will explain again to the young people in the control group the process for maintaining contact and ensuring correct contact details are up-to-date

and for young people in the intervention group, will provide information on the process for beginning the intervention.

This process means the practitioner and the young person will not be aware of the allocation to intervention and control until after all baselining activities are completed.

Participants

The target population for the intervention is young people aged 11-16 exhibiting a 'secondary' level of need (CYP at high risk of becoming involved in violent or non-violent crime, based on the YEF eligibility triangle categorisation). This may include young people exposed to sexual exploitation and training is provided to staff to be able to appropriately engage these young people – including understanding risk factors, appropriate interventions, trauma-informed approaches, and raising safeguarding concerns – and ensure these young people are not excluded from our programme. DRW staff do not offer therapy, however the programme can support young people to be able engage in other forms of support.

In terms of eligibility, any young person who is attending a PRU will have been excluded from school and is therefore considered to be at high risk of becoming involved in violent or non-violent crime and is eligible to take part in the intervention. The nature of the structure of PRUs means that young people won't be 'referred' to the intervention, instead the whole cohort will be invited to take part in the trial.

In addition to recruiting from PRUs, CYP excluded in mainstream (EiM) will be recruited. These are CYP who are managed out with of the normal mainstream school experience in the following ways:

- in a separate building on the mainstream school site;
- in a suit of classrooms within the mainstream school;
- in the same classrooms pupils in "normal mainstream education" use but on separate timetables

Whatever they are based, all CYP invited to take part in the trial will meet the criteria below:

- they will be permanently excluded from mainstream and/or have had three or more fixed term exclusions;
- they will have been identified by the provision as displaying challenging behaviour (this will usually be evidenced through the provision's behaviour management system);
- they will be at risk of offending due factors such as:
 - be living in a neighbourhood with high levels of crime and socio-economic deprivation;
 - have experience of trauma or higher number of adverse childhood experiences;

- have siblings, or be associated with peers, who are known to be involved with offending;
- have previously exhibited criminal behaviour or had involvement in youth justice services.

The intervention has no specific exclusion criteria however the SDQ requires a minimum level of literacy and comprehension. DRW will aim to support any young people with learning difficulties to complete the questionnaire however if it becomes apparent that they are unable to complete the questionnaire this may lead to them being excluded. The SDQ is available in a range of languages, but based on DRW's experience, it is not anticipated that any CYP will require a version not in English.

Provisions will be recruited within the areas of high levels of deprivation that Dallaglio RugbyWorks operates in and where many young people are eligible for free school meals, and the aim will be to recruit a range of provisions to achieve a balanced mix. Some characteristics of the young people within those provisions will be impacted by geography. Nationally, Dallaglio anticipate 30% of the cohort of CYP to be from Black, Asian, or Minority Ethnic backgrounds, though the proportion is likely to be higher in London and Birmingham, given the disproportional impact of school exclusion and suspension on Black Caribbean boys. In Wales, it is likely that some cohorts will include an over-representation of young people from Gypsy, Roma, Traveller communities, given the over-representation of this group in school exclusions and suspensions. In addition, the organisation expects 35% to be female, 60% male and 5% to identify as transgender, non-binary or other gender identity.

DRW has more than 10 years' experience working in the school exclusion landscape and works with young people experiencing school exclusion in Pupil Referral Units (PRUs), Alternative Provisions (APs) and mainstream schools where schools manage exclusion internally (EiM), and routinely works in up to 50 settings each year. The organisation has focused on the CYP in these settings as they are the most likely to end up in prison or unemployed without a supportive intervention, and DRW has worked with over 4000 CYP in the last ten years.

The recruitment process will involve the following steps.

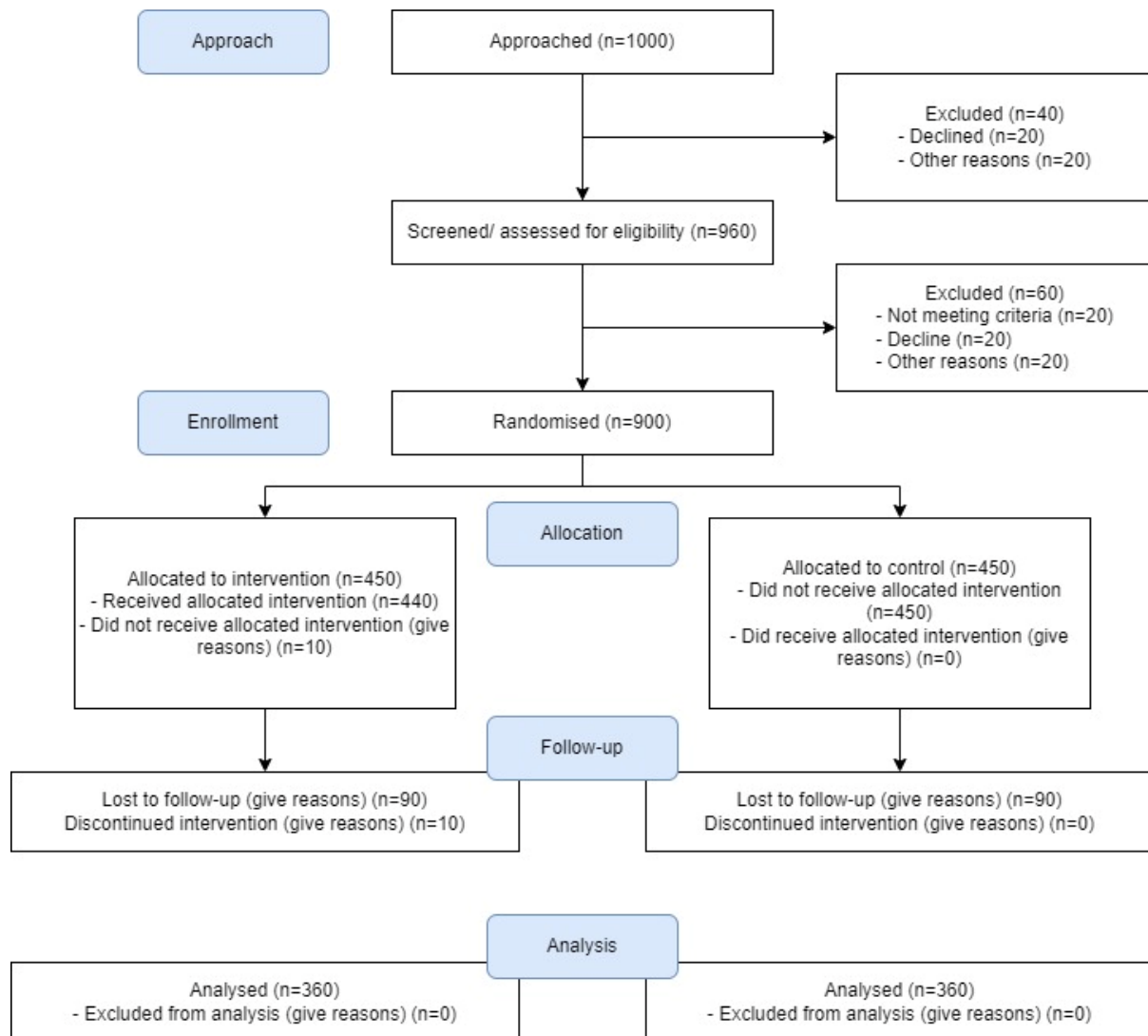
- The PRU/school will introduce the young people to the DRW practitioner.
- The DRW practitioner will introduce the young people to the trial, including providing an easy-to-read information sheet written in plain English explaining what participation involves.
- The young people will have the opportunity to ask questions and to take the information sheet away to consider it.

