EVALUATION REPORT

Relationship Building Together

Trial report

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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 from 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 activities.

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 that 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 here.

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Executive summary

Relationship Building Together (RBT) aimed to develop trauma-informed practice across the local authority services that support children and young people aged 10–21 in Bridgend (Wales). Trauma happens when someone experiences something deeply distressing or harmful that has lasting effects on their wellbeing. Trauma-informed practice means shaping services and support in ways that recognise this impact and aim to avoid causing further harm. The programme, developed by the Trauma Recovery Academy and Bridgend County Borough Council, provides three to five days of training and support to practitioners across multiple services. Services involved include early support (Early Help Hubs and Youth Development), targeted prevention and family support (Edge of Care and Children's Services) and statutory youth justice services. Children and young people are assessed on their needs, and those with lower levels of trauma are supported by trained practitioners. For those with moderate and severe trauma experiences, a multi-agency meeting is held to map trauma histories. For severe trauma cases, a lead practitioner and a clinical psychologist lead on developing a support plan, which is monitored and adapted over time. The programme aims to better meet children and young people's needs, improve their wellbeing and reduce behavioural difficulties and offending.

The Youth Endowment Fund (YEF) and the Home Office funded a randomised controlled trial of RBT, with practitioners and children and young people randomised to either receive the programme or business as usual. 401 children and young people entered the trial (200 intervention, 201 control), linked to 110 practitioners (56 intervention, 54 control). The evaluation aimed to establish whether RBT reduced children and young people's offending behaviours over a six-month period, as measured by the Self-Report Delinquency Scale. It also measured the impact on other outcomes related to children and young people (emotional and behavioural difficulties, wellbeing, psychological health, family cohesion, police involvement, school attendance and exclusions) and on practitioners (attitudes to trauma-informed practice). An addendum report that looks at the impact of RBT over a 12-month period will be published in 2027. The study included an implementation and process evaluation to examine barriers to and facilitators of implementation and how both children and practitioners experienced the programme. This drew on interviews with 16 children and young people, 15 intervention delivery staff, 10 parents/carers and eight practitioners from the services involved. The study took place between November 2023 and September 2025. 97% of the children and young people in the trial were from a White ethnic background.

Key conclusions
RBT demonstrated a **moderate positive** impact on children and young people's offending behaviours. Children and young people linked with practitioners who received RBT self-reported lower levels of offending behaviour than children linked to practitioners who did not receive the programme. This result has a **moderate security rating**.
RBT showed mixed results on secondary outcomes after six months of entering the trial: it had a small positive impact overall on children's and young people's behaviour, peer relationships, psychological health, family conflict and school attendance; it had a moderate positive impact on children's and young people's emotional regulation, conduct problems, internalising behaviours and wellbeing. RBT showed a moderate negative impact on hyperactivity, prosocial behaviour, externalising behaviours, family cohesion and expressiveness and no impact on school suspensions. These are secondary outcomes and should be treated with caution.
Practitioners viewed the training positively and felt confident applying it. They highlighted the value of multi-agency meetings and the emphasis on and time devoted to relationship building.
Perceptions amongst practitioners and children and young people were mixed. Some staff felt that the trauma-informed approach did not differ substantially from their existing practice, involved additional workload and faced challenges with coordination across services. Inputs from clinical psychologists were considered limited.
The trial involved a mixed group of children and young people with different levels of trauma and offending behaviours, and it is difficult to disentangle the impact of RBT within the group.

YEF security rating

These findings have a **moderate** security rating. The trial was a well-designed two-armed randomised controlled trial. Attrition was quite low: 16% of children who started the trial were not included in the final analysis. No significant threats to internal validity were identified. However, trials that aim to measure impact on offending often require very large sample sizes to detect meaningful impacts, and in this trial's the sample size was smaller than ideal.

Interpretation

RBT demonstrated a **moderate positive** impact on children and young people's offending behaviours. Children linked with practitioners who received RBT self-reported lower levels of offending behaviours than children linked with practitioners who did not receive the programme. This result has a **moderate security rating**. RBT showed mixed results on secondary outcomes after six months of entering the trial: it had a small positive impact overall on children and young people's behaviour, peer relationships, psychological health, family conflict and school attendance; it had a moderate positive impact on children and young people's emotional regulation, conduct problems, internalising behaviours and wellbeing. RBT showed a moderate negative impact on hyperactivity, prosocial behaviour, externalising behaviours, family cohesion and expressiveness and no impact on school suspensions. These are secondary outcomes and should be treated with caution. There is statistical uncertainty regarding all outcomes, and the findings are also consistent with there being no impact. The impact of RBT on children and young people's school exclusions, days in court, days in custody, missed workdays, police warnings and on practitioners' wellbeing and attitude to trauma-informed practice was affected by attrition, low response and data quality, and it is not considered sufficiently reliable.

Practitioners viewed the training positively and felt confident applying it in their work with children and young people. They highlighted the value of multi-agency meetings and the emphasis on and time devoted to relationship building. Practitioners reported that the intervention's effectiveness depended on building strong relationships with children and young people, alongside relational stability, clear communication, organisational capacity and the ability to manage emotional demands. Perceptions amongst practitioners and children and young people were mixed. Some staff felt the trauma-informed approach did not differ substantially from their existing practice, and, therefore, the additional time and resources required to implement RBT were not justified. They found that RBT involved additional workload, they faced challenges with coordination across services and they felt that inputs from clinical psychologists were limited. While many children and young people reported improvements in emotional regulation and personal progress, others described unmet expectations, unclear communication and disengagement.

The trial involved a mixed group of children and young people with different levels of trauma and offending behaviours, and it is difficult to disentangle the impact of RBT within this diverse group. 37% of children and young people had no trauma, and only three (1.5%) had experienced high levels of trauma. When looking at the offending profile, 31% of children and young people hadn't offended in the six months before the intervention. Further research could explore the impact on children and young people with high levels of trauma and with previous histories of offending. Overall, the evaluation of RBT found a moderate positive impact on children and young people's offending behaviours. However, the evaluation had some caveats and practitioners' and participants' perceptions of the programme were mixed, raising questions about the costs and challenges of delivering trauma-informed interventions effectively across multiple agencies. This evaluation is one of the first robust evaluations of trauma-informed practice in statutory services in the UK, and it contributes to filling the existing evidence gaps. This report and the primary and secondary outcomes' findings only present the findings of one study. When considering implications, frontline professionals, policy-makers, and service commissioners should carefully consider the process evaluation and use their own professional judgement.

Summary of impact

Outcome	Effect size (95% confidence interval)	Impact	Evidence security	No. of children	P - value
Self-reported delinquency	−0.151 (−0.365 to 0.064)	moderate positive	●●●○○	335	0.714

Introduction

Background

Adverse childhood experiences (ACEs) are stressful or traumatic experiences that are considered to have an impact on children's development. They include physical, sexual and verbal abuse; emotional and physical neglect; and being brought up in an environment that includes adult substance use, mental health problems, domestic abuse or family breakdown.

Exposure to ACEs in childhood has been found to have a strong association with a range of health behaviours and outcomes. These include substance use problems, such as the early onset of alcohol use (Dube et al., 2006), binge-drinking (Bellis et al., 2014a; Bellis et al., 2014b; Bellis et al., 2014c) and illicit drug use (Dube et al., 2003), as well as mental health difficulties, including depression (Anda et al., 2002; Chapman et al., 2004; Fang et al., 2016; Schilling et al., 2007), and low life satisfaction (Bellis et al., 2014c). ACEs have also been linked to sexual health risks, such as unintended teenage pregnancy (Bellis et al., 2014a, Bellis et al., 2014b) and HIV risk behaviours (Fang et al., 2016) and to longer-term physical health consequences, including a range of non-communicable diseases (Brown et al., 2010; Dong et al., 2004) and premature death (Brown et al., 2009).

Research on the prevalence of ACEs suggests at least one ACE being reported by 43.9% and 46.8% of an English and Welsh population sample, respectively (Hughes et al., 2020). Furthermore, four or more ACEs were reported by 8.4% in England and 12.6% in Wales. Given the prevalence of adversity and the widely researched associations with negative life outcomes, exploration of the societal burden of such experiences is necessary. Cross-sectional studies across England and Wales have estimated a total annual ACE-attributable cost of £42.8 billion (Hughes et al., 2020), mostly resulting from multiple ACE exposure. This indicates a significant financial burden on society, further emphasising the need for effective prevention and intervention regarding childhood adversity (Bellis et al., 2019).

In addition to the increased risk of ill health and mental wellbeing, poor educational attainment, and health-harming behaviours, evidence links multiple ACE exposure to future violent behaviour, both as a victim and perpetrator (Bellis et al., 2014c; Testa, 2022). In Wales, those who had experienced four or more ACEs were found to be 15 times more likely to have been the perpetrator of a violent incident (Bellis et al., 2015). A study of almost 12,000 young offenders in the United States (Fox et al., 2015) found that, on average, the risk of becoming a violent, serious or chronic offender increased by 35% with exposure to each additional ACE. More recent research out of the USA has echoed this, with accumulating ACEs being associated with a greater likelihood of incarceration, higher arrest rates and more periods of incarceration overall (Testa, 2022).

The youth justice system in England and Wales works to prevent offending and reoffending by those under the age of 18 years. The Crime and Disorder Act 1998 is clear that the principle of youth justice is prevention; diverting young people away from youth justice and addressing their core needs through the provision of youth-oriented services are critical parts of achieving this goal. The latest available data indicates that there were 59,899 arrests of young people in 2023/24, which is a 46% drop from 2014 (Youth Justice Board, 2025). Reasons for this decrease include a police focus on more serious offences, usually committed by adults, and a more child-centric approach to policing, including the use of community resolution outcomes and diversion from criminal justice (Sutherland et al., 2017). Of these, boys made up 83%, and the average age was 15.3 years. Over the same period, there were 8,300 first-time entrants to the youth justice system (defined as a first caution or conviction). This represents a 3% reduction on the previous year and the lowest level recorded (Youth Justice Board, 2025). The reoffending rate for children for the year ending March 2023 increased to 32.5%, a 0.3% increase from the previous year. This highlights a second consecutive year-on-year increase in children's reoffending rates in England and Wales (Youth Justice Board, 2025).

Given the relationship between the likelihood of criminality and experiences of childhood adversity, it is not surprising that youth justice populations report consistently elevated levels of ACE exposure (Martin et al., 2022). Studies of young people aged 10 to 18 years engaged with youth justice services in England found that at least one ACE was experienced by 91.5%, with over half of the sample experiencing four or more ACEs (McCoy, 2023). With research into the prevalence and impact of childhood trauma gaining momentum, UK government policies, most notably those in Wales, are being adapted to reflect this. The need for services to become trauma-informed, mitigating the impact of ACEs, has become the foundation of a whole-systems public health approach in Wales (Hardcastle, 2021). Through Home Office and Welsh Government funding, this national response sought to enhance partnership working across services, facilitating change for the most vulnerable in society by adopting trauma-informed practices (Glendinning et al., 2021).

Early initiatives involved trauma- and ACE-informed training across Welsh police forces, allowing for greater understanding of the needs of those populations that are marginalised in society. This cultural shift also led to a review of youth justice services, identifying the importance of a child-first approach to criminal justice, as opposed to a service-focused approach (Taylor, 2016; Ministry of Justice, 2019). Individuals with lived experience of ACEs and encounters with the criminal justice system in the UK described how their trust in police services was reduced and their symptoms worsened when encounters with professionals were overly forceful and utilised more hands-on methods (Borysik and Corry-Roake, 2021). Thus, the importance of multi-agency approaches that are strengths-based, developmentally informed and responsive to vulnerability is clear (Bateson et al., 2020; Youth Justice Board, 2021).

In Wales, in response to increasing complexity amongst youth offenders and further utilising a child-focused approach, trauma-informed practices were adopted within youth justice, supported by the Welsh Government and the Youth Justice Board. Trauma-informed practice aims to address the consequences of ACEs by changing the relationship between practitioners and participants and by addressing stigma to create a safe environment for young people to express their emotions and to understand how they relate to their behaviour (Skuse and Matthews, 2015). This safe environment allows those who have experienced trauma to see adults in a more positive light and aims to disrupt the transition from poor emotional regulation to dysfunctional behaviour.

The foundations of trauma-informed practice led to the development of an intervention framework for case management within youth justice services. Enhanced Case Management (ECM; Skuse and Matthews, 2015) is a psychologically informed approach to understanding a child's behaviour. Utilising a multi-agency case formulation, a child's behaviour is explored in the context of their childhood experiences, family background, developmental needs, strengths and protective factors (Skuse and Matthews, 2015). This trauma-informed approach seeks to understand the impact of trauma on their development, outlining their current functioning on a physical, cognitive, emotional and social level. ECM is guided by the Trauma Recovery Model (TRM; Skuse and Matthews, 2015), a framework of layered interventions that support a child's underlying needs and presenting behaviours, sequenced according to their individual developmental needs (Skuse and Matthews, 2015; Opinion Research Services, 2023a).

Thus, the TRM and ECM incorporate trauma-informed means of working with young people with complex needs who are thought, or known, to have experienced trauma. Delinquent behaviour and offending are seen as responses to trauma, and the model aims to build relationships with young people that are sensitive, empathetic and non-punitive.

Key elements of ECM, using the TRM, include case formulation with and ongoing supervision by an experienced psychologist and the sharing of the case formulation across multiple agencies working with a young person. The key aim is to ensure that any professional interactions and interventions are designed to align with the young person's developmental and mental health needs. Creating positive experiences and strong trusting relationships between young people and professionals are key components in ensuring young people are capable of engaging and willing to engage in supportive interventions and take advantage of prosocial opportunities. This is hypothesised to not only reduce delinquent behaviour but also to lead to improvements across a spectrum of psychosocial domains. Being initially trialled across four Welsh Youth Offending Teams (YOTs) in 2014, the ECM approach was rolled out across all YOTs in South Wales following promising pilot evaluation results (Cordis Bright, 2017; Glendinning et al., 2021). ECM was further implemented across four youth justice services in England between 2019 and 2022.

Previous evaluations of ECM use within youth justice have found high levels of staff fidelity and stakeholder acceptability of the ECM approach and changes in practitioner perspectives, from viewing offending behaviours as being fixed and intentional to viewing them as adaptive and changeable (Cordis Bright, 2017). An evaluation exploring the systemic responses to the ECM approach in England echoed these findings (Martin et al., 2022). Case formulation attendance improved staff satisfaction, knowledge, confidence and motivation, shifting attitudes towards a more child-first perspective (Martin et al., 2022). Alongside developments for practitioners and staff, improvements for young people across a variety of domains were also found: improved relationships with practitioners and families, greater confidence in accessing support, improved emotional regulation and greater positivity about the future (Cordis Bright, 2017; Glendinning et al., 2021).

Building on previous research, potential impacts of ECM on young people, specifically on their desistance from offending, their needs and their wellbeing, were evaluated across four youth justice services in England (Opinion Research Services, 2023b). This was the first evaluation of the impact of ECM compared with a similar cohort that had not received ECM. Findings suggested no statistically significant effect of ECM on reoffending (in relation to usual services), such that the reoffending rates for children receiving ECM were similar to rates for those who did not receive ECM (Opinion Research Services, 2023b). However, numerous limitations are worth noting when assessing the implications of this evaluation. These findings were based on very limited sample sizes, do not account for variance in regional reoffending rates and reflect only one measure of ECM effectiveness over a short term. The first phase of this evaluation identified numerous positive outcomes associated with the use of ECM in youth justice services, notably improved educational attainment, mental health, emotional wellbeing and development, and engagement with the youth justice services (Opinion Research Services, 2023b).

Despite yielding important findings, previous studies have used research designs that lack the scientific rigour to assign causality to the intervention. Most previous research has tended to be simple before-and-after studies with no control comparator; hence, despite strong theoretical underpinnings, the approach does not have strong evidence of effect. Previous evaluations have tended to focus on ECM alone in YOTs where the number of potential participants is low (given the high thresholds for ECM) and were further confounded by limited access to clinical psychologists who lead the ECM process. This study broadens the population who could receive a trauma-informed intervention by including a combination of TRM and ECM across multiple services, meeting the needs of a broad range of young people.

Rigorous research relating to attitudes towards trauma-informed approaches and ACEs, and thus potential barriers to trauma-informed practice, is required. Research exploring the impact of trauma-informed training for police officers and staff identified potential barriers that limited their capacity to utilise trauma-informed practice, such as personal experiences of trauma, lack of support, burnout and stress (Quigg et al., 2023). Furthermore, gender differences have been identified in pre-existing attitudes and responsivity to trauma-awareness training (Brodie et al., 2023). This highlights the importance of researching individual and system-wide understanding of and attitudes towards trauma-informed practice, as well as any interactions with intervention efficacy (Martin et al., 2022).

There is a general consensus that the underlying evidence base for trauma-informed approaches is limited. A comprehensive review (Addis et al., 2022), including 17 systematic reviews across schools, child welfare, health services, criminal justice, mental health and post- and peri-natal services, found the evidence for trauma-informed approaches to be limited, in part due to methodological limitations of studies and a lack of a coherent definition of trauma across services. This conclusion echoes reviews in school settings (Avery et al., 2021; Cohen and Barron, 2021; Maynard et al., 2019), counselling services for young people (Bendall et al., 2021) and children's social services (Asmussen et al., 2022). Jones and McNally (2022) highlight the potential iatrogenic effect of labelling services as trauma-informed; requiring people to identify as having experienced trauma has the potential to create a sense of hopelessness in those accessing services, externalising their locus of control and reducing their natural resilience and ability to cope with distress. In turn, rather than being a progressive response to past experiences on a person's psychological health and behaviour, a focus on being trauma-informed may bring about the symptoms they aim to mitigate (Haslam and McGraph, 2020). Baron and Mitchell (2019) highlight the potential iatrogenic effects associated with the psychologicalisation of care. Practitioners are viewed as 'novice therapists' obligated to trauma specialists, with their roles as experts in everyday care, where practitioners have a tacit and experiential understanding of the role trauma plays in behaviour (Asmussen et al., 2022), devalued.

In summary, what is needed is scientifically rigorous research that provides clear evidence of whether TRM and ECM work in adolescent and young adult populations and explores both positive and iatrogenic effects. Randomised controlled trials are the most scientifically rigorous methods for establishing a cause-and-effect relationship between an intervention and an observed outcome (Skivington et al., 2021). The Relationship Building Together (RBT) intervention model uses a tiered approach across multiple services, with TRM alone for the least complex cases and ECM for the most complex cases. The proposed research aims to address these key questions using a mixed-methods, two-level, individually randomised controlled trial of a trauma-informed intervention, RBT versus business as usual (BAU), for adolescents and young adults served by Bridgend Youth Services.

This trial was a mixed-methods, prospective, individually randomised efficacy trial, with equal probability of allocation to one of two arms, the RBT intervention or BAU. The trial included an implementation and process evaluation (IPE).

Relationship Building Together intervention

The intervention is a sequenced needs-based approach to addressing a young person's behaviour that enables practitioners to understand the underlying trauma experiences driving that behaviour. Greater detail on the theoretical framework and the intervention approach is available here: https://www.trmacademy.com/#theModel, and the hypothesised theory of change is articulated in Figure 1. The approach uses assessment, response and matching principles to assess a young person's developmental and emotional needs and respond with appropriate interventions that are matched to the young person's current level of need, progressing from basic safety and relationship building to emotional processing and regulation, skills development and independence.

RBT breaks recovery from trauma into a distinct sequence of levels, where each level reflects an evolving set of needs and interventions that are developmentally appropriate and are delivered to address the young person's needs. Addressing a young person's needs at each level is necessary prior to moving to the next level. At the lowest level (level 1), a young person is seen as needing stability and consistency, issues such as poor sleep, hygiene and nutrition are addressed, and the young person experiences an increased sense of safety, routine and structure. At the next level (level 2), positive, trusting relationships are developed between the young person and practitioners. At level 3, practitioners aid the young person in reflecting on their trauma experiences and the relationship between their behaviours and trauma. Level 4 involves skill development and cognitive growth, such as empathy and consequential thinking, to enable the young person to make better decisions. Level 5 involves goal setting, increasing self-efficacy and planning for the future. At level 6, the young person is seen as autonomous, requiring a low level of support to maintain independence.

The intervention builds on work already delivered in youth justice services in Bridgend to include a population of young people in other services. This includes Edge of Care, which delivers child- and family-focused interventions to prevent a child from entering the social care system; Youth Development, which delivers interventions directly to young people to provide help in developing young people emotionally, socially and educationally; and Early Help Hubs, which provide early interventions to families. The interventions delivered range from being relatively short-term, for Edge of Care services, where crisis interventions might last six to eight weeks, or longer-term for youth justice services (for example, six to nine months). The intervention was delivered between November 2023 and August 2025.

The initial training was delivered over three days by specialist trainers from the Trauma Recovery Model Academy to 40 staff members from across these services, with an additional later wave of training delivered to another 16 staff members. Trainers were experienced practitioners, social workers, clinical psychologists and youth workers, who had developed and delivered the RBT intervention for many years across several different services working with young people. Training was designed to aid practitioners in understanding the impact of prior trauma on young people's behaviour, developing strategies to reduce the behavioural consequences of trauma, building relationships and communicating, understanding the principles of case management and how to employ evidence-based interventions to promote positive development, and ensuring trauma histories are embedded in the case management process.

Eight senior members of staff, consisting of trauma leads for each service and those currently responsible for the core assessment of need on referral, received an additional two-day training from the Trauma Recovery Model Academy, with the aim of becoming trauma leads and champions within their departments. These staff members received monthly mentoring throughout the project from clinical psychologists experienced in the RBT approach, as well as shadowing from other similar services in Wales. These trauma leads took responsibility for the trauma screening and case formulation meetings, with input from a clinical psychologist, for those young people allocated as requiring tier 2 interventions. They also took responsibility for embedding trauma-informed practice within services.

Trauma leads engaged in trauma screening for any young person allocated to the RBT intervention arm, and, dependent on the young person's need, the intensity (or tier) of intervention was agreed. Trauma screening involved assessing a young person's exposure to ACEs throughout their childhood, using a timeline and exploring the wider networks of the family. In addition to exploring ACEs, the screening allowed for an assessment of the cognitive, emotional and social functioning of the young person. A young person was placed in a tier dependent on their experiences of ACEs. Tier 0 included young people for whom there was no evidence of trauma. Tier 1, the lowest tier of need, included young people who had evidence of past trauma but for whom it was not complex (for example, it may have been due to temporary family or financial difficulties), and they had experienced periods of recovery. Tier 2 involved young people who had more complex trauma, with little evidence of periods of recovery, often a result of family breakdown or significant traumatic events. Young people in tier 3 had the most complex needs. They had a significant history of trauma, often because of neglect, family breakdown or involvement in criminal activity, with no evidence of any periods of recovery.

Tier 1 involved guidance and support from the trauma leads to the (trained) case manager and other relevant professionals involved in the case, on engaging with and supporting the young person in a trauma-informed manner. The trauma leads assisted in ensuring that assessments and reports were conducted from a trauma-informed perspective. This involved considering the young person's trauma history, understanding the potential triggers to retraumatisation and ensuring interventions to address trauma were not initiated until the young person demonstrated the necessary cognitive abilities. This approach helped to gain a comprehensive understanding of the young person's needs and informed the development of an effective intervention plan. Trauma leads reviewed the progress of interventions over time against the TRM framework. This assessment helped identify any necessary adjustments or modifications needed to the intervention plan, ensuring that it remained responsive to the young person's evolving needs and progress.

Tier 2 involved a relationship-based mapping exercise led by the trauma lead that was designed to enable an understanding of the young person's life experiences, trauma history and developmental needs. The trauma lead organised a multi-agency meeting with professionals from various disciplines involved in the young person's care. This included social workers, educators, medical professionals and other relevant professionals who had been in the young person's or their family's life. The meeting was designed as a platform for collaborative information sharing and decision-making.

During the meeting, the purpose was for attendees to collectively create a timeline that captured significant events in the young person's life, starting from pre-birth. This timeline included the young person's experiences alongside the mother's experiences prior to giving birth. The timeline helped identify potential sources of trauma, understand their impact and establish patterns or triggers that may affect the young person's well-being. Professionals were also asked to provide input on the young person's emotional, social and cognitive age based on their observations and professional expertise. This information helped develop a comprehensive understanding of the young person's overall development and potential developmental gaps resulting from trauma.

To visualise trauma events, an interactive system was utilised. The system allowed attendees to collaboratively add trauma events, notes and observations into a shared digital platform. This visual representation enhanced the understanding of the young person's experiences and facilitated effective communication amongst the professionals involved. Developmental mapping was also conducted to assess the young person's current developmental stage and to identify any areas where trauma had impacted their development. This mapping process helped identify strengths, vulnerabilities and areas requiring targeted interventions, with input from art and speech and language therapists. Importantly, the developmental mapping was updated and followed throughout the young person’s journey into adulthood, providing a comprehensive framework for long-term support.

Based on the information gathered from the relationship-based mapping exercise, trauma leads generated a formulation report. This report provided an in-depth profile of the young person, including their trauma history, their developmental strengths and challenges, and recommendations for intervention. The report highlighted trauma-informed strategies and interventions that were tailored to the young person’s specific needs and were developmentally appropriate. The recommendations outlined in the formulation report were implemented by all professionals involved in the young person’s care. This ensured a consistent and coordinated approach to trauma recovery and intervention. Professionals collaborated closely, sharing information and working together to provide continuous support and appropriate interventions throughout the young person's journey, with additional support and supervision for practitioners from trauma leads and for trauma leads from a clinical psychologist.

