

Dallaglio RugbyWorks sports for development programme to reduce behavioural difficulties: a two-armed randomised controlled trial

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# Protocol Addendum: Wellbeing Top Up

Trial Name	Dallaglio RugbyWorks sports for development programme to reduce behavioural difficulties: a two-armed randomised controlled trial
Delivery Partner	Dallaglio RugbyWorks
Evaluation PI	Dr Matt Barnard (ICF)
Funding Organisation	Youth Endowment Fund (YEF)
Link to Original Trial Protocol	https://youthendowmentfund.org.uk/wp- content/uploads/2024/07/REVIEWED-Dallaglio- RugbyWorks-Trial-Protocol-July-2024.pdf
Wellbeing measures used	The Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS)

## About the What Works Centre for Wellbeing

The UK government has a long-lasting interest in the wellbeing of citizens, with the UK being one of the first countries to systematically measure subjective wellbeing at the population level, and to commit to using it, alongside economic data, in shaping policy decisions. The What Works Centre for Wellbeing (WWCW) was established in 2014 to help government understand how to best improve people's lives by ensuring that our policies and practices positively contribute to people's wellbeing.

The WWCW closed on 30<sup>th</sup> April 2024, following the end of multi-year grants from The National Lottery Community Fund. Between 2014 and 2024 the WWCW made a significant contribution to government, including work on methods, and specifically the Green Book guidance on wellbeing.

#### About the Youth Endowment Fund

The Youth Endowment Fund (YEF) is a charity with a mission that matters. We exist to prevent children and young people becoming involved in violence. We do this by finding out what works and building a movement to put this knowledge into practice.

Children and young people at risk of becoming involved in violence deserve services that give them the best chance of a positive future. To make sure that happens, we'll fund promising projects and then use the very best evaluation to find out what works. Just as we

benefit from robust trials in medicine, young people deserve support grounded in the evidence. We'll build that knowledge through our various grant rounds and funding activity. And just as important is understanding children and young people's lives. Through our Youth Advisory Board and national network of peer researchers, we'll ensure they influence our work and we understand and are addressing their needs. But none of this will make a difference if all we do is produce reports that stay on a shelf.

Together we need to look at the evidence and agree what works, then build a movement to make sure that young people get the very best support possible. Our strategy sets out how we'll do it. At its heart it says that we will fund good work, find what works and work for change. You can read it <a href="here">here</a>.

## About the Wellbeing Top-Up Fund.

The WWCW Wellbeing Top Up Fund will explore the impact that policy interventions can have on people's wellbeing across a range of policy areas by funding additional wellbeing data collection on 10 existing studies. This approach will begin to develop a step change in our understanding of the wellbeing impacts of various policy interventions through a low-cost programme that can 'piggyback' on trials that are already in the field.

# 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 all. 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 all, 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 all, 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.

## About the 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



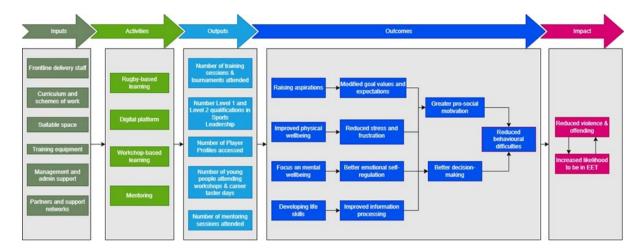
In addition to the formal sessions, RugbyWorks works with, and provides referrals to, community sport clubs for young people who would like to take their participation further or try other sports, which happens at the end of the intervention period. RugbyWorks also runs holiday activity programmes which 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 voung 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 schools:
- the mandatory health education curriculum covering relationships, health and sex education and including the mental wellbeing training module;
- support from local mental health support teams (in some areas);
- 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 12 months. Drawing on lessons from behavioural science, we believe that incentives can be an 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 12-month 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).

# 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 subscales of the Strengths and Difficulties Questionnaire (self-report version)
Secondary outcome(s)	variable(s)	Wellbeing Pro-social behaviour Fixed-term exclusions & attendance

	measure(s) (instrument, scale, source)	Warwick-Edinburgh Mental Wellbeing Scales  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 Pro-social behaviour
	measure (instrument, scale, source)	Warwick-Edinburgh Mental Wellbeing Scales  Pro-social scale of the Strengths and Difficulties  Questionnaire (self-report version)

# Wellbeing measurement

Mental wellbeing is one of the secondary outcomes of the study and will be measured using 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 refer to 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).

Currently our plan is to use the 14-item version of the scale; however, we intend to get feedback from Dallaglio and young people on the data collection as a whole and may use the short 7-time scale if the feedback indicates that it would be beneficial to reduce the time the data collection takes.

#### **Data collection**

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. 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 12-month follow up data collection point.

# Analytical approach

The analysis will be on an intention-to-treat basis and will use a linear regression model, where the WEMWBS total score at follow up is the dependent variable, regressed against the WEMWBS total 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).

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: 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.

Missing data: If there is less than 10% missing data, we will assume the data is missing at random and conduct complete case analysis. If 10% 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.

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