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Children, Youth and Civic Engagement
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- **CHILD AND FAMILY RESEARCH CENTRE**

Big Brothers Big Sisters (BBBS) of Ireland: Evaluation Study

REPORT 1: Randomised Control Trial and Implementation Report

NOVEMBER 2010

Undertaken by the Child & Family Research Centre, NUI, Galway on behalf of Foróige.



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National University of Ireland, Galway



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Acronyms used

BBBS	Big Brothers Big Sisters
BBBSI	Big Brothers Big Sisters Ireland
CFRC	Child and Family Research Centre
FTE	full-time equivalent
FM	Foróige Manager
HSE	Health Service Executive
NUI	National University of Ireland
NYP	Neighbourhood Youth Project
PO	Project Officer
RCT	randomised control trial

1. Introduction and Overview of Study Findings

Introduction

Foróige is a national youth organisation with more than 50 years' experience of working with young people in Ireland. Over a decade ago, Foróige and the Health Service Executive (HSE) identified a need for a model of one-to-one work with young people who would benefit from additional support in their personal and social development. The internationally renowned Big Brothers Big Sisters (BBBS) youth mentoring programme was chosen to meet the identified need. The core component of the BBBS programme is a 'match' or friendship between an adult volunteer (the 'mentor') and a young person, with the pair meeting once a week for a year or more to engage in outings or activities. Since it was established in Ireland almost a decade ago, the programme has expanded rapidly and has proven very popular with young people, parents and those working with young people.

In 2007, Foróige commissioned the Child and Family Research Centre at the National University of Ireland, Galway, to evaluate the effectiveness of the BBBS mentoring programme in providing support for young people in Ireland. This large-scale, mixed methods study, conducted over a period of 2 years, is one of the most comprehensive ever undertaken in relation to service provision for young people in Ireland. There are three components in the overall study:

- a randomised control trial (RCT) study of the impact of the BBBS mentoring programme on the development of youth in the community over a 2-year period;
- a review of programme implementation;
- a qualitative assessment of match processes and the perspectives of stakeholders.

The findings of the research are outlined in a series of 3 reports:

- This **Report 1** describes the overall study and outlines the findings from the RCT and the review of programme implementation.
- **Report 2** is qualitative in nature and draws on case study data to provide greater understanding of the processes underpinning mentoring and the perspectives of stakeholders regarding its outcomes.
- **Report 3** integrates the findings of Reports 1 and 2 to make an overall assessment of the findings of the study and to offer some recommendations for practice and policy.

Structure of Report 1

Following this introduction and overview of the study findings, *Chapter 2* profiles the BBBS Ireland programme, including its target population, the nature of the intervention, service delivery protocol and links with associate organisations. *Chapter 3* describes the research design and methodology, including the rationale for undertaking a randomised control trial (RCT), the challenges to be faced, the logic model and expected outcomes, recruitment of the sample, ethical issues and data collection; other strands of the research are also discussed, including case studies and implementation data. *Chapter 4* reviews the programme as implemented, comparing it to the programme as planned in relation to a set of indicators. *Chapter 5* provides a profile of the youth and mentors who made up the study sample. *Chapter 6* presents the findings of the RCT for young people, comparing results for intervention and control group participants, while *Chapter 7* presents the findings on parents and analyses of moderators. *Chapter 8* provides a summary of the study findings and offers some implications for practice and policy.

Overview of study findings

BBBS Ireland programme

BBBS Ireland is part of the Foróige organisation and currently employs 21 people directly, 17 of whom are project officers directly delivering the programme throughout Ireland. The target group for the programme is young people aged 10-18 years who meet the criteria for participation, which include poor social skills, shy or withdrawn, low self-esteem and economic disadvantage. The core of the intervention is the 'match' between the young person and a voluntary mentor. The match is expected to meet for 1-2 hours per week for a minimum of one year, during which time it is hoped that a friendship will develop that will support the youth's personal and social development. Project officers are expected to operate the programme in strict accordance with the BBBS Service Delivery Manual. This sets out the procedures governing all aspects of the programme, including assessment of young people and mentors, training for volunteers, making a match, match supervision, match closure and keeping records. Supervision of matches is an important aspect of the programme and involves the project officers making contact with the young person, mentor and parent on a monthly basis or in response to needs as they arise. The files of project officers are subject to audit every year to ensure that the programme is being operated with fidelity to the manual.

BBBS Ireland works with a range of internal and external partners to extend the reach of its programme. Internal partners are community-based Foróige youth projects, while external partners are generally community-based projects managed by other youth work organisations or the Health Service Executive (HSE). Staff in these organisations are trained as BBBS case workers and manage a number of matches in their projects. BBBS Ireland is responsible for training and monitoring standards related to this intervention in these partner organisations.

Study design and methodology

This evaluation study consisted of a randomised control trial (RCT) – a design that randomly allocates study participants to either an intervention or a control group, and compares their outcomes over the study period. This type of design was chosen on the basis that it could provide the clearest causal link between intervention and impact. There were a range of supportive factors in the study environment, including good buy-in from programme staff to the study, the fact that BBBS is delivered on a systematic basis and the availability of a solid body of mentoring research that could guide the research team in terms of design. However, there were also a number of critical issues that had to be addressed in the process of designing

the study. These included the ethical issues regarding denial of intervention to the control group that arise as a result of random allocation, achieving an adequate sample size to provide sufficient statistical power, avoiding threats to the integrity of the experiment over time and ensuring that control group participants would be motivated to maintain their participation in the study. The research team was greatly assisted by its Expert Advisory Group, which was composed of experts in the mentoring, evaluation and research methods arenas. In addition to the RCT, case studies of 9 matches were undertaken (see Report 2).

The Rhodes' model of the youth mentoring process (see Chapter 3, Figure 3) was used to guide the selection of measures and analysis for the study. The study was designed to explore if mentoring resulted in improved emotional well-being, improved attitudes to school, reduced risk behaviour, better perceived social support and improved parental and peer relationships. As the logic model suggested, these outcomes would only arise if a strong relationship between the young person and mentor had developed and if the programme was operated in accordance with the BBBS Service Delivery Manual. A number of factors were identified that were expected to moderate the impact of the programme, including the young person's interpersonal history and social competencies, age, length of the match and the family and community context.

The study sample consisted of 164 young people who were newly referred to the BBBS programme in the West of Ireland in 2007. Young people in the study sample were randomly assigned to receive either (a) the intervention plus regular youth activities or (b) the regular youth activities alone, thereby ensuring that all study participants received a service. Mentoring was thus evaluated as an add-on to regular project activities, which reflects the way the programme is run in Ireland. In addition, young people in the control group were placed on a waiting list and could receive the intervention when the study finished if they still wished. The target age range of young people was reduced to 10-14 years to ensure that those on the waiting list would still have time to be matched before turning 18.

Young people, parents, mentors and teachers were asked to complete surveys at four time points, or waves, over a 2-year period (October 2007 to October 2009). Demographic data was also collected in relation to the young people and mentors, while projects provided monitoring data in relation to the 'dosage' of regular project activities and mentoring hours provided over the study period. Response rates of 82% for young people, 79% for parents and 96% for mentors were achieved at Wave 4, the final data collection point. Returns from the teachers' survey were poor, largely due to the fact that many young people changed school or teacher over the study period, and this data was not included in the analysis as a result.

Of the 84 members of the intervention group, 72 were matched with a mentor during the study period. Three-quarters of these matches were still ongoing at the time the last surveys were completed in late 2009.

Review of programme implementation

A review was undertaken to assess whether the BBBS programme was implemented as planned. This information was also of value in helping to interpret trends emerging in the outcomes data. The review examined each of the programme's components, including its target population, implementing organisation, intervention protocol, service delivery protocol and links with associate organisations.

Interviews with project staff highlighted a strong degree of adherence to the BBBS service delivery protocol. (The programme emphasizes that matches should be primarily about friendship, in accordance with the BBBS Service Delivery Manual.) Staff believed that the procedures were necessary and welcomed the clarity they provide. A process of file auditing appears to have enhanced programme implementation by making staff more conscious of adhering to the schedules for supervision, file-keeping and other matters. Feedback from parents, young people and mentors suggests that they were clear regarding the roles of the project officers and were contacted for supervision on a regular basis. Staff were perceived to be accessible

and helpful, and comments indicate that supervision practice did prompt mentors to keep in contact with their mentees. A number of issues emerged as significant in terms of project implementation. Firstly, many project officers have been, or were also, mentors, which enhances their knowledge and insight regarding the programme. Secondly, many staff and managers have long-term experience in the implementation of the programme, which brings an added-value. Thirdly, the local culture of the programme values the informal support that project officers and case workers provide to families in the course of the intervention. The programme also adheres to its intent to provide drop-in facilities in larger towns, but lack of facilities for matches in rural areas was considered to be an issue. Three to four group events for matches were provided every year as intended.

The programme expects that matches will last for a minimum of 12 months and that the matched pair will meet for 1-2 hours per week. Analysis of match data shows that 57% of the 72 young people matched with a mentor were matched for 12 months or more during the study period. Analysis of the number of hours of mentoring received shows that 57% of matches met for the minimum time expected or more (4 hours or more per month). Data for participation in 'project activities' shows that 85% of the sample participated in youth project activity, but there were no significant differences in the mean number of hours for intervention and control groups, indicating that the integrity of the experiment was not affected by favouring either group with additional interventions.

Foróige is considered an internal partner of BBBS Ireland (BBBSI) and approximately 20 Foróige case workers were involved in this study. Evidence shows that the relationship between BBBSI and Foróige is very strong and perceived to be mutually beneficial to both parties. The BBBS programme is well integrated into Foróige's work. Stakeholders feel that the BBBS programme is stronger because it is delivered through local youth projects and can benefit from the relationships and local knowledge inherent in these services.

Profile of the study sample

The demographic profile of the 164 young people participating in the study indicates that they were generally Irish-born, had an average age of 12 and lived mostly in or near an urban location. The sample was almost equally divided between males and females. Almost half of the youth did not live with both parents. The most common reasons for referral were that the young person was affected by economic disadvantage, had poor social skills or was shy and withdrawn.

Demographic data in relation to the 73 mentors participating in the study showed that 55% were female and the majority were White Irish (88%) or from other White backgrounds. They ranged in age from 18-55 years, with an average age of 31. Over 80% of the mentors had a third-level education and 70% were working full-time at the time of intake to the study.

Findings of randomised control trial

A range of analyses of youth and parent data was undertaken, including comparison of mean scores, calculation of effect sizes and multilevel regression analyses. Some of the key messages that can be taken from the findings are the following:

- **Mentoring is a valuable intervention.** Young people taking part in Foróige youth services showed improved outcomes on most measures over the course of the 2-year study, with enhanced benefits found for those taking part in the BBBS mentoring programme in addition to Foróige youth work programmes.
- **Mentoring increases young people's sense of hope.** Young people with a mentor had consistently higher levels of hope across the study period than young people without a mentor.

- **Young people with a mentor feel better supported.** This intervention has been successful in improving young people's sense of being supported by parents, siblings, friends and other adults.
- **Mentoring can improve young people's attitude to education.** Young people matched with a mentor were seen to like school better and to show greater intent to finish school and go to college than those not matched.
- **Young people with a mentor have more positive relationships with others.** There was some evidence that young people with a mentor have more positive relationships with other people and feel more accepted by their peers.
- **The study showed positive trends in relation to drug and alcohol use.** Though not statistically significant, there were promising indications from the data that young people matched with a mentor were less likely to have initiated drug or alcohol use than those not mentored.
- **Mentoring is of particular benefit to young people not living with both parents.** The findings suggest that the intervention can play a role in increasing the support available to young people in one-parent households.

2. The BBBS Ireland Programme Model

This chapter starts with an outline of how the Big Brothers Big Sisters (BBBS) programme was established in Ireland, before proceeding to describe the various elements of the programme model, including its target population, implementing organisation, nature of the intervention, service delivery protocol and links with associate organisations. These same headings are used in Chapter 4 to assess how the programme was implemented in practice in the context of this research.

Big Brothers Big Sisters Ireland – Origins and Development

Foróige is a national youth organisation that aims to involve young people consciously and actively in their own development and in the development of society. Established in 1952, Foróige currently engages 50,000 young people annually in Ireland, providing a comprehensive range of youth work services through the operation of Foróige clubs, local youth services, local youth development projects and youth information centres. Through this multi-pronged approach, the organisation aims to meet the developmental needs of young people in general and to focus on vulnerable young people in particular in relation to issues arising from poverty, marginalisation and social exclusion, underachievement at school, early school-leaving, youth crime, substance abuse and family difficulties. Foróige's approach is rooted in local communities, where over 4,200 volunteers are involved in its work.

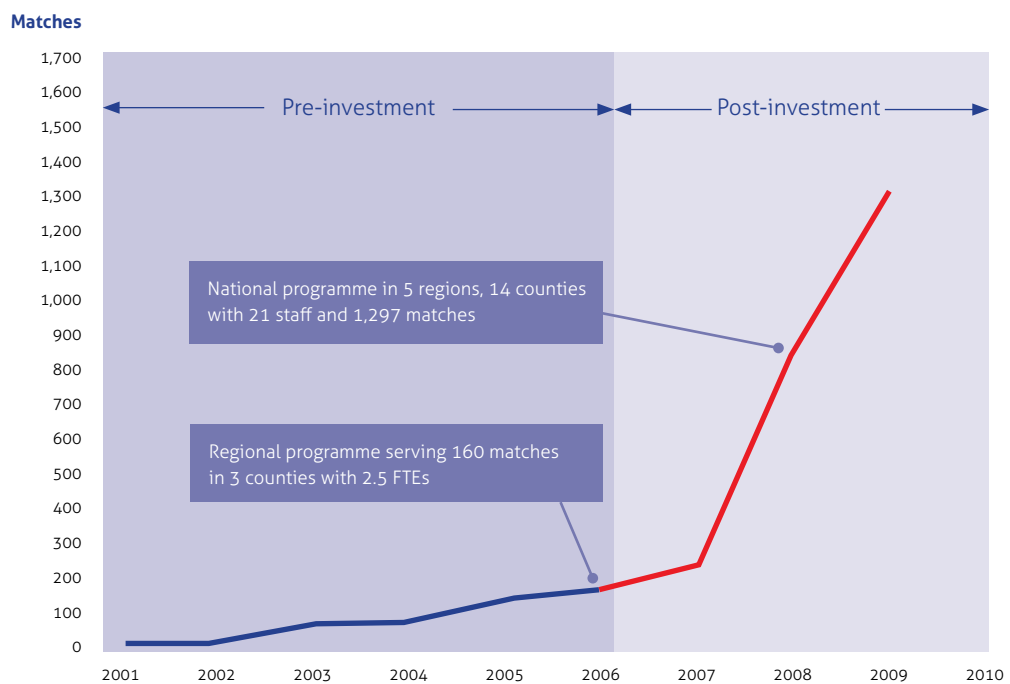
Foróige's link with the BBBS programme arose as a result of its work in Neighbourhood Youth Projects (NYPs) in the West of Ireland. These projects are located in disadvantaged areas, are operated in conjunction with the Health Service Executive (HSE) and engage vulnerable young people and their families in activities to promote their social and emotional development. In the late 1990s, analysis of the work of NYPs by Foróige and the HSE indicated a need for a model to support individual work with young people. Due to Foróige's commitment to volunteering, it preferred that the individual work would have a voluntary element. One-to-one mentoring involving adult volunteers and young people seemed to be a model that would meet the identified needs and thus Foróige set about researching models in operation throughout the world. Of the international voluntary mentoring models reviewed, Big Brothers Big Sisters (BBBS) was felt to be the most impressive due to its comprehensive assessment and monitoring procedures, and its proven effectiveness.

BBBS America is the oldest and best-known youth mentoring programme in the USA, founded in 1904. In 1998, BBBS International was founded with the aim of promoting and supporting the development of BBBS mentoring programmes operating independently in various countries throughout the world. BBBS International approves programmes for the use of the BBBS logo and provides them with consultation, technical assistance, training and materials. It also sets standards and shares best practices for effective and sustainable implementation. Affiliates are currently operating in 12 countries and expansion to new countries is in progress.

Following visits by Foróige and HSE personnel to the USA to see the programme in operation and visits by BBBS leaders to Ireland, funding was secured from the HSE for an Irish pilot programme. Foróige became the host organisation in Ireland while the partnership with the HSE was maintained. BBBS Ireland (BBBSI) is an affiliated member of BBBS International. The BBBSI programme manual, completed in September 2001, adapted the USA programme materials to suit the Irish context. The programme was initially run only in the West of Ireland, where the first matches were made in 2001. In addition to the community-based programme, Foróige also established the BBBS programme in schools, which involves matching a 1st-year secondary school student with an older 5th or 6th-year student to provide friendship and ease the young person's transition into school.¹

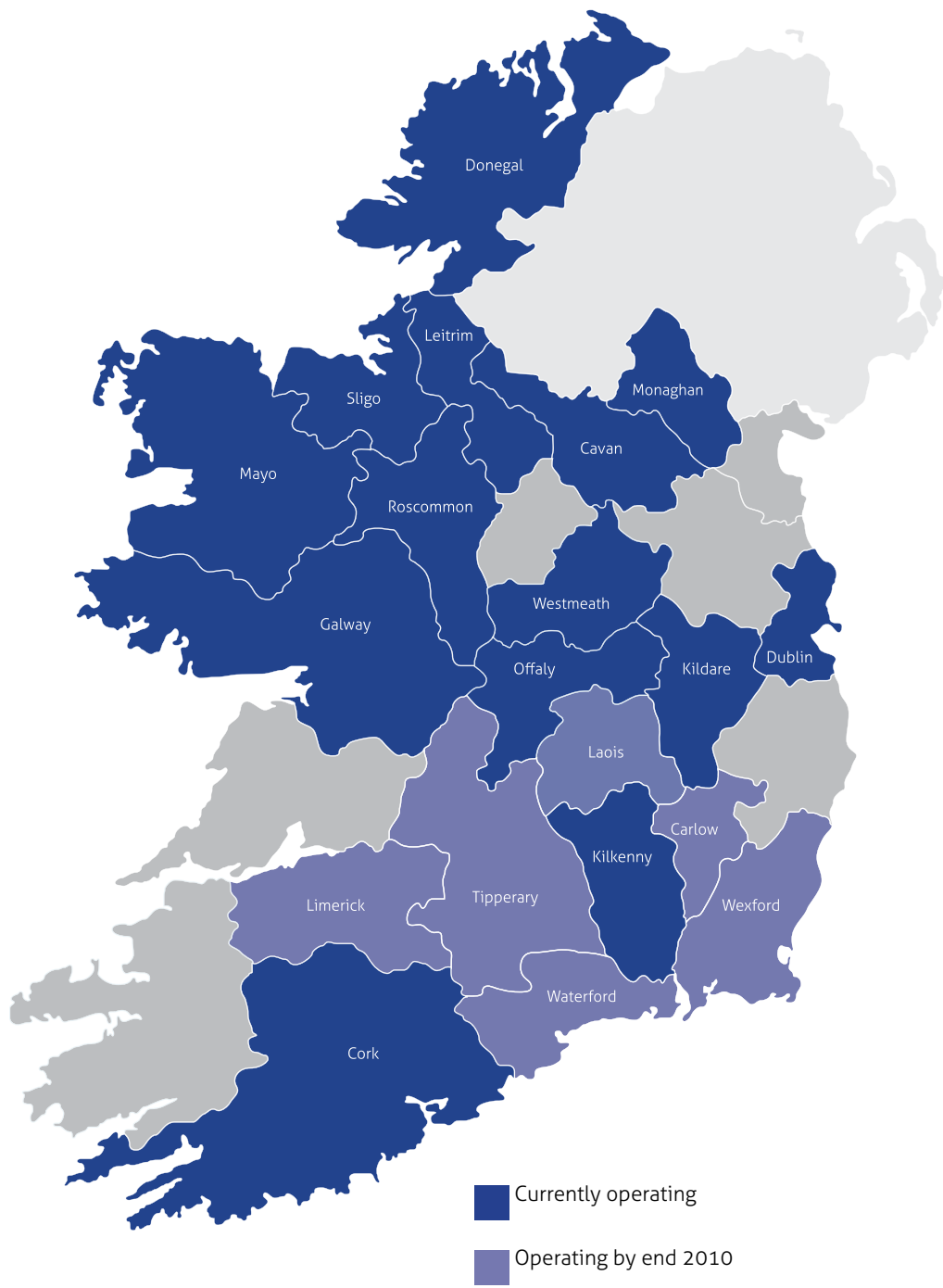
As was intended from the outset, the BBBS community-based programme is run by Foróige as an 'add-on' intervention which forms part of the range of services on offer in its local youth projects. An evaluation of the pilot programme in 2005 highlighted that this structure had worked well and ensured that the model was well integrated into local networks (Brady and Dolan, 2005). BBBS rapidly gained popular appeal among young people, parents, youth workers and referral agents as a result of the perceived benefits accruing to all parties who participated in the programme. Demand for places was strong. In 2007, Foróige received funding from two major philanthropic organisations to develop the programme on a national basis and to undertake a rigorous evaluation of its effectiveness. In 2009, the programme supported 336 community-based matches and 961 school-based matches. Figure 1 shows the growth of BBBS Ireland since its establishment in 2001, illustrating the impact of philanthropic investment as a driver of expansion. The programme is now operating in 14 Irish counties, with more planned (see Figure 2).

Figure 1: Growth of BBBS Ireland during 2001-2009



¹ The present study refers only to the BBBS community-based programme. A separate study of the BBBS school-based programme is planned.

Figure 2: Counties where BBBS Ireland is currently operating and projected development



Target population

For a young person to participate in the BBBS community-based mentoring programme, the requirements are that he or she is between the ages of 10 and 18, must want to participate and must demonstrate a need for the service in one or more of the areas outlined in Table 1. Volunteers are people from the community who commit to becoming a 'big brother' or 'big sister' (mentors) and remain with the programme for at least one year. They are not paid for the service.

While the 'risk' threshold for referral to the BBBS programme is generally considered to be low to medium, over recent years BBBS has seen an increase in the number of children identified as being at high risk, including young people in residential and foster care, young people involved in the criminal justice system and separated youth seeking asylum in Ireland. In general, the programme does not have strict criteria regarding what types of risk are suitable or unsuitable – it is guided by a consideration of whether or not the young person would benefit from the programme and if they are suitable for matching with a volunteer.

Table 1: Referral criteria for young people to participate in BBBS programme

Referral criteria	
<ul style="list-style-type: none">• Is culturally or economically disadvantaged• Exhibits poor social skills• Has few friends• Lacks adequate support and attention of a stable adult• Is an underachiever in school• Is overly dependent• Is insecure and does not trust adults	<ul style="list-style-type: none">• Has other siblings who have significant problems with social or community adjustment• Has a poor self-concept• Is introverted, shy or withdrawn• Shows early signs of anti-social behaviour• The young person has needs that are appropriate for volunteer intervention

The referral process involves a referral agent making contact with a BBBS project worker about a specific candidate. The candidate is discussed and if they agree that he or she is suitable, the referral agent completes a referral form. The referral agent may be asked to provide more information about the young person and to attend the initial meeting with the family to aid the introduction process. BBBS staff may also have contact with these and other youth-related services throughout the course of a match. In 2009, the HSE made 35% of referrals to the programme from a range of sources, including social workers and family support workers. Foróige itself was the next largest referral agent, accounting for 25% of all referrals in 2009. The remaining referrals were made by 'other services' (19%), parents (12%) and schools (9%). It is not uncommon for participants in the BBBS programme to be 'referred on' to other services due to disclosures made to the volunteer or to the case worker. In these instances, the young person continues with their match but receives professional support as required, be it from mental health, social work or family support services.

Nature of the intervention

The core component of the BBBS programme is the 'match' between the adult volunteer and the young person. Volunteers are expected to commit for at least one year and to meet with their mentee for 1-2 hours per week. According to the BBBS Ireland Programme Manual (see 'Programme practices' below), the match between the volunteer and young person is the most important ingredient of the intervention. The 'foremost goal' is to establish the relationship itself and this is given priority for the first 6 months of the match. After that time, the relationship continues to be the primary focus but goals may be set to address issues identified through the intake process (such as relationships with other young people or school attendance).

Each match is free to choose how to spend their time together. Some of the activities that matches often engage in include sport, board games, participating in group activities, eating out, going to movies, going fishing, hanging around or going for a walk. Mentors are encouraged to involve young people in decisions about what activities to do.

According to the BBBS Ireland Programme Manual, BBBS is based on the idea that a created relationship between an older and younger person will act to prevent future difficulties or be a support to a young person facing adversity in their life. Having a caring adult friend can help to build positive assets for young people to enable them to have a commitment to learning and a positive sense of self and the future. The presence of this non-familial caring adult is expected to make a difference in the social and emotional development of the young person. Rather than focusing on 'deficits' or what the young person lacks, the programme adopts a positive youth development approach that addresses the young person's full range of needs and the competencies required to help them to become a productive and healthy adult. The vision for the programme is encapsulated in the mission statement of BBBS Ireland, which is:

To make a positive difference in the lives of young people through a professionally supported one-to-one relationship with a caring adult volunteer. The volunteers, as Big Brothers or Big Sisters, are friends, mentors and positive role models who assist these young people in achieving their unique potential.

The programme does not make cross-gender matches, i.e. males are always matched with males and females with females.

Implementing organisation

BBBS, as a Foróige programme, is supported by the management, finance, PR and other functions of the Foróige organisation. The Foróige CEO is the Director of BBBS Ireland. There are currently 21 people working directly for BBBS Ireland – including a National Manager, Operations Manager, 17 project officers, a national fund-raiser and a part-time administrator. The BBBS programme is operated nationally in conjunction with a variety of internal, external and strategic partners.

The role of the National Manager is to lead and manage the growth and strategic roll-out of the BBBS programme, with a view to establishing it as a national sustainable programme. He is responsible for implementing the BBBS strategic plan, securing funding, staff and resource management, the development of strategic partnerships and the evaluation and marketing of BBBS nationally. The role of the Operations Manager is to develop policies and procedures, coordinate and deliver training to staff, oversee the quality assurance processes and act as a liaison between BBBS staff and the research team with respect to the programme's evaluation.

BBBS project officers oversee the general running and management of the BBBS programme in each of the 14 counties where it currently operates (see Figure 2). Their duties include taking referrals and assessing suitability of young people for the programme; recruiting and training volunteers; making and supervising matches; providing training and support to case workers in partner organisations; coordinating advertising and information meetings for volunteers; and organising group activities for programme participants. Project officers generally have third-level qualifications and are experienced in working with young people. They are expected to complete all the training courses outlined in Table 2. They can also take part in learning sets, a forum for peer support taking place twice a year. Each project officer manages an average of 20 matches, but there is variation according to the stage of the programme's development in their area. They are also responsible for the school-based mentoring programme in their region.

Table 2: Training courses for BBBS project officers and case workers

BBBS training course	Content
Induction to Foróige/BBBS	Introduction to the Foróige organisation, its policies and procedures. Introduction to the BBBS programme within Foróige.
Case worker Training Level 1	BBBS Service Delivery Manual and Pack, including how to recruit young people to the programme and also to recruit and vet volunteers. This training includes basic information on supervising, supporting and closing matches.
Case worker Training Level 2	Further detail on supervising matches, guidance around case planning, documenting case notes, supervision (including problem-solving) and closing a match.
'Train the Trainer' – Volunteers	Shows case workers how to train volunteers. It includes showing the case worker how to use the volunteer training manual and training tools to devise their own volunteer training session.
'Train the Trainer' – Case workers	Instructs BBBS staff in how to train other staff – internal (e.g. Foróige staff) and external (e.g. HSE staff) – as BBBS case workers.
School-based programme training	Training in the BBBS School Manual, i.e. how to operate the BBBS programme within the school structure.
Database training	How to operate the organisation's database.
Child protection training	Raises awareness of child protection issues. Identifies policies and procedures for reporting suspected or disclosed abuse as per <i>Children First: National Guidelines for the Protection and Welfare of Children</i> (OMCYA, 1999/2010).
Public Relations/Media skills	Compiling press releases, press advisories and invitations, taking and captioning photographs, putting a speech together and developing a programme of public relations.
Foróige's training courses	Study of specific topics of relevance, including Drug and Alcohol Policy and First Aid Training.

Funding for the BBBS programme is received from a range of sources, including the Atlantic Philanthropies, the Department of Community, Equality and Gaeltacht Affairs, the HSE, Vodafone Ireland Foundation and Athlone Community Taskforce, as well as through fund-raising. Over €6 million in funding was secured between 2006 and 2009. The cost of each match made through the programme is estimated to be €1,121.

BBBS Ireland is assessed by BBBS International every two years to ensure that its practices comply with the standards required. BBBS Ireland was audited in 2008 and found to be compliant.²

² With the exception of one minor item which was addressed immediately.

Programme practices

All BBBS Ireland policies and procedures are set out in a comprehensive Programme Manual. The manual was developed when the programme was first introduced to Ireland in 2001, based on BBBS America policies and practices. The manual is subject to continuous review and updating, but the core elements of the approach have remained the same since the programme's inception. All staff operating the programme are required to adhere to the stringent standards and procedures, which include:

- Screening of volunteers to filter out those who may inflict psychological or physical harm, lack the capacity to form a caring bond with a young person or are unlikely to honour their time commitments.
- Assessment of young people in order to make the best possible match and secure parental permission.
- Careful consideration of matching, taking into account the needs of the youth, the abilities of the volunteers, the preferences of the parents and the capacity of the programme staff.
- Contracts for young people, parents, mentors and case workers, setting out what is expected from them over the course of their involvement with the programme.
- Frequent supervision, including initial contact with parent, youth and volunteer within 2 weeks of the match, monthly telephone contact with the volunteer, parent and/or youth during the first year and quarterly contact with all parties for the duration of the match.
- Clear processes for match closure, including a final evaluation of the match.

Records are an important element of the BBBS programme and project officers are expected to keep accurate and up-to-date records of key events relating to all matches. According to the Programme Manual, the rationale for good record-keeping is to provide the agency with a systematic record of case activity, which facilitates continuity of service delivery, supports case management and provides transparency in terms of the match supervision.

In 2007, BBBS Ireland introduced a system of file auditing to ensure that all procedures are adhered to throughout the country. The files of all BBBS project officers are audited every year by the Operations Manager, while the files of Foróige case workers are audited by the local BBBS officer. Advance notice is provided. The auditor selects a number of files, which are audited for compliance with standards in terms of match supervision, documentation, how issues are dealt with and other matters. The auditor talks through any issues that have arisen with the project officer concerned and subsequently forwards a written report to them and their line manager. A timeframe is agreed upon for the resolution of any issues that may have emerged, during which time written confirmation has to be provided that the matter has been addressed.

The BBBS project officers in each area are allocated a budget for group activities, which generally allows them to organise three to four activities a year for matches. In addition, the project officers often raise money locally to fund group activities. The programme tries to ensure that the number of group activities provided is ample but not excessive, since their primary focus is on the development of one-to-one relationships.

Links with associate organisations

Local Foróige projects that provide youth work programmes throughout Ireland are defined as internal partners under the BBBS Ireland structure. Currently, 48 Foróige projects throughout the country operate the BBBS programme and a total of 57 Foróige staff³ are trained as case workers. These staff members generally manage one or two matches in addition to their youth work duties. BBBS project officers work closely with the Foróige projects in their regions to identify young people for participation in the programme and ensure that the BBBS and Foróige services work for the optimal benefit of the young people involved. For example, BBBS staff are often based on the premises of Foróige projects and make use of the Foróige facilities for drop-in facilities for matches.

External partners include organisations such as the HSE, Youth Work Ireland, Ógra Chorcaí and Cloyne Diocesan Youth Services. Staff from these organisations are also trained as case workers and manage matches in local youth and family support projects. The Separated Children's Education Service, a project for unaccompanied minor asylum-seekers in Dublin, is defined as a strategic partner and also manages matches for its target group.

BBBS puts in place protocol agreements with these partners, relating to aspects such as training, insurance, roles and responsibilities, quality control and access to match files for auditing purposes. It does not directly line-manage staff (project officers in each organisation are managed by a relevant superior) nor does it provide financial assistance to these organisations. The BBBS Operations Manager provides training and liaises with all partner organisations.

Summary

Since its establishment in 2001 to respond to a need for one-to-one work with young people attending youth projects in the West of Ireland, the BBBS programme has expanded to become a national programme, employing 21 staff and engaging with a large number of internal and external partners. The core aspect of the intervention is a 'match' between a volunteer adult (mentor) and a young person aged 10-18 years. The programme is run according to a clear set of guidelines as set out in the BBBS Ireland Programme Manual. Chapter 3 outlines how the research to assess the effectiveness of the BBBS programme was designed.

³ A note on terms used: BBBS project officers are referred to as such, while Foróige project officers who operate the BBBS programme are referred to as case workers.

3. Study Design and Methodology

This chapter outlines the design of this evaluation of the BBBS programme in Ireland, starting with an outline of the reasons why this particular type of research design was chosen. The logic model underpinning the research and the hypothesised impacts are then described. Finally, an outline of the methods chosen to assess the impact of the programme and the processes through which it works are provided.

Factors influencing the design strategy

In policy research, there is an emphasis on producing evidence that has been rigorously collected and analysed, is valid, able to support wider inference, is as neutral and unbiased as possible, and clearly defensible in terms of how interpretations have been reached (Ritchie and Lewis, 2003, p. 19). The randomised control trial (RCT) is a research design favoured by policy-makers on the basis that it can provide a clear causal link between intervention and impact. In simple terms, an RCT randomly allocates participants into groups, one of which receives the intervention and one which does not. Any differences between the two groups after the intervention period are deemed to be as a result of the intervention.

In the context of this study, there were a number of factors influencing the selection of an RCT as the research design. The research was starting from a point of view of uncertainty about the effectiveness of mentoring as a policy intervention in an Irish context and RCT studies are deemed to be valuable in terms of exploring the impact (be it positive or negative) of interventions about which there is uncertainty (Oakley, 2005). Foróige's rationale in undertaking an impact study was to demonstrate what it hypothesised to be the effectiveness of the BBBS programme in an Irish context. Thus, from the perspective of Foróige and the funders, there was a belief that an RCT was the most appropriate means to evaluate the effectiveness of the BBBS intervention.

A number of critical factors ensured that the BBBS programme represented a positive climate for the implementation of an RCT methodology. To begin with, stakeholders were positively predisposed to the study because it would build on studies in the USA that had shown youth mentoring to be an effective intervention (Tierney *et al*, 1995; DuBois *et al*, 2002). The BBBS programme is considered an exemplar in terms of youth mentoring programmes, operated under strict criteria that are associated with good practice in youth mentoring. Thus, the BBBS Ireland programme, which is operated to the same standards as the US model, could be very hopeful that similarly positive effects would be found. Programme staff were willing to engage with the research since they believed it would provide evidence of the programme's effectiveness in an Irish context.

Secondly, it has been argued that RCTs are most suited to testing services that are delivered in a systematic way (Ghate, 2001; Oakley *et al*, 2003). BBBS was ideal in this regard because the programme is underpinned by a detailed manual which clearly sets out the nature of the intervention. A third key advantage was that

there has been a significant growth in mentoring theorisation and analysis over the past decade. Rhodes (2005) developed a plausible theory of mentoring, using data from the Tierney *et al* (1995) evaluation of BBBS in the USA. In undertaking an RCT, Ghate (2001) and others recommend a specified causal model that explains what effects are expected and why these effects are likely to occur. For this study, the Rhodes' model of youth mentoring offered the opportunity to test not just if mentoring works, but how it works in an Irish context. Finally, the fact that a philanthropic organisation was willing to fund the study meant that cost was not a prohibitive factor as it often can be in studies of this nature. In summary, the conditions merged to make this a positive scenario within which to undertake an RCT.