All services involved committed to maintaining a continuity of trauma-informed intervention. This means that the young person received consistent support from various professionals over a designated period. Regular reviews were undertaken at specific intervals to assess the effectiveness of interventions, adjust them if necessary and ensure that the young person’s evolving needs were addressed appropriately.

Tier 3 was like tier 2 but with the addition of a trauma specialist clinical psychologist who led the mapping exercise. The psychologist produced the formulation report based on the information discussed in the timelining exercise and provided further insights and recommendations for the intervention.

A brief comparison of BAU and the different tiers of intervention is provided in Table 1.

Table 1: Relationship Building Together tiers of intervention compared to business as usua

Business as usual (BAU)	TRM Tier 0 No evidence of trauma	TRM Tier 1 Trauma Aware (TA)	TRM Tier 2 Relationship Building Practice (RBP)	TRM Tier 3 Enhanced Case Management (ECM)
• Assessment and intervention without developmental mapping • Responding to risks and focussing on nhow to manage risks • Different plans for different services • Child/ family supported by practitioner with the usual	• As BAU with interventions delivered by a trained trauma informed practitioner.	• Trauma Recovery Model (TRM) training. • Access to clinical psychology support – group supervision. • Consistent plans and tool kit for practitioners across services. • Input, advice and	• Trauma Recovery Model (TRM) training. • Multi-agency case formulation meeting chaired by the trauma lead. • Developmental mapping and TRM assessment informing the planning to undertake direct work.	• Trauma Recovery Model (TRM) training. • Clinical psychologist led. • Multi-agency case formulation meeting chaired by the clinical psychologist. • Ongoing consultation and supervision with the

training. • Formulates a plan of work based on the referral. No multi-agency meeting or developmental mapping. • Undertakes direct work with the child.		guidance available from the trauma lead.	• Ongoing consultation and supervision with the trauma lead. • Summary of case formulation meeting. • Ongoing multi-agency freview meetings. • Access to clinical psychology support.	clinical psychologist. • Developmental mapping and TRM assessment informing the planning to undertake direct work. • Ongoing multi-agency freview meetings. • Full clinical psychologist report.

During the delivery of the RBT intervention, most young people undergoing trauma screening were found to have either no prior trauma (36.6%) or the lowest level of trauma, tier 1 (40.6%). Those identified as having no prior trauma received interventions delivered by trained practitioners, with no trauma lead oversight.

The RBT theory of change is presented in Figure 1. The theory of change was developed by the intervention delivery and evaluation teams during codesign, prior to embarking on the trial.

The theory of change begins by highlighting that ACEs have an impact on a young person’s development and their ability to form meaningful relationships with others. Experiencing ACEs in childhood can lead to long-term mental and physical health problems and social problems, including an increased propensity to offend, engagement in violence and poverty. Staff working with this population often lack a structured approach to recognising ACEs and their potential influence on behaviour and lack training in how to tailor interventions to address the trauma experienced by young people.

Central to the theory of change is the idea that providing staff with training in RBT raises their awareness of the role of trauma in a young person’s behaviour and results in a change in practice across council services. Building meaningful, trusting and coherent relationships with the young people in their care can impact how ACEs influence young people’s behaviours in the future. Staff are more confident in screening young people for trauma, timelining a young person’s experiences and mapping the interactions between trauma experienced and presenting behaviour. Staff work in a collaborative way, involving a number of agencies, and for those with greater need, they contribute to multi-agency case formulation. Staff have a more positive attitude towards providing trauma-informed care.

Figure 1: Relationship Building Together theory of change

Population

Y

Young people, aged 10-21 years, engaging with Bridgend Youth Justice Service, Edge of Care service, Youth Development Service and Early Help Services.

Population Need

Estimated 75% of the target population has experienced significant trauma that has impacted on their overall development and the ability to form meaningful relationships with others, this is further associated with an increased risk of poor physical and mental health, substance use, criminal involvement, involvement in violence as both victim and perpetrator and poor life satisfaction.

Inputs

Relevant YOT, Early Help, Youth Development, Edge of Care trained and deliver TRM and ECM.

Training on understanding attachment and managing trauma, practice seen as trauma informed.

Staff able to profile YP to assess needs and allocate to appropriate tier according to the impact of trauma on their lives (1,2,or 3) and involve external agencies.

ECM Psychologists available for complex case reviews and ongoing supervision and provision of guidance (tier 3).

Staff contribute to case formulation, identify complex needs (tiers 2 & 3).

Ability to maps YP history, identify interaction between ACE and presenting behaviour, develop intervention plan and monitoring (tiers 1,2, &3).

Activities

Interventions done with the young person not to them.

Encouraging a nurturing approach to the YP.

Focus on preventing crises rather than responding to crises.

Trauma informed working embedded with all practitioners allowing a more comprehensive, multi-faceted understanding of the YP and behaviour.

All staff have access to psychologist input.

Tier 1 provision of guidance and support using a trauma informed approach.

Tier 2 conducting a relationship-based mapping exercise to generate multi-agency case formulation of age-appropriate trauma recovery interventions.

Tier 3 relationship-based mapping exercise and case formulation conducted by clinical psychologist.

Outputs

YP & staff have more opportunities to build relationships.

Staff create consistency, predictability, and continuity for YP.

YP experiences more meaningful relationships and has positive experiences of staff.

YP more likely to share issues, needs, strengths, and talents.

Better understanding of YP behaviour and feelings.

Staff more able to provide the right support at the right time.

YP feels the service is working with them to achieve their goals.

YP increases motivation to change, and engages with service

Outcomes

YP experiences feels included in decision making and experiences a better assessment of their needs.

YP experiences consistency in support offered.

YP experiences improved sense of safety and improved wellbeing.

YP experiences a greater understanding of their strengths and greater control over their behaviour.

YP manages to regulate their own emotions and reduce engagement in negative behaviours.

YP is more focussed on prosocial activity and reduces risk-taking behaviours.

YP experiences greater self-worth and less stigma.

YP builds relationship with family

Impact

YP experiences improved wellbeing and more prosocial behaviour.

YP has improved mental health, greater emotional regulation and fewer externalising behaviours.

YP reduces their risk-taking behaviour, manages anger more appropriately and reduces their involvement in offending behaviour.

YP can identify and engage with services that meet their needs.

YP has a positive future outlook.

YP engages develops meaningful relationship with family.

YP experience a greater sense of belonging.

Preconditions

Frontline practitioners and senior managers trained in the Trauma Recovery Model. The presence of 'trauma champions' within each service. Access to clinical input from a senior psychologist to play a role in delivering the intervention and supporting and supervising staff within the services. Staff are skilled in identifying the level of need where tier 1 is generic services and tier 3 involves enhanced case management involving case formulation and intervention delivery by senior clinical staff. Engagement with senior management at Bridgend Council.

Staff take the time to build relationships with each young person. Relationships are viewed as being safe, avoiding retraumatisation, being person-centred and being choice-driven. The young person is able to articulate their needs and make decisions about what support they feel would be of benefit to them. Staff work to create consistent collaborative relationships with the young person and empower the young person to explore their experience of ACEs and their impact on behaviour, allowing the young person to become empowered as an agent for change and develop a more positive view of their future.

Young people feel listened to, their experiences valued and their needs addressed. This, in turn, increases the young person's self-efficacy, their understanding of their strengths and their personal wellbeing; they develop skills and coping strategies to manage their own emotional regulation; and they experience reductions in their psychological health problems.

The young person experiences a greater sense of social belonging and a more positive outlook on the future. They develop more meaningful, supportive relationships with services and their family. They exhibit more prosocial behaviours, fewer externalising behaviours and reduced offending behaviours.

Business as usual

BAU involved no trauma screening or developmental assessment and focused on the assessment and mitigation of risk. It differed across services but focused on the young person and family, based on the referral, with no multi-agency involvement in case formulation. The interventions delivered were part of usual practice for the service, similar to the interventions delivered in the RBT group, but with less emphasis on being trauma-informed, and delivered by staff who had not been trained in trauma-informed practice. The interventions ranged from being relatively short-term, for Edge of Care services, where crisis interventions might last six to eight weeks, or longer-term, for Youth Justice Services, 6–9 months. In Early Help Hubs, the approach focused on early intervention, providing practical advice and support for young people and their families and acting as a liaison between services. Youth development services were often delivered within youth centres and involved signposting and mentoring, addressing issues such as health and wellbeing, education, employment and housing. Edge of Care services were social-work focused, aiming to prevent a young person from going into care or managing child-protection or child-in-need procedures. The interventions encompassed a range of approaches, including family and young people's support, strengths-based approaches, placement support, family therapy and the involvement of young people's mental health services. Youth Justice Services delivered interventions for young people involved with the criminal justice system, with the aim of preventing reoffending. Multi-disciplinary interventions focused on wellbeing and resilience, restorative justice and prosocial engagement.

Evaluation objectives

Study objectives

The results presented are from the analysis of data six months after randomisation; further results will be presented for the 12-month outcomes in early 2027. Due to limitations in data access, two research questions stated in the protocol will be updated in the 12-month data analysis. These are the analyses of the rates of staff sickness and turnover (comparing rates in the population trained in RBT versus those delivering BAU) and the Complier Average Causal Effect (CACE) analysis.

Primary research question

RQ1 What is the difference in the volume of self-reported delinquency for young people aged 10–21 years accessing services provided by Bridgend County Borough Council, derived from the Self-Report Delinquency Scale (SRDS), 6-months after randomisation for those receiving the RBT intervention versus those receiving BAU ?

Secondary Research Questions

RQ2 What is the difference in emotional regulation, prosocial behaviour, peer problems, hyperactivity, conduct problems, internalising behaviour and externalising behaviour, derived from the Strengths and Difficulties Questionnaire (SDQ), six months after randomisation for those receiving the RBT intervention versus those receiving BAU?

RQ3 What is the difference in wellbeing, derived from the Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS), six months after randomisation for those receiving the RBT intervention versus those receiving BAU?

RQ4 What is the difference in psychological health, derived from the General Health Questionnaire (GHQ12), six months after randomisation for those receiving the RBT intervention versus those receiving BAU?

RQ5 What is the difference in family environmental domains, cohesiveness, expressiveness and conflict, derived from the Brief Family Relationship Scale (BFRS), six months after randomisation for those receiving the RBT intervention versus those receiving BAU?

RQ6 What is the difference in service use, work days missed, school days missed, school suspensions, school exclusion, police warnings, police charges, days in court and days in custody, derived from the self-reported Client Service Receipt Inventory (CSRI), six months after randomisation for those receiving the RBT intervention versus those receiving BAU?

RQ7 What factors, service, age, sex, ethnicity, material deprivation (measured by the Index of Multiple Deprivation [IMD]), family environment (BFRS), behavioural problems (SDQ), wellbeing (SWEMWBS), psychological health (GHQ12), impact the primary outcome observed for both groups?

RQ8 What factors, service, age, sex, ethnicity, material deprivation (IMD), family environment (BFES), behavioural problems (SDQ), wellbeing (SWEMWBS), psychological health (GHQ12), tier of support and therapeutic alliance (Therapeutic Alliance Scale for Children-revised [TASC-r]), impact the primary outcome observed for those in the RBT intervention group only?

RQ9 What is the cost per participant of delivering the RBT intervention?

RQ10 Are there specific clusters of participant baseline outcomes that are associated with the self-reported delinquency volume six months after randomisation?

RQ11 What is the difference in Attitudes Related to Trauma Informed Care Scale (ARTIC) scores in the 12 weeks after randomisation for staff members allocated to be trained in RBT and those delivering BAU?

RQ12 What is the difference in wellbeing, derived using the SWEMWBS, in the 26 weeks after randomisation for staff allocated to be trained in RBT and those delivering BAU?

Ethics and trial registration

Ethical approval was sought prior to embarking on participant recruitment and was provided by an independent ethics committee: the University of Kent Social Science Research Ethics Committee (Ref SRC0904). Participants and/or their carers provided signed informed consent prior to embarking on the study. The trial was registered, ref: ISRCTN84852151, and is available at https://www.isrctn.com/ISRCTN84852151. A trial protocol has been published https://youthendowmentfund.org.uk/wp-content/uploads/2024/03/Bridgend-Youth-Services-Evaluation-Protocol-Mar-23.pdf, and a statistical analysis plan was published prior to any analysis being undertaken https://youthendowmentfund.org.uk/wp-content/uploads/2023/11/Bridgend-Youth-Services-Statistical-Analysis-Plan.pdf.

Data protection

All systems and personnel were approved for the management of clinical and sensitive data and are ISO certified to the ISO27001 standard. This included all physical systems, systems to detect intrusion, encryption of data from the point of collection to storage, quality assurance and audit trails associated with any data collected. All identifiable data collected was done with explicit consent and limited to data to allow participants to be contacted for follow-up. Data linkage employed a unique identifier, where the link to the identifiable information was stored in an encrypted, secure database. Researchers were trained in Good Clinical Practice standards and complied with all relevant data protection legislation. Once final follow-up has been completed, personally identifiable information will be deleted from the data set held by the university, and where consent has been granted, encrypted data will be transferred to the Youth Endowment Fund data archive. Data collection and management were governed by a trial-specific standard operating procedure agreed and approved by the ethics committee.

The basis of processing data was ‘public task’ (https://ico.org.uk/for-organisations/uk-gdpr-guidance-and-resources/lawful-basis/a-guide-to-lawful-basis/public-task/). We only used special category information (such as information about health, religion, race or ethnic origin or any criminal offence information) if it was necessary for research purposes or statistical purposes which are in the public interest. Potential participants and their carers, if applicable, were provided with a trial-specific privacy notice **(Appendix Y)** prior to providing consent. This privacy notice outlined what data was being collected, for what purposes and for how long. In addition to the trial-specific privacy notice, the evaluation team at the University of Kent and the intervention delivery team at Bridgend Borough Council signed an information-sharing agreement, highlighting what information would be shared and the reasons for and means of sharing that information.

Project team/stakeholders

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Aless Roberts (clinical psychologist)

Hannah John (clinical psychologist)

Trauma Recovery Model Academy

Johny Matthew (RBT developer and trainer)

Tricia Skuse (RBT developer and trainer)

All named staff played a role in trial design during the codesign stage of the study, and the evaluation team took responsibility for the final design. Staff from the University of Kent and Teesside University conducted the evaluation, data collection, analysis and interpretation. Staff at Bridgend County Borough Council played a role in the delivery of the RBT intervention and BAU. Staff from the Trauma Recovery Model Academy provided training in the RBT model and ongoing staff supervision.

The study was funded by the Youth Endowment Fund; the funder provided ongoing support for the study but did not engage in the conduct of the study, data collection, analysis or interpretation.

There are no conflicts of interest to disclose.

Methods

Trial design

Table 4: Trial design

Trial design, including the number of arms		Two-arm prospective, individually randomised controlled efficacy trial
Unit of randomisation		Individual participant and practitioner
Stratification variables (if applicable)		Staff: service *(*youth justice, Edge of Care, Youth Development, Early Help Hubs) and speciality (generic versus specialist) Young people: service *(*youth justice, Edge of Care, Youth Development, Early Help Hubs), sex (male, female), age group (<15 years, ≥ 15 years)
Primary outcome	Variable	Volume of self-reported delinquent acts at six months[1]
	Measure (instrument, scale, source)	Self-Reported Delinquency Scale (SRDS)
Secondary outcome(s)	Variable(s)	**Participant** Quantity of self-reported delinquent acts at 12 months Self-report behaviour and personality attributes (overall behaviour, emotional symptoms, conduct problems, hyperactivity, peer relationships, prosocial behaviour, externalising behaviours, internalising behaviours), psychological health, wellbeing, family cohesion, police involvement, school exclusions, suspensions, managed moves and employment status at six and 12 months. **Staff** Attitudes and perceptions towards trauma-informed care, wellbeing, absence, turnover at six and 12 months
	Measure(s) (instrument, scale, source)	**Participants** SRDS, Strengths and Difficulties Questionnaire (SDQ), General Health Questionnaire (GHQ12), Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS), Brief Family Relationship Scale (BFRS), Self-reported Client Service Receipt Inventory (CSRI) **Staff** Attitudes Related to Trauma Informed Care Scale (ARTIC), SWEMWBS, staff records.
Baseline for primary outcome	Variable	Number of self-reported delinquent acts in the previous six months
	Measure (instrument, scale, source)	SRDS

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[1] The requirement of the funding means a report needs to be available by September 2025; this means the primary outcome is the 6-month version of the SRDS. As some interventions take longer than 6-months to deliver a second report using SRDS at month 12 will also be produced later.

Baseline for secondary outcome	Variable	**Participant** Number of delinquent acts in the six months prior to baseline. Self-report behavioural and personality attributes (overall behaviour, emotional symptoms, conduct problems, hyperactivity, peer relationships, prosocial behaviour, externalising behaviours, internalising behaviours), derived from the SDQ; psychological health; wellbeing; family relationships at baseline. Police involvement, school exclusions and suspensions, employment status over the past six months at baseline. **Staff** Attitudes and perceptions towards trauma-informed care and wellbeing at baseline. Days of absence and turnover over the past six months at baseline.
	Measure (instrument, scale, source)	**Participants** SRDS, SDQ, GHQ12, SWEMWBS, BFRS, CSRI Staff ARTIC, SWEMWBS, staff records.

The trial was a mixed-method, two-arm, individually randomised efficacy trial with equal probability of being allocated to the RBT intervention or BAU. Throughout the design and conduct of the study, we aimed to be inclusive. The trial design and materials were reviewed by a young person advisory group that included a variety of ethnicities, research and intervention materials were available in English and Welsh and a variety of languages and translators were made available if necessary. We recognise that there was little ethnic diversity in the research team – most of the research team was white – but it did include staff of mixed and Roma heritage and a researcher who specialises in equity, diversity and inclusivity research design. A limiting factor in recruiting participants from a range of ethnicities was the fact that we could only recruit from the pool of participants who had been referred to the services provided by Bridgend Borough Council. Bridgend has a predominantly white population (96.8%). The largest other ethnic group is Asian (1.5%) and mixed ethnicity (1.2%); the Black population amounts to only 0.3%.

A key change was made to the trial after recruitment started. As recruitment was slower than anticipated, we included a pre–post test correlation of 0.5 in the sample size calculation, reducing the required sample from 506, with a primary outcome at month six, to 380.

Participant selection

In order to maintain a balance of key characteristics for staff, the study employed a double randomisation approach, whereby staff were randomised to be trained in the RBT intervention or not, and young people were randomised to the RBT intervention or BAU. The randomisation of staff was conducted prior to the recruitment of young people.

Staff selection

Staff varied by service: in Youth Development services, they were youth workers and mentors who work directly with young people; in Early Help Hubs, they were staff who support young people and families; in Edge of Care services, they were predominantly social workers and social work assistants; and in the youth justice system, they were professionals who work with young people to reduce reoffending. Staff were considered eligible to participate in the study and were allocated to RBT training or BAU if they worked with the target population within their service, volunteered, had not previously been trained in the RBT intervention and provided consent to randomisation.

Participant selection

Participants (young people) were also randomised to either the intervention (RBT) or the control (BAU) when they entered the participating services. As young people could be referred to several different services at different times, those who had previously been randomised to the study were excluded from further randomisation but were maintained as part of their previously allocated group. To maximise the generalisability of the study, inclusion and exclusion criteria were minimised. All young people aged 10–21 years, inclusive, who were referred for assessment and intervention to one of the participating services (youth justice, Early Help Hubs [East, West and North], Edge of Care, Children's Services and Youth Development) and were able and willing to consent were eligible for inclusion in the study. The Bridgend Youth Development service is the only service that includes participants aged 18 to 21 years. Young people and their carers were provided with a comprehensive information sheet prior to their initial appointment with the service. At the first appointment, the staff answered any questions the parent or young person may have had, and if they were able and willing to consent, the staff member took signed consent. It is standard practice within all the services to request formal signed consent from families or caregivers for all young people aged 15 years or under; staff members were trained in assessing Gillick competence, so if parental/caregiver consent was not forthcoming for those aged under 15 years, they made informed decisions regarding the young person's ability to consent. If a young person was considered Gillick competent, consent was sought from them directly.

After consent had been taken, the staff member collected demographic and contact data, as well as the baseline outcomes. All young people were identified using a unique identifier provided by the service to ensure participants could be tracked across services and could be randomised only once. Once the baseline questionnaire was complete, it was sent using a secure, encrypted email service to research staff at the University of Kent, who used the information to randomise using the secure randomisation service provided by Sealed Envelope Ltd, and the outcome of the randomisation was emailed back to the staff member on the same day. Allocation of young people to specific staff members in the youth justice system took into account the fact that some existing staff members in the service were already trained in RBT. In these instances, the young people allocated to RBT only received interventions from youth justice staff members trained as part of this study, whilst those allocated to the BAU were allocated to staff who had not received the training either as part of this study or previously.

After randomisation, staff carried out the trauma screening assessment with those allocated to the RBT intervention group and assigned them to an appropriate tier of intervention support. A researcher also contacted each young person and/ or their carer (in both groups) to explain who they were, check contact details for sending a £20 voucher redeemable at Amazon and give the young person and carer an opportunity to ask any questions or seek clarification about the trial. The researcher then contacted the young person by phone and/or email six months after randomisation to conduct follow-up assessments, after which the young person also received a £20 voucher. Young people were supported in the completion of follow-up questionnaires, with the researcher being available to address any issues.

Outcome measures

Baseline measures

Key demographic variables were collected by staff embedded within the local authority at baseline, prior to randomisation, using a bespoke data management tool. These included age, sex, ethnicity and IMD, which was derived from the participant’s postcode and converted into IMD using the IMD Wales lookup tool: https://geoconvert.ukdataservice.ac.uk/help/faq.html.

Primary outcome

Self-reported delinquency was assessed using the SRDS (Smith and McVie, 2003) over the preceding six months. This 19-item questionnaire collects data on the quantity and volume of a range of delinquent and criminal behaviours, including property crime, violence, theft and drug use, over the previous six months. The quantity of criminal behaviour is the number of different offence categories endorsed by the young person, and the volume is the actual number of offences committed across all categories (Fonagy et al., 2018; McAra and McVie, 2007). This outcome was assessed at baseline and at six months post-randomisation and scored as part of the analysis. The theory of change states that the aim of the intervention is to reduce delinquency.

Secondary outcomes

Emotional symptoms and behavioural difficulties were assessed using the self-completed SDQ (Goodman, 1997). This assesses behaviours across several domains, including conduct, hyperactivity, emotional regulation, peer relationships and prosocial behaviour, and allows for the generation of two multi-component outcomes: internalising and externalising behaviours, with the latter highly associated with current or future delinquent behaviour. We assessed the total score, domain scores and multi-component scores. The outcome is widely used and has demonstrated excellent validity and moderate reliability in adolescent populations (Goodman, 2001). The SDQ is suitable for completion by those aged over 10 years and by those with mild learning disabilities (Law and Wolpert, 2014)

Wellbeing was assessed using the SWEMWBS (Clarke et al., 2011). The SWEMWBS is a 7-item self-completed scale addressing different aspects of eudemonic and hedonic mental health wellbeing. The scale is validated for adolescents and demonstrates good internal consistency (Ng Fat et al., 2017) and discriminant, construct and convergent validity (McKay and Andretta, 2017; Ng Fat et al., 2017).

Non-psychotic psychological health was assessed using the GHQ12 (Goldberg and Hillier, 1979), using norms derived for adolescent populations. This 12-item instrument has established validity and reliability in adolescent populations (Baksheev et al., 2011).

To assess the potential impact on the family environment, we assessed this using the BFRS (Fok et al., 2014); this 16-item instrument assesses family cohesion, expressiveness and conflict and has established convergent and discriminant validity.

We used questions derived from the self-reported CSRI (Coulton et al., 2022) to assess the number of days of school and work absence, the number of exclusions and suspensions, and the number of criminal justice contacts over the previous six months. CSRI methods are an established and valid form of assessing participant resource use in randomised controlled trials and can be adapted for the target population (Knapp and Beecham, 1990).

All these outcomes were assessed at baseline and again at six months post-randomisation.

The exposure to ACEs for the RBT group was assessed at the screening stage and represented by the tier of intervention, with tier 0 experiencing no ACEs and tier 3 experiencing the most ACEs.

Six months after randomisation, in both arms, young people were contacted by researchers by phone or email and asked to complete the short revised TASC-r (Shirk and Saiz, 1992); this assesses the quality of the relationship between the young person and a staff member. Therapeutic alliance is a strong predictor of outcome, and this will be used in the prognostic model.

Staff members were asked to complete the ARTIC (Baker et al., 2016), a psychometrically robust self-reported instrument that assesses professional attitudes and perceptions of trauma-informed care. The instrument has established internal consistency (Cronbach's α = 0.91), test–retest reliability (0.84), and criterion and construct validity (Baker et al., 2016). Staff wellbeing was assessed using the SWEMWBS (Clarke et al., 2011). These measures were completed just prior to randomisation and again 26 weeks after randomisation to RBT training or BAU.

Sample size

Sample size calculations were derived using Stata 16 and are based on the SRDS (Smith and McVie, 2003) over a six-month period.

In our pre-trial sample size calculation, we used an effect size difference of 0.25 as an important difference; this equates to a difference in volume of offences of circa 12% over a six-month period, which is similar to effects found in other psychologically focused interventions to reduce recidivism in adolescent populations (Hodgkinson et al., 2021). To detect this difference or greater using a two-sided test, with alpha of 0.05 and power of 80% required 506 young people to be followed up at our primary endpoint, six months post-randomisation, i.e. 253 in each group. Similar randomised controlled trials in similar populations (Coulton et al., 2023; Fonagy et al., 2018) suggest a pre–post test correlation for the SRDS of 0.644 (95% CI: 0.474, 0.815); we erred on the side of caution and included a correlation of 0.5 into the sample size calculation, and this reduces the required sample at the primary end-point to 380: 190 in each group. We estimated a potential loss to follow-up of 10%, similar to attrition found in our other studies of young people (Coulton et al., 2023); this inflated the required baseline sample to 422.