- Young people who are eligible will be asked to confirm they are happy to take part in the trial and understand what taking part means and then asked to sign a consent/ assent form. If they are below 16 years old, DRW will work with the pupil referral unit/school to gain assent from the young person's parents or carers following the process normally used within the PRU/school.
- Young people who consent/ assent to take part in the trial will be asked to complete the baseline data collection and the young person's data will be shared with the evaluation team via a bespoke, secure digital portal, and the trial statistician who will randomise the young person into the intervention or control group.
- At a subsequent meeting, the practitioner will meet with the young person to inform them of the outcome of the randomisation, confirming the result in an email or text message that also provides the £10 voucher, which is given as thanks for the young person agreeing to take part in the trial.
- The practitioner will explain again to the young people in the control group the process for maintaining contact and ensuring correct contact details are up-to-date and for young people in the intervention group, will provide information on the process for beginning the intervention.

As there are not many professional rugby players from minority ethnic backgrounds, the research team recognises that there is a danger of underrepresentation of these CYP in the final sample. To address this the team will monitor engagement of CYP from minority ethnic backgrounds during referrals, recruitment and retention during the delivery phase. Our data collection processes will collect data on ethnicity from the screening stage onwards. We do not think it is ethically appropriate to ask CYP for data if they say they are not interested in taking part and so do not even get to the screening stage. However, we will ask PRUs and schools for aggregate level data on the population who are eligible in principle, so will be able to compare the ethnic background of those who we screen for eligibility to the total population and see if there is a differential drop out.

A participant flow diagram with expected numbers approached, enrolled, allocated, followed up and analysed, is included in figure 2 below.

Figure 2: Participant flow diagram with expected numbers



Sample size calculations

The sample size is based on achieving a minimum detectable effect size of 0.186 in line with YEF guidance and with average effect sizes for sports programmes on externalising behaviour reported in the literature (Gaffney et al, 2021 converted using the formula suggested by Chinn (2000)). The power calculations were conducted in PowerUp! (Dong and Maynard, 2013) for a two-level fixed effects blocked-individual random assignment design (2.2 BIRA2_1f). The power calculations were based on the following assumptions.

- A type-one (false positive) error rate of 0.05.
- A type-two (false negative) error rate of 0.20 (synonymous with power of 0.80).
- Two-tailed statistical significance testing.

- A 1:1 allocation ratio between intervention and control.
- The variance in the outcome expected to be by the baseline measure and blocking covariates is 0.20. We estimate this roughly equivalent to a pre-post correlation of 0.45. This is a reasonable assumption given that the same outcome measure is being used at baseline and endline, twelve months apart. It is also a similar assumption to other trials using the same outcome, such as the Mentoring MST (Lewis et al., 2023) which assumes a pre-post correlation of 0.50.

The expected sample size is based on Dallaglio’s plans for delivery:

- Approximately 25 settings will be recruited for participation in the trial;
- on average, 18 young people will be recruited to the trial within each PRU or mainstream school per year;
- the total recruited sample size will be 900 young people (450 intervention; 450 control);
- the total sample size at analysis has been adjusted to account for attrition between baseline and endline of 20% (720 young people; 360 intervention; 360 control).

Table 2: Sample size calculations

		PARAMETER
Minimum Detectable Effect Size (MDES)		0.186
Pre-test/ post-test correlations ³	level 1 (participant)	0.45
	level 2 (cluster)	n/a
Alpha ^[2]		0.05
Power		0.80

³ The pre-post correlation is not the true determinant of statistical power. This is actually the variance explained (R-squared) by the baseline measure and other covariates in the model. As there is no way to determine the pre-post correlation from the R-squared, we assume that the pre-post correlation is approximately equal to the square root of the assumed R-squared value (0.20).

One-sided or two-sided?		Two-tailed
Number of participants	Intervention	360
	Control	360
	Total	720

Outcome measures

Primary outcome

The primary outcome will be **behavioural difficulties** as measured by the externalising behaviours score based on the self-report Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997). The SDQ measures emotional and behavioural difficulties and has been widely used in clinical and research settings. It has good psychometric properties and is comprised of five sub-scales, which are: emotional symptoms; conduct problems; hyperactivity/inattention; peer problems; and, prosocial behaviour. Each subscale has an individual score and the externalising behaviours score (which ranges from 0 to 20, with a higher score indicating more negative externalising behaviours) is the sum of the sum of the conduct and hyperactivity scales. The primary outcome aligns with the intervention's intermediate outcomes, which are to improve mental and physical wellbeing, leading to reduced stress and better emotional self-regulation (which is reflected in a number of items that make up the conduct problems and hyper activities scales of the SDQ). The primary outcome measure will be used with all young people in both intervention and control groups.

Secondary outcomes

We plan on including five secondary outcomes, which will be collected for all young people in both intervention and control groups.

The first secondary outcome will be **mental wellbeing** as measured by the Warwick-Edinburgh Mental Wellbeing Scales (WEMWBS). WEMWBS was 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. The WEMWBS is a 14-item scale of positively worded statements covering feeling and functioning aspects of mental wellbeing. The 14-statements have five response categories from 'none of the time' to 'all of the time'. Children and young people are asked to describe their experiences over the previous two weeks. Mental wellbeing is identified in the theory of change as a key intermediate outcome and is directly relevant to the understanding the causal mechanism of

the programme. Improved mental wellbeing is likely to reduce the amount of stress and frustration CYP experience, which the frustration displacement hypothesis indicates will reduce their aggressive behaviour (a key component of behavioural difficulties).

The second secondary outcome will be **emotional difficulties**, as measured by the internalising score on the SDQ, which based on the sum of the scores for the emotional and peer problem scales and ranges from 0 to 20, with a higher score indication more internalising behaviours. This secondary outcome aligns with the intervention's intermediate outcomes, which are to improve mental wellbeing, leading to reduced stress and better emotional self-regulation (which is reflected in a number of items that make up the peer emotional and peer problems scales of the SDQ). The primary outcome measure will be used with all young people in both intervention and control groups.