While the study context was supportive in many ways, there were also a number of challenges to be faced in designing the study. Firstly, RCT studies are subject to criticism on the basis that, as a result of random allocation, the control group may be deprived of something seen as beneficial. There can be a resistance to random allocation due to practitioners' aspirations to get the best services for the most needy cases (Little *et al*, 2004). In this context, the BBBS programme is considered a positive intervention and there was naturally a reluctance on the part of programme staff to deny participation to a young person deemed to be eligible and likely to benefit from the programme. Furthermore, it was possible that young people would be disappointed at being allocated to a control group when their friends or siblings may be in the intervention group. The study design would have to address this issue.

A second challenge related to sample size. For interventions that are likely to have small or variable effects, such as this one, both intervention and control groups must be quite large. The larger the number of units studied, the more likely intervention and control groups are to be statistically equivalent and the likelihood of errors are reduced (Rossi *et al*, 2004). A third issue relates to the state of development of the intervention under study. It is generally accepted that an RCT is not suitable for programmes in early stages of implementation because if the programme changes during the intervention, there is no easy way to determine what effects are produced by any given form of the intervention. Rossi *et al* (2004) suggest that a minimum of 2 years of running the programme is necessary. Similarly, Ghate (2001) suggests that services should have had time to 'bed down' so that teething problems can be overcome. In this context, the BBBS programme was 'bedded down' in the West of Ireland, but was newly established in the other counties in which it was operating at the time of the study design (see Figure 2). Whether the programme in the West could generate a sample large enough to provide a valid test of effectiveness was a key issue to be addressed.

Finally, although randomly formed intervention and control groups are statistically equivalent at the start of an evaluation, non-random processes may threaten their equivalence as the experiment progresses. Attrition can affect the validity of results because it tends to be more pronounced for members of excluded groups and differential attrition may produce differences between groups. Oakley (2000) urges that particular consideration be given to how best to avoid the 'resentful demoralisation' (Shadish *et al*, 2002, p. 80) often experienced by control group members and to encourage control groups to feel that it is worthwhile to make an active contribution to the research. Another concern is that the control group may receive treatments that contaminate the integrity of the experiment. The design process for the present study included the development of strategies to address these issues.

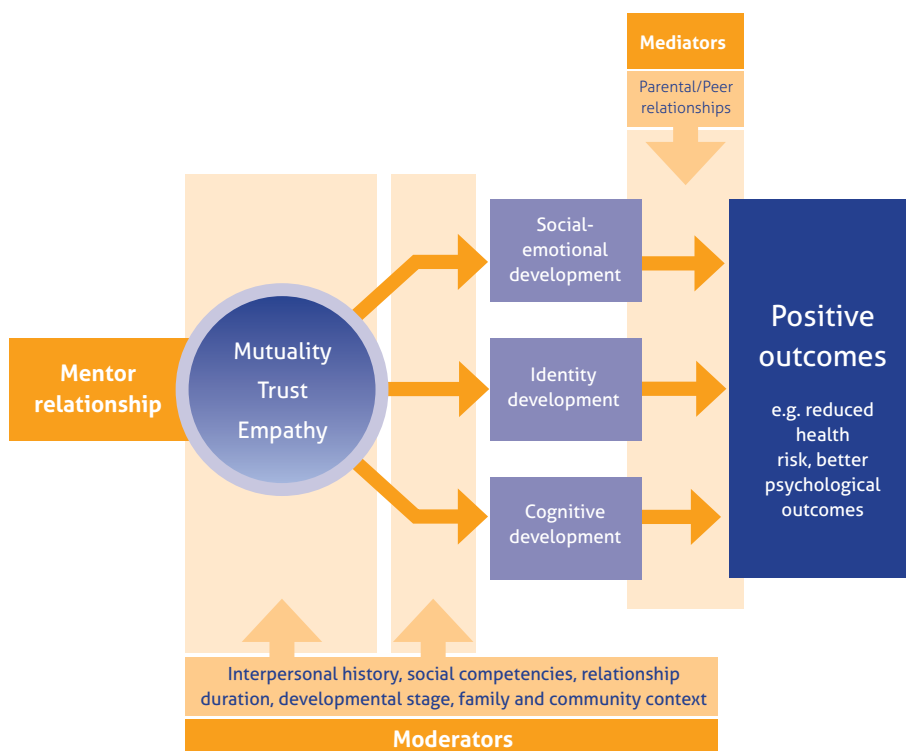
An Expert Advisory Group⁴ was formed, composed of leading researchers and academics, whose role was to guide the research team through the overall research project. This group provided valuable advice in relation to design, selection of measures, analysis and presentation of findings.

⁴ Members of the Expert Advisory Group were: Mr. Sean Campbell, CEO, Foróige (Chair); Mr. Tom Costello, Ms. Jane Forman and Ms. Gail Birkbeck, The Atlantic Philanthropies (observers); Dr. David DuBois, Institute for Health Research and Policy, University of Illinois, Chicago; Dr. Mark Dynarski, Mathematica Policy Research Inc., Princeton University, New Jersey; Dr. John Newell, Clinical Research Institute, National University of Ireland, Galway; Prof. Sharon L. Ramey, Georgetown University, Washington, DC; and Dr. Jean Rhodes, University of Massachusetts, Boston.

Logic model and expected outcomes

Having a theoretical model upon which to base the study was seen as important in terms of aiding understanding of the causal mechanisms through which mentoring works, facilitating the selection of relevant measures and guiding analysis of findings. The Rhodes' model of youth mentoring, entitled 'Pathways of mentoring influence', was used to guide the selection of outcome measures for the RCT study, as well as the identification of mediators and moderators⁵ for which data could be gathered and hypotheses tested (see Figure 3).

Figure 3: Rhodes' model of youth mentoring – 'Pathways of mentoring influence'



Source: Rhodes (2005)

Based on this logic model, therefore, the study was designed to explore whether participation in the BBBS youth mentoring programme would result in some or all of the following outcomes for young people:

- **Improved emotional well-being:** Having a strong friendship with a mentor is likely to improve the emotional well-being of the young person. There is some support for this hypothesis in the research literature. Most notably, the meta-analysis by DuBois *et al* (2002) of over 55 studies of mentoring programmes found that there is a small, but significant positive effect for mentees in the areas of enhanced psychological functioning. Dolan's (2005) study of adolescents attending Neighbourhood Youth Projects (NYPs) in the West of Ireland found a statistically significant relationship between perceived social support and mental health. His findings suggest that if perceived support for young people improves, an associated improvement in their self-reported mental health will ensue.

⁵ A mediator is a variable that falls between two other variables in a causal chain, such as between a programme and its outcome. A moderator is a variable that modifies the strength or direction of the relationship between two other variables; it may lead to a stronger or weaker effect of the programme on an outcome.

- **Improved attitude towards school and plans for school and college completion:** By giving messages regarding the value of school and serving as models of success, mentors may encourage improved attitudes in young people towards school achievement and their own academic ability, while encouraging them to think about the relationship between education and future opportunities in life. It is argued that an improvement in attitudes towards school is a precursor to better school performance (Rhodes *et al*, 2000). In the evaluation of BBBS in the USA by Tierney *et al* (1995), mentees reported slightly better grades than did youth in the control group. Underlying this improved performance was an improvement in attendance and more confidence in their ability to complete school work (Rhodes *et al*, 2000).
- **Reduced engagement in risk behaviour:** Mentors can offer positive role models and provide a safe place for young people to discuss pressures in relation to drug, alcohol and tobacco use and anti-social behaviour. A positive influence from a mentor may act as a counter-balance to negative peer pressure in relation to these behaviours. The synthesis of outcomes from RCT-evaluated programmes by Jekielek *et al* (2002) found evidence from 3 studies to show outcomes in relation to drug and alcohol use, but found 'mixed reviews' on behaviours related to delinquency. In the US BBBS evaluation by Tierney *et al* (1995), mentees were significantly less likely than their control counterparts to start using illegal drugs and alcohol during the study period; longer term mentoring directly affected the frequency of substance use. Other findings were that mentees were less likely to have hit someone than the control youths, but there was no impact found on how often youths stole or damaged property (Grossman and Tierney, 1998).
- **Better perceived social support:** Studies have shown that adolescents with less social support are at increased risk of problems and that social support contributes to better adjustment generally (Bal *et al*, 2003). Having low levels of perceived social support can lead to a variety of poor psychological, social, academic and health outcomes (Malecki and Demaray, 2003). According to Barrera and Bonds (2005), mentoring programmes are designed to create meaningful changes in the social support that youth receive. A study by DuBois *et al* (2002) found that ratings of support from non-parental adults were linked to reports of more positive self-esteem, which in turn were predictive of improvements in emotional and behavioural problems as rated by youth, teachers and parents. According to Barrera and Bonds (2005), more research is required to establish that mentoring achieves its effects, at least in part, by increasing social support, which can have positive effects on other constructs.
- **Improved parental and peer relationships:** According to Rhodes *et al* (2000), mentoring relationships can alleviate some of the tensions and conflicts that arise in parent-child relationships during adolescence by helping the adolescent to deal with everyday stressors, providing a model for effective conflict resolution and indirectly reducing parental stress. Tierney *et al* (1995) found that mentees had higher scores on measures of the parent-child relationship, primarily due to a greater sense of trust in their parents. In addition, a mentor's positive influence may improve the mentee's capacity to manage friendships and deal with problems that arise with peers (Rhodes, 2005). With regard to peer relationships, Tierney *et al* (1995) found no impact for most of the peer relationship scales, apart from emotional peer support which was slightly higher among mentees.

The logic model underpinning the research design suggests that the following are needed in order for these outcomes to occur:

- **A strong natural friendship between mentor and mentee:** Rhodes (2005, p. 31) identifies the fundamental starting point for any mentoring relationship as the need for a 'strong inter-personal connection, characterized by mutuality, trust and empathy'. If a bond does not form, youth and mentors may disengage from the relationship before it has had any benefits. The most successful relationships are believed to be those in which the mentor allows the young person time to develop trust and does not push them to become close. A stable friendship is unlikely to emerge immediately, but arises as a result of 'small wins that emerge sporadically over time' (*ibid*, p. 32). Overall, research supports the position that a strong natural friendship, based on shared interests

and characterised by frequent contact, is the foundation for the emergence of other outcomes from mentoring relationships.

- **The BBBS programme adheres to recognised procedures and practices:** There is a consensus in the literature that solid mentoring relationships are more likely to develop with proactive programme support. Mentoring programmes should provide appropriate supports to ensure that adult volunteers spend time with youth on a regular basis and in ways that foster close emotional bonds – including training, ongoing staff supervision, programme events and monitoring procedures to ensure regular contact between mentors and youth (DuBois and Neville, 1997). Ongoing availability of staff support is necessary to sustain high levels of mentor efficacy, while opportunities for mentors and youth to participate in agency-sponsored activities are also beneficial in helping bonds to develop (Parra *et al*, 2002).

The following factors may moderate the degree to which the mentoring relationship achieves the expected outcomes:

- **Interpersonal history and social competencies:** Children with a history of good relationships may find it easier to form a bond with an adult and may use the mentoring relationship more for the acquisition of skills and critical thinking than for an emotional bond. On the other hand, those who have experienced less secure relationships may initially be resistant, but eventually develop a more intense bond with their mentor to help satisfy their social and emotional needs. In addition, research has shown that children with behavioural problems, experience of abuse and psychological treatment are less likely to benefit from mentoring (Grossman and Rhodes, 2002). Thus, the outcomes from mentoring may vary between young people.
- **Developmental stage:** The age of the mentee will have an impact on what they want from the relationship. Younger children may be less interested in abstract conversations with mentors and prefer structured activities. Older adolescents may be drawn more to peers. Risk of termination increases (Grossman and Rhodes, 2002) and relationships tend to be of shorter duration for older youth (Bauldry and Hartmann, 2004). It is likely, therefore, that younger participants will show a greater improvement in outcomes than their older peers.
- **Duration of the mentoring relationship:** The mentoring processes described by Rhodes (2005) will only have an opportunity to take effect if the match endures for long enough to make a difference. The research by Grossman and Rhodes (2002) found that youth whose relationships were terminated within 6 months suffered declines in feelings of self-worth and perceived scholastic competence. Relationships that lasted over a year had the most positive effects. Programme practices are influential in determining the degree to which relationships are sustained: the longer the relationship lasts, the more likely it is to result in better outcomes for the young person.
- **Family and community context:** Rhodes (2005) and Keller (2005) highlight the role of family processes (including whether the family encourages the relationship) as influencing the degree to which development can take place. Similarly, the community or neighbourhood context in which the mentor and mentee meet can influence the degree to which relationships will form. For example, in a very rural area there may be few places to go or activities that the matched pair can find that are of interest to both parties. Supportive family and community contexts are, therefore, believed to have a positive impact on the success of the mentoring relationship.

Research questions

The logic model described above was used to inform a set of research questions that underpin all three reports in this evaluation of the BBBS Ireland programme. Table 3 lists the research questions and shows how the various quantitative and qualitative analyses in Reports 1 and 2 will contribute to the answering of these questions. The purpose of Report 3 is to make an integrated assessment of whether there is evidence to support the logic model across the overall study.

Table 3: Overview of research questions and reports

Research question	Report 1	Report 2	Report 3
Does youth mentoring result in outcomes in the areas of emotional well-being, attitudes to education, risk behaviour and relationships and support?	RCT findings – young people and parent survey data	Case study analysis	Integrated assessment
Is the achievement of outcomes dependent on the development of a strong relationship between the mentor and young person?	RCT findings – analysis of moderators	Case study analysis	Integrated assessment
Is the programme implemented as planned? Is the achievement of outcomes dependent on adherence to programme criteria?	RCT findings – implementation report and analysis of moderators	Case study analysis	Integrated assessment
Are the effects of mentoring moderated by age, duration, family and community context, or interpersonal history?	RCT findings – analysis of moderators	Case study analysis	Integrated assessment

Methodology

The challenges faced in developing the research design have been described above and the design choices made reflect the need to achieve a balance between ethical practice, scientific validity and feasibility in terms of the BBBS programme. Strategies to address these challenges were agreed upon through consultation with programme staff and the Expert Advisory Group. The following sections describe decisions made in relation to all aspects of the study and the rationale for these choices.

Ethical issues

The ethical issue of potentially denying young people a service as a result of random allocation was addressed in a number of ways:

- Both intervention and control groups were offered a basic youth service and mentoring was an 'add-on' service for the intervention group. Therefore, all research participants were offered a service. This meant that mentoring was evaluated as an additional element of youth service provision rather than as a standalone programme.
- The young people in the control group were placed on a waiting list and would be offered the programme when the study ended. As a consequence, the target sample age group had to be reduced from 10-18 years to 10-14 years, so that the young people on the waiting list would have a chance to be matched and benefit from a mentor's support before being ineligible for the programme once they turned 18.
- A 'free pass' system was developed, whereby any vulnerable young person deemed to be in need of mentoring support, and whom staff were not comfortable with their possibly being randomly allocated to the control condition, could receive the intervention and would not be included in the study. In practice, no free passes were used.

The study was guided by the principles of protection from harm, right of withdrawal and confidentiality. Ethical approval for the study was granted by the NUI Galway Research Ethics Committee. Detailed information materials were developed in conjunction with programme staff to ensure that the research study was communicated clearly to potential participants and full written consent was required from all participants (including young people, parents, teachers and mentors).

These ethical protocols were necessary to satisfy the concerns of programme staff and the research team, but had a number of implications for the study design. The study would not evaluate mentoring in its 'pure' form, but rather as an 'add-on' to standard youth work provision. However, because mentoring in Ireland is not a standalone intervention but is offered in conjunction with youth work, the intervention is actually being evaluated in a way that is true to the Irish programme model. A second implication of the ethical protocols was a reduction in the study sample size due to a compressed target age range and requirements for full consent from both young people and parents.

Recruitment of the study sample

With studies of this nature, the larger the sample size the greater the chance of establishing whether the programme has made an impact. Initially, a target of 200 study participants was set following advice from members of the study's Expert Advisory Group that this would be the minimum number required to have sufficient statistical power, with an expected effect size of a Cohen's *d* of just under 0.2. While a sample size of this nature is small in comparison to the BBBS study carried out by Tierney *et al* (1995), which had almost 1,000 participants, recruitment of a sample of this magnitude represented a particular challenge. At the time of intake to the study, Foróige was supporting 60 matches in the West of Ireland and had just received funding to roll out the programme nationally. Because programmes undergoing RCT should be well-established, the decision was made to restrict the study to the Western region where the BBBS programme had been in operation for 5 years. This meant that the programme had to grow from supporting 60 matches to supporting an additional 100 matches in order to conduct the study.

The population from which the RCT study sample was drawn consisted of all new referrals (aged 10-14 years) to the BBBS programme in the Western region during 2007. Young people referred by the HSE were not asked to participate in the study because the HSE had declined to take part in the evaluation. All other young people who were newly referred to the programme and deemed eligible were asked to participate. All potential participants were given an information leaflet and consent form (*see Appendix 3*) and the study was explained to them by programme staff. Those who wished to take part were asked to provide their written consent and also that of their parent.

The recruitment of participants to the study commenced in the summer of 2007 and was completed in February 2008. The search for a sufficient number of participants was difficult and took longer than anticipated. Approximately 1 in 3 young people declined to participate for various reasons (e.g. they did not want to complete the surveys, they or their parents objected to the randomisation process, their friends were not doing it). To increase the number of participants, young people fitting the criteria for participation (*see Table 1*) were sought from two Galway-based projects – Youth Work Ireland and a School Completion Programme. The starting date for the study had to be extended and the eventual final sample was 164 young people.

As Figure 4 shows, the highest proportion of the study sample came from the county of Galway, followed by Mayo, Roscommon and Sligo/Leitrim. Figure 5 shows that the sample was drawn from 11 projects throughout the Western region – 3 in Co. Mayo (Westport, Castlebar and Ballina NYPs), 4 in Co. Galway (Ballybane, Knocknacarra, Ballinfoyle Youth Development Projects and 'Galway' which comprises the non-Foróige projects), 2 in Co. Roscommon (Castlerea and Boyle NYPs) and one each in Co. Sligo (The CRIB) and Leitrim (Carrick-on-Shannon NYP). Further information on the profile of the study sample is provided in Chapter 5.

Figure 4: Percentage of study participants from each Western county

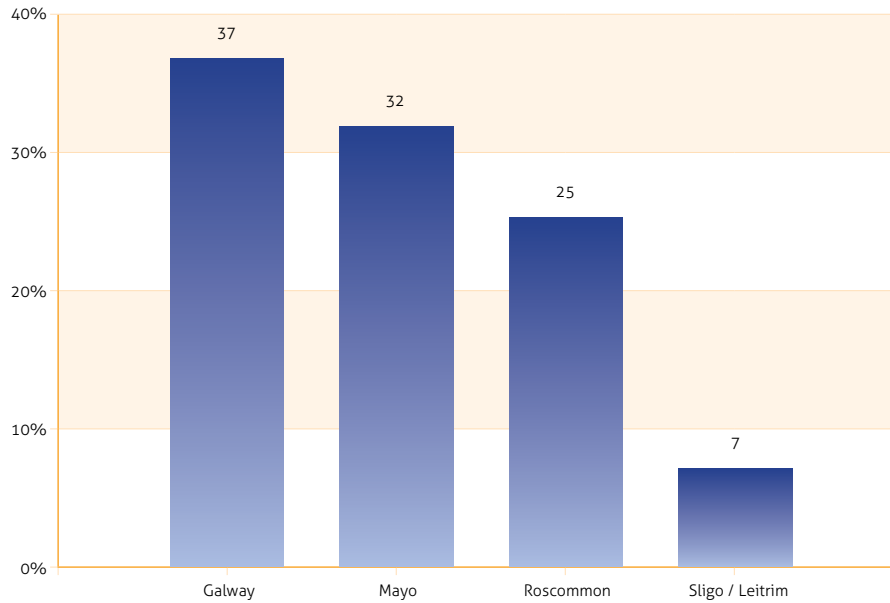
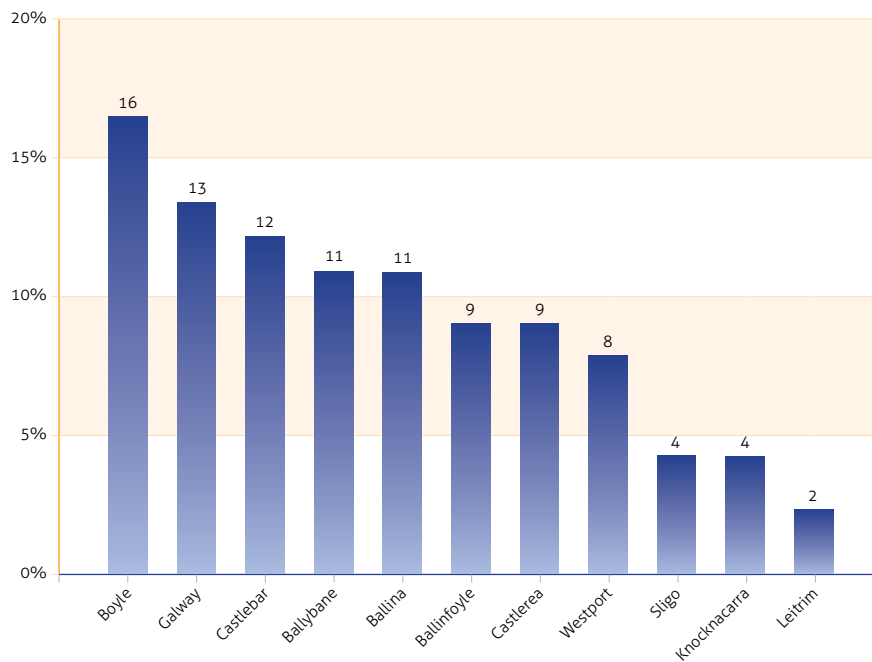


Figure 5: Percentage of study participants drawn from each participating project

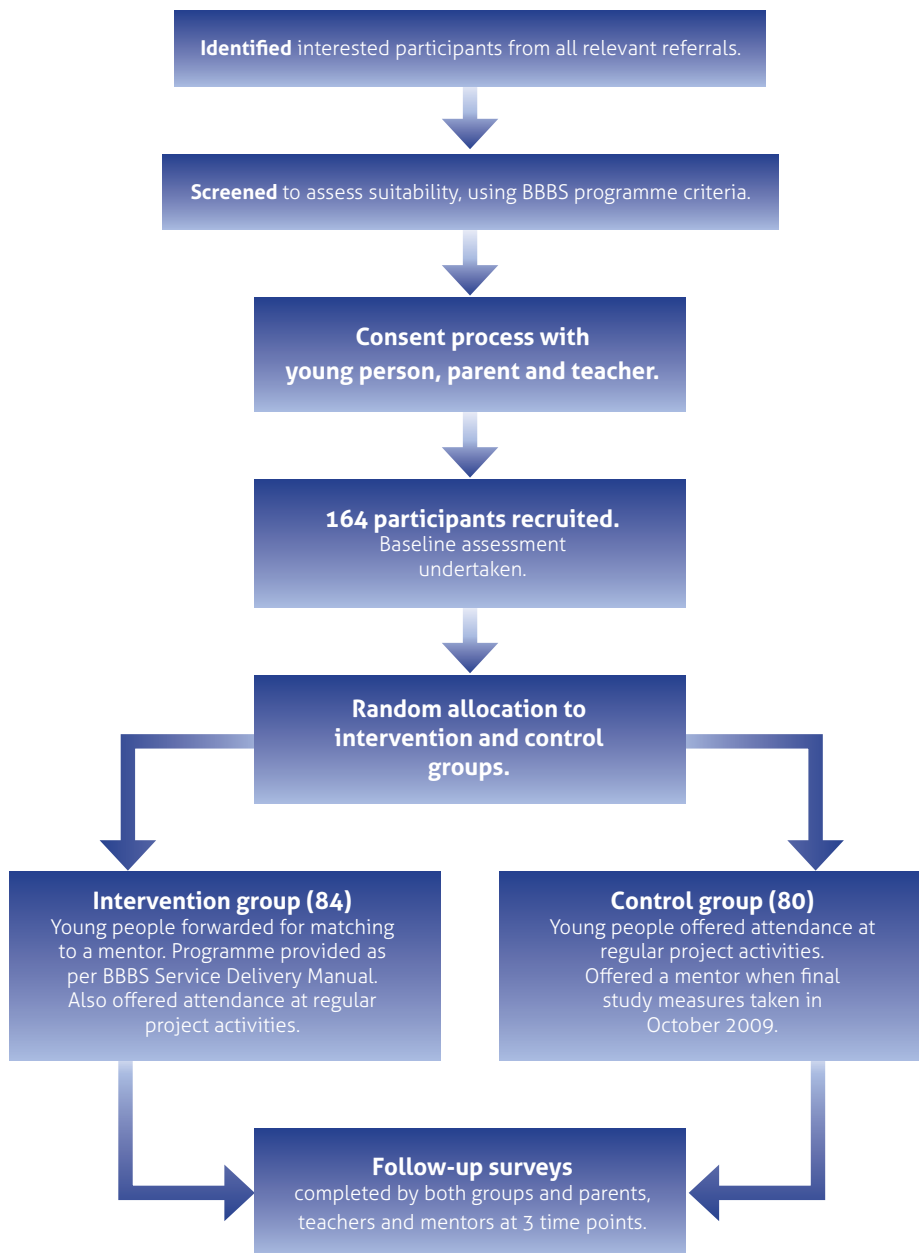


Other design features

In terms of reducing attrition and avoiding 'resentful demoralisation' of the control group, the fact that control group participants would be engaged in Foróige services meant that they would be less likely to drop out of the study and more accessible to the research team than if they were not receiving any intervention. To avoid threats to the integrity of the experiment, it was critical that BBBS programme staff were aware of the need to offer similar activities to both control and intervention groups, and not to favour those who were not receiving a mentor. Data systems were established to record the precise dosage of 'intervention as normal' activities received by both intervention and control groups.

Overview of study design

Figure 6: Overview of study design



Randomisation

Those who consented to take part in the study were randomly assigned to either the intervention or control condition using a stratified random approach. This process was undertaken by personnel from the Mathematics Department at NUI, Galway. The aim of the randomisation process was to block the sample by gender and location. A goal was to have nearly equal numbers of boys and girls in each condition at each site, which would serve to minimise the correlation between the intervention condition and the other two variables (i.e. gender and location).

Data collection

Eight key sources of data were collected in the study (see Table 4). Survey data were collected at 4 time points, while participation and match data were collected monthly. Demographic information for young people and mentors was collected on recruitment to the study.

A data management plan was developed by the research team in conjunction with Foróige/BBBS programme staff to set out clear guidelines on roles and responsibilities, and to ensure that the quality of data collection was not compromised. In addition, coding processes were put in place in order to ensure that the anonymity of research participants was protected. Each young person taking part in the study was assigned a code number to reference all data relating to them. This code was also used for their parent, mentor, teacher and participation data. Quotes from the study's participants are given throughout Chapter 4; they have been subject to minimal editing in order to retain the tenor of the comments made.

Table 4: Types of data, staff members responsible and timing of collection

Source of data	Collected by	Date commenced
Demographic information – young people	Foróige/BBBS staff	On recruitment to the study
Demographic information – mentors	Foróige/BBBS staff	On recruitment to the study
Young people's survey	Research team Foróige/BBBS staff	December 2007 October 2008 May 2009 October 2009
Parents' survey	Foróige/BBBS staff	December 2007 October 2008 May 2009 October 2009
Teachers' survey	Postal	December 2007 October 2008 May 2009 October 2009
Mentors' survey	Postal	October 2008 May 2009 October 2009
Monitoring data – Project attendance	Foróige staff	Monthly
Monitoring data – Number of hours mentoring received	BBBS staff	Monthly

The young people's survey was undertaken by members of the research team, with groups of 6-8 young people at each of the study sites. As the study progressed, it became difficult to encourage young people to attend these sessions and so it was agreed that Foróige/BBBS programme staff would assist the young person in completing the survey at a time of their convenience. Surveys were also conducted with the parents, who could complete the questionnaire alone or with support from a project officer if they wished; they could then choose to send it back to the research team or return it to the local project. The surveys with teachers and mentors were sent to them directly and returned to the research team by post.

The research team worked closely with Foróige/BBBS programme staff to ensure that every effort was made to follow up on young people who dropped out of the study and to encourage them to continue to complete the surveys if possible.

Response rates to surveys

The response rates to the surveys of young people, parents, mentors and teachers at the 4 time points (Waves 1-4) are outlined in Table 5. The response rate of 82% for young people at Wave 4, the final survey point (after 2 years), compares favourably to the US study by Tierney *et al* (1995), which achieved a response rate of 84% at 18 months' follow-up. The response rates for parents (79%) and mentors (96%) are also high. The findings from the young people's survey are given in Chapter 6 and from the parents' survey in Chapter 7; analysis of data from the mentors' survey will be included in future publications arising from this study and is not included in this report.

The low response rates from teachers is attributable to the fact that many of the study participants transferred from primary to secondary school during the period of the research and thus the teacher initially nominated was no longer relevant. In addition, teachers proved reluctant to return surveys. Because of these low response rates, data on the teachers' survey are not included in this report.

Table 5: Response rates at each of the survey time points

Sample: N = 164		Returned	Non-response	% return
Wave 1	Young people	161	3	98%
Nov. 2007-Feb. 2008	Parents	145	19	88%
	Teachers	94	70	57%
	Mentors	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Wave 2	Young people	137	27	84%
Oct.-Nov. 2008	Parents	130	34	79%
	Teachers	28	136	21%
	Mentors	51	6	89%
Wave 3	Young people	141	23	86%
May-June 2009	Parents	132	32	80%
	Teachers	29	135	18%
	Mentors	57	2	97%
Wave 4	Young people	135	29	82%
Oct.-Nov. 2009	Parents	130	34	79%
	Teachers	10	154	6%
	Mentors	50	2	96%

n/a = not applicable

Attrition

Young people dropped out of the study for various reasons. In some cases, the young person had no option other than to leave the study. For example, in five cases the family left the area, in one case the young person sustained a serious injury, while in another the young person had to withdraw due to a family issue. A small number of people withdrew following the randomisation process since they objected to their status (i.e. they were not chosen for the intervention group, or else their friends were not and they were). In other cases, the young person simply did not want to take part any longer. Some young people did not formally withdraw, but could not be contacted for one or more of the surveys despite multiple attempts on the part of the programme staff.

Matching of intervention group members

A key issue for the study was to ensure that as many intervention group members were matched with a mentor as soon as possible to ensure the best possible chance of the effects of mentoring being detected by the end of the study period. Matching of participants was dependent on the availability of suitable mentors who had been fully assessed and it was also important to ensure that the interests of the mentor and mentee were compatible. Thus, the matching of participants was not something that could be done in a rush. In anticipation of the commencement of the RCT, Foróige staff had built up a waiting list of qualified mentors to enable matching to proceed quickly following randomisation. However, additional mentors had to be recruited, and in some areas the recruitment of male mentors was a challenge. As a result, matching of some participants was slower than others and the timeframe for the study was extended to ensure that intervention group members were matched for at least 12 months before the final measures were taken.

Of the 84 members of the intervention group, 72 were matched with a mentor. Data in relation to match duration and frequency of meeting is provided in Chapter 4. A total of 75% of matches were still ongoing at the last time point in the survey (October 2009).

Data entry and analysis

The RCT data were entered by a team of research assistants. In order to ensure the accuracy of the data, a double entry process was used, which was then validated by an independent research consultant. Further support was provided to the team by Dr. John Newell from the study's Expert Advisory Group.

Analysis of the final survey dataset was led by Dr. Dan Russell from Iowa State University, who had been a member of the Expert Advisory Group for the study. He came to Galway for a number of months early in 2010 and worked with the research team on the analysis, interpretation and write-up of study findings. The methods used to analyse the data will be described in the 'Findings' chapters of this report (*see Chapters 6 and 7*).

Other data collected as part of the study

In addition to the RCT data described above, the following additional research was undertaken in the context of this study:

- **Implementation report:** It is considered good practice in RCT studies to include a process or implementation study to assess whether the programme has been implemented as planned. Chapter 4 of this report is based on data from interviews and focus groups with key stakeholders regarding programme implementation and relevant programme information, such as annual reports and statistics. All interviews and focus groups were recorded and transcribed in full. Qualitative software (NVivo) was used to code the data.
- **Qualitative data:** Longitudinal case studies of 9 mentoring matches were undertaken to assess the perspectives of young people, mentors, parents and case workers regarding match processes and the impact of programme practices. Interviews and focus groups with staff members were also undertaken. This information has been used to establish qualitative evidence in relation to the Rhodes' model of youth mentoring and is the focus of this study's Report 2.
- **Profile of Foróige participants:** A demographic profile of all those in receipt of Foróige services across the Western region was undertaken with the purpose of providing a context for the study participants, by locating them in the overall regional service user profile and assessing the external validity of the study sample. The demographic survey was completed by staff in Foróige projects in the West of Ireland in relation to all project participants.

Summary

This chapter has outlined the key influences that shaped the final study design for this research. The logic model and expected outcomes were outlined and the key aspects of the study design and implementation were described. Chapter 4 will review how the programme was implemented in practice.

4. Review of BBBS Programme Implementation

This chapter assesses, based on data collected through the research process, the degree to which the BBBS programme as evaluated corresponds to the official programme model. A framework developed by Chen (2005) is used to compare the components of the intervention as planned with the intervention as actually delivered and evaluated through this research. The rationale for assessment of the programme as implemented is to explore whether the intent expressed in the programme model is actualised in reality. It enables us to see if the findings outlined in Chapters 6 and 7 of the report result from implementation of the programme as planned or whether the programme changed in any way in the process of implementation. In addition, this chapter also examines any unforeseen factors that may influence programme implementation and allows us to build these factors into our understanding of how the intervention produces its effects.

As outlined in Chapter 3, the research took place in the West of Ireland only, involving 11 projects across 5 counties. Table 6 sets out the components for each aspect of the programme and a brief overview of what the data for each tell us about the nature of actual implementation.

The analysis in this chapter is based on the following primary and secondary sources:

- monitoring data in relation to hours of mentoring received and attendance at project activities;
- interviews with programme staff, managers, parents, young people and mentors;
- a review of the BBBS Programme Manual and other documents, such as annual reports.