We recruited 401 participants; hence, the minimum detectable effect size at randomisation was 0.29, assuming a loss to follow-up of 10%. We had primary outcome data at the six-month endpoint for 335 young people, but the actual pre–post-test correlation for the SRDS was higher than we estimated, 0.58 rather than 0.50; hence, the minimum detectable effect size for the analysed sample (0.25) was similar to the original sample size calculation.

Table 5: Sample size calculations overview

		Protocol	Randomisation	Analysis
Minimum Detectable Effect Size		0.25	0.29	0.25
Pre-test/post-test correlations	Level 1 (participant)	0.50	0.50	0.58
Alpha		0.05	0.05	0.05
Power		0.8	0.8	0.8
One-sided or two-sided?		Two-sided	Two-sided	Two-sided
Number of participants	Intervention	190	200	167
	Control	190	201	168
	Total	380 (422 allowing for 10% attrition at month 6)	360 (410 allowing for 10% attrition at month 6)	335

We had 110 potential staff members: 56 were randomised to RBT and 54 to BAU. Each interventionist could manage a harmonic mean of 10 young people through the course of the study. To achieve our target, we needed to have at least 42 interventionists participating throughout the trial, thus allowing for a potential loss of interventionists of 14, 25% of those available.

Randomisation

There were two levels of randomisation in the study. Level one included participating staff being allocated to be trained in RBT or to continue to deliver BAU. This allocation was conducted for all staff members who volunteered and consented, and after baseline staff data collection. Staff members already trained in RBT in the Youth Justice Services were ineligible. As allocations are done at the same time, and because we wanted to maximise balance across the groups on key parameters, we employed minimisation for the allocation of staff. Minimisation works by assigning staff members to the group that maintains balance in the allocated groups. Our aim was to maximise balance in terms of service (Youth Justice Services, Edge of Care, Youth Development, Early Help Hubs) and specialism (specialist or generic workers). Provision was made to conduct additional waves of staff randomisation and TRM training if there was high staff turnover throughout the trial – high turnover is turnover that exceeds 30%. High staff turnover created situations, particularly in smaller teams, where there were insufficient staff members allocated to RBT or BAU. During the conduct of the study, Bridgend Children’s Services also underwent a restructuring, with some trained staff members being redeployed to other services. Both of these situations led to a further wave of randomisation and training, and the restructuring allowed additional referrals through children’s and school services.

Level two allocation involved the randomisation of young people to the RBT intervention or BAU. Randomisation was conducted after informed consent had been taken and the baseline assessment completed. Allocation involved an equal probability of receiving the RBT intervention or BAU and employed random permuted blocks of variable size (4, 6 or 8), with a random block seeded throughout. Randomisation was conducted by research staff using a secure, independent randomisation service, Sealed Envelope Ltd.

Randomisation was stratified by service (Youth Justice Services, Edge of Care, Youth Development, Early Help Hubs), sex (male, female) and age group (<15 years, ≥15 years). Stratification variables were chosen to ensure allocation was balanced across service, sex and age, as some workers specialise in working with older or younger males and females. A full quality assurance audit trail was kept of all allocations, and research staff could not see future allocations. The allocated group was relayed back to the delivery staff members in the services, who decided which staff member a young person should be assigned to, matching their allocated intervention or control group.

It was not possible to blind young people or staff to their allocated group, although follow-up at six months was conducted by researchers who were blind to the allocation. Follow-up questionnaires were completed by participants and were the same for both groups: the questionnaires collected no details on which group the participant was allocated to.

Statistical analysis

Analysis was conducted and presented in accordance with the Consolidated Standards of Reporting Trials (CONSORT) guidelines (Hopewell et al., 2025). The validity of randomisation was explored by presenting baseline measures of central tendency and estimates of precision for continuous variables and proportions for categorical variables, broken down by allocated arm and stratification factors for both staff and participant samples.

Primary analysis

The primary outcome relates to the participant and is the volume of self-reported delinquent acts in the six months after randomisation, assessed using the SRDS. Two data sets were created for statistical analysis. The primary analysis was based on the analysis of the intention-to-treat (ITT) data set. The secondary analyses examined intervention effects under scenarios for compliance with allocation.

Analysis by treatment allocated

This analysis includes all available data for participants who were randomised, regardless of whether they complied with allocation. This ITT data set includes participants who were withdrawn/withdrew from the trial post-randomisation. These analyses are a lower-bound estimate of intervention effects, as they represent the effect of offering an intervention rather than the effect of receiving the intervention.

The primary outcome is the volume of delinquency at six months post-randomisation. In the statistical analysis plan, we proposed using an ordinary least squares (OLS) linear regression to analyse the primary outcome, but we did state that we would explore the distribution of the outcome to identify the most rigorous regression model. Examination of the distribution of the primary outcome indicated a Poisson distribution, with a wide dispersion and a large number of zeroes on the SRDS volume score. In order to address this in the analysis, we used a negative binomial regression model adjusted for the baseline value of the primary outcome, volume of delinquency in the six months prior to randomisation, stratification variables (service, age group and sex). The results are presented as incident rate ratios (IRRs), the ratio of events in the RBT group versus the BAU group. Marginal mean differences between the groups and associated 95% confidence intervals (CIs) were derived to provide estimates of Cohen's d effect size.

The equation for the negative binomial model is stated below, where $m6srdsvol$ is the volume of delinquency at month six, α is the constant, $alloc$ is the randomised allocation, $m0srdsvol$ the volume of delinquency at baseline, $service$ is the service, $agegrp$ is the young persons age group, sex is the young persons sex and ei is the error function.

$$\log(m6srdsvol) = \alpha + \beta(alloc) + \beta(m0srdsvol) + \beta(service) + \beta(agegrp) + \beta(sex)\ +\ ei$$

Secondary analysis

Secondary outcomes were analysed using an appropriate regression approach accounting for both the distribution of the outcome and the numeric form of the outcome. Each regression was adjusted for baseline values of the outcome stratification variables (service, age group and sex). Results are presented as marginal means, mean differences and the associated 95% CI.

No interim analysis was undertaken.

Analysis in the presence of non-compliance

This contains all data for participants who completed the trial as planned – without any major protocol violations or exclusions. Per protocol (PP) analyses essentially drop those individuals who have not strictly complied with their allocation – both those who only partially complied with their allocated intervention and those who did not receive their allocated intervention. This means that the PP analysis represents a likely best-case scenario for intervention effect estimation.

Complier average causal effects

A PP analysis runs the risk of over-estimating the effect in the BAU group because they are considered to have complied, but they might not have complied if they had been allocated to the RBT intervention group. To address this, a second analysis in the presence of non-compliance was planned, employing a CACE approach. Due to data access issues, the data was insufficient at this stage to identify which participants did not engage with the different elements of the RBT intervention, so the CACE analysis is now planned as part of the 12-month outcome analysis.

Missing data analysis

The proportion of missing data and patterns of missingness were examined for the primary outcome. Levels of missing data were reported, along with any systematic occurrences of missing data observed in the data set.

In trials, some participants are inevitably lost to follow-up. Sample size estimation assumed that 10% of participants would not provide an evaluable six-month follow-up assessment; in the study, this loss was 16%. We explored the mechanism of missing data to establish whether the data could be considered missing at random (MAR) or missing not at random (MNAR).

To avoid loss of efficiency under the assumption of MAR, missing outcome values were imputed using multiple imputation.

An imputation model containing all potential prognostic baseline covariates was used. The number of imputations was dependent on the amount of missing data. As a minimum, the number of imputations would be derived to ensure at least 96% statistical efficiency *(RE),* according to the formula below, where λ is the fraction of missing values, and M is the number of repetitions.

$$RE = \left(1 + \frac{\lambda}{M}\right)^{-1}$$

The statistical model and assumptions made in the analysis of the primary outcome were also implemented in the multiple imputation procedures. The results of a sensitivity analysis, including the pooled imputed primary outcome, are presented for comparison with the ITT analysis.

To address the potential that data is MNAR, two approaches to missing data imputation were undertaken. The first approach substituted the missing data with the baseline value: last outcome carried forward (LOCF). The second approach employed plausible assumptions about the missing data. The data and missingness were modelled jointly using a pattern-mixture model, which modelled the differences between missing and observed data. Assumptions about the missing data are expressed by a sensitivity parameter delta, which measures the degree of departure from MAR, and a range of values of delta is graphed over a range of assumptions.

If it was suspected that data was MNAR, or if the pattern of missing data was associated with trial allocation, sensitivity analysis was performed using a pattern mixture approach with mixed modelling and multiple imputation to compare the sensitivity of conclusions to varying assumptions about the missing value mechanism.

Subgroup analyses

To maintain power in the analysis, we avoided analysing subgroups and instead used the whole sample for latent class analysis to explore the emergence of clusters of participants who may have differential responses to the RBT intervention. Latent class approaches allow for clusters to emerge from the data rather than being pre-specified. In addition to the baseline variables collected, we also included measures of ethnicity, material deprivation and therapeutic alliance, assessed at month six using the short revised TASC-r (Shirk and Saiz, 1992).

Additional analyses

Prognostic regression analysis was performed to model the relationship between pre-randomisation factors, age, gender, ethnicity, IMD, SRDS, SDQ, BFRS and GHQ, and observed outcomes at six months on the primary outcome. A significance level of 0.1 was used to determine which factors should be included in the regression model. This reduced the likelihood of over-fitting the regression model, whereby the resulting model would only be applicable to the sample and not generalisable to a wider population.

This analysis was augmented by an additional analysis that included only participants in the RBT intervention arm and used the same pre-randomisation factors, but it also included the RBT tier and therapeutic alliance.

Estimation of effect sizes

Unless otherwise specified, estimates are presented with 95% CIs. Significance tests are two-tailed, and a significance level of <0.05 is considered statistically significant. For the analysis involving negative binomial regression, the volume score of the SRDS, the IRR – the ratio of incidents in the RBT group versus the BAU group – is presented, along with associated 95% CIs. For continuous normally distributed variables, a mean difference and associated 95% CIs were derived; for dichotomous outcomes, odds ratios and associated 95%

CIs are presented; and for categorial variables including more than two categories, Cramer's *V* and associated 95% CIs are presented. This study has a predefined primary outcome measure at a specific time and involves a single comparison between two treatment arms; therefore, no adjustment for multiplicity was required. As participant randomisation was stratified by service, no adjustment for service-cluster effects, over and above the inclusion of service as a fixed effect in the models, was required.

As the primary outcome and the volume score of the SRDS had distributions with both zero inflation and overdispersion, the magnitudes of effects were calculated using the standardised mean differences in rates between the intervention and control groups in a similar manner to continuous outcomes; however, to adjust for the influence of outliers, the bootstrapped mean was generated using 1,000 replications. As the sample is large, effect size differences were calculated using Cohen's d, specified by the following equation:

$$\delta = (Y_i - Y_c)/S$$

where Y_i and Y_c are the regression-adjusted means for the intervention and control groups, respectively, and S is the pooled standard deviation.

For categorical variables, where the odds ratio was derived, this was converted to Cohen's d using the following equation:

$$\mathrm{d} = \ln(OR) * \sqrt{\frac{3}{\pi}}$$

where $ln(OR)$ is the natural logarithm of the odds ratio.

For outcomes derived from k x r contingency tables, the effect size was calculated using Cramer's *V*.

$$\mathrm{V} = \sqrt{\frac{x^2}{n}/\min\,(k-1, r-1)}$$

where X is the chi-square statistic, n is the sample size, k is the number of columns and r is the number of rows.

This provides an effect size between 0 and 1. A Cramer's V of <0.2 indicates a weak effect, >0.2 and <0.4 is a moderate effect and >0.4 is a strong effect.

Effect sizes are reported with 95% CIs and p-values to reflect statistical uncertainty.

Implementation and process evaluation

Research methods

The purpose of the IPE is to explore key objectives relating to the implementation, process and equity that were associated with the intervention. Broadly, the focus is to assess the extent to which the intervention was implemented as intended (taking into account factors that may have facilitated or hindered the same); the acceptability of the intervention (from the perspective of young people participating, staff and other key stakeholders, including parents/carers); the impact of dosage, adherence and staff turnover on observed outcomes; the extent to which findings may be generalisable to the wider population; and to identify both positive and negative experiences associated with the intervention (and when they occur).

More explicitly, the implementation and process evaluation was framed in seven research questions:

Table 6. Implementation and process evaluation (IPE) methods overview

Research methods	Data collection methods	Participants/ data sources	Data analysis methods	Research questions addressed	Implementation/ logic model relevance
IPEQ1 To what extent do staff members within services adhere to the intended delivery model?	Process data regarding interventions planned and delivered	Receipt of initial case formulation in accordance with the identified tier of need Session data highlighting components of the intervention planned versus the components delivered	Descriptive statistics	To what extent do staff members within services adhere to the intended delivery model?	Adherence to the delivery model leads to better outcomes.
IPEQ2 What factors facilitate or hinder intervention delivery?	Semi-structured interviews addressing facilitators and hindrances associated with intervention delivery, and factors associated with non-compliance	20 staff members, 10 participants and 10 parent/carers purposively sampled by service, age and ethnicity.	Inductive thematic analysis Findings mapped onto Normalisation Process Theory (NPT).	What factors facilitate or hinder intervention delivery?	Understanding what factors facilitate or hinder engagement with the intervention can help identify modifications that can be made.
IPEQ3 How acceptable is the intervention from the perspective of participants, staff and key stakeholders?	Semi-structured interviews addressing acceptability	20 staff members, 20 participants, 10 parent/carers and 10 key stakeholders (clinical psychologists, inter-agency workers) purposively sampled by service, age and ethnicity	Inductive thematic analysis Findings mapped onto NPT.	How acceptable is the intervention from the perspective of participants, staff and key stakeholders?	Understanding acceptability can lead to modifications that increase engagement and result in better outcomes.
IPEQ4 How is the dose of, and adherence to, the intervention associated with outcomes observed?	Quantitative analytical model exploring the role of dose on outcomes observed, service staff turnover and staff wellbeing	Session data, intervention participants' survey data, staff turnover and wellbeing	Stratified regression analysis to explore the relationship of dose on outcomes, controlling for potentially confounding	How is the dose of, and adherence to, the intervention associated with outcomes observed?	Does the dose of the intervention, stratified by tier, have an impact on outcomes observed?

			factors, including the allocated tier		
IPEQ5 How generalisable are the findings to the wider population accessing the services?	Semi-structured interviews focusing on the appropriateness of the referral process and exploring whether some groups are unable to access the service	20 semi-structured interviews with participants, 20 interviews with practitioners and 20 semi-structured interviews with key stakeholders, 10 of which will be parents/ carers Purposively sampled to get variety by service, age and ethnicity	Inductive thematic analysis Findings mapped onto NPT.	How generalisable are the findings to the wider population accessing the services?	The intervention must be accessible to all potential participants.
IPEQ6 What positive or negative experiences do participants and staff highlight, and when do these occur?	Semi-structured interviews focusing on the positive and negative experiences of the intervention and when these occur	20 semi-structured interviews with participants, 20 interviews with practitioners and 20 semi-structured interviews with key stakeholders, 10 of which will be parents/ carers Purposively sampled to get variety by service, age and ethnicity	Inductive thematic analysis Findings mapped onto NPT.	What positive or negative experiences do participants and staff highlight, and when do these occur?	Identify potential modifications that can be made to maximise the impact of the intervention.
IPEQ7 Do changes in the behaviour change model occur as hypothesised?	Semi-structured interviews focusing on perceptions of what change has occurred	20 semi-structured interviews with participants, 20 interviews with practitioners and 10 semi-structured interviews with parents/ carers Purposively sampled to	Inductive thematic analysis. Findings mapped onto NPT.	Do changes in the behaviour change model occur as hypothesised?	Is the theory of change a valid representation of the changes that occur?

		get variety by service, age and ethnicity			

A synthesis of quantitative and qualitative analyses was used to address key objectives related to the implementation, process and equity of the intervention. The interview schedules used for the IPE were drafted by the qualitative research team and then refined collaboratively with the wider research team to ensure clear alignment with the IPE questions and suitability across young people, parents/carers, staff and stakeholders. The tools were designed to elicit open accounts of delivery, acceptability, facilitators, barriers and perceived impact while also generating data that could be interpreted through the lens of Normalisation Process Theory (NPT; May et al., 2009). This ensured that the questions captured both participants' lived experiences and the wider processes involved in understanding, enacting and embedding the intervention in practice.

The analysis of the IPE qualitative data followed a structured and iterative approach. Interviews with young people, parents/carers, intervention delivery staff and stakeholders were audio-recorded, transcribed verbatim and anonymised prior to analysis. An initial inductive coding of all transcripts was conducted to identify recurring patterns, drawing on principles of reflexive thematic analysis (Braun and Clarke, 2006a). Throughout this process, codes were compared within and across participant groups to explore similarities, contrasts and variations in experience.

NPT (May et al., 2018; May and Finch, 2009) provided a sensitising framework for interpreting the data, particularly in relation to how staff understood, enacted and sustained the intervention in practice. As coding progressed, NPT concepts, such as coherence, cognitive participation and collective action, were used to organise and refine themes relating to implementation processes. The emerging coding framework and thematic structure were reviewed collaboratively within the research team to ensure consistency, conceptual clarity and alignment with the study aims. The final themes reflected both inductive insights grounded in participant accounts and theoretically informed interpretations of how the model was implemented, embedded and experienced across settings.

In total, 49 semi-structured interviews were conducted between month 7 and month 28. These interviews were completed online (via Microsoft Teams) to maximise accessibility and reduce any anxieties that may have been associated with face-to-face interviews. A researcher from the evaluation team interviewed each participant once, exploring each of the relevant IPE research questions detailed in the table above.

Interviews typically lasted between 45 and 60 minutes. All interviews were recorded, with explicit consent, and transcribed verbatim. Inductive thematic analysis (Braun and Clarke, 2006b) was used to analyse the narrative accounts, with the understanding that saturation would ultimately guide the requisite sample size. Data saturation was achieved at 49 participants, thus, the decision was taken to cease recruitment of further interview participants at that stage.

As mentioned above, NPT was also utilised during the analysis. This approach facilitated the mapping of findings onto NPT's constructs: coherence (how the intervention was perceived and understood), cognitive participation (the engagement and commitment of stakeholders), collective action (the integration of the intervention into practice) and reflexive monitoring (the ongoing assessment and adaptation of the intervention). Bracketing, reflexivity and member checking were integral to ensuring research trustworthiness and rigour throughout the analysis of qualitative data. The inclusion of NPT to augment thematic qualitative analysis was done due to its well-documented success in generating insights into the development and evaluation of (particularly) health and health-related interventions (Murray et al., 2010)

Data was analysed using an inductive approach, without the constraints of existing theories, to allow for the natural emergence of findings. Although the intention was initially to analyse qualitative data using Nvivo, the richness of the data collected led the research team to rethink its initial approach in order to ensure this element of the data was not lost, as automated analysis tools (such as Nvivo) can be prone to missing cultural nuances and other multi-layered concepts within data analyses (Dollah et al., 2017). As such, interviews were analysed using a process of familiarisation (through deep, iterative reading of transcripts), coding, the development of codes into themes and the interpretation of findings to answer key research questions. Due to the presence of multiple qualitative researchers working on the analysis, a codebook for the analysis was developed (via double/independent coding), which minimised individual bias and increased rigour in relation to the findings (Burla et al., 2008; O'Connor and Joffe, 2020)

This analysis identified critical elements of the intervention, explored implementation issues and sought to understand ethnicity and equity concerns. It also focused on identifying perceived barriers to or facilitators of implementation in usual practice. This inductive analysis, grounded in the data, therefore contributed valuable insights into the practicalities of the implementation process.

This analysis was coupled with a secondary quantitative analysis to explore how content, compliance and therapeutic alliance impacted the outcomes observed. A regression model was, therefore, created, with the primary outcome, the volume of delinquency in the previous six months at the month six follow-up, as the dependent variable, adjusting for the key covariates identified. This allowed for the quantification of which dimensions of the intervention were associated with outcomes and further enabled the exploration of whether certain domains were more important than others and should be emphasised in the intervention delivery and, by extension, the training. Allied to this, the wellbeing of practitioners and the extent to which staff perceptions of working in a trauma-informed manner, assessed using ARTIC 35, influenced outcomes were analysed. In addition, the perception of therapeutic alliance provided insight into whether therapists' communication styles influenced outcomes.

An aspect of the qualitative work with key stakeholders involved examining participants' positive and negative experiences of the allocation to different tiers of the intervention. Exploring how these perspectives concurred with those who conducted the trauma screening and the allocation of participants to a tier to explore at which points negative and positive experiences were at their greatest and what steps could be taken to ameliorate these experiences to improve the delivery and acceptability of the intervention.

Timeline

Table 7: Timeline

Dates	Activity	Staff responsible / leading
01/07/23–15/07/23	Prepare and submit the evaluation protocol	University of Kent/Teesside University
01/07/23–31/08/23	Identify staff for randomisation	Bridgend
21/08/23–30/09/23	Submit ethics and receive approvals	University of Kent
01/09/23–14/09/23	Conduct pre-randomisation staff survey	University of Kent

15/09/23–30/09/23	Deliver Relationship Building Together (RBT) intervention training	Bridgend County Borough Council/ Relationship Building Together Academy
01/11/23–30/01/24	Develop and submit the statistical analysis plan	University of Kent
01/03/24–15/03/24	Conduct the post-randomisation staff survey	University of Kent
01/01/24–28/02/25	Conduct qualitative interviews	Teesside University
20/11/23–10/03/25	Recruit participants	University of Kent
20/11/23–10/08/25	Deliver the RBT intervention or BAU	Bridgend County Borough Council
20/05/24–10/08/25	Conduct the month 6 follow-up	University of Kent
11/08/25–31/08/25	Complete data quality assurance	University of Kent
01/09/25–30/09/25	Conduct data analysis	University of Kent
01/03/25–30/09/25	Conduct qualitative analysis	Teesside University
01/10/25–31/10/25	Prepare the draft report	University of Kent/Teesside University

Impact evaluation results

Practitioner recruitment

Staff members were considered eligible to participate in the study if they worked with the target population within their service, volunteered to participate and provided consent to randomisation.

The number of practitioners randomised was 110 across three waves of training. Staff characteristics are presented in Table 8. No significant differences were observed between those allocated to be trained in the RBT intervention and those delivering BAU; the groups were similar in terms of demographics and baseline outcomes.

Table 8: Staff characteristics of those randomised by allocated group.

	Business as usual	RBT intervention	p-value	Effect size
Service[a] n (%)				
Early Help East	11 (47.8)	12 (52.2)		
Early Help North	12 (50.0)	12 (50.0)		
Early Help West	9 (50.0)	9 (48.9)		
Edge of Care	8 (57.1)	6 (42.9)		
Youth Development	8 (40.0)	12 (60.0)		
Youth Justice	6 (54.0)	5 (46.0)	0.946	0.104[b]
Ethnicity n (%)				
White	51 (48.1)	55 (51.9)	n/a	n/a
Age group[d] n (%)				
<30 years	14 (53.8)	12 (46.2)		
31–40 years	16 (42.1)	22 (57.9)		
41–50 years	10 (50.0)	10 (50.0)		
51–60 years	11 (55.0)	9 (45.0)		
61–70 years	0	1 (100)		
71 years or more	0	1 (100)	0.676	0.172[b]
Sex[d]				
Female	48 (48.5)	51 (51.5)		
Male	3 (42.9)	4 (57.1)	0.773	0.125[c]
Staff type[a] n (%)				
Specialist	19 (50.0)	19 (50.0)		
Generic	35 (48.6)	37 (51.4)	0.890	−0.029[c]
Mean baseline ARTIC score (SD)	130.18 (9.97)	130.96 (8.06)	0.660	−0.086[c]
Mean SWEMWBS score (SD)	24.17 (3.37)	24.29 (3.56)	0.852	−0.037[c]

[a] Variables included in the minimisation algorithm

[b] Effect size presented as Cramer's *V*

[c] Effect size presented as Cohen's *d*

[d] Total does not sum to 54 for the BAU group and 56 in the RBT group due to missing data.

Note: RBT = Relationship Building Together; SD = standard deviation; Attitudes Related to Trauma Informed Care Scale (ARTIC); Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS)

Participant recruitment and flow through the trial

Overall, 523 young people were approached to participate. Of those approached 401 (76.7%) were willing to consent, 48 (9.2%) were excluded because the service the young person had been referred to did not consider the young person was in need of a service providing, 54 (10.3%) were not interested and 20 (3.8%) gave no reason for not wanting to take part in the study. Of those randomised, 200 (49.9%) were allocated to RBT and 201 (50.1%) to BAU. Of those allocated to RBT, 184 (92%) received the RBT intervention. The reasons for not receiving the RBT intervention included not being allocated to a caseworker, moving out of the area or being referred to a different service prior to receiving trauma screening. Overall follow-up rates at month six were 83.5% and were similar in the RBT group (83.5%) and the BAU group (83.6%). A CONSORT diagram is provided in Figure 2.