The third secondary outcome will be the **pro-social behaviour**, as measured by the pro-social scale on the SDQ. Pro-social behaviour is an important intermediate outcome of the intervention, reflecting its emphasis on raising aspirations leading to changes in CYP's goal values and goal expectancies.

The fourth and fifth secondary outcomes will be an indicator related to engagement in **education, employment or training (EET)**, specifically **fixed-term exclusions** and **attendance** (both based on school management information). Alongside reductions in violence and offending, engagement in EET is a key impact of the intervention that will be a result of reduced behavioural difficulties. Engagement in EET is also likely to reinforce reduced behavioural difficulties and thus reduce the risk of CYP being violent or offending. The exclusion measures will be the total number of fixed term exclusion (i.e. a count) and the absence rate (authorised and unauthorised absence) defined as the number of sessions missed out of the total number of possible sessions, multiplied by 100.

Compliance

Compliance with the trial requirements will be supported through regular one-to-one contacts between the evaluation team and DRW (which will be at least monthly and more frequent during the set up and randomisation phase) and through completion of logs recording approach and eligibility checking, consent and randomisation. Any issues identified through these processes will be raised in the meetings and escalated if necessary.

Fidelity will be assessed quantitatively and explored through qualitative interviews as part of the implementation and process evaluation. Data will be collected on the following aspects relating to the practice model:

- dosage – number of and length of sessions (with a minimum of 20 sessions or experiences attended per CYP indicating 'compliance' with the intervention);
- consistency of coach and coach training;

- coaching structure/ sessions over time.

This data will be primarily collected through session-based monitoring forms that have been developed by DRW that include information on the young person and the coaching sessions. This data will be analysed descriptively and if there is substantial variation in implementation or fidelity to the practice model, we will develop a scoring matrix using a weighted combination of the criteria and use this to inform exploratory analysis to assess whether there is an association between outcomes and delivery quality. In addition to the monitoring form, data relevant to fidelity will be collected through a survey with participants and qualitative interviews with a purposively selected sample of participants and coaches (as part of the implementation and process evaluation). Data on services received by the control group that comprises business as usual will be collected as part of a survey of their experiences (also part of the implementation and process evaluation).

Analysis

The primary analysis will be on an intention-to-treat basis and will use a linear regression model, where the SDQ externalising behaviours score at follow up is the dependent variable, regressed against the SDQ externalising behaviour score at baseline and fixed effects for the block within which they were randomised (provision). Sensitivity analyses will be conducted in line with YEF guidance (for example, saturated models, including covariates where these are observed as imbalanced).

Secondary outcome analysis will follow the same specification as the primary analysis, substituting the delinquency scale at baseline and follow-up for the WEMWBS, the SDQ internalising score, the SDQ pro-social scale, total absence, and fixed term exclusions (using a Poisson model) and attendance rate at follow-up.

Subgroup analysis: Based on the target population for beneficiaries, we expect that enough pupils from Black, Asian or other minority ethnicity backgrounds to conduct sub-group analysis by ethnicity. We intend to explore whether impacts vary by special educational needs and by ethnicity. It is our intent to separately analyse different ethnicity groups tested against a consistent reference group (e.g. White young people). A dichotomous analysis of White against BAME young people would be over-simplistic and may hide nuances in the data. However, as the distributions are currently unknown, the exact groups to be tested will be fully specified in the statistical analysis plan. We anticipate the analyses will be conducted using an interaction model. We will also explore a more granular analysis for different SEND groups (e.g. physical/sensory disability, social/learning disability, other disability).

Exploratory analysis: Exploratory analysis will examine the impact of the intervention on the SDQ total score, the individual subscales (emotional problems, conduct problems, hyperactivity, peer problems). We also intend to assess treatment-effect heterogeneity

between settings using interactions between the intervention dummy variable and the fixed effects for settings. This will help us to understand what the variation in delivery is like and may help us unpick under what conditions the intervention is more or less effective. We will report this in a way that does not disclose the identity of the provisions. The distribution between settings will be known once provisions have been formally recruited.

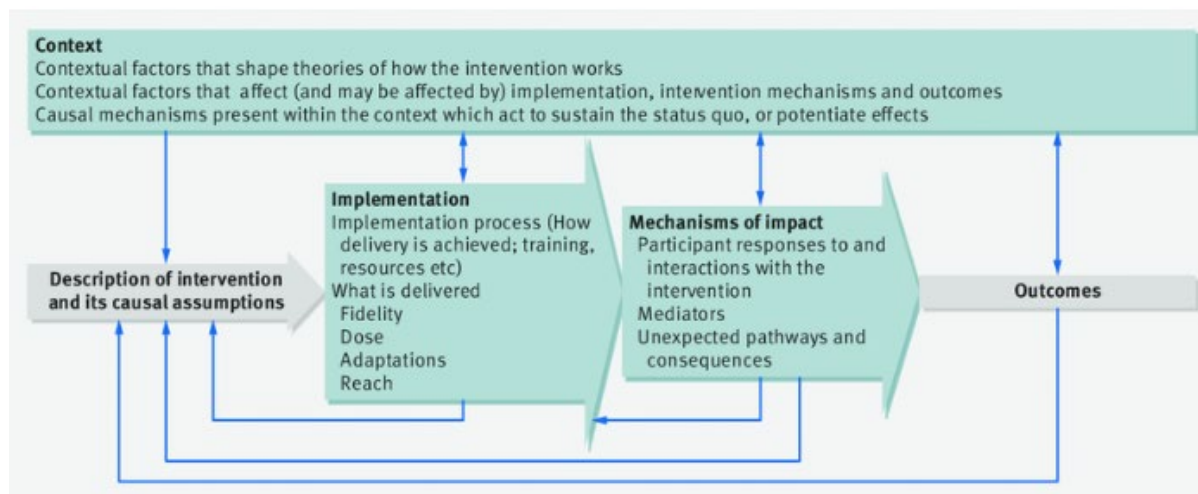
Compliance analysis: If the average attendance to sessions in the intervention group is less than 75% of the total possible sessions, then a dose-response analysis will be conducted for the primary outcome. The primary outcome in the intervention group will be plotted against the number of sessions (dosage) to identify whether a threshold or no-threshold dose response model is most appropriate. After graphical interpretation of the plot, a dose-response model will be estimated, based on which of these models is more appropriate, informed by this data.

Missing data: If there is less than 5% missing data, we will assume the data is missing at random and conduct complete case analysis. If 5% or more of the data is missing, we will assess if there are observable patterns in the 'missingness' mechanism using a logistic regression model, where the dependent variable is a binary indicator of missing outcome data, regressed against all available covariate data. If suitable covariates and auxiliary variables are available, we will conduct multiple imputation through chained equations (MICE) to impute missing values as a sensitivity analysis.