Table 6: Overview of planned and actual implementation of each component of the BBBS Ireland programme

Programme components	Programme plan	Actual programme implementation in the study context
Target population		
Who is eligible to participate?	<p>Young people</p> <ul style="list-style-type: none"> • Aged 10-18 years • Want to participate • Meet criteria for referral • Referrals from HSE, Foróige, schools, parents and other services • Males and females <p>Mentors</p> <ul style="list-style-type: none"> • Adheres to programme criteria 	<p>Young people</p> <ul style="list-style-type: none"> • Mostly aged 10-14 years due to ethical considerations in research • Voluntary participation • Participants met criteria on at least one factor • No HSE referrals due to decision not to take part in research • Difficulty recruiting male mentors led to slow rate of matching young males <p>Mentors</p> <ul style="list-style-type: none"> • Mentors met these criteria

Table 6 (continued)

Programme components	Programme plan	Actual programme implementation in the study context
Implementing organisation		
<p>Who implements the programme?</p> <p>How is the programme structured?</p>	<ul style="list-style-type: none"> • BBBS Ireland, a part of Foróige. Foróige CEO is Director of BBBS Ireland. • Staffing: National Manager, Operations Manager, project officers, fundraiser, administrator • BBBS project officers manage the programme in their area • Staff receive appropriate training 	<ul style="list-style-type: none"> • As per programme plan, with 6 project officers delivering programme in the study region • Staff manage an average of 20 matches • Staff trained to expected standard
Intervention protocol		
<p>What does the intervention consist of?</p>	<ul style="list-style-type: none"> • Minimum one year of mentoring • Matches meet weekly for 1-2 hours • Emphasis on friendship first, other goals are secondary • Young people can also take part in group activities at youth project if they wish 	<ul style="list-style-type: none"> • 57% of the 72 young people with a mentor were matched for 12 months or more during the study period • At least 21% of matches ended before 12 months (including 7% before 6 months) • 57% of matches met for the minimum average of 1-2 hours per week • Evidence that programme emphasizes friendship first • 85% of young people took part in project activities
Service delivery protocol		
<p>What does the programme actually do?</p>	<ul style="list-style-type: none"> • Service delivery protocol, as set out in the BBBS Service Delivery Manual, includes: <ul style="list-style-type: none"> - Young person intake - Volunteer intake and training - Matching - Case planning - Match supervision - Match closure - Record-keeping • File auditing system in place to monitor adherence to service delivery protocol • Drop-in facilities available at local youth projects in bigger towns/cities • Group activities for matches 	<ul style="list-style-type: none"> • Strong adherence to the Programme Manual • Staff welcomed having clear procedures • Manual updated as necessary • Experience of programme staff as mentors enhanced standard of implementation • Strong support for the programme by staff • Programme staff perceived as supportive by majority of mentors • System of file auditing welcomed by staff, evidence that it has improved practice • Drop-in facilities run in Sligo, Ballina, Westport, Castlebar, Galway and Castlerea, with many matches using them • Lack of outlets for matches in rural areas • Series of events organised, including 2 day trips to Killary for all matches, Christmas, summer events and recognition events

Table 6 (continued)

Programme components	Programme plan	Actual programme implementation in the study context
Links with associate organisations		
Who does the programme link with?	<ul style="list-style-type: none"> • Internal partners (Foróige) • External partners (e.g. HSE, Youth Work Ireland) • Provide referrals to the programme and provide group activities for participants • Programme can 'refer on' to HSE social work, mental health services and other organisations 	<ul style="list-style-type: none"> • Seamless integration with local Foróige youth projects • Strong relationships with internal and external partners created synergies that support the programme • Many young people referred for support to appropriate organisations

Target population

As outlined in Chapter 2, BBBS has a list of criteria for referral to the programme, including that the young person experiences economic disadvantage, has poor social skills, is shy and withdrawn or an underachiever at school (see Table 1). Demographic and referral data in relation to young people who participated in the research indicate that the reasons for referral to the programme ranged across these criteria. The most frequent reasons indicated by staff were that the young person was experiencing economic disadvantage (44%), had poor social skills (23%) or was shy and withdrawn (20%). Furthermore, 46% of the sample did not live with both parents, compared to a national figure of 14% for young people under 15 (CSO, 2006).

While the profile of young people reflects programme criteria, the profile of research participants deviates from the overall programme in a number of ways. Firstly, for reasons outlined in Chapter 3 on 'Methodology', the age range of study participants was confined to 10-14 years rather than the 10-18 age group that the programme would normally serve. Secondly, the normal intake to the programme is two-thirds female and one-third male due to difficulties recruiting male volunteers. For the purpose of this research, an effort was made to recruit almost equal numbers of males and females in order to see if mentoring works differently for boys and girls. Thirdly, the HSE is normally a significant referral agent to the programme, accounting for approximately one-third of referrals in 2009. However, management in the local HSE West made a decision not to take part in the RCT and thus the study sample does not include the usual referrals from HSE social work and family support services. Young people meeting the criteria were recruited from Youth Work Ireland and school projects to make up for this shortfall in numbers.

Implementing organisation

The BBBS programme originated in the Western region and its staff are the most experienced in its delivery, which is why the decision was made to concentrate the impact study in this region. Therefore, the programme as evaluated is the BBBS programme in the Western region, consisting of the counties of Galway, Mayo, Roscommon, Sligo and Leitrim. There are 6 BBBS project officers overseeing the delivery of the programme throughout the region and participants are linked to 11 Foróige projects and 2 external projects (a School Completion Programme and a Youth Work Ireland programme). The headquarters of BBBS Ireland is also located in the study region (in Galway city). BBBS project officers have an average caseload of 20 matches each. All staff are trained to the standard required.

Nature of the intervention

According to the BBBS Programme Manual, matches are expected to last for a minimum of one year and to meet for 1-2 hours per week. It stresses that the emphasis should be on the development of a friendship. The following assessment examines the degree to which the intervention as delivered in the study context was in line with these expected standards. Bearing in mind that 12 of the 84 members of the intervention group were never matched, this assessment relates to the 72 young people who had mentors during the study.

Match duration

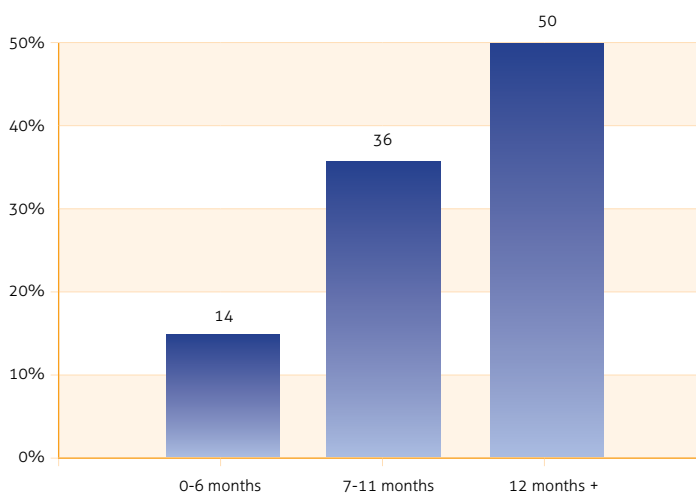
The programme expects that matches will last for a minimum of one year. When examining data in relation to duration of the mentoring relationships, it is important to note that a small number of young people whose match ended early were re-matched with another mentor. Thus, in this analysis, we look at the duration of all first matches and also at the total number of months of mentoring received, which includes the first match and any re-match. It should be noted that 75% of all matches were still ongoing at the last time point in the survey (October 2009). This analysis, therefore, refers to the number of months mentoring was received during the study period only. We can deduce a minimum number of matches that have reached the required standard between the baseline and final data collection point, which was a period of 21 months on average.

(A) First matches

There were 72 young people matched as part of this intervention. The original matches ranged in duration from one month to 20 months. The average number of months that each match lasted was 12 months. Thus, in overall terms, the programme met its objective during the study period.

When matches are grouped according to how long they lasted, however, it is evident that the overall mean disguises considerable variation in match length. As Figure 7 shows, 14% of matches lasted 0-6 months, 36% were meeting for 7-11 months and 50% had met for 12 months or more by the end of the study period. This indicates that half of all first matches met for the required 12 months during the study period.

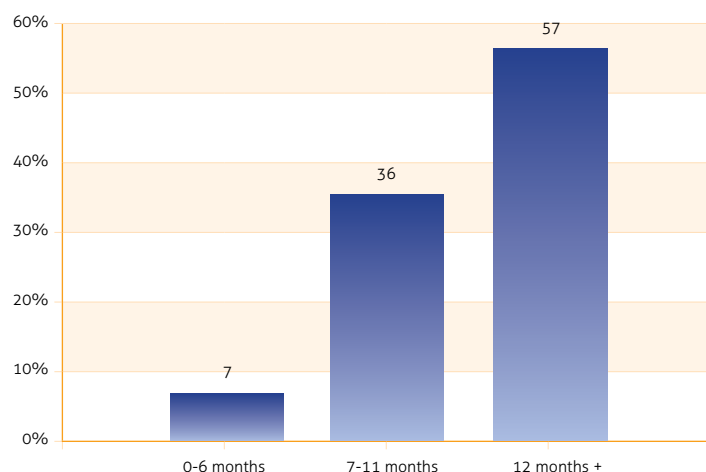
Figure 7: Percentage of first matches lasting 0-6 months, 7-11 months and 12 months or more



(B) Total months mentored (including re-matches)

Out of the 72 young people matched, the matches of 8 ended early and they were re-matched. When the duration of these second matches is added to the duration of the first match, we see that the number of young people who received 12 months or more mentoring increases to 57%, those receiving 7-11 months stays at 36% and the percentage who received less than 6 months mentoring is reduced to 7% (see Figure 8). This indicates that 93% of those matched were matched for 6 months or more.

Figure 8: Percentage of young people mentored for 0-6 months, 7-11 months and 12 months or more during the study period



Data in relation to the duration of matches still open and closed is provided in Table 7. Further analysis of this data shows that:

- the number of matches that met for 6 months or less is 7%;
- the total number of matches that lasted for 12 months or less is at least 21%;
- 57% of young people had received at least one year’s mentoring by the time the final survey was completed.

Table 7: Number of matches ongoing and closed at last time point in survey

		Total length of matches			Total
		0-6 months	7-11 months	12 months+	
Was this match ongoing at last time point in survey?	Yes	0	16	37	53
	No	5	10	4	19
Total		5	26	41	72

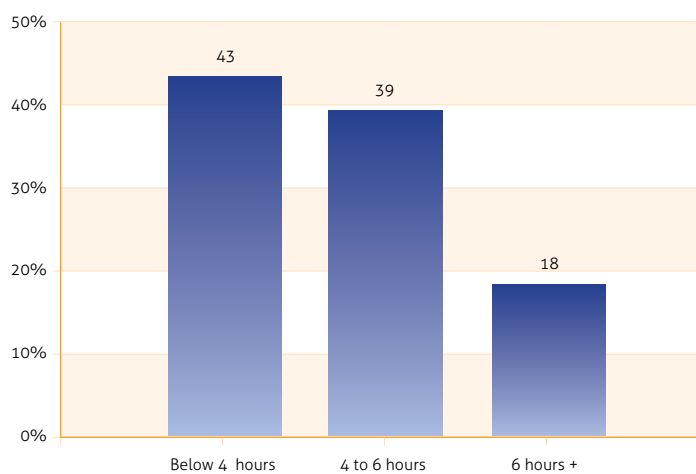
Matches ended early for a number of reasons, including changes in the mentor’s status, changes in the young person’s status or problems with the match. Among the reasons given for match closure related to the fact that the mentor was emigrating or moving area for employment reasons. Similarly, two matches that ended before 6 months closed because of the emigration of the young person’s family, indicating that the adverse economic conditions had some impact on the programme.

Frequency of meeting

Data was collected on the number of hours of mentoring received for each month the 72 young people were matched. For each of these matches, the total number of months mentored was also calculated. This information was used to calculate the average number of hours each match met for each month. If we take one hour per week as the minimum and assume that the match will meet 4 times per month, 4 hours is the minimum average per month that one would expect a match to meet. There will be months where one or both parties are unable to meet, but there will also be times when the meeting lasts for longer or they take part in a day or weekend event, which generally increases the number of contact hours.

The overall average was 4.32 meeting hours per month for the study sample, which is just above the minimum requirement. However, 43% of matches actually met for less than the average time expected from the programme, while 57% of matches met for 4 hours or more, which is equal to or above the minimum expected (see Figure 9).

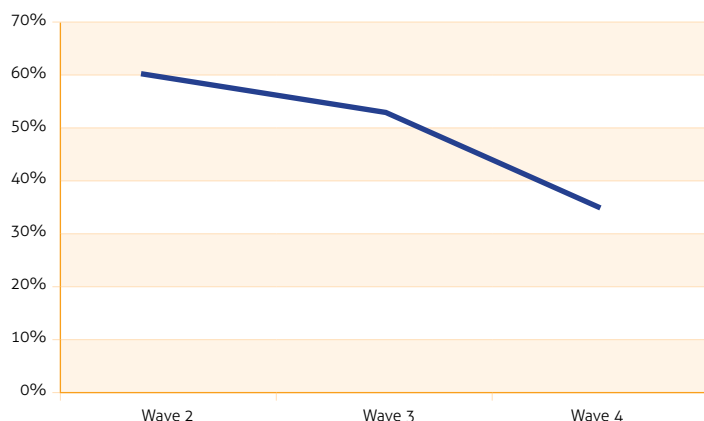
Figure 9: Average hours that matches met per month



Matches meeting the criteria at each wave of the study

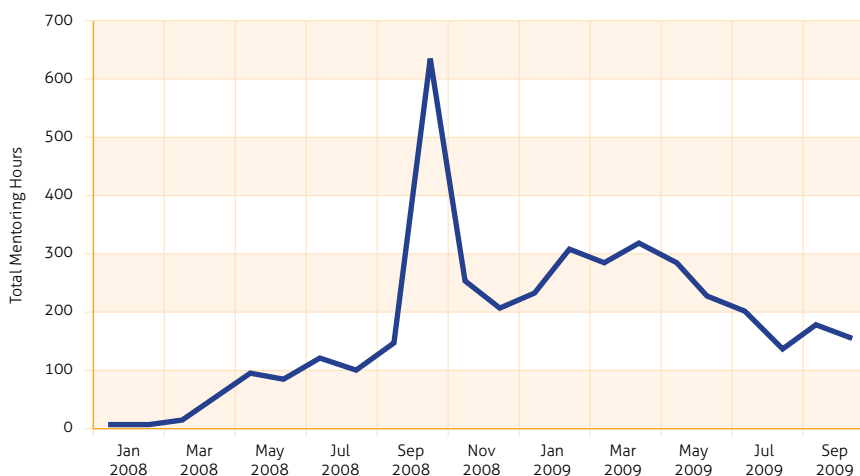
The data were examined to calculate how many of the 72 matches met the criteria overall and for each wave of the study. By the end of the study, 35% of matches had met the criteria of being matched for 12 months and meeting for an average of at least 4 hours per month. For each wave of the study, matches were considered to meet the criteria if they were (a) matched and (b) meeting for an average of at least 4 hours per month since the previous wave (or an average of 4 hours per month if matched since the previous wave). The results of this analysis are shown in Figure 10, with 60% of matches meeting the criteria at Wave 2, 53% at Wave 3 and just 35% at Wave 4. This is in spite of the fact that 75% of matches were still ongoing at Wave 4. It appears to indicate that the 'dosage' of mentoring reduced somewhat between Waves 3 and 4.

Figure 10: Percentage of matches meeting the criteria at each wave of the study
(criteria = being matched and meeting for an average of 4 hours per month)



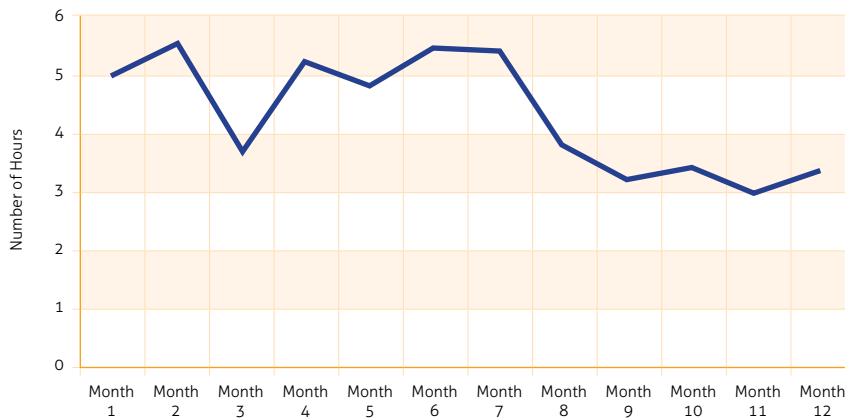
Further data in relation to 'dosage' is seen by aggregating the total mentoring hours provided to young people for each month throughout the study period. Figure 11 highlights that the intensity of the intervention peaked in October 2008, when over 600 mentoring hours were provided. The October 2008 peak coincided with the annual trip to Killary Adventure Centre, which involved matches spending a weekend together. Between October 2008 and June 2009, the number of mentoring hours was higher than for other periods of the study, with over 200 mentoring hours provided. From July 2009 onwards, the number of mentoring hours declined, reaching a low of 127 hours in August 2009 (which is likely to be due to the holiday period). The average rose again in September 2009, before declining again to 149 hours in October 2009. An assessment of whether meeting the programme criteria influenced the outcomes from the intervention over time is provided in Chapter 6.

Figure 11: Total hours of mentoring provided as part of the programme for each month of the study



These findings appear to indicate that the intensity of the intervention declined as time went on. Even though 75% of matches were still ongoing at Wave 4, just 35% of matches were achieving the recommended criterion for frequency of meeting. It raises the question – do matches meet less often as their match progresses? In order to answer this question, the average number of hours that matches met for the first 12 months of their match was calculated (this relates to first matches only and does not include re-matches). As Figure 12 shows, matches in the study sample met for up to 5 hours per month for the first 7 months of their matches. After this, the average meeting time declined to around 3 hours per month. This suggests that matches are less likely to meet the programme criterion for frequency of meeting (which recommends a minimum of one hour per week) as their match progresses. The qualitative strand of this research explores the reasons for this trend (see Report 2 in the study's series).

Figure 12: Average number of hours that matches met for each of the first 12 months of their match



Emphasis on fun and friendship

The BBBS programme model suggests that the matches should be primarily about friendship. The feedback from young people, parents and mentors also suggests that their understanding of the programme is that it is about friendship. One project officer believed that it is vital to emphasize fun and friendship, rather than 'mentoring', to ensure that the relationship will be natural:

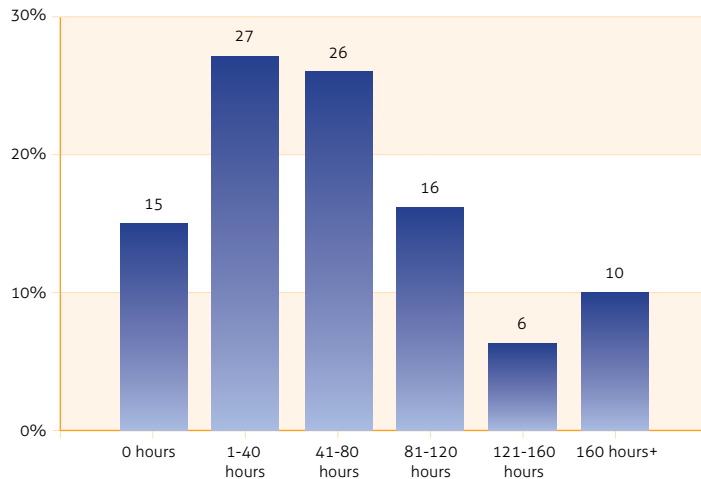
The emphasis is on spending time together, having fun. I think if ... you kept using the word 'mentor' to a young person, the fun would be sucked right out of it and they'd look at it as an after-school programme or something that they have to do. We really try and put the emphasis, even though it is mentoring, on fun and friendship, and that it's a natural friendship.

Project officers emphasize this view of the programme when training volunteers and the programme is 'marketed' to young people as a means of having fun and getting to know an older adult. The approach that is advocated reflects a developmental approach (Morrow and Styles, 1995), meaning that the emphasis is on the relationship and not on trying to 'change' the young person.

Project activities

Participants in the research also had the opportunity to take part in group activities as part of a Foróige project. Data are available in relation to 143 young people who took part in almost 9,771 hours of project activities. Descriptive statistics in relation to these data illustrate that the average number of hours of participation in group activities was 68 across the study period, ranging from 0 to 265 hours. The median value was 54 and the mode was 0. Once again, there is considerable variation within the sample, as shown in Figure 13.

Figure 13: Number of hours that study participants attended regular project activities



An independent samples t-test was undertaken to compare the mean number of hours of project activities for the intervention and control groups. Although the mean level of participation in project activities was higher for the control group (mean = 73 hours, SD = 68) than for the intervention group (mean = 64 hours, SD = 65), the difference was not statistically significant. This is an important finding from the point of view of the RCT since it shows that the experiment was not contaminated by favouring either the control or intervention group with additional interventions.

Implementation of Service Delivery Protocol

As discussed in Chapter 2, the service is designed to be implemented according to the BBBS Service Delivery Manual and Pack, which sets out the protocol for all aspects of service delivery, including young person and volunteer intake, matching, supervision and record-keeping. A system of file auditing was also introduced to monitor standards. Other aspects of the service delivery protocol include providing drop-in facilities that matches can avail of and providing group activities for matches. The following discussion examines how the service delivery adhered to each of these elements in the context of this study.

Adherence to the BBBS Service Delivery Manual

Feedback from staff working directly for BBBS as project officers and Foróige staff working as case workers indicates that the programme was operated with a high level of fidelity to the BBBS Service Delivery Manual. The following comment sums up the perspective of all staff interviewed in relation to the implementation:

Interviewer: So overall, do you feel the programme is implemented as it should be in terms of the manual and the standards?

Case worker 3: Definitely ... I think we're doing it text book. We haven't let anything drift.

Staff were very positive about the manual on the basis that it provides clarity in relation to all aspects of their work, which makes them feel more secure and confident in their ability to implement the programme effectively. Although following the manual brings a lot of work, staff expressed the view that they had all the procedures required to ensure that matches are properly managed. Experienced project officers have internalised the processes, but still find it useful to refer back to the manual for specific guidance in relation to particular issues:

Project officer 5: The manual is there, it's brilliant ... It tells you each step you've to do. It's great to have something like that going into a job.

Project officer 4: It's great in the sense that there is that structure there and it gives you a good guide as to how best to manage a match once it's made ... You need that structure, otherwise you could get very loose in terms of trying to keep in touch with matches and following the progress of the match ... If you didn't have that monthly contact with them, you could easily let it drift ... You kind of have that little bit of pressure that you have to get in touch with them on a monthly basis and ... even though you'd be up to your eyes in work, it's good and I wouldn't change it.

Another project officer made the point that, because the programme is operated according to the manual all over the country, she as a worker feels safer because she does not have to make decisions regarding what to include or omit, for example, when training volunteers or in the assessment process:

Project officer 6: One of the good things about it [the manual] is we're all doing the same thing around the country. All the files are the same, how we're trained is the same, how we train case workers is the same ... I feel it's safer even as workers ... I feel more confident. When I'm doing my volunteer training, I don't have to devise the training, right. So if I was to devise the training, then I might like go, what if I leave out this and this? Whereas, the training is there, you're following a manual, you're following all the exercises there, everything is there and I don't have any kind of fears then of training volunteers.

There is a risk that having such a detailed manual could be considered oppressive by some staff, who might feel that it did not leave room for their own skills and ideas. There was no sense of this among the staff interviewed. One manager made the point that her service adheres completely to the manual, but she does not find it too restrictive:

Foróige Manager 1: It's very clear-cut. I mean the guidelines are so specific and we just follow them ... to the letter of the law. Even in terms of references, if I get a file and there are three references from personal friends, I know that there has to be one from work ... Even if you've a volunteer who's in counselling, the guidelines are there – you know what you have to do. Everything is very, very clear ... You know, sometimes guidelines can stifle you, but I really don't think that.

Mentors also expressed satisfaction with the structured processes used by the programme, with one mentor commenting that this formal process was unusual in Irish volunteering practice:

Mentor/Match 2: It was all very efficient and very professionally done ... I think voluntary services in Ireland can sometimes be – just get on board, come on, fantastic, you know, delighted we're here ... But there's a lot more that you have to think about.

Young people, parents and mentors who took part in this research process were very aware of the role of the case worker in relation to their match and indicated that they found staff to be reliable and accessible. Their responses suggest that their one-to-one relationship with the case worker was valued:

Young person/Match 5: She explained things to me. I tell her what I did and what I think of [mentor] and I tell her things that are going on.

Mentor/Match 6: The case worker would be more than delighted to get any calls I'd have. There'd be no problem. I'd never feel 'Oh maybe I shouldn't say it to him or anything', you know. He's very direct like that. But no, it's fine.

Mentor/Match 3: Yeah, he rings me every month and then we'd meet up, I'd say every three months. I don't know, time goes so quickly anyway. Yeah, so we meet up regularly enough. At this stage, it's just 'How's it going?' 'Great'. Yeah, you know, he asks all the questions he needs to ask.

Feedback suggests that regular contact from the case worker does influence the frequency of meetings between the mentor and mentee. A number of mentors referred to the fact that they may have been away and not made contact with the young person for some time, but were prompted to make contact again following a call from the project officer. Similarly, case workers were clear that maintaining regular contact with matches enables them to troubleshoot problems that arise and help all parties to deal with difficulties.

While, overall, there was very strong fidelity to the programme model, a number of factors external to the programme had an influence on implementation in two areas. Firstly, when under pressure to get young people recruited for the study, the assessment process was undertaken in a shorter timeframe than normal. Staff later found that this led to difficulties, in that the assessment was not as thorough as they would normally have done:

Project officer 2: I suppose because we were under pressure with the RCT, we started processing and ... we were trying to do it in a day – doing the application form, the interview and the home visit, all in the space of two hours – and we were thinking, 'This is great'. In many ways, going against the manual – the manual would say it should be done over three or four visits, and it was only as matches were made and issues started coming up, we realised – we didn't know the kids as well and we started talking about it. ... You actually do realise that it's in it [the manual] for a reason.

Secondly, delays in the processing of Garda vetting clearance resulted in volunteers having to wait for long periods before being matched. One manager made the point that there was a risk such volunteers would be lost to other voluntary organisations with less stringent procedures. In addition, a pool of volunteers was processed in advance of the RCT starting and they had to wait until the research was ready to commence.

Some mentors interviewed referred to their frustration at the delay caused by delays in clearance. For one mentor, the gap between receiving the programme training and meeting the mentee had a negative effect on her confidence:

Mentor/Match 4: It was just, there seemed to be so long from when you actually join up to when you're matched ... I actually met a girl, she's matched with one of M's friends, and we were talking the last time. We actually did our training together and she got matched, I think, a couple of weeks after me ... So we were kind of saying the same thing ... you were really excited about it at the start and then by the time you got into it, you were so nervous then, you know. You go through so much with it. But that would be the only thing.

Mentor/Match 6: I think I was nearly waiting a year or so to be matched, but it was fine. It was a long process ... but that's understandable with the Garda clearance and because you are working with children you do have to go through so many screening processes. But if you were thinking about doing it, you do have to bear in mind that it might be a while before you're actually up and running.

While having a manual to follow and receiving adequate training are obviously very helpful to staff, the findings suggest that a number of factors emerged as significant in adding value to programme implementation. Firstly, the fact that many BBBS project officers and Foróige project officers are currently, or have been, a Big Brother or Big Sister gives an added depth to their knowledge of the programme. There is no formal requirement for staff to serve as voluntary mentors, but many do so or have done so in the past. This first-hand experience enables the project officer to empathise with volunteers and to get to the heart of what issues they may be having with their matches, as the following quotes illustrate:

Project officer 1: It kind of gives you more insightful questions to ask during your monthly phone calls in terms of who is initiating the contact, how the contact is going, stuff that I would never have thought of before stuff came up in my own match ... It definitely makes it more effective as well when talking to media or if we're looking at linking up with other partners ... Being able to talk from my own experience as being a Big Sister, I can talk from the two sides – the benefits, what I see within my own match, and the benefits to my Little Sister, as well as the organisation.

Project officer 2: When I was doing interviews with people, I knew which questions might have touched a raw nerve with me, so I'd know where to tread a bit more carefully and explain why that question was asked. I would have been on the other side getting interviewed, definitely helped ... I think when you're a project officer, you nearly should be a Big Brother or a Big Sister first, because I think when you're selling it to people, if it's not something you believe in yourself passionately, it's not going to come across as well.

A second factor that emerged as significant in terms of implementation is that many of the staff in the West of Ireland have been involved with BBBS since its inception and have built up a strong sense of what works. A Foróige manager made the point that this experience has led to the programme being implemented more effectively, illustrating that people will still bring something of their own skills, experience and intuition to bear in the process of operationalising a programme manual:

Foróige Manager 1: I think the standards in particular have developed. I think we've become more selective in terms of, say, the volunteers we're picking. I mean, in the beginning even though there are strict guidelines with BBBS, you know, now I think we're much more selective, much more able to carry out the interviews with volunteers, more in tune with how suitable the programme would be for a young person. I think our method of matching has improved, our level of training for volunteers, the level of support we're giving volunteers.

Thirdly, the local culture of the programme values the informal support provided to families by project officers and does not put a limit on how long they should spend on individual matches. There appears to be a lot of variation in the time needed to supervise matches, with some matches requiring little input and others taking up a lot of time due to difficulties. The BBBS National Manager commented that this is a feature unique to the Irish programme and that families welcome the informal style of support provided:

BBBS National Manager: I think the fact that we're working with Foróige and the kids we're getting are from quite needy families and often we're the only service that the families are engaged with because we're not anyway threatening, I think ... Some of the matches are quite high maintenance and some of the problems that we're experiencing with some of the kids are quite serious. So I think that [project officer] does a home visit ... it's a half a day's work, whereas the Americans are telling us 'No, that's someone else's job. It's an in and out job'. Whereas I think Ireland is a lot more – sit down and have a cup of tea and chat about it, you know. I think that the parents, some parents are just dying to talk to someone that they can trust ... It's amazing how isolated some families can be, even though you've a list of professionals that are supervising the family ... You get someone that comes in with a more personable approach; a whole lot comes out and it's kind of hard to know how to deal with it. So, yeah, I think that there's a lot more personal contact.

File auditing

As discussed in Chapter 2, BBBS Ireland introduced a system of file auditing to ensure that standards are maintained and that slippage does not occur in supervision. All project officers are subject to an audit every 6 months, for which 3-4 weeks' advance notice is given. The purpose of the audit is to ensure that the programme is being operated as per the BBBS Service Delivery Manual and that files are kept in the manner required. The auditor speaks to the project officer about any issues arising and a typed report is sent to them and their line manager, with an agreed timeframe for resolution of any issues. The rationale for the introduction of the system was, according to the BBBS Operations Manager, *'in order to keep quality standards and make sure that everyone is doing the exact same in Cork as they are in Dublin as they are in Donegal'*.

The BBBS Operations Manager spoke of how she started the file auditing process by requiring that all files had to match the sample file in the programme manual. By starting in this manner, she expected that staff would ensure that their files were kept in this way and she would have less to 'pull them up on' in future audits:

BBBS Operations Manager: I was very strict because I wanted everything to replicate the sample file, so I wanted them in the exact orders, summary forms at the beginning, then followed by the enquiry, the interview, so on and so forth, in the order that they were supposed to be in, all the references, two of the references have to know them longer than three years and one less, or a work one, one year. So I made sure that the documentation was present and correct, that it was all in order and so on. So I pulled them up. I was very strict.

BBBS project officers are responsible for auditing the files of the Foróige case workers in their areas. There is the potential that this could be awkward, given that these staff are likely to have close friendships and working relationships. The BBBS Operations Manager was of the view that this is not an issue because all staff have signed up to this process and do not take it personally:

BBBS Operations Manager: It's just part of the protocols that we have and they've all signed up to them. And it doesn't have to be done in a very threatening way, you know. It's always hardest the first time ... and then after a while it's OK.

There is strong support among staff for this process because it prompts them to ensure that their paperwork is up to date. The system is perceived as fair because it applies to everyone equally and the process for dealing with issues is transparent. All staff working for BBBS directly and for Foróige all felt that the file auditing process supports them in operating the programme and maintaining their files to the standard they would like:

Project officer 4: It's good because if you're really, really busy, I think people sometimes could let standards drop and say 'I'll leave that until next month', even though it's due this month. But when you know there's going to be somebody checking it two or three times a year, sometimes you do need that – not fear, but you need to feel that you're being supervised and that the standards are being maintained and that you're accountable.

Project officer 5: It's a good idea, more transparent and accountable. You have a blueprint to look back on ... It makes you more aware of recording missed phone calls, makes sure the little things are followed up on, makes you more reflective of your work. It's not intrusive, but supportive.

There was a commitment among staff to make certain that the programme is run properly to ensure nothing happens that could result in negative outcomes for participants and compromise the name of the programme:

BBBS National Manager: I mean, ultimately it's up to us to make sure that the programme is run properly and so if something happens in one of the projects and we haven't made sure that they're doing it appropriately, it'll be our responsibility at the end of the day and it'll be a negative name for the project. So you have to ensure that doesn't happen, that everything has been done to make sure that it's working properly. There's a lot of ownership and maybe there's a bit of preciousness going on as well, maybe with the staff, which can be very good. They want to make sure it's run the way it should be run.

BBBS Ireland regularly revises or updates its procedures, a process that all staff can feed into. Probably because this process is in place, none of the staff could identify anything they felt should be changed about the manual.

Facilities

The programme model supports the use of drop-in facilities for matches. There are drop-in facilities available for matches once a week in Galway city, Ballina, Westport, Castlebar, Castlerea and Sligo. The facilities are the premises of the Foróige project and have a range of options on site that the matched pair can avail of. They can also have a chat with the case worker and with other matches if they wish, as described by one project officer:

Project officer 6: All I do is ... I go down and open the doors and ... some of the matches come in and they'll cook, they'll bake, they'll use the computers, the board games, the soccer, the basketball, all that stuff. And I go down and just say 'How are ye?' and, you know, chat a little bit. It's a chance as well that if the volunteer or the young person had anything that they wanted to say, they know I'm in the office and they can come up to me as well. And I'll pop up and down, do you know.

According to BBBS project officers, approximately 2 out of 3 matches have used these facilities at some time. The facilities are most suited to those living in the larger towns and Galway city. A theme within the interview data was the lack of facilities for the matches to use for meeting up. Some of the comments made related to the limited options in the smaller towns and the constraints imposed by the Irish weather:

Parent/Match 7: They go for walks and things, but when it's raining then there's not much places to go, you know what I mean. So that's alright ... I don't mind that, but I wouldn't like to see them out in the rain.

Mentor/Match 9: This time of year is difficult because you can't do a whole lot of outdoor things. I mean, if it was the summer and the weather was good, we could say 'Right, you pack a picnic and I'll pack a picnic and we'll go for a walk in ____'. You're restricted weather-wise. Everything is either indoors or it's coffee shop, do you know. So it's hard to come up with things.

Group events

Each county has funding to run 3 or 4 events for matches every year. Matches from all over Ireland take part in an annual weekend trip to the Delphi Mountain Resort in Co. Mayo, which has proven to be hugely enjoyable. The programme aims to achieve a balance between offering matches a chance to meet each other, but also ensuring that the individual friendships have time to grow and develop in private.

Links with associate organisations

Foróige is considered an internal partner and, in the context of this study, an average of 2 Foróige staff in each of the 11 projects are trained as BBBS case workers. The 20 Foróige project officers involved in the study manage an average of 2 matches each.