Figure 2: CONSORT diagram showing participants' progression through the trial

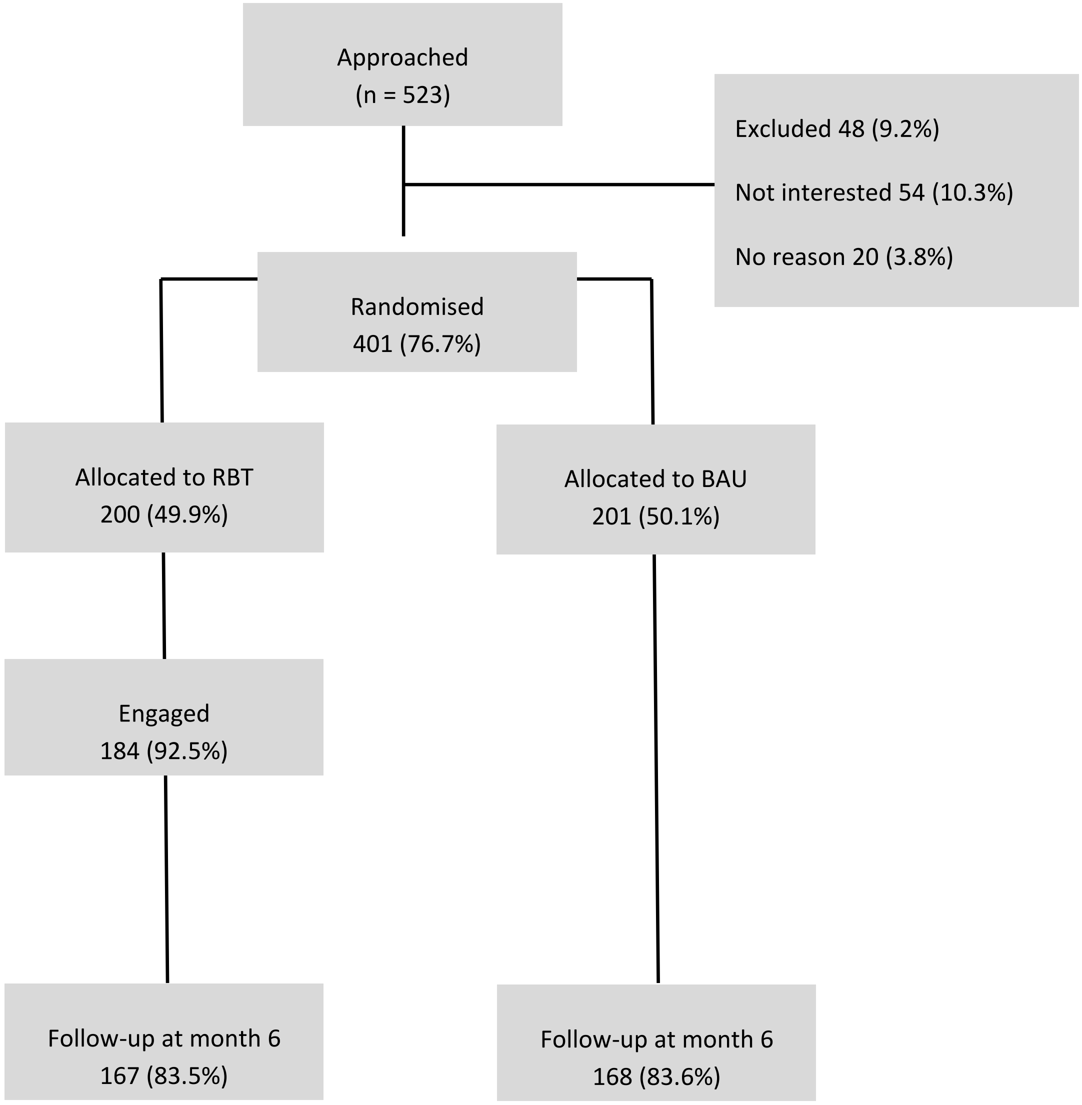


Table 9 provides a breakdown of those approached, recruited, randomised and followed up by allocated group, ethnicity and sex.

Table 9: Demographic characteristics

	Referred	Recruited	Randomised	T0 data	T1 data	Final sample
Ethnicity						
Asian or Asian British	1	1	1	1	1	1
Treatment			1	1	1	1
Control			0	0	0	0
Black, Black British, Caribbean or African	2	2	2	2	2	2
Treatment			2	2	2	2
Control			0	0	0	0
Mixed or multiple ethnic groups	7	6	6	6	4	4
Treatment			0	0	0	0
Control			6	6	4	4
White	506	385	385	385	322	322
Treatment			192	192	160	160
Control			193	193	162	162
Other ethnic group	1	1	1	1	1	1
Treatment			1	1	1	1
Control			0	0	0	0
Unknown		6	6	6	5	5
Treatment			4	4	3	3
Control			2	2	2	2
Sex						
Male	255	204	204	204	170	170
Treatment		101	101	101	85	85
Control		103	103	103	85	85
Female	268	197	197	197	165	165
Treatment		99	99	99	82	82
Control		98	98	98	83	83
Prefer not to say	0	0	0	0	0	0
Treatment			0	0	0	0
Control			0	0	0	0

Of the 200 participants recruited and allocated to RBT, the tier of intervention was available for 199 after screening. 71 (35.7%) were found to have no evidence of trauma, 82 (41.2%), 43 (21.6%) and 3 (1.5%) were placed in tiers 1, 2 and 3, respectively, where tier 3 indicates the highest level of trauma.

Table 10: Tier of intervention by service

	Tier 0 N (%)	Tier 1 N (%)	Tier 2 N (%)	Tier 3 N (%)
Children's Services	7 (100)	0	0	0
Early Help East	8 (47.1)	5 (29.4)	4 (23.5)	0
Early Help North	11 (50.0)	7 (31.8)	4 (18.2)	0
Early Help West	9 (64.3)	2 (14.3)	3 (21.4)	0
Edge of Care	2 (11.8)	8 (47.1)	5 (29.4)	2 (11.8)
Youth Development	25 (30.9)	41 (50.6)	14 (17.3)	1 (1.23)
Youth Justice	9 (22.0)	19 (46.3)	13 (31.7)	0

Attrition

The overall rate of attrition between randomisation and analysis was 16.5%, 16.5% in the RBT group and 16.4% in the BAU group. Attrition occurred because young people either declined to be followed up or could not be contacted at the six-month follow-up point. No differences were observed in the rates of attrition by ethnicity or sex.

Table 11: Participant-level attrition from the trial (primary outcome)

		Intervention	Control	Total
Number of participants	Randomised	200	201	401
	Analysed	167	168	335
Participant attrition (from randomisation to analysis)	Number	33	33	66
	Percentage	16.50	16.42	16.46

Participant characteristics

Baseline demographic variables for all participants are provided in Table 11, and baseline outcome variables in Table 12. The distributions of each continuous variable were examined, and all met the assumption of normality except for the volume of self-reported delinquency in the six months prior to baseline, which demonstrated zero inflation.

Table 12: Demographic characteristics of groups as randomised

	Business as usual	RBT Intervention	p-value	Effect size
Service[a] n (%)				
Children's services	8 (53.3)	7 (46.7)		
Early Help East	16 (48.5)	17 (51.5)		
Early Help North	23 (51.1)	22 (48.9)		
Early Help West	14 (50.0)	14 (50.0)		
Edge of Care	15 (46.9)	17 (53.1)		
Youth Development	82 (50.0)	82 (50.0)		
Youth Justice	43 (51.2)	41 (48.8)	0.999	0.0269[b]
Age group [a] n (%)				
15 years or more	68 (50.4)	67 (49.6)		
Less than 15 years	133 (50.0)	133 (50.0)	0.944	0.008[c]
Sex [a] n (%)				
Female	98 (49.8)	99 (50.2)		
Male	103 (50.5)	101 (49.5)	0.882	-0.016[c]
Mean age (standard deviation)	13.77 (2.13)	13.64 (2.02)	0.588	0.063[c]
Ethnicity n (%)				
White	193 (50.1)	192 (49.9)		
Mixed	6 (100)	0		
Asian	0	1 (100)		
Black	0	2 (100)		
Other	0	1 (100)	0.041	0.159[b]

[a] Stratification variable in randomisation

[b] Effect size presented as Cramer's *V*

[c] Effect size presented as Cohen's *d*

In terms of balance, the stratification variables used within the randomisation algorithm indicated good balance, with no statistically significant differences. In terms of demographics, ethnicity had significant variation between the allocated groups, with all those who stated their ethnicity as mixed being allocated to the BAU group; this should be interpreted with caution. Most of the sample was White, and the allocation was balanced for those who stated their ethnicity as White.

Table 13: Baseline outcomes of groups as randomised

	Business as usual	RBT Intervention	p-value	Effect size (Cohen's *d*)
Mean self-reported delinquency (SD) –SRDS				
Quantity score	2.63 (2.28)	2.92 (2.63)	0.243	0.117
Volume score	8.42 (11.03)	10.14 (13.50)	0.161	0.140
Mean Strengths and Difficulties (SD) – SDQ				
Emotional regulation	5.55 (2.79)	5.37 (2.70)	0.528	0.063
Conduct	3.77 (2.24)	4.00 (2.37)	0.344	0.095
Hyperactivity	6.97 (2.19)	6.97 (2.40)	0.984	0.002
Peer problems	3.15 (2.26)	3.28 (2.08)	0.570	0.057
Prosocial behaviour	7.45 (2.26)	7.58 (1.94)	0.528	0.063
Total score	19.46 (6.01)	19.63 (6.23)	0.777	0.028
Mean psychological health (SD) – GHQ12	15.62 (7.27)	16.21 (7.80)	0.438	0.078
Mean wellbeing (SD) – SWEMWBS	19.49 (4.26)	20.03 (4.41)	0.212	0.125
Mean family relationships (SD) – BFRS				
Conflict	2.32 (1.89)	2.37 (2.09)	0.780	0.028
Cohesion	1.86 (2.10)	1.55 (2.02)	0.134	0.027
Expressiveness	0.99 (1.13)	0.81 (1.06)	0.088	0.171
Service receipt – CSRI				
Mean days missed work (SD)	0.93 (6.41)	0.21 (1.33)	0.129	0.156
Mean days missed school (SD)	14.55 (22.72)	13.27 (18.70)	0.583	0.061
Mean school suspensions (SD)	1.12 (2.55)	0.006 (0.006)	0.315	0.114
Exclusion n (%)	9 (56.25)	7 (43.75)	0.617	-0.142
Mean police warnings (SD)	0.11 (0.39)	0.15 (0.49)	0.394	0.087
Mean police charges (SD)	0.04 (0.22)	0.05 (0.22)	0.497	0.070
Mean days in court (SD)	0.02 (0.14)	0.02 (0.12)	0.714	0.037
Mean days in custody (SD)	0.02 (0.12)	0.02 (0.12)	0.980	0.002

Note: SD = standard deviation; SRDS = Self-Report Delinquency Scale (SRDS); SDQ = Strengths and Difficulties Questionnaire; GHQ12 = General Health Questionnaire; SWEMBS = Short Warwick-Edinburgh Mental Wellbeing Scale; BFRS = Brief Family Relationship Scale; CSRI = Client Service Receipt Inventory

Effect sizes for baseline outcomes are presented as Cohen's *d*, except for exclusions. No differences by allocation were observed for any baseline outcomes, and we can be confident that the randomisation process worked as intended and that the groups were equally balanced at baseline.

Outcomes and analysis

Primary analysis

The primary outcome was the volume of self-reported delinquency by young people in the six months from randomisation, derived from the SRDS. The primary analysis was based on the ITT data set. This contains all available data for participants who were randomised, regardless of whether they complied with their allocation. This data set included participants who were withdrawn/withdrew from the trial post-randomisation. These analyses are a lower-bound estimate of treatment effects, as they represent the effect of offering an intervention rather than the effect of receiving the intervention.

At baseline, 125 (31.17%) young people indicated that they had not engaged in any delinquency in the previous six months. At six months post-randomisation, this figure was 133 (39.7%), with 76 (22.7%) of the 335 followed up stating that they had not engaged in any delinquency at baseline or at six months. The mean volume of delinquency reduced at month six, from 9.28 (standard deviation 12.34) to 6.88 (standard deviation 11.86).

Table 14: Delinquent behaviour at baseline and month six for the 335 followed up at month six

		Engaged in delinquency at month six		
		No	**Yes**	**Total**
Engaged in delinquency at baseline n (%)	**No**	76 (22.7%)	29 (8.6%)	105 (31.3%)
	Yes	57 (17.0%)	173 (51.6%)	230 (68.7%)
	Total	133 (39.7%)	202 (60.3%)	335

In the statistical analysis plan, we stated that we would explore the distribution of the primary outcome prior to choosing the most appropriate regression model. This large proportion of young people reporting no delinquency at month six tends to indicate the presence of zero inflation. An examination of the relationship between the conditional mean, 6.88, and the variance, 140.62, indicated an element of overdispersion, where the variance was far larger than the conditional mean; this was confirmed by a visual examination of the distribution.

To address this in the analysis, we employed a negative binomial regression model, adjusted for the volume of self-reported delinquency in the six months before randomisation as a covariate and the stratification variables used in the randomisation procedure, service, sex and age group.

Table 15 provides the output from this analysis.

Table 15: Negative binomial model with self-reported volume of delinquency at month six as the dependent variable, controlling for baseline delinquency, age group and service

	Incident rate ratio (95% CI) n = 335	Mean difference (95% CI)	Cohen's d (95% CI)	p-value
Age group [a]				
Less than 15 years	0.99 (0.71; 1.39)	-	-	0.964
Service[b]				
Early Help East	0.84 (0.35; 2.02)	-	-	0.695
Early Help North	0.88 (0.39; 1.99)	-	-	0.754
Early Help West	0.57 (0.23; 1.39)	-	-	0.216
Edge of Care	0.68 (0.26; 1.77)	-	-	0.425
Youth Development	0.75 (0.35; 1.60)	-	-	0.462
Youth Justice	1.01 (0.47;2.19)	-	-	0.978
Sex [c]				
Male	0.98 (0.71; 1.35)	-	-	0.907
RBT intervention[d]	0.94 (0.68; 1.30)	−0.53 (−3.53; 2.46)	−0.15 (−0.37; 0.06)	0.721

[a] Contrast with 15 years or more

[b] Contrast with Children's Services

[c] Contrast with female

[d] Contrast with business as usual

Note: CI = confidence interval; RBT = Relationship Building Together

The rate of self-reported delinquency was lower in the RBT group than the BAU group (IRR 0.94; 95% CI 0.68 to 1.30) and the adjusted mean volume of delinquency was 9.448 (95% CI: 5.555 to 13.341) in the BAU group and 8.913 (95% CI: 6.098 to 11.729) in the RBT group, with a mean difference between the RBT group and the BAU group of −0.534 (95% CI: −3.532 to 2.463) and a Cohen's d effect size of −0.151 (95% CI: −0.365 to 0.064), but as the CI was wide this difference was not statistically significant at the 0.05 level.

Missing data analysis

To explore whether missing primary outcome data were MAR, we conducted a logistic regression analysis to explore which factors predict missing outcome data. Variable selection was undertaken by exploring the associations between baseline variables and the missing primary outcome at the 0.10 p-level. The analysis identified sex, SDQ total score at baseline and SWEMWBS score at baseline as being predictive, with males with lower wellbeing scores being more likely to be lost to follow-up. Using these predictor variables, we ran 50 iterations of a multiple imputation model and pooled these using the *MICOMBINE* command in STATA.

The results of the binomial regression with imputation are presented in Table 16. The results do not deviate from the primary analysis.

Table 16: Negative binomial model with the self-reported volume of delinquency at month six as the dependent variable, controlling for baseline delinquency, age group and service. Missing delinquency data at month six was imputed using multiple imputation

	Incident rate ratio (95% CI) n=401	**Mean difference (95% CI)**	**Cohen's d (95% CI)**	**p-value**
Age group [a]				
Less than 15 years	1.00 (0.69; 1.46)	-	-	0.975
Service[b]				
Early Help East	0.98 (0.41; 2.38)	-	-	0.980
Early Help North	1.05 (0.44; 2.51)	-	-	0.911
Early Help West	0.89 (0.30; 2.60)	-	-	0.833
Edge of Care	0.45 (0.32; 2.69)	-	-	0.885
Youth Development	0.92 (0.44; 2.03)	-	-	0.841
Youth Justice	1.19 (0.54;2.63)	-	-	0.671
Sex [c]				
Male	0.98 (0.67; 1.44)	-	-	0.937
RBT intervention[d]	1.02 (0.70; 1.48)	0.28 (−1.93; 4.49)	0.06 (−0.16; 2.29)	0.925

[a] Contrast with 15 years or more

[b] Contrast with Children's Services

[c] Contrast with female

[d] Contrast with business as usual

Note: CI = confidence interval; RBT = Relationship Building Together

To explore the possibility of data being MNAR, we employed two sensitivity analyses. The first simply used an assumption of no change, substituting the primary outcome with the LOCF, the baseline covariate. The results are presented in Table 16. The results do not deviate from the primary analysis without imputation.

Table 17: Negative binomial model with the self-reported volume of delinquency at month six as the dependent variable, controlling for baseline delinquency, age group and service. Missing delinquency data at month six was imputed using the last outcome carried forward

	Incident rate ratio (95% CI) n=401	**Mean difference (95% CI)**	**Cohen's d (95% CI)**	**p-value**
Age group [a]				
Less than 15 years	1.01 (0.75; 1.37)	-	-	0.932
Service[b]				
Early Help East	0.79 (0.38; 1.60)	-	-	0.509
Early Help North	0.81 (0.41; 1.59)	-	-	0.545
Early Help West	0.55 (0.27; 1.13)	-	-	0.102
Edge of Care	0.55 (0.23; 1.29)	-	-	0.171
Youth Development	0.70 (0.38; 1.31)	-	-	0.270
Youth Justice	0.93 (0.49;1.76)	-	-	0.833
Sex [c]				
Male	1.03 (0.79; 1.36)	-	-	0.804
RBT intervention[d]	0.89 (0.68; 1.17)	−1.28 (−4.49; 1.94)	−0.16 (−0.32; 0.36)	0.411

[a] Contrast with 15 years or more

[b] Contrast with Children's Services

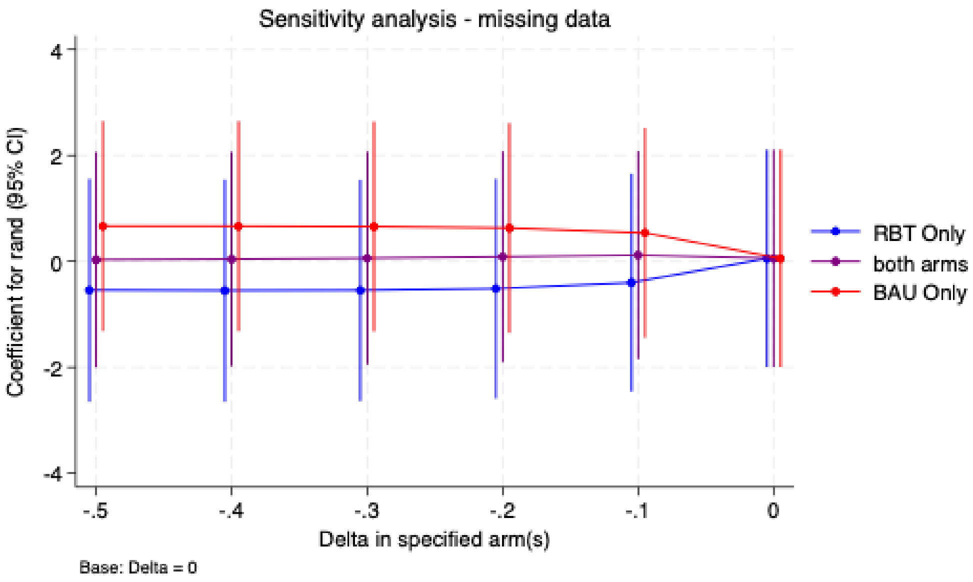
[c] Contrast with female

[d] Contrast with business as usual

Note: CI = confidence interval; RBT = Relationship Building Together

The second approach employed a sensitivity analysis, where missing primary outcome data was substituted with deltas ranging from −0.5 to 0, in increments of 0.1. This sensitivity analysis was conducted for the RBT arm alone, the BAU arm alone and both arms together. The analysis was undertaken using the *RCTMISS* command in STATA. The plots for all three analyses are presented in Figure 3. A visual inspection of the plots indicated that, even at large deviations from the MNAR assumption, the impact on the treatment effect is small and not statistically significant.

Figure 3: Missing not at random sensitivity plot at varying levels of imputation for the Relationship Building Together arm, the business-as-usual arm and both arms together



We conclude that the primary outcome analysis is not sensitive to the missing data mechanism.

Analysis in the presence of non-compliance

To explore the potential impact of compliance with the RBT intervention, we used a PP data set. This contains all data for participants who completed the trial as planned – in the RBT group and the control group – without any major protocol violations or exclusions. The PP data set contains those young people who engaged with the service they were referred to. This means that PP represents a likely best-case scenario for treatment effect estimation.

The primary outcome was analysed using the PP data set using the methods employed for the primary analysis, a negative binomial regression model adjusted for the baseline values of the randomisation stratification factors.

Table 18: Negative binomial model with the volume of delinquency at month six as the dependent variable, controlling for baseline delinquency, age group, centre, study and intervention, including only those who complied with the allocated intervention

	Incident rate ratio (95% CI) n=296	Mean difference (95% CI)	Cohen's d (95% CI)	p-value
Age group [a]				
Less than 15 years	0.93 (0.65; 1.32)	-	-	0.668
Service[b]				
Early Help East	0.79 (0.33; 1.91)	-	-	0.61
Early Help North	0.85 (0.37; 1.92)	-	-	0.694
Early Help West	0.48 (0.19; 1.19)	-	-	0.114
Edge of Care	0.53 (0.21; 1.34)	-	-	0.180
Youth Development	0.77 (0.36; 1.64)	-	-	0.495
Youth Justice	0.85 (0.39;1.86)	-	-	0.685
Sex [c]				
Male	1.02 (0.73; 1.42)	-	-	0.916
RBT intervention[d]	0.84 (0.60; 1.16)	−1.72 (−5.22; 1.77)	−0.16 (−0.37; 0.06)	0.604

[a] Contrast with 15 years or more

[b] Contrast with Children's Services

[c] Contrast with female

[d] Contrast with business as usual

Note: CI = confidence interval; RBT = Relationship Building Together

The rate of self-reported delinquency was lower in the RBT group than the BAU group (IRR 0.84; 95% CI: 0.60 to 1.16) and the adjusted mean volume of delinquency was 10.66 (95% CI: 5.693 to 12.341) in the BAU group and 8.934 (95% CI: 5.720 to 11.147) in the RBT group, with a mean difference between the RBT group and the BAU group of −1.723 (95% CI: −5.220 to 1.774) and a Cohen's d effect size of −0.158 (95% CI: −0.371 to 0.060), but as the CI was wide, this difference was not statistically significant at the 0.05 level. While the IRR in the PP analysis was lower than in the ITT analysis, suggesting some effect of compliance on lower rates of self-reported delinquency, this difference is not large or statistically significant.

Secondary analysis

Strength and Difficulties Questionnaire

Self-reported behaviours and personality attributes were derived from the SDQ at six months post-randomisation: total score, emotional regulation, conduct problems, hyperactivity, peer relationships, prosocial behaviour, externalising behaviours and internalising behaviours. As the outcomes were normally distributed, we conducted an OLS linear regression, adjusting for the baseline value of the outcome as a covariate and stratification factors used at randomisation, age group, sex and service.

The results are presented in Table 19. The RBT group had fewer overall problems (SDQ total score, Cohen's d = −0.028), fewer problems with emotional regulation (Cohen's d = −0.168), lower prosocial behaviour scores (Cohen's d = −0.171), fewer problems with peers (Cohen's d = −0.042), greater hyperactivity scores (Cohen's d = 0.159), fewer conduct problems (Cohen's d = −0.192), more externalising behaviours (Cohen's d = 0.201) and fewer internalising behaviours (Cohen's d = −0.130) compared with the BAU group. While no significant differences were observed at the 0.05 level, the lower prosocial behaviour score in the RBT group was marginally significant (p = 0.058), and while this may indicate that the BAU group exhibited more prosocial behaviours, it should be interpreted with caution, considering the number of tests conducted.

Table 19: Strengths and Difficulties Questionnaire (SDQ) domains at month six, mean difference derived from ordinary least squares linear regression, mean difference, effect size and associated 95% confidence intervals (CIs)

	Month 6 Intervention (n = 168) mean (SE)	Month 6 Control (n = 167) Mean (SE)	Mean difference (95% CI)	Cohen's d (95% CI)	p-value
SDQ total	18.62 (0.46)	19.05 (0.43)	−0.55 (−1.80; 0.70)	−0.028 (−0.283; 0.226)	0.383
Regulation	4.91 (0.19)	5.25 (0.17)	−0.34 (−0.85; 0.17)	−0.168 (−0.422; 0.087)	0.186
Prosocial	7.30(0.16)	7.71 (0.14)	−0.41 (−0.83; 0.01)	−0.171 (−0.426; 0.084)	0.058
Peer problems	3.46 (0.16)	3.60 (0.17)	−0.14 (−0.60; 0.31)	−0.042 (−0.212; 0.295)	0.529
Hyperactivity	7.08 (0.19)	6.91 (0.19)	0.17 (−0.36; 0.70)	0.159 (−0.413; 0.096)	0.520
Conduct	3.12 (0.15)	3.16 (0.11)	−0.04 (−0.48; 0.40)	−0.192 (−0.446; 0.063)	0.862
Externalising	10.18 (0.28)	10.09 (0.29)	0.09 (−0.72; 0.91)	0.201 (−0.456; 0.053)	0.828
Internalising	8.37 (0.27)	8.86 (0.26)	−0.49 (−1.24; 0.26)	−0.130 (−0.384; 0.124)	0.198

SE = standard error

Young peoples' wellbeing and psychological health

Wellbeing was derived from the SWEMWBS, and psychological health was derived from the GHQ12 in the six months after randomisation for those receiving the RBT intervention and those receiving BAU.