Implementation and process evaluation

Our approach to the implementation and process evaluation will be informed by MRC guidance for undertaking process evaluations of complex interventions and case study research (Moore et al, 2015; Crowe et al, 2011). The guidance is useful in providing a clear structure for process evaluations that reflect key elements of intervention implementation and the factors that influence outcomes (as illustrated in figure 3 below).

Figure 3: Key functions of process evaluation and relations among them



Source: Moore et al, 2015

Research questions

Based on the MRC guidance, the research questions for the implementation and process evaluation are divided into those that address context, implementation, mechanisms and outcomes.

Context

1. What are the range of experiences of the young people involved in DRW sports for development programme (including those relating to culture and the experience of prejudice or discrimination) and how have these influenced their risk of becoming involved in violence as a victim or perpetrator?
2. What are the range and nature of services and systems working with the young people involved in DRW sports for development programme and how have these influenced the development and implementation of the intervention?
3. How does the environment of young people involved in DRW sports for development programme influence their ability to take part and benefit from the intervention and coaches' ability to support young people?

Implementation

4. What is the range of experiences of coaches in relation to the training they received and what factors are perceived to influence its effectiveness?
5. What factors influence the implementation of DRW sports for development programme and what are the barriers and facilitators to effective implementation?

6. What is the range of experiences of CYP of the intervention and what factors influence their experience of the intervention and its acceptability?
7. What are the characteristics of the CYP who decline to take part in the intervention and what are the factors that influence their decision?

Mechanisms of impact

8. What are the range of causal pathways that influence outcomes from DRW sports for development programme and do they reflect those specified in the theory of change?
9. What factors influence the causal pathways for DRW sports for development programme and what are the range of ways they affect the outcomes experienced by young people?

Outcomes

10. Are there any unanticipated positive outcomes for young people or coaches from involvement in the intervention?
11. Are there any unanticipated negative or backfire outcomes for young people or coaches from involvement in the intervention (or for the control group from involvement in the trial)?

Research methods

The implementation and process evaluation will draw on both quantitative and qualitative methods.

Programme administrative and assessment data

DRW coaches will record information relating to the trial and key characteristics of the CYP and their circumstances. This will include: gender, sex, ethnicity, disability status, ethnicity, LAC status, free school meals status. Data will also be collected on the attendance of CYP. The programme administrative and assessment data will be used to assess fidelity to the trial and the quality of the delivery alongside providing contextual information about the characteristics of the CYP. As noted above, we will monitor engagement of CYP from minority ethnic backgrounds during referrals, recruitment and retention during the delivery phase. Our programme administrative data collection processes will collect data on ethnicity from the screening stage onwards. We do not think it is ethically appropriate to ask CYP for data if they state they are not interested in taking part and so do not even get to the screen stage. However, we will ask PRUs and schools for aggregate level data on the population who are eligible in principle, so will be able to compare the ethnic background of those who we screen for eligibility to the total population and see if there is a differential drop out. Administrative data will be collected on all CYP involved in the trial (n=900).

CYP survey

All CYP in both intervention and control groups will be invited to complete a short survey at the end of the intervention period. The survey will be used to address questions relating to the implementation of the intervention, the mechanisms through which it achieves its outcomes, and identification of confounds. The survey themes will include: experiences of the DRW programme and views of the coach (among the intervention group only); other services received including involvement in other sports-based activities; and, CYP goals and their attitudes to violence and offending. The survey will be drafted by the research team and piloted with young people drawn from DRW's network of current and former participants to assess its acceptability and accessibility, including ensuring it is racially and culturally sensitive. All CYP involved in the trial will be invited to complete the survey (n=900)

In-depth interviews

In-depth interviews will be undertaken with six categories of participant (coaches, coach trainers, school leads, CYP in the intervention, CYP in the control group, CYP who decline to participate in the intervention) that can provide insight into the implementation of the intervention, the mechanisms influencing its outcomes and the context within which it is operating using a case study approach. Six case study settings (a setting being a PRU or mainstream school) will be purposely selected and participants purposely selected from within those settings to take part in interviews. This will include the coach providing the intervention, the school lead for supporting the intervention (likely to be the special educational needs coordinator in mainstream schools) and four CYP in the intervention group and two in the control group selected in each setting. In addition, two central coach trainers will be interviewed. Our approach to completing in-depth interviews with CYP will be flexible where we will aim to conduct 1-2-1 interviews or small focus groups, where feasible. Focus groups can offer a layer of depth to qualitative research including insights into participant group dynamics, their reactions to the views and experiences of others, and any shared/different experiences of the programme, and their environments. We will discuss the suitability of conducting focus groups with delivery organisations and individual settings and coaches.

The CYP in both intervention and control groups will be invited to be interviewed just after the follow-up quantitative data collection. The CYP survey will include a statement saying that the evaluation team is interested in interviewing a sample of young people to find out more about their experiences and asking them to tick a box if they are not interested in this part of the study. An opt out will be used at this point as opt ins can effectively exclude potential participants who would be happy to take part but would not actively volunteer, undermining the diversity of the sample and potentially having the effect of excluding some groups. A selection of CYP who do not opt out will be made aiming to achieve diversity across the whole

sample (and within settings where possible) in terms of changes to their attitudes to the acceptability of violence, as recorded in the survey, as well as diversity in terms of age, ethnicity and gender. These young people will be contacted by email and/ or text and invited to take part (an opt in), and interviews arranged with those who agree. The qualitative interviews with CYP will explore the context of their lives (their living arrangements, cultural backgrounds? experiences of the activities and coaching (for the intervention group only)), and their experiences of other services.

Table 3: Summary of qualitative interviews by participant group

Participant group	Number of interviews
Coaches	6
Coach trainers	2
School leads	6
CYP in intervention	20
CYP in control	10
CYP who decline to take part	6
Total	50

All interviews will be undertaken by the evaluation research team using topic guides to help ensure that there is consistent coverage across interviews. Guides will be developed for each participant group informed by the research questions but used flexibly as an aide memoir rather than topics always being discussed in the same order or only once during the interviews. The guide will not be seen as an exhaustive list of topics and will not prevent unanticipated, but relevant, subjects being discussed.

Analysis

The administrative data and CYP survey will be analysed with descriptive statistics to understand the characteristics of the CYP population, fidelity to the intervention model and its quality and to provide insights into the mechanisms associated with the intervention, such as differences between the intervention and control group in terms of attitudes to violence and goals as well as the experience of CYP in the intervention group and their views of their coach.