From the Foróige Regional Manager's perspective, the BBBS programme is a very valuable element of the overall range of services provided in the region. BBBS is integrated into Foróige's work – all staff are trained, premises are shared and there are close working relationships between staff from both organisations. All Foróige staff take part in the training of BBBS case workers on the basis that they can manage matches, but even if they do not, they have a greater understanding of it and can promote it or identify young people who would be suited to taking part in it. One Foróige manager believes that the BBBS programme complements all their services extremely well:

Foróige Manager 2: The mentoring [i.e. BBBS] is an integral part of what we do ... It's an add-on that we provide for the young people. It's brilliant, absolutely fantastic, and it supports tremendously the work that's going on ... for example, down in Mayo we have the Boystown model, the family preservation. It's a great support for any of the family or for just a more generic youth project ... I mean, every meeting we go to, whether it's Justice projects, area youth projects or NYP, Big Brother Big Sister is just part of what they do.

The Foróige Regional Manager made the point that BBBS is integrated into Foróige's project work, so resources are not a big concern for them. As long as they are resourced to run their core programmes, they will be able to run BBBS because the costs are low. Furthermore, the discipline brought about by adhering to the detailed policies and procedures outlined in the BBBS Service Delivery Manual has had a positive impact beyond the BBBS programme itself, according to this manager. He believes that because all Foróige staff are trained BBBS case workers, the experience of using the manual has provided good training for staff in file-keeping, conducting interviews and having clear procedures, all of which has had a positive influence on other non-BBBS aspects of their work:

Foróige Manager 2: It's not only the direct thing, but it's also from a training point of view for staff in terms of maintaining reports, files, having proper procedures, standards. It's actually kind of had a knock-on effect to other aspects of the work ... in terms of reports, checking up, supervision, giving staff a chance to ask hard questions when they're doing supervision and support – they're not afraid to ask questions, whereas before they may have been.

For this manager, the feedback in relation to BBBS '*more than justifies the time and effort going into it*'. He feels that the Foróige staff are passionate about the programme:

Foróige Manager 2: They see it in the parents and young people, and they know it works. I mean, when I'm doing supervision with most staff, the examples they come up with about things that give them satisfaction are almost always Big Brother Big Sister.

The Foróige staff interviewed also expressed positive views about the BBBS programme. They are happy that the case work is part of what they do and they can manage up to 3 cases each. Managing matches themselves means they can not only act as case workers with young people in projects activities, but can also gain a good understanding of how they are progressing in their mentoring match. Some Foróige staff made the comment that they gained a deeper understanding of the young person they were working with through undertaking the assessment process as part of the BBBS intake procedures, which helped them in their project work as well. They can also get a young person matched more quickly by taking on the match themselves, whereas they may have to wait longer if they go through the BBBS project officers, where there could be a waiting list. The point was made that BBBS fills a gap in service provision for one-to-one work with young people. The only other options for one-to-one work are intensive programmes such as youth advocate programmes (YAPs), which have a high threshold for referral. They find the BBBS team to be 'excellent' to work with and value having clear procedures.

There was a sense that the BBBS programme owes its strength and rapid development to the strong foundations that were built through existing Foróige projects, which enabled the programme to benefit from the social capital that these projects had created – with families, statutory bodies and other voluntary groups. The BBBS Operations Manager was one of the first case workers for the programme and spoke of her experience in this regard:

BBBS Operations Manager: I think really, to be honest, that has been the success of it. That the programme started, even though we weren't dedicated Big Brother Big Sister staff, in the actual projects ... I was in Ballinboyle. There were four other staff and even though they weren't facilitating the programme, they knew all about it and the families. The uptake in terms of recruitment of young people was so much easier because I knew everybody in the community. I know in other countries it's standalone, but I mean in terms of setting up the Big Brother Big Sister organisation or programme, even the financial back up from Foróige, you know, just have the premises and staff support and everything. I think it has made it so much stronger so quickly. Because I know other countries have struggled a lot being standalone. Much easier to get the referrals, you know. When I started, there was only about six staff facilitating the programme and all were based in local projects, whether they were HSE or Foróige, and I think because it was also associated with the HSE at the time, we got much more referrals from the likes of Social Work. Because it had that good foundation, it was much easier to extend it out to the other areas.

A concern was expressed that there is a danger that the quality of the programme will suffer as it is run more through partnerships. The Operations Manager is intent on putting processes in place to ensure that the standards are kept high, regardless of who is running the programme:

BBBS Operations Manager: As it filters out through partnerships ... it's trying to, I suppose, keep a certain amount of control over that in terms of quality and ensuring the programme is of a high standard, make sure that ... the right volunteers are coming through, matching up the right needs of young people to volunteers, and that the supervision is kept up.

Summary

This review of programme implementation was undertaken to assess whether the BBBS programme was implemented as planned. The profile indicates a strong degree of fidelity to the programme in terms of its target population, implementation of the programme manual and links with associate organisations. Data for participation in 'project activities' shows that 85% of the sample participated in youth project activity, but there were no significant differences in the mean number of hours for control and intervention groups. The programme emphasizes that matches should be primarily about friendship, in accordance with the manual.

Data in relation to match length and frequency of meeting show that the programme as implemented falls short of its ideal standard. Given that duration of mentoring relationships is considered an important predictor of outcomes, the following issues may have an impact on outcomes from the intervention:

- 12 intervention group members were never matched and just 57% of the 72 young people matched with a mentor were matched for 12 months or more during the study period. It should also be noted that 75% of matches were still ongoing at the last time point in the survey (October 2009). Furthermore, just over one-third (35%) of the 72 matches met the criteria of being matched for 12 months or more and meeting for a minimum average of 4 hours per month.
- Apart from a peak in October 2008, the highest dosage of mentoring was between October 2008 and May 2009, immediately prior to the Wave 3 data collection, before declining in the months prior to the Wave 4 collection. Similarly, the percentage of matches meeting the criteria declined considerably between Waves 2 and 4. The data indicate that matches tend to meet less regularly after about 7 months of being matched.
- At least 21% of matches ended before 12 months, including 7% that ended before 6 months.

Chapter 5 profiles the study sample, including young people and mentors, before moving on to discuss the findings of the RCT study for young people (*see Chapter 6*) and parents (*see Chapter 7*).

5. Profile of the Study Sample

This chapter provides mostly descriptive information concerning the young people and mentors participating in the study. It starts with an analysis of differences between intervention and control groups, before profiling the young people taking part in the research. It then compares the study population with the wider Foróige population on key demographic indicators. Finally, a profile of mentors who took part in the study is provided, including age, marital status and educational profile.

Profile of young people taking part in the research

The overall sample mostly consisted of Irish-born youth (87%), with youth from a Traveller background accounting for 7% of the sample (see Figure 14). The gender breakdown was 49% male and 51% female (see Figure 15) and the average age was 12 years (see Figure 16). Most young people lived in or near an urban location. Data in relation to the geographical spread of research participants are provided in Figures 4 and 5 (see Chapter 3). 46% of the sample did not live with both parents (see Figure 17). This statistic should be seen in the context of a comparative national figure of 14% of young people under 15 who do not live with both parents (CSO, 2006). The most frequent reason for young people not living with both parents was that parents were separated (29%), followed by single parent (13%), parent deceased (4%) and living with foster parents (2%). Young people in the intervention group who did not live with both parents were more likely to indicate this was because their parents were separated.

Figure 14: Ethnic profile of study youth

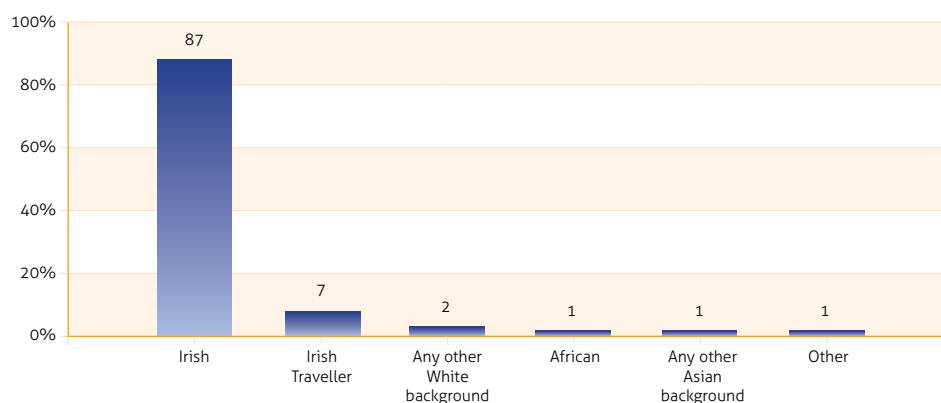


Figure 15: Gender of study youth

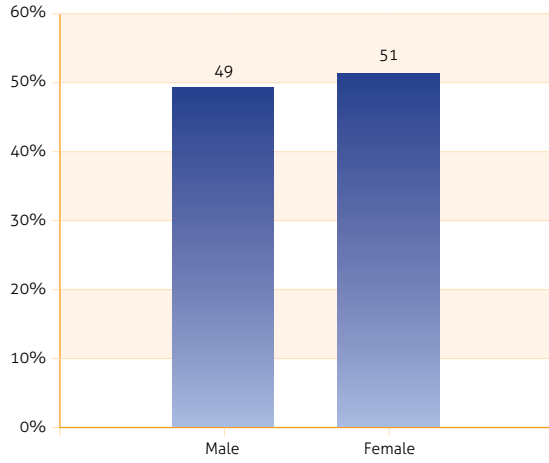


Figure 16: Age of study youth on completion of baseline survey

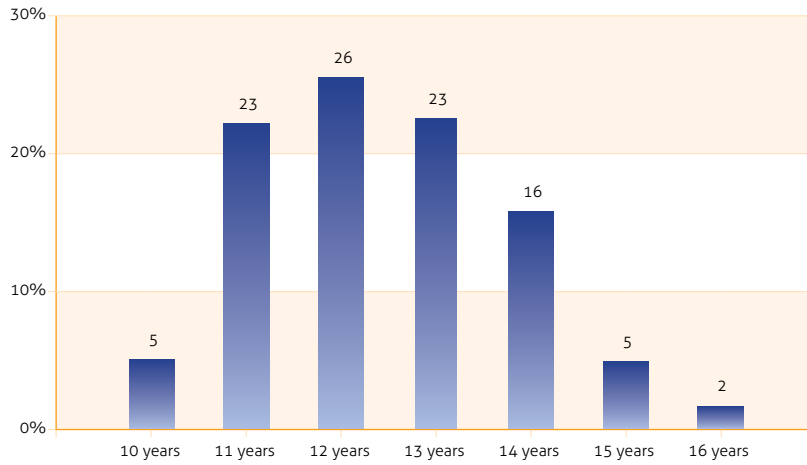
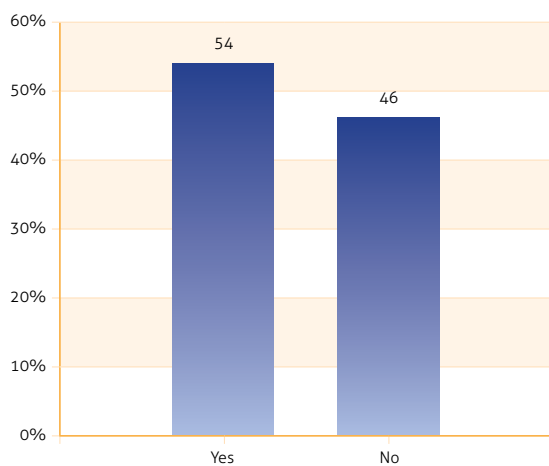


Figure 17: Proportion of young people living with both parents



Comparison of study sample with wider Foróige sample

In order to compare the study sample with the wider population attending Foróige services, basic demographic information was gathered in relation to each young person who attended a Foróige project in the study area during the week of 28th April – 2nd May 2008. Data were submitted by 8 of the 11 Foróige projects in relation to 417 young people. Chi-square goodness-of-fit tests were undertaken to compare the proportion of cases from the study sample with those obtained in the Foróige population in relation to gender, ethnicity and whether they lived with both parents.

Analyses indicated that there was a significant difference in the gender breakdown of the study sample compared to the overall Foróige population. Males were more highly represented (49%) in the study sample than in the overall population (41%). This difference reflects the aim of ensuring almost equal numbers of boys and girls in the study sample to enable an assessment of the differential effects of mentoring for boys and girls.

Similarly, there were significant differences in the proportion of the study sample who lived with both parents. Young people in the study sample were less likely to live with both parents (46%) than in the overall Foróige population. This reflects the nature of the BBBS intervention, in that it is often targeted at young people from one-parent or separated parent families.

Young people in the study sample were also more likely to live in a large town (36%) compared to the overall Foróige population. There were no significant differences in relation to ethnic background: 77% of the overall Foróige profile were Irish, compared to 87% of the study sample.

Characteristics of mentors

Demographic data were collected for the 73 mentors taking part in the study (this included mentors for young people who had been re-matched following the ending of an initial match). Overall, 55% of mentors were female. Mentors ranged in age from 18-56 years, with a mean age of 31, a median age of 29 and a modal age of 29 (see Figure 18). The marital status of the majority of the mentors (63%) was single (never married) (see Figure 19). The majority of mentors were White Irish (88%), while 12% were from other White backgrounds. As regards location, 50% of all mentors lived in a large town; one-quarter lived in a small town; 11% lived on the outskirts of a large town; 10% lived in a country village; and just 4% lived in the countryside.

In relation to the most advanced stage of education undertaken, just under half of all mentors (49%) had completed third-level education, while a further 33% had some third-level education (see Figure 20). The employment status of mentors at the time of intake to the study shows that the majority (70%) were working full time (see Figure 21).

Figure 18: Age profile of mentors

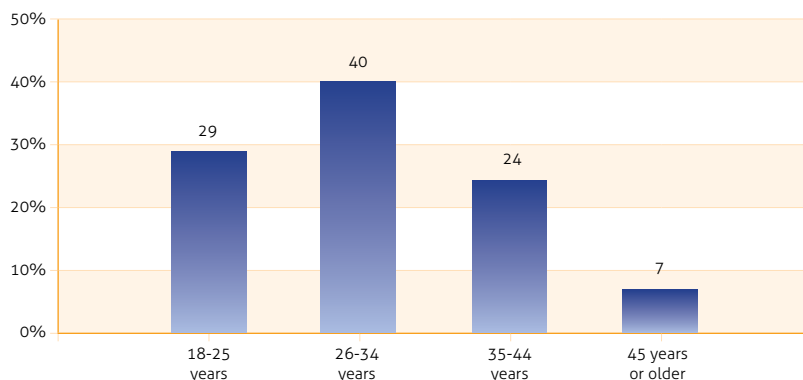


Figure 19: Marital status of mentors

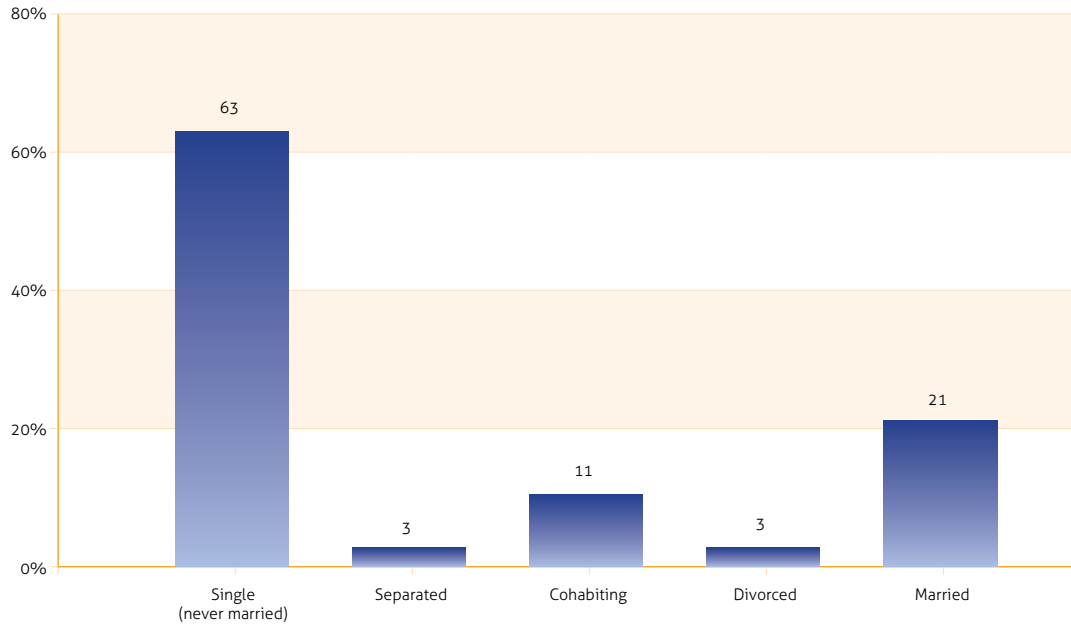


Figure 20: Educational profile of mentors

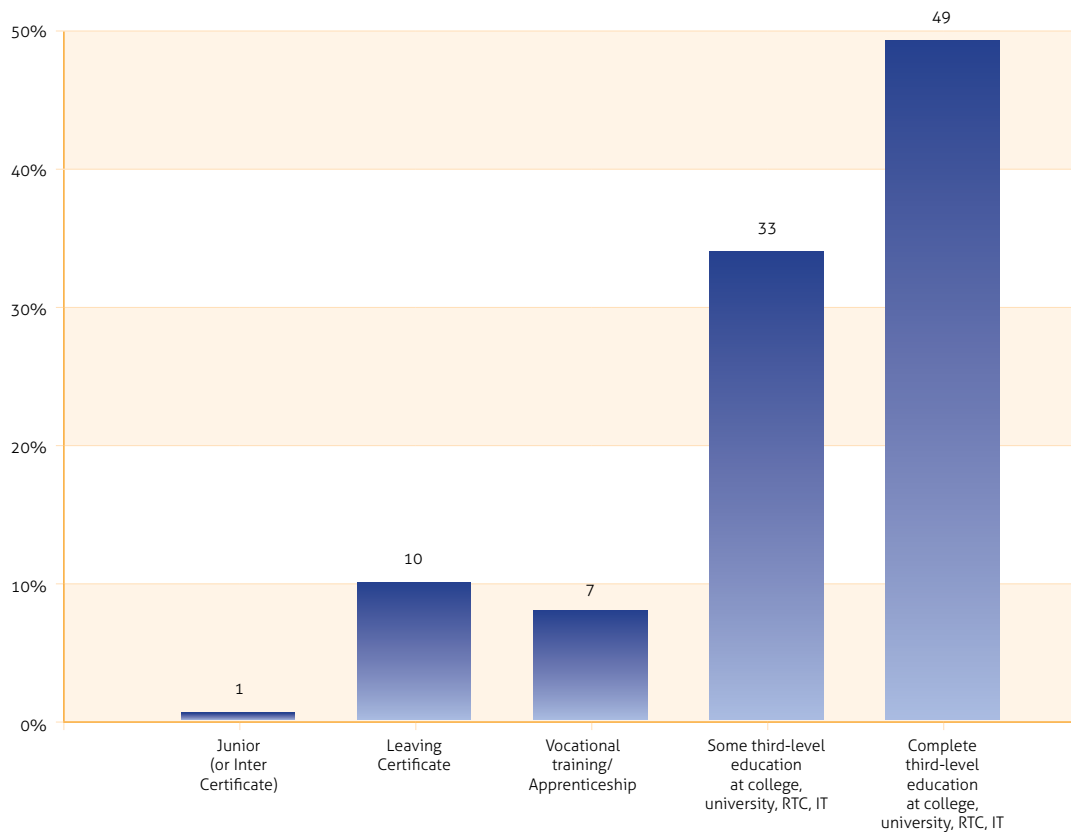
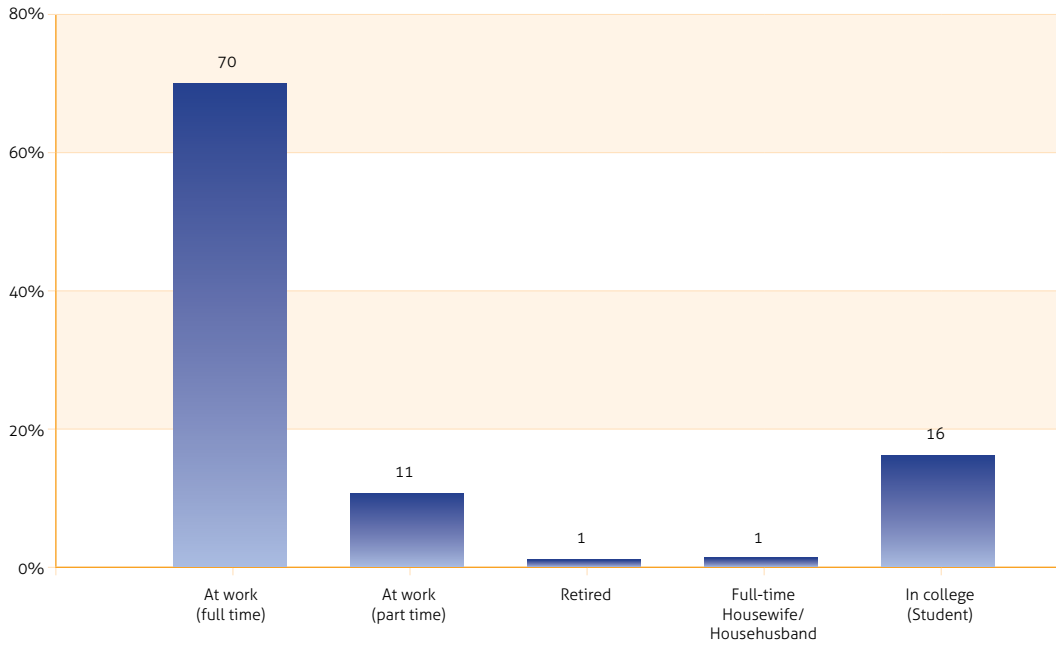


Figure 21: Employment status of mentors



Summary

The profile of the sample of young people taking part in the study shows that they were mostly Irish-born, with an average age of 12 and lived mostly in or near an urban location. The sample was almost equally divided between males and females. Almost half of the young people did not live with both parents. Tests of demographic and baseline survey data showed no significant differences between intervention and control groups, with two minor exceptions. Demographic data in relation to the wider population attending Foróige youth services indicated significant differences on a number of variables, but these can be explained by the nature of the intervention and the study sample.

Demographic data in relation to the 73 mentors taking part in the study shows that 55% were female and the majority were White Irish (88%) or from other White backgrounds. They ranged in age from 18-56 years, with an average age of 31. Over 80% of mentors had a third-level education and 70% were in full-time employment at the time of intake to the study.

6. RCT Findings: Young People's survey

This chapter outlines the findings of the analysis of survey data completed by young people over the four waves of the study. First, the measures used in the survey are described, with the results of reliability tests on the data. This is followed by preliminary analyses conducted on the data and the findings of multilevel regression analysis.

Survey measures for young people

Most of the measures used in the young people's survey were proposed by Dr. Jean Rhodes (2005) as most likely to facilitate testing of her model of youth mentoring (see Chapter 3, Figure 3). As similar measures are being used in studies of mentoring programmes in other countries, comparison of findings and meta-analysis are facilitated. Minor amendments were made to measures to aid in translation to an Irish context, including changes to the academic subject lists and the addition of some drug and alcohol items used in the Irish national Health Behaviour of School-aged Children (HBSC) Survey, conducted every 4 years. In addition to the measures recommended by Rhodes, the Social Provisions Scale (Dolan and Cutrona, 2004) was added to the young people's survey to measure types and sources of social support as perceived by them (see Table 8).

Table 8: Survey measures for young people

<p>Emotional well-being</p>	<ul style="list-style-type: none"> • Children's Hope Scale, modified from Snyder <i>et al</i> (1997), taps children's sense of their own agency (ability to take control) and their perceived capability to come up with pathways through which they can achieve their goals. • Social Acceptance sub-scale of Harter's (1985) self-perception profile for children examines their sense of acceptance by peers.
<p>Education outcomes</p>	<ul style="list-style-type: none"> • School Liking measure seeks information on how well the young person likes school and feels excited about going to school. • Scholastic Efficacy scale (Harter, 1985) assesses a child's confidence in doing his or her school work. Increases on this scale often precede performance improvement. • Plans for School and College Completion: Three questions asked about the young person's plans to finish school, go to college and finish college.

Table 8 (continued)

<p>Risk behaviour</p>	<ul style="list-style-type: none"> • Misconduct scale, developed by Brown <i>et al</i> (1986), was used to assess self-reported behaviour in relation to skipping school without permission, hitting people, taking something without paying for it and alcohol and tobacco use. • Alcohol and Cannabis Use: Three questions employed in national surveys of health behaviour in Irish school-aged children (HBSC) were included to facilitate comparison between this cohort and the national norms.
<p>Relationships and social support</p>	<ul style="list-style-type: none"> • Parental Trust scale (Inventory of Parent Attachment) (Armsden and Greenberg, 1987) measures the extent to which the child feels that he or she has a trusting relationship with their parent or guardian. • Social Provisions Scale (SPS-R) examines the degree to which child social relationships provide support to the child across 4 sources of support: <ul style="list-style-type: none"> - Perceived Social Support: Friends - Perceived Social Support: Parents - Perceived Social Support: Siblings - Perceived Social Support: Other adults - Perceived Social Support: Total Score <p>The type of support provided is measured across 4 dimensions: (a) concrete support; (b) emotional support; (c) esteem support; and (d) advice support (Cutrona and Russell, 1990).</p>
<p>Relationship with mentor</p>	<ul style="list-style-type: none"> • Perceived Social Support: Mentors scale: The Social Provisions Scale was adapted to refer specifically to young people’s relationship with their mentors and included questions such as ‘Can you depend on your mentor to help you if you really need it?’ Three questions from a scale developed by Rhodes were included to tap into the degree to which the mentor helps the young person to cope; questions included ‘My mentor has lots of good ideas about how to solve a problem’. Seven questions examined the degree of happiness of the young person with the match. Finally, young people with mentors were asked the question ‘How close do you feel to your mentor?’.

Draft questionnaires incorporating the above measures were prepared and circulated to Foróige and BBBS staff for feedback and minor revisions were made at this stage. Then the questionnaires were printed and a pilot survey with 3 young people was conducted to see how well they understood the items and how confident they were about answering them. The pilot went well, with respondents indicating that they understood the questions and did not have any difficulty in answering them.

Reliability of measures

Testing the reliability of a scale allows an assessment to be made of how consistently respondents have answered questions on a scale. Cronbach's alpha is the statistic used to determine the internal consistency or average correlation of items in a survey instrument to gauge its reliability. Alpha values can range from 0 to 1, with 0 indicating 'no internal consistency' and 1 indicating 'strong correlation between the items in the scale'. In this study, an alpha of 0.60 or higher was considered acceptable for a set of items to be considered a scale.

Tests of reliability were conducted for all scales used in the study. Internal consistencies were all acceptable (with the exception of the Mentor scale 'Helped to cope' at Wave 2), ranging from 0.68 at baseline to 0.89 at follow-up. The reliability coefficients for all scales at baseline and the 3 other data collection time points (Waves 2-4) are recorded in Table 9.

Table 9: Reliability data (Cronbach's alpha) for scales in young people's survey

Survey measures	Coefficient alpha				
	Items	Baseline	Wave 2	Wave 3	Wave 4
Children's Hope Scale	6	0.69	0.66	0.73	0.80
Social Acceptance	6	0.74	0.72	0.79	0.76
School Liking	3	0.81	0.87	0.84	0.88
Scholastic Efficacy	6	0.70	0.78	0.83	0.80
Plans for School and College Completion	3	0.83	0.83	0.84	0.80
Misconduct	6	0.68	0.66	0.79	0.82
Parental Trust	4	0.74	0.81	0.76	0.81
Perceived Social Support: Friends	4	0.67	0.70	0.71	0.73
Perceived Social Support: Parents	4	0.78	0.86	0.77	0.85
Perceived Social Support: Siblings	4	0.86	0.86	0.80	0.89
Perceived Social Support: Other adults	4	0.85	0.80	0.87	0.84
Perceived Social Support: Overall	16	0.86	0.87	0.84	0.88
Perceived Social Support: Mentors	4	<i>n/a</i>	0.87	0.84	0.75
Mentor scale 'Helped to cope'	3	<i>n/a</i>	0.54	0.63	0.79
Mentor scale 'Not unhappy'	6	<i>n/a</i>	0.77	0.76	0.85

n/a = not applicable

Preliminary analyses

Baseline differences between intervention and control groups

An initial set of analyses tested for differences between the intervention and control groups on measures that were assessed as part of the baseline interviews. It is possible for significant differences to be found between these two groups of participants on one or more of these variables by chance despite the fact that the young people were randomly assigned to condition. Analyses were conducted comparing these two groups on the baseline measures that were included in the young people's survey (i.e. Children's Hope Scale, School Liking, Social Acceptance, School Efficacy, Plans for School and College Completion, Misconduct, Parental Trust, and Perceived Social Support); none of the differences between the groups were found to be statistically significant. These results therefore suggest that we have succeeded in equating the two groups on these measures based on the random assignment to condition.

Differences due to attrition

The next set of analyses tested for differences between participants as a function of whether or not they completed all 4 of the interviews conducted. Table 10 presents information on participation in the interviews. As can be seen, over 75% of the participants completed all 4 interviews. Other participants appeared to have dropped out of the study, missing an interview and then not participating in any of the subsequent interviews. Another group of approximately 5% did not participate in the second interview, but did participate in the final two interviews. Finally, 3 young people who enrolled in the study did not participate in the baseline interviews and were therefore not included in the analyses.

Table 10: Young people's participation in the interviews

	Frequency	%
Completed all interviews	126	77%
Missing interviews 2-4	17	10%
Missing interviews 3-4	3	2%
Missing interview 4	7	4%
Missed interview 2	8	5%

Analyses were conducted to compare participants with complete data (i.e. who participated in all 4 interviews) to participants who did not have data from all 4 interviews. These two groups were compared on the measures described above that were assessed during the baseline interviews (i.e. Children's Hope Scale, School Liking, Social Acceptance, School Efficacy, Plans for School and College Completion, Misconduct, Parental Trust and Perceived Social Support). There were significant differences between these groups on the measure of School Liking, $t(159) = 2.23$, $p < 0.05$, and Total Social Support, $t(159) = 2.24$, $p < 0.05$. In both cases, the direction of the differences was the opposite of expectations. In other words, young people who had missing data reported higher levels of liking for school (mean for missing group = 2.81 versus mean for complete group = 2.42) and higher levels of overall social support (mean for missing group = 2.66 versus mean for complete group = 2.50). Analyses also indicated that the differences between the groups with missing and complete data on the measures of age and gender were non-significant. Finally and perhaps most importantly, there was no significant difference in the rate of missing data between the intervention and control groups.

It should be noted that, although significant, these differences between the groups with missing and complete data accounted for 3% of the variance in these two dependent variables. Moreover, the analyses

to be conducted testing for differences between the intervention and control groups will include data from participants with both complete and incomplete data, and test for differences in the pattern of group differences as a function of 'missingness'.

Timing of interviews

The interviews were scheduled to occur 12, 18 and 24 months following the baseline interviews. On average, the Wave 2 interviews occurred 10.52 months (SD = 1.97 months) following the baseline interviews; the Wave 3 interviews occurred on average 15.71 months (SD = 1.94 months) following the baseline interviews; and the Wave 4 interviews occurred on average 21.18 months (SD = 1.87 months) following the baseline interviews. There clearly was a great deal of variation in the timing of these interviews and the assessments were not equally spaced as would be assumed in a repeated measures analysis of variance. The multilevel regression analysis to be conducted on these data will take into account this variation in when the participant interviews actually occurred.

Matching to mentors

Members of the intervention group were not necessarily assigned immediately to a mentor. On average, working with a mentor began 6.48 months (SD = 3.64 months) following the baseline interviews. The average duration of time that participants in the intervention group worked with a mentor was 11.79 months (SD = 3.92 months) from the time they were matched with a mentor to the time of their final interview. In some cases, a participant stopped working with a mentor and was matched with a new mentor; the time the participant worked with the two mentors was used as the duration measure in these cases.

Twelve of the 84 participants in the intervention group were never matched with a mentor. One of these individuals did not participate in any of the interviews and essentially chose not to participate in the study. Four of these individuals appeared to have dropped out of the study before the second interview, which could account for their not being matched with a mentor. It is unclear why the remaining 7 participants were never matched with a mentor: 5 of these young people participated in all 4 interviews and the remaining 2 only missed the second interview.

Overview of analyses

The next set of analyses examined the effect of the BBBS programme on the different outcome variables that were assessed. As seen throughout this chapter, each measure was analysed in three ways – mean scores for control and intervention groups were compared, the standardised mean difference (Cohen's *d*) was calculated and regression analysis was undertaken to test for statistical significance. Each of these types of analysis and the rationale for undertaking them are now outlined.

Comparison of mean scores

In order to explore differences between control and intervention groups on the outcome measures studied, mean scores for both groups were calculated for each measure at all four waves. The scores for each group are shown in graph form to illustrate how the average scores for each group changed over time across the 4 waves of assessment.

Standardised mean difference (Cohen's *d*)

Because the variety of scales used have different ratings and measures, there is a need to be able to compare or aggregate the results for the scales in a way that makes sense. An effect size statistic expresses the size of the programme effect in a standardised way that makes it possible to compare the effects across different measures. In research of this nature, the difference between the control and intervention groups is commonly expressed as a standardised mean difference, which expresses the mean difference between the groups in standard deviation units (Rossi *et al*, 2004). By convention, the effect size is given a positive value when the outcome is more favourable for the intervention group and a negative value if the control group is favoured.

Testing for statistical significance

When effect sizes are calculated, there is a risk that some of the difference between groups has occurred by chance. Therefore, statistical significance testing is undertaken to detect the degree to which the difference between groups is real and how much of it is due to 'statistical noise' (Rossi *et al*, 2004, p. 307). If the difference between the mean outcomes for an intervention and control group is statistically significant, it indicates that the difference between the groups is unlikely to have occurred by chance. Statistical significance is usually set at the 0.05 alpha level, which means that there is a 95% chance that the observed effect is not due to chance. We will see that some of the results in this study were marginally significant, by which we mean that they fall within the 0.10 alpha level, indicating a 90% chance that the result is not due to chance. In larger samples, there is a greater chance of detecting significant effects. In this study, because the sample is considered small, forms of statistical analysis are required that have the greatest 'power' to detect significant effects. A multilevel regression analysis was therefore used to test for significant effects (*see rationale below*).

Multilevel regression analysis

Since participants in the study were assessed at 4 wave points (i.e. at baseline before the intervention began and then approximately 12, 18 and 24 months later), a traditional analysis would be a repeated measures analysis of variance, where differences between the intervention and control groups following initiation of the intervention (i.e. at the 12, 18 and 24 month interviews) were examined, with the scores from the baseline assessments of the outcome variables being used as control variables to enhance the power of the analyses.

There are several problems with employing such an analysis with the present data. First, only individuals with complete data on the outcome variables over the 4 waves of interviews would be included in the analysis. A total of 161 young people completed the Wave 1 of interviews, with 83 randomly assigned to the intervention condition and 79 to the control condition. Two young people, one assigned to the intervention condition and one to the control condition, did not complete any of the interviews and another participant assigned to the control condition did not complete the Wave 1 or Wave 3 interviews. These individuals were not included in the analyses. As shown in Table 10, only 126 young people (77%; 67 in the intervention group and 59 in the control group) completed all 4 interviews and would be included in a repeated measures analysis of variance.