As both outcomes were normally distributed, an OLS linear regression was conducted. The means, standard deviations, mean differences and effect sizes are presented in Table 20. The RBT group had fewer psychological health problems (Cohen's d = −0.074) and greater wellbeing (Cohen's d = 0.129). However, no statistically significant differences were observed between the groups.

Table 20: Psychological health and wellbeing, mean difference derived from ordinary least squares linear regression, mean difference, effect size and associated 95% confidence intervals (CIs)

	Month 6 Intervention (n = 167) Mean (SE)	Month 6 Control (n = 167) Mean (SE)	Mean difference (95% CI)	Cohen's d (95% CI)	p-value
GHQ12	12.95 (0.50)	14.02 (0.54)	−1.08 (−2.53; 0.38)	−0.074 (−0.143; 0.29)	0.147
SWEMWBS	19.72 (0.27)	19.44 (0.28)	0.28 (−0.49; 1.05)	0.129 (−0.344; 0.085)	0.474

SE = standard error; SWEMWBS = Short Warwick-Edinburgh Mental Wellbeing Scale; GHQ12 = General Health Questionnaire

Family environment

Three domains of the BFRS were derived at six months after randomisation: family cohesion, family expressiveness and family conflict. As the outcomes were normally distributed, an OLS linear regression was conducted. The means, standard deviations, mean differences and effect sizes are presented in Table 21. The RBT group exhibited lower levels of family cohesion (d = –0.136), lower levels of family expressiveness (d = –0.177) and lower levels of family conflict (–0.060). No statistically significant differences were observed between the groups.

Table 21: Family environment, mean difference derived from ordinary least squares linear regression, mean difference, effect size and associated 95% confidence intervals (CIs)

	Month 6 Intervention (n = 166) Mean (SE)	Month 6 Control (n = 166) Mean (SE)	Mean difference (95% CI)	Cohen's d (95% CI)	p-value
Cohesion	1.23 (0.11)	1.38 (0.14)	−0.16 (−0.51; 0.19)	−0.136 (−0.351; 0.079)	0.377
Expressiveness	0.56 (0.06)	0.63 (0.06)	−0.07 (−0.24; 0.11)	−0.177 (−0.392; 0.038)	0.439
Conflict	1.80 (0.12)	1.95 (0.12)	−0.14 (−0.48; 0.19)	−0.060 (−0.155; 0.276)	0.396

SE = standard error

Self-reported service use

Service use explored missed workdays, school absences, school exclusions, school suspensions, police warnings and charges, days in court and days in custody in the six months post-randomisation. We conducted an OLS linear regression, adjusted for the baseline value of the outcome as a covariate and stratification factors used at randomisation, age group, sex and service. School exclusion was a dichotomous outcome, so we conducted a logistic regression adjusted for baseline value of the outcome as a covariate and stratification factors used at randomisation. The RBT group had fewer missed work days (d = –0.057) although it should be notedonly 31 (9.9%) of the sample reported being in work during the six months from randomisation, fewer missed school days (d = –0.070), were less likely to be excluded (d=-0.461) noting that only 17 (5.1%) participants experienced an exclusion in the six months after randomisation, had more suspensions from school (d = 0.012), fewer police warnings (d = −0.105) noting that only 27 (8.3%) of participants experienced a police warning in the six months after randomisation, fewer police charges (d = −0.066) noting that only 7 (2.2%) participants experienced a police charge in the six months after randomisation, fewer days in court (d = −0.070) noting that only 3 (0.9%) participants experienced a day in court in the six months after randomisation and fewer days in custody (d = −0.109) noting that only 1 (0.3%) participant experienced time in custody in the six months after randomisation. No participants recorded any managed moves in either arm of the study at baseline or month 6 follow-up, this outcome was not included in the analysis of service use. Some of the outcomes assess in the self-reported service use were rare; missed work days, exclusions, police warnings, police charges, days in court and days in custody. Interpretation of effect sizes for these outcomes should be interpreted with caution. There were no statistically significant differences between the groups.

Table 22: Service use, mean difference derived from ordinary least squares linear regression model, mean differences, effect size and associated 95% confidence intervals (CIs)

	Month 6 Intervention (n = 166) Mean (SE)	Month 6 Control (n = 166) Mean (SE)	Mean difference (95% CI)	Cohen's d (95% CI)	p-value
Missed workdays	0.48 (0.19)	0.67 (0.28)	−0.19 (−0.82; 0.44)	−0.057 (−0.164; 0.278)	0.552
Missed school days	6.55 (1.52)	6.70 (1.20)	−0.15 (−3.99; 3.69)	−0.070 (−0.183; 0.324)	0.939
School Exclusion n (%)	5 (2.99)	12 (7.14)	0.43 (0.14; 1.29)[a]	-0.461 (-1.08; 0.140)	0.143
School suspensions	0.69 (0.001)	0.67 (0.001)	0.01 (−0.001; 0.19)	0.012 (−0.242; 0.267)	0.950
Police warnings	0.06 (0.03)	0.18 (0.06)	−0.13 (−0.27; 0.017)	−0.105 (−0.113; 0.323)	0.085
Police charges	0.02 (0.01)	0.03 (0.01)	−0.01 (−0.04; 0.02)	−0.066 (−0.152; 0.283)	0.423
Days in court	0.02 (0.02)	0.04 (0.03)	−0.02 (−0.08; 0.04)	−0.070 (−0.145; 0.286)	0.523
Days in custody	0	0.02 (0.01)	−0.02 (−0.05; 0.01)	−0.109 (−0.108; 0.326)	0.176

[a] Difference represented as an Odds ratio.

SE = standard error

Staff outcomes

Attitudes to trauma-informed care and wellbeing

Attitudes related to trauma-informed care were assessed using the ARTIC-35, and wellbeing was assessed using the SWEMWBS. Staff members completed the questionnaire at baseline and then again 26 weeks after training, for those who underwent RBT training. As the distribution of ARTIC scores was not normally distributed, we calculated the change between baseline and month six. This was normally distributed, so an OLS linear regression was conducted, adjusting for baseline covariates and whether the staff member had been allocated to training. The means, standard deviations, mean differences and effect sizes are presented in Table 23. The staff trained in RBT exhibited lower positive attitudes to trauma-informed care (d = −0.354) and lower wellbeing (d = −0.101), although none of these outcomes was statistically significant.

Table 23: Staff Attitudes Related to Trauma Informed Care Scale (ARTIC) score and wellbeing, derived from ordinary least squares linear regression model, mean difference, effect size and associated 95% confidence intervals (CIs)

	26 weeks Intervention (n = 26) Mean (SE)	26 weeks Control (n = 30) Mean (SE)	Mean difference (95% CI)	Cohen's d (95% CI)	p-value
ARTIC	123.67 (3.32)	128.23 (3.14)	−4.63 (−13.73; 4.60)	−0.354 (−0.177; 0.882)	0.323
SWEMWBS	23.24 (0.50)	23.45 (0.46)	−0.21 (−1.58; 0.16)	−0.101 (−0.434; 0.636)	0.754

SE = standard error; SWEMWBS = Short Warwick-Edinburgh Mental Wellbeing Scale

Only 56 staff members completed the questionnaire at baseline and again at the 26-week follow-up after staff randomisation, resulting in an attrition rate of 51%, and as such, the results should be interpreted with caution.

Subgroup analyses

To explore whether there were specific clusters of young people who had different self-reported delinquency profiles at month six, we conducted a latent class analysis after item reduction. The model contained delinquency at month six (yes/no), age group and service. The latent class analysis identified no specific clusters of characteristics associated with delinquency. This is probably due to a low delinquency rate and model entropy resulting from a lack of sample variability.

Additional analyses

Prognostic regression

A prognostic regression analysis was performed to model the relationship between pre-randomisation factor scores at six months: service, age, sex, ethnicity, IMD, SDQ, BFRS, GHQ and SWEMWBS. A significance level of 0.1 was used to determine which factors to include in the regression model. The factors included in the model were service, SDQ conduct score, SDQ hyperactivity score, SDQ prosocial score, GHQ12, SWEMWBS, family conflict, family expressiveness, family cohesion and the baseline covariate for the primary outcome. Coefficients and associated 95% CIs are provided in Table 24. Only the SDQ conduct score predicted the volume of delinquency at month six, with higher conduct scores predicting greater delinquency.

Table 24: Predictors of self-reported delinquency at month six, coefficients and standard errors (SEs)

	ß (SE)	p-value
Service[b]		
Early Help East	−0.39 (0.51)	0.440
Early Help North	−0.25 (0.49)	0.618
Early Help West	−0.81 (0.50)	0.107
Edge of Care	−0.55 (0.53)	0.299

Youth Development	−0.34 (0.46)	0.460
Youth Justice	−0.12 (0.46)	0.799
SDQ conduct	0.11 (0.05)	0.043
SDQ hyperactivity	0.06 (0.05)	0.185
SDQ prosocial	−0.05 (0.05)	0.289
GHQ12	−0.01 (0.01)	0.468
SWEMWBS	−0.12 (0.02)	0.584
Cohesion	0.02 (0.05)	0.738
Expressiveness	−0.02 (0.08)	0.208
Conflict	0.07 (0.20)	0.796

Note: SDQ = Strengths and Difficulties Questionnaire; GHQ12 = General Health Questionnaire; SWEMWBS = Short Warwick-Edinburgh Mental Wellbeing Scale

We repeated this analysis for those in the RBT intervention group, augmenting the variables with the tier of intervention and therapeutic alliance at month six, derived from the TASC-r. The factors included in the model were tier, age, SDQ conduct score, SDQ hyperactivity score, SDQ prosocial score, SWEMWBS, family conflict, family expressiveness, family cohesion, therapeutic alliance and the baseline covariate for the primary outcome. Coefficients and associated 95% CIs are provided in Table 25. Only the TASC-r score predicted the volume of delinquency at month six, with a stronger therapeutic alliance associated with a lower volume of delinquency, although family conflict was marginally predictive, with greater family conflict associated with a greater volume of delinquency.

Table 25 Predictors of the self-reported volume of delinquency at month six for those in the intervention group, coefficients and standard errors (SEs).

	ß (SE)	p-value
Tier[a]		
1	−0.01 (0.25)	0.994
2	−0.11 (0.33)	0.735
3	0.76 (0.85)	0.369
Age	−0.01 (0.07)	0.905
SDQ Conduct	0.02 (0.07)	0.715
SDQ Hyperactivity	−0.01 (0.07)	0.987
SDQ Prosocial	0.01 (0.07)	0.903
SWEMWBS	0.01 (0.03)	0.990
Cohesion	0.02 (0.07)	0.782
Expressiveness	0.04 (0.13)	0.780
Conflict	0.13 (0.07)	0.068
TASC-r	−0.51 (0.02)	0.025

[a] Contrasted with Tier 0, indicative of no trauma

Note: SDQ = Strengths and Difficulties Questionnaire; TASC-r = Therapeutic Alliance Scale for Children-revised; SWEMWBS = Short Warwick-Edinburgh Mental Wellbeing Scale

Summary of results separated by research question

Primary research question

RQ1 What is the difference in the volume of self-reported delinquency, derived from the SRDS, in the six months after randomisation for those receiving the RBT intervention versus those receiving BAU?

The difference in the mean volume of delinquency in the six months after randomisation for those receiving the RBT intervention versus those receiving BAU was −0.534 (95% CI: −3.532 to 2.463, p = 0.721), with an effect size of −0.151 (95% CI: −0.365 to 0.064). This difference was not significant and was not sensitive to assumptions regarding the missing data mechanism.

Secondary research questions

RQ2 What is the difference in emotional regulation, prosocial behaviour, peer problems, hyperactivity, conduct problems, internalising behaviour and externalising behaviour, derived from the SDQ, in the six months after randomisation for those receiving the RBT intervention versus those receiving BAU?

The mean difference in the total SDQ score is −0.55 (95% CI: −1.80 to 0.70, p = 0.383), with an effect size of −0.028 (95% CI: −0.283 to 0.226); emotional regulation is −0.34 (95% CI: −0.85 to 0.17, p = 0.186), with an effect size of −0.168 (95% CI: −0.422 to 0.087); prosocial behaviour is −0.41 (95 CI: −0.83 to 0.01, p = 0.058), with an effect size of −0.171 (95% CI: −0.426 to 0.084); peer problems is −0.14 (95% CI: −0.60 to 0.31, p = 0.529), with an effect size of −0.042 (95% CI: −0.212 to 0.295); hyperactivity is 0.17 (95% CI: −0.36; 0.70, p = 0.520), with an effect size of 0.159 (95% CI: −0.413 to 0.096); conduct problems is −0.04 (95% CI: −0.48 to 0.40, p = 0.862), with an effect size of −0.192 (95% CI: −0.446 to 0.063); internalising behaviour is 0.09 (95% CI: −0.72 to 0.91, p = 0.198), with an effect size of −0.130 (95% CI: −0.384 to 0.124) and externalising behaviour is 0.09 (95% CI: −0.72 to 0.91, p = 0.828), with an effect size of 0.201 (95% CI: −0.456 to 0.053). All outcomes derived from the SDQ in the six months after randomisation for those receiving the RBT intervention versus those receiving BAU. These results indicated no statistically significant differences between the groups. Prosocial behaviour could be said to be marginally significant, with lower prosocial behaviour scores in the RBT intervention group than in the BAU group.

RQ3 What is the difference in wellbeing, derived from the SWEMWBS, six months after randomisation for those receiving the RBT intervention versus those receiving BAU?

The mean difference in wellbeing, derived from the SWEMWBS, in the six months after randomisation for those receiving the RBT intervention versus those receiving BAU was not statistically significant (0.28; 95% CI: −0.49 to 1.05, p = 0.474), with an effect size of 0.129 (95% CI: −0.344 to 0.085).

RQ4 What is the difference in psychological health, derived from the GHQ12, six months after randomisation for those receiving the RBT intervention versus those receiving BAU?

The mean difference in psychological health, derived from the GHQ12, in the six months after randomisation for those receiving the RBT intervention versus those receiving BAU was not statistically significant (−1.08; 95% CI: −2.53 to 0.38, p = 0.147), with an effect size of −0.074 (95% CI: −0.143 to 0.290).

RQ5 What is the difference in family environmental domains, cohesiveness, expressiveness and conflict, derived from the BFRS, six months after randomisation for those receiving the RBT intervention versus those BAU?

The mean difference in family environment domains are cohesiveness at −0.16 (95% CI: −0.51 to 0.19, p = 0.377), with an effect size of −0.136 (95% CI: −0.351 to 0.079); expressiveness at −0.07 (95% CI: −0.244 to 0.106, p = 0.439), with an effect size of −0.177 (95% CI: −0.392 to 0.038); and conflict at −0.14 (95% CI: −0.48 to 0.19, p = 0.396), with an effect size of −0.060 (95% CI: −0.155 to 0.276). They were derived from the BFRS at six months after randomisation for those receiving the RBT intervention versus those receiving BAU and were not significant.

RQ6 What is the difference in service use, work days missed, school days missed, school suspensions, school exclusions, police warnings, police charges, days in court and days in custody, derived from the self-reported CSRI, six months after randomisation for those receiving the RBT intervention versus those receiving BAU?

The mean difference of work days missed was −0.19 (95% CI: −0.82 to 0.44, p = 0.552), with an effect size of −0.057 (95% CI: −0.164 to 0.278); school days missed was −0.15 (95% CI: −3.99 to 3.69, p = 0.939), with an effect size of −0.070 (95% CI: −0.183 to 0.324); school suspensions was −0.01 (95% CI: −0.001 to 0.19, p = 0.950), with an effect size of 0.012 (95% CI: −0.242 to 0.267); police warnings was −0.13 (95% CI: −0.27 to 0.017, p = 0.085), with an effect size of −0.105 (95% CI: −0.113 to 0.323); police charges was −0.01 (95% CI: −0.04 to 0.02, p = 0.423), with an effect size of −0.066 (95% CI: −0.152 to 0.283); days in court was −0.02 (95% CI: −0.08 to 0.04, p = 0.523), with an effect size of −0.070 (95% CI: −0.145 to 0.286); and days in custody was −0.02 (95% CI −0.05 to 0.01, p = 0.176), with an effect size of −0.109 (95% CI: −0.108 to 0.326). They were derived from the CSRI six months after randomisation for those receiving the RBT intervention versus those receiving BAU and were not statistically significant.

RQ7 What factors, service, age, sex, ethnicity, material deprivation (IMD), family environment (BFES), behavioural problems (SDQ), wellbeing (SWEMWBS), psychological health (GHQ12), impact the primary outcome observed for both groups?

After data reduction, the following variables were included in a negative binomial regression model, with the volume of delinquency at month six as the dependent variable: service; SDQ conduct, hyperactivity and prosocial scores; psychological health; wellbeing; family cohesion; expressiveness; and conflict. The analysis was controlled for the volume of delinquency at baseline. Only the SDQ conduct score predicted the volume of delinquency at month six (ß = 0.11, SE = 0.05, p = 0.043), indicating that higher conduct problem scores at baseline are associated with a greater volume of delinquency at month six.

RQ8 What factors, service, age, sex, ethnicity, material deprivation (IMD), family environment (BFES), behavioural problems (SDQ), wellbeing (SWEMWBS), psychological health (GHQ12), tier of support and therapeutic alliance (TASC-r), impact the primary outcome observed for those in the RBT intervention group only?

After data reduction, the following variables were included in a negative binomial regression model, with the volume of delinquency at month six as the dependent variable: tier of intervention; age; SDQ conduct, hyperactivity and prosocial scores; wellbeing; family cohesion, expressiveness and conflict; and therapeutic alliance. The analysis was conducted for those in the intervention group only. Family conflict was found to be marginally predictive (ß = 0.13, SE = 0.08, p = 0.068), with higher levels of family conflict at baseline associated with a greater volume of delinquency at month six. Therapeutic alliance at baseline (ß = −0.51, SE = 0.02, p = 0.025) was also associated with the volume of offending at month six, with lower levels of therapeutic alliance, i.e. a less positive view of the relationship between practitioners and young people, associated with a greater volume of delinquency at month six.

RQ10 Are there specific clusters of participant baseline outcomes that are associated with the self-reported volume of delinquency in the six months after randomisation?

Latent class analysis yielded no significant subgroups of baseline demographic variables that were associated with the volume of delinquency at month six. This is probably due to a lack of substantial variation in the baseline demographics.

RQ11 What is the difference in ARTIC scores in the 26 weeks after randomisation for staff members allocated to be trained in RBT and those delivering BAU?

The mean difference in ARTIC scores in the 26 weeks after randomisation for staff members allocated to be trained in RBT and those delivering BAU was higher in the BAU group at −4.63 (95% CI: −13.73 to 4.60, p = 0.323) than in the RBT intervention group, but this difference was not statistically significant.

RQ12 What is the difference in wellbeing, derived using the SWEMWBS, in the 26 weeks after randomisation for staff members allocated to be trained in RBT and those delivering BAU?

The mean difference in wellbeing, derived using the SWEMWBS, in the 26 weeks after randomisation for staff members allocated to be trained in RBT and those delivering BAU was lower in the BAU group, a mean difference of −0.21 (95% CI: −1.58 to 0.16, p = 0.754) than in the RBT intervention group, but this different was not significant.

Implementation and process evaluation results

Research questions

The implementation and process evaluation was framed in seven research questions:

1. To what extent do staff members within services adhere to the intended delivery model?
2. What factors facilitate or hinder intervention delivery?
3. How acceptable is the intervention from the perspective of participants, staff and key stakeholders?
4. How is the dose of, and adherence to, the intervention associated with outcomes observed?
5. How generalisable are the findings to the wider population accessing the services?
6. What positive or negative experiences do participants and staff highlight, and when do these occur?
7. Do changes in the behaviour change model occur as hypothesised?

To reiterate, the qualitative component of the study was purposive and included semi-structured interviews with 16 young people, 15 intervention delivery staff members, 10 parent/carers and 8 stakeholders. The key stakeholders included staff from the key services involved, such as the psychology team linked to the All-Wales Forensic Adolescent Consultation and Treatment Service (AW-FACTS) and staff members from other services, who became involved in formulation and trauma planning and were invited to create the trauma-informed intervention plan for specified young people (e.g. relevant multi-agency partners, such as education, children's social care and the police). Participants were chosen purposively to provide diversity in terms of service and age and to ensure appropriate participation by sex and ethnicity to explore issues of equity and inclusion.

In total, the team conducted interviews with 16 young people (aged 10–20 years; predominantly White, reflecting the demographics of Bridgend), 15 intervention delivery staff members (all White and predominantily female), 10 parents and carers (six female and four male) and eight stakeholders from key partner services, including psychology, social care, education and youth justice. Full demographic details of all interviewees are provided in Appendix D.

Introduction

In total, 49 semi-structured interviews were conducted between month seven and month 28. These interviews were completed online (via Microsoft Teams) to maximise accessibility and reduce any anxieties that may have been associated with face-to-face interviews. A researcher from the evaluation team interviewed each participant once, exploring each of the relevant IPE research questions detailed above.

To augment the qualitative analysis, it was coupled with a secondary quantitative analysis to explore how content, compliance and therapeutic alliance impacted the outcomes observed. A regression model was, therefore, created with the primary outcome, the volume of delinquency in the previous six months at the six-month follow-up, as the dependent variable, adjusting for the key covariates identified. This allowed for the quantification of which dimensions of the intervention were associated with outcomes and further enabled the exploration of whether certain domains were more important than others and should be emphasised in the intervention delivery and, by extension, the training. Allied to this, the wellbeing of practitioners and the extent to which staff perceptions of working in a trauma-informed manner, assessed using ARTIC 35, influenced outcomes. In addition, the perception of therapeutic alliance provided insight into whether therapists' communication styles influenced outcomes.

An aspect of the qualitative work with key stakeholders involved examining participants' positive and negative experiences of the allocation to different tiers of the intervention, exploring how these perspectives concurred with those who conducted the trauma screening and allocation of participants to a tier, to explore at what points negative and positive experiences are at their greatest and what steps could be taken to ameliorate these experiences to improve the delivery and acceptability of the intervention.

Training and support

As stated in the theory of change, an important starting point of the intervention was to provide training to staff on the delivery of trauma-informed care using the RBT model. Training was provided to staff across Bridgend Youth Justice Service, Youth Development services, the early intervention team, Early Help Hubs and Edge of Care services. Amongst intervention delivery staff, training was regarded as a vital part of the preparation for delivery, and it left individuals feeling able to apply the learning gained when working with young people, particularly when *"…managing young people's emotions." (Intervention delivery staff)*

Training was seen as a positive resource that staff could draw on, but the access to clinical psychologists was seen as particularly valuable "*…just because you learn more",* and especially when staff found themselves in unfamiliar territory, for example, when dealing with complex or unfamiliar needs, new circumstances or situations they had not previously encountered with young people. It was something that enabled them to apply this new learning right "*…across the board…rather than only with one child." (Intervention delivery staff).*

Training was seen as facilitating the bringing together of a range of professionals in one space, which was seen as particularly positive, especially for the trauma leads. As one remarked:

"*I think, like, having access to all those people is helpful for me just because you learn more from other people as well…you get to use it in all of our examples, really, it's just almost like a different way of working in general." (Intervention delivery staff)*

Despite the training being welcomed, many delivery staff felt that "*maybe a little top-up would [have been] helpful*" to cement their confidence in delivering the intervention as prescribed and to ensure that they were offering the best possible support to the young people they worked with, *"just to reassure you that you are still doing the right things." (Intervention Delivery Staff).*

Access to regular training opportunities in this regard would, it was suggested, allow staff to implement this learning in a way that would lead to this knowledge becoming "*a normal way of practising" (Intervention Delivery Staff).*

Naturally, there would be resource implications to the provision of additional training, which would limit access to it, but this was not cited in any of the interviews.

Regarding support, the most cited positive input across all staff members (regardless of their role) was having, at least in theory, much closer working relationships with and access to trained and experienced clinical psychologists than may have ordinarily been the case. The value of regular input and ad hoc support from such individuals was noted as bringing a variety of benefits. These benefits were highlighted as increasing the robustness of assigning young people to tiers, "*getting that steer [on assigning tiers] from someone who really knows how to untangle trauma." (Stakeholder)*

Relationship building

One of the primary areas that was identified as invaluable in contributing to the overall success of delivery – across all groups – was the establishment and fostering of consistent and trusting relationships between all parties. Chiefly, the additional time allocated to spend on individual cases meant that delivery staff could "*turn up consistently every week"*. This *"flexibility, where you can say, 'Actually, I am going to support you every morning'" (Intervention delivery staff)* was directly linked to the RBT delivery model.