With participants' permission, the qualitative interviews be audio recorded and the recordings transcribed using Trint, a secure online service that translates and transcribes recordings of interviews. The data will then be managed using the Framework approach (Richie et al, 2013). Within this approach, the data gathered from the interviews will be summarised into a framework developed in Microsoft Excel, subdivided into main themes and sub-themes where columns represent themes, and each row is an individual case. This

means the data is arranged in a systematic way that is grounded in the accounts of the participants while closely tied to the research objectives and allows comparative analysis to take place both between and within cases.

The final stage of analysis involves working through the framework in detail, drawing out the range of experiences and views, identifying similarities and differences, developing and testing hypotheses, and interrogating the data to seek to explain emergent patterns and findings. The aim of the analysis is to develop categories and explanations that are comprehensive in the sense of capturing the full range of views and experiences. Following the Framework tradition, a balance between induction and deduction will be used during the analytical process. Early on, the focus will be inductive in the sense of aiming to understand participants from their point of view and only later as the process moves up the 'analytical ladder' with existing concepts and the theory of change brought in to deductively help organise and contextualise the findings (Barnard, 2012).

The findings will reflect three broad types of analysis (Ritchie et al, 2013):

- Thematic analysis – this provides the foundation of the findings through detailing the different types of processes and approaches used.
- The identification of typologies – though typologies do not always exist, where they do they can be powerful tools for understanding the nature of the phenomena by combining multiple elements identified through the thematic analysis at a case level.
- Explanatory analysis – explanatory analysis aims to understand the connections between different parts of the process and how they contribute to the outcomes and impact and is developed through in-depth intra- and inter-case exploration.

Quantitative and qualitative data gathered as part of the IPE data will be combined and triangulated to test the intervention's logic model and interrogate the causal mechanisms underlying it. In exploring the factors influencing the effectiveness of DRW's sports for development programme and the reasons the trial fails to find an impact (if that is the ultimate outcome), the IPE analysis will aim to distinguish between theory failure, programme failure, implementation failure, and methodological failure, while keeping in mind the contextual and environmental factors that can influence all types of failure (EEF, 2019; Coldwell & Moore, 2023).

Cost data reporting and collecting

The following costs data will be collected using a bottom-up approach to produce a cost consequence analysis from the perspective of DRW.

- Personnel time – time to deliver the intervention will be recorded as part of the implementation checklist completed by coaches during delivery.

- Programme costs – costs such as travel, will be recorded as part of the implementation checklist completed by coaches during delivery; venue costs (where relevant) will be recorded by coaches (if they are claimed through expenses) or by DRW (if paid for centrally).
- Training costs – DRW will be requested to record time and resources required to train coaches, including cost of training material and facilities.
- Other programme inputs: coaches and DRW will be asked to record any other costs arising as a result of intervention delivery; the evaluation team will provide a pro forma for recording such costs.

We will aim to produce an average cost for a typical young person, that is we will use the average contact time between coaches and young people and associated programme costs. This is because some young people are expected to end their involvement in the intervention before its official end either because they have returned to mainstream schools or because they decide they do not want to or cannot continue for other reasons.

Summary of data collection processes and data collection sources and timing

Quantitative data will be collected using an online portal that can be accessed through desktop & laptop computers, tablets and phones. The portal, which will use the Qualtrics survey platform, will be designed so that it is easy to navigate. The surveys will be self-complete but CYP will be supported by DRW coaches and in addition evaluation team members will provide further support, particularly for CYP in the control group at the follow up data collection point.

Qualitative interviews will be undertaken by evaluation team staff and take place face-to-face with CYP in safe spaces, likely to be at PRUs. Interviews with coaches will take place face-to-face or online, depending on schedules. If face-to-face, they will take place at PRUs as well.

A summary of the data being collected and time points when the data is collected is set out in table 4 below.

Table 4: Summary of evaluation data collection

Evaluation element	Research question/ objective	Measure/ data collected	Participants	Data collection time points			
				Screening	Baseline	Treatment phase	Follow-up
RCT process	Approach & eligibility	Recruitment log	Treatment & control	x			
	Consent	Informed consent/ assent	Treatment & control	x			
	Contact details	Contact details individual & significant others	Treatment & control		x		
	Demographics	Demographics	Treatment & control		x		
	Randomisation	Randomisation outcome	Treatment & control		x		
Impact	Behavioural difficulties	Externalising score from SDQ	Treatment & control		x		x
	Wellbeing	WEMWBS	Treatment & control				x
	Emotional difficulties	Internalising score from SDQ	Treatment & control		x		x
	Pro-social behaviour	Pro-social score from SDQ	Treatment & control		x		x

Evaluation element	Research question/objective	Measure/ data collected	Participants	Data collection time points			
				Screening	Baseline	Treatment phase	Follow-up
	Engagement in EET	Fixed-term exclusions and attendance	Treatment & control				x
Fidelity/ confounds	Intervention fidelity	Session monitoring form	Coaches			x	
	Other interventions received	Survey	Treatment & control				x
IPE	Feasibility, acceptability, mechanisms and experience	Survey	Treatment				x
	Feasibility, acceptability, mechanisms and experience	Qualitative interviews	Coaches, stakeholders, treatment and control				x
Costs	Costs of delivering the intervention	Costs data proforma	Coaches			x	
	Costs of supporting the intervention	Costs data proforma	DRW managers			x	

Diversity, equity and inclusion

Equality and diversity have been central to ICF's values since its foundation in 1969 as the 'Inner City Fund', a purpose-driven company set up to finance minority-owned businesses in

Washington, D.C. Throughout its growth, ICF's commitment to fighting inequality and promoting diversity remain part of the core culture of the organisation. At a corporate level, this is supported by a wide range of policies and practices that promote diversity and inclusion, including annual mandatory training with modules on unconscious bias, microaggressions and practicing allyship. Our approach recognises the systemic and structural barriers faced by communities of colour as well the disadvantages experienced by individuals with other characteristics that have led to discrimination and inequality, such as gender, sexual orientation and disability. Our proposed research team bring considerable experience of researching the intersection of race and social outcomes and working on projects which centre on race equality and inclusion, such as evaluating the Diversity in Leadership programme for Education and Training Foundation and evaluating a Bradford-based childhood obesity programme that focused on the drivers of childhood obesity for children from a Muslim background.

Our research design will include developing a genuine and meaningful partnership with DRW to ensure that the experiences and voices of beneficiaries are at the heart of the evaluation. Central to our research design is the development of an 'expert by experience' panel of CYP involved in the programme who can provide meaningful input and feedback throughout the research process. This panel will provide critical challenge and will ensure that the voices and experiences of black and minority ethnic CYP are central to the evaluation. Panel members will include CYP from black and minority ethnic backgrounds and different age groups and will consist of CYP who are currently on Dallaglio RugbyWorks' programme. This group will get together online during the trial set up phase and take part in an activity related to trial and programme delivery each term. We aim to support participation at all stages of the trial, producing recruitment material in easy-to-read formats. Based on Dallaglio RugbyWorks' experience of working with the target population, we do not expect research materials will need to be translated, but there may be literacy issues and we will address this by having relevant information, such as about the trial and consent processes, explained verbally as well as being included in written material.