In order to address the problem of missing data, a multiple imputation analysis was conducted to estimate scores on the outcome measures for participants with incomplete information. This method develops estimates of the missing information based on the data available for each individual who does not have complete information. So, for example, for an individual who has missing data on the Children's Hope Scale measure at Wave 3, we would estimate their score based on their responses to the Children's Hope Scale

measure at the other waves of interviews, along with their scores on the other outcome variables. To take into account the uncertainty associated with this estimate, 5 different imputed datasets are created where random error terms are added to the predicted values. Analyses are then conducted using these 5 complete datasets with the results being averaged to create an estimate of the results that would have been found if there had been complete data on the outcome measures for all participants. Research indicates that this method provides a very good estimate of the results that would be found based on the complete data (Rubin, 1996; McKnight *et al*, 2007).

As indicated above, there were 2 participants for whom no information was provided since they did not participate in any of the interviews; thus we have no basis for developing estimates of their scores on the measure. Another young person did not participate in the baseline or Wave 3 interviews, and it was not felt that adequate estimates of their baseline data could be derived. Seventeen participants only completed the baseline interviews, creating a situation where there was no information available regarding their scores on the outcome measures following the beginning of the intervention; these individuals were also not included in the analyses. We therefore conducted the multiple imputation analysis for the remaining 144 participants (76 in the intervention condition and 68 in the control condition).

Another issue concerns when the interviews actually occurred. As indicated previously, there was a great deal of variability in the timing of the Waves 2, 3 and 4 interviews. On average, these interviews did not occur at the scheduled times and the time between interviews was not equal. A repeated measures analysis assumes that the time between assessments is equal. Furthermore, the timing between interviews varied by participant, which can lead to very different effects of time than those found from a repeated measures analysis.

Due to this issue, the impact of intervention condition on the outcome variables was evaluated using a multilevel regression analysis. This approach is similar to a repeated measures analysis of variance, as the error terms for the effects (i.e. intervention *versus* control) are adjusted for the non-independence of the observations from the same participant over time. However, it permits incorporating a 'time of interview' variable, which reflects when each participant was actually interviewed relative to the baseline interview. So, for example, the Wave 2 score on this 'time of interview' variable reflects the time between the baseline and Wave 2 interview for each participant in months.

We therefore conducted a multilevel regression analysis testing the significance of intervention effects using the SAS *Proc Mixed* programme. The analyses were conducted for each of the 5 imputed datasets, with the results pooled across the analyses. In these analyses, the baseline score on each outcome measure was employed as a control variable. A series of analyses was conducted for each outcome variable that is comparable to a hierarchical regression analysis. The first model employed only the baseline score as a predictor variable; Model 2 added 'group' (intervention *versus* control) to the regression model; Model 3 added 'time of interview' as a predictor variable; and the final model added the interaction between 'Time of interview x Group' as a predictor variable.

Analysis of intervention effects

In this section, the results of the analysis just described are presented for each measure. These results relate to the comparison of intervention and control group results.

Children’s Hope Scale

The Children’s Hope Scale, modified from Snyder *et al* (1997), taps children’s sense of their perceived capability to come up with pathways through which they can achieve their goals. Average scores for the intervention and control groups over the 24-month time interval are presented in Figure 22. As can be seen, the intervention group reported higher levels of hope on the measure at Wave 2 (12 months) through Wave 4 (24 months). Cohen’s *d* statistic, indicating the magnitude of the differences between the intervention and control groups at each wave of assessment, is presented in Table 11. These results indicate that the intervention had a small to moderate effect on the Children’s Hope Scale measure based on the criteria described by Cohen (1988).

Figure 22: Children’s Hope Scale scores over time

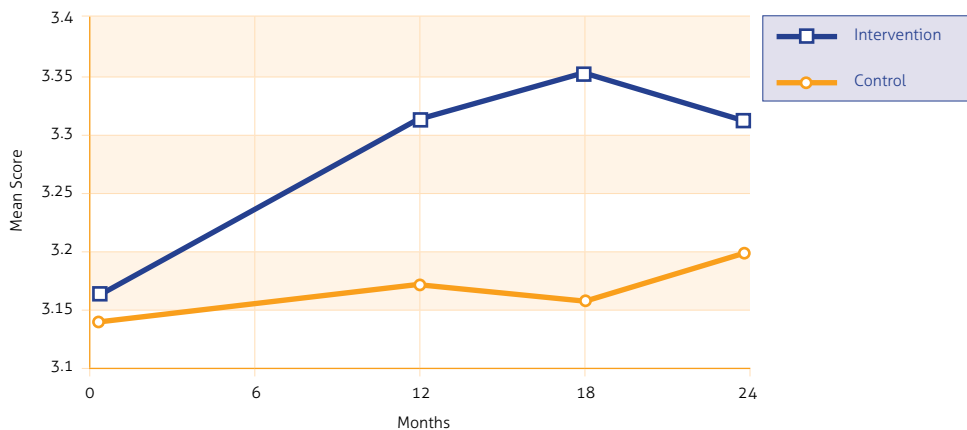


Table 11: Magnitude of the differences between intervention and control groups on Children’s Hope Scale measure

Interview	Wave 1	Wave 2	Wave 3	Wave 4
Cohen’s <i>d</i>	0.04	0.30	0.42	0.22

Note: Wave 1 is Month 0 in Figure 22, Wave 2 is Month 12, Wave 3 is Month 18 and Wave 4 is Month 24.

The regression results for the Children’s Hope Scale measure are presented in Table 12. As can be seen, the baseline measure of the Children’s Hope Scale was a statistically significant predictor of subsequent levels of that variable. There was a statistically significant effect of group membership on the Children’s Hope Scale measure following the baseline assessment. The mean on the Children’s Hope Scale measure for the intervention group ($M = 3.31$) was significantly higher than the mean for the control group ($M = 3.18$). Scores on the Children’s Hope Scale measure did not change significantly over the subsequent 3 waves of assessment. The interaction between intervention Group x Time was also non-significant, indicating that the difference between the two groups did not vary significantly over time.

Table 12: Multilevel regression results for Children’s Hope Scale measure

Predictor	Beta	SE	df	t
Children’s Hope Scale 1	0.397	0.056	142	7.12***
Group	0.124	0.057	141	2.20*
Time (months)	0.005	0.004	265	1.37
Group x Time	-0.005	0.008	264	-0.59

Note: Group was coded intervention (1) and control (0).

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Social Acceptance

The Social Acceptance sub-scale of Harter’s (1985) self-perception profile for children examines their sense of acceptance by peers. Average scores for the intervention and control groups over the 24-month time interval are presented in Figure 23. As can be seen, the intervention group reported higher levels of social acceptance on this measure at Waves 2 through 4 (Months 12-24). Cohen’s *d* statistic is presented in Table 13.

Figure 23: Social Acceptance scores over time

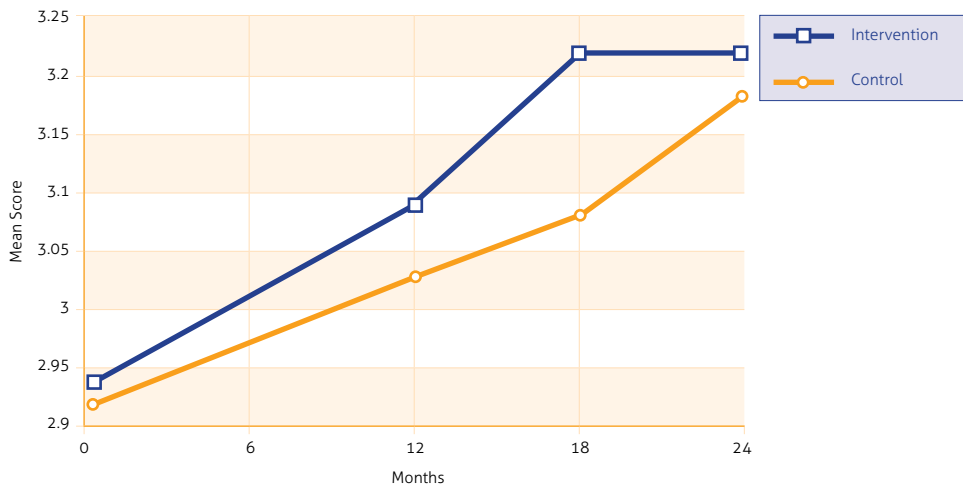


Table 13: Magnitude of the differences between intervention and control groups on Social Acceptance measure

Interview	Wave 1	Wave 2	Wave 3	Wave 4
Cohen’s <i>d</i>	0.02	0.10	0.23	0.07

Note: Wave 1 is Month 0 in Figure 23, Wave 2 is Month 12, Wave 3 is Month 18 and Wave 4 is Month 24.

The regression results for the Social Acceptance measure are presented in Table 14. The baseline measure of Social Acceptance was a statistically significant predictor of subsequent levels of that variable, whereas the difference between the intervention and control groups on this variable was non-significant. Scores on Social Acceptance increased significantly over the subsequent 3 waves of assessment, although there was no evidence that the differences between these two groups varied over time based on the non-significant Group x Time interaction.

Table 14: Multilevel regression results for Social Acceptance measure

Predictor	Beta	SE	df	t
Social Acceptance 1	0.471	0.052	142	9.05***
Group	0.079	0.068	141	1.16
Time (months)	0.012	0.004	266	3.02**
Group x Time	-0.004	0.008	265	-0.57

Note: Group was coded intervention (1) and control (0).

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

School Liking

The School Liking measure seeks information on how well the young person likes school and feels excited about going to school. Average scores for the intervention and control groups over the 24-month time interval are presented in Figure 24. The control group reported higher levels of school liking on the measure at Wave 1 (baseline) and Wave 2 (12 months). The intervention group showed a continuous increase on this measure, recording higher scores than the control group at Wave 3 (18 months) and Wave 4 (24 months). Cohen's *d* statistic is presented in Table 15.

Figure 24 : School Liking scores over time

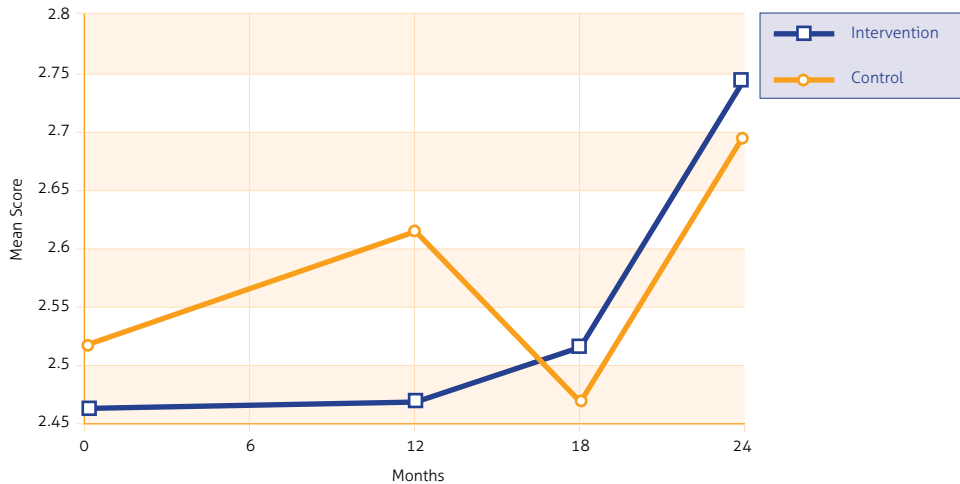


Table 15: Magnitude of the differences between intervention and control groups on School Liking measure

Interview	Wave 1	Wave 2	Wave 3	Wave 4
Cohen's <i>d</i>	-0.07	-0.16	0.05	0.04

Note: Wave 1 is Month 0 in Figure 24, Wave 2 is Month 12, Wave 3 is Month 18 and Wave 4 is Month 24.

The results of the regression analysis for the School Liking measure are presented in Table 16. As can be seen, the baseline measure of School Liking was a statistically significant predictor of subsequent levels of that variable. The difference between the intervention and control groups on this variable was non-significant. Scores on School Liking did increase significantly over the subsequent 3 waves of assessment. Finally, there was no evidence of a significant Group x Time interaction, indicating that the differences between the two groups did not vary over the 3 waves of assessment.

Table 16: Multilevel regression results for School Liking measure

Predictor	Beta	SE	df	t
School Liking 1	0.471	0.061	142	7.68***
Group	0.021	0.113	141	0.19
Time (months)	0.015	0.007	265	2.27*
Group x Time	0.016	0.013	264	1.22

Note: Group was coded intervention (1) and control (0).

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Scholastic Efficacy

Harter's (1985) perceived Scholastic Efficacy scale assesses a child's confidence in doing his or her school work. Increases on this scale often precede performance improvement. Average scores for the intervention and control groups over the 24-month time interval are presented in Figure 25. The control group reported higher levels of scholastic efficacy on the measure at Wave 1 (baseline) and Wave 4 (24 months), whereas the intervention group scored higher at Wave 2 (12 months) and Wave 3 (18 months). Cohen's *d* statistic is presented in Table 17.

Figure 25: Scholastic Efficacy scores over time

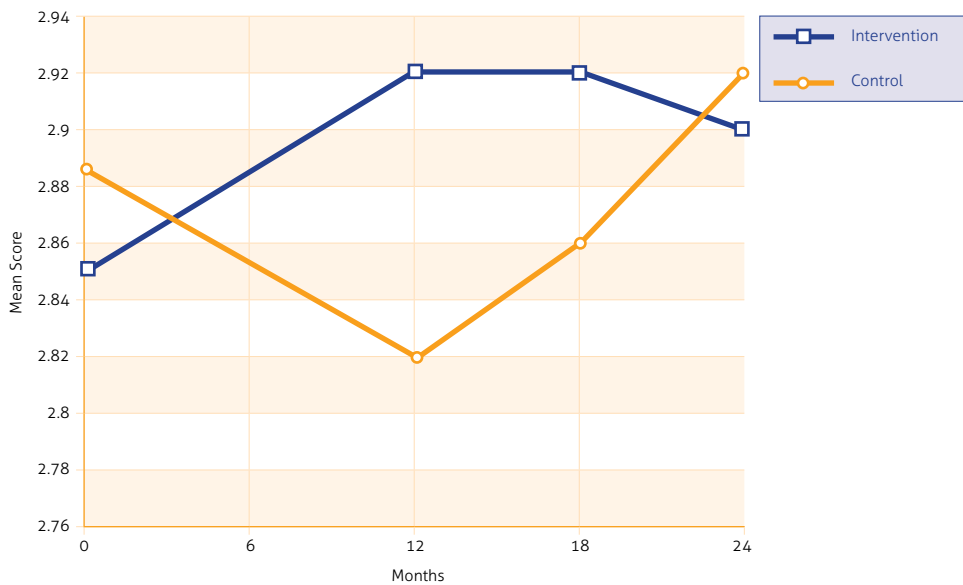


Table 17: Magnitude of the differences between intervention and control groups on Scholastic Efficacy measure

Interview	Wave 1	Wave 2	Wave 3	Wave 4
Cohen's <i>d</i>	-0.06	0.15	0.09	-0.02

Note: Wave 1 is Month 0 in Figure 25, Wave 2 is Month 12, Wave 3 is Month 18 and Wave 4 is Month 24.

Regression analysis results for the Scholastic Efficacy measure are presented in Table 18. The baseline measure of Scholastic Efficacy was a statistically significant predictor of subsequent levels of that variable. The difference between the intervention and control groups on this variable was non-significant. The effect of Time on Scholastic Efficacy was also non-significant, indicating that levels of Scholastic Efficacy did not change significantly over time. Finally, there was no evidence of an interaction between intervention Group x Time, indicating that the differences between the groups did not change over time.

Table 18: Multilevel regression results for Scholastic Efficacy measure

Predictor	Beta	SE	df	t
Scholastic Efficacy 1	0.439	0.065	142	6.70***
Group	0.045	0.082	141	0.55
Time (months)	0.005	0.004	266	1.13
Group x Time	-0.013	0.009	265	-1.40

Note: Group was coded intervention (1) and control (0).

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Plans for School and College Completion

Young people were asked about their plans for school and college completion – namely, if they thought they would finish school, go to college and finish college. Average scores for the intervention and control groups over the 24-month time interval are presented in Figure 26. As can be seen, the intervention group scored higher on the Plans for School and College Completion measure at Waves 2 (12 months) through 4 (24 months). Cohen’s *d* statistic is presented in Table 19. These results indicate that the intervention had less than a small effect on the Plans for School and College Completion measure based on the criteria described by Cohen (1988).

Figure 26: Plans for School and College Completion scores over time

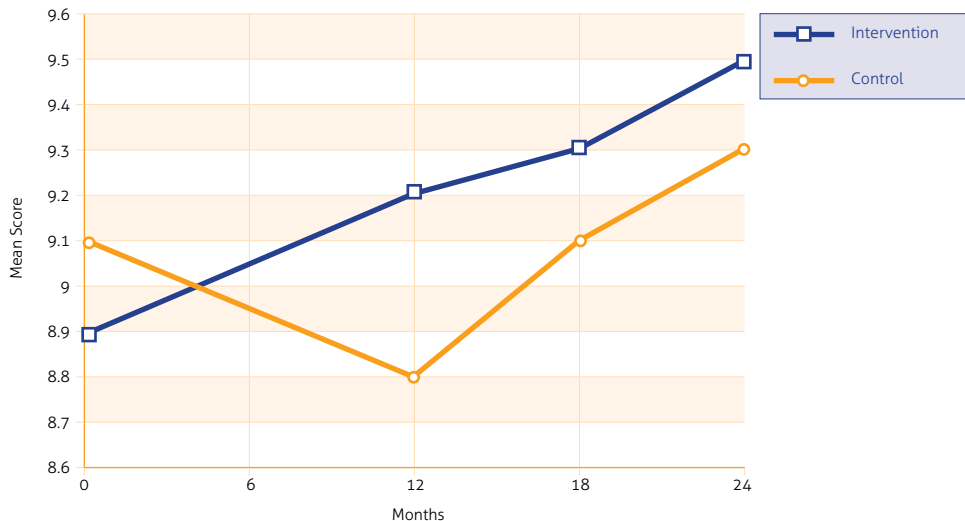


Table 19: Magnitude of the differences between intervention and control groups on Plans for School and College Completion measure

Interview	Wave 1	Wave 2	Wave 3	Wave 4
Cohen’s <i>d</i>	-0.07	0.15	0.07	0.08

Note: Wave 1 is Month 0 in Figure 26, Wave 2 is Month 12, Wave 3 is Month 18 and Wave 4 is Month 24.

Regression analysis results for the Plans for School and College Completion measure are presented in Table 20. Once again, the baseline measure of Plans for School and College Completion was a statistically significant predictor of subsequent levels of that variable. The difference between the intervention and control groups on this variable was non-significant. The effect of Time was also non-significant, indicating that Plans for School and College Completion did not appear to change over time. Finally, there was no evidence of an interaction between Group x Time.

Table 20: Multilevel regression results for Plans for School and College Completion measure

Predictor	Beta	SE	df	t
Plans for School and College Completion 1	0.465	0.055	142	8.53***
Group	0.354	0.304	141	1.17
Time (months)	0.018	0.019	265	0.97
Group x Time	-0.012	0.036	264	-0.36

Note: Group was coded intervention (1) and control (0).

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Misconduct

The Misconduct scale developed by Brown *et al* (1986) was used to assess self-reported behaviour in relation to skipping school without permission, hitting people, taking something without paying for it and alcohol and tobacco use. Average scores for the intervention and control groups over the 24-month time interval are presented in Figure 27. A lower score on this measure indicates a lower level of misconduct. As can be seen, the control group scored lower on the Misconduct measure at Wave 4 (24 months). Cohen's *d* statistic is presented in Table 21.

Figure 27: Misconduct scores over time

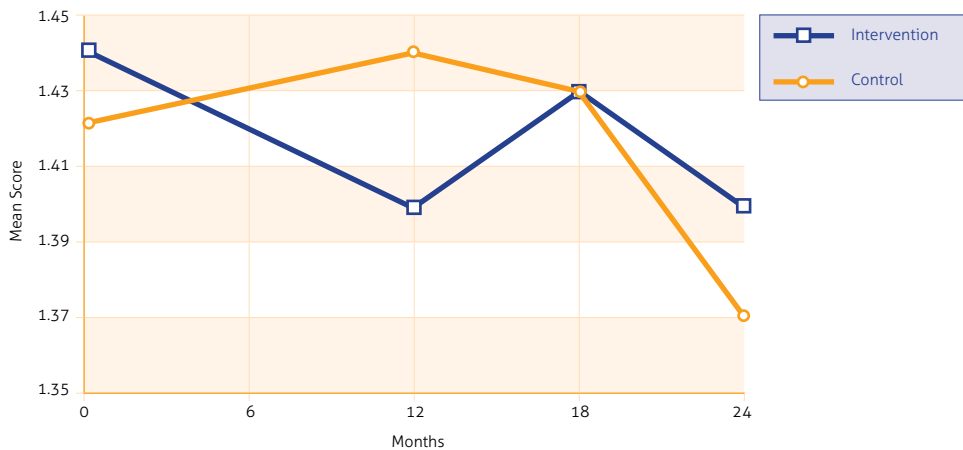


Table 21: Magnitude of the differences between intervention and control groups on Misconduct measure

Interview	Wave 1	Wave 2	Wave 3	Wave 4
Cohen's <i>d</i>	-0.04	0.09	0.00	-0.05

Note: Wave 1 is Month 0 in Figure 27, Wave 2 is Month 12, Wave 3 is Month 18 and Wave 4 is Month 24.

Regression analysis results for the Misconduct measure are presented in Table 22. The baseline measure of Misconduct was a statistically significant predictor of subsequent levels of that variable. The difference between the intervention and control groups on this variable was non-significant, as was the effect of Time and the Group x Time interaction.

Table 22: Multilevel regression results for Misconduct measure

Predictor	Beta	SE	df	t
Misconduct 1	0.479	0.070	142	6.88***
Group	-0.011	0.067	141	-0.16
Time (months)	-0.003	0.003	266	-0.79
Group x Time	0.006	0.006	265	1.01

Note: Group was coded intervention (1) and control (0).

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Parental Trust

The Parental Trust scale (Inventory of Parent Attachment) (Armsden and Greenberg, 1987) measures the extent to which the child feels that he or she has a trusting relationship with their parent or guardian. Average scores for the intervention and control groups over the 24-month time interval are presented in Figure 28. The intervention group scored higher on the Parental Trust measure at all waves of assessment. Cohen's *d* statistic is presented in Table 23. As can be seen, the magnitude of the differences ranged up to what Cohen (1988) termed a small effect by Wave 3.

Figure 28: Parental Trust scores over time

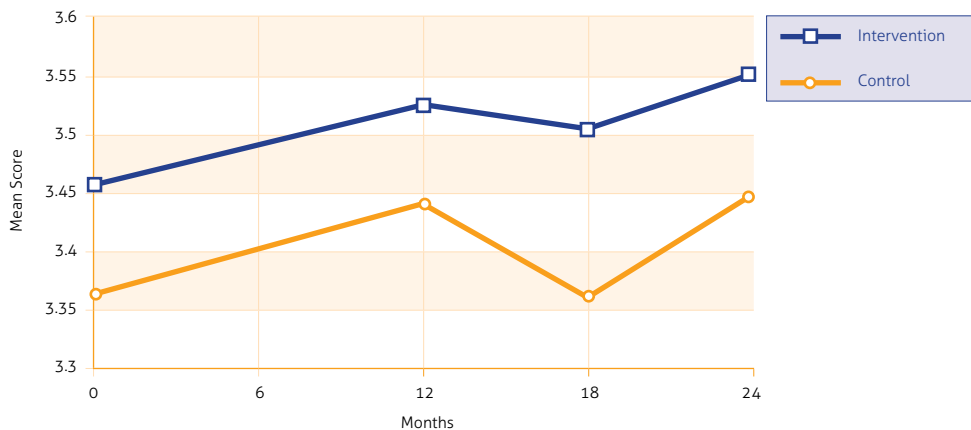


Table 23: Magnitude of the differences between intervention and control groups on Parental Trust measure

Interview	Wave 1	Wave 2	Wave 3	Wave 4
Cohen's <i>d</i>	0.13	0.14	0.22	0.16

Note: Wave 1 is Month 0 in Figure 28, Wave 2 is Month 12, Wave 3 is Month 18 and Wave 4 is Month 24.

Regression analysis results for the Parental Trust measure are presented in Table 24. As expected, the baseline measure of Parental Trust was a statistically significant predictor of subsequent levels of that variable. The difference between the intervention and control groups on Parental Trust was non-significant and Parental Trust was not found to change significantly over time. Finally, the non-significant interaction between Group x Time indicates that this difference between the two groups did not vary significantly over time.

Table 24: Multilevel regression results for Parental Trust measure

Predictor	Beta	SE	df	t
Parental Trust 1	0.437	0.058	142	7.57***
Group	0.071	0.079	141	0.90
Time (months)	0.004	0.004	266	0.85
Group x Time	-0.001	0.008	265	-0.04

Note: Group was coded intervention (1) and control (0).

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Perceived Friend Support

The Social Provisions Scale (SPS-R) examines the degree to which social relationships provide perceived support to the child across 4 sources of support: (1) friends; (2) parents/carers; (3) siblings; and (4) other adults. Average scores for the intervention and control groups on the Friend Support measure over the 24-month time interval are presented in Figure 29. As can be seen, the intervention group scored higher on the Friend Support measure at Waves 2 (12 months) through 4 (24 months). Cohen's *d* statistic is presented in Table 25. These results indicate that the intervention had a small effect on the Friend Support measure at Waves 3 and 4 based on the criteria described by Cohen (1988).

Figure 29: Perceived Friend Support scores over time

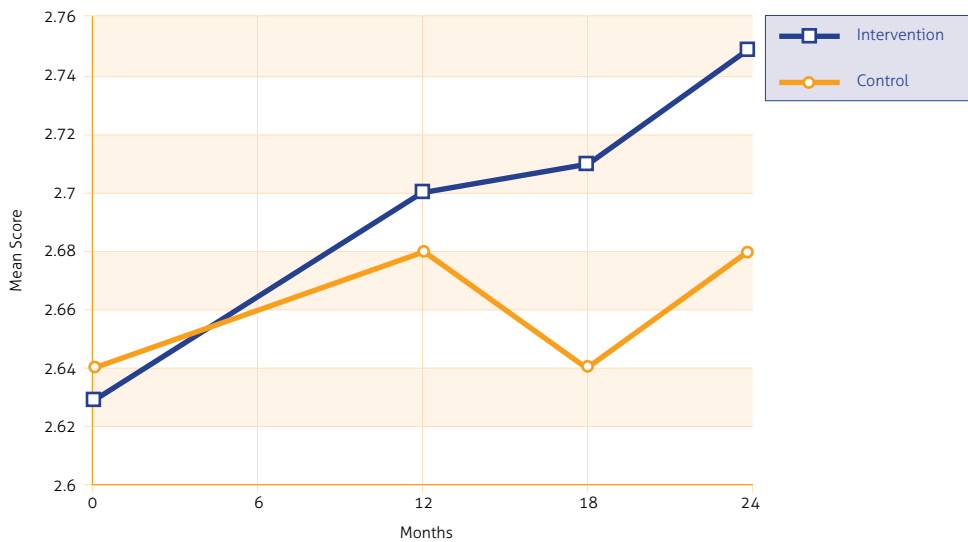


Table 25: Magnitude of the differences between intervention and control groups on Perceived Friend Support measure

Interview	Wave 1	Wave 2	Wave 3	Wave 4
Cohen's <i>d</i>	-0.02	0.05	0.18	0.19

Note: Wave 1 is Month 0 in Figure 29, Wave 2 is Month 12, Wave 3 is Month 18 and Wave 4 is Month 24.

Regression analysis results for the Friend Support measure are presented in Table 26. Young people who reported having high levels of support from friends at baseline continued to do so over time, as evidenced by the baseline measure of Friend Support being a statistically significant predictor of subsequent levels of the Friend Support variable. There was no evidence that levels of Friend Support differed between the intervention and control groups. Finally, the level of Friend Support did not change significantly over time and there was no evidence of an interaction between Group x Time.

Table 26: Multilevel regression results for Perceived Friend Support measure

Predictor	Beta	SE	df	t
Friend Support 1	0.254	0.053	142	4.83***
Group	0.056	0.044	141	1.26
Time (months)	0.003	0.003	264	0.76
Group x Time	0.002	0.007	263	0.25

Note: Group was coded intervention (1) and control (0).

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Perceived Parental Support

Average scores for the intervention and control groups on the Parental Support measure over the 24-month time interval are presented in Figure 30. The intervention group scored higher on the Parental Support measure at Wave 2 (12 months) and Wave 3 (18 months), but slightly lower at Wave 4 (24 months). Cohen's *d* statistic is presented in Table 27. The results indicate that there was a small difference based on Cohen's (1988) criteria between the groups at Wave 3.

Figure 30: Perceived Parental Support scores over time

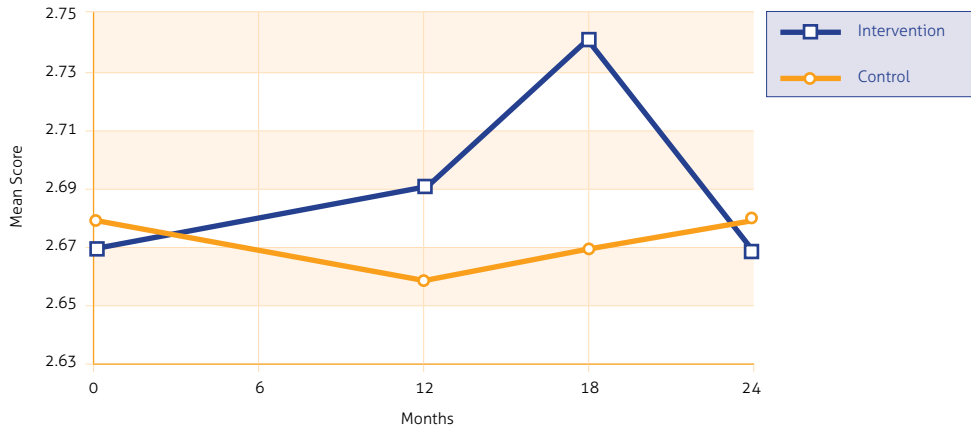


Table 27: Magnitude of the differences between intervention and control groups on Perceived Parental Support measure

Interview	Wave 1	Wave 2	Wave 3	Wave 4
Cohen's <i>d</i>	-0.02	0.07	0.18	-0.02

Note: Wave 1 is Month 0 in Figure 30, Wave 2 is Month 12, Wave 3 is Month 18 and Wave 4 is Month 24.

Results from the analyses of the Parental Support measure are presented in Table 28. These results are virtually identical to the results for the Friend Support measure (see Table 26). The baseline measure of Parental Support was a statistically significant predictor of subsequent levels of that variable. None of the other effects were found to be statistically significant. In other words, there was no evidence that the differences between the intervention and control groups were significant and levels of Parental Support did not change significantly over time and the interaction between Group x Time was also non-significant.

Table 28: Multilevel regression results for Perceived Parental Support measure

Predictor	Beta	SE	df	t
Parental Support 1	0.484	0.061	142	7.97***
Group	0.032	0.053	141	0.61
Time (months)	-0.001	0.003	262	-0.01
Group x Time	-0.004	0.006	261	-0.67

Note: Group was coded intervention (1) and control (0).

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Perceived Sibling Support

Average scores for the intervention and control groups on the Sibling Support measure over the 24-month time interval are presented in Figure 31. As can be seen, the intervention group scored higher on the Sibling Support measure at all waves of assessment. Cohen's *d* statistic indicates that the magnitude of these differences between the groups ranged from a small to moderate difference (Wave 3) over time.

Figure 31: Perceived Sibling Support scores over time

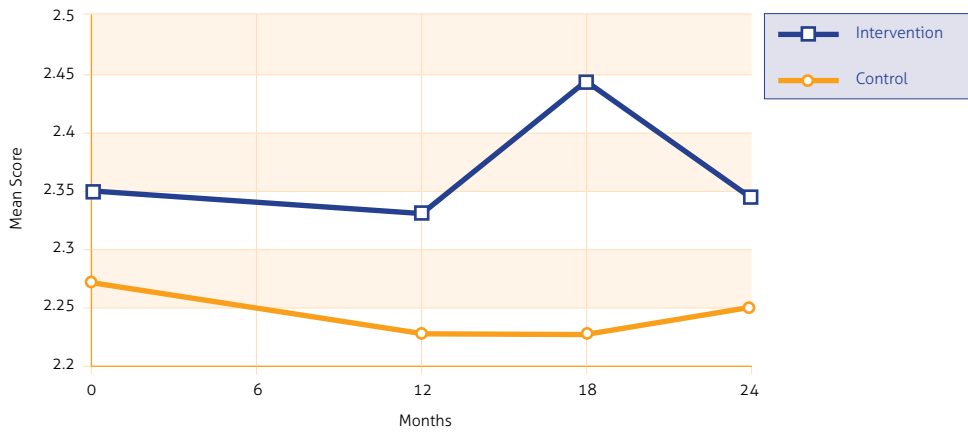


Table 29: Magnitude of the differences between intervention and control groups on Perceived Sibling Support measure

Interview	Wave 1	Wave 2	Wave 3	Wave 4
Cohen's <i>d</i>	0.12	0.16	0.38	0.14

Note: Wave 1 is Month 0 in Figure 31, Wave 2 is Month 12, Wave 3 is Month 18 and Wave 4 is Month 24.

Regression results from the analyses of the Sibling Support measure are presented in Table 30. The baseline measure of Sibling Support was found to be a highly significant predictor of subsequent levels of this form of support. There was a non-significant difference between the intervention and control groups. Also, there was no evidence that levels of Sibling Support changed over time and the difference between the intervention and control groups did not appear to vary over time, as evidenced by the non-significant Group x Time interaction.

Table 30: Multilevel regression results for Perceived Sibling Support measure

Predictor	Beta	SE	df	t
Sibling Support 1	0.558	0.051	134	10.92***
Group	0.093	0.066	133	1.41
Time (months)	0.002	0.004	245	0.51
Group x Time	-0.002	0.009	244	-0.23

Note: Group was coded intervention (1) and control (0).

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Perceived Other Adult Support

Average scores for the intervention and control groups on the Other Adult Support measure over the 24-month time interval are presented in Figure 32. As can be seen, the intervention group scored higher on the Other Adult Support measure at all waves of assessment. Cohen's *d* statistic is presented in Table 31 and indicates that the intervention had a small to moderate effect on the Other Adult Support measure based on the criteria described by Cohen (1988).