From the perspective of the intervention delivery staff, this was considered a vital part of their role if they were to satisfactorily engage young people throughout the process. Various ways in which such relationships could be built were discussed within interviews, and one of the central areas of importance was viewed as being patient and consistent in their approaches to young people, allowing them to enter into conversations or other interactions in their own time "*or to decide on a particular day that they didn't want to engage…and for that to be fine." (Intervention Delivery Staff)*

Staff also described how small acts of flexibility and being available helped build trust, and a vital part of initiating such conversations on the part of delivery staff was to identify common ground or interests of young people and focus on those in the initial stages to build rapport:

"*I think, as a professional, it's getting in and knowing what they like, knowing what hobbies they [have] and using that within the interventions." (Intervention Delivery Staff)*

The time that was invested in building these relationships was recognised and appreciated by young people involved in the process. A number commented on the way in which forging such relationships with multiple workers helped dissolve barriers and enriched their experience of and benefit from such interactions. Some commented specifically on increased trust:

"They always made me feel comfortable and that I could, like, tell them anything. They were very trustworthy." (Young person)

"It's just been a really good experience to be able to have just that one person who is there helping you to, like, get through, like, what you're struggling with and help put stuff in place to help you move forward with your life." (Young person)

These benefits were not limited to relationships between delivery staff and young people. Staff also highlighted the value of strong professional relationships with trauma leads and other colleagues, noting that these wider connections were integral to the overall process:

"*I think developing that relationship and trust with the trauma leads as well." ." (Intervention delivery staff)*

It was noted, however, that this often placed increased demand on time and resources and that "*it takes time to build. It takes time to trust." (Intervention delivery staff)*

Taken together, these accounts show that relationship building operated at multiple levels, both between staff and young people and across the professional network, and it was viewed as fundamental to engagement, trust and delivery.

Cross-service working, systemic buy-in and consistency

Changing working practices across services and embedding such changes so that they became a normal way of practising was a key element for the delivery of this intervention. Some saw a strength in "*a greater* *understanding of 'the what', the child's lived experience in as a multi-agency forum…taking the time out is really worthwhile, hugely positive and hugely successful…So, a lot more understanding of OK, we're dealing with [service user], who's 13, but like I said, he's got the actual, the emotional ability to deal with stuff because of XY and Z. So, our level of understanding of the impact trauma has on children has been better." (Stakeholder)*

"Having all of the professionals that work around that young person in the same room together." (Stakeholder) and ensuring that those working directly with young people "*Had support, when needed" (Stakeholder).*

Another significant facilitator that was cited within interviews revolved around the central role of managers in securing wider organisational support for the intervention. This was raised primarily by intervention delivery staff and stakeholders, who described how managerial and trauma lead involvement helped create the conditions needed for effective implementation:

"Everyone's been so positive and wanting to do it, wanted to get their teeth stuck in. We've had the support, and the trauma leads have really supported us as well. They've been on the other end of Teams if we need them." (Stakeholder)

A particular benefit that was identified, particularly by those delivering the intervention, was the access to additional resources to support young people that came as part of the study:

"You know, we are actually able to order stuff and use stuff now. So before…I think we were really limited on what we could access. But now, we, you know, I think, as long as it's something that would benefit the child, we know we can order resources, or we can ask for shared resources." (Intervention delivery staff)

But almost 50% of the stakeholders interviewed stated that they felt that there had been insurmountable challenges when working with young people with more complex needs. For those tasked with providing collaborative cross-agency working, the large number of agencies was seen to make collaborative working difficult:

"*To make life more interesting, a decision was made to involve as many services as possible. So obviously, we've got youth justice, we've got Edge of Care, and we've got Early Help." (Stakeholder)*

Fundamentally, from a management perspective involving such a broad range of services, each with its own areas of focus and operating procedures, often meant that aligning these differences simply wasn't possible.

Staff at all levels described practical constraints that affected their ability to deliver the intervention as intended, and these tended to fall into three main areas:

- Limited time
- Limited resources
- The challenges of embedding a new way of working within existing service structures

In terms of time, several staff felt that the timeframe for delivering the model was too short to allow for meaningful progress, particularly with families experiencing complex circumstances:

"I feel working with this model, it needs to be longer than six months, and I know other services…did try it with the rapid response, which is only eight weeks. It doesn't work." (Intervention delivery staff)

In addition, the extended time required for individual cases sometimes limited caseload capacity, which created pressures across teams, especially when investing additional time with specific young people was at odds with maintaining regular caseloads in line with standard service response timeframes*:*

"The [additional time for cases] has a knock-on effect…because you can only take on a certain amount of young people because you're doing other things with them." (Intervention delivery staff)

This feeling of unmanageable workloads due to the pressures of the new model was exacerbated by a perceived lack of understanding of the impact on intervention delivery staff's current work amongst other team members who were not involved in delivering RBT:

"*You know, like my supervisor and my team [have] no idea what I'm doing, no idea about the project. Just says, 'Yeah, crack on. Go on with it'. But, you know, that's not helpful, and it's causing issues." (Stakeholder)*

Staff also highlighted that implementing a new trauma-informed approach required a strong collective understanding across agencies, and early uncertainty sometimes led to delays or increased waiting lists:

"I think maybe at the start, just making sure that all the professionals understood what it was about and getting everybody on board. And then, although it's a really good thing, I think that we can keep cases open for longer, and people need to understand why." (Intervention delivery staff)

The issue of cognitive buy-in was noted by some staff, who questioned whether or not there was a strong motivation amongst all stakeholders to change established ways of working:

"Thinking about that kind of organisational buy-in, I wonder whether that is truly present." (Stakeholder)

Another suggestion for why buy-in may have been lacking in some areas was attributed to the perception that not only were services already working in a trauma-informed way, but that they had been doing so for some time:

"It's quite difficult to work out what makes it [RBT] different [from BAU], other than the fact we do this, this meeting, where we decide on the level of need." (Stakeholder)

In addition to this, some participants felt that not only did the 'new' way of working represent a situation in which "*someone was telling them what to do"* but that in doing so, they had felt that their expertise had essentially been ignored:

"*I've been working in this way for…20 years…and now someone's coming in and telling me how to do my job." (Stakeholder)*

In addition to this, staff from across agencies felt that beyond the multi-agency formulation process that applied to those allocated to tiers 2 and 3, the 'new' way of working didn't significantly differ from how they were already approaching their work and certainly didn't do so to an extent that justified the additional time and resources that needed to be spent on such a process:

"*So, you're thinking, 'Ok, well, what's new about this? We've been working in a trauma-informed way for quite a while now." (Stakeholder)*

As another stakeholder put it:

“I wouldn’t say it’s hugely removed from what we currently do, but…they spend a lot of time really looking at the trauma that child’s experience and what that means in terms of their development, but I don't think it gives us any new tools to actually do that.” (Stakeholder)

The sheer number of different agencies, sometimes with competing priorities and differing views on how best to support young people allocated to tiers 2 and 3, and categorising the particular level of need were areas cited as causing additional work to be absorbed into a system already working at capacity:

“I think [we all] struggled to fit that in time-wise.” (Stakeholder)

To compound this difficulty, “*…situations often arose where I think we might say things that didn’t necessarily get agreed upon” (Stakeholder),* which led to even more time needing to be devoted to formulating a plan for a young person allocated to tiers 2 or 3 that achieved consensus across the different agencies involved.

Again, any disagreement on reaching such a consensus during this complex process manifested in increased timescales and heightened demand on those involved in *“deciding on that threshold of significant harm, where it impacts…the…development or they come to serious harm is the thing that is the most difficult in children’s services to determine between partners.” (Stakeholder)*

More importantly, especially given the sizeable increase in resources needed to convene and continue to support such inter-agency dialogue and collaboration for the young people in tiers 2 and 3, the results of this process were not deemed impactful enough to justify the additional burden placed on the system to provide this. One stakeholder commented on going out to visit those who were directly supporting young people and speaking to them about the new model and the process of multi-agency case formulation:

“Interestingly, the feedback I've had is they don’t see the value added in it” for making any significant alterations to what they would do “*if it [were] just business as usual.” (Stakeholder)*

It should be noted that this was not a universally held opinion amongst interviewees but was significantly more common amongst stakeholders than intervention delivery staff.

Psychologist support

The increased demand for resources in terms of clinical psychologist support was one area that was cited as being of particular concern, especially because clinical psychologists charged with providing that support also needed to maintain their other responsibilities during this time. Originally, the project had a dedicated, full-time clinical psychologist, but their early departure from the project meant the study was reliant on two clinical psychologists from AW-FACTS providing part-time support to the project. This meant that the two part-time clinical psychologists had limitations on the time they could offer to the project:

“There's only so much that…we can do in one day, but we're also meant to have another 37 1/2 hours of psychology going on.” (Stakeholder)

The impact of this, it was suggested, was not only that delivery of the RBT model was challenging, but that this had a worrying knock-on effect on other areas of their role outside of the RBT intervention delivery, be it through the reduced time that was perceived as being available for the usual demands of their role within AW-FACTS or the increased support that was necessary to give to trauma leads when working with tier 2 cases: "*If [this model] was to either roll out or to carry on…"* it would need *"at least 1 ½ full-time equivalent psychologists…"* in order to provide an appropriate and safe service.

The result of such time pressures and lack of appropriate resourcing was seen to affect the required involvement of trained clinical psychologists. This led to the perception amongst psychologists that "*there was a lack of enough psychology, really, to provide the results that we've kind of hoped to" (Stakeholder).*

While this is not an issue that is necessarily specific to the RBT model itself, the opinion of clinical psychologists was that the reworking of delivery to include trauma leads as a 'bridge' between psychologist-led higher-need cases and practitioner-led lower-need cases still required an amount of direct psychological input that meant that the limited psychologist time was not seen as enough to provide the level of support that was ideally needed in order to ensure the right support was given at the right time. The general view was that the RBT intervention would benefit from a dedicated full-time clinical psychologist.

This point was echoed by those in other agencies, who commented that *"the clinical psychology support is not accessible enough" (Stakeholder).*

Previous trauma-informed models focusing on those young people with the most severe trauma (tier 3 in this project), such as ECM, have always suffered from a lack of clinical psychologist availability. The RBT model aimed to make the trauma-informed support more widely accessible to a range of young people and address the clinical psychologist scarcity by having a trained trauma lead, with supervision from a clinical psychologist, take the lead for those with a lower level of severity, tier 2. But, as one clinical psychologist summed up, there were still perceived limits on the clinical psychologist's availability in implementation:

"*I've got to be honest. I just think it would have gone a lot better if there [had been] more psychology. People need understanding and compassion and holding throughout such a big change and such big cultural and systemic change, especially when I think the changes to the standard intervention just isn't necessary." (Stakeholder)*

The increased participation across the process from different stakeholders also created tension amongst agencies and individuals who felt that input was being made in areas where there were marked disparities in levels of knowledge and experience. From the perspective of those who were fully trained clinical psychologists, there was a tendency amongst trauma leads to seek parity with those who had completed lengthy and rigorous training in clinical psychology. This was seen as indicative of the training being seen by some trauma leads as being "*more than it was"* and led, in some cases, to a blurring of traditionally set boundaries across different professions:

"The trauma leads wanted a much bigger role, and they, kind of, want to be seen as exactly the same in the team as clinical psychology, which is just inappropriate. They wanted to deliver clinical supervision. I've been trained for a long time. You don't just come and sit in. It's completely against therapeutic boundaries." (Stakeholder)

Disruption from organisational restructures

The ability to deliver the model as intended was also impacted by the local authority restructuring that took place during delivery.

"I need additional staff trained, so that's something that I've raised, but we've had a restructure just to make things more complex, so part of my team who were trained are now with (other) people support services." (Stakeholder)

This restructuring had a direct impact on the ability to deliver the model, most notably within referrals:

"It was the staff that left that handled those referrals, so I don't feel we've finished anything, if that makes sense." (Stakeholder)

Even when this gap had been filled and making referrals was once again possible, restructures impacted further down the line when a "*lead worker ended up securing a new post. So that came to an end because we had nobody we could give the referral to who [was] trained. My family engagement officer was also moved to people's support services, so that's gone away from me again." (Stakeholder)*

The impact of staff turnover was especially acute due to the fact that both trained and untrained staff were required in equal numbers in order to maintain the staff randomisation requirements of the study. Indeed, one member of staff spoke about the additional pressures that the demands of randomisation placed upon a system that was already working at capacity:

"Yeah, working with randomisation really puts extra strain on us…You don't know what they [young people] are going to get until you know what it [randomisation] says, so you've got to plan for either." (Stakeholder)

What also made things difficult to navigate regarding council restructures was that often staff were *"coming into different management structures as well" (Stakeholder),* which meant that how to balance their existing commitments to the model, if possible at all, was something that needed to be discussed and worked out from the beginning once again. This highlights the difficulty of balancing systemic changes with expected delivery, and this is especially true when much of the success and proper functioning of the model relies on individual understanding rather than whole-system agility or responsiveness, meaning that when "*somebody leaves, that creates a real vacuum because they've built up that knowledge" (Stakeholder)* of how to navigate these competing pressures over time.

A suggestion that was made by a number of staff for how organisational impacts, restructures and associated issues outside of the control of those attempting to deliver the model could be avoided, or at the very least alleviated to some extent, was to employ an independent manager who would not be bound by the constraints of the service(s) they were part of, be it working within established ways that may not have been readily compatible with the specific demands of being part of such a large-scale study or balancing these new/additional priorities with the existing responsibilities that came as part of their usual role:

"There should be an independent project manager and someone [who] has more time and to be independent enough so that when people put on that pressure, they can just not care because they've got no affiliation outside the project." (Stakeholder)

Taken together, these reflections show that operational capacity, time pressures and the demands of embedding new ways of working were seen as key structural barriers that shaped how the intervention could be delivered in practice.

Stress and emotional load bearing

As well as discussing the range of facilitators adding to the delivery of the planned intervention, staff also spoke of areas that were either challenging to navigate or presented barriers to delivery. One issue that was widely highlighted by intervention delivery staff was the impact of the disclosures that were made by young people during their time together. Staff described how hearing these accounts, particularly those involving trauma or complex personal circumstances, could be emotionally demanding and sometimes difficult to process alongside their day-to-day responsibilities. They were keen to iterate that, of course, these experiences were a greater burden to bear for the young people who had experienced them, but that, nevertheless, being party to this had, in many cases, taken a toll that many felt left them in need of support to process so that they could in turn support young people to the best of their ability:

"I do think as well, it's a lot for staff to take on…So, I think a little bit more support that way in the background that I could access [would really help]." (Intervention delivery staff)

Overall, staff felt that the emotional weight of these disclosures highlighted the need for accessible support structures to help them manage the impact and maintain their ability to deliver high-quality trauma-informed practice. The capacity to provide this support within the RBT model was not readily available due to the extra demands being placed on staff. However, the observation was also made that the demand placed upon trauma leads to provide support to those delivering interventions became difficult to manage, particularly in light of the number of cases that were 'live' at any given time:

"*Obviously, you've got that extra pressure of allocating [case management], and then you've got people needing you for support. And obviously it's upsetting for them [the intervention delivery workers] but…." (Stakeholder)*

Young people's and parents'/carers' perceptions and experiences

Another aim of the qualitative work was to learn more about the nuanced way in which young people and parents/carers experienced the intervention. Questions were framed to elicit both overall perceptions of the intervention and its perceived benefits, as well as individual incidents that interviewees found to be either positive or negative.

As far as positive experiences of the intervention were concerned, many of the young people interviewed were able to point to specific occasions when they felt positively about the support they received. Young people often linked these positive experiences to the individual worker supporting them and the sense of consistent, personal attention they received. These relationships were described as central to feeling understood and supported:

"I think I just liked, like, having someone to talk to and, like, that was there for me." (Young person)

For the young people who took part, the opportunity to either socialise in a supportive environment or to simply get out of the house and have the opportunity to gain some mental respite from their worries was also seen as a significantly positive aspect of their involvement. This included simply having someone to talk to or being able to spend time outside the house in ways that felt purposeful and safe:

"The other positive is being able to get out [of] the house, even if it's just for an hour, and just have someone there that you can talk to about what you're worrying about and other situations, like, you don't know what to do about." (Young person)

These individual positives often accumulated over time, with most young people reporting improvements in their emotional wellbeing, saying that *"it helped [them] cope with things better" (Young person) a*nd that overall, "*it was a very positive experience" (Young person).*

Several described feeling happier, more settled or more able to manage difficulties.

Parents and carers also noticed these changes, describing visible improvements in behaviour, emotional stability and communication. For some families, having a trusted adult outside the home was described as providing a valuable outlet for young people:

“So, definitely seen an improvement now; I think that's because she has an outlet…So, there's been a definite improvement there.” (Parent/carer)

“She’s happy at the minute. So, that's all I can…you know, that's good. That's all I can say. And if she’s happy, she’s not struggling. So that’s good. So, yeah, it’s got to be doing something good. She’s having more good days than bad.” (Parent/carer)

From the perspective of intervention delivery staff, positive experiences were linked to seeing tangible progress in young people and feeling better equipped, through the model and training, to understand the underlying issues contributing to their behaviours. Staff described a sense of reward in being able to use the model flexibly and meaningfully:

“You see the benefits more when you’re able to get to the level of doing an RBT, or you get to the level of building that slowly because you’re able to use all the training and resources that you’ve had.” (Intervention delivery staff)

Staff also noted that these positive aspects were recognised by others working with young people, particularly partner agencies, such as schools. One member of staff described how external professionals responded to the model:

“I’ve had really good feedback from schools in particular; they really like this model. The RBT meetings have been really useful and helpful, and I had one yesterday. They’re very time-consuming, but I think it’s a must, to be honest with you.” (Intervention delivery staff)

Taken together, these accounts suggest that the intervention was experienced as a source of emotional support, practical help and improved understanding across young people, families and practitioners, with positive relationships and increased wellbeing emerging as the most valued outcomes.

However, not everyone who took part in sessions experienced them positively. Several young people and parents described aspects of their involvement in a negative light. Most importantly, a significant proportion of these negative experiences can be attributed to the systemic issues that were highlighted by staff.

Young people described inconsistencies in support, having plans changed “*at the last minute” (Young person),* and a sense that they had limited influence over the process. Both of these comments point to the fact that issues behind the scenes with local authority restructures increased demands on time and resources, and the complexity of multi-service and multi-agency involvement in RBT – particularly for those in tiers 2 and 3 that demanded continued review – culminated in an experience where some young people were left feeling that *“[it was] more like they were ticking boxes and less like they actually cared” (Young person)*.

For some young people, difficulties stemmed from unclear communication or not knowing what to expect during sessions, which contributed to feelings of confusion or anxiety. Others spoke more broadly about feeling unsupported or not fully understood, describing interactions that felt procedural rather than personal. In these cases, those young people who were left feeling that they had not been adequately supported suggested that the support offered did not always meet their needs or convey genuine care:

"In honesty, I wasn't really given much help." (Young person)

Inconsistency and staff turnover

One of the major positives that many young people, in particular, spoke of was the development of trusting relationships between them and intervention delivery staff. Because these relationships were so important to many participants, any disruption to them (for example, a change of worker, meetings being scheduled during school hours or reduced communication with parents) often led to negative consequences. Young people and parents emphasised that continuity was crucial and that changes in staffing could unsettle young people, reduce their engagement and create confusion about expectations and arrangements. Previously, it was discussed that council restructures led to a number of staff leaving their posts or being unable to meet the increased demands on their time. Several participants described how a shift from one worker to another altered the quality or consistency of support they experienced:

"I liked the first worker I had. She was very nice and did stuff that I like to do, but my second worker, not as much." (Young person)

Parents and carers also highlighted that practical changes introduced by new workers, such as different meeting times or less flexible scheduling, sometimes made young people feel uncomfortable or reluctant to continue engaging:

"*With the first worker, we were able to negotiate and arrange things that were beyond school, you know, because there's this stigma about things in school. And I think [participant] got on very well with the first worker, struck a good affinity, but then perhaps not so much with the second." (Parent/carer)*

In some cases, changes in staffing also affected communication with families, leading to uncertainty about what was happening and making it harder for parents to remain informed or involved:

"We were often kept really well informed with the first worker about what was going on, and then the second time, the second worker, we made an inquiry because we didn't think anything was happening. But unbeknownst to us, the new worker was meeting with [participant] in school, but we hadn't been informed even of the fact that those arrangements had been made."(Parent/carer)

Parents also noted that young people sometimes interpreted differences in style or approach as differences in commitment or care, which could influence their willingness to continue:

"[Young person] was saying to me in the car…they had the impression that the second worker…was making appointments at times that were convenient for her." (Parent/carer)

For some young people, staff turnover or changes in approach ultimately led to disengagement altogether:

"[Young person] has communicated the fact that he doesn't see any point in, you know, seeing the other worker again." (Parent/carer)

Altogether, these accounts highlight how the consistency of staffing and communication were central to young people's engagement and how changes in personnel could significantly affect their trust, comfort and willingness to continue with both the RBT intervention and, indeed, contact in general as part of a therapeutic alliance.

Communication

Communication, whether positive or negative, was a significant issue for many young people in ensuring the perceived success of their engagement with support. Difficulties in this area often shaped their overall experience of the intervention. Several young people and parents/carers described feeling unsure about what was happening or feeling unable to participate fully in conversations with workers:

"You know, there may be [a] good reason why things were happening the way they were happening, but we weren't really informed. It's all about communication, really." (Parent/carer)

In some cases, these communication challenges contributed to disengagement and created a sense of distrust in the process as a whole. The sense that they were not "*really allowed to speak as such, [and] got interrupted a lot" (Young person)* was a feature of a number of interactions that young people spoke of.

Some young people also reflected that the tone and manner in which they were spoken to affected how safe or supported they felt, and several felt that interactions lacked warmth or sensitivity:

"I feel like if I was just spoken to a lot kinder, because they didn't come across as very kind people, that would have definitely helped." (Young person)

For others, poor communication contributed to a sense that their involvement was not voluntary or collaborative and that the process felt imposed rather than guided by their needs:

"Like it just felt very involuntary, and it did more harm than good in my opinion." (Young person)

Several participants also felt that workers did not show enough interest in their views or priorities and that professionals were more focused on their own assumptions about what would help:

"Erm, some actual interest would have been nice. I just felt like they weren't very engaged in what would have helped me, and they were more focused on what they thought would have helped me." (Young person)

For some families, these communication gaps had a direct emotional impact, leaving both young people and parents feeling confused, distressed or unsupported. Young people described situations in which decisions were made without their understanding or consent, and parents reported feeling powerless when they were unable to access information or clarify what was happening:

"My social worker, at one point…had taken me down to housing and signed me up for a hostel, and I wasn't aware of what I was signing up for, and she didn't really tell me." (Young person)

Some young people and parents/carers also noted that some interactions and meetings had to be arranged at short notice and that the reason for the necessity of these being arranged in such a manner was not shared with either parents/carers or the young people themselves. In some instances, this meant that young people were not being informed in a timely fashion about things that were happening:

"A meeting was arranged that he wasn't aware of...And then there was like, some interplay and interaction between the worker and then the teacher." (Parent/carer)

In situations where trust and transparency were paramount, events like this had the impact of seriously denting the trust that young people placed either in individual workers or the system as a whole:

"*I didn't like them coming into school without me knowing to talk about me." (Young person)*

Other young people, by contrast, did feel that they had been well communicated with as part of an inclusive and transparent process: one young person remarked that not only did they develop a close bond with their support worker, but that the support worker also *"always let me know what was going on and why"* and that this *"really helped [their] anxiety."*

Parents/carers, too, were able to point to specific occasions where information sharing and general communication had both been excellent and had made a positive impact in relation to a young person's engagement with their worker:

"The first worker [young person] had was great. They always explained everything…beforehand. It really helped [young person]…trust them more, and that meant they were more open to it all." (Parent/carer)

Together, these accounts show both how unclear communication and the limited involvement of parents/carers could strain family relationships and affect the wellbeing of young people and how where open and frequent lines of communication were present between staff and young people and families, this often contributed to the perception of positive outcomes for those young people.

Impact on family dynamics

While not necessarily specific to the RBT intervention (as it may also have applied to the delivery of services for the control group under BAU) both young people and parents/carers also noted that in some cases, participation in formal support from services had led to conflict within families, especially when there was confusion or poor communication about why young people were receiving interventions and who had been responsible for initiating this. Uncertainty over who had made referrals or decisions often created tension and, in some cases, feelings of blame or mistrust within families. Parents/carers also described feeling left out of the process, particularly when information was not shared clearly or in a timely way, something that, in some cases, resulted in young people themselves being held responsible for decisions that were not theirs to make:

"And…my family got very annoyed at me because they thought that I [chose to access support] of my own accord, which I didn't." (Young person)

Other young people reported that the way in which multi-agency input into their cases was handled sometimes felt like services were "*ganging up" (Young person)* on them. This, young people suggested, led to a situation in which both young people and families became defensive, and family rifts often opened up due to this:

"I think that based off my experience, they tend to drive a huge wedge between family members, and I feel like they do attempt to go against each other a little bit." (Young person)

Hypothesised behavioural changes

A final important question that was asked in interviews was about the perceived changes that individuals felt they had achieved through engaging with the process. Again, perceptions of this were mixed, with some participants, parents/carers and professionals observing a significant lasting impact.

Insights and emotional regulation

For the young people who were interviewed, the positive message that was most often relayed was one of an increased ability to regulate their emotional responses to situations that may have previously elicited negative or extreme reactions. Young people described feeling more equipped to manage difficult moments, drawing on specific strategies introduced during the intervention and using them independently when needed:

“It makes me feel like there [are] ways to cope and stop that [reaction]. I’ve now got various ways of coping with things.” (Young person)

Some parents/carers also commented on the increased ability of the young people they cared for to regulate emotional responses, and they commented that the learning gained as part of the process was something that could be reused beyond engaging directly with support services itself. Parents highlighted that techniques introduced through the intervention continued to support young people’s coping after sessions ended, with improvements sometimes visible in their overall behaviour and mood:

“So, she’s given them some key advice that you can use over and over again for coping with stuff.” (Parent/carer)

These lasting peripheral benefits were also recognised by stakeholders who observed that increased insight into young people’s emotional needs sometimes helped them tailor support or adjust expectations in educational or other settings, largely due to the way in which multiple agencies were involved in sharing input and knowledge about the young person in question:

“OK, this child actually may have a speech and language need which wouldn’t have been identified before, and that’s benefited the child.” (Stakeholder)

Overall, these accounts suggest that the intervention supported young people in developing practical coping strategies and emotional insight, with benefits recognised not only by participants themselves but also by parents, carers and wider professionals involved in their care.