As noted in the sections on data collection and impact analysis above, we will collect information on ethnicity and use it to undertake sub-group analysis to explore whether there are differential impacts for those from different ethnic groups. Wherever possible, we will avoid a dichotomous analysis of white against non-white ethnicities as it is over-simplistic and may hide nuances in the data. Our methodology will also embed a racial and ethnic equity perspective through aiming to 'dig deeper' into the data to identify 'root causes', including those related to systemic and structural barriers (Andrews et al, 2019). The process and implementation element of the evaluation is well-placed to do this, and we will ensure that interview/focus group topic guides and survey questions allow sufficient questions (and probes) to fully explore the underlying issues and causes of behaviour and experiences (Lewis

et al, 2013). This will support CYP from black and minority ethnic backgrounds to tell their stories, in the ways that they choose. This approach is reinforced by the use of purposive sampling to capture the range and diversity of experiences (with minimum quotas set for CYP from different ethnic groups) and through the Framework approach to analysis (ibid). Framework is especially useful in this context as it ensures that all voices and experiences within the data set are treated equally and play their full part in analysis.

Ethics and registration

The trial will be reviewed ICF's research ethics committee comprised of senior staff who will be independent of the evaluation. The key ethical issues for the trial include and our anticipated actions include the following.

- Ensuring voluntary participation on the basis of informed consent – providing clear, accessible consent materials to all participants; CYP who are 16 years will be asked to provide consent at the start of the trial and at each subsequent data collection point (both quantitative and quality. For CYP or are under 16 years, consent will be obtained from a parent/guardian (based on the PRUs existing processes) and CYP will be asked to provide their assent.
- Avoidance of harm - in partnership with Dallaglio RugbyWorks, we will develop a safeguarding protocol for the trial that will cover the response to adverse events or safeguarding concerns that arise during intervention or data collection; the safeguarding protocol will be informed by the NSPCC evaluation department disclosure (Cotmore & Barnard, 2015) and a summary of the protocol will be explained to participants as part of the consent/ascent process and included explicitly in the participant information sheets.
- Ensuring data is kept confidential – we will follow strict data security processes, including only sharing data where necessary; using encrypted files to share data; storing data in secure, password protected folders; avoiding reporting findings in a way that allows identification of any issues.

Our initial assessment is that the trial is low risk, where the level of risk is comparable to the risk of standard care (as evidenced by the fact that sport's interventions is one of the options utilized by pupil referral units). As such we do not propose employing formal stopping criteria, though potential risks and issues will be monitored on an ongoing basis. The trial will be registered with the ISRCTN registry.

Data protection

A Data Protection Impact Assessment will be undertaken for this study. The following position is based on our current understanding but will be updated based on the impact assessment.

In addition, a data sharing agreement will be put in place between the evaluation team and DRW.

ICF will be the data controller. The lawful basis we will rely on for all data purposes is the legitimate interest of the data controller (as defined by the General Data Protection Regulation (GDPR) Article 6). The aim of the RCT is to gather evidence on the effectiveness of DRW's sports for development intervention on outcomes for CYP and this is expected to have substantial social benefits for CYP, organisations such as youth offending services and children's social care services, and society more broadly, which justifies the legitimate interest of the data controller. In order to assess eligibility, describe the characteristics of the CYP involved in the trial and to undertake analysis of outcomes on subgroups, the following special category data and data on protected characteristics will be recorded: ethnic origin; sexual orientation; SEND status; data on health; sex; and age.

Voluntary informed consent will be obtained and participants will be able to withdraw consent for their data to be used up to the point of analysis. A data privacy notice will be made available to participants during the recruitment and consent processes, which will inform participants of their rights and provide further information on the study (detail of the information being collected, how ICF will store, process and protect personal data; who the data subject should contact if they have any concerns). Data will be stored securely on ICF servers within a UK-based server and only be accessible to the study team.

At the end of the study, the evaluation team will submit data to the YEF archive. The process involves preparing and submitting two datasets, as described below.

- One dataset will only contain participants' identifying data and a unique project specific reference number for each CYP. This will be submitted to the DfE and pseudonymised (e.g., personal identifying data is removed and replaced with DfE's pupil matching reference numbers (PMRs)). The PMRs and the project specific reference numbers will then be submitted to the ONS for storage in the YEF archive.
- The second dataset will contain all the evaluation data and the project specific reference numbers. This will be submitted directly to the ONS for storage in the YEF archive.

The evaluation team will destroy its copy of the data sets two years after completion of the final evaluation report.

Stakeholders and interests

Dallaglio RugbyWorks

The following are the lead contacts within DRW who will be responsible for overseeing the intervention and working to deliver the trial in collaboration with the ICF team.

- Zenna Hopson, chief executive officer
- Claudia Carrington-King, chief operating officer

ICF

The following are the evaluation staff from ICF with primary responsible for implementing the trial.

- Dr Matt Barnard, a consulting director and director of the ICF's Centre for Behaviour Change: principal investigator for the trial with overall responsibility for its design and delivery.
- Dr Aisha Ahmad, managing consultant: project manager for the trial, responsible for the day-to-day project management and coordination of the evaluation and lead for the implementation and process evaluation.
- Laura Campbell, senior consultant: project coordinator,
- Dr Sergio Sallis, head of impact evaluation: quantitative analysis quality assurance lead and lead for the cost-consequence analysis
- Robert Wishart, ICF associate: trial statistician, responsible for sample size calculations and lead for impact analysis
- Dr Joan Duda, University of Birmingham and ICF associate: Project academic advisor

Risks

Risk	Mitigation
<p>Challenges recruiting settings (Likelihood low; impact: high)</p>	<ul style="list-style-type: none"> - Exploratory conversations with school senior leaders already undertaken (Dec-Jan) including willingness to undertake individual randomisation and impact on timetabling and control group - Adequate recruitment key element of pilot phase and part of continuing criteria - Recruitment regularly and frequently monitored and early action taken if lower than required - Not being prescriptive between the balance of PRUs and mainstream schools or geography (other than always focusing on areas of deprivation) - Working with the PRUs and AP network and DRW YEF steering group to identify appropriate settings
<p>Challenges recruiting CYP to the trial (Likelihood low; impact: high)</p>	<ul style="list-style-type: none"> - Recruitment regularly and frequently monitored and early action taken if lower than required - Identifying provisions with sufficient numbers of YP on roll who attend classes at the provision - Including mainstream schools that require improvement according to Ofsted, and those challenging circumstances, as they have more YP who are vulnerable. - Good balance of the size of provisions. - Working in provisions where DRW already has a relationship.
<p>Intervention causes harm through re-traumatisation or related issues (Likelihood low; impact: high)</p>	<ul style="list-style-type: none"> - The evaluation team will work with DRW to develop a serious adverse events protocol that covers reporting and actions with schools