Figure 32: Perceived Other Adult Support scores over time

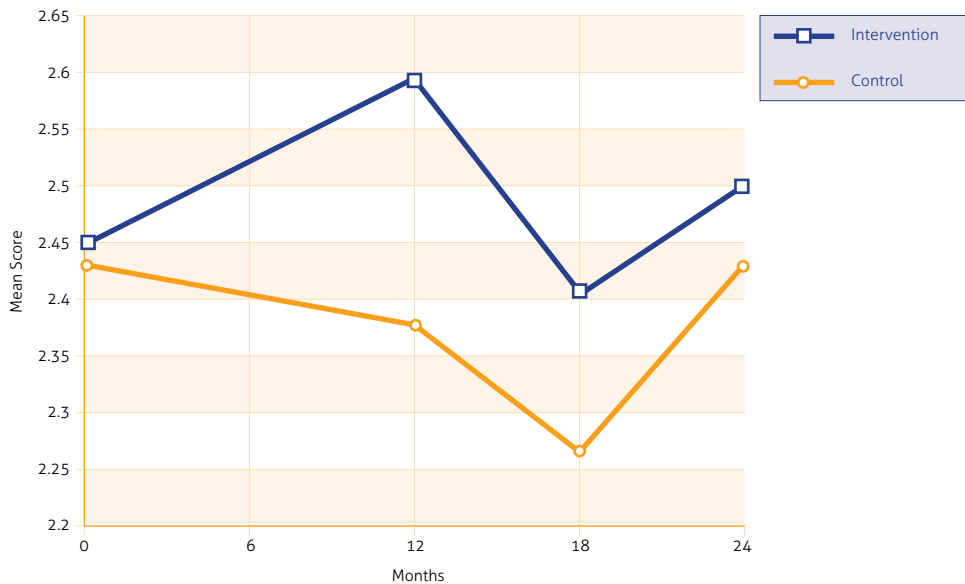


Table 31: Magnitude of the differences between intervention and control groups on Perceived Other Adult Support measure

Interview	Wave 1	Wave 2	Wave 3	Wave 4
Cohen's <i>d</i>	0.03	0.41	0.24	0.13

Note: Wave 1 is Month 0 in Figure 32, Wave 2 is Month 12, Wave 3 is Month 18 and Wave 4 is Month 24.

Results of the regression analysis for the Other Adult Support measure are provided in Table 32. The baseline measure was found to be a highly significant predictor of subsequent levels of Other Adult Support. As expected given the receipt of mentoring, the difference between the intervention and control groups was highly significant. Members of the intervention group reported higher levels of Other Adult Support ($M = 2.51$) than members of the control group ($M = 2.37$). There was no evidence that levels of Other Adult Support changed over time. The interaction between Group x Time was also non-significant, indicating that the difference between the two groups did not vary significantly over time.

Table 32: Multilevel regression results for Perceived Other Adult Support measure

Predictor	Beta	SE	df	t
Other Adult Support 1	0.370	0.053	142	7.02***
Group	0.130	0.062	141	2.10*
Time (months)	-0.002	0.004	261	-0.47
Group x Time	-0.011	0.009	260	-1.15

Note: Group was coded intervention (1) and control (0).

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Total Perceived Social Support

Average scores for the intervention and control groups on the Total Perceived Social Support measure over the 24-month time interval are presented in Figure 33. As can be seen, the intervention group scored higher on the Total Social Support measure at all waves of assessment. Cohen's *d* statistic is presented in Table 33. Once again, these results indicate that the intervention had a small to moderate effect on the Total Social Support measure based on the criteria described by Cohen (1988).

Figure 33: Total Perceived Social Support scores over time

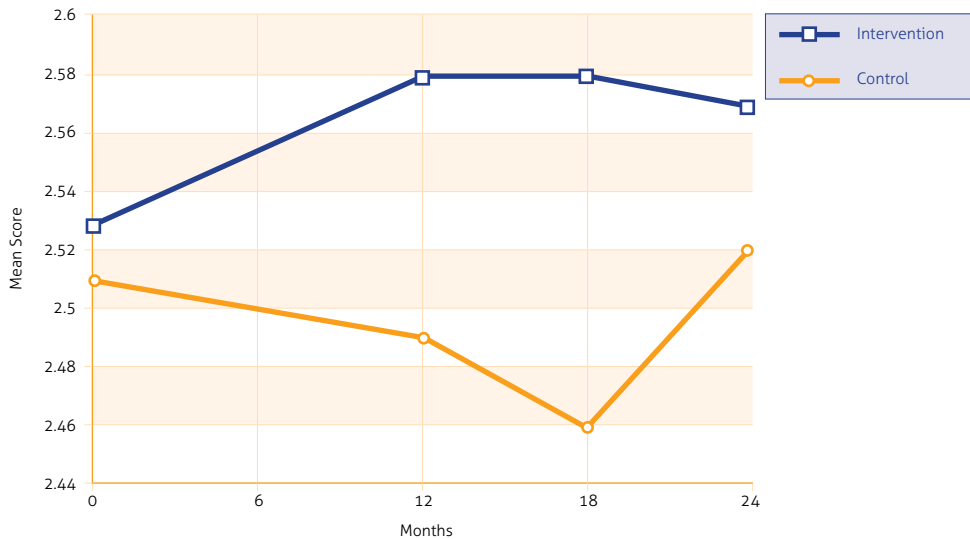


Table 33: Magnitude of the differences between intervention and control groups on Total Perceived Social Support measure

Interview	Wave 1	Wave 2	Wave 3	Wave 4
Cohen's <i>d</i>	0.05	0.26	0.35	0.13

Note: Wave 1 is Month 0 in Figure 33, Wave 2 is Month 12, Wave 3 is Month 18 and Wave 4 is Month 24.

Regression results for the Total Perceived Social Support measure are presented in Table 34. Once again, the baseline measure was found to be a highly significant predictor of subsequent levels of Total Social Support. The difference between the intervention and control groups on this measure was statistically significant. Members of the intervention group reported higher levels of overall support ($M = 2.58$) than members of the control group ($M = 2.49$). There was no evidence that levels of overall support changed over time and the Group x Time interaction was non-significant, indicating that this difference between the groups did not vary over time.

Table 34: Multilevel regression results for Total Perceived Social Support measure

Predictor	Beta	SE	df	t
Total Social Support 1	0.543	0.053	142	10.31***
Group	0.077	0.039	141	1.97*
Time (months)	0.002	0.002	265	0.12
Group x Time	-0.003	0.005	264	-0.57

Note: Group was coded intervention (1) and control (0).

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Alcohol Use

Two questions relating to alcohol and cannabis use (used in the Irish national Health Behaviour of School-aged Children (HBSC) surveys) were included to facilitate comparison between this cohort and the national norms. Average scores for the intervention and control groups on the alcohol use measure over the 24-month time interval are presented in Figure 34. Young people were asked, 'Have you ever had so much alcohol that you were really drunk?' In this case, a lower score indicates a lower number reporting that they had ever been drunk. As can be seen, the intervention group scored lower on the 'ever been really drunk' measure at all waves of assessment following the baseline interview. Cohen's *d* statistic is presented in Table 35.

Figure 34: Alcohol Use scores over time

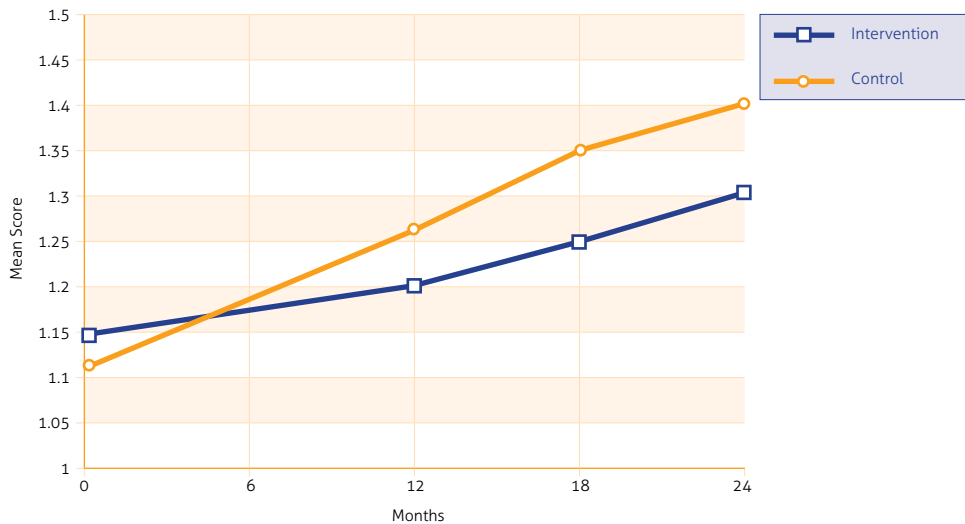


Table 35: Magnitude of the differences between intervention and control groups on Alcohol Use measure

Interview	Wave 1	Wave 2	Wave 3	Wave 4
Cohen's <i>d</i>	-0.05	0.09	0.10	0.11

Note: Wave 1 is Month 0 in Figure 34, Wave 2 is Month 12, Wave 3 is Month 18 and Wave 4 is Month 24.

Regression results for the Alcohol Use measure are presented in Table 36. Once again, the baseline measure of Alcohol Use was found to be a highly significant predictor of subsequent levels of that variable. However, the difference between the intervention and control groups on this measure was not statistically significant. Levels of Alcohol Use were also found to increase significantly over time. Finally, the Group x Time interaction was non-significant, indicating that the change in alcohol use did not differ between the intervention and control groups.

Table 36: Multilevel regression results for Alcohol Use measure

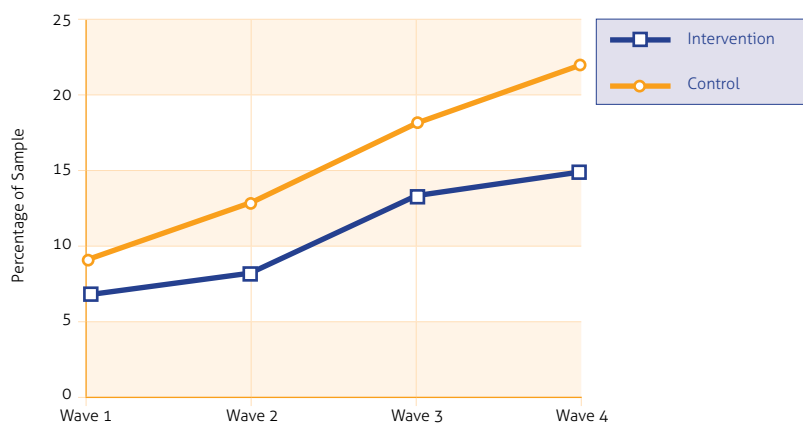
Predictor	Beta	SE	df	t
Alcohol Use 1	0.994	0.136	142	7.33***
Group	-0.113	0.118	141	-0.96
Time (months)	0.012	0.004	265	2.81**
Group x Time	-0.003	0.008	264	-0.31

Note: Group was coded intervention (1) and control (0).

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

As highlighted above, these questions were included to facilitate comparison to the national sample as captured in the 2006 HBSC Survey (Nic Gabhainn *et al*, 2007). Figure 35 expresses the number of young people who reported ever having been 'really drunk'. At baseline, 9% of the control group members said they had 'ever been really drunk', which rose to 22% over the 2 years to the Wave 4 data collection. The rate of increase for intervention group members was lower, rising from 7% at Wave 1 to 15% at Wave 4. While the trends are positive, it should be noted that the difference is not statistically significant.

Figure 35: Percentage of sample reporting that they had 'ever been really drunk' at each wave of data collection



In the 2006 HBSC Survey (Nic Gabhainn *et al*, 2007), 20% of children aged 10-17 reported that they had been drunk in the past 30 days; a similar percentage was reported in the *State of the Nation's Children: Ireland 2008* (OMCYA, 2008). The average for the 12-14 age group was 10%, rising to 38% for the 15-17 age group. The increase in alcohol use evident across the sample in the present study is therefore in line with national trends: the sample in this study is likely to range in age from 12-16 by Wave 4.

Cannabis Use

Average scores for the intervention and control groups on the Cannabis Use measure over the 24-month time interval are presented in Figure 36. In this case, a lower score indicates a lower reported use of drugs. As can be seen, the intervention group scored lower on the 'ever used cannabis' measure at all waves of assessment following the baseline interview. Cohen's *d* statistic is presented in Table 37. These results indicate that the intervention had a small positive effect on the Cannabis Use measure at Waves 2 and 4 based on the criteria described by Cohen (1988).

Figure 36: Cannabis Use scores over time

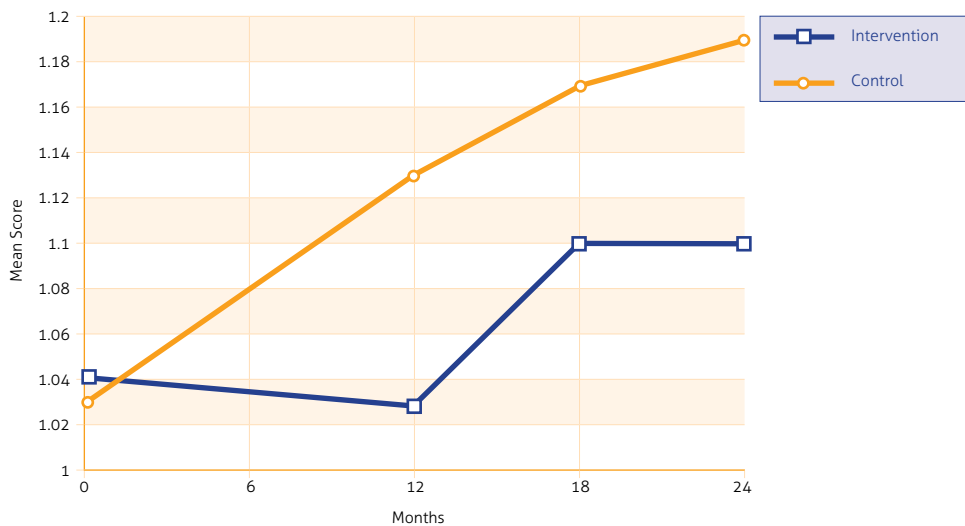


Table 37: Magnitude of the differences between intervention and control groups on Cannabis Use measure

Interview	Wave 1	Wave 2	Wave 3	Wave 4
Cohen's <i>d</i>	-0.05	0.26	0.10	0.17

Note: Wave 1 is Month 0 in Figure 36, Wave 2 is Month 12, Wave 3 is Month 18 and Wave 4 is Month 24. Values have been changed from negative to positive to reflect the fact that negative scores indicate a positive result for the intervention.

Regression results for the Cannabis Use measure are presented in Table 38. In contrast to the previous variables, there was no relationship between the Wave 1 measure of cannabis use and subsequent levels of use. This result reflects the fact that there was very little evidence of cannabis usage among participants at Wave 1: average scores on the 1-5 scale were 1.03 and 1.04 for the intervention and control groups, respectively. The difference between the intervention and control groups on this measure was non-significant. Finally, there was no evidence that levels of cannabis use changed significantly over time and the Group x Time interaction was non-significant.

Table 38: Multilevel regression results for Cannabis Use measure

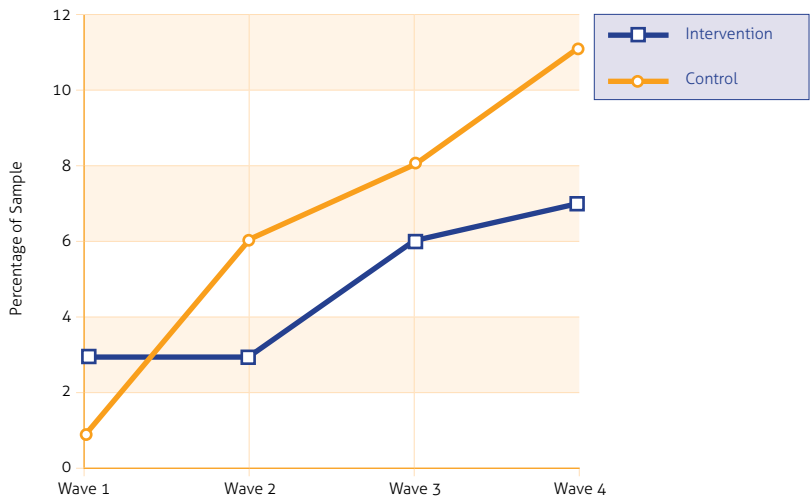
Predictor	Beta	SE	df	t
Cannabis Use 1	0.123	0.184	142	0.66
Group	-0.090	0.078	141	-1.15
Time (months)	0.005	0.004	265	1.31
Group x Time	0.004	0.008	264	0.50

Note: Group was coded intervention (1) and control (0).

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

As highlighted above, these questions were included to facilitate comparison to the national sample as captured in the 2006 HBSC Survey (Nic Gabhainn *et al*, 2007). Figure 37 shows the number of young people who have 'ever taken cannabis' at each wave of data collection. At baseline, just 1% of the control group members had ever taken cannabis, which rose to 11% over the 2 years to the Wave 4 data collection. The rate of increase for intervention group members was lower, rising from 3% at Wave 1 to 7% at Wave 4. The trends are positive, but the difference is not statistically significant. National HBSC data for 2006 indicated that 8% of children aged 12-14 and 29% of children aged 15-17 reported that they had ever used cannabis (OMCYA, 2008). The sample in the present study is likely to range in age from 12-16 by Wave 4. Because drug use increases with age, it is difficult to make an exact comparison with national figures.

Figure 37: Percentage of sample reporting that they had 'ever taken cannabis' at each wave of data collection



Analysis of matching to a mentor

As noted previously, many of the participants assigned to the intervention condition were not matched to a mentor by the time of the Wave 2 interviews; indeed, 12 of the 84 young people in the intervention group were not matched to a mentor by the end of the study. This raises the possibility that the effects of the BBBS programme as estimated from the analysis of intervention effects may have been lessened by the lack of matching for some of the participants. We therefore conducted a second set of analyses where we used whether or not the young person was matched to a mentor as the predictor variable rather than the assigned condition (i.e. intervention *versus* control). The multilevel regression analyses were then repeated, using whether or not the participant was matched to a mentor at the time of each interview as the predictor variable.

Children’s Hope Scale: The regression results for the Children’s Hope Scale measure are presented in Table 39. As can be seen, the baseline measure of the Children’s Hope Scale was a statistically significant predictor of subsequent levels of that variable. There was also a statistically significant effect of matching to a mentor on the Children’s Hope Scale measure following the baseline assessment. The mean on the Children’s Hope Scale measure for the matched group ($M = 3.37$) was significantly higher than the mean for the non-matched group ($M = 3.19$). Scores on the Children’s Hope Scale measure did not change significantly over the subsequent 3 waves of assessment. The interaction between Matched x Time was also non-significant, indicating that the difference between the matched and non-matched groups did not vary significantly over time.

Table 39: Multilevel regression results for Children’s Hope Scale measure (matched group)

Predictor	Beta	SE	df	t
Children’s Hope Scale 1	0.389	0.056	142	6.94***
Matched	0.180	0.053	141	3.43**
Time (months)	0.005	0.003	265	1.50
Matched x Time	0.004	0.007	264	0.49

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Social Acceptance: The results for the impact of matching to a mentor on the Social Acceptance measure are presented in Table 40. The baseline measure of Social Acceptance was a statistically significant predictor of subsequent levels of that variable. The difference between the matched and non-matched groups on this variable was non-significant. Scores on Social Acceptance were found to increase significantly over the subsequent 3 waves of assessment. However, there was no evidence that the differences between the matched and non-matched groups varied over time based on the non-significant Matched x Time interaction.

Table 40: Multilevel regression results for Social Acceptance measure (matched group)

Predictor	Beta	SE	df	t
Social Acceptance 1	0.474	0.052	142	9.07***
Matched	0.095	0.062	141	1.54
Time (months)	0.013	0.004	266	3.30**
Matched x Time	-0.002	0.008	265	-0.03

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

School Liking: The next set of analyses examined the impact of matching to a mentor on the School Liking measure; the results are presented in Table 41. As can be seen, the baseline measure of School Liking was a statistically significant predictor of subsequent levels of that variable. The difference between the matched and non-matched groups on School Liking was marginally significant. Adolescents who were matched to a mentor reported higher levels of school liking ($M = 2.69$) than adolescents who were not matched with

a mentor ($M = 2.50$). Scores on School Liking also increased significantly over the subsequent 3 waves of assessment. However, there was no evidence of a significant Matched x Time interaction, indicating that the differences between the matched and non-matched groups did not vary over the 3 waves of assessment.

Table 41: Multilevel regression results for School Liking measure (matched group)

Predictor	Beta	SE	df	t
School Liking 1	0.470	0.061	142	7.69***
Matched	0.193	0.100	141	1.94 ^a
Time (months)	0.016	0.006	265	2.70***
Matched x Time	0.014	0.012	264	1.11

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$; ^a $p = 0.053$

School Efficacy: The results for the analyses of the impact of the intervention on the School Efficacy measure are presented in Table 42. The baseline measure of School Efficacy was a statistically significant predictor of subsequent levels of that variable. The difference between the matched and non-matched groups on this variable was non-significant. There was a marginally significant effect of Time on School Efficacy scores, indicating that scores on this measure tended to increase over time. Finally, there was no evidence of an interaction between Matched x Time, indicating that the differences between the two groups did not change over time.

Table 42: Multilevel regression results for School Efficacy measure (matched group)

Predictor	Beta	SE	df	t
School Efficacy 1	0.442	0.066	142	6.68***
Matched	0.096	0.073	141	1.33
Time (months)	0.008	0.004	266	1.76 ^a
Matched x Time	-0.014	0.009	265	-1.58

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$; ^a $p = 0.08$

Plans for School and College Completion: The results from the analyses of the Plans for School and College Completion measure are presented in Table 43. Once again, the baseline measure of Plans for School and College Completion was a statistically significant predictor of subsequent levels of that variable. The difference between the matched and non-matched groups was marginally significant, with matched adolescents reporting plans for higher levels of education ($M = 9.42$) than adolescents who were not matched with a mentor ($M = 9.05$). The effect of Time was non-significant, indicating that Plans for School and College Completion did not appear to change over time. Finally, there was no evidence of an interaction between Matched x Time, indicating that the differences between the two groups did not change over time.

Table 43: Multilevel regression results for Plans for School and College Completion measure (matched group)

Predictor	Beta	SE	df	t
Plans for School and College Completion 1	0.460	0.056	142	8.28***
Matched	0.482	0.274	141	1.76 ^a
Time (months)	0.017	0.017	265	0.96
Matched x Time	-0.020	0.036	264	-0.56

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$; ^a $p = 0.08$

Misconduct: The results of the analyses of the Misconduct measure are presented in Table 44. The baseline measure of Misconduct was a statistically significant predictor of subsequent levels of that variable. The difference between the matched and non-matched groups on this variable was non-significant. Time was also non-significant, indicating that Misconduct did not change over time. Finally, there was no evidence of an interaction between Matched x Time.

Table 44: Multilevel regression results for Misconduct measure (matched group)

Predictor	Beta	SE	df	t
Misconduct 1	0.472	0.068	142	6.89***
Matched	0.003	0.055	141	0.06
Time (months)	-0.001	0.003	266	-0.31
Matched x Time	0.010	0.006	265	1.57

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Parental Trust: The results for the Parental Trust measure are presented in Table 45. As expected, the baseline measure of Parental Trust was a statistically significant predictor of subsequent levels of that variable. The difference between adolescents who were and were not matched with a mentor on the Parental Trust measure was non-significant. Parental Trust was not found to change significantly over time and the Matched x Time interaction was also non-significant.

Table 45: Multilevel regression results for Parental Trust measure (matched group)

Predictor	Beta	SE	df	t
Parental Trust 1	0.417	0.057	142	7.26***
Matched	0.082	0.070	141	1.18
Time (months)	0.004	0.004	266	0.84
Matched x Time	0.003	0.009	265	0.33

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Friend Support: Results from the analyses of the first social support measure, assessing Friend Support, are presented in Table 46. Young people who reported having high levels of support from friends at baseline continued to do so over time, as evidenced by the baseline measure of Friend Support being a statistically significant predictor of subsequent levels of that variable. There was no evidence that levels of Friend Support differed as a function of being matched with a mentor. Finally, levels of support from friends did not change significantly over time and there was no evidence of an interaction between time and being matched to a mentor (Matched x Time).

Table 46: Multilevel regression results for Friend Support measure (matched group)

Predictor	Beta	SE	df	t
Friend Support 1	0.244	0.052	142	4.73***
Matched	0.044	0.042	141	1.03
Time (months)	0.003	0.003	264	0.87
Matched x Time	0.006	0.007	263	0.85

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Parental Support: Results from the analyses of the Parental Support measure are presented in Table 47. These results are virtually identical to the results for the Friend Support measure (*see above*). The baseline measure of Parental Support was a statistically significant predictor of subsequent levels of that variable. None of the other effects were found to be statistically significant. In other words, the difference between the matched and non-matched groups was non-significant and there was no evidence that levels of Parental Support changed over time. Finally, the interaction between Matched x Time was also non-significant.

Table 47: Multilevel regression results for Parental Support measure (matched group)

Predictor	Beta	SE	df	t
Parental Support 1	0.470	0.061	142	7.75***
Matched	0.047	0.048	141	0.98
Time (months)	-0.001	0.003	262	-0.31
Matched x Time	-0.003	0.006	261	-0.52

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Sibling Support: Regression results from the analyses of the Sibling Support measure are presented in Table 48. The baseline measure of Sibling Support was found to be a highly significant predictor of subsequent levels of that variable. The difference between the matched and non-matched groups was marginally significant. Adolescents who were matched with a mentor reported higher levels of Sibling Support ($M = 2.39$) than adolescents who were not matched with a mentor ($M = 2.24$). There was no evidence that levels of Sibling Support changed over time and the difference between the groups did not appear to vary over time as evidenced by the non-significant Matched x Time interaction.

Table 48: Multilevel regression results for Sibling Support measure (matched group)

Predictor	Beta	SE	df	t
Sibling Support 1	0.519	0.053	134	9.87***
Matched	0.110	0.062	133	1.79 ^a
Time (months)	0.006	0.004	245	1.38
Matched x Time	0.001	0.009	244	0.11

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$; ^a $p = 0.07$

Other Adult Support: Results for the measure of Other Adult Support are provided in Table 49. The baseline measure was found to be a highly significant predictor of subsequent levels of Other Adult Support. It was expected that, given the receipt of mentoring, the difference between the matched and non-matched adolescents would be statistically significant. However, this difference was found to be non-significant ($p = 0.13$). There was no evidence that levels of Other Adult Support changed over time. Finally, the interaction between Matched x Time was non-significant, indicating that the difference between the matched and non-matched groups did not vary significantly over time.

Table 49: Multilevel regression results for Other Adult Support measure (matched group)

Predictor	Beta	SE	df	t
Other Adult Support 1	0.360	0.052	142	6.88***
Matched	0.088	0.058	141	1.51
Time (months)	-0.004	0.005	261	-0.93
Matched x Time	-0.006	0.010	260	-0.66

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Total Social Support: Results for the measure of Total Social Support are presented in Table 50. Once again, the baseline measure was found to be a highly significant predictor of subsequent levels of Total Social Support. The difference between the matched and non-matched adolescents on this measure was marginally significant. Members of the matched group reported higher levels of overall support ($M = 2.59$) than members of the non-matched group ($M = 2.51$). There was no evidence that levels of overall support changed over time and the Matched x Time interaction was non-significant, indicating that the difference between the matched and non-matched groups did not vary over time.

Table 50: Multilevel regression results for Total Social Support measure (matched group)

Predictor	Beta	SE	df	t
Total Social Support 1	0.543	0.053	142	10.31***
Matched	0.053	0.036	141	1.81 ^a
Time (months)	0.002	0.002	265	0.12
Matched x Time	0.001	0.005	264	0.18

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$; ^a $p = 0.07$

Alcohol Use: Results for the measure of Alcohol Use are presented in Table 51. Once again, the baseline measure of Alcohol Use was found to be a highly significant predictor of subsequent levels of that variable. The difference between the matched and non-matched groups on this measure was not statistically significant. Perhaps not surprisingly, levels of alcohol use were found to increase significantly over time. The Matched x Time interaction was non-significant, indicating that the difference between the matched and non-matched adolescents did not vary over time.

Table 51: Multilevel regression results for Alcohol Use measure (matched group)

Predictor	Beta	SE	df	t
Alcohol Use 1	0.832	0.134	142	6.19***
Matched	0.075	0.087	141	0.86
Time (months)	0.014	0.004	265	3.12**
Matched x Time	-0.003	0.009	264	-0.32

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Cannabis Use: Results for the measure of Cannabis Use are presented in Table 52. In contrast to the previous variables, there was no relationship between the Wave 1 measure of cannabis use and subsequent levels of use. As noted previously, this result reflects that fact that there was very little evidence of cannabis usage among the adolescents at Wave 1. The difference between adolescents who were and were not matched with a mentor was non-significant. Levels of cannabis use also did not change significantly over time and there was no evidence of a Matched x Time interaction.

Table 52: Multilevel regression results for Cannabis Use measure (matched group)

Predictor	Beta	SE	df	t
Cannabis Use 1	0.145	0.193	142	0.75
Matched	-0.044	0.069	141	-0.63
Time (months)	0.006	0.004	265	1.31
Matched x Time	0.008	0.009	264	0.88

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Analysis of moderators

The logic model underpinning the research suggests that the mentoring intervention may work differently for some young people due to differences in their age, family context or the amount of the intervention they receive. The quality or closeness of the match is also considered to be a critical moderator of outcomes. Therefore, a series of analyses of the data from the young people was undertaken to assess the following possible moderators of programme effects, with the results described below:

- adherence to recommended match lengths and frequency of meeting;
- perceived quality or closeness of the match;
- family context;
- age;
- gender.

Adherence to recommended match lengths and frequency of meeting

Research has found that the longer a match lasts, the better the outcomes for mentees and also that frequent meetings are required in order for the relationship to develop to the degree to which outcomes can be realised (Rhodes, 2002; DuBois *et al*, 2002). Analysis was conducted to explore whether match duration and dosage were moderators of effects in the present study.

The analysis explored whether meeting the required dosage levels and being matched for a minimum of 12 months moderated outcomes. By the end of the study, 25 matches had met the 'ideal type' criteria of being matched for a minimum of 12 months and meeting for an average of 4 hours per month over this time. A one-way between-groups analysis of covariance was conducted to compare the scores on the Children's Hope Scale at Wave 4 for young people adhering to the 'ideal type' criteria with those for participants not adhering to this 'ideal type'. The independent variable was whether or not they conformed to the 'ideal type' and the dependent variable consisted of scores on the Children's Hope Scale at Wave 4. Participants' scores on the Children's Hope Scale at baseline were used as the covariate in this analysis.

Preliminary checks were conducted to ensure that there were no violations of the assumptions of normality, linearity, homogeneity of variances, homogeneity of regression slopes and reliable measurement of the covariate. After adjusting for pre-intervention scores, the difference between the ideal type and non-ideal type groups on the Children's Hope Scale at Wave 4 was marginally significant ($F(1, 131) = 3.63, p = 0.059$, partial eta squared = 0.03). The relationship between the Wave 1 and Wave 4 scores on the Children's Hope Scale was 0.16. These results suggest that adherence to programme criteria in respect of match duration and recommended minimum meeting hours is associated with marginally significant differences in outcomes on the Children's Hope Scale. The effects of the intervention may be more clearly seen with a larger sample.

Perceived quality or closeness of the match

According to the logic model underpinning this research, young people are unlikely to benefit from the mentoring relationship if a strong bond of friendship and trust does not develop between the mentor and mentee. Multiple regression analyses were conducted to assess if there is a link between outcome scores and the young person's perception of the supportiveness and quality of their mentoring relationship. Such analyses were undertaken in respect of two measures for which significant results were found at Wave 4 – the Children's Hope Scale and Total Social Support – to predict the degree to which aspects of the mentoring relationship predicted outcome scores. Three predictors were entered simultaneously into the analysis: 'not unhappy', 'helped to cope' and 'mentor support'. The first two of these scales were developed

by Rhodes (2005) to assess the young person's perception of the degree to which the mentor helped them to cope and the degree to which they are happy in the relationship. The third scale, 'mentor support', was an adapted version of the social support measure developed to assess the young person's perception of the supportiveness of their mentoring relationship (Dolan and Cutrona, 2004).

The overall variance explained by the model for the Children's Hope Scale was 44%. Two of the predictors were positively related to the outcome variable, with 'mentor support' making the largest contribution ($\beta = 0.28, p = 0.04$), followed by 'helped to cope' ($\beta = 0.26, p = 0.99$). 'Not unhappy' ($\beta = -0.06, p = 0.61$) was not related.

For the Total Social Support measure, 40% of the variance was explained by the model. Just one of the predictors, 'mentor support', was significantly related to the outcome variable ($\beta = 0.38, p = 0.00$), while 'helped to cope' ($\beta = 0.00, p = 0.99$) and 'not unhappy' ($\beta = 0.05, p = 0.68$) were not significantly related.

Closeness: Young people in the intervention group were asked the question 'How close do you feel to your big?' Respondents could answer 'not very close', 'somewhat close' or 'very close'. At Wave 4, 59% of young people said that they felt 'very close' to their mentor, 26% felt 'somewhat close' and 15% felt 'not very close'.

A one-way between-groups analysis of variance was conducted to explore if these ratings of closeness predicted scores on the outcome measures at Wave 4. There was a statistically significant difference at the $p < 0.05$ level on the Children's Hope Scale for the 3 ratings of closeness ($F(2, 51) = 3.5, p = 0.03$). Post-hoc comparisons using the Tukey HSD test indicated that the mean score for the 'very close' group ($M = 3.41, SD = 0.48$) differed significantly to the 'not very close' group ($M = 2.87, SD = 0.64$). The 'somewhat close' group ($M = 3.29, SD = 0.51$) did not differ significantly from either group.

Analyses indicate a relationship between young people's ratings of mentor support, help with coping and closeness with their mentor and two of the outcome measures. The results suggest that young people felt better supported overall and/or were more hopeful when they felt that their mentor was supportive.

Family context

Interventions such as Big Brothers Big Sisters are considered valuable in the context of lone-parent families as a means of supplementing the support available to children in these families. So, has the BBBS intervention had a differential impact on young people not living with both parents? In the study sample, 46% of young people did not live with both parents at baseline and these young people scored consistently lower on the measures than did young people who lived with both parents.

A 2 by 2 between-groups analysis of covariance was conducted to assess whether family context was a moderator of programme effects. The two independent variables were family context (lives with both parents or not) and treatment condition (intervention or control). The dependent variable consisted of scores on the Total Social Support scale at Wave 4. Participants' scores on the Total Social Support measure at baseline were used as the covariate in this analysis.

Preliminary checks were conducted to ensure that there were no violations of the assumptions of normality, linearity, homogeneity of variances, homogeneity of regression slopes and reliable measurement of the covariate. After adjusting for baseline scores, a significant interaction between family context and treatment condition was found ($F(1,126) = 6.37, p = 0.01, \text{partial eta squared} = 0.04$). These results suggest that the BBBS programme results in better overall support for young people not living with both parents compared to young people who do live with both parents. It suggests that the programme can help to increase the levels of support for young people not living with both parents, bringing them closer to the levels for young people living with both parents.

Similar results were found in respect of the Parental Support measure. After adjusting for baseline scores, a significant interaction between family context and treatment condition was found for the Parental Support measure ($F(1,125) = 4.3, p = 0.04, \text{partial } \eta^2 = 0.03$). These results suggest that the BBBS programme results in better parental support for young people not living with both parents compared to young people who do live with both parents. Similar trends were evident in relation to the other youth outcome measures, although none were statistically significant.

The results of the analyses indicate that young people not living with both parents in the intervention group improved relative to young people not living with both parents in the control group on measures of Parental Support and Total Social Support. This suggests that the intervention may be successful in reducing the disparity in perceived support between young people not living with both parents and those who do.

Age

A one-way between-groups analysis of variance test was conducted to explore the impact of age at baseline on all outcome measures at Wave 4 for the overall sample and then, specifically for members of the intervention group. Participants were divided into 3 age groups – 10-11, 12-13 and 14 years and over. No significant differences were found, suggesting that age is not a moderator of BBBS programme effects.