Turning points

Many of the perceived behavioural changes cited were not gradual in nature but revolved around key turning points, or as one young person phrased it, lightbulb moments. These moments were described as sudden shifts in understanding that helped young people make sense of their behaviour, recognise personal strengths and identify areas they wished to change. Young people often framed these insights as meaningful milestones that gave them clearer direction and a sense of agency in moving forward. As one young person explained:

“I think the whole thing was just, like, helping me to figure out what…stuff that I know I can do and what stuff I need to work on.” (Young person)

For some, these moments were linked to feeling understood by others with similar experiences, which helped normalise their feelings and contributed to stronger self-awareness:

“And being able, I’ve been able to talk to people who have stuff in common and then see with the autism, it’s been really nice because we’ll see every person with autism has different experiences.” (Young person)

These accounts illustrate how sudden insights, rather than slow, incremental change, were often the catalysts for progress, helping young people develop a clearer sense of themselves and the steps needed to continue improving.

Unmet expectations and disengagement

Although there were stories of success and growth amongst those interviewed, this was by no means the case for all involved. Some young people and parents/carers ended the process without experiencing much benefit. The reasons for this were often linked to a disparity between what was expected and what was delivered. Some young people described the support as feeling compulsory or misaligned with their needs, which affected their willingness to remain engaged:

"I think the involuntary visits, the mandatory visits and talks, definitely, they're not a good thing, so I think that would probably have to change if it [were] done to me." (Young person)

Because such involuntary engagement (of any kind) would not be advocated as part of the intended delivery of trauma-informed practice, it must be assumed that this particular instance was related to not delivering the model as intended.

Others felt that key areas of their lives, such as school difficulties, were not sufficiently addressed, leading to frustration and a sense that the intervention had not delivered what they needed:

"Every single day I go to school, and something happens in school, I think, 'I wish [workers name]…I wish [workers name] could say something to the school so they would understand me better'." (Young person)

Parents and carers also identified unmet expectations, particularly around hopes that the intervention would support the wider family unit rather than focusing primarily on the young person in isolation:

"I think that they should be trying to build the family back up together and getting the family to, kind of, resolve their problems, rather than individually taking them out and kind of forcing them to talk about things, then they don't actually do anything about it." (Parent/carer)

One barrier to lasting behavioural change on the part of the young people who took part was the often extremely difficult process of withdrawing what had been, for many, intensive support and guidance throughout the process. As one young person remarked:

"It's like, you have all of this support and time, and then, it's like, 'Goodbye', and they're gone." (Young person)

This concern was also raised by those delivering direct support to young people, and some worried that the loss of consistent support could lead to setbacks or relapse:

"*Breaking from them…after that intervention…I think [the young people] struggle with it." (Intervention delivery staff)*

These experiences show that unmet expectations, perceived gaps in support and challenges associated with ending the intervention contributed to disengagement for some participants.

Normalisation Process Theory

As mentioned above, a further part of the qualitative work and analysis for this project was to map each of the identified themes against the four core constructs of NPT.

NPT is a framework for assisting in understanding the ways in which complex interventions (such as RBT, in this instance) move from novel practice to becoming embedded as a normal part of the everyday routine

(Murray et al., 2010). In the context of the current evaluation, understanding these novel practices through the lens of NPT can help illuminate seemingly disparate themes by categorising them within these core constructs. Furthermore, NPT augments the above analysis (dealing with perceptions, attitudes and beliefs) by focusing on theories of action and the things that various stakeholders and participants do to normalise and embed these novel ways of working over time. The four constructs are:

- Coherence (sense-making)
    - What is the intervention? Why is it being introduced? How does it fit into or add to, or how is it distinct from, existing practices?
- Cognitive participation (engaging)
    - Who will participate in the intervention? How is buy-in (both cognitive and otherwise) generated?
- Collective action (doing the work)
    - What work is required for the new intervention? What resources are both required and available to support this? Are roles and responsibilities clearly defined?
- Reflexive monitoring (feedback and appraisal)
    - Does the intervention work as intended? What is the impact of the intervention?

At the outset, the intention was to use NPT to further analyse attitudes toward embedding a new practice (and the cognitive barriers and facilitators thereof). However, the issues described by staff, stakeholders and young people alike were tangible and substantial phenomena, such as difficulties with the number of referrals, system capacity, increases in individual workload, council restructures and staff turnover. Such issues point not to the existence of barriers resulting from any of the four constructs covered by NPT but to a clearly identified incompatibility between the new delivery model and the existing structures that were charged with facilitating its delivery. It is also the case that NPT is most effectively employed in situations where a new practice or way of working is demonstrably positive but where there may be issues with its effective implementation over time. Having applied an analysis within the conceptual framework of NPT on the generated data, no significant new insights were revealed. It is for this reason that the NPT analysis is not included in this report.

Summary of findings and their relevance to the implementation and process evaluation

Across the interviews, participants identified a consistent set of factors that either supported or hindered delivery and the engagement of young people and families. Relationship building emerged as the strongest facilitator, with young people, parents and staff emphasising the value of stable, trusting connections and the negative impact of disruptions or staff turnover. Organisational support, access to resources and the availability of training also helped staff feel prepared and confident, although many highlighted the emotional load of the work and the need for ongoing supervision. Operational constraints, including limited time, capacity and early uncertainty about the new model, shaped how the intervention could be implemented in practice. Experiences of the intervention varied, with many young people reporting improved emotional regulation, greater insight and meaningful personal progress and others describing unmet expectations, unclear communication and disengagement, particularly where support felt compulsory or insufficiently aligned with their needs. Taken together, these findings show that the effectiveness and acceptability of the intervention were strongly shaped by relational stability, clear communication, organisational capacity and the emotional demands placed on staff. These insights highlight the conditions required for successful implementation, the mechanisms through which change was experienced and the barriers that could be addressed to ensure the model is both feasible and acceptable across settings.

Synthesis of qualitative and quantitative outcomes addressing the implementation and process evaluation questions

The IPE analysis posed seven distinct questions.

IPEQ1 To what extent do staff members within services adhere to the intended delivery model?

Staff members were randomised to receive training in RBT across all services. Overall, 56 members of staff attended the training; they had positive views on the value of the training and felt able and confident to apply their training when working with young people. Some staff members highlighted that they would have welcomed additional training to consolidate their learning, but this would have had resource implications for the local authority. It was noted from the ARTIC questionnaire, completed by staff 26 weeks after randomisation, that those who did not receive training in RBT had a more positive attitude towards providing trauma-informed care than those trained in RBT. It should be noted that the attrition rate in completing this questionnaire prior to randomisation and again at 26 weeks was high, with only 56 out of 110 (50.9%) staff members completing the questionnaire at both time points. The ARTIC questionnaire only addresses attitudes towards trauma-informed care, not attitudes towards the RBT model, and some staff members noted in interviews that they already practised in a trauma-informed manner.

Staff highlighted the benefits of working with a variety of professionals through multi-agency meetings to identify how they could best meet the needs of young people, and they valued closer working relationships with clinical psychologists, particularly in the allocation of young people to tiers.

Of the 200 young people allocated to the intervention, 199 were screened and allocated to a tier. Of the 128 allocated to tiers 1 to 3, 116 (90.6%) had developmental mapping. Of the 43 allocated to tier 2, 40 (93%) engaged with the intervention, 39 (97.5%) had a developmental timeline supervised by the trauma lead and 24 (60.0%) had a multi-agency meeting supervised by a trauma lead. Of the three allocated to tier 3, all had a developmental timeline supervised by a clinical psychologist and 2 (66.6%) had a multi-agency meeting and case formulation supervised by a clinical psychologist; the one young person who did not had moved out of the region.

Overall, there is evidence that staff, in the main, adhered to the delivery model, apart from some young people allocated to tier 2 not receiving a multi-agency meeting supervised by the trauma lead. In tier 1 cases, interventions delivered were similar to BAU but were delivered in a more trauma-informed manner; tier 3 cases were the most severe, but the involvement of a clinical psychologist was already available in the youth justice system prior to the introduction of RBT for those staff previously trained in the RBT intervention. It may have been the case that tier 2 cases increased the burden on trauma leads, and along with a service restructure during the study, some elements were not delivered in their entirety.

IPEQ2 What factors facilitate or hinder intervention delivery?

Staff highlighted access to multi-agency meetings with effective communication between professionals and access to clinical psychologist input as key facilitators in delivering the intervention. Having the opportunity to build consistent relationships and having flexibility in working with young people to address their needs were also seen as important aspects of the intervention.

Staff also highlighted several factors that hindered the delivery of the intervention. These included high workloads and increased burden, the challenge of embedding a new way of practise into existing working structures, limited time to work with young people, particularly in services where interventions were normally time-limited and of short duration, and maintaining professional boundaries, whereby some staff found multi-agency meetings involved too many professionals, with differing perspectives, and sometimes ended with no coherent plan for the young person.

During the study, the local authority underwent a major restructure. Some services were merged, and some staff moved to services not involved in the delivery of RBT. Some staff members felt this increased the burden and made managing caseloads more difficult. Staff members felt the restructure had an impact on how they delivered RBT, particularly in terms of the availability of trained staff who could take on new RBT referrals, and this, combined with staff turnover, created situations where some young people could not be allocated to an RBT practitioner. Key themes that hindered the implementation of RBT were seen as operational capacity, limited time and resources, and the demands of embedding a new way of working within changing operational structures.

IPEQ3 How acceptable is the intervention from the perspective of participants, staff and key stakeholders?

Those interviewed painted a mixed picture relating to acceptability. From a staff perspective, some found it a useful and acceptable approach, particularly the training, as it gave staff the confidence to apply and embed a new way of working and access to multi-agency professionals and clinical psychology. However, some were not sure how RBT differed from their current practice, and some found that too much multi-agency involvement from professionals with different experiences of, and perspectives on, the young person, created confusion. Staff consensus was that they were offering the best possible support for young people, but this was tempered with concerns about workloads and time-limited interventions.

Some young people and parents/carers highlighted satisfaction with positive, consistent relationship-building and how this impacted the emotions and behaviours of young people, but others identified issues with communication, the flexibility of delivery and staff turnover as having negative impacts on young people and family dynamics.

IPEQ4 How is the dose of, and adherence to, the intervention associated with outcomes observed?

Assessing the dose of the intervention in this study was difficult, given the range of services involved. The population of young people had heterogeneous needs, and what was offered to meet their needs varied by service. Some services, such as Edge of Care, are crisis intervention services delivering intensive interventions over short durations to prevent children from being taken into care. Other services, such as youth justice, have a more structured approach, providing interventions to reduce reoffending based on the young person's previous offending profile. While a CACE analysis was planned, the heterogeneous nature of the population, combined with limitations in the process data provided, means this will not be available until the 12-month report.

The analysis of those who engaged with the intervention indicated a small positive effect versus the ITT population; the effect size difference in self-reported delinquency for the ITT population when comparing those allocated to RBT versus BAU was −0.151 (95% CI: −0.365 to 0.064) and −0.158 (95% CI: −0.371 to 0.060) for those who engaged with the RBT intervention. This suggests that those who adhered to the intervention had more positive outcomes.

IPEQ5 How generalisable are the findings to the wider population accessing the services?

In terms of generalisability, the inclusion criteria were broad: 84.9% were eligible to participate, and 84.4% of these consented to participate in the study. Young people came from a range of different services, and 83.5% of young people provided outcome data at baseline and at the six-month follow-up point.

In the codesign stage of the study, it was estimated that 75% of referrals to the local authority had some form of underlying trauma, and the numbers screened and allocated to tiers 1, 2 and 3 were of a similar magnitude, 64.3%.

We can be confident that the findings of the study are generalisable to the wider population accessing services.

IPEQ6 What positive or negative experiences do participants and staff highlight, and when do these occur?

Several common themes emerged in how the young people, parents/carers and staff interviewed described positive experiences. Interviewees highlighted the importance of building consistent, trusting relationships, enabling staff to be flexible in making appointments and taking time to understand the young person and to articulate their needs. Young people and their parents/carers highlighted that this enabled young people to feel supported and that their voices were heard; they felt happier, more settled and that they had emotional support. Some young people and parents/carers highlighted how they had developed new coping skills and felt more able to regulate their emotions.

The converse was apparent when staff did not build consistent, trusting relationships; young people and parents/carers felt communication was poor and that their needs were not being addressed. Poor communication by staff increased anxiety and had a negative impact on family dynamics.

Staff members valued increased communication between themselves, trauma leads and clinical psychologists. They felt the RBT intervention provided the tools and skills to identify trauma but offered limited tools on how to address it, particularly for more complex tier 2 and 3 cases. They felt time limits impacted the relationship-building process and what they could deliver for young people. Some staff members felt that the intervention increased stress and emotional load-bearing, particularly in the case of trauma leads, who had a dual role in managing tier 2 cases and supervising and supporting practitioners managing tier 1 cases, and clinical psychologists, who took primary responsibility for tier 3 cases but also provided supervision and support to trauma leads for tier 2 cases.

Young people noted in the interviews that changes occurred in terms of sudden understanding that helped them make sense of their behaviour, recognise personal strengths and take on a sense of personal agency in moving forward, often associated with a sense of being listened to and the normalisation of their feelings. Change was not viewed by young people as a gradual process but rather as being more akin to a paradigmatic shift, with key lightbulb moments of realisation.

IPEQ7 Do changes in the behaviour change model occur as hypothesised?

In terms of population needs at the codesign stage, it was hypothesised that 75% of young people referred to the service presented with an underlying trauma; the proportion of young people in the study who presented with trauma was of a similar magnitude, 64.3%, but the majority of these, 67.2%, had the lowest level of trauma and were allocated to tier 1.

Training in RBT was provided to 56 practitioners, and in the interviews, staff felt confident about screening young people and allocating them to a tier of intervention, and staff felt positively about the input of clinical psychologists in providing support in allocating young people to tiers. Staff highlighted the positive involvement of trauma leads in multi-agency meetings and the input from clinical psychologists in case formulation; however, some staff raised concerns about how multi-agency meetings functioned, with too many professionals with different perspectives on the needs of the young person, meaning consensus was sometimes difficult to achieve, and some staff members identified problems with the demarcation of professional boundaries.

Staff, young people and parents/carers had positive views on relationship building, with staff highlighting the benefits of consistent and predictable relationships built using a flexible approach. Young people and their parents/carers highlighted how these approaches were more nurturing, focusing on the needs of the child and enabling young people to articulate their needs and identify their own strengths and weaknesses. In some cases, particularly because of service restructuring and staff turnover, this relationship-building approach was negatively impacted, and young people and their parents/carers reported feelings of anxiety, problematic communication and a sense of being excluded from activities designed to meet the needs of the young person. The importance of relationship building was highlighted in the outcome analysis, where therapeutic alliance, a measure of how the young person views the therapeutic relationship with the practitioner, showed a statistically significant negative relationship with the primary outcome (Table 25). A weaker therapeutic alliance was associated with more delinquent behaviours at month six (TASC-r; ß = −0.51, standard error = 0.02, p = 0.025).

The theory of change hypothesised that young people would demonstrate greater wellbeing and fewer psychological problems, and this was evident in some of the interviews, where young people reported feeling happier. Compared to the BAU group, the RBT group reported greater wellbeing (SWEMWBS; d = 0.129; 95% CI: −0.344 to 0.085) and fewer psychological problems (GHQ12; d = −0.074; 95% CI: −0.143 to 0.290). The theory of change hypothesised that young people would demonstrate greater emotional regulation, fewer externalising behaviours, fewer risk-taking behaviours and more prosocial behaviours. In the interviews, young people identified the development of new coping skills to better manage their emotions and a clearer understanding of their own strengths. The outcomes painted a more mixed picture; compared to the BAU group, the RBT group reported fewer problems with emotional regulation (SDQ emotional regulation; d = −0.168; 95% CI: −0.29 to 0.42), more externalising behaviours (SDQ externalising; d = 0.201; 95% CI: −0.46 to 0.05), less risk taking (SDQ conduct; d = −0.192; 95% CI: −0.45 to 0.06), fewer prosocial behaviours (SDQ prosocial; d = −0.17; 95% CI: −0.43 to 0.08) and an overall decrease in the SDQ total behaviour score, indicating fewer behavioural problems (SDQ total; d = −0.03; 95% CI: −0.28 to 0.23).

Changes in family dynamics were hypothesised to occur in the RBT group, including improved family cohesiveness and reduced family conflict. In the interviews, some families noted improvements in family dynamics, but others raised concerns that the interventions increased family conflict and reduced family cohesiveness. Compared to the BAU group, the outcomes in the RBT group indicated lower family cohesiveness (BFRS cohesion; d = −0.14; 95% CI: −0.35 to 0.08), lower family expressiveness (BFRS express; d = −0.18; 95% CI: −0.39 to 0.04) and lower levels of family conflict (BFRS conflict; d = −0.06; 95% CI: −0.16 to 0.28).

The overall outcome of the theory of change was that intermediary changes in wellbeing, psychological problems, behaviours, risk-taking and family dynamics would be associated with a reduction in the frequency of delinquent behaviour in the six months after randomisation, and a reduction was observed when compared with the BAU group (SRDS volume; d = −0.15; 95% CI: −0.37 to 0.06).

Some elements of the theory of change were supported, but others were not.

Cost information

Costs associated with the RBT intervention were derived from the costs of the resources used for each element of the RBT intervention. Staff costs included actual hourly rates, including management and overheads. The resource costs associated with the RBT intervention are provided in Table 26.

Table 26. List of resources included in cost estimates

Price year 2025/26 Cost items	Description	Cost
Admin	Admin support to organise screening	17
RBT screening (all tiers)	One-hour case manager and trauma lead	51
Speech and language therapy	Two hours/session	130
Art therapy	One hour/session	80
Trauma lead supervision	Two hours/trauma lead	103
Meetings	Flat fee	100
RBT meetings (tier 2 & 3)	Trauma lead, case manager, social worker, school health, S&LT (three hours)	852
RBT+ meeting (tier 3)	Trauma lead, case manager, social worker, school health, S&LT, clinical psychologist (3 hours)	3452
RBT review	Trauma lead, case manager, social worker, school health, S&LT (1 hour)	284

Note: RBT = Relationship Building Together

Training of staff incurred an overall cost of £55,910 across all waves of training. This included the cost of training 56 practitioners (£49,440), enhanced training for trauma leads (£5,000) and training in ECM, £1,470. This amounted to a cost per practitioner of £998. Intervention preparation for those allocated to RBT included the cost of one hour of admin time at £17 per hour. This involved reviewing referrals, making contact with the young person and their family, and scheduling the RBT screening.

Table 27. List of cost items, including cost estimates

Price year 2025/26 Cost items	Description
Staff	
Interventionist training	Training to deliver the RBT intervention took place across six training periods for 56 staff, £55,910.00.
Intervention preparation	Preparation for the intervention, including reviewing referrals, contacting the young person/family and arranging the initial appointment, is estimated to take one hour per young person: £17 per young person allocated to the intervention. A total of £3,400 for 200 participants.
Intervention delivery	The level of intervention received was dependent on the level of trauma experienced by the young person (allocated to tiers, which guided the interventions). Interventions were delivered over a maximum of 6 months for each young person.
Buildings and facilities	
None	The interventions were delivered in Bridgend County Borough Council offices/buildings/centres, at schools or at the young person's home; no additional costs were incurred.
Materials and equipment	
None	No additional costs were incurred for materials or equipment.
Incentives for taking part	
None	No additional costs were incurred for incentives.
Other inputs	
None	No other inputs incurred additional costs.

Note: RBT = Relationship Building Together

The set-up cost, i.e. training cost, for RBT was estimated as £55,910; these are non-recurring costs. The RBT delivery cost was estimated as the sum of intervention preparation, £3400, and intervention delivery costs, £450,820. This is the cost of delivering the RBT intervention and is not an additional cost over and above the cost of delivering BAU. These are recurring costs. The set-up cost per participant was estimated as £280, and the recurring cost of intervention preparation and delivery was estimated as £2, 271, for a total cost per participant of £2,551. Costs differed by service, in part as a reflection of the length and intensity of delivery; the cost per participant per service was as follows: £3,285 in the youth justice system, £2,264 in Early Help Hubs, £5,983 in Edge of Care, £2,178 in Youth Development and £2,156 in Children's Services.

Table 28. Actual cost of implementing Bridgend Relationship Building Together by cost item

Price year 2025/26 Cost items	Upfront or recurring?	Delivery partner cost
Staff		
Interventionist training	Upfront	£55,910
Intervention preparation	Recurring	£3,400
Intervention delivery	Recurring	£450,820
Buildings and facilities		
None	-	0
Materials and equipment		
None	-	0
Incentives for taking part		
None	-	0
Other inputs		
None	-	0
Total cost		
Set up	**-**	£55,910
Recurring	**-**	£454,220
Total cost	**-**	£510,130
Cost per participant		
Number of participants	-	200
Set-up cost per participant	-	£280
Recurring cost per participant	-	£2,271
Total cost per participant	-	£2,551

Conclusion

Table 29: Key conclusions

Key conclusions
RBT demonstrated a **moderate positive** impact on children and young people's offending behaviours. Children and young people linked with practitioners who received RBT self-reported lower levels of offending behaviour than children linked to practitioners who did not receive the programme. This result has a **moderate security rating**.
RBT showed mixed results on secondary outcomes after six months of entering the trial: it had a small positive impact overall on children's and young people's behaviour, peer relationships, psychological health, family conflict and school attendance; it had a moderate positive impact on children's and young people's emotional regulation, conduct problems, internalising behaviours and wellbeing. RBT showed a moderate negative impact on hyperactivity, prosocial behaviour, externalising behaviours, family cohesion and expressiveness and no impact on school suspensions. These are secondary outcomes and should be treated with caution.
Practitioners viewed the training positively and felt confident applying it. They highlighted the value of multi-agency meetings and the emphasis on and time devoted to relationship building.
Perceptions amongst practitioners and children and young people were mixed. Some staff felt that the trauma-informed approach did not differ substantially from their existing practice, involved additional workload and faced challenges with coordination across services. Inputs from clinical psychologists were considered limited.
The trial involved a mixed group of children and young people with different levels of trauma and offending behaviours, and it is difficult to disentangle the impact of RBT within the group.

Interpretation

The study does not provide any statistically significant evidence that the RBT intervention is superior or inferior to BAU. The primary hypothesis addressed the difference in the volume of delinquency in the six months post-randomisation between those allocated to the RBT intervention and those receiving BAU. The findings of the primary analysis found an effect size difference of −0.151 between the groups, RBT versus BAU, although the CI was wide (−0.365 to 0.064) and not statistically significant. The adjusted mean volume of delinquency was 9.448 (95% CI: 5.555 to 13.341) in the BAU group and 8.913 (95% CI: 6.098 to 11.729) in the RBT group. The mean difference of the comparison of the RBT group and the BAU group is −0.534 (95% CI: −3.532 to 2.463). The observed results were not sensitive to assumptions about the missing data mechanism.

The volume of delinquency decreased in both groups between baseline and month six, −3.11 (95% CI: −4.84 to −1.38) in the RBT intervention group and −1.77 (95% CI: −3.41 to −0.12) in the BAU group. This difference between the groups was not statistically significant. This finding was not sensitive to assumptions regarding the missing-data mechanism or the role of compliance, and while greater compliance with the RBT intervention tended to be associated with less delinquency, the results were not significant. It should be noted that the population of young people in the study was not always engaged in delinquency: 125 (31.2%) young people reported not engaging in delinquency in the six months prior to baseline, and 133 (39.7%) reported not engaging in delinquency in the six months prior to the six-month follow-up point. Overall, 76 (22.7%) reported not engaging in delinquency at baseline and the six-month follow-up point. In addition, the population did not appear to exhibit evidence of severe trauma, with 143 (70.8%) of those allocated to the intervention either having no trauma or the lowest level of trauma, and only three young people (1.5%)

having trauma at the highest level, requiring a tier 3 psychologist-led multi-agency case formulation process. This compares with the initial estimated 75% of young people in the target population having trauma experiences that impacted their development. It may be the case that the target population did not exhibit delinquent behaviour or trauma at a level that would benefit from an intervention. In addition, some staff highlighted that the time-limited intervention period and the heterogeneous target population had an impact on what could be achieved.

This is further highlighted by the fact that no statistically significant differences were observed between the groups for secondary outcomes, including behaviour, wellbeing and psychological health; however, stronger therapeutic relationships were significantly associated with a reduced volume of delinquency at month six. The results of the qualitative analysis were mixed, with some young people in the intervention group highlighting that they had learnt new coping skills to manage their emotional regulation and some parents/carers highlighting positive changes in their children. However, some found that the service delivered was inconsistent and that it had a negative impact on family dynamics.

During the course of the study, the local authority services underwent a major restructuring, which impacted the views of those interviewed about the RBT intervention. Many staff members were positive about the intervention's potential in terms of building relationships with young people and inter-agency working. But concerns were raised about the time required to effectively deliver the RBT intervention, the resources available and the complexity of embedding a new way of working across multiple agencies with differing intervention delivery lengths and different perspectives on the needs of the children. Some staff members questioned whether there was appropriate buy-in from more senior members of staff and whether the increase in time spent with the children and in multi-agency working was understood by senior staff as an additional burden on the staff. A key issue raised by staff delivering the intervention centred around access to clinical psychologists. While the staff valued access to clinical psychologist input, the limitations on clinical psychologist availability were seen to have hindered the delivery of the RBT intervention, particularly for those allocated to tiers 2 and 3, who did not achieve what they hoped it would achieve.