	<ul style="list-style-type: none"> - DRW will work with schools to support crisis and longer-term referral pathways and sources of advice. - DRW staff trained in trauma-informed approaches and safeguarding.
<p>Unintended negative consequences for control group (Likelihood low; impact: high)</p>	<ul style="list-style-type: none"> - Exploratory conversations with school senior leaders already undertaken (Dec-Jan) including managing the impact on the control group - On-going liaison with schools to identify and respond to any unintended negative consequences for control group - Incentives available for control group participation in data collection
<p>Occurrence of safeguarding concerns and incident (Likelihood medium; impact: medium)</p>	<ul style="list-style-type: none"> - Safeguarding incidents managed under DRW safeguarding policy, procedures and practice including use of MyConcern to record, categorise and escalate concern - DRW has a Safer Practice Manager who is responsible for ensuring that all staff are trained and supported in managing safeguarding concerns and delivering safely. A copy of the job description can be provided. - Adherence to school safeguarding policies and practice, including liaison with school DSL. - Staff training and use of risk assessments across the range of settings
<p>Attrition from the trial (Likelihood medium; impact: high)</p>	<ul style="list-style-type: none"> - Multiple contact details requested from participants - Regular check ins with coaches and participants - Contact details reviewed & updated if needed at each data collection point - Close monitoring of participation numbers and data collection - Assigning additional resource to making contact and supporting completion of measures if lack of initial response - Behaviourally-informed incentive strategy including incentivisation at the baseline collection stage

<p>Attrition of CYP from minoritised ethnicities (Likelihood low; impact: high)</p>	<ul style="list-style-type: none"> - Delivery teams are trained in equity, diversity and inclusion - Delivery teams include coach mentors with lived experience of discrimination, exclusion and other challenges faced by YP in the target group - Demographic monitoring data captured - Engagement of diverse DRW ambassadors in the programme
<p>Incomplete data collection</p>	<ul style="list-style-type: none"> - Data collection to be undertaken by coach mentors on provision premises - Delivery team to be trained in data collection approach ahead of programme commencing - Budget included for DRW data collection staff to ensure this is completed - Incentives available for YP in both intervention and control
<p>Lack of distinction between intervention and control (Likelihood low; impact: medium)</p>	<ul style="list-style-type: none"> - Ensuring register of participants in place for YP taking part in RugbyWorks intervention - Quantitative monitoring of services received by control group - Qualitative exploration of services received by control group
<p>Data breach (Likelihood low; impact: medium)</p>	<ul style="list-style-type: none"> - Clear data sharing and storage protocols shared with DRW and evaluation team - Monitoring of data sharing and storage and rapid reporting and response if risk or breach - Review and introduce new procedures & training if needed
<p>Reduction of evaluation staff capacity due to sickness or other causes (Likelihood medium; impact: medium)</p>	<ul style="list-style-type: none"> - Ongoing monitoring of resources and staffing against need - If reduction in staff capacity, draw on additional staff at ICF or its wide network of associates and consultants
<p>Reduction of DRW staff capacity (Likelihood low; impact: medium)</p>	<ul style="list-style-type: none"> - DRW will move capacity from other programmes to ensure YEF can continue - Evaluation team and YEF support DRW to bring in additional capacity
<p>Delivery staff recruitment (Likelihood low; impact: high)</p>	<ul style="list-style-type: none"> - DRW regional programme managers responsible for staff development and support, as well as quality assurance

	<ul style="list-style-type: none"> - Focus on provisions in areas where it is easier to recruit staff members - Delivery team members fully briefed on programme and trained in data collection approaches - Recruitment and induction plans in place.
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Timeline

Dates	Activity	Staff responsible/leading
Project and Evaluation Set Up and Mobilisation stage		
01/04/24-30/06/24	Protocol finalisation, development of consent and information sheets, ethical approval application and decision	MB, AA, LC, SS, RW
01/04/24-31/08/24	Project team agree ISAs and referral mechanism with partners/stakeholders, Recruitment, vetting and DBS checks of staff for project delivery, staff training	ZH, CC-K
01/04/24-31/08/24	Development of IPE tools and online portal	MB, AA, LC, SS
01/04/24-30/06/24	Statistical analysis plan drafted	MB, SS, RW
Project and Evaluation Launch and Delivery		
01/09/24 - 31/10/24	Receipt of referrals Y1	ZH, CC-K
01/09/24 - 15/10/24	Baseline data collection and randomisation Y1	ZH, CC-K, MB, AA, LC, SS, RW

01/09/25 – 01/11/25	Receipt of referrals Y2	ZH, CC-K
01/09/25 - 15/10/25	Baseline data collection and randomisation Y2	ZH, CC-K, MB, AA, LC, SS, RW
01/10/24 - 31/07/26	Delivery of intervention	ZH, CC-K
15/06/25 - 31/07/25	Follow-up data collection Y1	ZH, CC-K, MB, AA, LC, SS, RW
15/06/26 - 31/07/26	Follow-up data collection Y2	ZH, CC-K, MB, AA, LC, SS, RW
01/08/25 - 31/08/25	Project delivery report	ZH, CC-K
01/08/26 - 31/10/26	Final evaluation report	MB, AA, LC, SS, RW
01/11/26 - 28/02/27	Peer review and final report sign off	MB, AA, LC, SS, RW

References

Andrews, K., Parekh, J., and Peckoo, S. 2019. *How to Embed a Racial and Ethnic Equity Perspective in Research: Practical Guidance for the Research Process (pdf)*. Washington, DC: Child Trends. [Available at: <https://www.childtrends.org/publications/a-guide-to-incorporating-a-racial-and-ethnic-equity-perspective-throughout-the-research-process>]

Avery KN, Williamson PR, Gamble C, O'Connell Francischetto E, Metcalfe C, Davidson P, Williams H, Blazeby JM; members of the Internal Pilot Trials Workshop supported by the Hubs for Trials Methodology Research. 2017. Informing efficient randomised controlled trials: exploration of challenges in developing progression criteria for internal pilot studies. *BMJ Open*. 17;7(2):e013537. doi: 10.1136/bmjopen-2016-013537. PMID: 28213598; PMCID: PMC5318608.

Baglivio, M. T., Wolff, K. T., DeLisi, M., & Jackowski, K. (2020). The Role of Adverse Childhood Experiences (ACEs) and Psychopathic Features on Juvenile Offending Criminal Careers to Age 18. *Youth Violence and Juvenile Justice*, 18(4), 337-364.