Gender

It is possible that the outcomes of mentoring are different for males and females. In order to explore this, a 2 by 2 between-groups analysis of variance was conducted to assess whether gender was a moderator of BBBS programme effects. The two independent variables were gender and treatment condition (intervention or control). The dependent variable consisted of scores on the Children's Hope Scale at Wave 4. Participants' scores on the Children's Hope Scale at baseline were used as the covariate in this analysis.

Preliminary checks were conducted to ensure that there were no violations of the assumptions of normality, linearity, homogeneity of variances, homogeneity of regression slopes and reliable measurement of the covariate. After adjusting for baseline scores, no significant interaction differences between gender and treatment condition were found ($F(1,129) = 1.53, p = 0.21, \text{partial } \eta^2 = 0.01$). The evidence therefore suggests that gender is not a moderator of BBBS programme effects in this study.

Summary

This chapter has described the measures used as part of the young people's survey, all of which were found to be reliable. At baseline, none of the differences between groups were found to be statistically significant nor was there a significant difference in the rate of missing data for control and intervention groups.

Several different forms of analysis were used in this study:

- First, mean scores for intervention and control groups were compared and effect sizes calculated to identify the standardised mean difference (Cohen's d) between the groups at each wave of data collection. Effect sizes ranged from -0.05 to 0.22, with an average effect size of 0.09 across the 14 measures.
- Second, because of the small sample size in the study, which made it difficult to detect statistical significance, a multilevel regression analysis was used to provide a greater degree of power to the analysis. This analysis found evidence of statistically significant differences in relation to 3 measures, namely the Children's Hope Scale ($p < 0.001$), Other Adult Support ($p < 0.001$) and Total Social Support ($p < 0.05$). (see Table 53).

- Third, a regression analysis was also undertaken to compare outcomes for the cohort who were actually matched with a mentor (because 12 of the 84 intervention group members were never matched) with those in both groups who were never matched. This analysis found one measure to be statistically significant and 4 others to be marginally significant.

A summary of the findings from Wave 4 is outlined in Table 53.

Table 53: Summary of findings for each measure in young people's survey

Outcome	Cohen's <i>d</i> (effect size) at Wave 4	Significant results for intervention group	Significant results for matched group
Children's Hope Scale	0.22	<i>p</i> < 0.001	<i>p</i> < 0.01
Social Acceptance	0.07		
School Liking	0.04		Marginal <i>p</i> < 0.053
Scholastic Efficacy	-0.02		
Plans for School and College	0.08		Marginal <i>p</i> < 0.08
Misconduct	-0.05		
Parental Trust	0.16		
Social Support: Friends	0.19		
Social Support: Parents	-0.02		
Social Support: Siblings	0.14		Marginal <i>p</i> < 0.07
Social Support: Other Adults	0.13	<i>p</i> < 0.001	
Total Social Support	0.13	<i>p</i> < 0.05	Marginal <i>p</i> < 0.07
Ever used Alcohol	0.11		
Ever used Drugs	0.17		
Average impact	0.09		

As illustrated in Figure 38, the average Cohen's *d* across the 14 measures used in the young people's survey (12 scales and 2 single item questions) was 0.01 at Wave 1, indicating a broad statistical equivalence between control and intervention groups at baseline. An average Cohen's *d* of 0.15 was recorded for Wave 2, which rose to 0.19 at Wave 3 and decreased to 0.09 at Wave 4. According to the criteria developed by Cohen (1988), a small effect is represented by a Cohen's *d* of 0.20. As can be seen, the average value of *d* for the 14 dependent variables was close to 0.20 at Waves 2 and 3, suggesting that the intervention had a small effect across this variety of outcome variables.

The effects recorded are consistent with other studies of mentoring. For example, the Tierney *et al* (1995) study of community-based mentoring recorded an average effect size of 0.06 at 18 months post-baseline, at which equivalent time point (Wave 3) an effect size of 0.19 was recorded for the present study. The meta-analysis by DuBois *et al* (2002) of 55 mentoring studies found an average effect size of 0.14. These results therefore suggest that this BBBS Ireland intervention had an impact in a similar range to that found in previous studies.

Figure 38: Average effect sizes at each wave of data collection

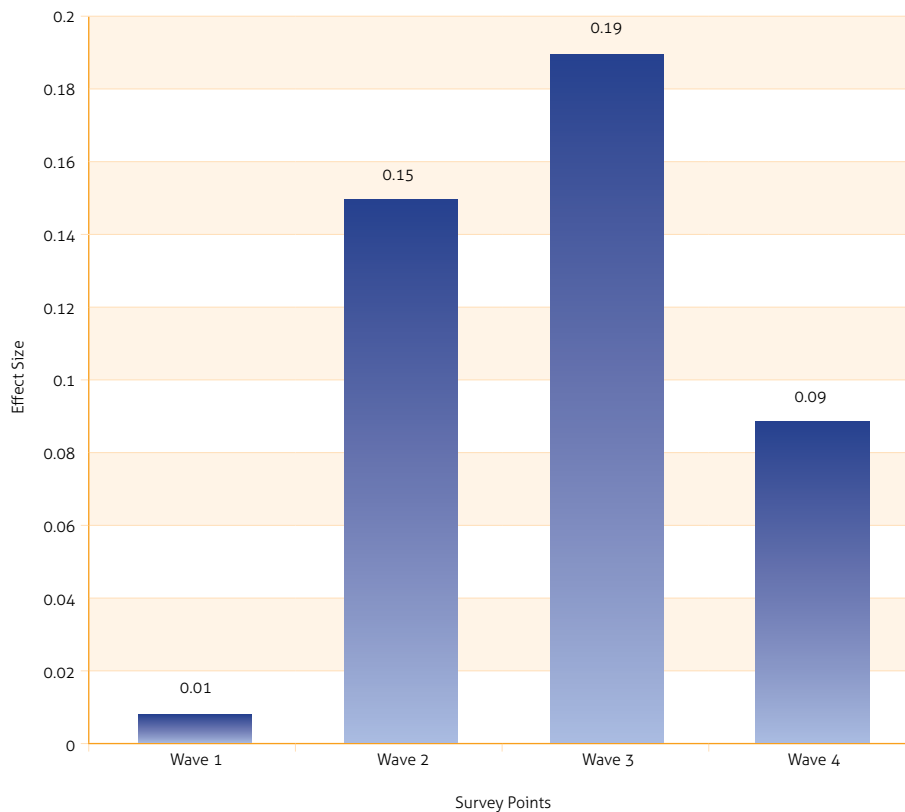


Table 54 summarises these findings in relation to each of the outcome areas assessed as part of the study. Some evidence of a positive impact of the programme has been found for all 4 outcome areas. Of the 2 measures of emotional well-being that were used, strongest results are recorded for the Children’s Hope Scale (which measures young people’s sense of hopefulness for the future and feelings of efficacy in relation to their future).

Two of the 3 outcome measures in the area of education showed positive effects. Members of the intervention group or those participants matched with a mentor scored higher on Plans for School and College Completion, including whether they anticipated finishing school, going to college and finishing college. They also recorded a higher level of School Liking than their non-mentored counterparts. However, there was no evidence that the intervention improved their sense of Scholastic Efficacy in relation to school.

While the Misconduct measure of risk behaviour showed a slightly negative effect, there were positive trends evident for the Alcohol and Cannabis Use measures, although these trends were not statistically significant.

Five of the 6 measures assessing the quality of interpersonal relationships and social support showed positive results. The strongest findings were in the areas of Perceived Support from Other Adults and Total Social Support, the latter measuring the combined support from parents, peers, siblings and other adults. Measures of Friend Support, Sibling Support and Parental Trust also showed positive outcomes for the matched group. Surprisingly, the measure of Parental Support went against this trend, recording a slightly negative effect size ($d = -0.02$) at Wave 4 – a considerable change from the 0.18 effect size recorded at Wave 3 for that measure.

Table 54: Summary of findings for each outcome area assessed

Outcome area	Measure	Strongest evidence of impact: <i>Statistically significant and effect size in excess of 0.10</i>	Promising evidence of impact: <i>Effect size greater than 0.05 and/or marginally statistically significant findings for Matched group</i>	Little or no evidence of impact: <i>Effect size in the range of + or - 0.05 and no statistically significant findings</i>
Emotional well-being	Children's Hope Scale	✓		
	Social Acceptance		✓	
Education	Plans for School and College Completion		✓	
	School Liking		✓	
	Scholastic Efficacy			✓
Risk behaviour	Misconduct			✓
	Alcohol Use		✓	
	Cannabis Use		✓	
Relationships and social support	Parental Trust		✓	
	Parental Support			✓
	Friend Support		✓	
	Sibling Support		✓	
	Other Adult Support	✓		
	Total Social Support	✓		

This chapter also explored whether a range of factors moderated the effects of the BBBS programme on participants. Like the findings of the meta-analysis of mentoring studies by DuBois *et al* (2002), age and gender were not found to be moderators of programme effects. However, also in keeping with these authors, frequency of meeting, duration and closeness were predictors of enhanced outcomes. This underlines the importance of programme practices in ensuring that mentoring matches are of a good quality, are supported to meet regularly and for a minimum of 12 months. The analysis also suggests that the programme may work particularly well in terms of supporting young people living in one-parent households.

Chapter 7 presents the results of analyses of the parents' survey. In Chapter 8, we will return to the findings of the young people's survey to consider the implications of the overall study.

7. RCT Findings: Parents' survey

This chapter describes the measures used as part of the parents' survey and provides information on the reliability of these measures. The analyses of the survey data are then presented. The second part of the chapter returns to the young people's survey data and explores whether factors such as age, gender, length of match, frequency of meeting and match quality had an effect on outcomes from the intervention.

Survey measures for parents

As described in Chapter 3, parents of participating young people were asked to complete a short questionnaire at the time of the baseline survey and then again at Waves 2, 3 and 4. There were two measures, or scales, used with parents:

1. Strengths and Difficulties Questionnaire (SDQ): This is a behavioural screening questionnaire about 3-16 year-olds (Goodman, 1997). The parent version of the SDQ asks about 25 positive and negative attributes of the young person. These 25 items are divided into 5 sub-scales:

- emotional symptoms (5 items);
- conduct problems (5 items);
- hyperactivity/inattention (5 items);
- peer relationship problems (5 items).

The results of these sub-scales are summed together to generate a **Total Difficulties** score.

The SDQ measure also includes a sub-scale that assesses positive behaviour:

- prosocial behaviour (5 items).

2. Academic achievements: Parents were asked to rate how well they thought their child was doing in 3 academic subjects (mathematics, English and Irish) and his or her overall academic performance.

Tests of reliability were conducted for each of these scales. Internal consistencies were all acceptable (with the exception of the SDQ sub-scales 'emotional symptoms' at baseline and 'peer relationship problems' at Wave 3). The reliability coefficients for the scales at baseline and the 3 other data collection time points (Waves 2-4) are outlined in Table 55.

Table 55: Reliability coefficients for measures used in parents' survey

Parent	Coefficient alpha				
	Items	Baseline	Wave 2	Wave 3	Wave 4
Strengths and Difficulties: Emotional symptoms	5	0.50	0.66	0.75	0.68
Strengths and Difficulties: Conduct problems	5	0.67	0.63	0.66	0.70
Strengths and Difficulties: Hyperactivity/inattention	5	0.69	0.70	0.72	0.75
Strengths and Difficulties: Peer relationship problems	5	0.64	0.63	0.58	0.62
Strengths and Difficulties: Prosocial behaviour	5	0.71	0.75	0.74	0.73
Total Difficulties	20	0.78	0.80	0.82	0.84

Analysis of parental data

Missing data

One or more of the questionnaires across the 4 waves of assessment were collected from 131 parents (80% of the sample). Table 56 provides information on the pattern of missing data across the 4 waves of parental assessment. Complete data across the 4 assessments were available for only 67% of the parents, with 20% not providing data at any of the 4 time points. The remaining parents provided partial data, with a wide variety of missing data patterns being shown.

Table 56: Missing data patterns in parents' survey

	Frequency	%
Completed all questionnaires	110	67%
Missing Waves 1-4	33	20%
Missing Waves 3-4	5	3%
Missing Wave 2	8	5%
Missing Wave 3	3	2%
Missing Wave 4	5	3%

Due to these problems with missing data, multiple imputation procedures were employed to develop complete datasets with no missing data. These imputed datasets were then used in conducting multilevel regression analyses to test for the effects of time and treatment condition on the assessments. It should be noted that we did not have an exact measurement of when the questionnaires were completed by the parents; therefore, we used the wave of assessment as the measure of time in these analyses.

Total Difficulties

Results for the Total Difficulties measure are calculated by summing together scores on the 4 sub-scales (*the sub-scale results are provided in Appendix 2*). A higher score on this measure indicates a greater number of problems for the child. As Figure 39 shows, intervention group parents rated their children as having higher levels of difficulties at baseline and at all subsequent waves of assessment than did control group parents. However, the magnitude of difference between the groups decreased over time, with parents in the intervention group reporting a greater decline in difficulties than parents in the control group. The Cohen's *d* statistic for the Total Difficulties measure is presented in Table 57 and illustrates the decrease in differences between the groups over time.

Figure 39: Total Difficulties scores over time

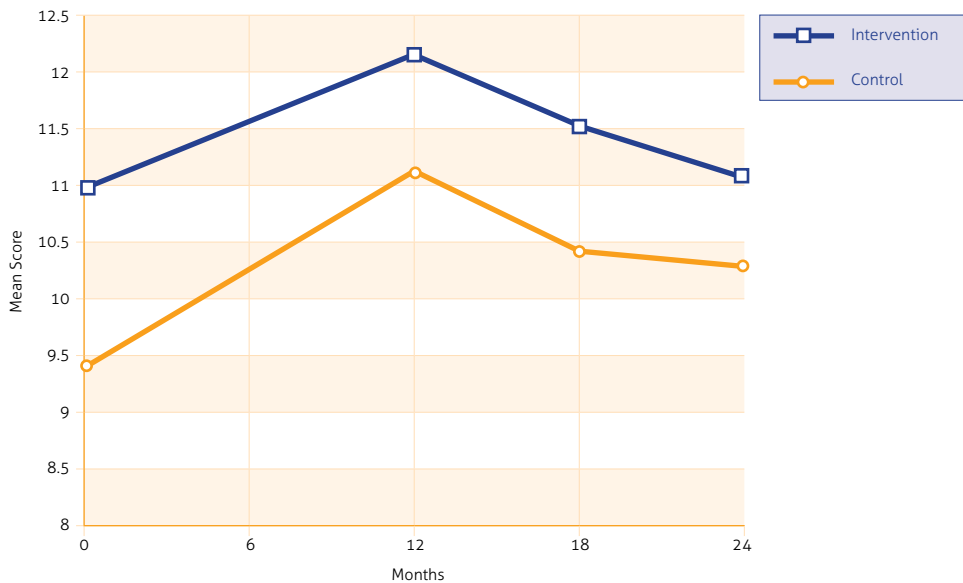


Table 57: Magnitude of the differences between intervention and control groups on Total Difficulties measure

Interview	Wave 1	Wave 2	Wave 3	Wave 4
Cohen's <i>d</i>	-0.28	-0.15	-0.16	-0.11

Note: Wave 1 is Month 0 in Figure 39, Wave 2 is Month 12, Wave 3 is Month 18 and Wave 4 is Month 24.

The multilevel regression results for the Total Difficulties measure are presented in Table 58. The Wave 1 Total Difficulties score was a statistically significant predictor of Total Difficulties scores across the subsequent 3 waves of assessment. Statistically significant changes over time were also found for the Total Difficulties score, indicating that adjustment was improving over Waves 2 through 4 for participants in the study. The intervention group was not found to be a statistically significant predictor of scores on this measure, nor was there a statistically significant intervention in the Group x Wave interaction.

Table 58: Multilevel regression results for Total Difficulties score

Predictor	Beta	SE	df	t
Strengths and Difficulties 1	0.711	0.067	130	10.68***
Group	0.372	0.790	129	-0.47
Wave	-0.423	0.231	235	-1.83 ^a
Group x Wave	0.167	0.464	233	0.36

Note: Group was coded intervention (1) and control (0). Wave is coded Wave 2 (-1), Wave 3 (0) and Wave 4 (+1).

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$; ^a $p = 0.07$

Prosocial Behaviour

Results for the Prosocial Behaviour sub-scale are presented in Figure 40. Unlike the other SDQ sub-scales, a higher score on this measure indicates a positive outcome (i.e. a greater number of prosocial behaviours). As Figure 40 shows, the ratings of intervention group parents became progressively more positive over the course of the study. By contrast, the ratings of control group parents showed a large increase from baseline to Wave 2 and then a fairly sharp decline from Waves 2 to 4. The Cohen's *d* statistic for the Prosocial Behaviour measure, presented in Table 59, shows this change from a small to moderately higher score for the control group at Wave 2 to a small to moderately higher score for the intervention group at Wave 4.

Figure 40: Prosocial Behaviour scores over time

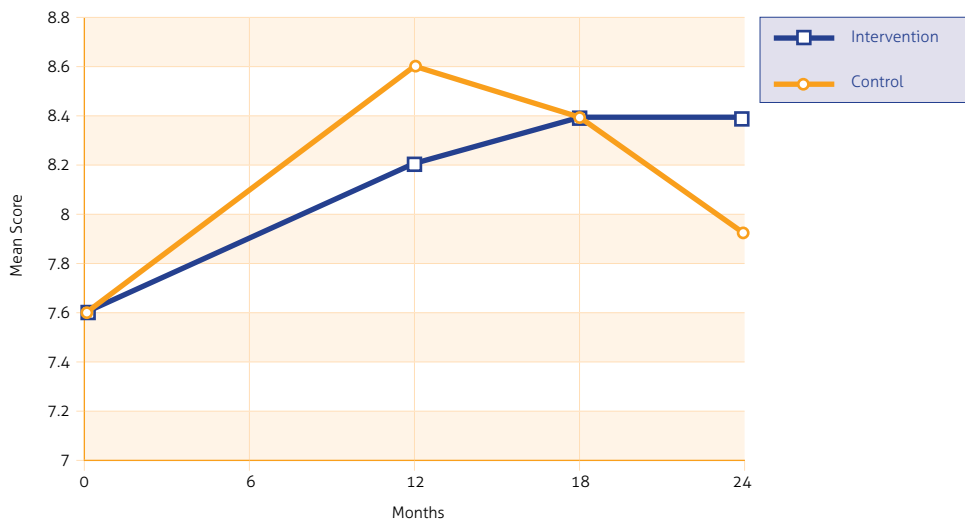


Table 59: Magnitude of the differences between intervention and control groups on Prosocial Behaviour sub-scale

Interview	Wave 1	Wave 2	Wave 3	Wave 4
Cohen's <i>d</i>	0.01	-0.24	-0.02	0.28

Note: Wave 1 is Month 0 in Figure 40, Wave 2 is Month 12, Wave 3 is Month 18 and Wave 4 is Month 24.

The multilevel regression results for the Prosocial Behaviour measure are presented in Table 60. Once again, the Wave 1 score for this measure was a statistically significant predictor of prosocial scores across the subsequent 3 waves of assessment. The intervention group was not found to be a statistically significant predictor of prosocial scores. However, there was a statistically significant Group x Wave interaction for the measure. Analyses of the simple effects of this interaction indicated that there was a statistically significant decline in prosocial behaviour among members of the control group from Waves 2 through 4 ($\beta = -0.39$, $p < 0.001$), whereas the change over time for members of the intervention group was positive, although not statistically significant ($p = 0.13$).

Table 60: Multilevel regression results for Prosocial Behaviour

Predictor	Beta	SE	df	t
Prosocial Behaviour 1	0.501	0.069	130	7.22***
Group	-0.065	0.244	129	-0.27
Wave	-0.116	0.086	235	-1.35
Group x Wave	0.465	0.144	233	3.22**

Note: Group was coded intervention (1) and control (0). Wave is coded Wave 2 (-1), Wave 3 (0) and Wave 4 (+1).

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Academic Performance

Parents were asked to evaluate the Academic Performance of their child in several different subject areas (mathematics, English and Irish) and also to rate their overall academic performance. These ratings were made on a 5-point Likert scale, ranging from 'Not good at all' to 'Excellent'. Not surprisingly, scores on these measures were highly correlated (r ranged from 0.46 to 0.75) and the results were very similar for the 4 measures. Therefore, results are presented for only one of the measures – overall academic performance.

As shown in Figure 41, there was a general decline in academic performance as seen by the parents over time for both groups of children. Intervention group parents rated their children as having a higher level of academic performance than did control group parents at baseline, Wave 2 (12 months) and Wave 4 (24 months). The Cohen's d statistic for the measure of Academic Performance is presented in Table 61.

Figure 41: Academic Performance scores over time

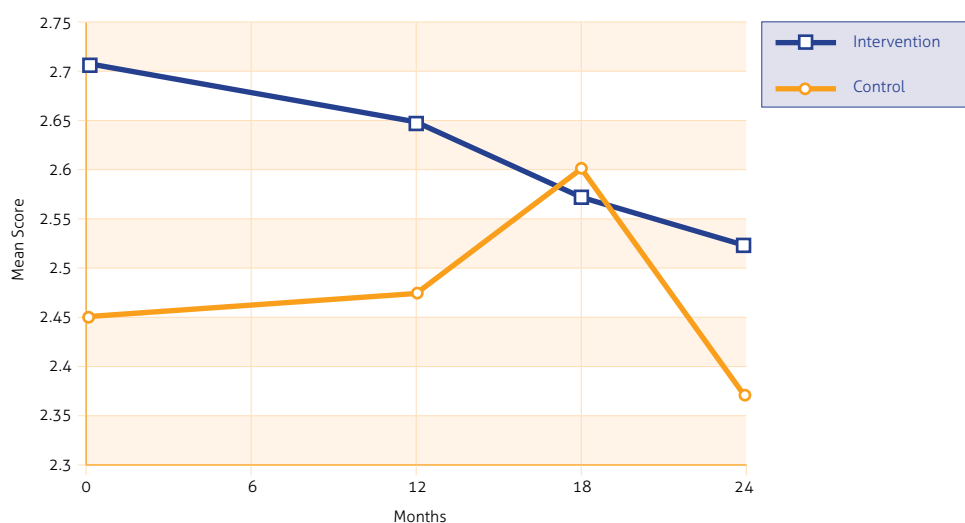


Table 61: Magnitude of the differences between intervention and control groups on Academic Performance measure

Interview	Wave 1	Wave 2	Wave 3	Wave 4
Cohen's d	0.22	0.17	-0.03	0.16

Note: Wave 1 is Month 0 in Figure 41, Wave 2 is Month 12, Wave 3 is Month 18 and Wave 4 is Month 24.

As shown in Table 62, multilevel regression analysis indicated that, once again, the baseline measure of Academic Performance was a statistically significant predictor of parent ratings over the subsequent 3 assessments. These ratings did not, however, vary significantly by treatment condition. There was a marginally significant effect of wave of assessment, reflecting the general decline in scores on this measure over time for both groups. Finally, this pattern of change over time did not vary by treatment group, as reflected by the non-significant Group x Wave interaction.

Table 62: Multilevel regression results for Overall Academic Performance

Predictor	Beta	SE	df	t
Academic Performance 1	0.551	0.043	127	12.82***
Group	-0.077	0.097	126	-0.79
Wave	-0.071	0.041	225	-1.75 ^a
Group x Wave	0.010	0.081	223	0.12

Note: Group was coded intervention (1) and control (0). Wave is coded Wave 2 (-1), Wave 3 (0) and Wave 4 (+1).

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$; ^a $p = 0.08$

Summary

The parents' survey consisted of the Strengths and Difficulties Questionnaire (SDQ) and questions assessing their perception of their children's academic performance. The SDQ measure has 5 sub-scales, along with a Total Difficulties score computed by summing together scores on the 4 negative sub-scales. Surprisingly, in spite of random assignment to condition, parents of intervention group youth reported significantly higher levels of emotional symptoms and conduct problems at baseline. These parents continued to rate their children as having higher levels of problems across most measures, but the magnitude of difference decreased, as seen in Figure 39.

The higher reporting of difficulties on the part of intervention group parents is puzzling, given that random assignment generally results in a broad statistical equivalence between intervention and control groups. The majority of parents' surveys were completed after participants had been informed of which group they were assigned to. It may be that parents of intervention group youth perceived their child as having worse problems because they were going to receive the intervention. Also, there is a higher level of missing data for control group parents, which may have meant that these parents, likely to indicate a higher level of problems, were more prone to dropping out if their child was not going to receive the intervention (i.e. mentoring).

With regard to the Total Difficulties measure, ratings of difficult behaviour by intervention group parents increased at Wave 2, but then declined at Waves 3 and 4, bringing them in line with the levels of difficulties reported at baseline. Ratings of control group parents followed a similar pattern, increasing at Wave 2 and declining at Waves 3 and 4. However, the Wave 4 level was higher than reported at baseline for this group. Although reporting of difficult behaviour by control group parents had increased at Wave 4 (whereas the ratings of intervention group parents did not), the intervention group was not found to be a statistically significant predictor of scores on any of these measures or on any of the SDQ sub-scales. Examination of the trends over time on the SDQ sub-scales (see *Appendix 2*) indicates that the relative changes between the two groups were caused by a slightly improved rating by intervention group parents on the emotional symptoms and conduct problems sub-scales.

As reported above, there was a statistically significant Group x Wave interaction for the measure of Prosocial Behaviour. Analyses of the simple effects of this interaction indicated that there was a statistically significant decline in prosocial behaviour among members of the control group over Waves 2 through 4 ($\beta = -0.39, p < 0.001$), whereas the change over time for members of the intervention group was positive, although not statistically significant ($p = 0.13$).

Parents' rating of their children's Academic Performance did not show any significant effects. Both intervention and control group parents felt that their child's academic performance was worse at Wave 4 than it was at baseline. This possibly reflects the fact that a considerable number of young people taking part in the study would have made the transition to secondary school over the course of the study. This would involve taking on new subjects and adjusting to a new academic environment, which is likely to take some time.

Overall, therefore, the parents' survey data highlight some positive trends. The significant increase in perceived prosocial behaviour on the part of intervention group parents is a positive sign. This result is in keeping with the findings of the data from the young people's survey in relation to improved support and hopefulness. It is possible that young people are more likely to behave in a more sociable way because they are feeling more hopeful and better supported by their social network. It also supports Rhodes' (2005) model of youth mentoring, which suggests that mentoring can help young people in their social and emotional development by demonstrating positive ways of interacting with others and regulating emotions. The qualitative strand of this research explores this issue in more detail (see *Report 2 in the study's series*).

8. Summary and Conclusions

Most participants in this study were in the 10-14 age group, a phase commonly referred to as early adolescence. This is a time of great change for a young person, when the biological transition of puberty, the educational transition from primary to secondary school and the psychological shifts that accompany these developments all take place. Teenagers are given more independence outside the home and spend more time with their peers. They have a greater ability to think abstractly, to reflect on their own identity and self-concept, and to try to come to a greater understanding of themselves and those around them.

Although the majority of young people pass through adolescence without great difficulty, behavioural problems can begin in early adolescence, when psychological problems also increase (Eccles, 1999). Relationships with parents can become difficult as young people question family rules and roles, and seek greater independence from the family. They may become more distant from parents and resist spending time with them outside the home. Although young people want to distance themselves from their parents, they often want to compensate for this with close relationships with other non-familial adults. They also turn to peers for support and guidance, and can prioritise peer acceptance over academic pursuits or family matters. Eccles (1999) and others (e.g. Feldman and Elliot, 1990) argue that the fit between the young person's psychological needs and the opportunities provided by the family, the school and other programmes can contribute to how a young person copes with the pressures experienced during this period.

Mentoring as an intervention reflects a positive youth development approach that focuses on strengthening the factors that foster healthy development in young people, rather than trying to remedy perceived weaknesses. The mentoring approach is based on the perspective that positive traits can serve as buffers, protecting individuals from the adverse effects of risk factors such as stressful life events (Masten and Coatsworth, 1998; Rutter, 1993).

The Big Brothers Big Sisters (BBBS) programme was introduced to Ireland by Foróige in 2001 in response to an identified need for a model of one-to-one work with young people. The BBBS programme model was chosen on the basis that it was a 'proven' model, with a growing body of evidence showing its effectiveness. The aim of the present study was to evaluate the programme's effectiveness in an Irish context. In Ireland, the programme is not delivered as a standalone intervention as it is in the USA and many other countries, but rather is provided as one component of community-based youth programmes for young people.

A total of 164 young people took part in the present study, of whom 84 were allocated to a intervention group to receive mentoring over the study period and 80 were allocated to a control group. Both intervention and control groups also took part in regular youth work activities. Young people taking part in the study were mostly aged between 10-14 and attended youth projects in the West of Ireland. Just under half of the sample (46%) came from one-parent households, while 7% of participants were from Traveller backgrounds, compared to 1% for this age group in the national population.

Standardised survey measures were used to assess outcomes for both groups at 4 time points over a 2-year period. The outcomes assessed related to 4 dimensions – emotional and mental well-being, education, risk and problem behaviour, and relationships and social support. A series of conclusions can be reached from the study, each of which is now discussed. The first two conclusions relate to the strongest evidence of outcomes identified, each of which is underpinned by statistically significant findings for the intervention *versus* control group analysis and a minimum effect size of 0.13 at Wave 4 (the end of the study, October 2009).

Key findings

Mentoring increases young people's sense of hope

This study showed that young people with a mentor had consistently higher levels of hope across the study period than young people without a mentor. Results for the Children's Hope Scale were strongest out of the 14 youth outcome measures assessed. There is a growing body of evidence demonstrating the importance of 'hope' as a psychological trait in children and adolescents (Valle *et al*, 2006). For example, research has shown a link between higher hope levels and life satisfaction, while those with higher levels of hope also report less emotional distress than those with average hope (Gilman and Dooley, 2006). High hope scores in children were also found to be correlated with positive social interactions, self-esteem, optimism and academic achievement (Snyder *et al*, 1997). Furthermore, young people who report higher levels of hope appear to be less at risk of experiencing increases in internalising behaviour problems and reductions in life satisfaction when confronted with adverse life events. These findings, therefore, suggest that higher levels of hope are associated with greater academic and psychological functioning among young people and that instilling hope in children and young people can strengthen their resilience and capacity to deal with difficulties they may experience in life.

This finding is in line with other research on mentoring, which has shown evidence of some impact on mental health. The meta-analysis by Dubois *et al* (2002) of over 55 studies of mentoring programmes found that there is a small, but significant positive effect for mentees in the area of enhanced psychological functioning. Students with mentors in the Across Ages programme (an intergenerational mentoring approach to drug prevention) had significantly better attitudes to the future than non-mentored participants or non-participants (LoSciuto *et al*, 1996).

Young people with a mentor feel better supported

Mentoring programmes are designed to create meaningful changes in the social support that young people receive and findings from the present study indicate that the intervention has been successful in improving young people's perceived social support. Participation in a programme such as BBBS widens the 'social convoy' or personal network of family, friends and others that children are exposed to. As expected from an intervention of this nature, the study findings indicate that young people have a higher level of support directly from other adults. In line with the logic model underpinning the research design, the findings also suggest that the mentoring intervention works to improve relationships and perceived support from parents, friends and siblings, resulting in an increased overall level of social support for young people with a mentor.

There is a strong body of evidence indicating the importance of social support in terms of the well-being of young people. In simple terms, the more support young people have, the better they can cope and the lesser their risk of poor psychological, social, academic and health outcomes (Malecki and Demaray, 2003). A range of studies has shown that adolescents with less social support are at increased risk of problems and that social support contributes to better adjustment generally. For example, Bal *et al* (2003) concluded from their study of 820 adolescents aged 12-18 that social support has a major impact on mental health and that adolescents

who had experienced a stressful event derived more benefit from the perceived availability of social support. Dolan's (2005) research with a similar population found that improved perceived social support can lead to improvements in self-rated mental health. Similarly, DuBois *et al* (2002) found that ratings of support from non-parental adults were linked to reports of more positive self-esteem, which in turn were predictive of improvements in emotional and behavioural problems as rated by youth, teachers and parents.

Other positive trends

While the two findings above are the strongest to emerge from this study, a number of other positive trends were evident in the data. It is possible that these trends would have been more clearly seen with a larger sample.

- **Young people with a mentor have a more positive approach to school:** Two of the 3 measures in this study showed positive outcomes related to schooling for young people with a mentor. Young people matched with a mentor were seen to like school better and to show greater intent to finish school and go to college than those not matched. Research shows that higher satisfaction with school is positively related to academic achievement and the student's quality of life at school. Byrne and Smyth (2010) in a large-scale study of early school-leaving in Ireland highlight that dislike of and alienation from school contributes to the decision to leave school early. Given the clear associations between early school-leaving and socio-economic disadvantage later in life, interventions that encourage young people to like school better and stay there for longer have to be welcomed. Furthermore, continued participation in school is considered to be a developmental asset on the basis that young people remaining in the school system are less likely to be exposed to risk factors than those who have left without qualifications (Leffert *et al*, 1998). Research also shows that low satisfaction with school is thought to contribute to health-compromising behaviours, such as smoking and alcohol use (Samdal *et al*, 2000).

Similar findings in relation to education have been found in other studies of mentoring. In their synthesis of outcomes from RCT evaluated programmes, Jekielek *et al* (2002) found evidence of improvement in attitudes to education from mentoring programmes. Rhodes *et al* (2000) hypothesised that mentors, by conveying messages regarding the value of school and serving as tangible models of success, may stimulate improved attitudes in adolescents towards school achievement, as well as their beliefs about the relationship between educational attainment and future educational opportunities. If adolescents place greater value on school, they are more likely to achieve academically and behaviourally in that context.

- **Young people with a mentor have more positive relationships with others:** In addition to the measures of social support, a number of findings in the present study suggest that young people with a mentor have more positive relationships with other people. For example, evidence of an improvement in young people's behaviour is indicated by the findings of the parents' survey, which showed that parents in the intervention group rated their children more positively on the Prosocial Behaviour scale than did parents in the control group. This scale includes items such as the young person's tendency to be nice to other people, to share with others, to be helpful if someone is feeling hurt, upset or ill, to be kind to younger children and to volunteer to help others.

The study also showed promising trends in relation to young people's sense of how they are accepted and supported by peers and siblings. As well as being of benefit for their coping, emotional well-being and quality of life in the 'here and now', research has shown that developing social competence with peers is important for later employment and social success (Huston and Ripke, 2006; Kelly *et al*, 2009). According to Rhodes (2005), mentoring relationships may offer a model of care and support to young people, thus challenging the negative views of themselves that they may hold and demonstrating that positive relationships with adults are possible. This experience may then generalise, helping young people to view other proximal relationships as more forthcoming and helpful.

- **Positive trends shown in relation to alcohol and cannabis use:** Although not statistically significant, trends in the study's data suggest that young people with a mentor may be less likely to use alcohol or cannabis. Again, in their synthesis of outcomes from RCT evaluated programmes, Jekielek *et al* (2002) found evidence from 3 studies to show outcomes in relation to drug and alcohol use. In the US BBBS evaluation by Tierney *et al* (1995), little brothers and little sisters (mentees) were significantly less likely than their counterparts to start using illegal drugs and alcohol during the study period. Participants in the Across Ages programme were less likely to initiate drug and alcohol use, and had better reactions to situations involving drugs and alcohol (LoSciuto *et al*, 1996). Rhodes (2005) considers that mentoring could affect alcohol and drug use by improving parental relationships, by improving prosocial peer relationships and through direct influence from the mentor.
- **Adhering to programme criteria is important.** The quality of the match made between the mentor and young person, the duration of the match and the frequency of meetings are all important if outcomes are to be realised from the programme.
- **The programme appears to work particularly well in supporting young people not living with both parents,** which includes children from lone, separated and widowed parent families and those living in foster care.