The staff in both the RBT intervention and the BAU group were trained professionals with experience working with young people, and it is likely that most of the staff members had experiential, tacit and reflexive knowledge of how to address issues of trauma without the use of a formal psychosocial model. This is highlighted by the fact that attitudes to trauma-informed practice were better in the group that did not receive training than in the group that did. It should be noted that the ARTIC measure of attitudes to trauma-informed care is not specific to the RBT model, and the response rate in the 26 weeks after randomisation to training was low, at 51%. It may be the case that a self-selection bias was at play: those allocated to no training with a positive attitude towards trauma-informed care were more likely to respond. It may also be, in part, due to confounding trauma-informed care with the RBT model; some of those trained in RBT highlighted increased workload and burden associated with the delivery of RBT, i.e. a more negative view of RBT being associated with a less positive view of trauma-informed care in general.

The current evidence of redesigning services and training staff to respond to trauma in young people's services in order to reduce crime and violence is weak (Gaffney et al., 2021), and questions have been raised regarding the role childhood trauma has on behaviour (Smith et al., 2021). The reasons include a lack of consistency in the definition of trauma and the lack of scientifically rigorous evaluation. This study has addressed the question using a scientifically rigorous randomised controlled trial and found no statistically significant evidence that this intervention in redesigning services to be more trauma-informed has any benefit in reducing delinquency over BAU. This is probably due to several reasons, including limitations in terms of staff and resources, access to clinical psychologist input, challenges of working across multiple agencies, attempts to embed a new way of working across multiple agencies that have different priorities for meeting the needs of children, dilution and contamination. Dilution occurs because many young people involved with young people's services do not exhibit trauma, and in the majority of those who do exhibit trauma, it is non-complex and transient. Contamination occurs when professionals working with young people have tacit and experiential knowledge of addressing trauma as part of their practice, which causes an overlap between trauma-informed practice and BAU.

The findings of this first report echo the findings of Asmussen and colleagues (2022): trauma-informed service redesign should not be prioritised over evidence-based trauma-informed therapy for those identified as being most in need.

It is important to note that this report is the first of two reports planned for this study, one at six months post-randomisation and a second at 12 months post-randomisation.

Racial and ethnic disparities

Only 2.5% of the young people who reported their ethnicity in this study were non-White, reflecting the demographic profile of Bridgend, where 97% of the population describes their ethnicity as White. A greater proportion of White potential participants dropped out at the consent stage, 24% versus 10% of those stating their ethnicity as not White. The lack of diversity in the sample means that detailed analysis of racial and ethnic disparities is not possible.

Limitations and lessons learned

It is clear from the participants included in the study that they had relatively low rates of delinquency at both baseline and at the six-month follow-up point, with a large proportion of the sample reporting no delinquency at all. The sample also appeared to have relatively low levels of trauma, the majority being identified at screening as having no trauma or the lowest level of trauma. In addition, the population was heterogeneous, being derived from several different services within Bridgend County Borough Council; some services have short, time-limited intervention periods: Edge of Care, for example, is a crisis intervention service with interventions lasting a few weeks, whereas youth justice interventions can last several months. Overall, there is a question about whether this was the appropriate target population, with most not experiencing significant trauma and being unlikely to benefit from a specific trauma-informed approach. It may, for example, have been more appropriate to intervene after trauma screening and only for those in tiers 2 and 3, employing trauma screening as triage.

There is a large body of literature (Asmussen et al., 2022) that highlights that professionals working with young people already work in a trauma-informed way, applying their own tacit and experiential knowledge to address issues associated with trauma without a specific trauma-informed model of care. This raises the concern about whether effects are less noticeable between the RBT intervention and BAU groups because of contamination.

A further limitation is the lack of information on what was delivered as part of the RBT intervention. RBT is a model of trauma-informed care, where similar interventions are delivered to both groups, but interventions in the RBT intervention group are informed by the young person's level of trauma experienced and, in some cases, a multi-agency case formulation. Interventions in both groups are delivered as part of a team, so associating change with the skill set of a specific practitioner is difficult. However, it was noted that increased compliance with RBT and stronger therapeutic relationships were associated with a lower volume of delinquency at six months.

Future research and publications

Further research questions include:

- What is the relationship between the level of trauma experienced and behaviour?
- What is the relative effectiveness of different types of trauma therapy for those young people who have experienced significant childhood trauma?
- How effective is trauma-specific therapy versus generic trauma-informed practice for those with the greatest level of need?
- Is there a relationship between the cultural appropriateness of trauma-informed interventions and outcomes for different ethnic groups?

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Appendix A: Effect size estimation

Appendix table 1: Effect size estimation

			Intervention group		Control group			
Outcome	Unadjusted difference	Adjusted difference	n (missing)	Variance of outcome	n (missing)	Variance of outcome	Pooled variance	Population variance (if applicable)
Self-report delinquency – volume score at month 6	1.78	-0.53	33	7.77	33	5.98	1.29	
SDQ total score at month 6	0.18	-0.56	33	0.46	33	0.44	0.63	
SDQ emotional regulation score at month 6	-0.34	-0.46	33	0.19	33	0.17	0.26	
SDQ Conduct score at month 6	0.40	-0.04	33	0.15	33	0.16	0.22	
SDQ hyperactivity score at month 6	0.38	0.17	33	0.19	38	0.19	0.27	
SDQ Peer score at month 6	-0.09	-0.14	33	0.16	33	0.17	0.23	
SDQ Prosocial score at month 6	-0.34	-0.41	33	0.16	33	0.14	0.21	
SDQ internalising behaviour at month 6	-0.55	-0.49	33	0.27	33	0.26	0.38	
SDQ externalizing bahaviour at month 6	0.77	0.09	33	0.28	33	0.29	0.41	

WEMWBS wellbeing score at month 6	0.51	0.28	33	0.27	34	0.28	0.39	
GHQ Psychological Health at month 6	-0.57	-1.07	39	0.50	34	0.54	0.74	

Appendix B: Recruitment documents

Bridgend Study Privacy Notice

We are carrying out a study of young people who come into contact with some of the services provided by Bridgend Borough Council. The study is to try to find out whether a new approach might help young people in the future. The study is being funded by the Youth Endowment Fund (YEF). At the end of the study, data collected will have any identifiable information removed and stored in a secure archive. This data might be analysed in the future along with data from other sources. This may include, for example, assessing whether children and young people who took part in YEF- funded projects were less likely to be excluded from school or get involved in crime in the future.

This privacy notice provides should be read alongside the University of Kent research privacy notice (https://research.kent.ac.uk/ris-research-policy-support/wp-content/uploads/sites/2326/2021/06/GDPR-Privacy-Notice-Research.pdf). It contains information about who we are, what we are doing, and why we are doing it. It also explains how we will use personal information we collect as part of the study

Who are we?

This study is being organised by the Centre for Health Service Studies at the University of Kent (www.kent.ac.uk/chss)
When we collect and use participants' personal information as part of the study, we are the controllers of the personal information, which means we decide what personal information to collect and how it is used.

What are we doing?

We are evaluating a new approach to working with young people who use the services of Bridgend Borough Council. The new approach involves staff who have been specifically trained to incorporate trauma informed practices into their day-to-day work with young people. Our study explores whether this new approach is better than the approach usually employed. Our research will inform us about what works best for young people.

Contact details:

Project Lead – Professor Simon Coulton, s.coulton@kent.ac.uk, 01227 824535 Data Protection Office – dataprotection@kent.ac.uk
The YEF, which funds this study, is dedicated to preventing children and young people becoming involved in crime and violence. Once we have finished our study, YEF-approved researchers will explore whether this study, and other programmes funded by YEF, had an impact over a longer period, including whether they reduced involvement in crime and violence. This is explained in more detail below.

Who has reviewed this study?

This study has been reviewed and approved by the University of Kent Research Ethics Committee.

What information will we collect?

We will collect information about [you/your child/the child in your care] such as their name, address, contact details, date of birth, gender, and ethnicity. We will also collect information using a set of questionnaires that have been specifically designed and tested with young people. We will collect information relating to any criminal activity or delinquency [you/your child/the child in your care] have been involved with, we will collect information about [you/your child/the child in your care] behaviour, mental health, wellbeing and family. We will also collect information about whether [you/your child/the child in your care] has been involved with the police or courts and whether they have been suspended or excluded from school.

How will we use the personal information that we collect?

Data protection laws require us to have valid reason to use [your/your child's/the child in your care] personal information. This is referred to as our 'lawful basis for processing'.
We rely on the public interest basis to use their personal information (Article 6(1)(e) of the GDPR). We will only use special category information (such as information about health, religion, race or ethnic origin, or any criminal offence information) if it is necessary for research purposes or statistical purposes which are in the public interest (article 9(2)(j) of GDPR).

We will use the information you give us to evaluate how well the new approach has worked and to write a report about our findings based on all the questionnaires and interviews we have carried out.

The final report and any other publications produced by the University of Kent will not contain any personal information about the people who took part in the study, and it will not be possible to identify individuals from the report. The report will be published on the YEF's website.

Any personal information that [you/your child/the child in your care] gives us will be stored securely and kept confidential.

- We may share this personal information with another person or organisation if [you/your child/the child in your care] tells us something during the study that makes us concerned about them or about someone else. Our Safeguarding Policy has more information about steps that we might take if we have concerns about [your/your child/ the child in your care] wellbeing, or the wellbeing of another person (https://www.kent.ac.uk/global-lifelong-learning/safeguarding-policy-and-procedure).

- Once we have finished our study, we will remove any information that might identify an individual and share all the information we have gathered about everyone who has taken part with the YEF data archive, which is stored in the Office for National Statistics' Secure Research Service. The YEF is the 'controller' of the information in the YEF archive. By maintaining the archive and allowing approved researchers to access the information in the archive, the YEF is performing a public task, and this gives the YEF a lawful basis to use this information.

- Information in the YEF archive can only be used by approved researchers to explore whether this, and other programmes funded by YEF, had an impact over a longer period. This will help approved researchers to find out the long- term impact of the projects funded by YEF because they’ll be able to see, for example, whether being part of a project reduces the likelihood of being excluded from school or becoming involved in criminal activity.

How is information in the YEF archive protected?

The YEF have put in place strong measures to protect the information in their archive. As well as removing identifiable information described in section 4, the YEF archive is protected by the Office for National Statistics' 'Five Safes' framework. The information can only be accessed by approved researchers in secure settings and there are strict restrictions about how the information can be used. All proposals must be approved by an ethics panel. Information in the YEF archive cannot be used by law enforcement bodies or by the Home Office for immigration enforcement purposes.

You can find more information about the YEF archive and the Five Safes on the YEF's website https://youthendowmentfund.org.uk/evaluation-data-archive/. We encourage all participants, parents, and guardians to read the YEF's guidance for participants before deciding to take part in this study.
Once information goes into the YEF archive it can no longer be deleted because the data is anonymised and data relating to a particular individual cannot be identified.

Retention and deletion

The University of Kent will keep an anonymised copy of [your/your child's/the child in your care's] written data for a maximum period of five years and a maximum period of 10 years for electronic data, after the end of the study. Once the collection and quality assurance of data for the final participant has been collected and, before, the data transferred to the YEF data archive all personal identifiable information will be removed from the dataset held by the University of Kent. At this point no individual will be identifiable using the data held by the University of Kent.

The YEF will keep information in the YEF archive for as long as it is needed for research purposes. Data protection laws permit personal information to be kept for longer periods of time where it is necessary for research and archiving in the public interest, and for statistical purposes. The YEF we will carry out a review every five years to assess whether there is a continued benefit to storing the information in the archive, based on its potential use in future research.

Data protection rights

[You/You and your child/You and the child in your care] have the right to:

- ask for access to the personal information that we hold about them.
- ask us to correct any personal information that we hold about them which is incorrect, incomplete, or inaccurate.

In certain circumstances, you also have the right to:

- ask us to erase the personal information where there is no good reason for us continuing to hold it, if we have not already erased the identifiable information.

- object to us using the personal information for public task purposes.
- ask us to restrict or suspend the use of the personal information, for example, if you want us to establish its accuracy or our reasons for using it.

If you want to exercise any of these rights during the study period, please contact our Data Protection Officer using the details provided earlier. We will usually respond within 1 month of receiving your request.
If you want to exercise any of these rights after the study has finished, please contact the YEF at hello@youthendowmentfund.org.uk.

When exercising any of these data rights, we may need to ask for more information from [you/you and your child/you and the child in your care] to help us confirm [your/their] identity. This is a security measure to ensure that personal information is not shared with a person who has no right to receive it. We may also contact you to ask you for further information in relation to your request to speed up our response.

Other privacy information

Categories of personal information

If you decide that [you/your child/the child in your care] can take part in this study, we will ask for the following personal information on them:

- First name
- Surname
- Date of Birth
- Home address
- Alternative address (if appropriate)
- Telephone number
- Email address
- Social media contact details (if willing to provide)
- Gender
- Ethnicity

Sharing [your/your child's/the child in your care] personal information

We only ever use [your/your child/the child in your care] personal information if we are satisfied that it is lawful and fair to do so. Section 4 above explains how we share data with YEF.

Data security

We will put technical and organisational measures in place to protect [your/your child/the child in your care] personal information, including:

- Limiting access to specific named researchers who require access to conduct the study, such as contacting young people for follow-up.

- Keeping personal details such as name and address separate from all other data and linking these using a unique identifier.
- Keeping data on a secure encrypted server and ensuring data is regularly backed up for security purposes.

International transfers

We will not transfer your personal data outside the UK.

Feedback, queries, or complaints

If you have any feedback or questions about how we use personal information, or if you want to make a complaint, you can contact the lead researcher or Data Protection Officer using the details provided earlier.

We always encourage you to speak to us first, but if you remain unsatisfied you also have the right to make a complaint at any time to the Information Commissioner's Office (ICO), the UK supervisory authority for data protection issues: https://ico.org.uk/make-a- complaint/.

What is this study about?

You are being invited to take part in a research study of a new way of helping young people who come into contact with a number of services managed by Bridgend Borough Council. The study will help us know if our new approach is better at helping young people.

This leaflet is for you to keep. Please read it carefully and take time to decide if you want to take part or not. Talk to other people about the study if you want to. Please ask the staff member if there is anything that you do not understand or you would like more information about.

What will happen to me if I take part?

If you agree to take part, you will be asked to provide agreement in the form of a written consent. A computer will decide at random whether you will receive the usual approach or whether you will receive the new approach.

The study

The new approach involves staff who have been specifically trained to incorporate trauma informed practices into their day-to-day work with young people.

If you are not listed to receive the new approach, any support you receive will remain the same as usual.

All young people taking part in the study will be asked to fill out a questionnaire at the start of the study and again 6 months and 12 months later. As a thank you we will give you a £20 voucher at each stage you complete questionnaires, one £20 after completing the questionnaire at the start, another £20 after completing the questionnaire at six months and a final £20 after completing the questionnaire at 12 months. The questionnaires explore any involvement in crime and your health. To get a clear understanding of what young people think about the new approach we might ask you to take part in an interview with a researcher, but before you do, we will ask your permission, and you can say no if you want to.

Do I have to take part in the study?

No. It is up to you to decide.

We will describe the study, go through this information sheet with you and answer your questions. If you decide to take part in the study, you will be asked to sign a consent form.

You are free to change your mind at any time, up to the point where we delete any participant identifiable data from the data set; you will not need to give a reason. If you decide not to take part in the study or want to withdraw your participation, it will not affect the support that you receive from Bridgend Borough Council or referrals to any other services.

Who will have access to my information?

All information collected about you during this research will be kept confidential. The only people who will be able to look at it will be the research team.

All information will be stored on a password protected computer. After we have done the 12-month questionnaire we will remove any information that might identify you from our records. The remaining data will be stored at the University of Kent for 5 years (for written information) or 10 years (for electronic data). At the end of the study, this data, without anything that could identify you, will be archived by the organisation who is funding the study, the Youth Endowment Fund.

All staff and organisations involved in the research work to the same rules of confidentiality as doctors and nurses which can only be broken, without your consent, in very exceptional circumstances. **Usually this is if the researcher sees or is told something which raises serious concern for your personal safety.**

Could I be at risk by taking part?

The research staff and organisations involved in this research have a lot of experience and we do not think that you will experience any harm as a result of taking part in this research study. Any suggestions or complaints about the study or how you were treated will be dealt with by the chief investigator Professor Simon Coulton whose contact details can be found at the end of this leaflet.

Who is funding and organising the study?

The study is funded by the Youth Endowment Fund and sponsored by the **University of Kent**. The interventions are delivered by experienced staff working for Bridgend Borough Council. Before we started the study, we asked an independent body to look at what we planned to do to ensure what we are doing is ethical and good practice.

What happens to the results of the study?

We are keen to ensure that all young people involved in the study get an opportunity to help discuss and understand the results of the study. We will let you know of any opportunities to do this as they arise throughout the study period. We are happy to send you a summary of the research at the end of the project. If you would like to receive this, please email us using the details at the end of this leaflet. The study results will help us understand new ways to help young people in the future. No one will be identified in any of the information or reports written about the study.

Will the research help me?

At this stage we cannot promise that this study will help you directly. However, the study will provide information about how we work with young people in the future.

Thank you…

For taking the time to read this leaflet. Please ask any questions or raise any concerns you may have about the project. If you decide to take part, please keep this leaflet for future reference.

Project staff

Nadine Hendrie, trial manager, University of Kent, 01227 827912, n.hendrie@kent.ac.uk

Professor Simon Coulton, Chief Investigator, University of Kent, 01227 824535, S.Coulton@kent.ac.uk

If you have any complaints or concerns about the research project do not hesitate to contact:

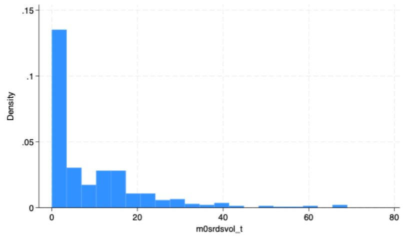
Mr Andrew Massoura, Research Ethics and Governance Officer, University of Kent, 01227 824797, a.n.massoura@kent.ac.uk

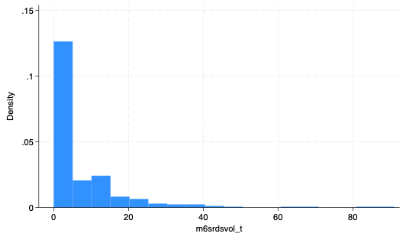
Research Information Leaflet: Participant

Appendix C: Distribution of outcomes

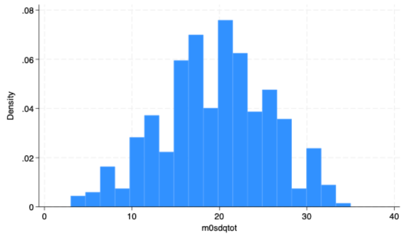
Month 0

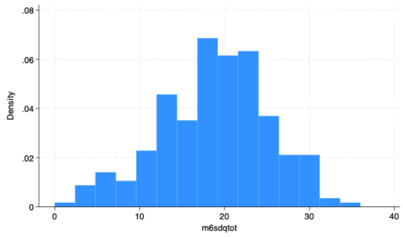
Month 6



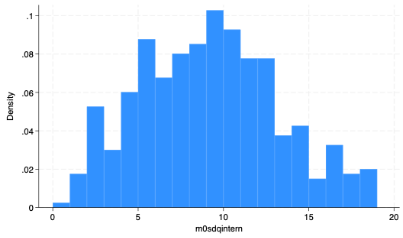


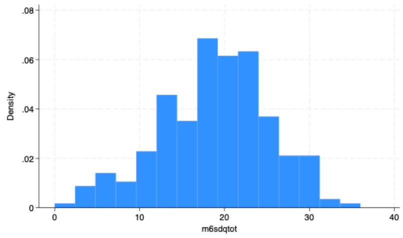
Volume of offences – negative inflated with overdispersion – negative binomial regression



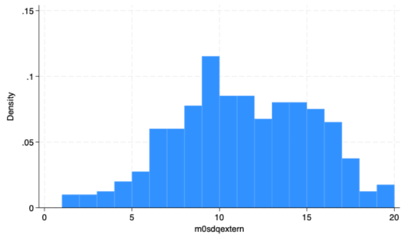


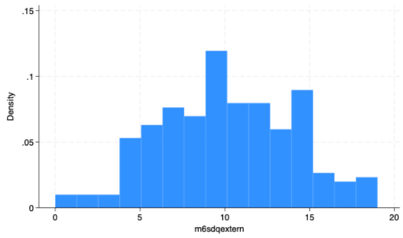
SDQ total score – Normal distribution – OLS linear regression



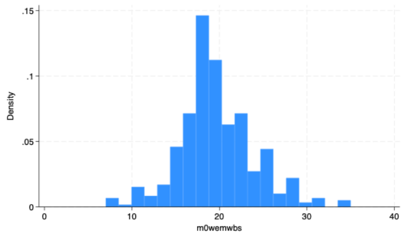


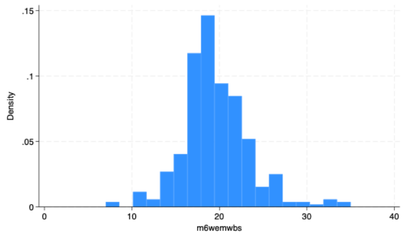
SDQ internalisation score – Normal distribution – OLS linear regression



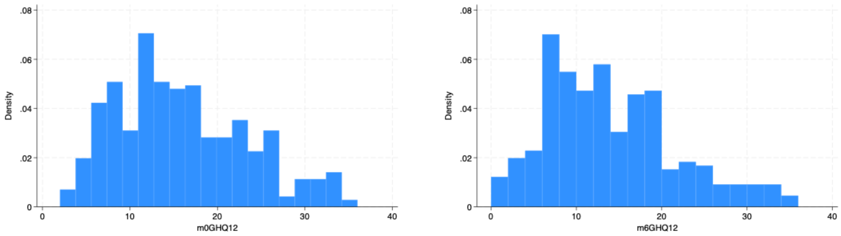


SDQ externalisation score – Normal distribution – OLS linear regression





Wellbeing WEMWBS score – Normal distribution – OLS regression



Psychological Health GHQ12 – Normal distribution – OLS regression

Appendix D: Demographics of those interviewed

Young People

ID	Age	Gender	Ethnicity
YP1	12	Male	White
YP 2	15	Female	White
YP 3	11	Male	White
YP 4	15	Female	White
YP 5	13	Female	White
YP 6	17	Male	White
YP 7	15	Male	White
YP 8	13	Male	White
YP 9	15	Female	White
YP 10	13	Female	Not provided
YP 11	10	Male	Not provided
YP 12	13	Female	White
YP 13	13	Male	White
YP 14	12	Male	White
YP 15	14	Female	White

ID	Age	Gender	Ethnicity
YP 16	20	Female	Not provided

Intervention Delivery Staff

ID	Gender	Ethnicity
IDS 1	Male	White
IDS 2	female	White
IDS 3	female	White
IDS 4	female	White
IDS 5	female	White
IDS 6	female	White
IDS 7	female	White
IDS 8	female	White
IDS 9	female	White
IDS 10	female	White
IDS 11	female	White
IDS 12	female	White
IDS 13	female	White
IDS 14	female	White

ID	Gender	Ethnicity
IDS 15	female	White

Parent/ Carers

ID	Gender
PC 1	Female
PC 2	Male
PC 3	Female
PC 4	Female
PC 5	Female
PC 6	Female
PC 7	Male
PC 8	Female
PC 9	Male
PC 10	Female

Stakeholders

ID	Role	Gender
S 1	Youth Justice Service worker	Male
S 2	Art psychotherapist	Female
S 3	Team Manager, Edge of Care Services	Male
S 4	Team Manager, Edge of Care Services	Female
S 5	Early Intervention Locality Manager	Female

ID	Role	Gender
S 6	Clinical reflective supervision provider	Female
S 7	Clinical reflective supervision provider	Female
S 8	Consultant Clinical Psychologist	Female

Appendix E. YEF Security Rating

Rating	Design	MDES Outcome: Threshold*	Attrition	Initial score	Adjustments	Final score
5	Randomised design	Offending: <=0.1 SDQ tot: <= 0.3 Other: <= 0.2	0-10%	3		
4	Design for comparison that considers some type of selection on unobservable characteristics (e.g. RDD, Diff-in-Diffs, Matched Diff-in-Diffs)	Offending: 0.11 – 0.19 SDQ tot: 0.31 – 0.39 Other: 0.21 – 0.29	11-20%			
3	Design for comparison that considers selection on all relevant observable confounders (e.g. Matching or Regression Analysis with variables descriptive of the selection mechanism)	Offending: 0.2 – 0.29 SDQ tot: 0.4 – 0.49 Other: 0.3 – 0.39	21-30%			**3**
2	Design for comparison that considers selection only on some relevant confounders	Offending: 0.3 – 0.39 SDQ tot: 0.5 – 0.59 Other: 0.4 – 0.49	31-40%			
1	Design for comparison that does not consider selection on any relevant confounders	Offending: 0.4 – 0.49 SDQ tot: 0.6 – 0.69 Other: 0.5 – 0.59	41-50%			
0	No comparator	Offending: >= 0.5 SDQ tot: >= 0.7 Other: >= 0.6	>50%			

*MDES requirements vary by outcome measurement. Offending: Offending data collected through self-report or admin data; SDQ tot = SDQ total difficulties score; Other: all other outcomes, incl. SDQ externalising and internalising