Barnard, M. 2012. Critical Qualitative Theory: Opening up the Black Box of Criminal Justice Interventions, in Erica Bowen, Sarah Brown (ed.) *Perspectives on Evaluating Criminal Justice and Corrections* (Advances in Program Evaluation, Volume 13), Emerald Group Publishing Limited, pp.129-141 (DOI 10.1108/S1474-7863(2012)0000013010)

Barnard, M. 2023. *The Integrated Model of Behaviour (pdf)*. London: ICF [Available at: <https://www.researchgate.net/publication/374675385> The Integrated Model of Behaviour]

Chinn S. 2000. A simple method for converting an odds ratio to effect size for use in meta-analysis. *Stat Med*. Nov 30;19(22):3127-31. doi: 10.1002/1097-0258(20001130)19:22<3127::aid-sim784>3.0.co;2-m. PMID: 11113947.

Coldwell, M. & Moore, N. 2024. Learning from failure: A context-informed perspective on RCTs. *British Educational Research Journal*, 00, 1–21. <https://doi.org/10.1002/berj.3960>

Crowe, S., Cresswell, K., Robertson, A., Huby, G., Avery, A. and Sheikh, A. 2011. The case study approach. *BMC Med Res Methodol* 11, 100. <https://doi.org/10.1186/1471-2288-11-100>

Dallaglio RugbyWorks. 2021. *Dallaglio RugbyWorks Curriculum (pdf)* [Available at: <https://www.dallaglorugbyworks.com/about-us>]

Dong, N. and Maynard, R. (2013) PowerUp!: A Tool for Calculating Minimum Detectable Effect Sizes and Minimum Required Sample Sizes for Experimental and Quasi-Experimental Design

Studies, *Journal of Research on Educational Effectiveness*, 6:1, 24-67, DOI: 10.1080/19345747.2012.673143

EEF. *Implementation and process evaluation guidance for EEF evaluations (pdf)*. London: EEF [Available at: <https://educationendowmentfoundation.org.uk/projects-and-evaluation/evaluation/for-grantees/grantee-guide-and-policies>]

Fonagy P, Butler S, Cottrell D, Scott S, Pilling S, Eisler I, Fuggle P, Kraam A, Byford S, Wason J, Ellison R, Simes E, Ganguli P, Allison E, Goodyer IM, Multisystemic therapy versus management as usual in the treatment of adolescent antisocial behaviour (START): a pragmatic, randomised controlled, superiority trial, *Lancet Psychiatry*, 2018 , 5, 2, 119-133, doi: 10.1016/S2215-0366(18)30001-4.

4in10 and Just for Kids. 2020. *Race, poverty and school exclusions in London* [pdf]. London: 4in10. [Available at: <https://www.equallyours.org.uk/just-for-kids-report-new-research-reveals-children-in-poverty-and-black-children-in-london-are-more-likely-to-be-excluded-from-school/>]

Gaffney, H., Jolliffe, D., and White, H. 2021. *Sports Programmes: Toolkit Technical report (pdf)*. London: YEF [Available at: <https://youthendowmentfund.org.uk/toolkit/sports-programmes/>]

Goodman, R. (1997), The Strengths and Difficulties Questionnaire: A Research Note. *Journal of Child Psychology and Psychiatry*, 38: 581-586. <https://doi.org/10.1111/j.1469-7610.1997.tb01545.x>

Humayun, S., Herlitz, L., Chesnokov, M., Doolna, M., Landau, S., Scott S. (2017). Randomised controlled trial of Functional Family Therapy for offending and antisocial behaviour in UK Youth. *Journal of Child Psychology and Psychiatry*, 58(9), 1023-1032.

Kalvin C.B., Bierman K.L. (2017). Child and adolescent risk factors that differentially predict violent versus nonviolent crime. *Aggress Behav.* Nov;43(6):568-577. doi: 10.1002/ab.21715. Epub 2017 Jun 8. PMID: 28597509; PMCID: PMC5640463.

King, B. 2012. Psychological Theories of Violence. *Journal of Human Behaviour in the Social Environment*, 22:553-571

Lewis, J. (2023) Statistical Analysis Plan: Impacts of a short-term mentoring model for young people: a multi-site randomised controlled trial, *Youth Endowment Fund*, [MST-Statistical-Analysis-Plan-Oct-2023.pdf](https://www.youthendowmentfund.org.uk/MST-Statistical-Analysis-Plan-Oct-2023.pdf) ([youthendowmentfund.org.uk](https://www.youthendowmentfund.org.uk))

McAra, L., McVie, S. (2005). The usual suspects? Street-life, young people and the police. *Criminal Justice*, 5(1), 5-36.

Ministry of Justice. 2021. Ethnicity and the Criminal Justice System, 2020. (Online). Available at: <https://www.gov.uk/government/statistics/ethnicity-and-the-criminal-justice-system-statistics-2020/ethnicity-and-the-criminal-justice-system-2020>

Moore G F, Audrey S, Barker M, Bond L, Bonell C, Hardeman W et al. 2015. Process evaluation of complex interventions: Medical Research Council guidance. *BMJ*; 350 :h1258 doi:10.1136/bmj.h1258

Morgenroth, T., Ryan, M.K., and Peters, K. 2015. The Motivational Theory of Role Modelling: How Role Models Influence Role Aspirants' Goals. *Review of General Psychology*, 19(4), 465-483.

Pinker, S. 2011. *The Better Angels of our Nature*. New York: Viking

Ritchie, J, Lewis, J, McNoughton-Nichols, C. (2013) *Qualitative Research Practice (2nd edition)*. London: Sage

Rodwell L, Romaniuk H., Nilsen W., Carlin J.B., Lee K.J., and Patton G.C. (2018) Adolescent mental health and behavioural predictors of being NEET: a prospective study of young adults not in employment, education, or training. *Psychol Med*. Apr;48(5):861-871. doi: 10.1017/S0033291717002434. Epub 2017 Sep 6. PMID: 28874224.

Roffman, J. G., Pagano, M. E., & Hirsch, B. J. (2000). *Social support and rejection scale*. Evanston, IL: Human Development and Social Policy, Northwestern University.

Sapolsky, R.M., 2017. *Behave: The Biology of Humans at Our Best and Worst*. New York: Penguin Press

YEF. 2021. *Core Measurement Guide: Self-Report Delinquency Scale (pdf)*. London: YEF [Available at: <https://youthendowmentfund.org.uk/resources-for-evaluators/>]

YEF. 2023. *Statistics Update (pdf)*. London: YEF [Available at: <https://youthendowmentfund.org.uk/reports/statistics-update-may-2022-the-latest-data-on-police-recorded-crime-youth-victims-of-homicide-and-modern-slavery/>]



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