Discussion of issues arising in the study

The outcomes from the study, as discussed above, are positive and indicate that the BBBS mentoring programme can strengthen protective factors in young people's lives, making them better able to cope with any difficulties that may arise during this life stage and possibly into the future. There are a number of issues arising in the analysis that are worthy of further discussion.

There is a possibility that the effects observed could be stronger had more young people been matched for 12 months or more, which is the minimum match duration desirable in the programme. As reported in Chapter 4, 57% of young people matched received 12 months or more mentoring during the study period and 3 in 4 matches were still ongoing at the time the last surveys were undertaken (Wave 4 in October 2009). Marginally significant results on the Children's Hope Scale were found for the group that met programme criteria regarding duration and frequency of meetings, suggesting that achieving programme criteria was a moderator of outcomes. Unfortunately, the study could not be extended beyond this time point due to commitments made to the control group that they would be eligible for matching with a mentor after the Wave 4 data collection.

The effects of the intervention were much stronger at Waves 2 (12 months) and 3 (18 months) than at Wave 4 (24 months). Indeed, comparing the results of the final wave of the study to other studies on mentoring is not an equivalent comparison on the basis that many other studies made their final assessment of outcomes after 12 or 18 months. The effects reported in the present study would compare even more favourably to most studies of mentoring if the findings at 18 months post-baseline were used. However, it raises the question of why the results were smaller at Wave 4 than at Wave 3. Given that 75% of matches were still ongoing at Wave 4 and that research on mentoring would lead us to predict that the outcomes become stronger the longer the match lasts, this trend is puzzling. There are a number of possible explanations:

- **Decline in 'dosage' levels:** The dosage of mentoring across the study was much stronger at the time of the Wave 3 assessment than at the time of the Wave 4 assessment. As seen in Chapter 4, approximately 300 mentoring hours were provided to participants in the study in May 2009, when the Wave 3 assessment was undertaken, whereas the number of hours provided in September 2009 was almost half this amount (*see Figure 11*). The reason for the decline in dosage appears to be caused by a tendency for matches to meet less frequently as their match progresses. Analysis of the average number of hours that each match met for each month of their match showed that the

average match met for 5 hours per month for the first 6 months of their match, which appeared to decline to 3 hours from 7 months onwards (see *Figure 12*). At Wave 3, 53% of matches were meeting the criterion for frequency of meeting, but just 35% met the criterion at Wave 4. Given that achieving programme criteria for duration and frequency of meeting was found to be a moderator of outcomes in this study, it is likely that had more matches met the criteria at Wave 4, the effects would have been stronger.

- **Control group improved:** On many of the measures, the reduction in effect sizes between Waves 3 and 4 was driven more by a surge in performance on the part of the control group than a worsening for the intervention group. It is possible that many of the control group members were influenced by the fact that they were about to be matched with a mentor following the last survey, which may have given them a sense of optimism.
- **Effects 'wax and wane' over time:** Trends in the study showed considerable variability over time on many measures. It is possible that had there been a Wave 5 data collection, the results could have improved for the intervention group.

Whatever the reason for the decline in effects between Waves 3 and 4, the fact that the intervention has been shown to cause a small to medium increase in outcomes over a 2-year period makes it a worthwhile intervention. Given the complexity of changes and pressures faced by young people in early adolescence, as highlighted at the start of this chapter, interventions that can strengthen their capacity to cope and thrive during these years are to be welcomed. Such an approach is in line with the current thinking about children, which sees their lives as important in the 'here and now' as well as what they will become in the future.

Implications for practice

This review of programme implementation highlights a strong degree of adherence to the BBBS programme model. The programme is well-managed and operated, and there is a very high degree of staff commitment at all levels. Its operation is enhanced by the experience of many programme staff as mentors themselves and by almost 10 years of operating the programme in the West of Ireland. Evidence suggests that supervision is undertaken monthly and that matches are given any support they may require. The findings also suggest that there is a strong rationale for the integration of the mentoring service with group-based youth work programmes. Management and staff should continue to provide the service to the excellent standard that has been attained.

The only potential area for attention raised by this implementation report relates to the frequency that matches meet. There is a perception among staff that matches meet for times in excess of the minimum required. While many certainly do, there are others that are below the minimum requirement and, as highlighted above, matches tend to meet a little less as the match progresses. Given the association between meeting the programme criteria and positive outcomes, this is something that should be considered by programme staff. It may be useful to monitor the frequency of meeting for each match to enable staff to see if the programme is adhering to recommended standards for frequency of meeting.

Implications for policy

Mentoring can be considered as both a child care policy initiative and a youth policy initiative, given that the target age group is 10-18 years. The key policy and legislative developments relating to both child care and youth development in Ireland in recent decades emphasize the need for community-based programmes and flexible supports for children and young people. For example, the 1991 Child Care Act favours a preventative approach that prioritises child welfare and provides a framework for the provision of services that support families to care for their children. Since 1991, successive policies and legislation

all emphasize the need for flexible, youth-centred, community-based interventions to meet the needs of children and young people deemed to be at risk. *The Agenda for Children's Services: A Policy Handbook* (OMC, 2007) can be read as the most explicit statement of common themes and principles permeating Government policy relating to children and young people. It identifies 7 national outcomes for children and young people in Ireland – they should be:

- healthy, both physically and mentally;
- supported in active learning;
- safe from accidental and intentional harm;
- economically secure;
- secure in the immediate and wider physical environment;
- part of positive networks of family, friends, neighbours and the community;
- included and participating in society.

The Agenda emphasizes the role of support networks beyond the immediate family as key sources of support for children experiencing adversity. Specifically, it states that (OMC, 2007, p. 18):

Help from these networks can be available on a 24-hour basis in a less stigmatising fashion and can be very cost-effective. They operate in the immediate world of children and young people. They should always be considered by professionals and services as a major resource for assessment and interventions.

This research has shown that the BBBS youth mentoring programme has the potential to contribute to these policy principles for young people who experience disadvantage. In particular, the programme has demonstrated efficacy in improving the mental health and well-being of young people. The programme is effective in improving networks of informal support for children through the introduction of a supportive non-familial adult acting as mentor. The research has also shown promise in relation to educational outcomes and delayed drug and alcohol use. The findings also suggest that the programme may be of particular value to young people from one-parent families. Furthermore, given that the costs of the intervention are not high (approximately €1,120 per match), it can be concluded that mentoring represents a valuable low-cost policy option in an Irish context.

Conclusion

This report represents the culmination of a 3-year process involving over 600 people, including 164 young people throughout the West of Ireland. The research has shown that Big Brothers Big Sisters (BBBS) Ireland is a well-implemented programme and one that complements and adds value to the range of provision for young people in need of support. The strongest findings emerging from the study are that young people taking part in the BBBS programme are, on average, more hopeful and better supported with mentoring. It also shows that the programme can influence young people's attitudes to education and social relationships, and there are promising trends in relation to drug and alcohol use. The findings also suggest that the intervention may be particularly useful in increasing the support available to young people in one-parent households.

This is the first of 3 reports evaluating the BBBS programme in Ireland. Report 2 focuses on the qualitative evidence in relation to the programme, while Report 3 brings together the findings from Reports 1 and 2 to make an overall assessment of the BBBS Ireland programme.

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Appendix 1: Additional statistics for measures in Young People's Survey

Children's Hope Scale

Time	Scale Items	Alpha	N	Mean	SD	Skew	Kurt
1	Y(7-9)S1p1	0.815	159	7.50	2.76	-0.177	-1.077
2	Y(7-9)S1p2	0.876	136	7.65	2.88	-0.207	-1.130
3	Y(7-9)S1p3	0.845	140	7.46	6.71	-0.181	-0.882
4	Y(7-9)S1p4	0.886	133	8.04	2.74	-0.366	-0.898

Social Acceptance scale

Time	Scale Items	Alpha	N	Mean	SD	Skew	Kurt
1	Y(10-15)S1p1	0.74	153	17.68	3.80	-0.653	0.409
2	Y(10-15)S1p2	0.72	130	18.55	3.43	-0.345	-0.639
3	Y(10-15)S1p3	0.79	136	18.80	3.66	-0.583	0.072
4	Y(10-15)S1p4	0.76	130	19.25	3.39	-0.484	-0.675

Scholastic Efficacy scale

Time	Scale Items	Alpha	N	Mean	SD	Skew	Kurt
1	Y(16-21)S1p1	0.70	149	17.36	3.78	-0.463	0.067
2	Y(16-21)S1p2	0.78	127	17.44	3.83	-0.337	-0.146
3	Y(16-21)S1p3	0.83	134	17.41	3.86	-0.278	-0.370
4	Y(16-21)S1p4	0.80	130	17.63	3.84	-0.229	-0.420

Plans for School and College Completion scale

Time	Scale Items	Alpha	N	Mean	SD	Skew	Kurt
1	Y(22-24)S2 p1	0.833	159	9.1242	2.718	-0.604	-0.784
2	Y(22-24)S2 p2	0.833	135	9.31	2.502	-0.655	-0.631
3	Y(22-24)S2 p3	0.848	136	9.35	2.490	-0.590	-0.706
4	Y(22-24)S2 p4	0.804	133	9.43	2.438	-0.729	-0.285

Misconduct scale

Time	Scale Items	Alpha	N	Mean	SD	Skew	Kurt
1	Y(29-34)S1p1	0.68	158	8.39	2.80	1.745	3.502
2	Y(29-34)S1p2	0.66	134	8.46	2.68	1.739	3.825
3	Y(29-34)S1p3	0.79	139	8.53	3.05	1.450	1.684
4	Y(29-34)S1p4	0.82	133	8.36	3.33	1.395	2.867

Parental Trust scale

Time	Scale Items	Alpha	N	Mean	SD	Skew	Kurt
1	Y(37-40)S1p1	0.74	155	13.88	2.67	-1.306	0.948
2	Y(37-40)S1p2	0.81	135	13.96	2.68	-1.364	0.971
3	Y(37-40)S1p3	0.76	140	13.75	2.54	1.210	0.864
4	Y(37-40)S1p4	0.81	131	14.06	2.44	-1.596	2.862

Social Provisions Scale – Friend Support

Time	Scale Items	Alpha	N	Mean	SD	Skew	Kurt
1	Y(41-44)S1p1	0.677	160	10.62	1.655	-1.665	3.082
2	Y(41-44)S1p2	0.706	136	10.79	1.498	-1.295	1.079
3	Y(41-44)S1p3	0.710	140	10.70	1.521	1.559	3.732
4	Y(41-44)S1p4	0.731	134	10.85	1.474	-1.554	2.961

Social Provisions Scale – Parental Support

Time	Scale Items	Alpha	N	Mean	SD	Skew	Kurt
1	Y(45-48)S1p1	0.787	160	10.80	1.648	-1.688	2.751
2	Y(45-48)S1p2	0.863	133	10.68	1.853	-1.507	1.908
3	Y(45-48)S1p3	0.770	140	10.81	1.622	-1.416	1.800
4	Y(45-48)S1p4	0.852	131	10.65	1.839	-1.522	2.049

Social Provisions Scale – Sibling Support

Time	Scale Items	Alpha	N	Mean	SD	Skew	Kurt
1	Y(49-52)S1p1	0.864	153	9.38	2.58	-0.760	-0.612
2	Y(49-52)S1p2	0.860	127	9.14	2.52	-0.610	-0.678
3	Y(49-52)S1p3	0.806	136	9.35	2.25	-0.741	-0.158
4	Y(49-52)S1p4	0.897	125	9.28	2.60	-0.579	-0.805

Social Provisions Scale – Other Adult Support

Time	Scale Items	Alpha	N	Mean	SD	Skew	Kurt
1	Y(53-56)S1p1	0.856	161	9.78	2.33	-0.946	0.062
2	Y(53-56)S1p2	0.807	132	10.02	1.961	-0.891	0.302
3	Y(53-56)S1p3	0.874	138	9.33	2.331	-0.615	-0.349
4	Y(53-56)S1p4	0.846	131	9.79	2.068	-0.663	-0.213

Social Provisions Scale – Total Social Support

Time	Scale Items	Alpha	N	Mean	SD	Skew	Kurt
1	Y(41-56)S1p1	0.861	153	40.52	5.909	-0.717	0.010
2	Y(41-56)S1p2	0.873	119	40.29	5.831	-0.669	-0.211
3	Y(41-56)S1p3	0.841	132	40.14	5.338	-0.390	-0.475
4	Y(41-56)S1p4	0.883	122	40.48	5.889	-0.691	-0.026

Appendix 2: Additional statistics for measures in Parents' Survey

Strengths and Difficulties: Emotional Symptoms sub-scale

Time	Scale Items	Alpha	N	Mean	SD	Skew	Kurt
1	3, 8, 13, 16, 24	0.501	142	2.11	1.811	0.620	-0.577
2	3, 8, 13, 16, 24	0.663	123	2.67	2.303	0.921	0.242
3	3, 8, 13, 16, 24	0.759	129	2.41	2.413	0.872	0.022
4	3, 8, 13, 16, 24	0.686	126	2.35	2.19	0.959	0.782

Strengths and Difficulties: Conduct Problems sub-scale

Time	Scale Items	Alpha	N	Mean	SD	Skew	Kurt
1	5, 7, 12, 18, 22	0.677	142	2.32	2.037	0.639	-0.394
2		0.632	123	2.35	1.920	0.790	0.138
3		0.668	127	2.20	1.937	0.967	0.489
4		0.705	126	2.41	2.025	0.751	-0.235

Strengths and Difficulties: Hyperactivity/Inattention sub-scale

Time	Scale Items	Alpha	N	Mean	SD	Skew	Kurt
1	2, 10, 15, 21, 25	0.695	143	3.61	2.472	1.120	0.565
2		0.703	126	4.13	2.629	0.422	-0.686
3		0.728	127	3.85	2.526	0.308	-0.608
4		0.754	129	3.91	2.505	0.360	-0.169

Strengths and Difficulties: Peer Relationship Problems sub-scale

Time	Scale Items	Alpha	N	Mean	SD	Skew	Kurt
1	6, 11, 14, 19, 23	0.647	140	1.89	2.013	1.120	0.565
2		0.638	124	2.48	2.101	0.834	0.511
3		0.584	125	2.17	1.979	1.297	1.955
4		0.627	125	2.41	2.040	0.849	-0.076

Strengths and Difficulties: Prosocial Behaviour sub-scale

Time	Scale Items	Alpha	N	Mean	SD	Skew	Kurt
1	1, 4, 9, 17, 20	0.717	143	7.55	1.727	-1.193	0.634
2		0.754	124	8.40	1.882	-1.522	2.548
3		0.747	127	8.43	1.811	-1.168	0.811
4		0.736	128	8.16	1.865	-0.856	-0.113

Strengths and Difficulties: Total Difficulties scale

Time	Scale Items	Alpha	N	Mean	SD	Skew	Kurt
1	<i>As above</i>	0.781	135	9.96	5.76	0.397	-0.258
2		0.805	115	11.47	6.31	0.725	0.187
3		0.828	119	10.35	6.31	0.528	-0.075
4		0.846	119	10.99	6.56	0.492	-0.325

Emotional Symptoms

Results for the Emotional Symptoms sub-scale are presented in Figure A2-1. A higher score on this measure indicates a greater number of symptoms. As Figure A2-1 shows, parents in the intervention group rated their children as having a higher number of emotional symptoms across all 4 waves of assessment. The difference between the intervention and control groups was statistically significant at baseline ($t(129) = 2.69$, $p = 0.008$) despite the random assignment to condition. Both groups showed a higher score at Wave 2 (12 months) before showing improvements at Waves 3 and 4. Cohen's d statistic, presented in Table A2-1, shows that the magnitude of the differences between the intervention and control groups lessened over time until Wave 4, when the difference between the groups increased again.

Figure A2-1: Emotional Symptoms scores over time

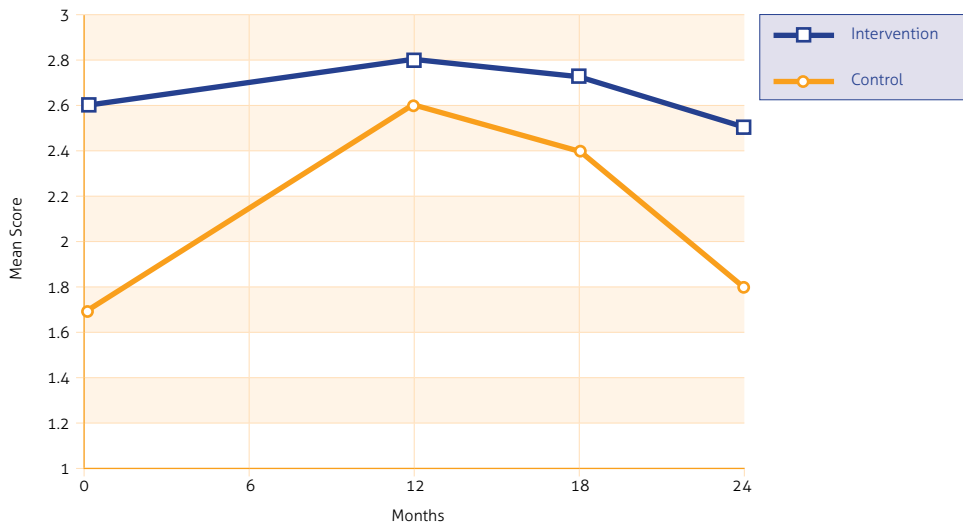


Table A2-1: Magnitude of the differences between intervention and control groups on Emotional Symptoms sub-scale

Interview	Wave 1	Wave 2	Wave 3	Wave 4
Cohen's d	-0.47	-0.07	-0.12	-0.31

Note: Wave 1 is Month 0 in Figure A2-1, Wave 2 is Month 12, Wave 3 is Month 18 and Wave 4 is Month 24.

The multilevel regression results for the Emotional Symptoms measure are outlined in Table A2-2. As can be seen, the Wave 1 score for this measure was a statistically significant predictor of the number of emotional symptoms across the subsequent 3 waves of assessment. Statistically significant changes over time were found for the measure of Emotional Symptoms, indicating that adjustment was improving over time for participants in the study. The intervention group was not found to be a statistically significant predictor of scores on this measure and Group x Wave interaction was non-significant.

Table A2-2: Multilevel regression results for Emotional Symptoms

Predictor	Beta	SE	df	t
Emotional Symptoms 1	0.522	0.090	130	5.79***
Group	0.033	0.331	129	0.10
Wave	-0.258	0.103	235	-2.52*
Group x Wave	0.247	0.208	233	1.18

Note: Group was coded intervention (1) and control (0). Wave is coded Wave 2 (-1), Wave 3 (0) and Wave 4 (+1).

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Conduct Problems

Results for the Conduct Problems sub-scale are presented in Figure A2-2. A higher score on this measure indicates a greater number of conduct problems. As Figure A2-2 shows, parents in the intervention group rated their children as having a higher level of conduct problems over the 4 waves of assessment. The difference between the intervention and control groups at baseline was marginally significant ($t(129) = 1.97, p = 0.052$). The intervention group parents reported a continuous improvement over the time of the study, whereas the control group parents reported a slight increase in conduct problems over time. Cohen's d statistic, presented in Table A2-3, shows that, as with the Emotional Symptoms measure, the magnitude of differences between the intervention and control groups on the measure of Conduct Problems lessened over the course of the intervention.

Figure A2-2: Conduct Problems scores over time

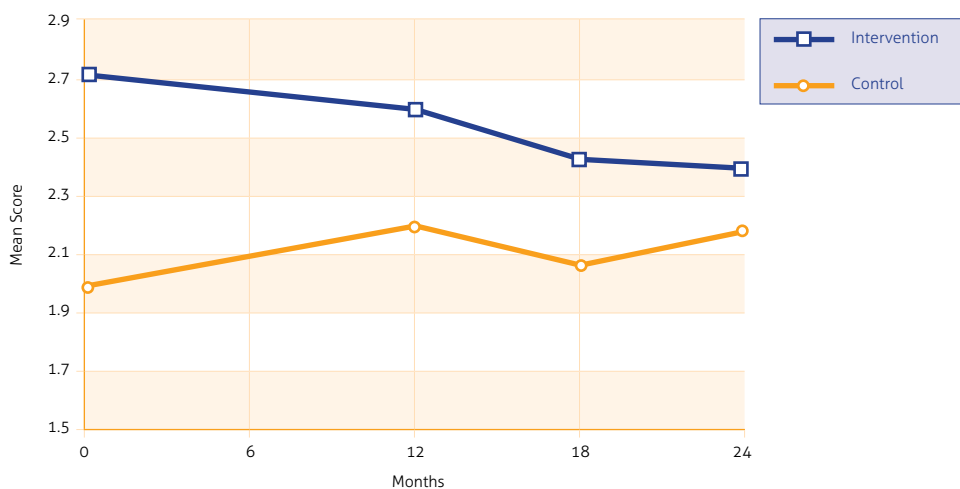


Table A2-3: Magnitude of the differences between intervention and control groups on Conduct Problems sub-scale

Interview	Wave 1	Wave 2	Wave 3	Wave 4
Cohen's d	-0.34	-0.21	-0.20	-0.12

Note: Wave 1 is Month 0 in Figure A2-2, Wave 2 is Month 12, Wave 3 is Month 18 and Wave 4 is Month 24.

The multilevel regression results for the measure of Conduct Problems are presented in Table A2-4. Once again, the baseline score for this measure was a statistically significant predictor of scores on the measure across the subsequent 3 waves of assessment. No statistically significant changes over time were found for this measure and the intervention group was not found to be a statistically significant predictor. Finally, the intervention Group x Wave interaction was non-significant.

Table A2-4: Multilevel regression results for Conduct Problems

Predictor	Beta	SE	df	t
Conduct Problems 1	0.527	0.058	130	9.10***
Group	-0.090	0.249	129	-0.36
Wave	-0.025	0.074	235	-0.34
Group x Wave	-0.149	0.153	233	-0.98

Note: Group was coded intervention (1) and control (0). Wave is coded Wave 2 (-1), Wave 3 (0) and Wave 4 (+1).

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$;

Hyperactivity/Inattention

Results for the Hyperactivity/Inattention sub-scale are presented in Figure A2-3. A higher score on this measure indicates a higher level of hyperactivity/inattention. As Figure A2-3 shows, parents in both the intervention and control groups rated their children as having similar levels of hyperactivity at baseline and Wave 2 (12 months), while intervention group parents reported slightly higher levels of hyperactivity at Waves 3 (18 months) and 4 (24 months). The Cohen's *d* statistic, presented in Table A2-5, indicates minimal differences between the two groups on this measure.

Figure A2-3: Hyperactivity/Inattention scores over time

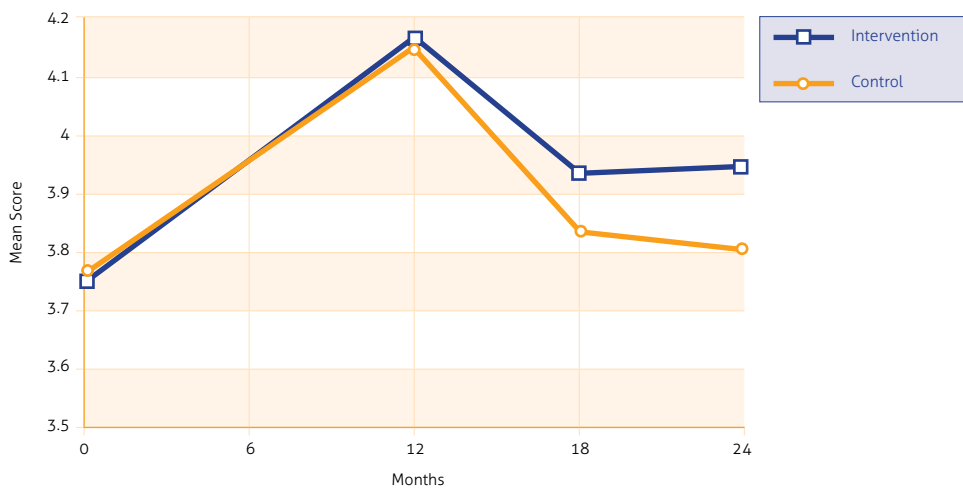


Table A2-5: Magnitude of the differences between intervention and control groups on Hyperactivity/Inattention sub-scale

Interview	Wave 1	Wave 2	Wave 3	Wave 4
Cohen's <i>d</i>	0.01	-0.01	-0.04	-0.05

Note: Wave 1 is Month 0 in Figure A2-3, Wave 2 is Month 12, Wave 3 is Month 18 and Wave 4 is Month 24.

The multilevel regression results for the Hyperactivity/Inattention measure are presented in Table A2-6. Once again, the Wave 1 score for this measure was a statistically significant predictor of scores on the measure across the subsequent 3 waves of assessment. The intervention group, wave of assessment and the Group x Wave interaction were not found to be statistically significant.

Table A2-6: Multilevel regression results for Hyperactivity/Inattention

Predictor	Beta	SE	df	t
Hyperactivity/Inattention 1	0.632	0.057	130	11.16***
Group	0.023	0.292	129	0.08
Wave	-0.128	0.103	235	-1.24
Group x Wave	0.277	0.205	233	1.35

Note: Group was coded intervention (1) and control (0). Wave is coded Wave 2 (-1), Wave 3 (0) and Wave 4 (+1).

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Peer Relationship Problems

Results for the Peer Relationship Problems sub-scale are presented in Figure A2-4. A higher score on this measure indicates a greater number of problems with peers. As Figure A2-4 shows, parents in the intervention group rated their children as having a greater number of peer problems at baseline and Waves 3 (18 months) and 4 (24 months). The Cohen's *d* statistic for this measure, presented in Table A2-7, indicates that these differences between the groups were not very large.

Figure A2-4: Peer Relationship Problems scores over time

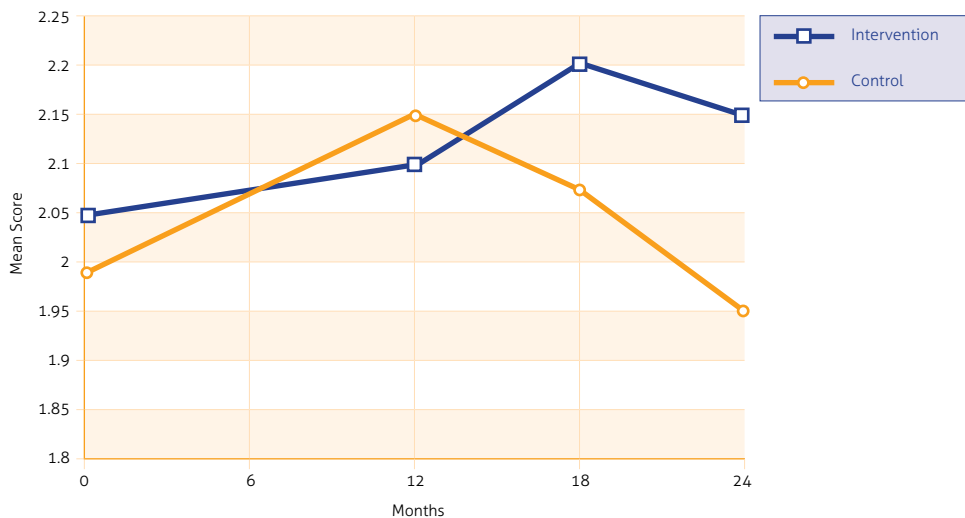


Table A2-7: Magnitude of the differences between intervention and control groups on Peer Relationship Problems sub-scale

Interview	Wave 1	Wave 2	Wave 3	Wave 4
Cohen's <i>d</i>	-0.03	0.02	-0.06	-0.10

Note: Wave 1 is Month 0 in Figure A-4, Wave 2 is Month 12, Wave 3 is Month 18 and Wave 4 is Month 24.

The multilevel regression results for the Peer Relationship Problems measure are presented in Table A2-8. Again, the Wave 1 score was a statistically significant predictor of scores on the measure across the subsequent 3 waves of assessment. No statistically significant changes over time were found for the measure and neither intervention group nor the Group x Wave interaction were statistically significant predictors of Peer Relationship Problems scores.

Table A2-8: Multilevel regression results for Peer Relationship Problems

Predictor	Beta	SE	df	t
Peer Relationship Problems 1	0.673	0.055	130	12.32***
Group	0.000	0.229	129	0.00
Wave	-0.033	0.085	235	-0.39
Group x Wave	-0.238	0.161	233	1.48

Note: Group was coded intervention (1) and control (0). Wave is coded Wave 2 (-1), Wave 3 (0) and Wave 4 (+1).

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

Appendix 3: Information and Consent Forms for Young People and for Parents

Information for Young People (RCT Strand)*

Big Brothers Big Sisters (BBBS) Community Study: Can you help us learn how to support young people better?

What is this all about?

We are looking at ways to help young people who are taking part in youth services. We want to find young people to take part in a study. It will be a large study involving young people across Galway, Mayo, Sligo, Roscommon and Leitrim, and will take place over the next 3 years.

Who can take part?

We are looking for young people who started with a youth project in 2007, who are interested in getting a Big Brother Big Sister mentor and in taking part in youth groups.

What is a mentor?

A mentor is an older person who will meet with you to get to know you and do activities with you. He or she is someone for you to talk to and have fun with, you will go on outings together or just meet up in the local youth club. It is like spending time with an older brother or sister. The mentor usually meets up with you once a week.

What are youth groups?

Youth clubs run these groups in your local youth centre. The groups help people learn things like team work, talking about problems and getting on with other people. They are also about doing interesting activities and having fun. They usually take place once a week.

What would I have to do?

1. Read through the information and talk it over with your parents/guardian. If you want to take part, please sign the consent form with your parents/guardian.
2. If you decide to take part in the study, you will be placed, on the **flip of a coin**, in one of two groups:
 - **Group 1** will be matched with a **mentor** and take part in the **youth groups**.
 - **Group 2** will take part in the **youth groups**.
We set up the groups this way to see if there are benefits from having a mentor.

If you are in the group that does not get a mentor, we will forward you for matching to a mentor at the end of the study.
3. We will ask you to complete 4 surveys about how you are getting on and what you think you are getting from having a mentor or the group work. The surveys will take place **every 6 months** until the end of the study in late 2009.
4. Surveys are also sent to your **parents and teacher** to see what they think you are getting from the support.
5. We will also arrange to come and meet you, your mentor and the youth club staff to get your **ideas** on what is working well and **suggestions** for making the programme better.
6. After the study, we will have a report to send to you on all the things we found out.

* Only the text of the leaflet is reproduced here. The original leaflet had pictures and a youth-friendly layout.

What will we learn from this study?

This study will help us learn about how we can better help young people. It will tell us if having a mentor can make a difference to you.

What are my rights?

- We are careful to ensure that all information provided to us is confidential and private. It cannot be used in a way that you can be identified.
- You can leave the study at any time.
- You can decide not to participate and this will not affect any support Foróige will offer you in the future.

Do you have further questions? Please telephone or e-mail the following:

Paul Tannian

BBBS Ireland
 Westside Community Resource Centre
 Seamus Quirke Road, Galway
 Tel: (091) 528325
 E-mail: paul.tannian@Foróige.ie

Bernadine Brady

Child and Family Research Centre
 Department of Political Science and Sociology
 National University of Ireland, Galway
 Tel: (091) 495759
 E-mail: bernadine.brady@nuigalway.ie

Consent Form for Young People

1. I agree to take part in the research project.
2. I will meet and talk with the research team.
3. I will complete the surveys.
4. I know the information is confidential.
5. I know I can withdraw at any time.
6. There will be four times when I will be asked to fill in surveys over the course of the study. Each time it will take about half an hour to complete the surveys.

Signed: **Young person**

Signed: **Parent/Guardian**

Information for Parents

Big Brothers Big Sisters (BBBS) Community Study: Can you help us learn how to support young people better?

A major study of youth mentoring in the West of Ireland is due to commence in 2007. The purpose of this information leaflet is to explain the study to you. We would like to ask for your consent to:

- allow your son or daughter to take part in the study;
- take part in the study yourself.

Why do we need the research?

There is a widespread belief that providing a mentor can make a significant difference to young people's lives. Feedback from young people, mentors, parents and youth workers has emphasized the positive benefits that arise from mentoring. Programmes such as Big Brothers Big Sisters have been very popular since being introduced to Ireland by Foróige in 2001. We want to do research to see if mentoring actually works and to find out the experiences of people involved.

Who is doing the research?

The Child and Family Research Centre (CFRC) at the National University of Ireland, Galway has been asked by Foróige to carry out this research.

What will happen?

Young people who agree to take part in the study will be offered either:

- mentoring and regular youth project activities;
- regular youth project activities only.

The idea is that we will compare how both groups get on in order to see if having a mentor makes a difference to young people. Those that are offered regular project activities only will be placed on a waiting list and can be matched with a mentor after 18 months.

What are young people being asked to do?

In order to learn if mentoring supports young people, we need young people to agree to take part in the study. Surveys will be done four times with all young people – at the start of the study and then once every 6 months until late 2009.

What are parents being asked to do?

The views and feedback of parents is of central importance to the research and we would like as many parents as possible to take part. We are asking parents/guardians to complete a questionnaire about their son or daughter at four separate times. These are at the beginning of the study and once every 6 months until the end of the study in 2009. The questionnaire will be given to you by the BBBS project worker and you are asked to return it to the research team in the stamped addressed envelope provided. The research team will not know your name and will just have a code to reference your information. The questionnaire should take 20-30 minutes to complete each time.

If you are willing for your son or daughter to take part in the research, we would like you and him/her to sign the Young Person's Consent Form. Their participation is totally voluntary and they are free to withdraw at any time. Any information that is collected about them during the course of the research will be kept strictly confidential and will not be shared with anyone else. The information collected in this research study will be stored in a way that protects their identity. Results from the study will be reported as group data and will not identify them in any way.

If you, as a parent/guardian, are willing to take part in the research, we would like you to sign the attached consent form. Your participation is totally voluntary and you are free to withdraw at any time. Any information that is collected about you during the course of the research will be kept strictly confidential and will not be shared with anyone else. The information collected in this research study will be stored in a way that protects your identity. Results from the study will be reported as group data and will not identify you in any way.

Summary and further information

We would very much like you and your son/daughter to take part in this study, which will provide a unique insight into how mentoring can support young people. However, you are free to refuse to take part in the study and can change your mind at any point during the study and decide not to continue. If you agree to take part, please sign the consent form. A copy of the survey is available if you would like to see it. For further information, please feel free to contact any member of the Research Team (their names are on the cover of this sheet), specifically:

Bernadine Brady (NUI Galway)

Tel: (091) 495759 Bernadine.brady@nuigalway.ie

Paul Tannian (BBBS Ireland)

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Thank you for taking the time to read this leaflet. You will be given a copy of this information sheet and signed consent form to keep.

Consent Form for Parents

- 1. I confirm that I have read the information sheet for parents in relation to the BBBS Research Study.
- 2. I am satisfied that I understand the information provided and have had enough time to consider this information..
- 3. I understand that my participation is voluntary and that I am free to withdraw at any time.
- 4. I agree to take part in the above study.

Signed: **Name of participant** Date:

Signed: **Name of BBBS Project Worker** Date:

