

An Evaluation of Aggression  
Replacement Training: The impact of  
a multi-component, CBT-based  
intervention on the problem  
behaviours, pro-social skills and  
moral development of pupils in  
English secondary schools.

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## **Abstract**

Aggression Replacement Training (ART) is a 10-week, multi-component intervention based in cognitive behaviour therapy (CBT), which aims to improve social competence. It has been applied internationally as part of offender rehabilitation (NOMS, 2010). However, more recent research has focused upon its application in school-based settings.

The aim of the current research is to investigate the efficacy of ART when implemented in the UK with an adolescent sample in mainstream school settings. These sessions were facilitated by newly-trained staff from the Educational Psychology Service (EPS).

A quasi-experimental design was employed to evaluate this initial pilot of the programme in one Local Authority. 41 participants across six settings were allocated to intervention (N=23) and wait-list control (N=18) conditions. The Social Skills Improvement System-Rating Scales (SSIS-RS), a multi-source measure, was used to assess the group member's problem behaviours and social skills, with data gathered from teachers, parents and pupils themselves. The Sociomoral Reflection Measure-Short Form (SRM-SF) was also completed by the participants to ascertain their moral reasoning maturity.

Non-parametric statistical tests demonstrated no significant improvements in the intervention participant's social skills or problem behaviours. However, their moral reasoning ability did increase significantly from pre to post-test, achieving a large effect size ( $r=-0.64$ ), which was not reflected in the data from the control group.

In contrast to the quantitative findings, supplementary qualitative data gathered from the facilitators and group members involved in the ART programme demonstrated that all felt the intervention had resulted in positive outcomes for the young people. Factors which may have contributed to the success of the programme were also provided, including organisational support and group composition.

Possible explanations for these findings, including methodological considerations and comparison with previous research are discussed and the implications of these findings in future practice and in guiding further research suggested.

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## **1. Introduction**

### **1.1 The Aim of the Research**

The aim of this study is to evaluate an ART intervention, when implemented in English secondary schools.

ART (Glick & Gibbs, 2011; Goldstein *et al* 1987 & Glick; Goldstein, Glick & Gibbs, 1998) is a ten week, multi-component intervention based on the principles of CBT. The programme aims to improve skills of social competence and reduce aggression, which is viewed by the authors as ‘...an overt *behaviour* often employed by those weak or lacking in pro-social alternatives’ (Goldstein, Glick & Gibbs, 1998, p.1). The intervention adopts a multimodal approach, as aggression is viewed as consisting of multiple interlocking internal and external causes, ‘...a behavioural, cognitive and emotional phenomenon...’ (Glick & Gibbs, 2011, p.3).

Whilst the current programme is primarily aimed at adolescents (Glick & Gibbs, 2011), ART has been adapted for a range of age groups and special populations (Gundersen *et al.* 2014). Evaluations have involved adult offenders (Hatcher *et al.* 2008; Sugg, 2000 cited by McGuire & Clark, 2004); adults with learning disabilities (Curulla, 1991) and young people with Autism (Moynahan, 2003). The programme has also been applied in a residential centre for the treatment of behavioural disorders (Coleman, Pfeiffer & Oakland, 1992); youth justice custodial settings (Currie *et al.* 2012); runaway shelters (Nugent, Bruley & Allen, 1998/1999) and in secure centres for young offenders (Erickson, 2013; Glick & Goldstein, 1987; Holmqvist, Hill & Lang, 2009; Roberts, 2009). More recent studies across Europe, North America and Australia have begun to investigate the impact of ART when implemented in school settings (Gundersen & Svartdal, 2006; Gundersen & Svartdal, 2010; Jones, 1991; Langeveld, Gundersen & Svartdal, 2012; Moynahan & Stromgren, 2005; Novy & McFarland, 2011).

The, predominantly positive, findings mean that ART was awarded model programme status from the Office of Juvenile Justice and Delinquency Prevention (US Department of Justice, n.d.). In 2001 ART also became an

accredited programme for use in the probation and prison services in England and Wales (McGuire & Clark, 2004) and is now well-established within the UK Criminal Justice System (National Offender Management Service, NOMS, 2010).

### **1.2 The Contribution to the Local Authority**

The EPS with which I am placed invested in the ART programme as part of a new initiative which contributed towards the service's development plan. This aimed to reduce anti-social behaviour in schools, as well as prevent possible future criminal behaviour. As the intervention package required substantial commitment and resources from the EPS, it was decided that it would be beneficial to obtain an indication of the programme's effectiveness before it was made available to schools more widely. Therefore the following research focuses upon the initial, small-scale implementation and evaluation of the programme, which provided the Educational Psychologists (EPs) with an opportunity to practise as newly qualified facilitators.

### **1.3 The Unique Contribution of the Research**

The studies mentioned above provide a strong evidence base regarding the outcomes of ART internationally. A recent survey conducted by the London Probation Trust found that ART was implemented in at least 10 countries worldwide (NOMS, 2010). However, despite evidence suggesting that ART has been utilised within the probation service for over a decade (McGuire & Clark, 2004), there is a distinct lack of research into ART in England. At the time of writing, there is also no existing evidence regarding the effectiveness of ART, when implemented to support young people with social competence needs, in the UK. The transferability of the ART programme to children and young people, given its foundation in adult work, will be discussed later in Section 2.

### **1.4 The Researcher's Personal Interest in this Area**

The area of Special Educational Need (SEN) referred to as Behavioural, Emotional and Social Difficulties (BESD) has always been a great interest of mine, especially in regard to improving outcomes for young people with such needs. This began with my previous occupations as a teacher and as an inclusion support worker for a Local Authority BESD support team, conducting

therapeutic work with young people and advising school staff. My interest and knowledge in this area has since been nurtured by my current role as a Trainee EP. Working in education, I was disheartened by the overwhelming tendency for behaviour difficulties to be viewed negatively by those responsible for these young people, at a time when learning needs were being viewed from a more positive, inclusive standpoint.

The importance of evidence-based practice and the role of the EP in contributing to such a knowledge base had been instilled during my doctoral training. When embarking upon the research I explored several possible evaluation projects, as I was inspired to contribute to the evidence-base surrounding interventions implemented in education settings, but it was my interest in the above areas which drove me to contact the EP who was spearheading the current project, as she had previous research experience and personal interest in the areas of anti-social behaviour and gang culture.

### **1.5 Overview of this Paper**

Chapter 2: The **Literature Review** provides a brief summary of the national context in which the research is conducted. A description of the Aggression Replacement Training programme is then provided along with an overview of associated theory and research.

Chapter 3: The **Methodology** section provides a detailed account of the design and implementation of the current research. Consideration is also given to ethical and methodological issues and the possible impact that these may have on the findings generated.

Chapter 4: The **Results** section presents the findings from the statistical analyses in order to judge the significance of the results. This is followed by thematic analyses of the supplementary qualitative data gathered.

Chapter 5: Finally during the **Discussion** the research questions will be reviewed in light of the findings of the current research. Limitations of the study will be highlighted and the consequences discussed. A conclusion will then provide an overall summary of this research project.

## **2. Literature Review**

### **2.1 Introduction to the Literature Review**

The aim of the following literature review is to provide the reader with an understanding of the theory and research evidence associated with ART.

The literature review begins by describing the context in which this research is being undertaken, which highlights the importance of early, targeted, intervention for adolescents displaying behaviour considered to be aggressive.

An overview of the theory behind the ART intervention and the constructs it aims to change is provided. This is followed by a brief summary of Implementation Psychology, an area pertinent to evidence-based practice and programme evaluation. Finally, a systematic review of previous research evaluations into ART is conducted in order to examine the existing evidence base and inform the current research.

### **2.2 The National Context**

#### **2.2.1 Government guidance**

##### ***2.2.1.1 Focus on Improving Mental Health and Wellbeing.***

Mental Health refers to a child's ability to develop intellectually, spiritually and emotionally, so that they can make the most of the opportunities and relationships that they encounter (Mental Health Foundation, 1999). Mental health difficulties can manifest in many ways including behaviours perceived as aggressive and antisocial (Mental Health Foundation, 1999). According to a recent survey conducted by UNICEF, compared to 20 other economically developed countries, the United Kingdom scored within the bottom third on five of the six dimensions of child wellbeing measured (UNICEF, 2007). The three dimensions in which the country came last were family and peer relationships, behaviours and risks, and subjective wellbeing. This suggests that relating to others and avoiding risky or violent behaviour are areas which require a great deal of support if the wellbeing of British children is to improve.

The Every Child Matters Framework (DfES, 2003) highlighted the importance of promoting pupil's emotional health and wellbeing in order to improve their life chances and reduce the number who '...engage in offending or anti-social behaviour...' (DfES, 2003, p.5). Five outcomes for all children and young people were identified as aims for the strategy:

- Being healthy;
- Staying safe;
- Enjoying and achieving;
- Making a positive contribution;
- Achieving economic wellbeing.

This initial Green Paper provided a starting point for further publications providing guidance on supporting the mental health and wellbeing of young people (HMSO, 2007) and improving behaviour in schools (DfES, 2005; Ofsted, 2005). These principles are also reflected in the new Special Educational Needs Code of Practice which states that education should enable all children to live '...fulfilling lives...' (DfE, 2015, p92).

#### ***2.2.1.2 The Inclusion Agenda***

In an attempt to secure consistency and equity regarding the education of children with SEN, The Warnock Report (DES, 1978) advocated integration. All children should be educated together so as to experience the same opportunities to succeed. This principle was secured in legislation by the Education Act 1981. Government guidance has also stressed that inclusion means that children are educated alongside each other, not segregated in special units but participating fully in the life of the school (DfEE, 1997). This notion of 'full participation by all' (BPS, 2005, p.1) has continued to be a focus of government publications ever since.

Several threats to the realisation of being fully inclusive still remain. Firstly current legislation (Special Educational Needs and Disabilities Act, SENDA, 2001), maintains a caveat which suggests that students have to be educated in mainstream settings, as long as this does not disrupt the learning of others. This may imply that externalised behavioural difficulties require additional support, beyond that which mainstream school can provide. There is also evidence that

teacher's unions hold concerns that inclusion increases the type of students who lower teacher credibility (Tomlinson, 2005). Accountability for educational results may also lead to the exclusion of pupils who are perceived to threaten the school's image of functioning (Stirling, 1991).

### **2.2.2 Challenging Behaviour in Schools**

Whilst the behaviour in the majority of schools in England is reported to be 'good' or even 'outstanding', there remains to be children whose behaviour disrupts progress and concerns school staff (Ofsted, 2005). Classroom misbehaviour includes a wide range of conduct which disrupts learning, from low level disturbance to behaviour defined as physical assault and aggression (DfE, 2012). Teachers often consider difficult behaviour to be one of the most challenging aspects of their work (Merrett and Whedall, 1987) possibly because it can be interpreted as a threat to their authority (Gray, Miller & Noakes, 1994). According to a recent survey conducted by a teacher's union in the United Kingdom, 86% of teachers had to deal with challenging behaviour during the academic year and a third experienced physical violence from pupils in school (ATL, 2012).

#### ***2.2.2.1 Behavioural, Emotional and Social Difficulties***

Defining BESD is problematic (Frederickson & Cline, 2009). It would appear that the children in this category do not form a homogenous group and represent a wide range of difficulties (Kershaw & Sonuga-Barke, 1998). A continuum approach is proffered, from behaviour which is disruptive but falls within normal bounds to behaviour which is thought to be indicative of a serious mental health issue (DfE, 1994).

The term 'Behavioural' in this category has recently been replaced (DfE, 2015, p.85), to become Social, Emotional and Mental Health. Here it is suggested that poor emotional and social development may lead to challenging and disruptive behaviour because of immature social skills. These skills deficits may manifest as conduct problems such as aggression or cause the child to withdraw socially and develop mood disorders.

According to figures from the Department for Education (DfE, 2013a) Behavioural, Emotional and Social Difficulty is the most common category of

SEN in secondary schools. Whilst the majority of this group of young people continue to make the expected progress in primary school, this figure decreases considerably between key stage 2 and 4 (DfE, 2013a). For over a decade the government have recognised that this group is a priority, in terms of securing early appropriate support, to avoid some of these negative outcomes (DfEE, 1997). This report clearly stated that responsibility for meeting the needs of such pupils rests with mainstream schools.

#### 2.2.2.1.1 The Social Construction and Systemic Basis of Aggression

Whilst a thorough critical review is beyond the scope of this thesis, it is important at this point to consider the constructed nature of behaviour, or more specifically aggression, which is the social concept focused upon in this report. Whether or not behaviour is labelled 'aggressive' depends on the judgement of the observers of that behaviour. The criteria applied in this decision making process differ widely, including the characteristics and intensity of the behaviour and the intentions attributed to the performer by the observer, making it a '...socially defined...' concept (Bandura, 1973, p.8).

Whilst making judgements about the behaviour of others serves an evolutionary purpose, allowing us to predict a person's future behaviour by labelling their actions, these beliefs can also be wrongly attributed and harmful, impacting upon other's expectations of that young person and their own self-concept. The social interactionist perspective would suggest that aggression is the result of situational and interpersonal factors (Felson & Tedeschi, 1995), whilst social learning approaches describe aggression as arising from observation and modelling of other's behaviour (Bandura, 1973). These explanations make it unfeasible to describe an individual as 'aggressive' as they assert that context plays a considerable part in the resultant behaviour. Therefore to avoid referring to the behaviour of young people in a deterministic manner, it will henceforth be referred to as an observation or perception of others.

In keeping with this theme, theorists moving away from a within-child model of needs advocate a focus upon the context and interpersonal relationships which instigate and perpetuate these difficulties (Cooper, Smith & Upton, 1995; Maras & Kutnick, 1999; Miller, 2003). In practice, EPs are encouraged to adopt a more

holistic approach during casework to incorporate social context and other situational factors into their assessments and the interventions devised (Cline, 1992; Frederickson & Cline, 2009), using models such as Bronfenbrenner's (1996) Ecosystemic model to guide them. Ecological approaches such as this view aggression as a learned response due to patterns of interaction between the young person and the environments which they are embedded in (Frederickson & Cline, 2009). Such an assessment would provide details to inform a more holistic and arguably more ethical intervention package than traditional 'child-deficit' support, with a focus on influencing the context as well as supporting the individual in developing their skill-base (Kelly, 2008).

### **2.2.3 Exclusions**

#### ***2.2.3.1 Who is at Risk?***

According to recent Government statistics (DfE, 2013b) the number of permanent exclusions in 2011/2012 rose, following a steady decrease since 2002/2003. However, the number of fixed term exclusions continued on its downward trend. The most cited reason for exclusion in both instances was persistent disruptive behaviour and the most vulnerable age is between 13 and 14 years old. Young people with Behavioural, Emotional and Social needs were the most likely to be excluded. Despite guidance stating that '...every practicable means to maintain the pupil in school...' should be exhausted (DCSF, 2008, p.28).

#### ***2.2.3.2 What are the Causes of Exclusion?***

Attwood, Croll and Hamilton (2003) interviewed 26 young people who had been excluded from mainstream education. Difficulties with personal relationships were the most commonly cited reason for the exclusion. Similarly, a large scale survey conducted by Costenbader and Markson (1998) found that antisocial behaviour, specifically physical aggression, was the most prevalent cause cited by students for their suspension. The participants stated that they would have liked the opportunity to learn alternatives to the negative behaviours for which they received the exclusion and only 19% believed that the suspension had helped them and had led to changes in their behaviour. This suggests that



exclusion is not an effective method of behaviour management, which is a view supported by others in this area (McGinnis, 2003).

### ***2.2.3.3 The Negative Outcomes Associated with Exclusion***

Prolonged periods of time away from school may not only restrict access to the curriculum and disrupt the child's education but also removes the opportunity for social interaction (Gersch & Nolan, 1994). The Office of the Children's Commissioner (2012) concluded that schools should only resort to exclusion as a last resort, after alternative methods have been attempted. Research has found that even shorter periods of exclusion, or 'suspension', are associated with lowered academic gains and withdrawal from education completely (Arcia, 2006) and that often attempts at re-integration into mainstream are not successful (Daniels *et al.*, 2003). Exclusions have been associated with patterns of offending and substance misuse (Stirling, 1991) and are also costly to society. Parsons and Castle (1998) found that providing additional resources for those considered to display behavioural difficulties was cheaper than exclusion both financially and in regard to the impact on the individuals involved.

## **2.3 The Significance of Adolescence in the Development of Anti-Social Behaviour**

### **2.3.1 Adolescence and Aggressive Behaviour**

The previous section highlighted the significance of adolescence, in relation to the possible development of disruptive, anti-social behaviour which can lead to negative outcomes should the child experience exclusion from education. Antisocial behaviour in the form of perceived deviant and violent behaviour is found to peak during adolescence before beginning to decline after age 11 (Bjorkqvist, Lagerspetz & Kaukiainen, 1992). Further evidence highlighting the significance of this stage of life, in relation to the development of challenging behaviour, comes from research which suggests that first criminal offences often occur between the age of 11 and 12 and that most youth offenders are between the ages of 14-16 years (Philips & Chamberlain, 2006). One possible explanation is that neurological changes which occur during adolescence have

been associated with the impulsive, risk-taking behaviours observed during this period (DfE, 2011a).

### **2.3.2 Support to Develop Social Competence During Adolescence**

Recent government policy (DfE, 2011b) highlights the importance of ensuring adequate support for young people during this stage of life in order to ensure they fulfil their potential ‘...through positive relationships...’ (p.ix). It is important for young people to learn patterns of behaviour that enable them to contribute to society in a positive manner (Csikszentmihalya & Larson, 1984) including social-emotional skills (DCSF, 2007). Guidance appears to suggest that responsibility for providing early, appropriate support and exhausting every avenue to ensure the pupil continues with their education lies with the schools (DCSF, 2008; DfEE, 1997)

The following section describes a multi-component intervention programme, devised to be implemented within school settings, with the intention of supporting the development of social competence in this ‘at risk’ population.

## **2.4 Aggression Replacement Training**

### **2.4.1 Development of the Intervention**

ART was originally developed in the 1980s in response to the high rates of youth crime in America (Goldstein *et al* 1987). The initial pilot studies, conducted in the USA, led to the conclusion that ART is an effective psycho-educational intervention for young people considered to show aggression in youth custodial settings (Glick & Goldstein, 1987).

Over the years ART has gone through several transformations (Goldstein, Glick & Gibbs, 1998; Glick and Gibbs, 2011). One of the current versions was created in Norway for use in European schools (Gundersen *et al.* 2014) by researchers from the international Centre for Aggression Replacement Training (iCART), the European training provider of ART. It is based on the observations of staff at child welfare organizations and their extensive experience in implementing ART but the content remains the same as that provided by Goldstein, Glick and Gibbs (1998). However, the delivery of some sessions has been modified (see

section 3.5.2 and Appendix XI for further detail regarding the contents and structure of the intervention sessions).

## **2.4.2 The Theory and Research Underpinning the Intervention**

This section begins by describing the three components of the ART intervention. This is then followed by a discussion surrounding the theoretical basis of the intervention, CBT, before a final exploration of the two concepts which ART aims to modify; aggression and social competence.

### ***2.4.2.1 The Three Components of the Intervention***

ART is a multimodal programme. Whilst each component is considered effective individually, it is the combination of all three elements which are believed to promote long term success (Glick & Gibbs, 2011). The following section will outline the role of each component in contributing to the reduction of aggression and nurturing of social competence.

#### **2.4.2.1.1 Pro-social Skills Training**

This component aims to provide adolescents with pro-social skills to use in place of behaviours perceived as aggressive.

According to the Sensorimotor Skill Model of social interaction (Argyle & Kendon, 1967), socially skilled behaviour is comprised of 3 interrelated components: Social perception, social cognition or 'Translation Processes' (p.58) and social performance. Being able to interpret other's feelings, intentions and actions is important as our perception will affect which response we believe is appropriate and the actions we then carry out (Argyle, 1994).

In the skill deficit model advocated by Goldstein *et al* (1980), youngsters described as aggressive are perceived as being weak in interpersonal skills and enhanced levels of social cognition (Goldstein, Glick & Gibbs, 1998), which is remediated through explicit training. This includes issues of perception and social information processing such as misinterpretation of cues, biased attribution of intent and deficient social problem solving (Lochman & Dodge, 1994; Zelli et al. 1999). Such young people also appear to suggest more agonistic strategies when dealing with social dilemmas and are more likely to actually enact such behaviours when attempting to reach their goals (Rubin,

Bream & Rose-Krasnor, 1991). It has been suggested that adopting a single approach does not appear to result in long term behaviour change and therefore programmes which address both behaviours and cognitions are advocated (Frederickson and Simms, 1990; Pepler, King & Byrd, 1991).

Intervention evaluation studies have found that explicit skill training is not only successful in increasing the positive social behaviours of young people (Denham et al. 2006) but also in reducing the behaviours considered to be antisocial, such as aggression (Pepler, King & Byrd, 1991). However, not all findings have been so positive, in a meta-analysis of 35 studies; Quinn *et al* (1999) found a mean effect size of 0.199 for social skills training groups for children with BESD. They suggested that the interventions would have been more effective if they had been tailored to the needs of the participants. However, Gresham *et al* (2004) assert that the studies in Quinn's review did not possess high validity ratings, nor did they all use outcome measures of social behaviour or studies where all participants had BESD. These authors describe four alternative, stringent meta-analyses which found more positive results, leading to the conclusion that social skills training is beneficial for pupils with, or at risk of, BESD.

The social skills training component of ART is '...a systematic, psycho-educational intervention to teach pro-social behaviours.' (Glick & Gibbs, 2011. p.14). A core curriculum of 10 different social skills is provided. However, in keeping with a prescriptive model of intervention, these can be adapted based on the needs of those in the group (Gundersen *et al.* 2014). The sessions use strategies based in social learning theory such as modelling, role play and feedback (Gundersen *et al.* 2014) to develop skills which serve to displace the behaviour considered to be destructive (Hollin, 2004) as well as opportunities for open reflection of thoughts, in keeping with CBT principles (Gundersen *et al.* 2014)

The success of intervention groups depends on many factors, Tierney and Dowd (2000) suggest three conditions; ensuring the work is valued by the school, giving facilitators time to develop and reflect on their skills and giving pupils the choice to take part. The participant's acceptance of the skills being

taught, in terms of their face validity, is also an important factor to consider (Sarason & Sarason, 1981).

#### 2.4.2.1.2 Anger Control Training (ACT)

This component supports young people in inhibiting anger, an emotion which can interfere with the adoption of pro-social behaviour (Glick & Gibbs, 2011).

Anger, ‘...an emotional response to provocation...’ (Novaco, 1975, p.5), is thought to consist of both physiological arousal and cognitive appraisal of those feelings as anger (Indoe, 1995). Aggression may arise from concomitant thoughts, such as unmet expectations or reduced inhibition and impulsive behaviour arising from the increased emotional arousal (Novaco, 1975). Goldstein, Glick and Gibbs (1998) suggest that a tendency to employ aggressive means to achieve personal goals may be indicative of anger control problems. Certainly, research has found that high levels of anger relate to increased frequency of perceived aggressive outbursts in young people (Cornell, Petersen & Richards, 1999).

Traditional behaviour modification strategies for individuals considered to show aggression do not appear to lead to generalisation of behaviours into natural environments. Instead theorists highlight the importance of considering emotions and their role in explaining difficult behaviour (Faupel, 2002) and the associations between cognitive distortions and overt behaviour, such as aggression (Barriga et al. 2000; Beck, 1999; Liao, Barriga & Gibbs, 1998; Lochman & Dodge, 1994). Therefore researchers began to focus on remediating the emotional arousal which often underpinned aggression, anger, by restructuring maladaptive thought processes alongside teaching alternative behaviours (Feindler & Baker, 2004).

In order to improve self-control, which is related to aggression in later life (Caspi *et al.* 1995), structured group anger management programmes utilise a range of different techniques, including training in social skills and cognitive-relaxation coping. These have been found to be equally successful (Deffenbacher *et al.* 1994). Such interventions have also achieved some success when aimed at young people within educational settings (Dwivedi & Gupta, 2000; Feindler & Baker, 2004; Lochman & Wells, 2003). However, it has been suggested, similar

to pro-social skill training, that tailoring of the interventions to the needs of the individuals may prove most beneficial (Edmondson & Conger, 1996). For example, if an individual does not have knowledge of pro-social skills, cognitive restructuring and relaxation will not provide them with such skills.

The theory behind the techniques used in this component of the intervention stems from the work of Luria (1961) who investigated children's use of inner speech in controlling their external behaviours. Meichenbaum and Goodman (1969a) continued this work by finding evidence of a developmental sequence of verbal control of behaviour. The most effective form of verbal control became more covert as children developed. Whilst younger children required overt verbalisations for optimal functioning, older children were hindered by being forced to verbalise aloud and found covert instructions more helpful. Impulsive children have been found to possess less verbal control over their behaviour, using their speech less efficiently (Meichenbaum & Goodman 1969b). Cognitive self-instruction training, which nurtures overt and covert strategies including questioning, planning, self-guidance and self-evaluation, reduced impulsivity and improved reflection, giving children control over their behaviour (Meichenbaum & Goodman, 1971).

In keeping with the cognitive-behavioural self-control approach, Novaco (1975) believed that an indirect link exists between the provoking event and anger, which is mediated by cognitive appraisal of the event. Anger was believed to be '...fomented, maintained and inflamed by the self-statements that are made in provocation situations.' (p.23). Novaco's treatment procedures involved both cognitive control procedures and relaxation techniques in order to alleviate the physiological response and improve self-control. Following the intervention, participant's management of anger significantly improved compared to controls. It is important to note that some individuals employ aggression to reach instrumental goals that are not fuelled by anger, these individuals would not necessarily be suited to ACT (Novaco, Ramm & Black, 2004).

Novaco's programme was developed into a sequence of taught techniques by Eva Feindler (Feindler, 1995; Feindler & Ecton, 1986). As anger involves an interaction of physiological, behavioural and cognitive factors (Faupel, Herrick &

Sharp, 2011), a combination of techniques are employed here to address all three. Research suggests that this package lowered externalising behaviour in adolescents when implemented in a home for youth with delinquent behaviour (Nugent, Champlin & Wiinimaki, 1997) and in school settings (Feindler, Marriott & Iwata, 1984; Whitfield, 1999). This intervention provides the basis for the ACT component of ART. During ACT sessions participants are taught a chain of strategies including recognition of perceptions and triggers, interpretation of cues of arousal, reduction of arousal and the use of self-instructional reminders, consideration of consequences and self-evaluation (Glick & Gibbs, 2011). Throughout these stages cognitive restructuring techniques are used to identify irrational thought patterns and replace them with a more rational appraisal of the situation (Gundersen *et al.* 2014).

#### 2.4.2.1.3 Moral Reasoning Development

The final component of ART aims to increase moral values, making the individual more likely to employ the pro-social skills taught previously (Gibbs, 2004).

Morality develops over time, depending on the child's social experiences and cognitive ability to process these experiences (Guerra & Bradshaw, 2008). Both Kohlberg (1973/1984) and Piaget (1965) linked socialization to moral development. They claimed that moral reasoning ability develops sequentially, through social experiences and 'role-taking opportunities' (Kohlberg, 1984, p.199), particularly with peers. In Kohlberg's theory this equates to three levels of moral development, each with two stages. Children progress from making moral judgements based on avoiding punishment and being concerned with their own needs (stage 1 and 2), to adhering to social norms and laws (stage 3 and 4), until finally internalising principles such as justice, equality and dignity (stage 5 and 6). Research confirms that children and adolescents progress through these stages sequentially (Colby *et al.* 1983). It would also appear that the development of moral reasoning, specifically the shift from stage 2 to stage 3 thinking in late childhood and early adolescence, is universal, being found across cultures and measures (Gibbs *et al.* 2007).

Kohlberg (1973) applied his theory to antisocial behaviour, posing that those perceived to act in a 'delinquent' manner possessed a delay in moral development, so that the immature 'pre-moral' stages of 1 and 2 persist into adolescence. This implies that individuals lack the appropriate processes to control their behaviour.

Kohlberg's theory was not without criticism, for example few reach post-conventional stages and those who do tend to originate from western, urban cultures (Snarey, 1985). Also young children have been found to possess a deeper sense of morality than Kohlberg proposed (Damon, 1999).

Gibbs' model of socio-moral development (Gibbs, Bassinger & Fuller, 1992), adapted from Kohlberg, comprises of 4 stages. Moral judgement at stage 1 and 2 is immature and superficial, focusing on power, consequences and deals, whereas stage 3 and 4 are mature and profound, concerned with mutuality, interpersonal expectations and the good of society. These stages develop across the lifespan, with stage 1 commonly associated with young children and stage 4 late adolescence and adulthood (Gibbs, 2010). Therefore adolescents who remain at stages 1 or 2 are considered delayed (Glick & Gibbs, 2011).

In support of these developmental theories researchers have concluded that the moral reasoning of adolescents who have committed criminal acts is immature in comparison to those who have not (Palmer & Hollin, 1998; Stams *et al.* 2006). Specifically the former group of adolescents have been found to mostly employ Gibbs' stage 2 reasoning, compared to the latter who use stage 3 (Gregg, Gibbs & Basinger, 1994). More mature moral reasoning has been found to relate to greater pro-social behaviour such as helping (Eisenberg *et al* 1991).

The delay, often arising from a lack of opportunity to take other's perspectives, implies that not only are young people who engage in behaviours considered to be antisocial at an immature moral stage, but they also possess persistent egocentric bias or self-serving cognitive distortions, characteristic of much younger children (Gibbs, 2004). These faulty beliefs correlate with the perceived aggressive and antisocial behaviours engaged in, for example individuals considered to be aggressive will justify an act, such as stealing, by saying it fulfilled their needs and not consider other's perspectives (Gibbs, 2010).



Research supports Gibbs' theory, in that self-serving distortions have been found to be elevated in adolescent offenders (McCrary *et al.* 2008) and correlate positively with problem behaviours observed in college students (Barriga *et al.* 2001).

A child does not possess moral values purely because they can affirm them. They also need to be able to understand why they are important (Gibbs, 2004). For example, both offenders and non-offenders state that moral values are important but then differ in the maturity of their moral reasoning (Palmer & Hollin, 1998). Kohlberg believed that mature moral judgements could be stimulated through education in the form of classroom discussion programmes (Kohlberg 1973).

Intervention evaluation research has found that moral dilemma discussion groups, aimed at adolescents considered to show behaviour difficulties within school contexts, have been found to be highly successful (Arbuthnot & Gordon, 1986). Not only did participant's moral reasoning ability mature significantly compared to control pupils, but a decrease in problem behaviours observed was also reported following the sessions. The researchers concluded that developing the basis for decisions improved behaviour. Although this change in cognition does require some support from others if it is to be maintained and have a sustained influence on behaviour (Gibbs *et al.* 1984).

In ART moral values are encouraged by providing the young people with opportunities to adopt the perspectives of others through a 'Social Decision Making Meeting' (Glick & Gibbs, 2011, p.81). Here individuals must justify the decisions made in response to questions surrounding vignettes, which are chosen according to their suitability to the group and complement the skills learned previously (Glick & Gibbs, 2011). Peers with more mature moral reasoning challenge their decisions in the hope that the inner conflict experienced may stimulate more mature understanding (Gibbs, 2004). Dukerich *et al.* (1990) found support for this method. Groups achieved lower levels of moral reasoning when the less principled individuals took a leadership role, whilst groups with more principled leaders received higher individual scores following the sessions.

### ***2.4.2.2 Cognitive Behaviour Therapy***

The theoretical basis of ART is CBT. Each component of the intervention focuses on a different element of the CBT process, with ACT being concerned with emotion regulation, Moral Reasoning focusing on developing mature thought and Social Skill Training concentrating on modifying behaviour perceived as aggressive (Glick & Gibbs, 2011).

#### **2.4.2.2.1 Definition of Cognitive Behaviour Therapy**

CBT is a psychotherapeutic method which aims to support the client in identifying and modifying internal psychological states, including distorted thought processes and corresponding negative emotions, in order to instigate associated changes in a person's external behaviour. When external reinforcement in response to this change is triggered, the new behaviours are maintained (Hollin, 2004). CBT does not describe a single method, but generally the CBT process consists of several phases including assessment, to identify the problem and set goals; intervention or psychoeducation, to apply cognitive and behavioural change techniques; and review, to evaluate the strategy's success (Fuggle, Dunsmuir & Curry, 2013).

Others can support this maintenance of new skills by becoming co-therapists and agents of reinforcement or changing their own behaviours to avoid encouraging relapse outside of the therapy sessions (Telford & Farrington, 1996). The effects of child therapy tend to be more powerful when key adults are involved (Dunsmuir & Iyadurai, 2007).

#### **2.4.2.2.2 Origins and Underpinnings of Cognitive Behaviour Therapy**

CBT arose from dissatisfaction with the previously dominant approach, Behavioural Therapy (Westbrook, Kennerley & Kirk, 2011). Reinforcement interventions did not produce enduring, generalisable changes in behaviour and negatively influenced internal motivation (Hughes, 1988).

CBT is consistent with a constructivist approach. As individuals interact with the environment, they construct schemas which allow them to interpret events. Identification and modification of these schema is a vital part of CBT (Marshall, 1996). These ideas are reflected in early cognitive therapy. For example, Beck (1991) described that depression stemmed from '...the patient's tendency to

interpret his experiences in terms of being deprived, deficient or defeated.’ (p.82). Meichenbaum (1979) and Ellis (1975), two prominent psychologists in the area of CBT, also argue that concepts and beliefs impact upon our interpretation of external events. Ellis (1975) stated that man ‘...can rid himself of most of his emotional or mental unhappiness...if he learns to maximize his rational and minimize his irrational thinking’ (p.36).

#### 2.4.2.2.3 Applications of Cognitive Behaviour Therapy

CBT has been implemented to support people with a range of needs, from depression and anxiety (Southam-Gerow & Kendall, 2000), to physical health problems and relationship difficulties (Marshall & Turnbull, 1996).

Individuals considered to show aggressive behaviour have frequently been found to experience distorted social cognitions (Lochman & Dodge, 1994; Zelli *et al.* 1999). For example, Beck (1999) observed that thoughts of being wronged led to feelings of anger and a longing for retaliation. These thoughts were often disproportionate or wrongly attributed, but could be modified when questioned and evaluated. Strong support is found in the literature in regards to the use of CBT for aggression (Hollin, 2004). It is now one of the most common forms of anger management therapy and appears to be effective in alleviating such issues (Beck & Fernandez, 1998).

CBT is a promising method for use with children and young people (Fuggle, Dunsmuir & Curry, 2013; Hughes, 1988). Positive results have been gathered from studies implementing CBT in school settings, improving self-control of behaviour considered aggressive (Krishnan, See Yeo & Cheng, 2012; Squires, 2001). Skills training and multimodal interventions received the greatest effect sizes (Sukhodolsky, Kassinove & Gorman, 2004) suggesting that these forms of CBT are the most effective for reducing such behaviour. Further research evaluating CBT interventions within UK school environments is still needed (Rait, Monsen & Squires, 2010).

Cognitive techniques require that an individual has the ability to think introspectively and reflect on their own thoughts and feelings (Beck, 1991), which may be an issue with younger children. CBT also appears to be more beneficial for those with more advanced levels of cognitive development

(Durlak, Fuhrman & Lampman, 1991). As children are often referred for CBT, they may not recognise that they need to change or be motivated to take part in the therapy (Stallard, 2007). Finally, treatment focusing solely on the child may not be successful if contextual influences such as family factors are not also receiving support (Southam-Gerow & Kendall, 2000). Active parental involvement has been found to increase the beneficial effects of CBT interventions (Sofronoff, Attwood & Hinton, 2005).

### **2.4.2.3 Aggression**

#### 2.4.2.3.1 What is Aggression?

Aggression is a form of anti-social behaviour (Clarke, 2003), often arising from anger caused by misperceptions of the social world (Glick & Gibbs, 2011). It can be defined as ‘...any form of behaviour intended to harm or injure someone against his or her wishes’ (Breakwell, 1999, p.9), which can be physical or psychological (Breakwell, 1999). Aggressive behaviour in schools has been described as being a continuum, from behaviours considered to be low level acts such as disruptiveness, moderate behaviours such as bullying and behaviours deemed more serious such as physical fights and group aggression (Goldstein *et al.* 1995).

#### 2.4.2.3.2 Cause of Aggression

Aggression may be underpinned by a complex range of causal factors (Pepler & Rubin, 1991). Biological causes, such as brain activity (Harris, 1978), and congenital factors (Brennan, Mednick & Kandel, 1991) have been implicated in the development of aggressive behaviour. However, such studies often employed flawed methodology (Harris, 1978).

Some believe that the role of learning is more significant (Clarke, 2003; Goldstein, 1999). For example, research suggests that antisocial and aggressive behaviour is associated with child rearing practices such as poor parental supervision and inappropriate disciplining (Farrington, 1995; Kratcoski, 1985). Peers can also act as models and provide reinforcement of aggressive behaviour, as children perceived as aggressive tend to socialise with others who are viewed in a similar way (Cairns *et al.* 1988).

In order to provide a concise, coherent literature review the following section largely focuses upon the interactionist approach to aggression which aligns closely with the ART intervention. Theorists advocate that a combination of many factors is likely to contribute to aggression (Rubin, Bream & Rose-Krasnor, 1991), hence the selection of a theoretical perspective which considers both internal and external factors. Other texts offer broader description of the different theories and origins of aggression (Bandura, 1973; Clarke, 2003; Hersov, Berger & Shaffer, 1978; Pepler & Rubin, 1991).

The interactionist approach has a basis in Lewin's (1936) formula  $B = f(p,e)$ , where behaviour is viewed as a function of both the person and the environment. Social learning theory (Bandura, 1969, 1973, 1977) was a particularly prominent interactionist theory. Bandura (1969, 1973, 1977) described that external conditions, such as the possibility of reward, interact with the individual's learning history, an internal feature consisting of information gleaned from the observation of models or '...observational learning...' (Bandura, 1977, p.12).

Opportunities to observe models carrying out aggressive behaviours and the consequences then received for performing such behaviours influence whether aggressive behaviours are learnt and repeatedly acted out (Bandura, 1973; Bandura, Ross & Ross, 1963). Bandura (1977) believed that most learning occurred vicariously, by watching someone else perform the behaviour and the consequences they receive the child learnt which behaviours to imitate. Once learning has occurred, when confronted with aversive stimuli, the emotional arousal experienced can lead to a range of behaviours, including aggression, depending on which behaviours the child has seen used in such situations (Bandura, 1973).

Social learning theory can also be applied to modify and control aggression. The same principles apply as mentioned previously, individuals considered to show aggression observe role models performing more desirable behaviours and being rewarded in way which the observer finds appealing (Bandura, 1973). This process is most effective if the individual has the opportunity to watch

several different models and is then rewarded for applying such socially skilled behaviours themselves.

Social learning theory is not without criticism. Whilst it has many practical applications and can explain the cultural differences found in aggression it arguably underestimates the active role of the learner. It also cannot explain instances where behaviour, which is punished, is still maintained (Breakwell, 1999) and does not consider the person's intent to harm, which is key to the concept of aggression.

#### 2.4.2.3.3 Outcomes Associated with Aggressive behaviour

Research has found that aggression is fairly stable over time without intervention (Crick, 1996; Farrington, 1995; Huesmann *et al.* 1984; Kokko & Pulkkinen, 2005). Negative outcomes associated with early aggression include social maladjustment and peer rejection (Crick, 1996); anti-social or criminal behaviour (Farrington, 1995; Huesmann *et al.* 1984; Stattin & Magnusson, 1989); lowered engagement with education and academic achievement (Gutman & Vorhaus, 2012) and lowered occupational prestige and health concerns (Huesmann, Dubow & Boxer, 2009). In order to avoid such outcomes later in life schools are seen as playing a vital role in providing early intervention and educating pupils in alternative behaviour (Gable, Bullock & Harader, 1995). As Goldstein (1999, p.2) states 'Catch it low to prevent it high....'.

#### 2.4.2.3.4 Approaches that are Effective in Reducing Behaviour Perceived to be Aggressive

Guidance from the Home Office suggests that aggression and violence in schools is best addressed using approaches such as CBT, social skills training and mentoring, which have been evaluated extensively (Home Office, 2013). According to a recent review of meta-analyses, small group skills training in social competence and anger management, appeared to be highly effective at reducing anti-social behaviour (Ross *et al.* 2011).

Effective programmes share several further underlying factors; they are often multidimensional, underpinned by the principles of Social Learning Theory and are flexible and dynamic in their approach, tailoring the programme to each individual (Caldwell & Van Rybroek, 2013). Structures within the school also

ensure success, for example school policies which are practised consistently and supported by well-trained staff (Brown & Winterton, 2010). Ross *et al.* (2011) noted the lack of research from the United Kingdom, concluding that there is a need for more robust, high quality evaluations of promising programmes in the UK.

#### **2.4.2.4 Social Competence**

In contrast to Glick and Gibbs' (2011) ART, which views the reduction of aggression as its primary goal, the European version of ART focuses more on the programme's ability to nurture skills of social competence (Gundersen *et al.* 2014).

##### 2.4.2.4.1 What is Social Competence?

Social competence is sometimes referred to as 'knowing what to do and how to do it' during social interactions (Frederickson & Cline, 2009. p.460). This definition implies that both behavioural elements, such as enactment of appropriate social skills, as well as cognitive aspects, such as social perception and problem solving ability, contribute to competent social interaction. However, definition is problematic because of the many skills associated with social competence (Vaughn & Waters, 1981). Argyle (1994) poses that social competence has six components: Social skills and techniques; rewardingness; empathy; social intelligence and problem solving; assertiveness; verbal and non-verbal skills. Also, as a social concept, what is seen as appropriate or desirable depends on the society or culture in which the interaction is occurring (Frederickson & Cline, 2009).

Social Information Processing Models, such as that constructed by Crick and Dodge (1994), describe social competence as a cognitive and behavioural phenomenon which requires several types of skilful processing, including encoding, interpretation and amalgamation of social information, as well as response construction, evaluation and finally performance. Difficulty at any of the stages will result in problems with social relationships. Research evidence supports the model by finding different patterns of processing in young people displaying behaviours considered to be pro- and anti- social. For example, those who act pro-socially view aggressive responses negatively and are less

likely to consider others actions to be hostile in intent (Nelson & Crick, 1999), whilst young people perceived as aggressive appear to experience opposing patterns of thought (Lochman & Dodge, 1994; Zelli *et al.* 1999).

#### 2.4.2.4.2 Development of Social Competence

Attachments and early social experiences with caregivers are considered to lay the foundation for the development of social understanding (Semrud-Clikeman, 2007). It is through these close relationships that the child learns about the social world, creating internal working models which provide a basis for social interaction (Bowlby, 1969) as well as modelling behaviour (Cartledge & Milburn, 1995). Parents can influence these skills of social competence directly, such as supervising them when playing with others, or indirectly, through attachment behaviours (Ladd, 1999). Rose Krasnor *et al.* (1996) found a positive relationship between security of attachment and social engagement in much younger children. They also found that parenting practices such as maternal directiveness, were associated with increased social behaviours considered to be aggressive. Good quality parent-child relationships have also been found to relate to increased social skill performance later in life, such as during middle adolescence (Engels *et al.* 2001). Interactions with peers also play an important role in the development of social competence (Hay, Payne and Chadwick, 2004).

#### 2.4.2.4.3 Social Competence and Aggression

The Social-Information Processing Model (Crick & Dodge, 1994) hypothesised that an inability to solve social problems, because of inappropriate or lacking strategies, led to faulty processing of information. This would then trigger aggressive behaviour. Distorted processing can occur at a number of stages during the interaction, from the interpretation of cues, to the selection of appropriate response (Crick & Dodge, 1994).

Supporting research has suggested that young people who engage in behaviours considered to be violent employ a number of distorted social cognitions from misinterpreting social cues to problem solving deficiencies (Lochman & Dodge, 1994). Adolescents perceived to be aggressive also apply more social problem solving strategies involving the use of aggression, when



compared to young people who are considered to be more prosocial (Pakaslahti & Keltikangas-Jarvinen, 1996). Deviant processing, with a tendency to interpret the actions of others as hostile, is also often found to be a characteristic of individuals who are believed to be aggressive (Zelli *et al.* 1999). Further support stems from evidence suggesting that different forms of aggression, with different associated goals, are associated with different patterns of maladaptive social information processing (Crick & Dodge, 1996). In relation to planning intervention, Rubin, Bream and Rose-Krasnor (1991) found that the agonistic strategies employed by these children were often highly successful, making them resistant to change.

#### 2.4.2.4.4 Social Competence Training

A meta-analysis of 49 studies found that training in social competence was moderately effective (Beelman, Pfingsten & Losel, 1994). However, long term benefits were rare and the programmes appeared to be less effective when measured on broader constructs. Multimodal programmes were praised by the authors, because they often led to superior generalisation of skills.

Programmes aiming to improve social competence arise from several different approaches (Beelmann, Pfingsten & Losel, 1994). Some believe that such children are lacking in behavioural skills and therefore must be taught through modelling and reinforcement (Goldstein, 1973). Others focus on improving cognitive skills or modifying inappropriate thoughts (Beelmann, Pfingsten & Losel, 1994), also known as social problem solving. Fraser *et al.* (2005) describes the results of one such intervention, which aimed to strengthen social information processing and emotion regulation. The results suggested that training increased social competence and lowered aggression (Fraser *et al.* 2005). A combination of different methods, comprising modelling, reinforcement, social skills tutoring and coaching, tailored to the skills deficits of the individual child and carried out with the support of peers to improve generalisation, is advocated as the most promising package (Hops, 1983).

### **2.4.3 The Efficacy of ART**

Previous research investigating the efficacy of the multimodal social competence intervention focused upon in the current research, ART, will now be considered in more detail.

#### ***2.4.3.1 Recent Research in Educational Settings***

Several of the published research articles into ART have been conducted in Norway. Gundersen and Svartdal (2010) recruited 140 participants from a wide range of schools, from Kindergarten to Intermediate level. Results suggested that the intervention group experienced significant reductions in behaviour problems and increased social skills. However, they found that the control participants also showed improvement on these two variables. The researchers believed that secondary diffusion may have occurred, with the improved behaviours displayed by the intervention participants influencing those who were not in the ART groups. The measures did utilise several sources of reporting but they did not correlate and parents and teachers provided markedly different scores on the same subscales. More direct measures may have improved the validity of the data.

Another large randomised control trial study, employed measures at 4 different time points in order to establish baseline and follow up data (Langeveld, Gundersen & Svartdal, 2012). 112 children and adolescents were placed into 18 groups across Norway. Data from the intervention group suggested that both social competence and problem behaviours had improved at post-test, with problem behaviours decreasing further at post-post-test, 4 weeks later. Further analyses concluded that the positive changes in social competence mediated the intervention's effect on problem behaviours.

Gender, age and initial levels of social competence also mediated the effects of the intervention. Whilst girls had higher social competence and lower problem behaviours prior to the programme, both genders benefitted from the intervention, showing increased social competence. However, boys experienced a greater decrease in problem behaviour, which was attributed to a floor effect in the females. Whilst younger participants (under the age of 12-13 years) benefitted from the intervention on both scales, older participants only

experienced a slight positive change in behaviour, not social competence. It is important to note that the authors themselves report that there may have been elements of selection bias and high non-response may have impacted upon the validity of the data.

More recently, Kopusov, Gundersen and Svartdal (2014) implemented ART in 10 schools and institutions across North-West Russia. The 232 children were randomly placed into intervention and control groups. Self-report data suggested that those in the intervention group experienced a significant increase in their social skills, compared to controls. However, this was dependent on age, with younger participants (aged 6-9 years and 10-14 years) benefitting more than the older young people (15+ years). Parent and teacher-report found that both the intervention and control participants increased in their social skills and decreased in their problem behaviours. Similar to Gundersen and Svartdal (2010), the researchers concluded that these findings were due to the transfer of changes from the ART groups to the control participants in their daily interactions. Kopusov, Gundersen and Svartdal (2014) did state that the results may have been affected by some teachers not following the instructions to randomise participants. There were also implementation issues such as absence and participant refusal. They advocated for future study to consider the relationship between implementation quality and the outcomes of ART.

The positive outcomes highlighted above suggest that ART is a promising intervention, in that it has previously been associated with increased social skills and reduced problem behaviours. This body of research also implies that the intervention can be accommodated within educational settings. However, secondary diffusion and threats to validity do complicate the conclusions that can be drawn from this research.

#### ***2.4.3.2 Research in the UK***

Despite being available throughout the probation service in the United Kingdom (NOMS, 2010) there is very little research evaluating ART in the UK. The studies described below were conducted on adults, as this is how the English Justice Service chose to adapt and implement the intervention (NOMS, 2010). Reoffending rates were 14.1% and 13.3% lower for those who had received the

programme compared to control participants (Sugg, 2000, cited by McGuire & Clark, 2004; Hatcher *et al.* 2008). Those who did not attend the full programme also had higher rates of reconviction, suggesting that attending all sessions was vital to ensure positive outcomes. However, both studies suffered from high rates of attrition which may suggest that the remaining samples were biased.

#### **2.4.3.3 Qualitative findings**

Applying ART in schools meant that teachers became implicated in its implementation. In order to ascertain teacher's opinions of ART, Sudbeck (2010) conducted a qualitative study, interviewing 6 ART trained teachers. All agreed that ART was useful to students as it gave them skills which applied to everyday life, with moral reasoning being seen as the most important component. However, it was seen as more applicable to boys than girls. The majority were confident in their ability to implement the programme and two related this to their belief that the programme was effective. Lowered confidence was associated with student's lack of investment in ART. Three teachers felt that ART had cultural biases in its curriculum which may impact upon the student's dedication to the programme. Therefore some deviated from the structure to make it more relevant to the individuals in their groups. Finally, whilst in most cases students were described as reticent at first, their opinions became more positive as the sessions progressed.

### **2.5 Implementation Science**

A recently defined area of psychology which aligns well with the research and application of intervention programmes is that of implementation psychology. Whilst the development and identification of evidence-based programmes and practices has improved considerably in recent years, the science concerned with how to implement these programmes lags behind (Fixsen *et al.* 2005). It appears there is a '...gap between our knowledge of effective treatments and services currently being received by consumers.' (p.2).

Implementation science aims to explore and explain what makes interventions effective in real world settings (Kelly, 2012). The link between level of implementation and outcomes is so strong that researchers conclude that all evaluation research should include implementation data (Durlack & DuPree,

2008) and that these measures should incorporate a focus on multiple elements of the implementation process, from treatment integrity to the quality of the institutional support (Kam, Greenberg & Walls, 2003).

Variability in implementation can arise from several sources but predominantly characteristics of practitioners and the surrounding context influence programme effects (Kelly, 2012). Researchers have identified numerous factors which are considered important in ensuring successful programme implementation. According to Fixsen *et al.* (2005) this occurs when:

- Staff are selected carefully and receive training and coaching;
- there is regular assessment of the fidelity of the implementation of the intervention and evaluation of staff skills;
- administrative support provides clear leadership and supports the processes and staff;
- systems interventions create an environment which is conducive to the implementation of the programme, including financial, organisational and human resources to support the practitioners.

These core components influence organisational culture and staff behaviour best by being integrated as they compensate for one another when one particular area is weak (Fixsen, *et al* 2009). Denton, Vaughan and Fletcher (2003) suggest that the sustained implementation of high quality reading interventions depends on several additional factors including teacher's acceptance and commitment to the programme. They also highlight organisational factors as being influential in programme success, including the intervention being valued by management and supported by facilitative administration.

Domitrovich *et al.* (2008) note the large variety of contextual factors that research has highlighted as having an impact on the quality of implementation of evidenced-based practices in schools. In an attempt to address the research-to-practice gap present, a three-level model is presented with the aim of providing a framework for consideration of these many contextual factors implicated in the implementation of school-based interventions (Figure 2.1)

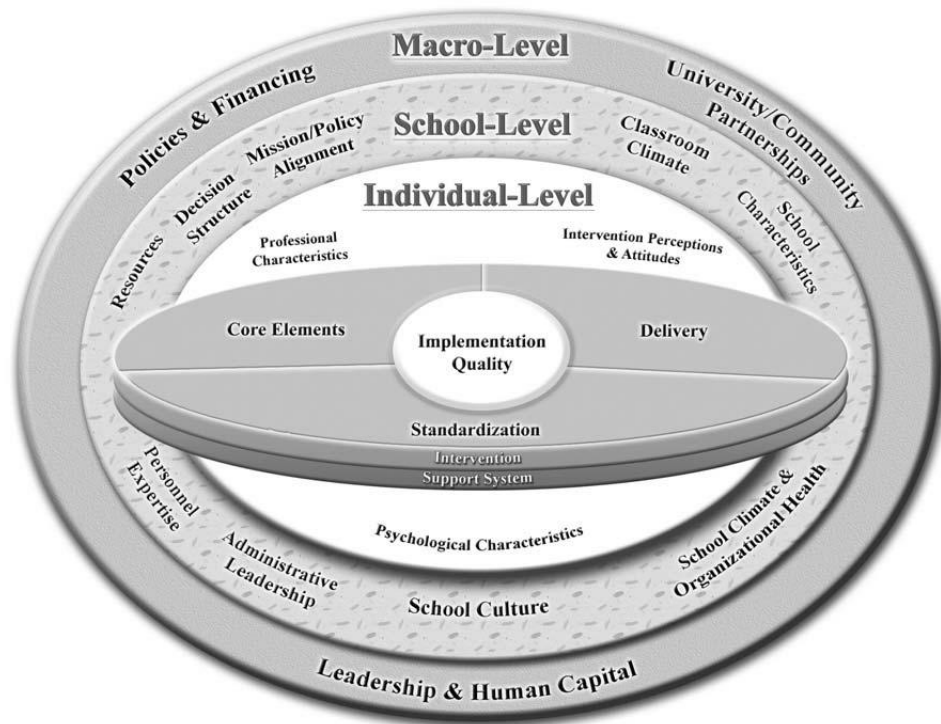


Fig.2.1. A Multi-Level Model of Factors that Influence Implementation Quality. (Domitrovich *et al.* 2008. p.8)

At the centre of the model lies the intervention package and its corresponding support system, for example staff training. These are seen as the core components which should be monitored to ensure high quality implementation. This is surrounded by several 'levels' of interactive factors, each of which can have an impact on the quality of the implementation of the intervention, both directly and by influencing other surrounding factors.

By attending to implementation and intervention practices in research, issues which impact upon effectiveness can be discriminated and provide vital feedback for further service development (Fixsen *et al.* 2005). This is an area which researchers in ART have suggested would be useful to pursue (Koposov, Gundersen & Svartdal, 2014).

### 2.5.1 Implementation Psychology and ART

Whilst research suggests that high quality implementation of interventions leads to more positive outcomes (Durlack & Dupre, 2008), it has also been suggested

that poor implementation may actually lead to negative effects (Felner *et al.* 2001). For example, Barnoski and Aos (2004) present findings which indicate that poor implementation of ART could actually lead to increased recidivism in young offenders.

Gundersen and Svartdal (2005) describe the outcomes of a two-year programme designed to train facilitators in the implementation of ART in order to maintain its integrity. Following the first year of training the majority of students reported feeling competent in their skills of implementing ART and tests suggested that they had obtained sufficient theoretical qualifications to conduct ART. They also conducted 12 ART groups, after which group members showed significantly increased social skills and decreased antisocial behaviours. This suggests that not only was the training successful in providing the students with knowledge about the programme, in order to improve their implementation of ART, but this, in turn, led to successful outcomes for the group members.

## **2.6 A Systematic Literature Review of Aggression Replacement Training**

### **2.6.1 Purpose of the Systematic Literature Review**

Systematic reviews offer researchers a method for assimilating relevant evidence, so that robust conclusions can be made (Hammersley, 2001). Adopting explicit and transparent criteria in the search for evidence minimises bias, whilst rigorous quality assessment maintains critical awareness of any issues of reliability or validity (Gough, 2007). This process provides a reliable base to inform decision-making and can identify areas for future research (Petticrew & Roberts, 2006).

ART is promoted as ‘...one of the best-validated programmes in its field.’ (Gundersen *et al.* 2014, p.6). Evaluation studies investigating the outcomes of ART have employed participants from a range of age groups, including adult offenders (Hatcher *et al.* 2008) and Kindergartners (Gundersen & Svartdal, 2010). Evidence also suggests that ART is being adopted by agencies across several different countries (NOMS, 2010) and settings, from runaway shelters

(Nugent, Bruley & Allen, 1998/1999) and young offender institutions (Holmqvist, Hill & Lang, 2009) to schools (Gundersen & Svartdal, 2010). Despite this wealth of research it would appear that a systematic review into ART has not yet been undertaken. Whilst there is one in press (Kaunitz *et al* in press), it maintains a focus on both adolescents and adults.

In order to remain consistent and relevant to the work being conducted in the Local Authority this search will focus on studies of ART implemented with adolescent participants. Therefore the aim of the current systematic review is to consolidate the existing evidence base pertaining to the effects of ART when used with adolescents. This is in order to gain a greater understanding of the effectiveness of ART for this age group, become familiar with the different methods employed in its evaluation and identify gaps in the literature which may provide focus for the current study.

### **2.6.2 Research Question for the Systematic Review**

The primary question for the following review was:

What impact does the ART intervention programme have on adolescents?

Within this several subsidiary questions were also being explored, specifically:

What contexts has ART previously been evaluated in, in relation to physical setting and wider geographical environment?

What difficulties have those targeted for the intervention experienced?

Who has been involved in the facilitation of the ART sessions?

What methodology has been employed in such evaluations and does the current evidence base contain research that is considered high quality?

What types of measures have been employed and what variables do they measure?

### **2.6.3 Methods Employed in the Systematic Review**

This review adhered to guidance provided by the Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI, 2007). Reference was



also made to several introductory texts (Gough, 2007; Gough, Oliver & Thomas, 2012). A more detailed account of the search process is included in Appendix I.

### **2.6.3.1 Search Strategy**

Four databases, which formed part of the University of Nottingham’s e-library gateway and a general internet search engine were employed in the search, which used a variety of search terms, devised with reference to the databases’ thesaurus tool (see Appendix I). Initial screening involved reading the titles and abstracts in order to ascertain whether the paper was relevant in that they focused upon the ART programme, were written in English and concerned adolescents. Duplicates were also removed. This yielded 29 papers in total.

During the second cycle of filtering, full text articles were accessed and inclusion and exclusion criteria employed.

### **2.6.3.2 Inclusion and Exclusion Criteria**

Table 2.1 provides an overview of the inclusion and exclusion criteria used in the review

<b>Studies were included if they:</b>	<b>Studies were excluded when:</b>
Reported primary empirical data	Secondary data was reported
Included a pre-measure	Pre-measures were not included
Were published in a peer reviewed journal	They were not published in a peer reviewed journal (i.e. theses)
Were evaluative in nature, reporting quantitative outcome data	The article was solely descriptive
Employed the original ART programme	The intervention employed was a modified version of ART. For example where the programme has been adapted for special populations (Moynahan & Stromgren, 2005), used in conjunction with other methods (Holmqvist, Hill & Lang, 2009) or condensed by taking out entire components (Nugent,

	Bruley & Allen, 1999)
Focused solely upon the adolescent population, aged between 10 and 19 years	The sample included children under the age of 10 and adults over the age of 19

Table 2.1: Inclusion and Exclusion Criteria Employed During the Systematic Review

The first three criteria were employed in the hope of ensuring that the data came from high quality research, resulting in robust conclusions about the effects of the intervention. Evaluative research was most appropriate to answer the review question, which aimed to ascertain the impact of ART. The programme had to be the 3-component, unmodified version of ART in order relate to the current project. Finally the age range was based on the purpose of the review and employed to ensure that the results would be relevant to educational settings, which is where the current project will be based.

In total five studies were identified. A map of the research was created in order to ease the synthesis and evaluation of the studies and to support the creation of detailed summaries (See Appendix II).

#### **2.6.4 Comparison of the Studies**

In order to explore the subsidiary questions associated with this review, and in turn, identify areas for future research the studies were compared on the following factors: context, sample, methodology, implementation and outcome measures.

The five studies identified were conducted between 1987 and 2009. Two pieces of research were conducted in both Australia and the United States of America and one in Norway. Only one study employed multiple settings and in this research each setting tended to include both a control and experimental group. The settings varied widely, with one piece of research including both clinical and educational settings (Gundersen & Svartdal, 2006), two studies conducting their research in residential youth custodial settings, one in a residential treatment centre for behaviour disorders and one focusing on a single school setting.

Sample sizes ranged from five to 65 participants. These participants were aged between 11 and 18 years. Two studies used only males whilst the other research included both males and females. The difficulties experienced by the

participants selected for the research ranged from committing violent criminal offences (Currie *et al* 2009) to displaying significantly disruptive behaviour in terms of deficits in social skills and anger control (Jones, 1991).

Whilst four of the five studies employed a form of randomisation to determine their groupings, two of these studies employed a cluster method, using either pre-existing groups or stratifying the groups based on levels of need and then allocating them to the conditions. Two studies used three groups, including both control and comparison conditions. Two employed experimental and control groups. The final study adopted a one group, repeated measures design. Most of the studies maintained the prescribed 30 session 10 week, format for the intervention. However, one study extended this to 50 sessions, and another 24 sessions per group on average. Only two studies reported any integrity measures, including supervision, observations and facilitator logs. The facilitators of the groups included trained staff from the setting (2 studies), student facilitators from a local university (1 study) and the provisional psychologists for the setting (1 study).

Finally all of the studies included both pre- and post-intervention data collection. One study used self-report measures only, whilst the other research employed multiple sources of data, including staff and self-report. One also included parents as contributors to the data collection. All of the studies measured the participant's knowledge or use of social skills. Other outcome variables that were focused upon include moral reasoning ability (3 studies), self-control (3 studies), behavioural incidents (3 studies), cognitive distortions (2 studies), behaviour and attention difficulties and behavioural functioning (1 study) and aggression (1 study). The majority of the studies (3 of the 5) employed the custom measures devised by Goldstein *et al* (1987) to ascertain social skill acquisition and behavioural incidents.

### **2.6.5 In-depth Description of the Studies Found**

Glick B and Goldstein A. (1987). Aggression Replacement Training. *Journal of Counseling and Development*, 65, 356–362.

The original pilot study of the ART intervention was conducted at a residential facility for young offenders in New York State. 60 males, aged between 14 and

17 were randomly allocated to intervention, comparison (which consisted of a session of brief instructional training) or wait-list control conditions. Self-report measures revealed significantly greater acquisition and generalisation of social skills in the ART groups, but no change in moral reasoning ability. Staff also reported a significant decrease in the number and intensity of acting out behaviours for the ART groups compared to both of the control groups. Repeated measures analyses, conducted using the wait-list control participants, also found a decrease in acting out behaviours reported by staff. When released the participants who had received ART scored superiorly on ratings of global functioning. Reliability of the results may be effected by experimenter bias as the study was conducted by the creators of the programme. Also the majority of the measures which found significant differences were those devised by the researchers. Similar effects may not be found when more global measures of the same outcome variables are employed.

Jones, Y. (1991). Aggression Replacement in a High School Setting. *Australian Journal of Guidance and Counselling*, 1(1), 81–99.

18 students aged 13-15 years, attending a high school in Australia, were selected for the study based on staff perceptions of their aggression levels. Students were randomly allocated to 3 conditions: An intervention group, a moral reasoning only group and a no treatment control group. Teacher-report measures found that the children in the ART group achieved the greatest decrease in acting out behaviours. Both the treatment and moral reasoning groups used significantly more coping skills from pre to post-test and both the no treatment controls and the ART group improved significantly on a measure of self-control and impulsivity. Self-report measures revealed that both the treatment and control groups acquired skills on the social skill acquisition test (Goldstein *et al.*1987). The author concluded that moral reasoning may be of limited value without the other components, providing support for multimodal interventions. According to the researcher, attendance was poor, particularly to the moral reasoning sessions, which may have impacted upon the results. The researcher also suggested that the intervention was not high profile within the setting and the situations tests required subjective marking (Goldstein *et al* 1987) which possibly contributed to the inconclusive results.

Coleman, M., Pfeiffer, S., & Oakland, T. (1992). Aggression Replacement Training with Behaviorally Disordered Adolescents. *Behavioral Disorders*, 18(1), 54–66.

In order to ascertain the effectiveness of ART for adolescents whom the researchers identified as having behavioural disorders, 39 students from a residential setting in Texas were selected by staff and randomly assigned to ART and no treatment control groups. The intervention was provided across 50 sessions, with 2 days per week allocated to homework and practise tasks. Integrity checks were conducted including daily logs and observations. Five measures were employed assessing social skills, moral reasoning, self-control and behaviour incidents. However, only one measure, a self-report created by Goldstein *et al* (1987) to ascertain social skill knowledge, showed a significant improvement for the treatment group above the controls. The researchers concluded that whilst cognitive gains could be found this did not have an impact on observable behaviour. It is important to note that high levels of attrition may have led to a biased sample and low levels of aggression at pre-test may have affected the outcomes, causing a floor effect. Also, anecdotally the programme was viewed as an 'add on' by the facilitators, who changed often, and boredom was apparent in the group members, which may have impacted negatively upon the therapeutic relationships.

Gundersen, K., & Svartdal, F. (2006). Aggression Replacement Training in Norway: Outcome evaluation of 11 Norwegian student projects. *Scandinavian Journal of Educational Research*, 50(1), 63–81.

Across various settings including schools, special behavioural schools and a psychiatric clinic, 65 11-17 year old participants were screened to ascertain the level of behavioural problems they experienced. Groups of 6 were then devised to include different levels of need. The aim was then to randomise the groups to experimental and control conditions, although the researchers state that this was not always possible. 47 received ART whilst 18 acted as controls. The intervention was conducted across 13 weeks with an average of 24 sessions per group, moral reasoning being the shortest (4.8 sessions). Integrity checks included supervision and questionnaires. Parent measures revealed significant

increases in social skills for the ART group. Measures of problem behaviours also found significant decreases in behaviour difficulties for the ART group across raters (parents and teachers). However, a self-report measure of behavioural functioning showed that both the control and experimental groups decreased significantly. Positive changes for both groups were also gained on a measure of cognitive distortions. Finally self-report custom measures found significant increases in social skills and decreases in problem behaviours for the ART groups that were not present in the controls. Several issues in the design and reporting may have lead to questionable validity. Firstly only the 3 children in each group with the most behavioural difficulties were assessed to lighten the work-load. Diffusion may have occurred between the 5 groups in the same settings as the controls and small, uneven, non-randomised samples may have biased the results.

Currie, M. R, Wood, C. E., Williams, B., & Bates, G. W. (2009). Aggression Replacement Training in Australia: Youth Justice Pilot Study. *Psychiatry, Psychology and Law*, 16(3), 413–426.

Five Australian males, aged 17-18 years, attending a youth justice custodial were referred onto the ART programme by their health workers. The 10 week programme was conducted by 1 trained facilitator (the provisional psychologist) and a supporting social worker colleague. Pre and post-intervention self-report measures revealed significant reductions in aggression ( $p=0.06$ ) and increases in self-control ( $p=0.03$ ). However, no changes were noted on the measure of cognitive distortions, despite the behavioural data suggesting that changes in cognitive appraisal of anger provoking situations had occurred. The researchers concluded that the effectiveness of the intervention may stem from the interaction of the components, whereby changes in one element generalise across the others, which therefore cannot always be measured individually. However, all results should be viewed with caution as threats to internal validity may be present as there was no control group impacting upon the results, also self-report measures were the only source of data, which were analysed using a liberal level of significance ( $p=0.10$ ).

## 2.6.6 Quality Assessment

In accordance with the guidance published by the EPPI (2007), the Weight of Evidence Model (Gough 2007) was adopted to systematically review the quality of the studies, in terms of their trustworthiness and relevance. The purpose was to ascertain the relative value of their findings prior to conclusions being drawn (see Table 2.2 for a summary of the weight of evidence of the studies and Appendix III for the Weight of Evidence criteria employed).

	A-The quality of the methodology	B-The relevance of the methodology for answering the review question	C-The relevance of the evidence for answering the review question	D-Overall Weight of Evidence
Glick & Goldstein (1987)	Medium	High	High	High
Jones (1991)	Medium	High	High	High
Coleman, Pfeiffer & Oakland, (1992)	High	Medium	High	High
Gundersen & Svartdal (2006)	Medium	Medium	High	Medium
Currie <i>et al.</i> (2009)	Medium	Low	High	Medium

Table 2.2: Summary of the Results of the Quality Assessment of Studies Identified by the Systematic Literature Review

## 2.6.7 Final Summary of the Findings

### 2.6.7.1 Summary of the Quality Assessment

In regard to the quality of the methodology, the majority of the studies maintained the prescribed format for the ART programme. However, as only three of the four studies describe integrity procedures, it is unclear whether all

of the conclusions stem from valid applications of the intervention. Only one study (Glick & Goldstein, 1987) included data collection at follow up. Finally, although most research used multiple measures from multiple sources, including teachers and self-report, only one study (Gundersen & Svartdal, 2006) gathered parental responses. Furthermore, only one study (Currie *et al* 2009) ensured that all of their measures were valid and reliable. Three of the other studies employed measures which were provided with the programme (situations tests by Goldstein *et al.* 1987), closely aligned with its contents.

Four of the studies used a form of randomisation to allocate their participants to the conditions and only one study did not employ a control or comparison group in order to remove the possibility of issues with internal validity.

Due to the open review question, which was employed purposefully so as to explore the range of research which has been conducted into ART, all of the studies gathered were considered relevant to the research question. They contained participants of the correct age groups, intervention programmes were close to that prescribed by the handbook and quantitative measures of all three components of the intervention were used.

#### ***2.6.7.2 Impact of Aggression Replacement Training Interventions***

Overall the research appears to suggest that ART is an effective intervention for adolescents with behavioural difficulties. All of the studies concluded that ART improved the group member's social skills. Three of the five studies also provided evidence which suggested that ART was successful in reducing problem behaviours, with one study utilising measures which revealed that the intervention was successful at specifically reducing aggression.

Although all of the studies included a measure of the moral reasoning component, positive results were few and not one found that the intervention group experienced gains that were superior to the control group, although one study noted that participants in all conditions improved significantly (Gundersen & Svartdal, 2006). Gains for both treatment and control groups were also noted for problem behaviours (Gundersen & Svartdal, 2006), self-control and impulsivity (Jones, 1991), which could be attributed to the 'secondary diffusion'



effect described previously by Gundersen and Svartdal (2010) and Kuposov, Gundersen and Svartdal (2014).

Positive effects were observed when the intervention was applied across different settings and geographical locations, when the data was gathered from several different sources and whether the intervention was conducted as prescribed or shortened. Participants experienced benefits despite experiencing different forms of problem behaviour, from criminal behaviour (Currie *et al* 2009) to diagnosed behaviour disorders (Coleman, Pfeiffer & Oakland, 1992) and significantly disruptive behaviour (Jones, 1991).

It is important to note that, in three of the instances where significant changes were reported, they were gathered utilising invalidated measures that were closely aligned with the programme. Studies which were considered to be of high quality only found changes on the custom measures devised by Goldstein *et al* (1987), despite using multiple validated measures. This could suggest that, whilst ART does have a significant impact in changing the specific skills practised as part of the intervention, the intervention does not support the young people in generalising this knowledge in the execution of a wider range of social behaviour. Only two studies reported significant improvements for the treatment groups which stemmed from independent, valid measures (Currie *et al.* 2009; Gundersen & Svartdal, 2006).

Conclusions made here are tentative, given the small number of studies which contributed to the review. The systematic review process is also not without fault (Hammersley 2001). For example, publication bias will have impacted upon the studies gathered in this review, as often only positive results are published. However, this issue is difficult to overcome (Brunton, Stansfield & Thomas 2012).

#### ***2.6.7.3 Identification of areas for Future Study***

This review has revealed several gaps in the literature which could provide direction for future research. Firstly the small number of studies gathered in the review, despite the broad review question, suggests that further research is required into the impact of ART when aimed at the adolescent population.

Only one study has focused upon the impact of ART when conducted within a mainstream school setting (Jones, 1991). It would appear that clinical or criminal samples are most commonly the focus of the research, which could be considered a reactive approach. Further research focusing on the implementation of ART in educational settings, with students displaying behaviour considered to be disruptive, causing them to be at risk of exclusion, would not only provide insight into the utility of ART in school settings but would also explore its application as a preventative intervention.

Several studies have highlighted issues with conducting research into anger control within a single setting, in that often results are confounded by individuals from each group influencing the behaviour of one another during their interactions, leading to secondary diffusion. (Gundersen & Svartdal, 2010; Taylor *et al* 2005). Future research could separate the groups to avoid such diffusion, allowing for the delineation of the impact of participating in the intervention.

Finally, the vast majority of the research employed facilitators who were affiliated with the setting, measures that are aligned closely with the programme and only a single study employed more than two sources of evidence. More comprehensive data could be gathered from research employing more general, valid measures of the variables under study, which are completed by multiple sources who observe the child in different environments. It would also be useful to explore the effects of such an intervention when implemented by members of an external support agency.

## **2.7 Introduction to the Following Evaluation of Aggression**

### **Replacement Training**

#### **2.7.1 Rationale for the Research**

There is a distinct lack of research into the effectiveness of ART when implemented in the United Kingdom, despite evidence suggesting that it is a programme currently used in the rehabilitation of adult offenders through probation services in England (Sugg, 2000 cited by McGuire & Clark, 2004). At

the time of writing, there is no existing evidence regarding the effectiveness of ART when implemented to support young people with behavioural difficulties attending educational settings the United Kingdom, despite the growing body of evidence from other countries which appears to suggest that this programme shows promise. Therefore the following evaluation of ART will be the first documented in an educational setting in England.

The literature review also identified several areas for future research focus, which will be incorporated into the following study. Firstly the intervention will be conducted using a sample of students attending mainstream educational provision, in order to explore the utility of the intervention when applied to a non-clinical or criminal sample, in an educational setting. The programme will be conducted across several settings, in order to avoid treatment diffusion between the conditions and multiple sources of data collection will be employed, using independent, valid and reliable measures. The intervention will be facilitated by professionals from the EPS who have recently been trained in ART. Finally, in keeping with the recommendations made by Kopolov, Gundersen and Svartdal (2014), integrity measures will be used in order to ensure that the newly trained facilitators are implementing the programme as it was intended.

### **2.7.2 Research Questions and Hypotheses**

#### Primary Research Questions:

Does participation in ART, implemented in school settings in the UK, support adolescent participants in improving their use of pro-social behaviours and decreasing the experience of problem behaviour?

Does ART, implemented in school settings in the UK, contribute to the development of adolescent participant's moral reasoning ability?

#### Hypothesis One:

There will be a statistically significant increase in the pro-social skills displayed by participants following ART.

Null Hypothesis One:

There will be no significant improvement in the pro-social skills displayed by participants following ART.

Hypothesis Two:

There will be a statistically significant decrease in the problem behaviours displayed by participants following ART.

Null Hypothesis Two:

There will be no significant improvement in the problem behaviours displayed by participants following ART

Hypothesis Three:

There will be a statistically significant increase in the moral reasoning maturity applied by participants following the ART intervention.

Null Hypothesis Three:

There will be no significant improvement in the moral reasoning ability of participants following the ART intervention.

Subsidiary Research Questions:

In order to inform future applications of the intervention key stakeholders in the research, specifically the ART training provider and EPS, were interested in gathering views from those involved in this initial implementation of the intervention. Therefore a subsidiary research question was added:

What are the views of those involved in the initial pilot of the ART intervention sessions, in relation to programme implementation, contents and effectiveness?

### **3. Methodology**

In order to provide a clear understanding of the current research the following section discusses several methodological and philosophical stances before providing a rationale for those employed in the current study. The research is then described including features such as the sampling procedures employed and measures adopted. Finally data quality issues such as reliability and validity and ethical considerations are discussed, in relation to the adaptations made within the design, in order to achieve the highest quality research possible within the current context.

#### **3.1 Real World Research**

Real world research, conducted in the field as opposed to being laboratory-based, often focuses upon understanding issues with direct relevance to people's lives, or ways of overcoming such issues (Robson, 2011). It is thought that 'careful, principled, systematic enquiry' (Robson, 2011, p.4) is the most appropriate tool available to fulfil this task.

Research within organisations operating in the real world is not an 'easy option' (Gray, 2005, p.2). One example is the education sector, considered messy and multilayered (Cohen, Manion & Morrison, 2008), which does not lend itself to a controlled approach to research.

Robson (2011) describes that, in real world research, timing is often beyond the control of the researcher and actions of the administrators of the programme may alter the conditions in important ways during implementation. Carrying out research in natural settings also presents particular practical difficulties such as a lack of control over extraneous variables and problems in achieving the random assignment of participants to conditions (Robson, 2011, p.97). Gray (2005) offers several reasons as to why issues in real world research can arise: Such environments are complex and the individuals within them busy, making them difficult to access; key stakeholders may have their own agendas, which may conflict with those of the researcher and finally, competition and financial constraints which impact upon the organisation can influence the research.

### **3.1.1 Evidence-Based Practice**

Originating in the field of medicine, the drive for evidence-based practice in education is a relatively recent movement, following criticism about the quality and relevance of previous educational research efforts (Biesta, 2007).

'Evidence-based practice...looks to research for evidence about the effectiveness of interventions.' (Biesta, 2007, p.7). One of the desirable features of evidence-based practice is that the outcomes allow clear identification of the benefits to clients and practitioners (Dunsmuir *et al.* 2009). Using this information to inform their actions ensures that professionals are fulfilling an ethical duty, not only to ensure that these new interventions are better than not acting (Frederickson, 2002), in other words to avoid doing '...more harm than good...' (Chalmers, 2003, p.37).

#### **3.1.1.1 Evaluation Research**

Key questions about an intervention include 'does it work?', 'when does it work?' and 'for whom does it work?' (Dunsmuir *et al* 2009, p.56), to answer these questions evaluative data is needed. In order to ascertain 'what works?', those advocating evidence-based practice in education advise the use of experimental methods as the approach able to provide the rigour to gain such information (Hargreaves, 1999; Lochman, 2000; Stoiber & Kratochwill, 2000). Some have gone so far as to suggest that practice not based in scientific evidence is substandard and therefore should be banned (Biesta, 2007). However, as this often entails real world research, instructional and ecological conditions in schools make it difficult to control intervention procedures and be precise in the measurement of outcomes (Stoiber & Waas, 2002).

### **3.2 Philosophical Stances: Ontology, Epistemology and Associated Methodology**

In social research, a paradigm refers to the beliefs, assumptions, values and practices shared by a research community (Braun & Clarke, 2014). It provides a frame of reference from which to organise our observations in research (Babbie, 2010). Since the emergence of the discipline of psychology in the late nineteenth century there has been disagreement surrounding the most appropriate ways to theorise and conduct research (Braun & Clarke, 2014).

It has been suggested that the differences between paradigms can be summarised into three factors, the ontology, or the beliefs surrounding the form and nature of reality; the epistemology, or the relationship between the inquirer and what can be known and finally the methodology, or the ways in which the inquirer can find out about reality (Guba & Lincoln, 1994). Research paradigms are numerous and their classification depends greatly on who is deciding which criteria to focus on (Morgan, 2007). Here four of the paradigms adopted in social research are outlined in relation to the three factors mentioned previously (see Table 3.1 for a summary) and the philosophical stance of the current research indicated.

### **3.2.1. The Positivist Paradigm**

Whilst some view this approach as a ‘...living faith...’ (Schrag, 1992, p.5) other academic circles view those who still advocate such a paradigm as ‘...naive science worshippers...’ (p.5). Dominant from the 1930s to the 1960s, the positivist approach poses that an external objective reality exists, independent of the individual, which can become known through scientific observation (Babbie, 2010). These ‘facts’ are used to test hypotheses and are considered value-free (Robson, 2011). When attempting to discover ‘what works?’ in educational settings, the positivist paradigm and the drive to develop causal hypotheses is hard to avoid (Schrag, 1992). However, critics argue that the paradigm is reductionist, with limited application in the real world. Research techniques associated with the positivist paradigm have also been criticised for stripping the context of random variables which may impact upon findings, so that the results lack external validity (Guba & Lincoln, 1994).

### **3.2.2. The Constructivist Paradigm**

In stark contrast to the positivist paradigm, the constructivist approach poses that ‘facts’ do not exist externally, but meaning is constructed through interaction with the surrounding world, which means that different individuals can construe the same experience in different ways (Gray, 2005). This approach believes that the researcher and participant influence one another through their interactions and therefore constructions can change over the course of the study (Mertens, 2010). Primarily, the task of a constructivist researcher is to understand others constructions of knowledge and meaning,

which often requires the use of qualitative methods, such as interviews and observations, in order to gain insight into multiple perspectives (Robson, 2011).

### **3.2.3 Pragmatism**

Those following a pragmatic stance tend to be guided by practical matters as opposed to theoretical underpinnings (Robson, 2011). Pragmatism recognises the existence of an external physical world, as well as social and psychological worlds. It places internal individual experience of the external world in action in high regard (Johnson & Onwuegbuzie, 2004). Knowledge is viewed as both constructed and based on the external reality which we live in and experience (Robson, 2011), leading to layers of both single and multiple realities which can be explored through empirical inquiry (Feilzer, 2010).

Pragmatic research aims to provide data which is useful, hence the suggestion that such an approach would be appropriate for real world researchers engaged in problem solving (Robson, 2011). The main focus of pragmatic research is on human inquiry, or actions undertaken as we experience our day to day lives. Some pose this as a criticism, as such research is more likely to lead to incremental changes, rather than revolution change for society (Johnson & Onwuegbuzie, 2004). In keeping with these beliefs, pragmatists use whatever methodology works best to answer the questions posed, hence the suggestion that it makes a good ‘...philosophical partner...’ (Johnson & Onwuegbuzie, 2004. p.14) for mixed methods methodology, which integrates the findings from qualitative and quantitative measures.

### **3.2.4 The Post-Positivist Paradigm**

Dissatisfaction with positivism throughout the 1950s and 60s gave rise to post-positivism (Tashakkori & Teddlie, 2003). Post-positivists accept that unobservable phenomena (i.e. thoughts, feelings) are still important elements of human experience (Mertens, 2010) and that research is influenced by the values of the researcher, as understandings of reality are constructed (Tashakkori & Teddlie, 2003). However, by recognising and analysing the possible effects of such biases on the conclusions drawn, post-positivists attempt to maintain a commitment to objectivity (Robson, 2011).



Because of these limitations, researchers accept that the external reality can only be known imperfectly (Robson, 2011). Therefore, the approach questions whether researchers can uncover generalisable laws relating to human behaviour and instead work towards probabilities about reality rather than certainties (Mertens, 2010). To overcome some of the criticisms of the positivist stance, the scientific inquiry endorsed takes place in more naturalistic settings, involving the collection of situational data and emic viewpoints to determine the meanings that the participants ascribe to their behaviour (Guba & Lincoln, 1994). These uncontrolled, real world settings often require more quasi-experimental methodology, as elements of scientific experimentation such as randomisation of participants is impractical (Mertens, 2010).

Factor	Positivism	Post-positivism	Constructivism	Pragmatism
<b>Ontology</b>	Realism: an external reality exists	Critical realism: reality exists but can only be known imperfectly	Relativism: realities are mental constructions dependent on the individual	There is a single reality and there are multiple interpretations of reality
<b>Epistemology</b>	Objectivist: findings are true and reality can be studied without influencing it	Modified objectivist: findings are probably true but bias can affect findings if not controlled for.	Subjectivist/ transactional: findings are created through interaction	Relationships are determined by the things that the researcher decides are appropriate to the study
<b>Methodology</b>	Experimental. Mainly Quantitative.	Quasi experimental. May include qualitative.	Dialectical/ interpretational. Qualitative.	Methods matched to the purposes and questions of the research. Mixed methods can be appropriate.

Table 3.1 Summary of 4 Research Paradigms: Comparison of Ontology, Epistemology and Methodology. Adapted from Fien, (2002); Guba & Lincoln (1994. p.109) and Mertens, (2010)

### **3.2.5 Epistemological Stance of the Current Research**

Research is not only a technical undertaking, it is also a ‘...personal, ethical and political enterprise...’ (Fien, 2002. p.145). The values of the researcher and the institutions involved in the research have a strong influence over the topics and methods chosen. This study was underpinned by the post-positivist paradigm, which is in keeping with previous research projects undertaken by the researcher and their ‘worldview’ regarding the types of data which would provide the most rigorous programme evaluation. It is also the most common paradigm adopted in the evidence-based practice movement (Robson, 2011) as illustrated by the previous research into ART which is predominantly experimental. The post-positivist stance of the current research was reflected in the quasi-experimental design, providing quantitative data which will be subject to statistical analysis.

It has been suggested that social researchers need not align themselves with any single paradigm, but can use valuable aspects of several to compensate for the weaknesses of each other (Babbie, 2010; Mertens, 2010). Research has also found that many different methodological approaches were perceived of equal value to teachers in relation to their thinking about teaching, with narratives provoking thought and experiments offering ideas which could be applied to their own practice (Kennedy, 1999). Whilst maintaining a predominantly post-positivist approach, the researcher also places value on the pragmatic paradigm’s advocacy of utilising the methodological approach which works best to answer the research question posed (Johnson & Onwuegbuzie, 2004; Robson, 2011), hence the use of supplementary qualitative data. Some would even suggest that such multi-strategy research aligns most comfortably within post-positivist epistemology (Giddings, 2006).

Additional qualitative data can improve both the relevance and applicability of findings by providing an insight into the behaviour observed in the quantitative data (Guba & Lincoln, 1994). In the current research the qualitative data gathering was employed to explore a subsidiary research question. This aims to fulfil the goals of the EPS in which the researcher conducted this study, by providing an insight into the views of those involved in this initial pilot of the

programme, specifically in relation to factors that were felt to be effective or may require improvement, so as to inform future practice.

### **3.3 The Research Project**

#### **3.3.1 Design**

The current research consisted of a quasi-experimental, non-equivalent control group design, conducted across six settings, utilising both a pre and post-test. Three of these settings became the experimental group and the other three, the wait-list control group.

##### ***3.3.1.1 Alternative Designs Considered***

###### **Randomised Control Trials (RCT)**

RCTs are often portrayed as the experimental method best for establishing causation (Robson, 2011). Randomisation provides control over threats to internal validity (Gray, 2005) and therefore RCTs are seen as providing high quality data (Fox, 2003). This has led to RCTs being considered one of the highest methods of evaluation present in the 'hierarchy of evidence' (Scott, Shaw & Joughin, 2001, p.5).

However, it is accepted that it is often not possible to conduct 'truly' experimental research in real world contexts (Gray, 2005), as matching large homogenous samples and comparison groups is untenable in applied field experiments (Greig 2001), whether due to ethical or practical constraints (Robson, 2011). RCTs have also been criticised for the level of control placed on naturally dynamic, evolving situations (Cohen, Manion & Morrison, 2008) which, in turn, leads to a lack of external validity (Cook, 2002). This may explain why randomisation is rare in educational research (Cook, 2002). In the current project, the use of multiple settings meant that randomisation was not possible.

###### **Single-Case Experimental Design (SCED)**

SCEDs are a scientific, rigorous method which can provide detailed information about the pattern and stability of performance via continuous assessment of an individual (Kazdin 2003a). However several issues with the design, primarily pertaining to the study focusing upon social behaviour as opposed to some form

of measurable academic skill, alongside several inherent threats to internal validity including history and testing, meant that this design was not considered suitable for the current research.

### Repeated Measures Design

The researcher did consider testing the same participants under both experimental and control conditions. However the timings of the academic year would have impacted upon the validity of the measures taken to create the 'baseline phase' as this would have occurred over a summer holiday. The small group size would also have had considerable implications for the statistical power of the data.

#### ***3.3.1.2 Rational Behind the Design Employed***

Employing an experimental design was not only in keeping with the philosophical stance of the researcher but also meant that the current findings could be compared to previous research into the effectiveness of ART, which all adopted some form of experimental design. It also accommodated for some of the constraints of the research, such as the intervention and control groups belonging to different settings.

##### 3.3.1.2.1 Limitations of Quasi Experimental Designs

In the current research participants could not be randomised into the conditions because the EPS had decided to conduct the intervention within six different schools, whereby each school would run just one ART group within the current academic year. Matching the participants in the control and experimental groups was also not plausible across settings. Therefore a quasi experimental design was employed. This makes the interpretation of findings more complex compared to a 'true' experimental design (Robson, 2011) and may make the results vulnerable to several threats to internal validity, including pre-existing differences in the settings or groups of participants (Mertens, 2010). However, standardised instructions, reliable measures and treatment integrity checks were employed to attenuate such effects (see section 3.7 for a more detailed discussion of data quality issues).

### 3.3.1.2.2 Improving Quasi Experimental Designs

Recent comparisons of experimental and quasi-experimental findings suggest that quasi-experimental designs can reproduce the findings of 'true' experiments robustly (Cook, Shadish & Wong, 2008).

There are several ways in which quasi-experimental designs can be improved. For example, the utilisation of a control group and pre-test does provide some protection against threats such as maturation, attrition, testing and differential selection (Mertens, 2010). Also, by testing multiple dependent variables the researcher can look for predicted patterns of effects which would strengthen the conclusions drawn (Shadish, Cook & Campbell, 2002). Utilising a quasi-experimental design also meant that the issues of secondary diffusion found in previous research (i.e. Gundersen and Svartdal, 2010) would not impact upon the validity of the findings. Kazdin (2003b) went so far as to suggest that, with consideration of several design elements, quasi-experimental designs could support '...very strong inferences...' being drawn (p.169).

### 3.3.2 Variables

The independent variable was participation in ART, conducted by newly-trained facilitators, within secondary school settings, over the course of ten weeks.

The dependent variables were the levels of problem behaviours displayed by the young people and their use of social skills. These variables were measured both pre and post-intervention, from multiple sources: Parents, teachers and the young person themselves. An additional dependent variable was the maturity of the participant's moral judgements, which was ascertained by analysing their responses to hypothetical scenarios (please see section 3.6 below for further detail).

## 3.4 Context and Participants

### 3.4.1 Stakeholders

Identifying those with an interest in the outcomes of this implementation of ART enables greater consideration of the impact of the results. In the present study the main stakeholders were:

**The Local Authority:** As a new venture which required considerable resources, the EPS, which the researcher was working with at the time of the project, was keen to include evaluation research as part of their piloting of the ART programme. Their interests were not only focused on whether the programme was effective but also, with further development of the programme planned, what changes could be made in future implementations to ensure greater success. Hence the addition of supplementary qualitative measures, to gather such information.

**iCART:** As the first formal evaluation of the ART intervention in the UK, the training providers of ART in Europe, iCART, were interested in the research as it could possibly encourage further training across organisations in the UK and the information gathered could inform further development of the programme.

**The University of Nottingham:** The importance of evidence based practice was highlighted as part of the training for a Doctorate in Applied Educational Psychology. In turn the researcher received a great deal of support in developing skills of programme evaluation.

**The schools participating in the research:** Schools dedicated considerable time and resources to both the implementation of the intervention and supporting the research, with the hope of improving the behaviour of some of their pupils.

**The children involved in the research:** Pupil's interests related to the potential changes in their thought patterns and behaviour and the benefits of such changes, such as avoiding exclusion from school.

### **3.4.2 Selection of Schools**

The Senior EP leading the programme within the EPS asked EPs from the Service to nominate schools who were considered to have supportive SEN departments and children with the type of needs targeted by the ART intervention (i.e. anger control or social skills difficulties). A recruitment flyer was circulated, via the EPs who worked in the schools and the contact person at the schools (usually the SEN Co-ordinator) was asked to complete the attached application form (see Appendix IV).

Once the application forms had been returned six schools were selected by the lead EP who felt they had young people with relevant needs and structures in place to support the implementation of the programme. The lead EP allocated a pair of newly trained facilitators to each school. Several criteria were considered in this decision, firstly location of the EP's school allocation, to ensure the distance would not be inconvenient and secondly the EP's specialism was considered in relation to the characteristics of the cohort of youngsters at each school and their associated difficulties.

The schools were then placed into two groups of three based on the EP's workloads, the first group of three schools received the sessions in the Autumn Term and the second group the following Spring Term. These became the experimental and wait-list control groups, respectively.

### 3.4.3 School Characteristics

All of the schools involved in the research were sub-urban secondary schools with integrated sixth forms. All of the schools were mixed gender mainstream provision, except for School F, which was a selective school for boys. Key characteristics of the six schools are displayed in Table 3.2. This data suggests that the schools in the study were diverse in nature. The implications of this for the conclusions drawn will be discussed further in Section 5.

School	No. of pupils on role	% GCSE grades		% English as an additional language
		5 A*-C inc. English and Maths	% Free School Meals	
School A	1275	44	61.4	80
School B	1078	62	39.9	50.5
School C	661	56	43	7.4
School D	860	64	75.4	53
School E	1173	54	65.2	88.9



<b>School F</b>	757	99	20.3	30
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Table 3.2: Key Characteristics of the Schools Involved in the Research. Schools A-C make up the experimental group, Schools D-F the wait list control group. Data gathered directly from the school's databases as well as Ofsted's (2013) 'Data Dashboard'.

### **3.4.4 Sampling**

Following the selection of the schools the researcher met with the identified contact personnel at the schools to provide information about the requirements of the evaluation and to support the selection of participants. This meeting involved a discussion about possible candidates for the programme using the inclusion criteria (outlined below in section 3.4.4.2) which were made explicit on the information sheet provided to schools (see Appendix V) and the professional judgements of the contact professional at the school, in relation to their view of the suitability of the young people for participation in the intervention. It is acknowledged that such a selection process could be open to bias, given that professional judgements could be considered to be more subjective than utilising standardised measures. However unforeseen circumstances meant that a social skills scale, which had been identified to support selection, was not completed by the young people. The implication of this form of sampling frame will be explored further in section 5.

Each school was asked to identify six young people, aged between 11 and 18 years, to take part in the intervention sessions. Because of the considerable commitment, in terms of staffing and time, required by the programme and the high chance of participant drop out due to exclusion from school, two of the experimental schools chose to include a higher number of participants at the start of the programme (School A included 12 and School B included 8).

#### ***3.4.4.1 Use of Role Models***

The trainer from iCART advocated a model of delivery in which role models were used to support the development of skills (Gundersen, Finne & Olsen, 2006), a model which he has employed in his own research (Gundersen & Svartdal, 2006). Previous social skill intervention research has found this approach to be effective (Prinz, Blechman & Dumas, 1994) and researchers in

this area have warned of the iatrogenic effects of homogenous groupings of high risk young people (Dishion & Andrews, 1995; Dishion, McCord & Poulin, 1999). Including role models serves several purposes. Not only do the more competent individuals provide positive models within the sessions but they can also become sources of social support outside of the intervention (Prinz, Blechman & Dumas, 1994). In the context of ART including those with greater social competence and more mature moral reasoning capacities was also thought to generate rich discussion and a broader range of perspective-taking opportunities in the moral reasoning sessions.

However, the current research deviates slightly from this model for several reasons. Firstly it was deemed ethically questionable to include young people, who would be giving up a considerable amount of time from their studies, if they would not personally gain from participating. Secondly, as mentioned previously, a measure of social competence was originally planned which aimed to support the delineation of 'role model' and 'target' individuals from a pool of preselected children. However, unforeseen circumstances in several schools meant that there was not time to identify a 'pool' of students who would be able to complete the social competence measure prior to the parental consent needing to be sent out. Therefore during selection the contact professional from the school was asked to use their professional judgement to select 50% of the students whom they felt would act as positive role models, in that they had more advanced levels of social competence and experienced only 'low level' social behaviour difficulties, as well as half of the group being 'target individuals' who displayed more challenging behaviour needs. The implications of this form of selection process will be discussed in section 5.

#### ***3.4.4.2 Inclusion Criteria***

Several inclusion criteria were devised to support the selection of the participants. The ART Handbook (Glick & Gibbs, 2011) offers the specific criterion that group members display '...deficiencies in pro-social skills, anger control and moral reasoning capacity.' (p.19). In order to protect the participant numbers, the validity of the research and to ensure the young people would be able to access the measures used in data collection the researcher also ensured that the students selected had good attendance, were not involved in

any other behaviour interventions and had the ability to reflect upon their thoughts and behaviour.

### 3.4.5 Characteristics of the Participants

Initially 41 young people were involved in the research project, with 23 in the experimental group and 18 in the wait list control group. Table 3.3 provides a summary of the participants based in each school setting.

Setting	Total members in group with consent to partake in the research	Gender M/F	Mean age	Age range	Diagnoses of SEN	No. receiving Free School Meals	No. with English as an Additional Language
School A	12	10/2	13y1m	11y10m-13y9m	1 pupil with a diagnosis of ADHD	6	10
School B	7	4/3	13y3m	12y5m-14y4m	NONE	1	2
School C	4	2/2	13y4m	12y5m-14y4m	NONE	3	0
School D	6	6/0	12y4m	12y-13y	NONE	6	0
School E	6	4/2	13y4m	12y4m-14y7m	1 pupil with a diagnosis of ADHD	4	6
School F	6	6/0	15y 7m	14y1m-16y11m	NONE	0	0

Table 3.3: Participant Characteristics by Setting

#### 3.4.5.1 Involvement in Other Interventions

It came to light that two students from the control group, one student from School E and one from School F, had continued to receive one to one support for social and emotional needs throughout the 10 week period between the pre and post-measures. Therefore any data collected from these students will be removed from the final analyses.

## **3.5 Procedure**

### **3.5.1 Setting up the Project in Schools**

Once the schools had selected the individuals who were to take part in the programme, the EPS sought parental consent, via the contact member of staff at the school, for the pupil's participation in the ART sessions. Once this was obtained, the ART facilitators for each school in the experimental group visited the schools and met with the young people who would form the ART group to introduce themselves and describe the upcoming sessions.

Consent for participating in the research was gained from parents, the teachers who would be completing the measures and the young people themselves in all six schools. Further consent was sought from the ART facilitators at the three experimental group schools, as they themselves would be involved in integrity measures and questionnaires (see Appendices VI-X for the consent forms). Consent to partake in the evaluation was not obtained from parents prior to the pre-measures for three students, one at School B and 2 at School C, these individuals were still able to participate in the intervention sessions.

### **3.5.2 The Intervention Sessions**

The adapted ART programme employed in the current research is a multimodal social competence training method based in CBT (Gundersen *et al.* 2014). The intervention consists of 10 sessions of each of three components: anger control, prosocial skills and moral reasoning. The intervention is conducted over a 10 week period, with one session from each component conducted each week. The contents of the sessions, summarised from the recently revised handbook (Gundersen *et al.* 2014), will now be described in more detail. Please see Appendix XI for a brief summary regarding the structure of the sessions.

#### ***3.5.2.1 Contents of the Components of ART***

##### **3.5.2.1.1 Contents of Anger Control Sessions**

The topics covered in the anger control sessions follow a set sequence so that the skills build upon one another as the programme progresses (see Table 3.4). For example week 2 covers 'triggers' in which group members discuss things which make them angry, in week 3 this is expanded upon by talking about how

the young people know when they are angry and what to do to try and reduce anger. Sessions 8-10 incorporate skills learnt in the prosocial skills sessions, as alternative behaviours to aggression. The primary activities during the anger control sessions are to discuss the topic and role play the skills in small groups, gathering feedback from the other members. Homework is provided in the form of a 'hassle log', which is a self evaluation tool where participants detail real life events and how they dealt with them using the skills they have learnt.

Week	Anger Control Training
1	Introduction
2	External and internal triggers
3	Cues and reducers
4	Reminders
5	Self evaluation
6	Consequences
7	How do I end up in conflict situations?
8	Choice of pro-social skills-solutions other than aggression
9	As above
10	As above

Table 3.4 Week by Week Session Plan for Anger Control Sessions Taken from Gundersen *et al.* (2014. Pp.84)

### 3.5.2.1.2 Contents of the Prosocial Skills Training Sessions

The topics for the pro-social skills sessions are based on a more prescriptive model, chosen from a possible 50, based on the needs of the members of the intervention group (Gundersen *et al* 2014). However 10 'core' skills are suggested in the handbook, which complement the topics in the other components (see Table 3.5 for a list of these skills). These sessions also use

discussion and role play as the main forms of activity. Homework involves writing a journal of how they have applied the skill learnt that week outside of the session.

Week	Prosocial Skill
1	Giving a compliment
2	Starting a conversation
3	Asking for help
4	Being aware of one's feelings
5	Asking for forgiveness
6	Rewarding yourself
7	Dealing with peer pressure
8	Asking permission
9	Dealing with persuasion
10	Dealing with an accusation

Table 3.5: Week by week session plan for the prosocial skills sessions (taken from Gundersen *et al* 2014. Pp.31)

### 3.5.2.1.3 Contents of the Moral Reasoning Sessions

The moral discussion groups, which take part during each of these sessions, are also based on a prescriptive model. The moral reasoning dilemmas are selected from a bank of examples provided in the handbook or created by the facilitators, based on their relevance to the scenarios encountered by the young people in their daily lives. The coaches are considered to play a particularly important, active role during these discussions, encouraging discussion between the young people in the group and challenging and clarifying when needed.

### **3.5.2.2 Implementation**

Pupils attended the intervention sessions in groups of 6-12. The schools were asked to provide a designated room where the groups would be held and a member of staff from the school attended the sessions to support the EP facilitators. Timetabling of the sessions was negotiated between the school and the facilitators and where possible was arranged to avoid students missing core subjects. Each type of session (social skills training, anger control or moral reasoning) always took part on the same day of the week at the same time to provide some consistency for the young people.

As part of the sessions the handbook recommends the use of posters, rewards and games to maintain ownership and motivation among the students (Gundersen, Finne & Olsen, 2006). Homework assignments also ensured that the students practised and generalised the skills outside of the intervention sessions (Gundersen, Finne & Olsen, 2006). The handbook states that 'ART must be included as a key factor in the organisation's activity' (Gundersen, Finne & Olsen, 2006, p.56). According to the authors, the most important factor in the success of ART is that it becomes entrenched within the organisation. Providing school staff and parents with information about the intervention is encouraged in the hope that people within the child's social network will reinforce the use of the skills outside of the intervention sessions (Gundersen *et al.* 2014).

#### **3.5.2.2.1 Facilitators**

Facilitators consisted of 11 EPs and one senior behaviour support professional who had recently received eight days of training from iCART. These individuals were placed into pairs and allocated to a single group of students within a particular school. As part of the training qualification they were asked to complete a full course of the ART intervention in a school setting. This research aims to evaluate the outcomes of that pilot.

### **3.5.2.3 Integrity Checks**

A review of intervention evaluation research conducted by Gansle (2005) found that whilst 30% of the studies mentioned the importance of treatment integrity, only 10% actually conducted some form of integrity checks. This is concerning

considering that research evidence suggests that high quality implementation of interventions leads to improved prevention outcomes (Durlak & Dupre, 2008), making integrity checks an ‘essential feature of programme evaluations.’ (p.327).

Due to the intervention in the current research being carried out in different settings by different facilitators the integrity of its implementation was considered a potential threat to validity (threats to internal validity are discussed further in section 3.7.1). In order to ascertain the consistency of the implementation of the ART intervention and reduce the potential threat three integrity checks were completed by the researcher in each school, one for each different component. Checklists available from the iCART website (see Appendix XII) were employed to analyse the content and delivery of the sessions, in terms of their relation to the programme. To assess the reliability of the researcher’s judgements, one session per group was also rated by a fellow trainee EP using the same checklists.

The outcomes of the checklists were reviewed in order to assess the treatment integrity of the three groups in the experimental condition. When the three sessions were added together the checklists contained 93 items, equivalent to a total of 93 points. Table 3.6 presents the number of items identified along with the overall percentage fidelity and percentage agreement between the researcher and second rater.

School	Anger control session /25	Social skills training /39	Moral reasoning session /28	Total /92	Percentage fidelity	Percentage inter-rater agreement for 1 session
<b>A</b>	21	36	24	81	88%	100%
<b>B*</b>	Xxx	33	Xxx	Xxx	Xxx	Xxx
<b>C</b>	23	32	24	79	86%	100%

Table 3.6: Results of the ART Treatment Integrity Checks.

\*School B left the project before all integrity measures were completed.



The most common elements missed out of the sessions were due to time constraints, as the facilitators had to fit into the school's timetable in their timing of the sessions, therefore often the skills were only modelled once (rather than the two times proffered by the checklist) and the group members only had the opportunity to role play each skill once (as opposed to twice). Other issues included not handing out or checking homework, providing feedback after the role plays in an order other than that specified in the handbook and group members not role playing voluntarily.

### **3.6 Measures Used**

In order to ascertain the outcomes of each of the three intervention components, two measures were employed before and after the intervention sessions.

#### **3.6.1 Measure of Problem Behaviours and Social Skills: The Social Skills Improvement System**

The SSIS-RS (Gresham & Elliott, 2008) includes 15 subscales, which together measure social skills, competing problem behaviours and academic competence (see Table 3.7 for a summary of the subscales). Three versions are available, including teacher, parent and student forms, suitable for two age groups; 8-12 and 13-18 years. All utilise a 4 point rating scale to indicate how often children engage in the behaviours described. The manual recommends 10-25 minutes for raters to complete the measures. The current version of the SSIS-RS was originally standardised on children in the USA, which means that conclusions drawn from the data collected in the following research, which was conducted in the UK, should be viewed tentatively. However, the previous version of the measure has been used in research conducted in other European countries (Langeveld, Gundersen & Svartdal, 2012) including the UK (Liddle & Macmillan, 2010; Pritchett *et al.* 2013).

The SSIS-RS has been found to have satisfactory test-retest reliability (approximately .80 for all three versions) (Crosby, 2011) and high internal consistency estimates (median coefficient alphas of .90s) have been reported for the main scales on all three forms (Gresham & Elliott, 2008). However, inter-rater reliability estimates were lower, with the teacher and parent forms

receiving median correlations of .58 and .59 respectively. The authors attribute this to the scales including infrequent behaviours and one rater in the study having more prolonged contact with the children than the second rater.

In relation to content validity, the SSIS-RS underwent several processes during development including utilising criteria from the DSM-IV, factor analysis and tests of perceived importance by users (Gresham & Elliott, 2008). Internal correlations between the scales were moderate to high and in the expected directions (i.e. social skills and problem behaviours were negatively related, whilst the social skills subscales were positively related). Finally correlations with similar measures were again moderate to high (Gresham & Elliott, 2008). For example, correlation coefficients of .44-.98 were gained when comparing the SSIS-RS with similar subscales of the Behavior Assessment System for Children-Second edition (Reynolds & Kamphaus, 2007, cited by Gresham & Elliott, 2008).

Due to the timings of the measures within the academic calendar, teachers and parents were asked to reflect upon the young person’s behaviour during the two weeks prior when completing the questionnaires, as opposed to the two month timeframe provided on the front of the SSIS-RS. This is because the researcher felt that, as the school holidays immediately followed the end of intervention in the experimental schools and precluded the start of the intervention sessions in the autumn, reflections over two months would be confounded by the pupil’s behaviour during holidays, which is unlikely to be representative of their behaviour during term-time. Not only this but the intervention itself was only 10 weeks in duration, so reflections over two months at post-measure would include behaviours observed after only two weeks of input.

<b>Problem Behaviours Subscales</b>	<b>Social Skills Subscales</b>
<b>Externalising</b>	<b>Communication</b>
<b>Internalising</b>	<b>Cooperation</b>
<b>Hyperactivity/inattention</b>	<b>Assertion</b>
<b>Bullying</b>	<b>Responsibility</b>

<b>Autistic Spectrum</b> (not included in the self report measures)	<b>Empathy</b>
	<b>Engagement</b>
	<b>Self Control</b>

3.7 Table to Display the Subscales Included in the SSIS-RS

### **3.6.1.1 Rationale for using the SSIS-RS**

Initially the measure was selected based on the recommendation of the trainer from iCART, who noted that previous versions of the SSIS-RS had been adopted in other research into ART (Langeveld, Gundersen & Svartdal, 2012). The subscales also aligned with the skills taught in the ART curriculum and were organised into wider outcomes, as opposed to focusing solely on direct measures of each individual skill taught, as in the custom measure from Goldstein *et al* (1987). The SSIS-RS was also easy to administer in a group format and because of the multi-rater forms, the responses could be triangulated to gather perspectives across home and school environments.

### **3.6.2 Measure of Moral Reasoning: The Socio-Moral Reflection Measure-Short Form**

The SRM-SF (Gibbs, Basinger & Fuller, 1992) assesses ‘the maturity of moral judgement’ (p.33). Children rate the importance of 11 items illustrating five different classifications of moral values such as ‘contract and truth’ or ‘affiliation’ and justify their decision (see Appendix XIII for the full questionnaire). For example:

1. Think about when you’ve made a promise to a friend of yours. How important is it for people to keep promises, if they can, to a friend?

Circle one:            very important            important            not important

WHY IS THAT VERY IMPORTANT/IMPORTANT/NOT IMPORTANT  
(WHICHEVER ONE YOU CIRCLED)?

(Taken from Gibbs, Basinger & Fuller, 1992 p.150.)

The questionnaire takes approximately 25-40 minutes to complete.

A child's Sociomoral Reflection Maturity Score (or SRMS) is deduced by calculating the mean average of the questions. At least 7 of the 11 questions in the questionnaire must achieve a score for the questionnaire to be analysed. The SRMS reflects the child's moral judgement stage, for example a score of 3 indicates that they are at the third stage of Gibbs' moral development (Gibbs, Basinger & Fuller, 1992).

During the original psychometric investigations Gibbs, Basinger & Fuller (1992) report having conducted the SRM-SF with subjects as young as 9-10 years of age through to adults. During this research the questionnaire was group administered. Acceptable levels of test-retest reliability (correlation coefficient of .88) and internal consistency (.87) were reported (Basinger, Gibbs & Fuller, 1995).

The manual advises 30 hours of self-training in order to become skilled at scoring the pupils justifications, which are allocated a moral judgement stage based on their similarity to a given list of possible 'criterion justifications'. Following such self-training the authors found that inter-rater agreement between novice rater and expert raters is high, with scores of 90.9-100%. Concurrent validity was established using the Moral Judgement Interview (Colby & Kohlberg, 1987 cited in Gibbs, Basinger & Fuller, 1992), achieving a significant correlation coefficient of .69 and construct validity was supported by a significant difference between scores achieved by different age groups (Gibbs, Basinger & Fuller, 1992). Whilst this measure was also developed in the USA, it has been employed in research in over 75 countries (Gibbs *et al.* 2007). A study in the UK also suggested acceptable to high levels of validity and reliability when administered in a group to British 10 and 11 year olds (Ferguson, McLernon & Cairns, 1994).

Because of the qualitative nature of the data gathered from the SRM-SF and the possibility of subjectivity affecting the analysis of the results, a fellow EP, who had recently undertaken doctoral study and had experience in qualitative methods, inter-rated 25% of the SRM-SF output. Table 3.8 displays the results of the inter-rater checks in relation to the criteria provided by the handbook (Gibbs, Basinger & Fuller, 1992). The implications of these findings will be discussed further in Chapter 5.

Inter-rater criteria	Handbook specifications	Results achieved
Mean absolute discrepancy in SRMS	20 points	27.2 points
Global stage agreement within 1 interval	80%	85%
Exact global stage agreement	50%	38%
Correlation	r=.80	r=.62

Table 3.8: Results of SRM-SF Inter-Rater Analyses.

### ***2.6.2.1 Rationale for using the SRM-SF***

As opposed to evaluating whether an action is moral or not, as is the case in recognition measures, it is the maturity of the reasons given to justify such decisions which are of utmost importance and represent the deeper understanding of moral values (Glick & Gibbs, 2011). As a production measure utilising open statements the authors argue that the SRM-SF is more ecologically valid than measures which provide fabricated dilemmas. The lack of lengthy dilemmas or extensive lists of multiple choice justifications also makes the SRM-SF easier for those with reading difficulties (Gibbs, Basinger & Fuller, 1992). It is also briefer than previous versions, easing group administration.

### **3.6.3 Data Collection Procedures**

Data was collected at two time points, pre- and post-intervention, in all six schools. In regard to the pupil measures, at each setting participants met as a group with the researcher, who first outlined the purpose of the research and answered any questions about the consent forms. The instructions for each questionnaire, along with the first question, were read aloud by the researcher. Both measures were then administered as a group, with a member of staff from

the school made available where it was felt that individuals may require support for literacy difficulties.

The members of staff filling out the teacher-report measures were selected in collaboration with the contact person at each school, based on them having regular contact with the target child. The contact person at each setting also sent out the parent questionnaires, to be completed at home, which were returned to the schools in sealed envelopes. Where the schools felt that parents may have difficulties in completing the questionnaires, perhaps due to literacy difficulties or due to English not being their first language, drop in sessions were offered by the schools whereby the parents could complete the questionnaires with the support of a member of staff.

### **3.6.4 Additional Data**

#### ***3.6.4.1 Supplementary Qualitative Data***

Whilst the evidence-based movement suggests that it is important to know whether an intervention is successful, it acknowledges that equally important questions, in complex settings such as schools, include; under what conditions does the intervention work? And which approaches and strategies support the outcomes? (Stoiber & Waas, 2002). After all, for real world evaluation research to be useful, we need to know if the programme worked but also how to implement and improve it (Blase *et al.* 2012).

Supplementary qualitative methods were employed in order to explore the pupil and facilitator's perceptions following their experience of the ART programme. This type of descriptive information posed by Stoiber and Waas above was greatly desired by the EPS as this was a new venture for them. The current research was acting as a 'pilot' to gather data which could be used to improve future implementation of the programme.

##### **3.6.4.1.1 Qualitative Measures-Pupils**

Following the quantitative post-measures, parental and pupil consent were sought from all of the participants in the experimental groups. Data collection took place in the form of a one-to-one semi structured interview with the researcher, with pre-identified areas for questioning including how successful

they felt the programme was, what they felt worked well and what could be changed to improve the experience in future (see Appendix XIV for a copy of the prompt sheet used by the researcher in the semi-structured interviews).

#### 3.6.4.1.2 Qualitative Measures-Facilitators

Following the completion of the 30 ART sessions for the experimental group, a questionnaire was sent out to the six facilitators, asking for their views on the success of the programme, factors which may have impacted upon the outcomes and changes they would make to the implementation in future (see Appendix XV for a copy of the questionnaire).

### 3.6.5 Data Analysis

#### 3.6.5.1 *Quantitative*

Data relating to Research Questions 1 and 2 was analysed using both descriptive and inferential statistical analyses, detailed in Section 4. As the data did not meet the assumptions of parametric statistical tests, non-parametric alternatives were used to identify any differences between the intervention and control groups at pre and post-test. Further tests of subgroups were employed to look for differences between different aged participants and role models compared to target individuals. Finally non-parametric correlational tests were used to explore any possibly relationships between test scores and attendance at the intervention sessions.

#### 3.6.5.2 *Qualitative*

The interviews with the student participants and the questionnaires completed by the facilitators were analysed using Thematic Analysis procedures, as described by Braun and Clarke's (2006) six stage model, in order to identify themes which would inform the supplementary research question.

### 3.7 Data Quality Issues

The aim of experimental research is to provide results which are valid, in that they show what they intended to show and reliable, so that potentially the conditions can be replicated and similar results achieved (Field & Hole, 2006). Here common threats to validity and reliability in experimental research are

discussed and measures taken to minimise the effects of these threats in the current research are described.

### **3.7.1 Internal Validity**

Threats to internal validity impact upon the researcher's ability to say that the changes in the dependent variables can be attributed to the independent variable, in this instance the intervention sessions (Shadish, Cook & Campbell, 2002). Quasi-experimental designs, are particularly vulnerable to such threats due to the lack of randomisation (Shadish, Cook & Campbell, 2002). Those commonly referred to in experimental designs and the steps taken in the current research to minimise their effects are displayed in Table 3.9



<b>Threat to internal validity</b>	<b>Description</b>	<b>Actions taken to reduce impact</b>
<b>History</b>	Uncontrolled events may occur during the time that the research is taking place that may impact upon the outcomes.	Information was gathered from the school about any additional input that the children may be receiving related to social or behavioural difficulties. More than one dependent variable will be focused upon in the data collection. A wait-list control group was also used for comparison. However, multiple settings were employed within each condition so this issue could still be apparent due to differences between the settings, despite treatment fidelity checks.
<b>Maturation</b>	Changes in participants during the research that are not related to the intervention.	The time between the two measures was relatively short in length (approx.11 weeks). A wait list control group was employed. All subjects were roughly the same age (all adolescents).
<b>Statistical Regression</b>	The tendency for scores at post-test to move towards the mean.	Appropriate statistical analyses will be conducted. Checks will be used to see if the groups were equivalent at pre-test. The groups are not solely composed of those who would be expected to achieve 'extreme scores' but also role models, who are also hoped to show improvements at post-test. A no-treatment control group was employed and therefore effects would also be seen in their results.
<b>Testing/Instrument Reactivity</b>	Subjecting participants to initial testing can affect their behaviour on subsequent tests.	Participants were fully informed of the purpose of the research in line with ethical guidelines so demand characteristics may have occurred. To maintain consistency all measures were completed in the same environment, using standardised instructions and valid and reliable measures were used. Testing only took place on two occasions and were separated by an 11 week interval. The control group also underwent the

		testing procedures.
<b>Instrumentation</b>	Unreliable measures may interfere with the data gathered.	Valid and reliable measures were used. Inter-rater reliability was gathered for the more complex moral reasoning measure. The same member of staff completed the teacher measure for each participant at both time points. Standardised instructions were read to all groups.
<b>Selection</b>	Selection bias may yield differences in the groups of participants which impact upon their performance.	Originally a screening measure was planned. However time constraints meant that this was not used. The researcher supported all schools with selection and employed the same selection criteria. As random allocation was not used and each group belonged to a different setting it is accepted that uncontrolled pre-existing differences may exist. Statistical tests will be used to check that the groups were equivalent at pre-test. However the purpose of the research is not to generalise to other groups/settings.
<b>Experimental Mortality</b>	Attrition from the original sample may result in a biased group.	As the intervention occurred over a relatively short period of time, with the full support of the schools, it is hoped that attrition will be minimal. Schools were asked to select 'good attenders'. Schools have also stated that attendance at the sessions will be mandatory even if the young person is excluded for a fixed period.
<b>Selection-Maturation Interaction</b>	The tendency for groups to move towards each other on a dependent variable if initially different	Selection criteria employed for both experimental and control groups. Groups were similar in age (all adolescents). However the gender ratio was different in the two conditions.
<b>Diffusion of</b>	When control and experimental groups communicate with each	Although this is an issue in previous research into ART the current research employs

<b>treatment</b>	other, leading to the passing of information regarding the independent variable.	control and experimental groups which are based in different settings.
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Table 3.9: Common Threats to Internal Validity and Actions Taken to Minimise Their Effects in the Current Research. Adapted from Cohen, Manion & Morrison (2007) and Babbie (2010)

### **3.7.2 External Validity**

External validity refers to the degree to which the findings of a study can be generalised to other populations and settings outside of the experiment (Cohen, Manion & Morrison, 2007). The naturalistic setting of the current research improves the ecological validity, making it similar to real life instances where the intervention may be applied in future, in order to generalise the findings.

However the researcher should also be able to demonstrate that the participants in the study are representative of the wider target population (Cohen, Manion & Morrison, 2007). The use of a small sample in the current research, which did not use screening measures for identification nor randomisation to conditions, suggests that attempts to apply the results to the wider population would be invalid. However, the intention was not to generalise but to be ‘...interested in a specific finding in its own right...’ (Robson, 2011, p.91) and provide an indication of the impact of the initial pilot of the intervention alongside additional qualitative data to guide future practice. It is also hoped that the findings will also contribute to the existing evidence base and stimulate further research, as this is the first investigation regarding the effects of the intervention with a school based population within the United Kingdom.

### **3.7.3 Reliability**

Reliability refers to ‘...the stability or consistency with which we measure something.’ (Robson, 2011. p.85). Unsystematic errors which vary across data collection points can result in unreliable data (Mertens, 2010). Several actions were taken by the researcher to avoid such error:

- A script of instructions was created so that participants in all settings received the same guidance at the beginning of the questionnaires during both pre and post-test. The SSIS-RS also has standardised instructions on the front of the form, which the parents and staff were asked to follow.
- Participants in each setting also completed the measures in the same environment. However, this could not be controlled for the parent and

teacher measures, which were sent by post or were hand delivered by the contact member of staff at the school.

- The same member of staff was asked to complete the questionnaire for each child at both time points.
- Valid and reliable measures were employed (see section 3.6).
- To ensure that the researcher was consistent in her classifications, inter-rater scores were collected for the data gathered using the SRM-SF, which applies a more complex, subjective scoring system, as well as during the observations of treatment fidelity.
- In an attempt to control for participant characteristics (i.e. mood, motivation, social desirability bias) influencing the results, several sources of data were used and support was provided for those with literacy difficulties so that the complexity of the qualitative responding (the SRM-SF) was not a source of bias. However, it is acknowledged that these factors may still have impacted upon the results gathered.

### **3.8 Ethical Considerations**

In order to ensure ethical the researcher sought ethical approval from the University of Nottingham's Ethics Committee (see Appendix XVI for the letter of approval received from the committee).

Several ethical considerations pertinent to the current research, in keeping with the guidance from the British Psychological Society (BPS, 2010), will now be briefly outlined and the steps taken to deal with such issues described.

#### **Informed Consent**

As the participants were under 16 years of age parental consent was gathered initially. The EPS sent out consent forms for parents to sign, in order to give permission for their children to participate in the intervention sessions. The researcher also sent out consent forms via the contact member at the school, with information sheets attached, providing details about the study. Once these were returned the pupil's themselves were asked for consent, as were the teachers completing the SSIS-RS (see Appendix VI-IX). The pupil information

sheet was read aloud at the start of the pre-measures session and the researcher answered any questions to ensure the details of the project were clear. The facilitators running the three intervention groups also signed consent forms detailing the treatment integrity procedures and the post-intervention questionnaire. Additional consent was gathered from the parents and pupil participants after the quantitative post-measures for participation in the additional interviews, which included information about the audio recording equipment which would be used (Appendix XVII and XVIII).

### **Right to Withdraw**

The right of all participants to withdraw was made explicit on the information sheets and consent forms. This was reiterated to the young people verbally before they started the measures. All parties were provided with contact details of the researcher should they wish to withdraw their data at a later date.

### **Confidentiality**

On all written and audio recorded data the participants were referred to by coded identifier to maintain anonymity. Participants were ensured of their privacy with the sole exception of any concern arising relating to them being in possible danger. All data collected was stored in a locked filing cabinet or on an encrypted memory stick.

### **Protection from Potential Harm**

As some of the questions on both of the measures could be considered sensitive, for example the SSIS-RS asks questions about problem behaviours and the SRM-SF includes potentially upsetting moral dilemmas such as the death of a friend. Example questions were provided on the parental information sheets. A member of staff from the school was also made available during the data collection sessions should any students wish to discuss their concerns.

It was deemed unethical for role models to be young people who displayed no difficulties in the areas of anger control, moral reasoning or social skills, given that the intervention would take up a considerable amount of their study time (30 hours). Therefore the selection criteria was included which stated that role

models should have 'low level' needs of their own, so that they too would benefit from taking part, whilst being a positive influence on the 'target' individuals.

Finally a wait-list control group was employed so that all pupils identified as having difficulties would gain support. This was also true of those who did not return their parental consent for the research in time for the pre-measures, who were still included in the intervention sessions.

### **Debriefing**

Following the completion of the data analysis procedures all schools, pupil participants, parents and the facilitators associated with the research project were provided with a summary sheet of the findings of the research as well as contact details for the researcher, should they wish to discuss anything further.

## **4. Results**

### **4.1 Quantitative Data Analyses**

This chapter presents an overview of the data gathered and analyses performed following the procedures outlined in Chapter 3. For a more in depth consideration of the implications of the results please refer to Chapter 5. Initially details about levels of attrition from the study will be provided. This is followed by two levels of statistical analysis whereby both descriptive data and inferential statistical outcomes are displayed.

#### **4.1.1 Dependent Variables and Direction of Change**

As described previously in Chapter 3, the study entailed a high number of dependent variables, mainly due to the subscales associated with the SSIS-RS. To support the reader in the interpretation of the following statistical analyses Table 4.1 provides an overview of the dependent variables measured in this study, as well as the direction of change desired.

<b>Sub-scale scores</b>				
<b>Name of Instrument</b>	<b>Self report Measures</b>	<b>Parent Report Measures</b>	<b>Teacher Report Measures</b>	<b>Hypothesised Direction of Change</b>
<b>SSIS Problem Behaviours</b>	Externalising behaviour	Externalising behaviour	Externalising behaviour	A decrease in scores
	Bullying	Bullying	Bullying	
	Hyperactivity	Hyperactivity	Hyperactivity	
	Internalising behaviour	Internalising behaviour	Internalising behaviour	
	Problem behaviours composite score	Autism Spectrum	Autism Spectrum	
	Problem behaviours standardised score	Problem behaviours composite score	Problem behaviours composite score	
		Problem behaviours standardised score	Problem behaviours standardised score	



<b>SSIS Social Skills</b>	Communication	Communication	Communication	An increase in scores
	Co-operation	Co-operation	Co-operation	
	Assertion	Assertion	Assertion	
	Responsibility	Responsibility	Responsibility	
	Empathy	Empathy	Empathy	
	Engagement	Engagement	Engagement	
	Self control	Self control	Self control	
	Social skills composite score	Social skills composite score	Social skills composite score	
Social skills standardised score	Social skills standardised score	Social skills standardised score		
<b>SRM-SF</b>	Sociomoral Reflection Maturity Score reflecting child's moral judgement stage	Xxx	Xxx	An increase in scores

Table 4.1 Table to Show the Dependent Variables Employed in the Study and the Desired Direction of Change

#### 4.1.1.1 Power Analyses

Given the large number of comparisons being calculated it would typically be advisable to conduct post-hoc corrections, such as a Bonferroni correction, to control for familywise error rate, or the chance of a Type I error, in which an effect is believed to exist which actually does not. However, such controls lead to a loss in statistical power, which suggests an increased risk of a Type II error, whereby an effect that does exist is rejected (Field, 2009).

The researcher conducted post-hoc power analyses using G Power software (Buchner *et al.* 2014). Using a medium effect size of  $d=0.5$ , based on the findings of previous research into ART which found effect sizes between 0.35 and 0.63 (Coleman, Pfeiffer & Oakland, 1992; Currie *et al.* 2012 & Jones, 1991). Given the current participant levels, the analysis suggested that the following inferential tests would have a statistical power of 0.29, which is the probability that the tests will find any effect that exists. This suggests a 71% chance of failing to detect a genuine effect.

Apriori analyses also suggested that to achieve a power of .8, a figure recommended by Cohen (1992) which represents 80% chance of detecting an medium sized effect that genuinely existed within the data, a total sample size of 106 participants would have been required. Gathering this many participants was unfortunately not possible within the current study.

It was therefore decided, given the low statistical power and small sample size in the research, which lower the chance of obtaining a Type I error, that a Bonferroni correction would not be utilised in the following analyses.

#### 4.1.2 Attrition

There was considerable attrition from the initial sample over the course of the intervention sessions. Table 4.2 displays the numbers of participants who completed measures at pre-test and post-test in each setting.

	Number of participants at pre-test	Number of participants at post-test
<b>School A</b>	12	5
<b>School B</b>	7	0
<b>School C</b>	4	3
<b>School D</b>	6	6
<b>School E</b>	6	4
<b>School F</b>	6	5

Table 4.2 Table to Show the Number of Participants Present at Pre-test and Post-test

At post-test 56% of the original sample remained, 83% of the original control group and only 35% of the intervention group. In School A 4 students were removed by the school due to disruptive and bullying behaviour, 2 chose not to attend the sessions and a further pupil left the school. School B decided not to continue with the programme after four weeks. In School C one pupil self-selected out of the sessions as she did not feel they were relevant to her needs and in Schools E and F the data for 2 participants was removed when it came to

light that they had been accessing support for their behaviour from other sources, which may have impacted upon the reliability of the results gathered in this research. A further pupil in School E moved schools.

The stringent SRM-SF scoring protocols meant that some of the participant measures were unscorable, in the intervention group, only 75% of the remaining participants could be included in the analyses and in the control group 40% of the participants produced scorable SRM-SF surveys.

In order to ensure that there were no differences between those who remained in the study and those who dropped out, which may suggest a form of bias was present in the group that remained, Mann Whitney U tests were conducted on 5 of the dependent variables from the self-report measures. This included the social skill and problem behaviour composite scores and moral reasoning maturity scores. These analyses found no significant differences between the groups which suggests that those who remained in the study were comparable to those who left the programme.

For those participants who remained in the research the response rate for parents was 87% at pre-test and 74% at post-test. One parent did not consent to participating in the research themselves and a further four did not access the support which was offered by school for parents with English as an Additional Language. Finally one parent had little direct contact with the school whilst her pupil was excluded, which occurred during the post-measure data collection. The response rate for teachers was 100% at pre-test and 83% at post-test. One teacher in School D was absent from work due to long term illness at post-measure. The implications of this attrition on the results will be discussed further in Chapter 5.

### **4.1.3 Descriptive Data**

#### ***4.1.3.1 Measures of Central Tendency and Variability***

Tables 4.3-4.8 display the Mean, Median, Range and Standard Deviation (SD) for each of the dependent variables gathered from each source; parent, teacher and self-report, at both data collection points (pre and post-intervention) for the control and intervention groups. Both the mean and median have been provided

as, whilst the mean is considered to be the most popular measure, the median is less sensitive to extreme scores (Dancey & Reidy, 2011).

Dependent Variable	Intervention Group				Control Group			
	Mean	Median	Range	SD	Mean	Median	Range	SD
Communication	8.75	10	10	3.77	10.27	12	14	4.698
Cooperation	7.5	7	12	4.309	10.6	11	17	5.18
Assertion	10	10.5	14	4.408	10.2	12	14	4.263
Responsibility	9.25	9	13	3.77	10.87	10	16	4.033
Empathy	9	10	12	3.625	9	9	15	4.375
Engagement	11.25	12.5	15	5.445	12.467	12	12	2.722
Self Control	4.63	4	10	3.204	6.33	6	15	5.327
Social Skills Composite-Raw Score	60.38	65	59	23.366	69.73	71	87	25.073
Social Skills Composite-Standardised Score	73.25	76.5	43	16.833	80.27	82	68	19.44
Externalising	21.88	20.5	22	7.918	16.87	17	30	9.211
Bullying	7	8	11	3.742	6.27	7	14	4.044
Hyperactivity	12.63	11.5	15	4.838	10.47	9	19	6.523
Internalising	9.25	8.5	19	6.274	4.67	5	9	3.086
Problem Behaviours Composite-Raw Score	40.13	41	44	16.075	30.73	30	53	16.355
Problem Behaviours Composite-Standardised Score	121.5	122	46	16.733	111.53	111	55	17.016
SRMS	200.33	194	97	34.662	240.5	219	99	40.218

Table 4.3: Table to Show the Descriptive Data for the Self-report Measures at Pre-test

Dependent Variable	Intervention Group				Control Group			
	Mean	Median	Range	SD	Mean	Median	Range	SD
Communication	8	7.5	13	4.071	8.8	8	15	4.57
Cooperation	6.5	7	11	3.703	10.47	9	16	5.263
Assertion	9.38	8	13	3.998	11.07	12	16	4.891
Responsibility	8.63	9.5	14	4.984	12	13	19	5.141
Empathy	10.13	10.5	9	3.227	8.93	9	13	4.044
Engagement	12	13.5	12	4.598	13.33	13	14	3.735
Self Control	5.5	5	11	3.464	7.13	5	16	5.041
Social Skills Composite-Raw Score	60.13	60	76	24.263	71.73	71	102	28.632
Social Skills Composite-Standardised Score	67	64.5	40	13.99	81.73	79	77	31.526
Externalising	22.25	26	22	8.664	13.93	16	32	9.051
Bullying	6.38	7.5	9	3.889	4.4	4	11	3.18
Hyperactivity	14.38	15	16	5.731	9.4	9	21	6.412
Internalising	8	6.5	19	6.234	5.2	4	14	4.362
Problem Behaviours Composite-Raw Score	41.38	48	51	17.695	26.87	28	60	17.108
Problem Behaviours Composite-Standardised Score	122.88	130	53	18.357	107.4	109	62	17.904
SRMS	226.17	219	77	28.548	233.33	242	119	46.237

Table 4.4: Table to Show the Descriptive Data for the Self-Report Measures at Post-test

Dependent Variable	Intervention Group				Control Group			
	Mean	Median	Range	SD	Mean	Median	Range	SD
Communication	12.63	13.5	9	3.021	16.45	19	13	4.906
Cooperation	9	9.5	7	2.828	12.27	14	12	4.735
Assertion	13.38	14	5	1.923	14	15	11	3.376
Responsibility	9.38	9	8	2.774	12.27	12	12	4.496
Empathy	8.25	8	9	3.151	10.27	8	10	4.052
Engagement	11.63	12	12	3.889	15.36	18	13	4.433
Self Control	7.63	8	12	4.502	11.73	8	18	6.944
Social Skills Composite-Raw score	71.88	70.5	54	17.956	92.36	103	75	28.696
Social Skills Composite-Standardised score	83	82	35	11.94	96.36	104	50	19.33
Externalising	17.63	18	12	4.241	9.91	13	22	8.538
Bullying	5.38	5	5	1.768	3.36	1	10	3.931
Hyperactivity	10.88	11.5	9	3.044	7.45	11	14	5.82
Internalising	7.88	7.5	11	3.441	5.27	7	13	4.962
Autistic Spectrum	18.63	18.5	16	5.37	11.55	15	24	8.96
Problem Behaviours Composite-Raw Scores	39	40	28	9.502	23.64	31	51	20.446
Problem Behaviours Composite-Standardised Scores	134.75	134.5	30	10.938	118.27	128	67	27.236

Table 4.5: Table to Show the Descriptive Data for the Teacher Report Measures at Pre-test

Dependent Variable	Intervention Group				Control Group			
	Mean	Median	Range	SD	Mean	Median	Mode	SD
Communication	11.5	11	8	2.928	14.18	13	13	4.6
Cooperation	7.88	7.5	9	3.227	10.64	10	13	5.537
Assertion	13.38	13.5	8	3.159	13.45	13	11	3.045
Responsibility	8	8	7	2.619	11.36	11	12	4.632
Empathy	7.38	7	5	1.768	10.09	11	14	4.826
Engagement	11.25	10.5	9	2.765	14.09	14	15	4.392
Self Control	7.25	6.5	13	4.559	10.09	8	18	5.856
Social Skills Composite-Raw score	66.88	65	46	16.771	83.91	79	87	30.576
Social Skills Composite-Standardised score	79.63	78.5	31	11.338	90.55	87	58	20.656
Externalising	16.5	16	11	4.071	12.45	13	24	8.711
Bullying	5.75	6	3	1.035	4.55	5	10	3.882
Hyperactivity	11.88	12	5	1.885	8.09	9	14	5.504
Internalising	7.13	8	10	3.482	3.55	3	9	2.841
Autistic Spectrum	19.25	20.5	10	4.432	11.82	11	24	8.122
Problem Behaviours Composite-Raw Scores	39	41	20	7.27	24.73	29	48	17.147
Problem Behaviours Composite-Standardised Scores	134.75	135	24	8.276	119.55	126	63	22.866

Table 4.6: Table to Show the Descriptive Data for the Teacher Report Measures at Post-test



Dependent Variable	Intervention Group				Control Group			
	Mean	Median	Range	SD	Mean	Median	Range	SD
Communication	13.5	15.5	10	3.987	15.64	16	9	2.803
Cooperation	11.17	10	5	2.229	12.27	12	9	2.687
Assertion	15	16	9	3.521	14.64	14	10	3.139
Responsibility	11.67	12	3	1.033	12.73	13	11	3.58
Empathy	11.17	12.5	14	4.916	11.64	11	11	3.414
Engagement	13	13	9	3.633	15.27	16	7	2.328
Self Control	6	5.5	11	3.742	9	8	14	3.899
Social Skills Composite-Raw Score	81.5	84	57	18.992	91	91	43	14.064
Social Skills Composite-Standardised Score	85.33	87.5	44	14.814	93	94	36	11.287
Externalising	13	11.5	19	7.127	10.09	10	19	6.188
Bullying	3.33	2	12	4.367	2.82	2	8	2.483
Hyperactivity	10	10	10	3.464	6.91	6	13	4.764
Internalising	8.5	8	14	5.857	4.09	3	8	2.844
Autistic Spectrum	17.5	17.5	23	7.396	10.45	9	17	4.967
Problem Behaviours Composite-Raw Scores	32.17	30	55	18.978	20.73	21	38	12.507
Problem Behaviours Composite-Standardised Scores	121	118	64	22.83	107.36	106	45	14.942

Table 4.7: Table to Show the Descriptive Data for the Parent Report Measures at Pre-test

Dependent Variable	Intervention Group				Control Group			
	Mean	Median	Range	SD	Mean	Median	Range	SD
Communication	12.33	12.5	10	3.83	13.91	15	15	4.253
Cooperation	9.17	9	6	2.229	12.55	13	8	2.423
Assertion	14	14	4	1.414	14	14	8	2.236
Responsibility	9.67	10.5	8	3.011	11.18	13	16	4.557
Empathy	9.83	10.5	8	3.061	11.09	12	10	3.239
Engagement	12.33	13	13	4.502	14.45	14	11	3.532
Self Control	4.83	3.5	11	4.07	9.82	10	14	3.97
Social Skills Composite-Raw Score	72.17	74.5	49	16.018	87	84	59	17.838
Social Skills Composite-Standardised Score	77.67	80	38	12.437	89.55	87	46	13.917
Externalising	15.5	13	21	7.477	9.55	9	22	7.764
Bullying	3.33	3	9	3.445	2.82	2	8	2.786
Hyperactivity	11.33	11	15	5.317	6.64	5	15	5.104
Internalising	9.33	7.5	18	6.743	3.27	3	10	2.724
Autistic Spectrum	18.83	16.5	29	10.572	11.27	11	20	5.918
Problem Behaviours Composite-Raw Scores	37	31.5	65	22.724	19.45	17	46	14.376
Problem Behaviours Composite-Standardised Scores	123.67	120	57	19.775	105.91	101	60	17.835

Table 4.8: Table to Show the Descriptive Data for the Parent Report Measures at Post-test

### ***4.1.3.2 Distribution and Variance of the Data***

#### ***4.1.3.2.1 Normal Distribution***

In order to ascertain which form of inferential statistical tests should be used the distribution of the data was analysed. Histograms and Q-Q plots were created and visually analysed, then statistical analyses were carried out in the form of z scores for skew and kurtosis and Shapiro-Wilk analyses, in order to ascertain the significance of the distribution. Whilst there were several methods to consider, research has found the Shapiro-Wilk test to be the most powerful (Razali & Wah, 2011). Appendix XIX displays the skew, kurtosis, z scores and Shapiro-Wilk scores for each variable, at both time points, from the 3 sources of data; self-report, parental report and teacher-report.

##### ***4.1.3.2.1.1 Summary of Findings***

Of the 36 dependent variables, 19 were found to violate normal distribution patterns, achieving z scores outside of the -1.96 to +1.96 range or Shapiro Wilk significance scores below 0.05. Visual analyses of the histograms and Q-Q plots also suggested that much of the data was skewed or bimodal. This was expected due to the inclusion of participants who were considered to be target individuals and role models. The creators of the SSIS-RS also state that there is no evidence or theoretical rationale to suggest that social skills and problem behaviours are normally distributed through the population (Gresham & Elliott, 2008).

#### ***4.1.3.2.2 Homogeneity of Variance***

Homogeneity of variance refers to the assumption that data from the different groups in the research will have similar variances for each outcome variable (Field, 2009).

##### ***4.1.3.2.2.1 Summary of Findings***

Non-parametric Levene's tests were conducted to assess the homogeneity of variance between the experimental and wait-list control conditions. Tables displaying the results of these analyses can be found in Appendix XX. Five variables were found to have significant variance between the groups, achieving p-levels below 0.05, thus violating the assumption of homogeneity of variance.

#### 4.1.4 Inferential Statistics

##### 4.1.4.1 Assumptions of Parametric Statistical Tests

Parametric statistical tests make several assumptions about the data to be analysed. For example they require that the data is normally distributed, there is homogeneity of variance and the data is measured at least at an interval level (Field, 2009) as well as the data having been taken from a random sample of the population. Due to the ordinal nature of the majority of the data pertaining to the SSIS-RS measure, the non-random sample and the high number of non-normal distributions highlighted above, the researcher has decided to conduct non-parametric statistical tests, which are less sensitive to such issues. However, it is acknowledged that such tests are less powerful than parametric analyses, which are more likely to find a difference in the population should one exist (Dancey & Reidy, 2011).

##### 4.1.4.2 Between-group Comparisons

###### 4.1.4.2.1 Similarity at pre-test

As the participants were not randomly allocated to the conditions of the research, analyses were conducted to see whether there were any pre-existing differences between the control and experimental participants. Without such tests any differences noted at post-test may have been attributed to the effects of the intervention, when in fact the participants differed prior to their participation.

A Mann-Whitney U test was performed on each dependent variable. 6 dependent variables, 2 from each of the sources reporting data, were found to be significantly different. Table 4.9 displays the data for these significant results.

Source	DV	Intervention group median score	Intervention group size (N)	Control group median score	Control group size (N)	U	Z	P
Self report	Internalising behaviours (SSIS)	8.5	8	5	15	30.5	-1.913	0.028

	Sociomoral Reflection Maturity Score (SRM-SF)	194	6	219	6	5	-2.085	0.018
Teacher report	Engagement (SSIS)	12	8	18	11	22.5	-1.784	0.039
	Externalising (SSIS)	18	8	13	11	21	-1.908	0.029
Parent report	Self control (SSIS)	5.5	6	8	11	16	-1.722	0.045
	Autism Spectrum (SSIS)	17.5	6	9	11	16	-1.716	0.045

Table 4.9: Table to Show the Significant Results of Between-group Pre-test Analyses

The descriptive data suggests that the children in the intervention group rated themselves as possessing higher levels of internalising problem behaviours and appeared to possess less mature moral reasoning ability compared to the control children. The teachers rated those in the intervention group as having lower skills of engagement and higher externalising behaviours than the control group and finally parents rated those in the intervention group as displaying lower levels of self-control and higher incidence of behaviours associated with autistic-spectrum condition. Analyses of covariance were considered to take the pre-existing differences into account. However, the small number of incidents and the non-normal distribution of the data meant that this was not carried out. These differences will be taken into account when considering the following post-test analyses.

#### 4.1.4.2.2 Similarity at post-test

Mann-Whitney U tests were performed on post-test data to investigate any possible differences between the intervention and control groups following the implementation of the programme. Fourteen variables were identified as being significantly different, these are displayed in Table 4.10.

Source	DV	Intervention group median score	Intervention group size (N)	Control group median score	Control group size (N)	U	Z	P
Self report	Externalising behaviour (SSIS)	26	8	16	15	31	-1.876	0.031
	Hyperactivity (SSIS)	15	8	9	15	33	-1.746	0.042
	Problem Behaviour Raw score (SSIS)	48	8	28	15	30.5	-1.906	0.029
	Problem Behaviour standardised score (SSIS)	130	8	109	15	30.5	-1.906	0.029
Teacher report	Engagement (SSIS)	10.5	8	14	11	23	-1.747	0.043
	Internalising (SSIS)	8	8	3	11	18.5	-2.117	0.017
	Autism Spectrum (SSIS)	20.5	8	11	11	18	-2.160	0.015
Parent report	Cooperation (SSIS)	9	6	13	11	10	-2.335	0.01
	Self Control (SSIS)	3.5	6	10	11	13	-2.026	0.022
	Social Skills Raw Score (SSIS)	74.5	6	84	11	16	-1.710	0.048
	Social Skills Standardised Score (SSIS)	80	6	87	11	16	-1.711	0.046
	Internalising (SSIS)	7.5	6	3	11	9	-2.455	0.006
	Problem Behaviours Raw Score (SSIS)	31.5	6	17	11	15	-1.812	0.037

	Problem Behaviours Standardised Score (SSIS)	120	6	101	11	13.5	-1.961	0.026
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Table 4.10: Table to Show the Significant Results of Between-group Post-test Analyses.

Visual analyses of the descriptive data indicate that the intervention group consistently received significantly less favourable results when compared to the control group. The control group received significantly higher scores for social skill scales and lower scores for problem behaviours. This pattern was present in all 14 significant differences at post-test.

Regarding the pre-test analyses conducted previously, teacher-rated engagement and parental rated self-control remained significantly lower for the intervention group when compared to the control group. However, four of the six significant differences were no longer apparent in the post-test data. Descriptive data indicate that teacher reported externalising behaviours improved at post-test for the intervention group whilst the control group remained the same as at pre-test. Median scores for the parent reported Autism-Spectrum scales suggest that the intervention group improved pre to post-test whilst the control group deteriorated. Regarding self-reported levels of internalising behaviours, both the control and intervention groups improved from pre to post-test, to the point where there was no significant difference found between them by the Mann-Whitney U tests. Similarly, in relation to the self-report measure of moral reasoning maturity, both groups improved but the intervention group did so at a greater rate, closing the gap. Figures 4.1-4.4 show how the intervention group closed the gap with the control group on these four dependent variables.

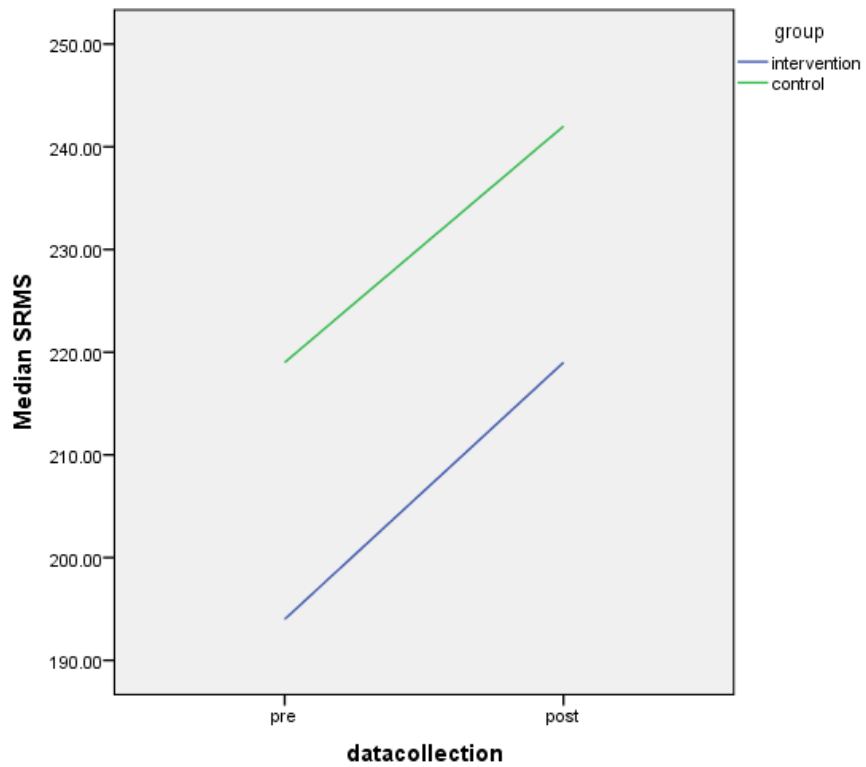


Fig.4.1: Graph to show Changes in Median SRMS from Pre to Post-Test for the Control and Intervention Groups

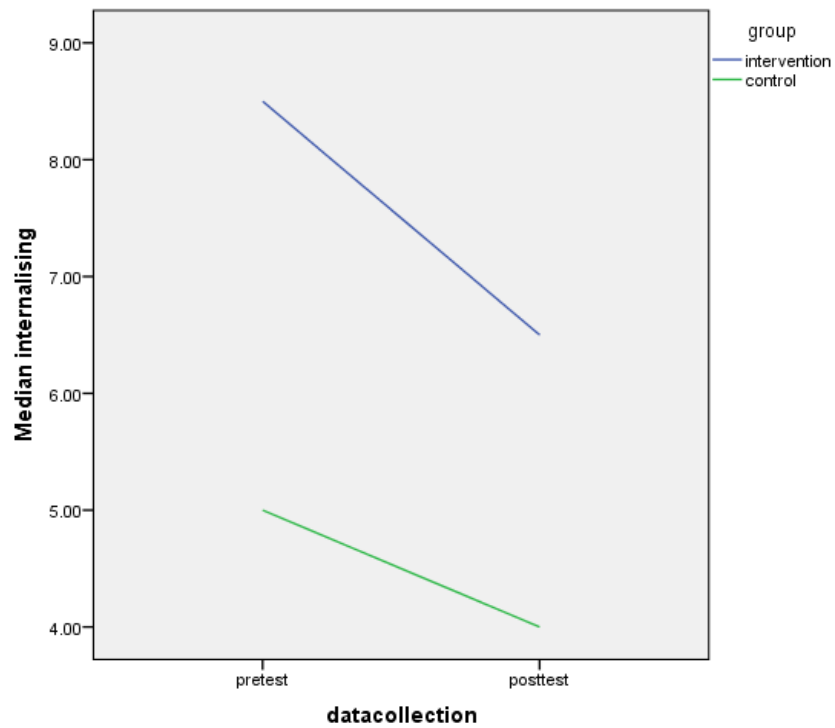


Fig 4.2: Graph to show Changes in Median Self-Reported Internalising Score from Pre to Post-Test for the Control and Intervention Groups



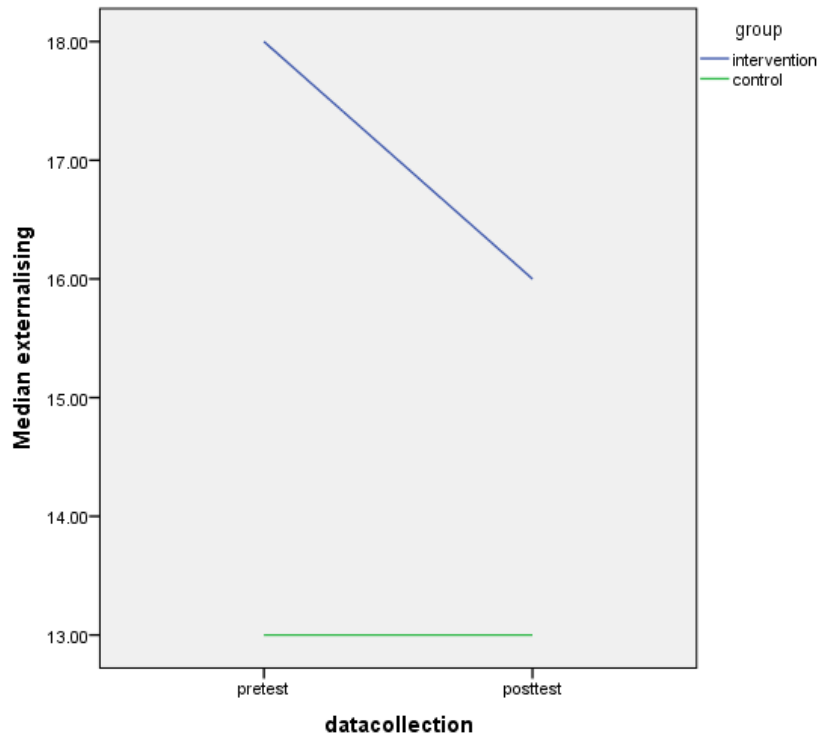


Fig 4.3: Graph to Show Changes in Median Teacher-Reported Externalising Score from Pre to Post-test for the Intervention and Control Groups

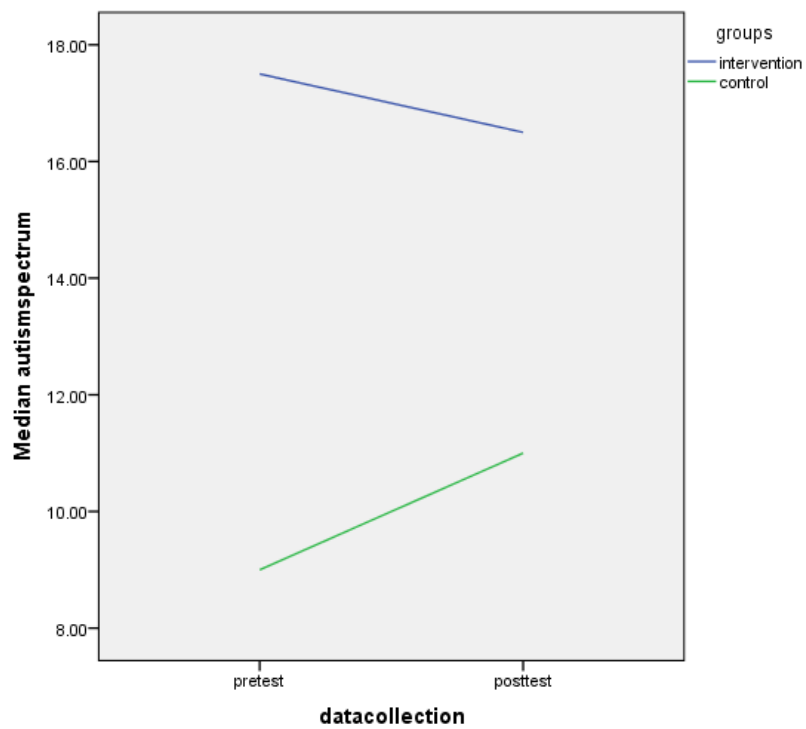


Fig 4.4: Graph to Show the Changes in Median Parent Reported Autism Spectrum Scores from Pre to Post-Test for the Intervention and Control Groups.

#### 4.1.4.3 Within-group Comparisons

Within-groups analyses were then completed using Wilcoxon Signed Ranks tests in order to find out if there were any changes over the course of the intervention. Teacher-report data revealed no significant differences from pre to post-test for both the control and intervention groups. However, parent and self-report measures showed five significant changes over time for the intervention group and self-report measures revealed three significant changes for the control group at post-test. These results are displayed in Table 4.11.

Condition	Source	DV	Pre-test Median	Post-test Median	N	T	Z	P
Intervention group	Self report	Sociomoral Reflection Maturity Score (SRM-SF)	194	219	6	0	-2.201	0.016
	Parent report	Cooperation (SSIS)	10	9	6	0	-2.032	0.031
		Social Skills Raw Score (SSIS)	84	74.5	6	0	-2.201	0.016
		Social Skills Standardised Score (SSIS)	87.5	80	6	0	-2.207	0.016
		Externalising (SSIS)	11.5	13	6	0	-2.214	0.016
Control group	Self report	Communication (SSIS)	12	8	15	16.5	-2.039	0.021
		Externalising (SSIS)	17	16	15	16.5	-2.029	0.021
		Bullying (SSIS)	7	4	15	26.5	-1.912	0.029

Table 4.11: Table to Show the Significant Changes from Pre to Post-Test from Within-Groups Analyses

These results show that the intervention group improved significantly in the maturity of their moral reasoning responses from pre to post-test. However, the other significant results for this group, gathered from parent-report measures, suggest that the cooperation scale, social skills composite score, social skills

standardised score and externalising behaviours all deteriorated over the course of the intervention.

The three significant differences noted in the control group indicated that whilst they displayed lower levels of externalising and bullying behaviours, which suggests improvement over time, the scores received on the communication scale also decreased over time, which indicates a deterioration in this social skill.

#### 4.1.4.3.1 Effect sizes

Where a significant improvement was noted in the intervention group effect sizes were calculated in the form of Cohen's  $r$ , as this is the calculation recommended when analysing results from Wilcoxon non-parametric tests (Fritz, Morris & Richler, 2012). Effect sizes allow for comparison of results between different research studies utilising different measures (Field, 2009) and give an indication of the finding's practical importance (Fritz, Morris & Richler, 2012).

The SRMS was the only dependent variable found to show significant improvement in the intervention group from pre to post-measure. Cohen's  $r$  calculations found this effect to be large in size ( $r = -0.64$ ).

#### **4.1.4.4 Analyses of subgroups**

Analyses were conducted to identify possible patterns between subgroups of participants.

##### 4.1.4.4.1 Outcomes for Role Models and Target Pupils

In order to investigate the possibility that the intervention may have been differentially effective for participants identified as 'target pupils' and 'positive role models' the pre and post data for these groups was analysed separately using Wilcoxon Signed Ranks tests. No significant results were found for either category, which could be due to the small number of individuals in each group, as small samples increase the risk of a Type II error. Only 4 role models and 4 target pupils remained in the intervention group.

#### 4.1.4.4.2 Outcomes for Older and Younger Pupils

The SSIS-RS offers two different versions for children of different ages, 8-12 and 13-18 years. Participants were separated using these age brackets in order to investigate any possible patterns based on age. Wilcoxon Signed Rank tests were conducted on the pre and post-data for the two groups using five of the dependent variables which were considered to provide a comprehensive summary of the complete data set; social skills composite scores, social skills standardised scores, problem behaviours composite scores, problem behaviours standardised scores and the SRMS. No significant differences were found from pre to post-test for either the older or younger groups. Again it could be that the small sample sizes were responsible for the lack of significant findings, as there were only three 'younger' participants and five 'older' participants, which reduced to two and four respectively when considering the parent-report data.

Descriptive data was accessed and analysed visually. Median data from both self-report measures and teacher-report measures for the social skills composite scores did suggest quite a large difference between the changes from pre to post-test of the younger and older participants. Whilst the younger participants increased their social skills composite score from a median of 68 at pre-test to 72 at post-test the older participants scores decreased from a median of 62 to 52 at post-test. These scores were reflected in the standardised scores. Similarly the teacher-report measures for the same composite suggested that the younger participants increased their median scores from 69 to 72 whilst the older participants decreased from 72 to 58. However, it is important to remember that the researcher is only highlighting trends, these changes were not found to be statistically significant.

#### 4.1.4.4.3 Attendance and Performance

Spearman's rho correlations were completed to identify any relationships that may be present between participant's attendance at the sessions and their gains in the dependent variables. It was predicted that those who attended the sessions more frequently would receive greater gains in social skills and moral reasoning maturity and decreased levels of problem behaviours. Change scores were created in order to compare changes in dependent variable scores from

pre to post-test with percentage attendance at the sessions. Two dependent variables achieved a significant relationship; teacher-reported cooperation scores on the SSIS-RS ( $r=0.765$ ,  $p=0.013$ ) and parent reported autism spectrum scores on the SSIS-RS ( $r=0.754$ ,  $p=0.042$ ). Only the first of these two, cooperation, was in the socially desirable direction expected. Figures 4.5 and 4.6 display the correlations found.

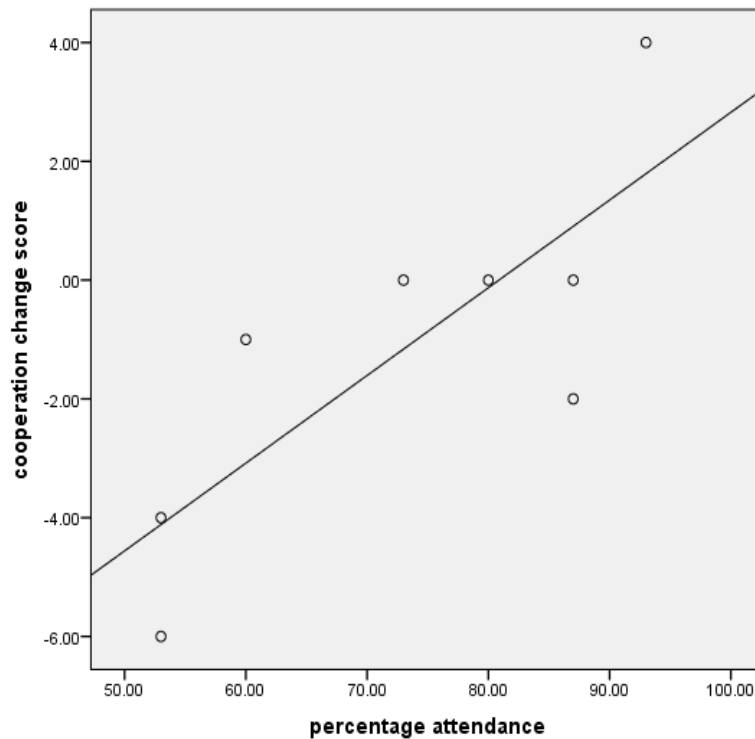


Fig 4.5: Graph to Show the Positive Relationship Between Teacher-Reported Cooperation Change Scores and Percentage Attendance at Sessions

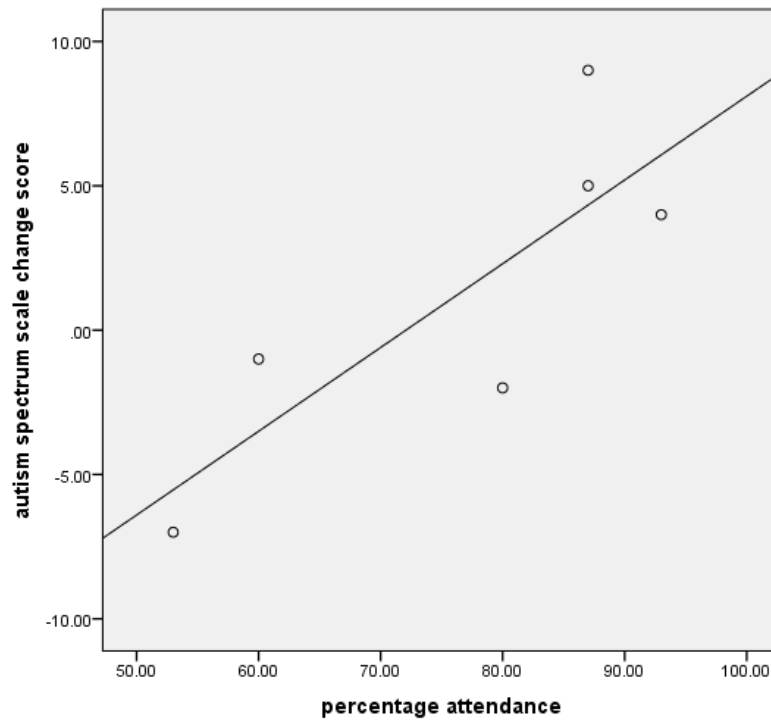


Fig 4.6: Graph to Show the Positive Relationship Between Parent-Reported Autism Spectrum Change Scores and Percentage Attendance at Sessions

#### 4.1.5 Summary of Findings from Statistical Analyses

In summary, testing between groups found six dependent variables, pertaining to the measures of social skills, problem behaviours and moral reasoning, which were significantly different between the control and intervention groups at pre-test. Descriptive statistics suggested that all of these outcomes were less favourable for the intervention group. At post-test 14 outcome variables from the social skills and problem behaviours domains were significantly different between the groups, again all in favour of the control group. However, four of the differences observed at pre-test were no longer present in the data, which descriptive statistics appeared to suggest were due to the intervention group 'closing the gap' with the control group on the scales of externalising problem behaviours, internalising problem behaviours, autism-spectrum behaviours and SRMS.

Within groups tests were then completed in order to assess if the differences noted previously had improved significantly over the course of the intervention.

Only self-report and parent-report measures found significant results. The intervention group's scores on four parent-rated dependent variables, social skills composite score, standardised score, externalising problem behaviours and cooperation, appeared to deteriorate. However, the improvement in sociomoral reflection maturity noted previously achieved significance, with a large effect size of  $r=-0.64$ . Mixed results were achieved by the control group from their self-report measures, with significant improvements in externalising problem behaviours and bullying from pre to post-test but deterioration in scores for communication.

Finally analyses for several independent variables within the intervention group were completed, in order to investigate any possible effects of age, attendance at the sessions and 'position' within the group (role model or target individual) on outcomes. Very few results were statistically significant, which the researcher attributes to the small group sizes, leading to increased risk of Type II error. Trends in the descriptive data appeared to suggest that the younger participants benefitted more than the older group members in relation to gains in social skills. Attendance at the sessions was also found to relate positively with teacher-rated cooperation, indicating improvement, and the parent rated autism spectrum scale, suggesting deterioration in these behaviours with greater exposure to the intervention.

## **4.2 Qualitative Data Analysis**

### **4.2.1 Qualitative Data Collection Procedures**

#### ***4.2.1.1 Subsidiary Research Question***

Key stakeholders in the research, specifically the training provider from iCART and the EPS, were interested in participant's experiences of this initial pilot of the ART intervention in order to inform future implementation. Therefore an additional subsidiary question was explored as part of the current research:

*What are the views of those involved in the initial pilot of the ART intervention sessions, in relation to programme implementation, contents and effectiveness?*

It was decided that gathering information from both group members and facilitators would be appropriate in answering this question, as it was predicted

that these two groups would have differing experiences of the programme. Therefore thematic analyses were carried out separately for these two groups.

Questions on the facilitator questionnaires included (please see copy in Appendix XV):

- Do you think the ART intervention was effective?
- What, in your opinion, contributed to these outcomes? (What worked well or did not work so well?)
- If you were to run this programme again what changes would you make?

The interview with the group members was semi-structured in form and the following prompts were used to gather information relevant to the research question (please see Appendix XIV for a full copy):

- Effectiveness; Do you think the ART group helped you? How? Have you used what you learnt? Which part have you used the most? What parts do you think were effective? Were there things that didn't work for you?
- Implementation; What did you think of the ART sessions? How did you feel taking part in the groups? What did you like about the sessions/not like? What could be changed to make ART better?

#### ***4.2.1.2 Selection of participants***

All group members and facilitators who took part in the intervention sessions were invited to take part in this additional element of the research, even if they had not participated in the quantitative data collection procedures. Parental consent was sent home to the parents of the 10 remaining group members and 8 were returned to the researcher. These young people were then asked to provide their own written consent, all agreed to take part (please see Appendices XVI and XVII for copies of these forms). Each interview was conducted in a one-to-one setting with the researcher following the completion of the intervention sessions and lasted between 5-10 minutes.

The six facilitators had previously signed consent forms, prior to the intervention sessions. These forms asked for their participation in the 4-item questionnaire,



which was distributed via email during the week following the completion of the intervention sessions.

#### **4.2.2 Thematic Analysis Process**

This section provides a brief summary of the thematic analysis process undertaken, in accordance with procedures provided by Braun and Clarke (2006).

##### ***4.2.2.1 Familiarisation with the Data Set***

This initial stage required the researcher to immerse themselves in the data. Firstly data was transcribed, either from the original audio recordings of the interviews or questionnaires which were sent via email. These documents were then read repeatedly in order to search for patterns and meanings which would inform initial codes.

##### ***4.2.2.2 Generation of Initial Codes***

Codes, also referred to as 'the most basic segment, or element, of the raw data or information that can be assessed in a meaningful way regarding the phenomenon' (Boyatzis, 1998, p.63), were created where semantic features of the data appeared interesting and relevant to the research question. These codes were written alongside each excerpt on printouts of the entire data set. Where an excerpt fitted into more than one code multiple codes were written. For example the excerpt: 'I felt happy cos like it's fun...and the people in my group were nice...' was coded with 'enjoyment of sessions' and 'social advantages'.

##### ***4.2.2.3 Searching for Themes***

At this stage of analysis, codes were considered in comparison to one another in order to start combining them to create themes. The cut-out extracts were placed together where similar codes had been used and repeatedly read to analyse any possible relationships between their contents. Where patterns emerged, candidate titles for these themes and subthemes were written onto post-its and placed alongside the coded excerpts (please see Appendix XXI and XII for a picture of the original thematic networks). Some of the previously identified codes went on to become main themes and subthemes depending on their ability to accurately describe the excerpts contained within them. For

example the code 'challenging behaviour' went on to become a subtheme of the theme 'nurturing a positive environment'.

#### ***4.2.2.4 Reviewing Themes***

During this phase, candidate themes were appraised in relation to the patterns of codes and excerpts contained within and by comparing themes to one another. Braun and Clarke (2006) state that 'Data within themes should cohere together meaningfully, while there should be clear and identifiable distinctions between themes.' (p.20). For example, the subtheme 'developing positive relationships' was previously associated with the theme 'skills/strategies employed by the facilitators'. However, as some of the excerpts described the relationships between group members, not facilitators, it was decided that this subtheme was actually more applicable to the theme 'nurturing a positive environment'. Some subthemes also became themes themselves, for example 'selection of participants' was previously a subtheme of 'group composition' but because it appeared to contain subthemes of its own it was promoted to a theme.

As themes should represent the most '...salient constellations of meanings present in the data set.' (Joffe, 2012, p.209) themes where there was insufficient data to support them, for example where they were only represented by a single utterance from a single participant, were removed from the analysis. Whilst this means that potentially interesting and relevant information may have been omitted it ensures that the findings remain coherent and concise. Where participants had responded with a short closed statement which provided little information for analysis, for example stating 'yes' or 'no' in response to the question '*Do you think the ART group helped you?*', the researcher decided that these would be counted and reported separately to the themes, in order to ascertain the relative weight of the statements in relation to the number of participants who held the same view.

Following these refinements, the validity of the individual themes was then appraised in relation to the entire data set. The researcher re-read the original transcripts and ensured that the themes accurately represented the meanings present when the data set was considered as a whole.

A thematic map was created for each data set (Figures 4.7-4.10) in order to provide a visual conceptualisation of the patterns of data.

#### ***4.2.2.5 Naming and Defining Themes***

Finally themes were operationalised and provided with a descriptive label in order to identify ‘...the essence of what each theme is about.’ (Braun & Clarke, 2006).

##### **4.2.2.5.1 Inter-rater Agreement of Themes**

In accordance with procedures proffered by Joffe (2012) 20% of the total data set was analysed by a second rater, a doctoral research student with previous experience in qualitative methodology. These procedures involved the second rater identifying which theme or subtheme each extract belonged to. Inter-rater agreement was 100% which is above the recommended level of 75% (Joffe, 2012). This suggests that the themes are a reliable representation of the excerpts within.

#### **4.2.3 Themes Constructed from the Group Member Interview Data**

2 overarching themes, containing 12 themes and 9 subthemes, were identified within the interview data from group members. Figures 4.7 and 4.8 display these themes as thematic maps. In the following sections themes will be outlined in detail, organised by the overarching themes.

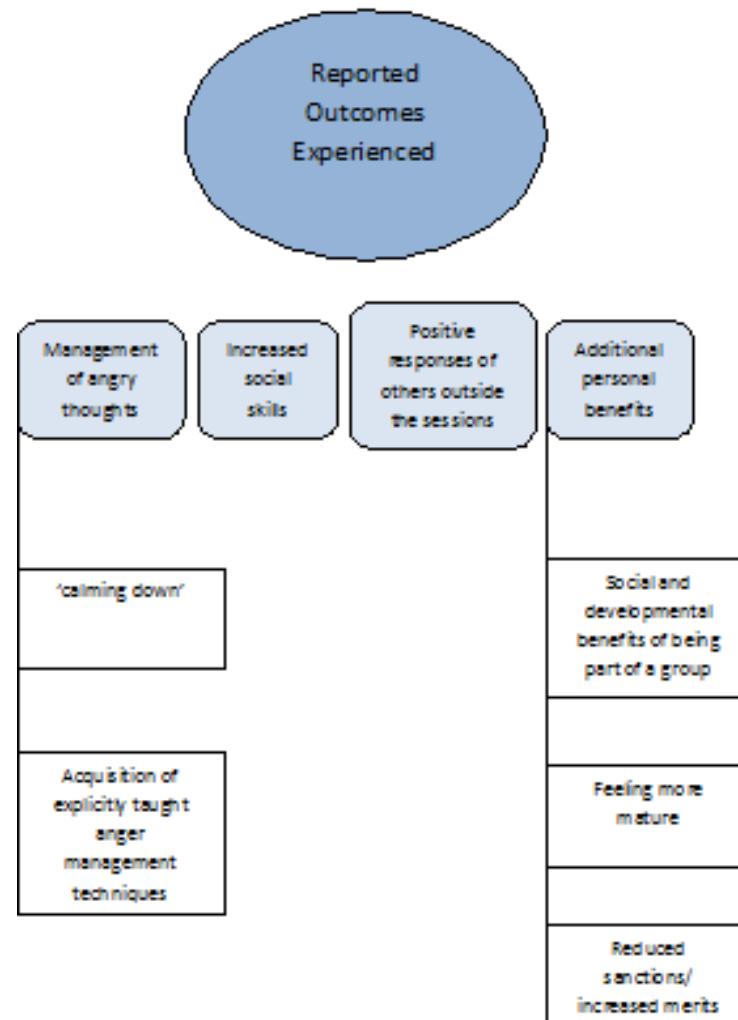


Fig 4.7: Thematic map of the overarching theme 'Reported Outcomes Experienced' and the associated themes generated from group member interview data in response to the question: *What are the views and experiences of those involved in the initial pilot of the ART intervention sessions, in relation to programme implementation, contents and effectiveness?*

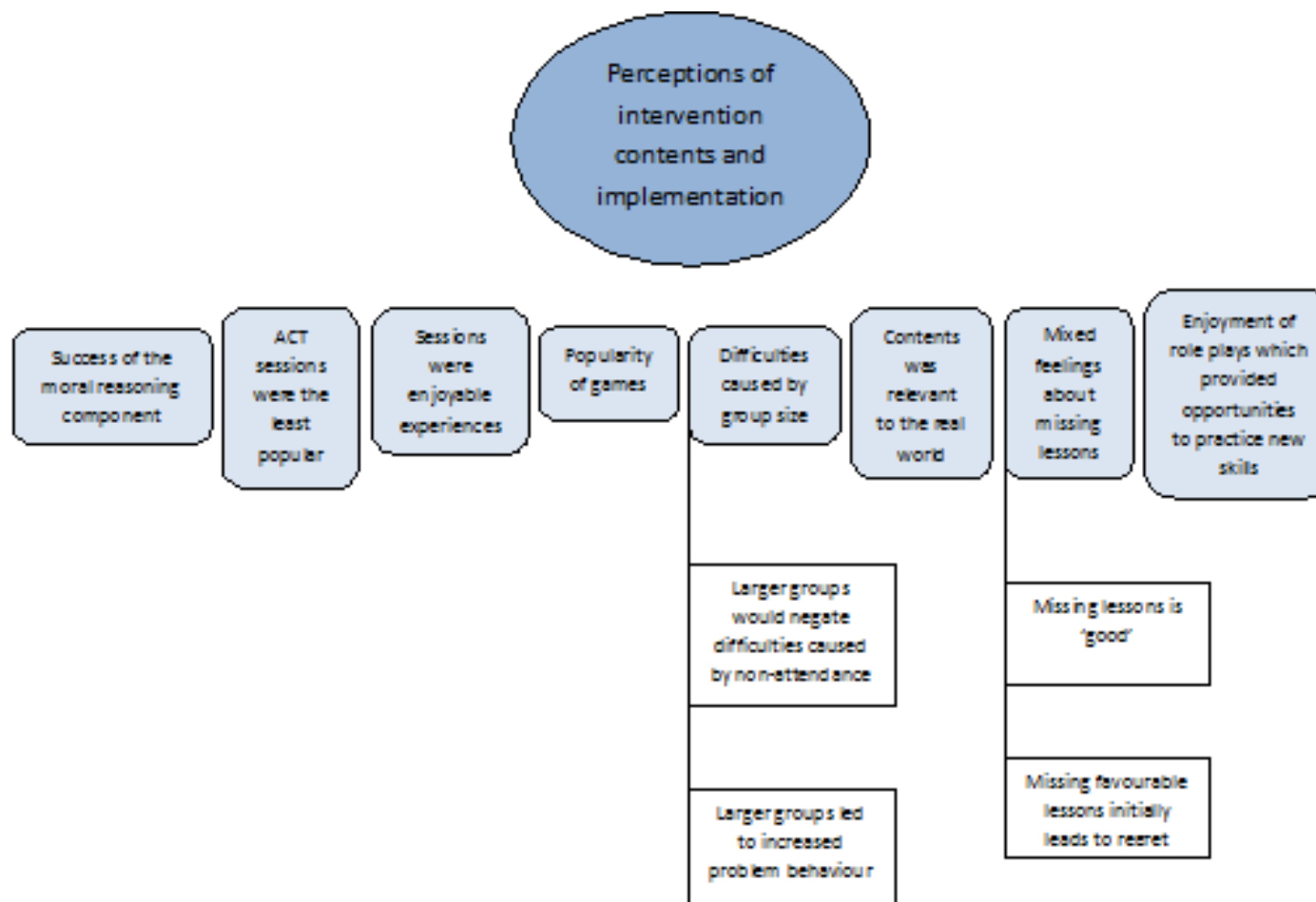


Fig 4.8: Thematic map of the overarching theme 'Perceptions of Intervention Contents and Implementation' and the associated themes generated from group member interview data in response to the question: *What are the views and experiences of those involved in the initial pilot of the ART intervention sessions, in relation to programme implementation, contents and effectiveness?*

#### ***4.2.3.1 'Reported Outcomes Experienced'***

This overarching theme describes instances where interviewees described changes that had occurred which they attributed to their participation in the intervention. In relation to the data which was counted as opposed to analysed thematically, when participants were asked if the ART groups had helped them all 8 responded affirmatively. Four themes were devised which together describe the outcomes experienced by the participants following their involvement in ART.

##### Management of angry thoughts

Participants described ways in which the intervention had helped them to manage angry thoughts. This theme included two sub themes:

- Calming down
- Acquisition of explicitly taught anger management techniques

Several participants made reference to the intervention helping them to '*calm down*'. Some expanded upon this, suggesting that it was this calmness that was helping them to avoid behaving in a manner which could be considered aggressive. For example Participant A stated: '*That if someone like says something about me I just calm down and never go and fight them*'. The majority of the participants also made reference to their application of the anger management techniques which were taught during the intervention sessions. Participant F commented: '*I think twice, is this the right answer I should be giving to the teacher or to this pupil and what's gonna be my consequence?*' and Participant C mentioned the self-talk process: '*...I used the thinking well bubble process and then like I just didn't get angry...*'

##### Increased social skills

Participants also described the social skills which they felt they had gained and used since the intervention, for example Participant H stated: '*In one lesson we've been like learning like to give compliments and I've been giving compliments to like my friends...*'

### Positive responses of others outside the sessions

Participant H continued, commenting that since this change in his behaviour his friends '*...seem more happier as well*'. According to Participant H others had also noticed the changes in his behaviour including '*...my family is more proud of me because I'm not getting detentions as often*'.

### Additional personal benefits

In addition to positive outcomes directly associated with the primary goals of the intervention, participants highlighted several personal benefits which they attributed to their participation in ART. These were placed under three subheadings:

- Social and developmental benefits of being part of a group
- Feeling more mature
- Reduced sanctions/increased merits

Several participants mentioned that there had been social benefits to participating in a group. Participant B commented that the group had provided him with friends from other year groups who he previously hadn't spoken to: '*we built like a friendship group so like in other years I know who they are and stuff.*'

The 'developmental' aspect referred to Participant A's comment that:

*'sometimes we messed about...but...when we had actually did learn we done something we like we would come up with good things'*, suggesting that as a group, when they worked together there were benefits to their learning and development.

Participant A also noticed further positive changes in himself:

*'...I'm ...starting to like get a little bit, like, more mature now.'* Finally Participants A and H noted that they were receiving less sanctions at school, with Participant A stating: '*...cos before I used to get like detentions, detentions but I'm not as much now.'*

#### **4.2.3.2 'Perceptions of Intervention Contents and Implementation'**

The second overarching theme provides an insight into the group member's views about the contents of the ART sessions and elements of implementation

which contributed to the intervention's effectiveness and their enjoyment of the sessions.

#### Success of the Moral Reasoning component

Half of the participants identified the moral reasoning sessions as either the most effective or most enjoyable part of the intervention programme. Participant B stated: '*...cos moral reasoning's like debating a bit so I like doing that....*'.

#### ACT sessions were the least popular

In contrast the ACT component was viewed as the least successful. Participant C described an occasion where an activity from these sessions, which involved sharing experiences where they felt angry, '*...didn't work that well...*' because '*It just caused like just over-talking and then everyone started like saying stuff they didn't like and then [the facilitators] couldn't obviously talk.*'

#### Sessions were enjoyable experiences

When asked how they felt taking part, half of the participants were explicit about their enjoyment of the sessions, for example Participant D commented: '*I felt happy cos its like fun*' and Participant H stated: '*I enjoyed it and um it did help a lot and erm I'm happy for that...*'.

#### Popularity of the games

Two participants mentioned the games when asked if there were any particular activities which they enjoyed during the sessions.

#### Difficulties caused by group size

Contradicting views were gathered under this theme. Whilst one participant highlighted the need for more group members, another mentioned negative outcomes which they associated with taking part in an initially larger group.

These views were captured using two subthemes:

- Larger groups would negate the difficulties caused by non-attendance
- Larger groups lead to increased problem behaviour



The first stemmed from Participant E's comment '*...there's only a few of us and then sometimes take days off...we need like more people who want to come...cos there's only a few of us so we can't contribute that much*'. In contrast, Participant F recalled the difficulties he had experienced when his group had been larger: '*...it was a bigger group....there was more shouting out and you couldn't really um understand the questions...I'd try having a smaller group, about six or so on.*'

#### Contents was relevant to the real world

Participants felt that the activities, particularly role plays and moral reasoning discussions, gave them opportunities to practise their skills and made them think about things that might occur in the real world. Participant F also appreciated the opportunity to problem solve 'bad things' that had happened to them that day so that in future '*...we could er stop them from happening again.*'

#### Mixed feelings about missing lessons

A second theme which included some contradictory views was that of missing lessons:

- Missing lessons is good
- Missing favourable lessons initially leads to regret

Whilst Participant A stated that this made him feel '*good*' about coming to sessions every week, Participant F stated that missing his favourite lessons was a disadvantage of the sessions which initially meant he '*...regretted coming..*'. However, over time he began to value the sessions, stating: '*...looking back uh I don't regret coming to them it's helped me.*'

#### Enjoyment of role plays which provided opportunities to practise new skills

In addition to the games, three participants also highlighted the role plays as being an activity which they enjoyed, with Participant H commenting that it illustrated to him '*...how we could do something better*' and Participant G suggesting that '*...more drama...*' would be a beneficial future improvement.

#### 4.2.4 Themes Constructed from the Facilitator Questionnaire Data

2 overarching themes, encompassing 9 themes and 27 subthemes, were identified within the questionnaire data provided by the group facilitators. Figures 4.9 and 4.10 display these themes as Thematic Maps.

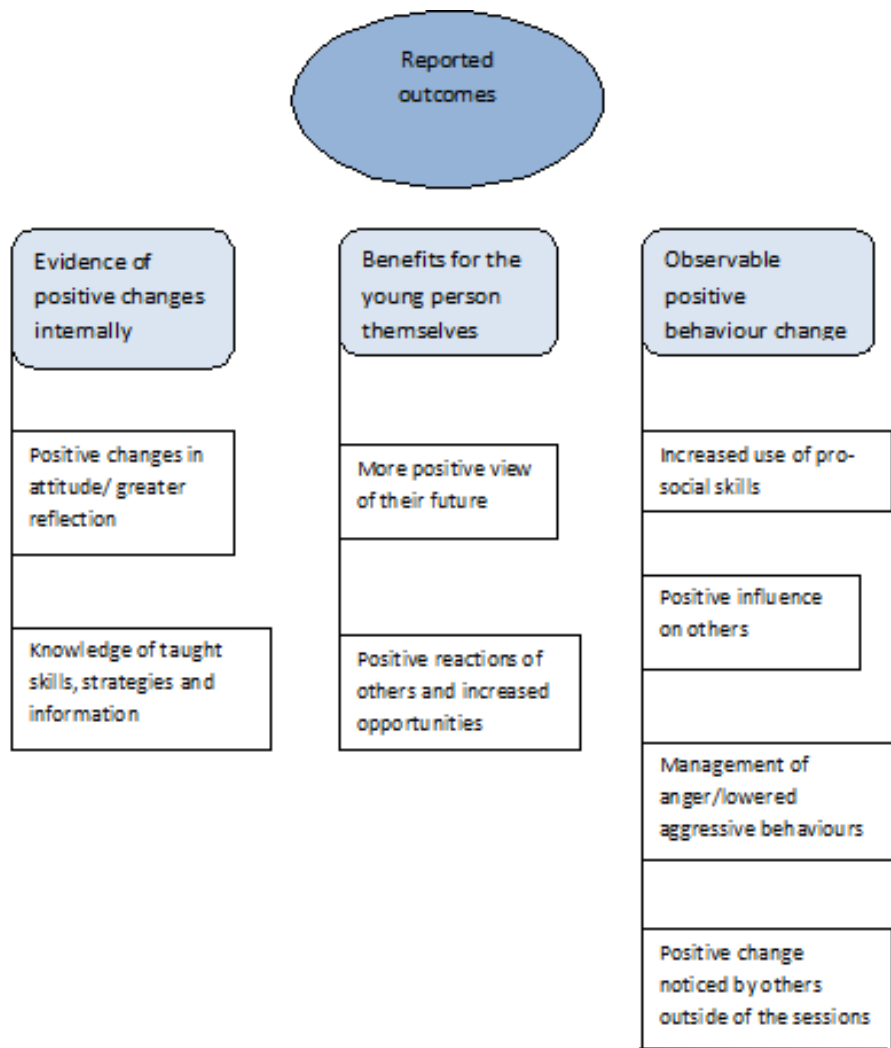


Fig 4.9: Thematic map of one overarching theme and the associated themes generated from facilitator questionnaire data in response to the question: *What are the views and experiences of those involved in the initial pilot of the ART intervention sessions, in relation to programme implementation, contents and effectiveness?*

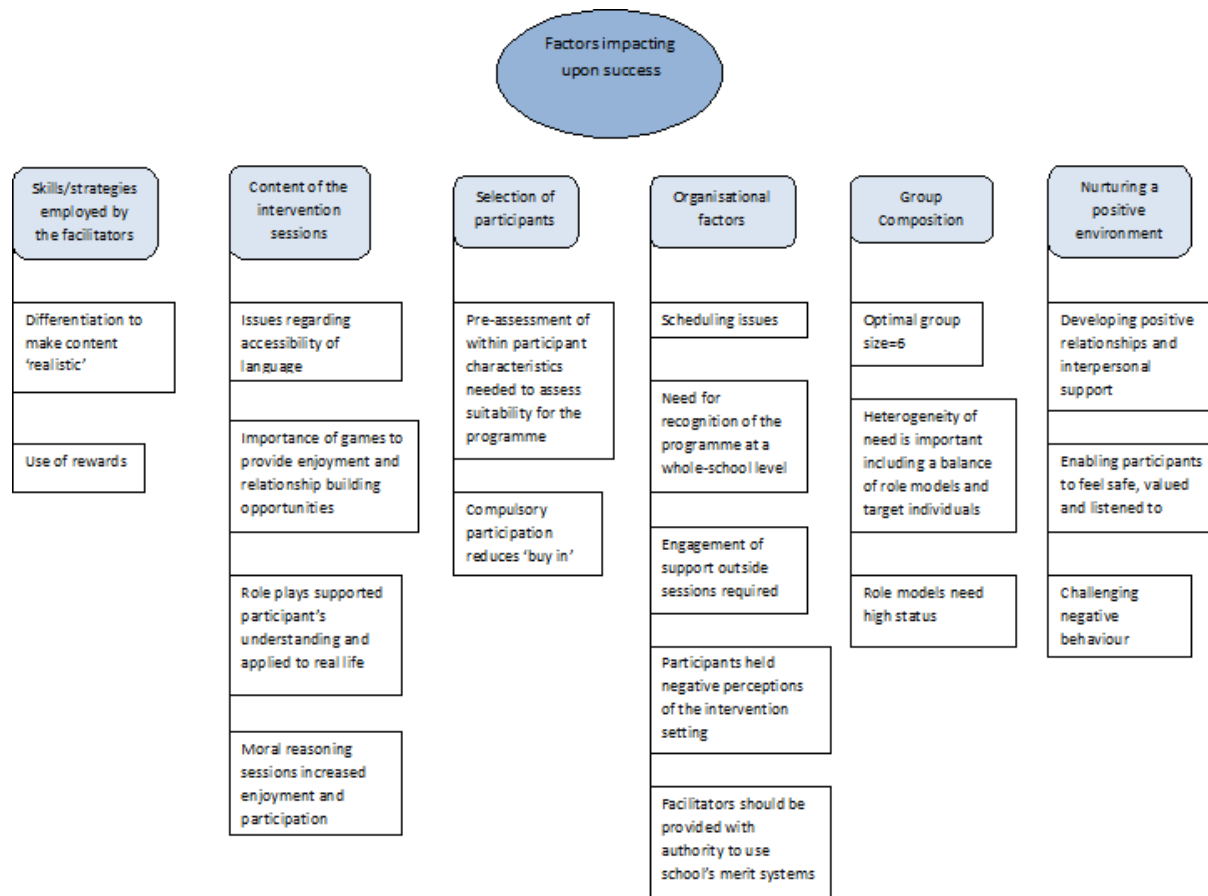


Fig 4.10: Thematic Map of the Second Overarching Theme and Associated Themes Generated from Facilitator Questionnaire Data in Response to the Question: *What are the views and experiences of those involved in the initial pilot of the ART intervention sessions, in relation to programme implementation, contents and effectiveness?*

#### ***4.2.4.1 'Reported Outcomes'***

This overarching theme encapsulated several themes which describe outcomes which the facilitators attributed to the intervention.

##### Evidence of positive changes internally

A theme was created which contained all of the references to evidence which suggested pupil's had changed in their internal state. Two subthemes represented different types of change; increased knowledge and development of more positive attitude and greater ability to reflect upon their difficulties:

- Positive changes in attitude/greater reflection
- Knowledge of taught skills, strategies and information

Illustrating the first subtheme Facilitator B stated: *'...changes in attitude during group discussions were noted over the programme and within the group students did reflect well on their own social and moral issues'*. In regard to the second subtheme facilitators referred to participant's knowledge of explicitly taught information for example: *'pupils were able to demonstrate knowledge of the anger circle'* (Facilitator F) and specific taught skills *'[pupil's name] appeared to develop more mature moral reasoning'* (Facilitator A).

##### Benefits for the young person themselves

Similar to the group member data, the facilitators also noted some additional personal benefits which they attributed to the pupil's participation in the intervention. These were grouped into two subthemes:

- More positive view of their future
- Positive responses of others/increased opportunities

Facilitator A commented that one pupil in her group *'...now sees himself as having a positive future and he could now allow himself to be more aspirational'*. It was also mentioned that this young person was receiving greater opportunities outside of the sessions due to his changing behaviour: *'teachers*

*being kinder to him, school offering him lots of opportunities to get involved in extra-curricular activities.'*

#### Observable positive behaviour change

This theme referred to any instance where a facilitator made reference to observable behaviour change following the intervention. Four subthemes were developed:

- Increased use of pro-social skills
- Positive influence on others
- Management of anger/lowered aggressive behaviours
- Positive changes noticed by others outside of the sessions

During the sessions facilitators noticed changes in the participant's social skills for example Facilitator D wrote: *'A few pupils started the programme saying very little and avoiding eye contact. Their level of engagement was limited. The same pupils became articulate in sessions, fully engaging and had a positive influence on the cohesion in the group'*. This influence on others was also mentioned by Facilitator A, who commented: *'[participant name] became a role model by the end and helped encourage the right behaviours from within the group'*. The intervention was viewed as effective in supporting pupils with management of anger and aggression, for example Facilitator A wrote: *'ART was effective in enabling [name] to better manage his aggression. This was a unanimous view'*. Several of the facilitators referred to the information they had received from others who had observed the young people in the school environment, for example Facilitator C stated: *'reports from school staff were positive for the young people who completed it'* and Facilitator A commented: *'the changes in his behaviour have also inspired other pupils to ask to participate in ART.'*

#### **4.2.4.2 'Factors Impacting Upon Success'**

In response to the question: *'Do you think the ART intervention was effective?'* all 6 facilitators confirmed that the intervention was partially effective, in that it helped some of the students or helped the students with some of their

difficulties, but not all. This overarching theme highlights factors which the facilitators believe impacted upon the success of the programme and suggestions for improvements to inform future applications.

#### Skills/strategies employed by the facilitators

Several of the extracts referred to strategies which the facilitators chose to employ and comments about the effectiveness of such strategies

- Differentiation to make content realistic
- Use of rewards

This second subtheme contained contradictory comments. For example whilst Facilitator F wrote: *'Rewards such as sweets for obeying the rules had limited success'*. Facilitator C stated: *'individualised praise....helped to build their confidence and ....increased their motivation to attend.'* This suggests that the verbal, individualised praise may have been more effective than physical reward. In relation to differentiation, Facilitator F wrote: *'the trainers had to 'toughen' up the examples used to make them appear realistic to the young people.'*

#### Contents of the intervention sessions

Facilitators also provided their views on the contents of the intervention programme, which revealed 4 subthemes:

- Issues regarding accessibility of language
- Importance of games to provide enjoyment and relationship building opportunities
- Role plays supported participant's understanding and applied to real life
- Moral reasoning sessions increased enjoyment and participation

A number of facilitators felt that the complex concepts and associated language were sometimes too difficult for the participants to access, for example Facilitators D and C respectively commented: *'the anger control component needs to be changed with more child friendly language'* and *'I would adapt the*

*programme...to meet the needs of the group and to ensure they can access and understand the contents of it',* going on to suggest that an 'average level' of understanding and language was required. Similar to the young people, the facilitators noted the success of the games, particularly in regard to relationship building: *'The use of games and activities that helped the group get to know each other and us'* (Facilitator C). They also mentioned the effectiveness of the role plays, in keeping with the group member's views previously: *'participants enjoyed role play which enabled them to understand the process'* (Facilitator D). Finally Moral Reasoning sessions were identified as having 'worked well' or being 'most successful' as they *'...generated wider discussions about issues relating directly to them which were very positive discussions'* (Facilitator B).

### Selection of participants

- Pre-assessment of within participant characteristics needed to assess suitability for the programme
- Compulsory participation reduces 'buy in'

Facilitators' felt that the intervention was more beneficial for participants with particular characteristics including: *'...motivation to change'*; *'self-identification of need of the programme'* and *'ability to comply with the programme'* (Facilitator B), some suggested that particular forms of problem behaviour, for example *'instrumental aggression'* and *'non-compliance'* were not as applicable as *'aggression'* (Facilitator A) and that in future these things should be assessed in advance to ensure the participant's *'suitability'* (Facilitator B). Secondly a number of facilitators mentioned issues with the participants having been selected or *'forced'* to partake, which they considered to have reduced *'buy in'* (Facilitator A). Facilitator F stated *'the young people need to choose to be part of the project'*, Facilitator E also described a specific example of difficulty that arose: *'The identified pupil was aware that he had to complete course and trainers could not exclude-he stated this publically'*.

## Organisational factors

The most salient theme, in relation to the number of extracts which contributed to it, was that of organisational factors and the way in which the following subthemes impacted upon success of the intervention:

- Scheduling issues
- Need for recognition of the programme at a whole-school level
- Engagement of support outside sessions required
- Participants held negative perceptions of the intervention setting
- Facilitators should be provided with authority to use school's merit systems

Several facilitators mentioned different scheduling issues, which led to participants not attending the initial meet and greet sessions and pupils '*...opting out...*' because of clashes with exam subjects. Facilitator E suggested that the timetabling had been structured around room availability and not pupil's timetables. In relation to recognition of the programme, suggestions for future improvements included ensuring achievement was celebrated at a whole school level and '*SMT need to show a commitment to the project*' (Facilitator F). Parents and teachers were mentioned in relation to engaging support outside of the group. Facilitator E mentioned that there had been difficulty gaining parental consent and Facilitator D suggested the use of introduction sessions for parents so that skills can be practised at home. Another suggested a similar information session for staff at the start of the programme to encourage them in '*supporting the young people in generalising the skills they were learning*' (Facilitator A). Student's perceptions of the room that was allocated was highlighted as a barrier to effective implementation, Facilitator E recalled a student expressing '*I feel like a retard coming here*'. Finally, whilst the use of the school's reward system '*...worked well...to maintain motivation and interest.*' (Facilitator B) for one group, another (Facilitator F) lamented the lack of authority which meant that they could not utilise such pre-existing systems.



### Group composition

Three subthemes encapsulated the theme 'group composition':

- Optimal group size=6
- Heterogeneity of need is important including a balance of role models and target individuals
- Role models need high status

Six participants was suggested as an appropriate number for effective implementation. Facilitator D stated that this allowed them to '*...focus on content as opposed to behaviour management*'. They felt that removing participants because the group was too large was described to lead to '*a negative dynamic as they came to perceive us as frequently 'kicking out' members who did not behave. They possibly felt under threat...*' (Facilitator C). Several facilitators also suggested that the group should be composed of differing levels or type of need, for example Facilitator B stated: '*a group of non-compliant students is likely to be ineffective*' in future a '*balance within the group of target pupils with social and angst issues and positive role models*' should be considered. Some also provided suggestions as to how the role models should be selected stating that they need to be: '*...older...*' (Facilitator F) and '*...high status*' (Facilitator B).

### Nurturing a positive environment

This theme describes instances where facilitators referred to interpersonal strategies which made the group environment feel positive and safe and times when problem behaviour impacted upon the success of the sessions:

- Developing positive relationships and interpersonal support
- Enabling participants to feel safe, valued and listened to
- Challenging negative behaviour

Firstly positive relationships were highlighted as an important factor contributing to success, both between the facilitators and group members. Facilitator A stated: '*us as facilitators fostering good relationships with the young people was*

*essential.*' but also within the group: *'they learned much from each other and became supportive of one another by the end.'* Making the group members feel valued was also considered important: *'I think they valued being listened to and not judged'* (Facilitator C). However, some did describe challenging behaviour which they encountered that threatened the positive environment for example: *'The behaviour of the young people was the principle difficulty. They took advantage of the trainers trying to be approachable'* (Facilitator F). Another trainer stated that what worked well was *'trying to create a 'safe' environment where inappropriate behaviour...is challenged and dealt with'* (Facilitator C).

#### **4.2.5 Summary of Findings from Thematic Analysis**

Qualitative feedback from those involved in this initial implementation of the ART intervention revealed several interesting findings which can be used to inform future application. In relation to 'effectiveness' a range of positive outcomes were identified, from evidence of the taught skills being put into practise, both in terms of changes in thought and observable behaviours, but also positive responses of others and personal benefits for the individual.

With regard to the participant's experiences and views of the intervention's content and implementation, which was the information most sought after by the service and training provider to inform future practice, there were several salient themes and subthemes which were evident in both the group member and facilitator feedback. These included the success of games and role plays, the relevance and enjoyment of the moral reasoning sessions, issues regarding the intervention's implementation at the organisational level including difficulties with scheduling and finally consideration of optimal group composition.

Furthermore, in terms of the group member's perceptions of the contents of the sessions, themes arose which suggested that whilst the anger control sessions were considered the least successful of the three intervention components, the young people appreciated the strategies and teaching which were applicable to the real world and the opportunities to talk about current scenarios which they were finding challenging.

Other themes identified in the facilitator questionnaires suggested that an informed selection process, additional strategies employed to tailor the sessions

and motivate students, as well as nurturing a positive environment were all factors which were associated with successful implementation of the programme and positive outcomes.

## **5. Discussion**

### **5.1 Introduction**

This chapter considers the findings derived from the current research project in further detail and their implications for future practice and research. Firstly the findings pertaining to each research question and the associated hypotheses will be described, before relating these findings to theory and previous research. A section evaluating the methodology adopted in the research will be followed by a discussion concerning the implications of the findings for future research and practice. Finally conclusions will be drawn summarising the outcomes of the project and highlighting the unique contribution of the research.

This study consisted primarily of a quasi experimental design, employed to investigate the impact of ART: A multi-component CBT-based intervention aiming to promote social competence. Measures of problem behaviours, social skills and moral reasoning were employed to determine the outcomes from three sources; teachers, parents and pupils themselves. In order to provide feedback to the stakeholders involved in this initial implementation of ART within English secondary schools, supplementary qualitative data was gathered to explore the perceptions of those involved in this project, specifically in regard to factors which they felt had an influence on the success of ART.

### **5.2 Reflections on Quantitative Findings**

#### **5.2.1 Research Question 1**

***Does participation in ART, implemented in school settings in the UK, support adolescent participants in improving their use of pro-social behaviours and decreasing the experience of problem behaviour?***

The experimental hypotheses associated with this question appeared to have face validity given the previous research findings. The majority of the research either reported increased levels of social skills (Coleman, Pfeiffer & Oakland, 1992; Kuposov, Gundersen & Svartdal, 2014), decreased levels of problem behaviours (Currie *et al.* 2009; Jones, 1991) or both (Glick & Goldstein, 1987; Gundersen & Svartdal, 2006/2010; Langeveld, Gundersen & Svartdal, 2012).

This study aimed to contribute to this positive evidence base, by investigating the impact of the ART intervention, conducted by newly trained facilitators from the EPS, within secondary school settings in the UK.

Pre-test scores revealed differences between the intervention and control groups on 5 subtests of social skills and problem behaviours, favouring the control group. At post-test this increased to 14 different subscales and composite scores, with the control group receiving more socially desirable results consistently. Three of the pre-test differences were no longer present at post-test and the descriptive data suggested that this was due to the intervention group 'closing the gap' with the control group on problem behaviours subscales including internalising behaviours, externalising behaviours and autistic spectrum related behaviours. However, these pre to post-improvements for the intervention group were not to a significant degree.

The present study found that the intervention group did not improve significantly in either social skills or problem behaviours across the course of the intervention. Results from parental report measures suggested that the intervention group deteriorated in relation to the subscales of cooperation and externalising behaviours as well as the overall social skills composite scores. In comparison the control group, who attended their typical lessons for the duration of the project, improved on self-reported externalising behaviours and bullying scales. However, they also deteriorated in their self-reported use of communication behaviours.

Additional analyses also found no support for the suggested hypotheses regarding the differential impact of ART for subgroups based on age or whether the group member was identified as a 'role model' or 'target individual'. Although trends in the median data did appear to suggest that the younger participants benefitted more than the older members in relation to gains in social skills. Attendance at the group sessions was found to correlate positively with teacher-reported cooperation and parent reported Autism Spectrum behaviours, which suggests that whilst increased attendance was related to greater cooperation at school, it was also associated with higher levels of autism-type behaviours in the home environment.

In this instance it would appear that the null hypothesis has been supported. It is possible that these findings have been influenced by a number of factors. Firstly, it is possible that the ART intervention may not be effective in improving the social skills and problem behaviours expressed by adolescents when implemented within UK secondary school contexts.

Secondly, issues related to the implementation process may have impacted upon the lack of positive findings in the intervention group. For example, anecdotal evidence suggested that participants being late to sessions and having to fit in with the school timetable meant that activities were often cut short. Pupil absence may also have been a barrier, with some pupils attending as few as 53% of the sessions. Whilst the correlational analyses found that attendance at the sessions had little association with outcomes for the individuals themselves, it is possible that this hindered the activities which often had to be completed in groups. As one participant stated:

*'...that's why we need more people cos there's only a few of us so we can't contribute that much.'*

-'Participant E'.

Time scale issues also meant that an originally planned follow up measure was not possible. Previous research has found evidence of further gains 4 weeks from the post-measure (Langeveld, Gundersen & Svartdal, 2012). The timing of the intervention programme within the academic year also meant that the pre-measures were taken very close to the start of term. Anecdotally the contact personnel at the schools expressed concerns that the teachers had not had the opportunity to get to know the students and extreme problem behaviours had not had chance to manifest.

It is also important to note that this was an initial pilot with newly-trained facilitators. Whilst the high treatment fidelity ratings described in section 3.5.2.3 would suggest that poor adherence to the programme did not influence the results greatly, it may be that the common elements missed, for example homework tasks or practising the role plays multiple times, were essential for success. Previous research has reported that homework is significantly

positively related to the outcomes of therapy for anger management (Sukhodolsky, Kassinove & Gorman, 2004). Further implementation issues and the implications for the findings will be discussed in section 5.3.

Characteristics of the group members may also have influenced the findings. The control group contained participants from a wider range of ages and this may have contributed the results gathered. For example, the older students in the control group may have been more able to reflect upon their behaviour once they had been told they were to be part of an intervention, leading to improvements at post-test.

It has been suggested that CBT-based programmes require more advanced levels of cognitive development (Durlak, Fuhrman & Lampman, 1991) and the ability to think introspectively (Beck, 1991). The high levels of intervention group members who spoke English as an additional language and evidence from the facilitators in the questionnaire suggesting that the language and concepts used in the intervention programme were difficult for some of the participants to access, may also have contributed to the lack of positive outcomes. For example:

*'I would adapt the programme (particularly the posters) to meet the needs of the group and to ensure they can access and understand the content of it.'*

-Facilitator C'

The facilitator questionnaires also revealed that poor behaviour was sometimes a problem, leading to participant's exclusion from the group, which may have affected the group dynamics and hindered their ability to work successfully as a group:

*'[having a large group] led to us having to remove group members and created a negative dynamic as they came to perceive us as frequently 'kicking out' members who did not behave. They possibly felt under threat of this for at least some of the programme.'*

-Facilitator C'

Some of these areas will be discussed further in sections 5.2.3 and 5.3.

A further factor which may have contributed to the unexpected direction of findings is that the intervention group gained increased self-awareness of their behaviour over the course of the intervention, leading to more accurate responses in their post-test measures. In keeping with this hypothesis one participant commented:

*'At first um like I didn't like know like why I was, why I needed to do it and like um er I did like I was getting into trouble in school and in lessons and then um I think that's why I went like, to help me'*

-'Participant H'

The control group, having been alerted to the fact that they were to take part in an intervention to improve their social competence, may have devised self-help strategies or experienced increased feelings of containment as they knew they would soon be receiving help, which lowered the perceived problem behaviours.

In keeping with this explanation, the parents and teachers may also have become more sensitised to the behaviour of the target pupils in the intervention group following exposure to the pre-measure. This may have led to greater scrutiny and awareness of that child's behaviour over the following weeks, increasing their negative parental scores at post-test and lack of change in the teacher measures. Studies have determined that there is often low agreement between raters when reporting on social behaviours (Renk & Phares, 2004). For example, in keeping with the current findings, Quinn *et al.* (1999) found that those in the school context provided higher treatment ratings than parents.

Finally the measures may have had insufficient validity and reliability to ascertain any changes. One possibility is that the intervention group member's responded in a socially desirable manner, attempting to create a good first impression at pre-test and then offering more honest responses following the intervention, once they had had greater opportunities to reflect upon their behaviour as part of ART. Similarly, after being told that they were to be part of a group, the control group may have responded more favourably on subsequent



measures to avoid having to take part in such intervention. Issues relating to the measures will be discussed further in section 5.4.

### **5.2.2. Research Question 2**

#### ***Does ART, implemented in school settings in the UK, contribute to the development of adolescent participant's moral reasoning ability?***

In the present study, participants in the intervention group significantly increased their moral reasoning maturity scores from pre to post-test whilst control participants attending normal lessons did not. This change was found to be large in size ( $r=-0.64$ ), whereby significant differences in SRMS at pre-test between the intervention and control groups, in which the control group was superior, was no longer apparent at post-test.

Given the low chance of a Type I error and the large effect size, this finding suggests that those who participated in the ART intervention experienced positive changes in moral reasoning ability, providing support for the experimental hypothesis. However, a definitive statement regarding causation is not possible given competing explanations for these results in relation to methodological issues, which are discussed further in section 5.4.

It could also be suggested that, due to the intervention group having significantly lower SRMS scores compared to the control group at pre-test, there was a 'ceiling effect' in the control group, whilst the more immature intervention group had more to gain from the moral discussion experiences. This explanation is in keeping with the findings of Gibbs *et al* (1984), whereby participants who achieved more mature Stage 3 type moral reasoning at pre-test did not improve over the course of moral reasoning discussion intervention, whereas those categorised as the more immature Stage 2 reasoning at pre-test improved significantly.

### **5.2.3 Consideration of the Quantitative Findings in Relation to Previous Research**

Previous research into the impact of ART has been described in Sections 2.4 and 2.6. The findings of these studies will now be compared to those of the

current research with the main focus upon the similar research studies identified in the systematic literature review.

### **5.2.3.1 Social Skills and Problem Behaviour Outcomes**

The current study found very limited evidence regarding the impact of ART on improving social skills and problem behaviours which is in stark contrast to the statistically significant improvements reported by the majority of the previous research. Factors of the research which may have contributed to these differences will now be discussed.

Firstly it would appear that there has previously been no research into the effects of ART within a UK school context. Whilst a few studies have been conducted in countries other than those from which the programmes originated, for example Australia (Currie *et al*, 2009; Jones, 1991) and Russia (Koposov, Gundersen & Svartdal, 2014), it could be suggested that the content of the ART programme is culturally bound, making it less relevant to students outside of its country of origin. Participants in the study by Currie *et al* (2009) commented upon the language being specific to America, leading them to suggest that future implementations adapt the language to suit the participant's vernacular.

In all of the previous research the participants could be considered to have 'high level' needs, whether identified by a screening measure (Gundersen & Svartdal, 2006/2010; Jones, 1991; Langeveld, Gundersen & Svartdal, 2012) or attending youth custodial settings or institutions for pupil's with behavioural needs (Glick & Goldstein, 1987; Coleman, Pfeiffer & Oakland, 1992; Currie *et al*. 2009; Koposov, Gundersen & Svartdal, 2014). In comparison to these groups the current sample could be considered to have 'lower level' needs, which may have impacted upon the effects of the intervention, given that previous research has found that those with greater needs at pre-test benefit more from the intervention (Langeveld, Gundersen & Svartdal, 2012).

However, close inspection of the average standardised scores for the social skills and problem behaviour data do suggest that the intervention group were perceived to be outside of the 'average' range on five of the six standardised scores reported. This indicates that the measure found the young people were experiencing elevated levels of problem behaviours and lowered social skills

compared to an age related sample, which suggests that initial level of need did not contribute to the lack of significant results.

Further participant characteristics may also have contributed to the contrasting results. Firstly the current intervention group consisted of students with a mean age of 13 years. Whilst positive outcomes have been reported in older samples (Currie *et al* 2009), studies which investigated the moderating effect of age on intervention outcomes found that younger participants (Koposov, Gundersen & Svartdal, 2014), including those of primary school age (Langeveld, Gundersen & Svartdal, 2012), experienced the greatest benefits from participation in ART. This could be due to the contents of ART being more applicable to younger students or perhaps behaviour difficulties being less 'severe' and more malleable in the younger years. As Goldstein stated '...catch it low to prevent it high...' (Goldstein, 1999, p.2). These findings provide additional support for the drive for early intervention for social, emotional and mental health difficulties within school settings (DCSF, 2008; DfEE, 1997; DfES, 2003; Gable, Bullock & Harader, 1995).

It could be suggested that the current sample were a little old for the programme, with one facilitator reporting that participants called the contents '...babyish'. Support for this notion is found in the trends from the average data, whereby participants were divided into groups based on age. The younger group aged 8-12 years in the current study were found to increase their median composite social skills score from pre to post-test whereas the older participants experienced a decrease in scores. However, it is important to note that this trend was not statistically significant.

The current sample also had very few female participants. Following attrition only one female remained in each condition. Whilst significant improvements have been reported in all-male samples previously (Currie *et al* 2009; Glick & Goldstein, 1987) research does suggest that gender effects are present in ART outcomes (Langeveld, Gundersen & Svartdal, 2012). It should be noted that these results were confounded by a floor effect, highlighting the need for further investigation into the efficacy of ART with different genders.

Regarding the implementation of the intervention, diffusion of treatment effects was a prevalent issue in previous research (Gundersen & Svartdal, 2006/2010; Jones, 1991; Kuposov, Gundersen & Svartdal 2014). As each of the five groups who completed the current study attended different provisions, they were unlikely to have come into contact with one another, eliminating the possibility of treatment diffusion effects. Whilst this has negative implications for the internal validity of the conclusions drawn (discussed further in section 5.4) it may also be the case that changes within the peer groups outside of the ART sessions in previous research supported them in maintaining the improvements that they were making within the groups, something which the current cohort were lacking.

The current implementation could almost be considered to be represent a 'within child' model of intervention, whereby support is offered to the young people considered to be aggressive, as opposed to a more holistic package, with considerable focus also being given to improving the functioning of the systems surrounding the young person (Bronfenbrenner, 1979). A lack of change in contextual support, including both peer and parental behaviour (Sofronoff, Attwood & Hinton, 2005; Southam-Gerow & Kendall, 2000), make it difficult for the young person to maintain positive behaviour changes. It may be beneficial to intentionally include such social support within the intervention package. For example Soloman and Wahler (1973) found that whilst peers can reinforce the deviant behaviours displayed by others, they can also modify these behaviours in a socially desirable direction when provided with adult guidance.

In previous applications of ART the facilitators were predominantly members of staff from the schools who had been trained in the programme. This research represents the second recorded attempt to utilise facilitators who were external to the setting in which the intervention took place. Pre-existing relationships with the young people and prior knowledge of the supporting systems and structures within the schools may have improved the implementation of the intervention and, in turn, the outcomes for the young people. Organisational structures and support will be discussed further in section 5.3.2.

In regard to the studies identified in the systematic literature review (section 2.6) it was highlighted that a considerable number of the significant positive outcomes had been gathered using measures which had not been validated, were created by the programme developers and were closely aligned with the programme. Studies which were considered to be of high quality only found changes on the custom measures devised by Goldstein *et al* (1987), despite employing additional validated measures. These measures have been described as ‘...subjective and ... inaccurate...’ (Jones, 1991, p.97). Overall only two of the five studies reported significant improvements for the treatment groups which stemmed from independent, valid measures (Currie *et al.* 2009; Gundersen & Svartdal, 2006). When these findings are considered in light of the results of the current research it could be suggested that, whilst ART does have a significant impact in changing the specific skills practised as part of the intervention, the intervention does not support the young people in generalising and developing this knowledge to support them in the execution of wider forms of social behaviour in the short term.

Only one of the studies in the systematic literature review gathered data from three sources (Gundersen & Svartdal, 2006). In contrast to the current research, this previous study found significant increases in social skills and decreases in problem behaviours on parental and teacher-report measures. It could be suggested that the current group members failed to generalise the skills learnt within the sessions to the wider social environments. The intervention handbook (Gundersen, Finne & Olsen, 2006) provides guidance to support the transfer of skills outside of the sessions. This includes the use of homework, which was found to be employed inconsistently in the current study and enlisting the support of those around the child, including teachers and parents. The facilitator questionnaires suggested that this support was not always available (please refer to section 5.3.2 for further discussion regarding organisational support). Researchers suggest that training the skills in multiple settings and including additional trainers, such as peers and parents, also positively influence the use of behaviours outside of the training setting (Cartledge & Milburn, 1995; Frederickson & Simms, 1990).

### **5.2.3.2 Moral Reasoning Outcomes**

Five of the previous studies included a measure of moral reasoning, or a measure of the cognitive distortions associated with immature moral reasoning, providing mixed results. Whilst Jones (1991) reported small, statistically insignificant improvements, another report found that both the intervention and control groups improved (Gundersen & Svartdal, 2006). Three studies reported no significant changes in moral reasoning. Again this is in stark contrast to the current research which found that ART participants increased their moral reasoning ability significantly, with a large effect size, whilst control participants did not.

Several methodological differences between the studies may have contributed to these contrasting findings. Three of the studies (Colman, Pfeiffer & Oakland, 1992; Currie *et al* 2009 and Glick & Goldstein, 1987) used samples which were considerably older than those current research and as moral reasoning appears to relate to age and ability (Gibbs, 2010; Guerra & Bradshaw, 2008), it could be suggested that these samples experienced a 'ceiling effect' in relation to their moral reasoning development. It could also be suggested that, as only one of the studies included young people with differing levels of needs in the group and this study found significant improvements in moral reasoning (Gundersen & Svartdal, 2006) the number of 'morally mature' individuals required to support and challenge the group with more principled reasoning was not sufficient, leading to a lack of assimilation of more mature moral judgements (Dukerich *et al* 1990; Gibbs, 2004).

The current findings are consistent with evaluations of similar discrete interventions incorporating moral reasoning discussion groups (Arbuthnot & Gordon, 1986; Dukerich *et al.* 1990; Gibbs *et al* 1984). Which together appear to suggest that providing enriched opportunities of social-perspective taking through moral discussion groups is effective in increasing young people's moral reasoning maturity.

In keeping with the theory proposed by Gibbs (Gibbs, Basinger & Fuller, 1992; Glick & Gibbs, 2011) and research adopting samples of adolescent offenders (Gregg, Gibbs & Basinger, 1994; Palmer & Hollin, 1998; Stams *et al.* 2006) the

sample of adolescents identified for intervention in the current study had immature moral reasoning ability at pre-test, receiving on average Stage 2 ratings for their responses to moral situations.

However, in contrast to the model proposed by Gibbs (2004) and previous research findings (Eisenberg *et al* 1991), there was no evidence of a relationship between increased moral reasoning ability and greater pro-social behaviour. Previous research suggests that translation of cognitive changes into improvements in behaviour occurs over time, described as a 'sleeper effect' (Leeman, Gibbs & Fuller, 1993. p.290). Arbutnot and Gordon (1986) found that at 1 year follow up the improved sociomoral development of their intervention participants had continued to increase and positive behaviour changes were also persisting and diverging further from the control group. Similarly Leeman, Gibbs and Fuller (1993) found no immediate effects in relation to gains in moral reasoning ability from their intervention programme. However, after 1 year the intervention group's gains in moral judgement correlated negatively and significantly with rates of recidivism, suggesting a long term effect. These results highlight the importance of including follow up measures in evaluation research into the ART programme and other interventions aiming to instigate behaviour improvements through cognitive change.

### **5.3 Reflections on Supplementary Qualitative Findings**

Previous research into the efficacy of ART has predominantly adopted an experimental approach, focusing on gathering quantitative evidence of outcomes. In order to gather some qualitative feedback, which would illuminate the quantitative findings and provide the stakeholders, particularly the EPS, with detail to inform future implementations of the intervention in school settings, the researcher explored the participant's and facilitator's perceptions regarding the ART sessions, led by the following question:

***What are the views of those involved in the initial pilot of the ART intervention sessions, in relation to programme implementation, contents and effectiveness?***

The following sections will now summarise the themes developed from the data gathered and consider these themes in relation to previous research and theory and the possible implications for future practice.

### **5.3.1 Summary of Themes Constructed**

All respondents felt that the ART intervention had been effective in supporting the group members. Positive outcomes for the participants, which were attributed to participation in the programme included changes in social behaviour which were not captured by the quantitative measures employed in this study.

A range of positive outcomes were identified, from evidence of the explicit taught skills being put into practice, changes in internal state and knowledge, increased socially desirable observable behaviours and reports of positive responses of others, as well as additional personal benefits for the individuals such as feeling more mature and having a more positive view of their future.

With regard to the participant's perceptions of the ART programme, several salient themes and subthemes were evident in both the group member and facilitator feedback. In regard to the content of the intervention, the effectiveness of the games and role plays and the relevance and enjoyment of the moral reasoning sessions were present in both types of data, suggesting that the success of these components was noticed by both those conducting the intervention and those participating. However, in relation to the implementation of the programme, issues were highlighted at the organisational level including difficulties with scheduling and several individuals indicated that careful consideration of optimal group composition was of great importance. These two areas will be discussed further in section 5.3.2.

Furthermore, in terms of the group member's perceptions of the contents of the sessions, themes arose which suggested that whilst the anger control sessions were considered the least successful of the three intervention components, the young people appreciated the strategies and teaching which were applicable to the real world and half indicated that overall the sessions were enjoyable experiences.



Other themes identified in the facilitator questionnaires suggested that whilst the language used in the programme and their associated concepts were sometimes too difficult for the participants to access, employing additional strategies employed to tailor the sessions and motivate students, as well as nurturing a positive environment, were all factors which were associated with successful implementation of the programme and positive outcomes. A further salient theme in the facilitator questionnaires encouraged the adoption of an informed selection process, with specific characteristics highlighted as being important for successful participation including motivation to change and their difficulties being specifically related to aggression, as opposed to non-compliance. The facilitators were also concerned that the participants should have been provided the opportunity to volunteer for the intervention to increase ‘...buy in...’

### **5.3.2 Linking the Themes Constructed to Theory and Previous Research**

Only two of the studies previously highlighted in Chapter 2 report qualitative findings in relation to the impact of ART. Currie *et al* (2009) provided an illustrative case study as part of their wider research into the implementation of ART within Australian youth justice custodial settings. Facilitators were initially concerned that Subject C was unable to follow the programme material. However, later evidence suggested that he was able to apply the anger control skills learnt during an inflammatory situation with a peer and staff at the centre reported further observations of changes in his behaviour, including increased avoidance of confrontations. These findings reflect the comments in the current study which pertain to the subthemes ‘positive change noticed by others outside of the sessions’, ‘lowered aggressive behaviour’ and ‘acquisition of explicitly taught anger management techniques’. These similar findings might suggest that these positive outcomes are common effects associated with the ART programme, given the different settings and contrasting participants.

Interviews with six teachers, each trained as ART facilitators, also revealed several interesting themes which closely align with those in the current research (Sudbeck, 2010). Firstly all felt the intervention was useful in providing the students with skills for everyday life, just as all of the facilitators felt that the

current implementation of ART had been effective for some of the individuals in their groups. The majority of Sudbeck's participants also identified the moral reasoning component as being the most useful, in keeping with the views of both the group members and facilitators in this study. Finally four out of the six reported deviating from the programme to improve the applicability of the contents to the student's lives, just as the present facilitators described differentiating the content to make it 'relevant' to the young people in their group.

There was one theme which suggests that each group had differing experiences of implementing the programme. Whilst all of Sudbeck's facilitators reported feeling supported by the staff and administration at their facility, comments made by the EP facilitators suggested that organisational factors such as a lack of recognition at a whole school level and external support were a barrier to successful implementation and behaviour change. This highlights a difficulty which is associated with external facilitators implementing programmes in an unfamiliar setting. The implications of this will be discussed further below.

Several of the themes constructed in the current research align closely with the organisational level factors identified as important in ensuring high quality intervention implementation by researchers associated with the implementation psychology movement (Denton, Vaughan & Fletcher, 2003; Domitrovich *et al* 2008; Fixsen *et al* 2005). Both the facilitators and participants also highlighted elements of group composition which they felt contributed to the success of the intervention. The issue of non voluntary participation was also frequently referred to among the facilitator questionnaires. Subthemes from these three more salient areas of data will now be explored in more detail.

### ***5.3.2.1 Organisational Structures and Support***

#### **Need for recognition of the programme at a whole school level**

One facilitator noted that a celebration should be included at the end of the programme to recognise the pupil's achievements, which should be given importance at the whole school level. Another felt that future implementations should ensure that senior management show a commitment to the project. Gundersen, Finne and Olsen (2006) believe that administration have a key role

to play in the implementation of ART, acting as both a 'driving force' and 'organiser' of the programme and ART principles can 'permeate the organisation's activities' (p.56).

Administration communicate that interventions are a priority, making their attendance during the planning and implementing phases highly important. This may have alleviated the practical difficulties encountered (Domitrovich, Moore & Greenberg, 2012), for example, regarding the use of pre-existing school merit systems, which Facilitator B believed had impacted upon the student's motivation and interest in ART. Administration would also have control over the scheduling of sessions, to ensure that competing activities would not influence the participant's motivation (Gundersen, Finne & Olsen, 2006) and finally the room used for the intervention, which some students resented attending, due to negative perceptions about the room's purpose i.e. '*I feel like a retard coming here*'.

Research has highlighted that administrative support within an organisation is a significant factor in the successful implementation of new practices (Durlak & Dupre, 2008; Kam, Greenberg & Walls, 2003; Klinger *at al* 2003; Tierney & Dowd, 2000), including those who studied ART (Jones, 1991). Coleman, Pfeiffer & Oakland (1992) suggested that total staff support is a prerequisite for all social skills training, after their facilitators perceived the intervention as an 'add on' to the primary treatments offered, Whilst Jones (1991) noted that participants had little encouragement to practise their skills as the teachers were unaware of the programme.

#### Engagement of support outside of the sessions was required

This theme contained suggestions such as the incorporation of parent sessions and the engagement of school staff to support the generalisation of skills outside of the intervention context. Gundersen, Finne and Olsen (2006) state that instructions about ART should be provided to the entire staff through information days and parents should receive information regarding the current skills being practised so that skills are reinforced outside of the sessions. Scheduling issues meant that in the current implementation such communication did not occur.

Researchers suggest that key stakeholders are involved early on, during the planning stages, in order to increase acceptance, which is found to relate to programme implementation (Domitrovich, Moore & Greenberg, 2012). Parent engagement can help overcome barriers to successful intervention including attendance at the sessions, changing their own behaviour and reinforcing their child's positive behaviours (Kazdin, 1987; Telford & Farrington, 1996). Studies have also found that active parental involvement can increase the beneficial effects of CBT interventions (Sofronoff, Attwood & Hinton, 2005).

### **5.3.2.2 Group Composition**

#### Optimal Group Size

Group interventions with adolescents are often most effective when group sizes remain small, with numbers lower than 8 children recommended (Coppock & Dwivedi, 1993; Gresham & Elliott, 1993). In all of the previous research in ART the group sizes adhered to the recommended guidelines of 4-8 individuals (Gundersen *et al.* 2014). Group members from this study had contrasting views about the size of the group. Participant F felt that bigger groups led to problem behaviours and difficulty accessing the intervention, a common issue in large groups due to the variety of personalities and disinhibition (Argyle, 1994),. Another (Participant E) felt that non-attendance led to a small group, which hindered the interactive activities.

In the current study School A chose to place 12 students in the group. The facilitator questionnaire revealed that this group developed challenging behaviours and experienced multiple exclusions, changing the group composition week by week. Facilitator C was concerned that this meant the remaining members '*...possibly felt under threat of this for at least some of the programme.*' Certainly this concern reflects theory surrounding group therapy. From acceptance and belonging, group cohesion develops, where the group represents a '*...psychological whole.*' (Reid, 1987, p.176). Providing a safe climate within the group is important. It provides relationship building opportunities with peers and adults and consistency which may not be present in their lives outside of the group (Malekoff, 2004). It is possible that threats to

this solidarity, safety and identity such as removing group members, could impact upon this cohesion and in turn their effectiveness as a team.

#### Heterogeneity of need within the group is important

Facilitators suggested that there was a need for '*...an equal balance of role models with those who have immature anger control skills...*', (Facilitator D) '*not just the 8 'worst' pupils in the school*' (Facilitator F). In keeping with a model applied in previous research (Gundersen & Svardal, 2006/2010) and advocated in the handbook (Gundersen, Finne & Olsen, 2006), both role models and target pupils were identified during the selection process. To maintain ethical practice the role models were also those with 'low level' needs who would benefit from participation in the intervention.

However, due to unforeseen circumstances, an intended screening measure was not employed and therefore professional judgements from staff at the school were used for identification of these roles, with the support of the researcher where possible. Descriptions provided by these staff members (Please see Appendix XXIII) suggested that actually the target pupils and role models selected had similar difficulties. For example, both contained individuals described as 'disruptive' 'rude' and 'verbally abusive' as well as references to physical fighting or aggression. They could therefore be considered a homogenous group, such as those employed in Dishion's research (Dishion & Andrews, 1995; Dishion, McCord & Poulin, 1999). The iatrogenic effects noted in these studies could therefore be the reason that the facilitators commented that there was a need for 'balance' of difficulties and be behind the lack of significant improvements in social behaviour for the intervention group. In future the application of more stringent selection procedures would support the identification of 'suitable' role models.

#### Role models need high status

In keeping with the subtheme above, the facilitators commented that choosing older and higher status role models would be beneficial. Hierarchies within groups are often influenced by the age and social status of the potential leaders (Argyle, 1994). Social learning literature is clear that observational learning

depends upon interpersonal attraction and the existence of interesting qualities, which enable some models to ‘...command greater attention than others’ (Bandura, 1977. p.6-7), which leads to increased emulation and imitation by those present, setting the dominant trends in the social circle (Adler & Adler, 1998 cited in Lease, Musgrove and Axelrod, 2002). This power may stem from an ability to control rewards and punishment, the individual’s perceived competence or their likability among other things (Johnson & Johnson, 2009). According to research age is also an important consideration, as older mentors have been found to be successful in supporting younger children in improving their interpersonal skills and avoiding anti-social behaviour (Dearden, 1998; Gensemer, 2000; Sheehan *et al.* 1999). These observations, along with the previous section, highlight the importance of careful selection of role models, as those who are younger and less central in relation to their social centrality, may not command the power required to influence the group positively. It is equally important to considered composition at the ‘whole-group’ level. If the highest status individuals are those who display challenging behaviour then it could be suggested that the group may adopt these behaviours instead of those displayed by the role models.

In future practice these ideas contribute significantly to the planning and preparation stages of implementation. Not only in terms of a careful selection process but Gensemer (2000), along with Facilitator F in the current study, also highlighted the need to train the mentors in interpersonal skills and involve them in preparation activities to ensure successful, informed support. Therefore in future implementations it would be useful for those leading the programme to meet with the role models prior to the sessions to enable them to understand their role.

### ***5.3.2.3 Non Voluntary Participation***

The issue of ‘non-voluntary attendance’ appeared several times throughout the questionnaire data. Facilitators felt that participants should ‘*choose*’ (Facilitator F) or commented about ensuring ‘*buy in*’ in future whilst stating that they would not force participation (Facilitator A). It could be suggested that some of the group members, who were all selected onto the programme by a member of

school staff, did not feel they required support or were not ready to change the behaviours focused upon in the intervention sessions. This would not only have contributed to the high rates of attrition and non-significant findings but was also hypothesised to be one of the causes of challenging behaviour faced by some of the facilitators during the sessions. According to the stages of change model devised by Prochaska, Norcross and DiClemente (1994) changes in behaviour only start to occur when someone moves past precontemplation, in which they deny a problem exists and resist change, and into contemplation and preparation, whereby the problem is acknowledged and the individual begins to make plans to take action towards solving it.

Whilst an entirely voluntary selection process may seem to contradict the concerns of several other facilitators that participants must possess several specific characteristics, future implementations may benefit from a introductory meeting for the prospective group members, whereby the intervention is advertised and attendance voluntary, followed by a more detailed selection process based on 'suitability' for the programme. Alternatively some preparatory work with 'target individuals' to help them to move from a state of precontemplation to recognising the need to change their behaviours may also improve their motivation to engage with the ART programme.

### **5.3.3 Summary**

The quantitative results in the current study began to raise ethical concerns, regarding the possibility that the programme had exaggerated some of the intervention participant's problem behaviours and social skills deficits in accordance with parental report data. However, the comments received in the qualitative data suggest otherwise, both facilitators and group members consistently reported positive outcomes that they attributed to participation in ART.

Themes were identified that could be easily incorporated into future practice in relation to the programme's contents and implementation, for example creating a more detailed participant specification, adopting careful selection procedures to ensure effective group composition, enlisting external support from parents or

teachers and preparing the implementation with those in administration to ensure that organisational level barriers are dealt with in advance.

In light of the relationships noted between organisational support and implementation success future investigations, possibly utilising an action research approach, would be most beneficial to gain a greater insight into the different elements of organisational support and the processes and structures which help or hinder the administration and external personnel contributing to the success of evidence-based programmes in school settings.

Whilst the results here suggest that small, heterogenous groups with high status role models is the most effective composition for ART groups, further research may wish to focus upon different characteristics of role models and the factors mediating their influence over the 'target' individuals within ART, so that suitable individuals are identified to support the programme.

#### **5.4 Methodological Limitations**

The differences noted between the outcomes reported in previous research and the current findings may be due to procedural difficulties which will now be discussed in detail. Conclusions drawn should be viewed tentatively in light of these issues.

##### **5.4.1 Issues of Internal Validity**

Table 3.9 displayed several threats to internal validity. This section will focus upon the threats which were considered to be particularly problematic in the current research.

Firstly it would appear that there were differences between young people chosen to be part of the groups in each setting. One noticeable issue is that the pupils in the control group settings stemmed from a wider range of ages than those in the intervention group. One school (School F) differed from the other 5 settings considerably, having lower levels of pupils with English as an Additional Language and Free School meals as well as an older sample. Six scales on the measures employed also revealed significant differences between the control and intervention groups at pre-test, which suggests that initially the control group had lower level needs than those in the intervention groups. This



is supported by the average standardised scores for each group which suggest that the intervention group displayed behaviours which were outside of the 'average' range on five of the six standardised measures, whilst the control group only received diminished social skills scores from self-report data and above average problem behaviours when rated by teachers.

These factors may have contributed to the spontaneous improvements in externalising and bullying behaviours noted between the pre and post-measures in the control group. As previously suggested, being older and more socially skilled may have meant that the pupils in the control group were able to reflect upon their behaviour and make changes independently. The wait list control group may also have felt the need to adopt compensatory strategies, once alerted to their future involvement in the intervention and following their participation in the pre-measures. Their heightened age and social competence may have supported them in doing so.

Employing randomisation procedures and a matched pairs design, with screening measures of the pupil's social competence skills and behaviour difficulties, would have eliminated these issues. However, both would require the control and intervention conditions to be within the same setting, which could lead to the treatment diffusion issues observed in previous research, making it difficult to discriminate the impact of participation in the intervention. It would also be difficult to match participants on their profiles of social skills strengths and difficulties. Complexities such as these have lead researchers to claim that RCTs are unfeasible within school contexts (Cohen, Manion & Morrison, 2008; Greig, 2001)

'History' was a considerable threat in the current research, due to the use of six separate settings, in which different members of staff rated the students and different facilitators ran the groups. Whilst actions were taken to maintain consistency across environments, such as standardised measures, instructions and treatment fidelity checks, issues may still have remained which make it difficult to attribute the outcomes measured solely to the effects of the intervention.

Differences were noted within each individual environment, such as the level of support provided for the intervention in the wider school context and levels of support for the facilitators within the group sessions. The teacher-raters may have differed in their mood, the amount and type of contact with the pupil and previous relationship with the pupil they were rating. Finally, the facilitators employed different forms of reinforcement and modes of delivery, for example School B included additional role models 3 weeks into the programme and School C used a gift card reward system. They may also have had different presenting styles and opportunities to build relationships with the young people. All of these factors could have influenced the results gathered. Again utilising the same settings for the control and intervention groups, as well as the same raters and facilitators, would have provided additional levels of control but this was not feasible in the current research.

It may be that the anger management and social competence strategies taught as part of ART required more time to produce positive outcomes. The previous studies that have included follow up measures found that the positive outcomes were long lasting (Glick & Goldstein, 1987) and the improvements in problem behaviours displayed were even more apparent during the post-test period than they had been over the course of the intervention (Langeveld, Gundersen & Svartdal, 2012). Doctoral timescales meant that the intended Time 3 measure was not possible. However, the lack of research into the long term effects of ART suggest that longitudinal research is needed.

There were large rates of attrition in the research, despite collaboration with schools prior to the intervention to prevent such issues. At post-test 56% of the original sample remained, 83% of the original control group and only 35% of the intervention group. School B withdrew from the project entirely after 4 weeks as they felt that the students were not engaging with the programme. Analyses suggested that there were no differences noted on the measures between those who left and those who remained (described in section 4.1.2). However, the attrition may have lead to a biased sample, for example the intervention participants who remained may have been coerced by the school to stay, which could have had an effect on their motivation to engage with the programme. The attrition also meant that the sample that remained was much smaller than

at pre-test, which lowered the statistical power, increasing the chance of a Type II error and limiting conclusions.

#### **5.4.2 Issues of External Validity**

The use of a small, homogenous sample, which did not use screening measures for identification nor randomisation to conditions, suggests that attempts to apply the conclusions drawn to the wider population would be invalid. Instead the intention was to be ‘...interested in a specific finding in its own right...’ (Robson, 2011, p.91) and provide an indication of the impact of the initial pilot of the intervention within one local authority setting, alongside additional qualitative data to guide future practice. It is also hoped that the findings will also contribute to the existing evidence base and stimulate further research, as this is the first investigation into the effects of ART with a school based population within the United Kingdom.

#### **5.4.3 Issues of Reliability**

Some features of the measures adopted in the current study may have led to issues concerning the reliability of the findings gathered. Firstly the SSIS-RS was standardised using a sample of American children. This suggests that the standardised scores referred to in this research should be viewed with caution, as the current sample were from the UK.

Secondly, there were some difficulties experienced during the study regarding the accessibility of the measures. Whilst parents were offered support from the settings to complete the measures together, some did not attend, leading to attrition in the parental data. Several pupils also found the SRM-SF difficult to access, despite one to one support, which may have led to the high number of ‘unscorable’ responses, and in turn, the small sample of data regarding pupil’s moral reasoning maturity.

The SRM-SF also attained poor inter-rater reliability scores in the current study, in relation to agreement between raters of the exact global stage given to each questionnaire, which may suggest that the significant improvements noted, are due to inconsistent scoring. However, it is important to note that the second rater did not undertake the prescribed self-training that the SRM-SF handbook

provides. This may have influenced their ability to rate the questionnaires accurately.

A number of these issues could have been overcome by employing simpler, shorter measures of behaviour and a recognition measure of moral reasoning as opposed to a production measure. However, the current measures were chosen because of their use in previous research into ART, making the results comparable, and the increased detail that they gathered about the concepts that they measured.

Finally self-report measures are often criticised for being vulnerable to demand characteristics. In the current research it could be suggested that the group members responded in a socially desirable manner, not wanting to be honest about the extent of their behaviour difficulties or they may not have the ‘...self-reflective thought...’ needed to answer accurately (Feindler & Baker, 2004, p.36). This would explain why the positive improvements recorded for the control group were only present in their self-report data. Actions were taken to compensate, for example parents and teachers also completed comparable measures, avoiding reliance on one data source for a more complete picture (Renk & Phares, 2004) and providing information about generalisation of behaviours noted across several contexts. Future research may consider triangulation with measures such as direct observation in naturalistic contexts, which are considered to be more sensitive to short term changes. However, they too are not without criticism as they lack theoretical grounding (Gresham *et al.* 2004).

#### **5.4.4 Reflections on the Challenges Encountered in Real World Research**

It is widely acknowledged that conducting research in real world settings, particularly the field of education, is complex. Researchers have identified many challenges which can hinder the research process and in turn the validity of the conclusions drawn (Mertens, 2010; Robson, 2011) such as differing agendas, sampling bias and poor communication. The current research experienced several instances of such difficulties. For example, teaching staff were often reluctant for the students to miss lessons to attend the ART sessions and pre-existing school systems sometimes made communication with parents difficult.

Whilst the researcher maintains that the quasi-experimental group design employed currently was the most appropriate given the purpose of the research and the questions posed (Cohen, Manion & Morrison, 2008; Slavin, 2002), the challenges encountered and their effects on the 'robustness' of the conclusions drawn highlight the value of more descriptive designs, such as single-case experiments (Mertens, 2010) and those which incorporate an element of collaboration between the researcher and professional practitioners, such as action research (Gray, 2014).

## **5.5 Implications of the Findings**

The methodology used in this study has provided an exploration into the implementation and impact of ART within real world settings. Although it is not possible to generalise to other settings due to the small sample and methodological limitations outlined previously, it is possible to suggest areas which would benefit from further investigation and factors identified in the current study which may be applicable to successful implementation in other contexts.

### **5.5.1 Implications for Future Research**

Further replications of the current study are required in order to broaden the evidence base regarding the efficacy of ART with adolescent samples within UK contexts. It would be beneficial to gain an insight into factors which mediate the effects of the intervention in UK school environments, including the gender, age and cognitive ability of the participants; the possible differential effects of utilising facilitators internal and external to the environment and the characteristics of the role models which influenced their power over the group. Such research would provide an opportunity to explore previously mentioned hypotheses regarding the cultural connectedness of the intervention and in turn, modifications could be made to make ART more culturally relevant.

The trends noted in the parent report data warrant further investigation, given the paucity of ART research that has previously included parental measures, in order to see whether ART interventions can influence parental perceptions of their child's problem behaviours in the home environment. It may be that such

studies focus upon the mechanisms that support the generalisation of skills outside of the school context.

In regard to methodology, there were several issues within the current design which could inform future research. Firstly longitudinal measures are highly important, particularly in light of the hypothesis that changes in moral reasoning maturity precede associated behaviour modifications. Employing a comparison group would improve internal validity as, in the current study, effects noted could be due to the raised attention and other factors associated with taking part in intervention sessions which the control group did not have.

Larger samples, from the same settings, identified using valid screening measures and randomised and matched into the different conditions would also allow the researcher to draw more robust conclusions and generalise to wider populations. However, it would be advisable to ensure measures are taken to avoid secondary diffusion, or such effects could complicate the researcher's ability to partial out the effects of the intervention.

Action research is flexible in nature and focuses upon 'addressing real world problems' (Gray, 2014. Pp.328) and improving conditions (Robson, 2011), making it well suited to research conducted within complex, dynamic educational environments. This design would be highly appropriate as it would enable the researcher to capture detail at the planning and preparation stage as well as richer information regarding factors thought to impact upon effective implementation such as collaboration with those within the organisational settings and enlisting external sources of assistance such as parents, teachers and peers. This is due to action research providing opportunities to capture different forms of data, as they evolve at different points during the implementation process, whilst maintaining an evaluative element from which changes could be feedback to improve the implementation. The collaborative nature of action research may also be beneficial, as attempting to impose certain conditions as an external researcher can be challenging, for example in the current project it became difficult to ensure similarity in the rewards, involvement of staff in the sessions and participant's choice to attend between the different settings. The vast discrepancy between what was considered

appropriate by the staff at the different schools illustrated the importance tailoring the intervention and implementation to the environment, the pre-existing systems and the individuals within it. Collaborating with the settings about these decisions may have been a better method of ensuring some consistency and may ultimately have impacted upon the outcomes observed.

Further qualitative research would also be beneficial, as this is the first study to consider group member's perceptions of the programme. Feedback can support the modification of ART to improve the implementation and outcomes. Possible further sources of information include parents and teachers, who can contribute to discussions surrounding generalisation of skills.

### **5.5.2 Implications for Practice**

This research has highlighted some factors which the EPS and other ART practitioners may wish to consider when implementing ART within school settings.

Firstly the qualitative data allowed for many suggestions of improvements, which the current participants attributed to the success of the intervention, that could easily be incorporated into future implementations of ART including participant characteristics which could be adopted as selection criteria, particularly when selecting role models who require status within the group in order to assert the positive influence desired, adaption of the contents to make it more accessible and relevant and the importance of nurturing a positive environment.

The qualitative data also highlighted the significance of the preparation stage in ensuring successful implementation. Several different elements were identified including communication and collaboration with different levels within the organisation to ensure that practical needs and support systems were in place and recruiting sources of external support such as teachers, parents and peers. EPs are also well placed to contribute to the selection process, conducting valid and reliable measures that will support the identification of group members with 'suitable' characteristics and ensuring optimal group composition (Rait, Monsen & Squires, 2010).

Several practical implications arise from the data regarding moral reasoning development. Firstly, whilst many programmes aimed at promoting social skills focus on changing observable behaviours, these results highlight the importance of including elements within the intervention package which nurture cognitive skills associated with positive behaviour change such as moral reasoning. As these have been found to not only be responsive to intervention, but have previously been associated with greater prosocial behaviour (Eisenberg *et al.* 1991) and may in fact be a prerequisite for more permanent behaviour change in the case of the ' sleeper effect ' hypothesis (Leeman, Gibbs & Fuller, 1993). This also highlights the importance of monitoring the impact of interventions conducted in schools over prolonged periods of time, as more noticeable changes may occur weeks or months after the programme has concluded. This study also utilised measures of both cognitive concepts and observable behaviours, something which could be incorporated into educational psychology practice and would provide richer evidence in relation to programme effectiveness.

In relation to evidence-based practice the non-significant results observed in the 'problem behaviour' and 'social skills' variables highlight that potential practical and ethical issues can arise when implementing an intervention package, despite having high treatment integrity. Careful consideration is required in relation to the mechanisms through which changes are expected to occur, the suitability of the context in which it is to be implemented and the measures utilised or type of evidence which will be gathered. It could be suggested that the positive responses identified during the qualitative data analysis highlight the importance of different forms of data collection in applied contexts, which could be applied to both evidence based practice endeavours and the wider evaluation of Educational Psychologist's case work.

In keeping with this theme the current study adopted a multi-informant process, utilising several dependent variables, to ensure a more comprehensive evaluation. Alongside this pupil's and facilitator's views were gathered to improve and refine future experiences of the programme. These principles could also be employed in wider educational psychology practice, when attempting to evidence the impact of many forms of EP involvement.



Finally, the deterioration of reported outcomes in the parental data suggests that support for the families of young people with social and behavioural difficulties is vitally important. Given the research evidence regarding the increased positive outcomes when parents are involved in the programme (Sofronoff, Attwood & Hinton, 2005), this is an area in which could have a considerable impact in relation to intervention success.

## **5.6 Conclusions**

### **5.6.1 Unique Contribution of the Current Research**

The primary unique contribution of the current research to the existing evidence base was investigating the impact of ART sessions when conducted within mainstream secondary school settings within the UK. The research design employed provided opportunities to consider quantifiable changes in behaviour and cognition, whilst also gaining an understanding of the perspectives of those involved in this initial pilot, in relation to factors influencing the success of the programme. These findings can potentially be used in future applications of ART and guide further research.

The literature reviewed in section 2.6 also indicated that much of the existing research with adolescent samples had been conducted outside of school settings, using measures closely aligned with the programme contents, with only one or two sources of reporting and facilitators who were internal to the setting.

This study explored the success of ART when implemented in a more 'preventative' manner. The sample of young people perceived as displaying social skills and behaviour difficulties attended mainstream settings. Newly trained professionals from the EPS, external to the school setting, facilitated the sessions. According to Squires (2001) EPs have a vital role to play in working preventatively, supporting the planning and implementation of social inclusion interventions in UK schools (Denham *et al.* 2006). In order to gain further information regarding the generalisability of the skills gained, the measures employed were chosen because they represented the wider concepts which ART aims to instil and three sources of evidence (parents, teachers and self-

report) supported the investigation of the application of these new skills across environments.

### **5.6.2 Summary of Findings**

This research presents the first quasi-experimental investigation into the impact of ART, conducted within UK secondary school settings by recently trained facilitators from the local EPS.

The lack of quantitative evidence of improvements in social skills and problem behaviours for the intervention group has led to the conclusion that, on this occasion, ART was unsuccessful in supporting the development of social skills and alleviation of problem behaviours in the short term. The researcher provides several possible explanations for this lack of positive outcomes, including the programme contents being culturally bound, the measures representing more generalised, wider concepts than those typically used in ART research and a lack of generalisation of skills to the wider environment. The influence of methodological limitations including threats to internal validity and reliability and problems that arose during the implementation of the programme such as poor attendance and high attrition were also considered.

However, the intervention group did ascertain a large positive change in their moral reasoning maturity from pre to post-measure, whilst the control group, who attended normal lessons, did not change significantly. This change was explained in terms of a possible 'sleeper effect' (Leeman, Gibbs & Fuller, 1993, p.290) whereby changes in cognition precede associated positive changes in behaviour. In order to confirm this hypothesis, longitudinal research is required, to investigate whether changes in observable behaviour do indeed develop at a later stage.

The qualitative data offered a contrasting perspective, whereby all of those involved in this initial pilot of ART felt that the intervention had been effective, attributing a range of positive outcomes such as group member's knowledge of anger control strategies and social skills to their involvement in the programme.

The qualitative data also gave rise to several suggestions regarding the contents and implementation of the sessions considered to contribute to the

success of ART. Some of these suggestions had considerable implications for the planning stage of intervention implementation, such as collaboration with the organisation to enlist the support of administration and external sources of reinforcement including teachers and parents.

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## **7. Appendices**

### **7.1 Appendix I: Systematic Review: A Detailed Description of the Process Undertaken**

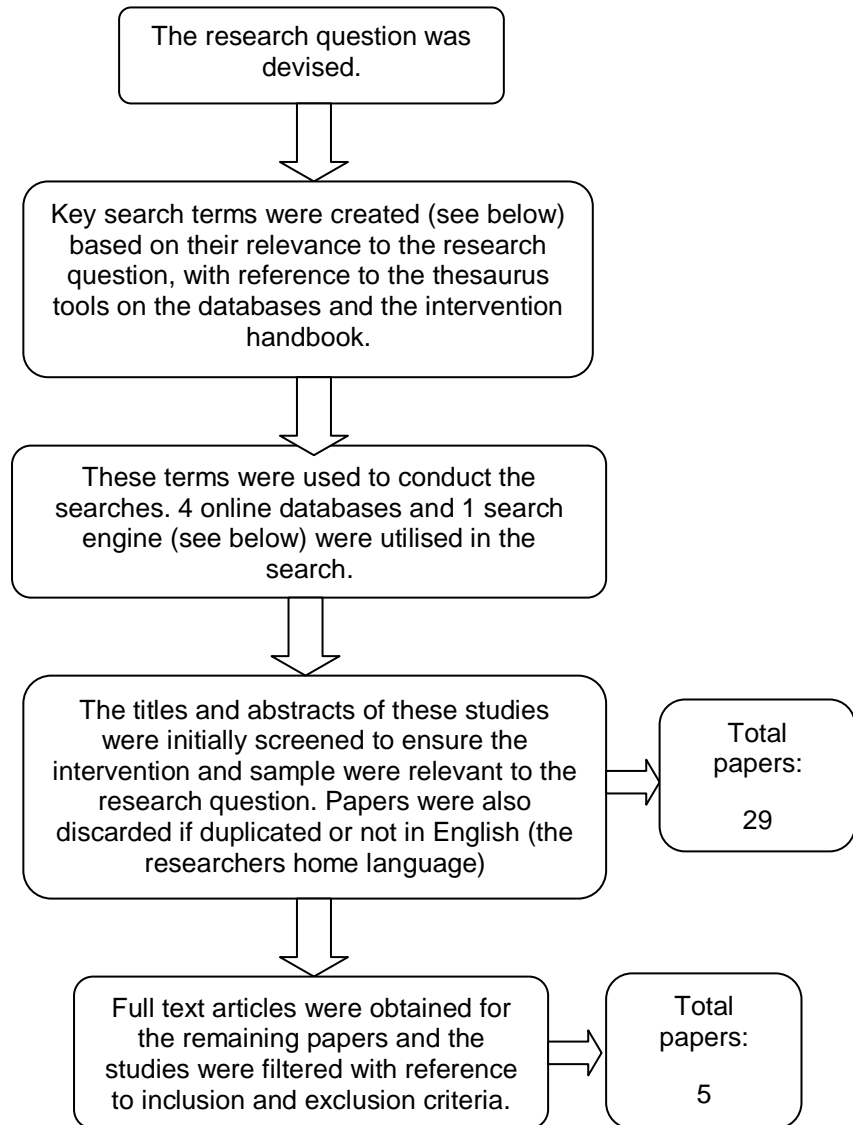


Fig. 7.1: A Flow Chart Depicting the Search Strategy Employed in the Systematic Review.

#### **The search terms used were as follows:**

For the four online databases:

‘Aggression Replacement Training’

‘Aggression Replacement Training’ and ‘evaluation’

‘Aggression Replacement Training’ and ‘social competence’

‘Aggression Replacement Training’ and ‘social skills’

‘Aggression Replacement Training’ and ‘behaviour’

‘Aggression Replacement Training’ and ‘behavior’

Due to the volume of results gathered from general search engines fewer searches were conducted when utilising Google Scholar:

‘Aggression Replacement Training’ in exact words used and

‘adolescents’ and ‘evaluation’ in the option ‘with all the words’

In order to ensure as comprehensive a search as possible, ‘Full text’ searches or searches of ‘All fields’ were carried out on all of the databases utilised. The date range was also set to post-1986 as the original programme was devised in 1987. Where possible searches included the criterion that the papers should be written in English and published in a peer reviewed journal, in order to avoid retrieving irrelevant papers. Table 7.1 displays the raw data gathered from each of the databases/search engines.

Source	Total papers retrieved	After initial screening	After inclusion/exclusion criteria applied
ASSIA (via Proquest)	34	6	2
Web of Science	72	5	1
PsycInfo (via OVID SP)	84	3	2
Wiley Online Library	360	0	0
Google Scholar	1060	15	0
<b>TOTALS</b>	<b>1610</b>	<b>29</b>	<b>5</b>

Table 7.1: Table to Show the Results of the Literature Search Conducted on 4<sup>th</sup> and 5<sup>th</sup> June 2014.

## 7.2: Appendix II- Descriptive map of the studies to aid the in-depth review of the research

STUDY	SETTING, PARTICIPANTS AND SELECTION PROCESS	DESIGN AND INTERVENTION	MEASURES	OUTCOMES
Glick and Goldstein (1987) [USA]	<p>Annsville Youth Centre. A residential facility for incarcerated youth</p> <p>60 Males (all of the residents at the centre). Aged 14-17 years.</p>	<p>Cluster Randomised control trial 24 in ART condition 24 in 'brief instruction' comparison group 12 in no treatment control group Those in the 2 control groups then completed the intervention in a repeated measures design.</p> <p>30 sessions over 10 weeks</p> <p>All staff oriented in ART. Some fully trained as implementers.</p>	<p>(Gathered from Goldstein <i>et al.</i> 1987) Pre and post-test with a follow up. Direct situations test which assesses the social skills taught in ART. Minimal generalisation situations test and extended generalisation situations test assess skills transfer. (all self-report, created by Goldstein <i>et al</i> 1987) Behaviour incident reports (staff report, created by Goldstein <i>et al.</i> 1987) Self-control scale (staff report) Moral reflection measure (self-report)</p>	<p>No change in moral reasoning ART group acquired and transferred the social skills at significantly greater levels than the 2 control groups. ART group also experienced lower impulsivity and less behaviour incidents, at lower intensity, compared to the control groups. Repeated measures analyses of the 36 controls also showed significant decreases in intensity and number of acting out incidents. When released those from the ART groups scored higher on a measure of community functioning compared to controls.</p>
Jones (1991) [Australia]	<p>Suburban high school in a low socio-economic area with high crime rates.</p> <p>18 students from</p>	<p>Randomised Control Trial.</p> <p>18 students were randomly allocated to 3 groups of 6: ART group Comparison group (moral reasoning only)</p>	<p>Pre and post-test Self-control scale and behaviour incident reports (Goldstein <i>et al</i> 1987) completed by staff. Moral reflection measure and situations tests of social skills acquisition (Goldstein <i>et al</i> 1987)</p>	<p>ART group showed greatest decrease in aggression compared to the other 2 groups on the behaviour incident reports Both the treatment and moral reasoning groups showed an increase in coping incidents</p>

	years 8 and 9. Selected by form tutors as being 'significantly disruptive'. Then rated on an aggression scale. 9 males and 9 females with highest aggression selected.	Control group (no treatment)  30 sessions over 10 weeks	completed by the students on a one to one basis	Control and ART groups showed greatest improvement on the combined self-control and impulsivity measure. No significant changes in moral reasoning. ART group acquired 3 skills on the situations tests, control group acquired 2 skills.
Coleman, Pfeiffer and Oakland (1992) [USA]	Residential treatment centre for adolescents with behaviour problems.  39 participants aged 13-18 years. 10 females, 29 males. 2/3rds were diagnosed with conduct disorder. Staff selected the students based on them displaying aggressive behaviours and self-control problems. 25% attrition rate (originally 52 subjects).	Randomised control trial. Pupils were randomly assigned to groups of 6, each facilitated by 2 trained members of staff from the centre.  After attrition, 24 remained in the ART groups and 15 in the no treatment control groups.  50 ART sessions were spread over 10 weeks. The extra 20 sessions were assigned to homework and practice of the skills learnt.  Integrity checks included daily logs completed by the facilitators and 2 observations per group by the first author and an ART trainer.	Pre and post-data was collected on 4 measures: Self-report measures included situations tests (Goldstein <i>et al</i> 1987) to measure social skills and a moral reflection measure. These were completed on a one to one basis with research assistants who were blind to the research groups. Staff report measures included a self-control scale and a social skills checklist, as well as behaviour incident reports (adapted from Goldstein <i>et al</i> 1987).  Predictor measures (carried out at pre-test only) included a measure of antisocial behaviour and a personality index of locus of control and self-perception.	Only 1 measure resulted in improvement for the ART group over the control group. This was the social skills knowledge from the direct situations test (Goldstein <i>et al</i> . 1987). Specifically the skills of expressing a compliant, keeping out of fights and responding to group pressure.  Personality variables (particularly the self-concept scales) did predict post-test self-control.
Gundersen and Svartdal (2006) [Norway]	65 young people with behaviour problems aged 11-17 years (16	Cluster Randomised Control Trial Students screened with a checklist of behaviour problems and groups composed so that	Pre and post. Parents, teachers and children completed a measure of behavioural functioning and one of social skills.	Parent and teacher measures of social skills suggested a significant increase for the ART group, whilst no change was found for the control

	<p>females and 49 males)</p> <p>Schools and institutions (including special schools and psychiatric clinics).</p>	<p>members in each group had varying levels of need. These groups were then randomly assigned to the conditions. (5 of the settings had both an intervention and control group)</p> <p>47 received ART and 18 acted as a no treatment control group. 11 groups of students, who were conducting ART as part of further education course acted as facilitators.</p> <p>24 sessions of ART over 13 weeks. On average this entailed 10.8 sessions of social skills training, 8.4 sessions of anger control and 4.8 of moral reasoning</p> <p>Integrity checks included supervision and questionnaires for the leaders.</p>	<p>Parents and teachers also completed a scale of behaviour problems and attention skills.</p> <p>The young people also completed a measure of cognitive distortions and a self-report questionnaire designed by the researchers, to assess problem behaviours and pro-social skills</p>	<p>groups.</p> <p>Social skills on the custom self-report measure also suggested a significant increase for the ART group. Both groups improved on the cognitive distortions test</p> <p>Parent, teacher and child (custom-made measure) reports of behaviour problems showed a significant decrease for the ART members which was not reflected in the controls. Similar results were found in the behavioural functioning measure. However, the self-report found that both groups experienced a significant decrease.</p> <p>In terms of moderating factors. Only 2 scales were moderated by age (the teacher problem behaviours scale and the parent behavioural functioning scale). The authors suggested that these outcomes did not impact on the conclusions of the research. There was no effect of institution on the outcomes.</p>
Currie <i>et al</i> (2009) [Australia]	<p>Youth Justice Custodial Setting</p> <p>5 males aged 17-18 (initially 6 but one left the group). Participants were referred onto the programme by health workers (i.e.</p>	<p>One group, repeated measures.</p> <p>ART was facilitated by the provisional psychologist (the primary researcher), trained in ART and a social worker colleague</p> <p>10 week programme</p>	<p>Pre and post-test</p> <p>All self-report measures including a questionnaire regarding aggression, a measure of cognitive distortions and a measure of social skills. All administered in one to one interviews.</p>	<p>Significant decrease in aggression, increase in self-control and overall social skills rating but no changes found in cognitive distortions.</p>

	psychologists) All had committed violent offences			
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Table 7.2: Descriptive Map of the Studies Found in the Systematic Literature Review

### **7.3 Appendix III: Quality Assessment: A description of the Weight of Evidence criteria employed to review the studies gathered from the systematic literature search.**

#### **Quality assessment**

The Weight of Evidence Model created by (Gough 2007) was adopted in order to judge the quality and relevance of the studies reviewed, so as to ascertain the relative value of the findings in contributing towards answering the research question.

The model utilises three sets of judgements, which are then combined to form an overall assessment rating.

These criteria were designed with reference to What Works Clearinghouse (2011) 'Evidence standards for RCTs and Comparison Group Quasi Experimental Designs' (p.11) and Krachtowill (2003) 'Key Features for Coding Studies and Rating Level of Evidence/Support' (p.26).

In the following categories if a study possesses a characteristic in the 'high' rating it is worth 3 points, 'medium' is 2 points and 'low' is 1 point. These are then averaged together to provide a rating of low, medium or high for each 'weight of evidence' judgement (A, B and C).

High- 2.5-3

Medium-1.5-2.4

Low-1-1.4

#### **Weight of Evidence A-The Quality of the Methodology**

High-Multiple integrity checks; clear explanation of intervention procedures which adhered to the 'best practice' scheduling prescribed by the handbook, with a minimum of 30 sessions over 10 weeks; pre, post and follow up



measures; multiple measures from multiple sources, all of which are valid and reliable; low attrition rates (<20% at post and <30% at follow up).

Medium-An integrity check; details provided regarding intervention procedures but they did not follow the prescribed 30 sessions in 10 weeks; pre and post-measure; multiple measures may be from a single source or some may not be validated or tested for reliability; may be high attrition (>20%).

Low-No mention of or modified intervention procedures followed; no mention of integrity checks; post-measures only; single outcome measure; no mention of attrition.

**Weight of Evidence B-** The Relevance of the Methodology for Answering the Review Question

High- Randomised Control Trial design; pre, post and follow up measures; active comparison group (possibly with a no treatment control group also).

Medium- Cluster Randomised Control Trial; pre and post-measures; no-treatment control group only.

Low- Quasi-experimental design; post-measures; no control group.

**Weight of Evidence C-**The Relevance of the Evidence for Answering the Review Question

High- sample aged 10-19; an Aggression Replacement Training intervention conducted over 10 weeks, at least 3 sessions per week, with equal numbers of sessions for each component; participants who had been identified as having difficulties in the areas targeted by the intervention (e.g. anger control, aggression, social skills, moral reasoning); quantitative measures of behaviour problems (including aggression), social skills and moral reasoning; conducted by a trained facilitator.

Medium-an Aggression Replacement Training intervention which may be shorter than the prescribed 30 sessions; 2 quantitative measures of behaviour problems (including aggression), social skills or moral reasoning; little selection to target individuals who need such support.

Low-sample aged below 10 and above 19; an adapted Aggression Replacement Training intervention or no mention of intervention procedures; a single quantitative measures of behaviour problems (including aggression), social skills or moral reasoning; provided in a preventative manner (no selection to identify the needs of the participants); conducted by an untrained facilitator or no information regarding who facilitated.

**Weight of Evidence D- Overall Assessment Rating.**

In the above categories a 'high' rating is worth 3 points, 'medium' is 2 points and 'low' is 1 point.

This category ranks the studies in terms of their average score on the other 3 judgements.

High- 2.5-3

Medium-1.5-2.4

Low-1-1.4

## 7.4: Appendix IV Recruitment Leaflet and Initial Application Form from the Educational Psychology Service to Support the Selection of Schools onto the Project.



### Adapted Aggression Replacement Training (A.A.R.T.)

To date A.R.T. has been used in young offender institutions here in the U.K. and found to be effective in reducing re-offending behaviours. It has recently been updated and further adapted for use in European schools by a team of researchers from the International Centre for Aggression Replacement Training based in Norway and the programme has been renamed **Adapted Aggression Replacement Training (A.A.R.T.)**.

A.A.R.T. has also been proven to benefit young people who have poor social competency skills as their primary difficulty and who do not display observable aggressive behaviours. Such young people may have difficulty establishing and maintaining friendships and AART equips them with strategies and hence the confidence to cope effectively in a range of social situations.

Birmingham Educational Psychology Team is pleased to be able to offer **Adapted Aggression Replacement Training** to schools in Birmingham through its programme of support from the International Centre for Aggression Replacement Training, currently the only recognised training provider of A.R.T/ A.A.R.T in Europe.

A pilot scheme will be launched consisting of direct delivery of the 30 A.A.R.T. sessions (3 x 1 hour long sessions per week) over ten weeks to a group of 8 young people by two members of the Educational Psychology Team during either the Autumn Term 2014 or Spring Term 2015.

Following successful implementation of the pilot, schools will later have the option to have their own staff trained to deliver the programme (Summer Term 2015 onwards). The impact of the pilot programmes will be measured and evaluated in each school by a member of the Educational Psychology Team.

The pilot scheme is only available to secondary schools who subscribe to the Educational Psychology Team within the Access to Education Service. Involvement is free but there is an application process and schools with a strong pastoral department / team will be prioritised. Only six schools will be selected for the pilot scheme and Head Teachers will be asked to sign an agreement relating to the terms and conditions of the scheme. Once selected, withdrawal from the pilot less than half a term prior to the date it is due to begin will incur a charge.

Are you interested in becoming one of the first schools to receive A.A.R.T. in the U.K.? If so please complete the application form below.

Please reply to:

People Directorate  
Access to Education West  
(Educational Psychology North and West)  
Inclusion Support Education Centre  
Perry Common Road  
Erdington  
Birmingham B23 7AT

Telephone No: 0121 303 0100  
Facsimile: 0121 303 0094  
e-mail: [www.birmingham.gov.uk](http://www.birmingham.gov.uk)  
[www.bafl.org](http://www.bafl.org)

Peter Hay, Interim Strategic Director, Children, Young People and Families

**AGGRESSION REPLACEMENT TRAINING APPLICATION**

1. What pro-active school wide systems or strategies do you use that are aimed at preventing behavioural issues from arising?

.....  
.....  
.....  
.....

2. What systems do you already have in place to meet the needs of pupils with behaviour issues?

.....  
.....  
.....  
.....

3. Have you identified pupils who could benefit from some targeted intervention to address issues with either social competence or challenging behaviour? Please provide general details about their background (e.g. LAC, gang involvement, SEN, parents struggling with issues, gender, age...)

.....  
.....  
.....  
.....

• What issues do they present?

.....  
.....  
.....  
.....

• Are other agencies already involved with any members of this group? If so which (e.g. CaMHS, Social Services...)?

.....  
.....

.....  
.....

4. If selected for inclusion in the ART pilot we will need to have access to a room that can accommodate up to 12 individuals three times a week for a period lasting approximately 1 hour for each session. Do you have such a facility?

Yes / No

5. Do you have an established pastoral department in your school?

Yes /No

6. If so please state how many members of staff carry out a specific pastoral role (e.g. mentors, pastoral support assistants, pastoral managers etc. and not teaching assistants who babysit or look-after pupils who regularly misbehave)?

.....  
.....

NAME:	
POSITION / ROLE:	
SCHOOL NAME:	
POSTAL ADDRESS:	
EMAIL ADDRESS:	
CONTACT PHONE NUMBER:	
PREFERRED MODE OF CONTACT (e.g. email / post):	

**N.B. The closing date for applications is 11<sup>th</sup> April 2014**

## 7.5 Appendix V: Information Leaflet for Schools Regarding the Evaluation Research Project.



### Information sheet for Schools

University of Nottingham  
School of Psychology  
**Research Project on a Multi component, Social Competence Intervention based on Cognitive Behaviour Therapy**

Researcher: Samantha Grimes (Trainee Educational Psychologist)

Email: [Samantha.Grimes@birmingham.gov.uk](mailto:Samantha.Grimes@birmingham.gov.uk)

Telephone: 0121 303 8288.

University supervisor: Neil Ryrie. [neil.ryrie@nottingham.ac.uk](mailto:neil.ryrie@nottingham.ac.uk)

The purpose of the current research study is to investigate the effectiveness of a Social Competence Training intervention (based on Aggression Replacement Training®) in improving the pro-social skills and problem behaviours displayed by pupils in school and their moral reasoning ability.

With support from the researcher each school will identify 6 students aged between 11 and 18 years to take part in the intervention. These pupils should be young people who consistently display some deficiencies in pro-social skills, anger control and moral reasoning capacities. The students must also have good attendance, not be involved in any other behaviour interventions and have the ability to reflect upon their thoughts and behaviour. In order to identify 3 'target' individuals and 3 'role models', who have slightly more advanced levels of social competence, the school will be asked to select 3 pupils with 'low level' social behaviour difficulties and 3 pupils with more challenging behaviour needs.

As part of the research the pupils will be asked to complete measures on two occasions as a group: once in September prior to the intervention and once in December following the intervention. These measures will be taken at the same time whether the pupils are receiving the intervention in the Spring or Autumn.

These sessions require a small, quiet room and should take no more than 1 hour. Support from a Teaching Assistant would also be appreciated to support those with literacy difficulties. On these two occasions a member of staff, who has regular contact with the child, will also be asked to complete a questionnaire about the pupil's recent behavior in school. Checklists will also be sent home to parents. These should take no more than 15-20 minutes. Finally at the end of the project some students from the Autumn intervention groups may be selected to take part in a short (20 minute) interview to gather their views about the intervention.

If you have any questions or concerns please do not hesitate to ask. I can also be contacted after your participation using the details listed above. Many thanks for your time.

## Aggression Replacement Training Research

### Timeline-Autumn Schools

<p>Selection process: 6 pupils, aged 11-18 years. Half will display challenging deficiencies in the prosocial skill, anger control and moral reasoning capacities and half experience more 'low level' difficulties.</p> <p>MUST have good attendance, be able to reflect on their thoughts and behaviour and not be involved in other interventions.</p>	July
Once parental consent to take part in the intervention from the EPS has been obtained send <b>parental consent forms</b> for the research	Gather all back in before summer holidays
Once parental consent for the research is obtained gain <b>consent from the pupils</b> in the groups <b>and teachers</b> who will complete the teacher measures	Before the first session of measures which will take place during the 3 <sup>rd</sup> week of September. Preferably before the summer holidays.
Room and TA support for 1 hour for the 2 sessions of measures	During the 3 <sup>rd</sup> week of September and final 2 weeks before the Christmas holidays
Distributing and collecting the parent and teacher questionnaires	During the 3 <sup>rd</sup> week of September and final 2 weeks before the Christmas holidays
Completing an information sheet with	At the same time as the first session



<p>Sam about the participants (i.e. age, academic levels, rate of exclusion etc..)</p>	<p>of measures (3<sup>rd</sup> week Sept)</p>
<p>During the intervention period Sam will visit 3 sessions to carry out 'integrity checks'</p>	<p>September-December</p>
<p>Following the intervention, a pupil interview will be conducted with half of the group members (3) in order to gain their views of the programme. I would be grateful for the use of a room for an hour and support with gaining parent/pupil consent for this interview</p>	<p>January</p>

## Aggression Replacement Training Research

### Timeline-Spring Schools

<p>Selection process: 6 pupils, aged 11-18 years. Half will display challenging deficiencies in the prosocial skill, anger control and moral reasoning capacities and half experience more 'low level' difficulties.</p> <p>MUST have good attendance, be able to reflect on their thoughts and behaviour and not be involved in other interventions.</p>	July
Once parental consent to take part in the intervention from the EPS has been obtained send <b>parental consent forms</b> for the research	Gather all back in before summer holidays
Once parental consent for the research is obtained gain <b>consent from the pupils</b> in the groups <b>and teachers</b> who will complete the teacher measures	Before the first session of measures which will take place during the 3 <sup>rd</sup> week of September. Preferably before the summer holidays
Room and TA support for 1 hour for the 2 sessions of measures	During the 3 <sup>rd</sup> week of September and final 2 weeks before the Christmas holidays
Distributing and collecting the parent and teacher questionnaires	During the 3 <sup>rd</sup> week of September and final 2 weeks before the Christmas holidays
Completing an information sheet with	At the same time as the first session of

Sam about the participants (i.e. age, academic levels, rate of exclusion etc..)	measures (3 <sup>rd</sup> week Sept)
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## 7.6 Appendix VI: Information Letter and Consent Form for Parents



### Information sheet for parents

University of Nottingham

School of Psychology

**Research Project on a Multi Component Social Competence Intervention based on Cognitive Behaviour Therapy**

Researcher: Samantha Grimes (Trainee Educational Psychologist)

Email: [Samantha.Grimes@birmingham.gov.uk](mailto:Samantha.Grimes@birmingham.gov.uk)

Telephone: 0121 303 8288.

University supervisor: Neil Ryrie. [Neil.ryrie@nottingham.ac.uk](mailto:Neil.ryrie@nottingham.ac.uk)

Dear Parent/Guardian

As part of a new initiative Birmingham Educational Psychology Service are trialing a social competence intervention (based on Aggression Replacement Training®) in a small sample of schools around the City. I believe that your child has been identified by the school as someone who may benefit from the programme and your consent has been requested for them to take part in the intervention.

As part of this new intervention project we are running a piece of research to determine its effectiveness. This research is supported by the Birmingham Educational Psychology Service and The University of Nottingham, which I attend as a Trainee Educational Psychologist. The aim is to ascertain how effective the intervention is at improving the pro-social skills and problem behaviours displayed by young people and their moral reasoning ability.

Your child will have the opportunity to consent to take part in the research themselves and ask any questions that they might have nearer the start of the programme. They will be asked to complete 2 questionnaires on two occasions across the course of the project, once in September and once in December, whether they are receiving the intervention in the Autumn or Spring, to compare

their results. This process should take approximately 45 minutes and will be carried out during school time.

The children will be asked to complete two questionnaires during each of these sessions. The first measure asks pupils to rate themselves on several aspects of social skills, such as communication and cooperation as well as problem behaviours, such as failing to control their temper, impulsive reactions and feeling anxious. Examples of questions include: 'I stay calm when dealing with problems', 'I have temper tantrums' and 'I feel sad'. The second measure asks pupils to consider some moral dilemmas such as: 'Let's say a friend of yours needs help and may even die, and you're the only person who can save him or her. How important is it for a person (without losing his or her own life) to save the life of a friend?'. The pupils respond by indicating how important they feel this act is and give a reason why.

I am also asking teachers to complete short questionnaires at these times, similar to the first measure that the pupil's will complete, with the addition of questions regarding the pupil's academic competence. Additional data such as rates of exclusion, academic achievement, date of birth, free school meal eligibility and attendance at the sessions will also be gathered to aid the analysis of the intervention measures.

In order to enhance the conclusions drawn from the research we are gathering parental measures as part of the study and would be grateful if you could complete a 20 minute questionnaire surrounding your child's behaviour, similar to the first measure which the children will be completing. This includes questions about your child's social skills and problem behaviours, such as 'follows your directions', 'acts without thinking' and 'says bad things about self'.

This questionnaire will be provided to you by the school during the third week of September and second week of December. I would be grateful if you could complete and return these questionnaires within a week from when they are handed out.

Throughout the project any information gathered regarding your child will be kept confidential. All information written in any reports will ensure anonymity so

that they cannot be identified. Should the questionnaires raise any concerns, the school's SENCo will be contacted in order to arrange support for your child, if they consider this appropriate. If, after signing the consent, you or your child wish to withdraw from the study then you may do so at any time and all information gathered up to this point will be destroyed. Summaries of the main findings will be made available at the end of the project.

To make sure that your child has the opportunity to contribute to the research please complete the consent form attached to this letter as soon as possible (no later than 15<sup>th</sup> July) and return it to the school office. If you have any questions or concerns please do not hesitate to enquire at your child's school or contact myself using the details listed at the top of this letter. Many thanks for your support.

Yours sincerely,

Samantha Grimes

Trainee Educational Psychologist, Birmingham Educational Psychology Service.

## Parent Consent Form

### **Research Project on a Multi Component Social Competence Intervention based on Cognitive Behaviour Therapy**

Researcher: Samantha Grimes (Trainee Educational Psychologist)

Email: Samantha.Grimes@birmingham.gov.uk

Telephone: 0121 303 8288.

University supervisor: Neil Ryrie. neil.ryrie@nottingham.ac.uk

Childs name: \_\_\_\_\_

Year: \_\_\_\_\_

Please cross out as necessary:

- Have you read and understood the information sheet YES/NO
- Have you had the opportunity to ask questions and discuss the study  
YES/NO
- Have all the questions been answered satisfactorily YES/NO
- Have you received enough information about the study YES/NO
- Do you understand that you and your child are free to withdraw from the  
study at any time without having to give a reason YES/NO
- Do you agree to take part in the study YES/NO
- Do you give permission for your child to take part in the study (subject to  
them giving consent also) YES/NO

'This study has been explained to me to my satisfaction, I agree to take part and give permission for my child to participate. I understand that myself and my child are free to withdraw at any time.'

Signed: \_\_\_\_\_

Print name: \_\_\_\_\_

Date: \_\_\_\_\_

## 7.7 Appendix VII: Information Letter and Consent Form for Teaching Staff



### Information sheet for Teachers

University of Nottingham

School of Psychology

**Research Project on a Multi Component, Social Competence Intervention based on Cognitive Behaviour Therapy**

Researcher: Samantha Grimes (Trainee Educational Psychologist)

Email: [Samantha.Grimes@birmingham.gov.uk](mailto:Samantha.Grimes@birmingham.gov.uk)

Telephone: 0121 303 8288.

University supervisor: Neil Ryrie. [neil.ryrie@nottingham.ac.uk](mailto:neil.ryrie@nottingham.ac.uk)

The purpose of the current research study is to investigate the effectiveness of a Social Competence Training intervention (based on Aggression Replacement Training®) in improving the pro-social skills and problem behaviours displayed by pupils in school and their moral reasoning ability.

Each school will identify 6 students aged between 11 and 18 years to take part in the intervention. All of these pupils will be young people who consistently display some deficiencies in pro-social skills, anger control and moral reasoning capacities. However, 3 members of the group will be acting as 'positive role models' and therefore may have greater social competence than the other pupils.

The programme itself is a 10 week curriculum, with 3x1 hour session per week. Further information can be obtained from <http://www.aggressionreplacementtraining.org>. It is intended that this will be implemented in some schools between September and December 2014 and between January and March 2015 in others.

As a member of staff who has regular contact with one (or more) of the young people participating in the study, I would be grateful if you could complete a



short questionnaire about the pupil's recent behavior in school on two occasions: Once in September and once in December. This should take no more than 15-20 minutes. If you agree to take part please could you complete the attached consent form and return to ..... No later than 12<sup>th</sup> September.

If you have any questions or concerns please do not hesitate to ask. I can also be contacted after your participation using the details listed above. Many thanks for your time, Samantha

## Teacher Consent Form

### **Research Project on a Multi Component Social Competence Intervention based on Cognitive Behaviour Therapy**

Researcher: Samantha Grimes (Trainee Educational Psychologist)

Email: Samantha.Grimes@birmingham.gov.uk

Telephone: 0121 303 8288.

University supervisor: Neil Ryrie. neil.ryrie@nottingham.ac.uk

Please cross out as necessary:

- Have you read and understood the participant information sheet  
YES/NO
  
- Have you had the opportunity to ask questions and discuss the study  
YES/NO
  
- Have all the questions been answered satisfactorily YES/NO
  
- Have you received enough information about the study  
YES/NO
  
- Do you understand that you are free to withdraw from the study at any  
time, without having to give a reason: YES/NO
  
- Do you agree to take part in the study YES/NO

'This study has been explained to me to my satisfaction, and I agree to take part. I understand that I am free to withdraw at any time.'

Signature of the Participant:

Date:

Name (in block capitals)

## 7.8 Appendix VIII: Information Letter and Consent Form for Participants in the Experimental Group



**Access to  
Education**

### Pupil information sheet

NAME:

DATE OF BIRTH:

SCHOOL:

CLASS:

Your parent/carer received a letter last week explaining that a new project would be running in school during the next academic year and they sent a letter back saying that they would like you to join in. The school also thought that you would benefit from taking part in the group.

The project means that you will be working with other children from your school, taking part in some fun activities three times a week for 10 weeks. These sessions will give you lots of different ways to calm down when you are feeling angry, deal with difficult situations and maintain friendships.

Sam's part in the project is to measure whether the groups were useful. I would like to see if the games and activities work well and whether you thought the group was helpful for you because we might want to do this in other schools. To find this out I will be asking you to answer some questions at two different times, once in September and after the sessions in December. Your teachers and parents are answering some questions for me too.

At the end of the project I will write a report about the group and how well it worked. When I write this report I will leave your name out so that no one can work out who you are and I will keep all of your information locked away somewhere safe.

If you decide during these 2 sessions with Sam that you do not want to answer the questions anymore you can change your mind whenever you like, just tell your teachers or parents or me.

## Pupil consent form

Name: \_\_\_\_\_

Year: \_\_\_\_\_

Please cross out as necessary:

- Have you read and understood the information sheet YES/NO
- Have you had the opportunity to ask questions and discuss the study  
YES/NO
- Have all the questions been answered so that you understand what you  
are being asked to do YES/NO
- Have you received enough information about the study YES/NO
- Do you understand that you are free to leave the question sessions at  
any time without having to give a reason YES/NO
- Do you agree to take part in the study YES/NO

'This study has been explained to me and I understand what I will be doing. I agree to take part in Sam's questions. I understand that I can choose not to answer these questions at any time.'

Signed: \_\_\_\_\_

Print name: \_\_\_\_\_

Date: \_\_\_\_\_

Helped by: \_\_\_\_\_

## 7.9 Appendix IX: Information Letter and Consent Form for Participants in the Control Group



### Pupil information sheet-controls

NAME:

DATE OF BIRTH:

SCHOOL:

CLASS:

Your parent/carer received a letter last week explaining that a new project would be running in school during the next academic year and they sent a letter back saying that they would like you to join in. The school also thought that you would benefit from taking part in the group.

The project means that you will be working with other children from your school, taking part in some fun activities three times a week for 10 weeks. These sessions will give you lots of different ways to calm down when you are feeling angry, deal with difficult situations and maintain friendships.

Sam's part in the project is to measure whether it was useful. In order to do this, before you take part in the groups in January I will be coming to your school on two separate occasions to ask you to answer some questions. Once in September and once in December. Your teachers and parents are answering some questions for me too.

At the end of the project I will write a report about the information I gather. When I write this report I will leave your name out so that no one can work out who you are and I will keep all of your information locked away somewhere safe.

If you decide during the 2 sessions with Sam that you do not want to answer the questions anymore you can change your mind whenever you like, just tell your teachers or parents or me.

## Pupil consent form

Name: \_\_\_\_\_

Year: \_\_\_\_\_

Please cross out as necessary:

- Have you read and understood the information sheet YES/NO
- Have you had the opportunity to ask questions and discuss the study  
YES/NO
- Have all the questions been answered so that you understand what you  
are being asked to do YES/NO
- Have you received enough information about the study YES/NO
- Do you understand that you are free to leave the question sessions at  
any time without having to give a reason YES/NO
- Do you agree to take part in the study YES/NO

'This study has been explained to me and I understand what I will be doing. I agree to take part in Sam's questions. I understand that I can choose not to answer these questions at any time.'

Signed: \_\_\_\_\_

Print name: \_\_\_\_\_

Date: \_\_\_\_\_

Helped by: \_\_\_\_\_



## 7.10 Appendix X: Information Letter and Consent Form for Educational Psychologists Facilitating the Groups in the Experimental Condition.



### Information sheet for Educational Psychologists

University of Nottingham  
School of Psychology

#### Research Project on a Multi component, Social Competence Intervention based on Cognitive Behaviour Therapy

Researcher: Samantha Grimes (Trainee Educational Psychologist)

Email: [Samantha.Grimes@birmingham.gov.uk](mailto:Samantha.Grimes@birmingham.gov.uk)

Telephone: 0121 303 8288.

University supervisor: Neil Ryrie. [neil.ryrie@nottingham.ac.uk](mailto:neil.ryrie@nottingham.ac.uk)

The purpose of the current research study is to investigate the effectiveness of an Aggression Replacement Training intervention in improving the pro-social skills and problem behaviours displayed by pupils in school and their moral reasoning ability.

With support from the researcher each school will identify 6 students aged between 11 and 18 years to take part in the intervention. These pupils should be young people who consistently display some deficiencies in pro-social skills, anger control and moral reasoning capacities. The students must also have good attendance, not be involved in any other behaviour interventions and have the ability to reflect upon their thoughts and behaviour. In order to identify 3 'target' individuals and 3 'role models', who have slightly more advanced levels of social competence, the school will be asked to select 3 pupils with 'low level' social behaviour difficulties and 3 pupils with more challenging behaviour needs.

As part of the research the pupils will be asked to complete measures on two occasions as a group: once in the 3<sup>rd</sup> week of September prior to the intervention and once in December after the intervention has finished. On these two occasions a member of school staff, who has regular contact with the child,

will also be asked to complete a questionnaire about the pupil's recent behavior in school. Checklists will also be sent home to parents. Finally at the end of the project some students may be selected to take part in a short interview to gather their views about the intervention.

During the Autumn sessions 3 integrity checks will be completed by the researcher, one for each 'type' of session (skillstreaming, anger control and moral reasoning), to ensure the validity of the research. As part of the sessions please could those conducting the 'Autumn' intervention keep a measure of attendance for the students, so that the impact of attendance on outcomes can be analysed.

I would be grateful if, at the end of the programme, you would complete a short questionnaire designed to elicit your views about the intervention, which will be used to support the interpretation the findings gathered from the measures outlined above. This should take no more than 10 minutes. If you are willing to partake in this research please could you complete the consent form attached and return it to Samantha Grimes, Trainee EP, based at the Oakhill Centre by 12<sup>th</sup> July.

If you have any questions or concerns please do not hesitate to contact me using the details at the top of this letter. I can also be contacted after your participation using these details. Many thanks for your time, Sam.

## **Educational Psychologist Consent Form.**

### **Research Project on a Multi Component Social Competence Intervention based on Cognitive Behaviour Therapy**

Researcher: Samantha Grimes (Trainee Educational Psychologist)

Email: Samantha.Grimes@birmingham.gov.uk

Telephone: 0121 303 8288.

University supervisor: Neil Ryrie. neil.ryrie@nottingham.ac.uk

Please cross out as necessary

- Have you read and understood the participant information sheet YES/NO
- Have you had the opportunity to ask questions and discuss the study YES/NO
- Have all the questions been answered satisfactorily YES/NO
- Have you received enough information about the study YES/NO
- Do you understand that you are free to withdraw from the study at any time without having to give a reason YES/NO
- Do you agree to take part in the study YES/NO

'This study has been explained to me to my satisfaction, and I agree to take part. I understand that I am free to withdraw at any time.'

Signature of the Participant:

Date:

Name (in block capitals):

## 7.11 Appendix XI: Summary of the Structure of the ART Sessions

(summarised from Gundersen *et al.* 2014)

### **External Structure** (common to all three components)

At the start:

- Welcome to the group members with a reminder of rules
- Review of the previous session
- Review homework

At the end:

- ART game
- Review of the session
- Wind up: evaluation of group performance or a 'friendship round' where group members praise one another on their participation in the session; briefing on the next session; handing out rewards; ART cheer

### **Internal Structure** (specific to each component)

*Anger Control Sessions:*

- Define the day's skill
- Facilitators demonstrate the skill
- The need for the skill is discussed
- Main players and co-players of the role play are selected
- Role plays are planned and observation tasks are delegated to the remaining members of the group

- Role plays are conducted- 'bubble talk', where the actors pause to comment on their thoughts and feelings aloud to the observers, is used to make the actors cognitions visible during the role play
- Feedback is gathered from the observers and from members of each team of the role play
- The next teams plan and conduct their role plays and receive feedback until every young person has had the opportunity to be a 'main player' in a role play
- Homework is distributed

*Prosocial Skills Sessions:*

Same steps as the anger control sessions.

*Moral Reasoning Sessions:*

- Introduce the vignette in which a moral dilemma is experienced
- Cultivate mature morality: those with mature responses are asked to state their reasoning first.
- Challenge or remediate moral developmental delay: Those who respond immaturely are asked why they responded differently to some questions. Those with mature responses are invited to share their opinions of other's views
- Facilitators pose new questions to the group, challenging errors in thinking and ask the group to reconsider, cultivating mature morality and challenging developmental delay
- Reinforce mature moral cognition by leading the group to agree on principles and statements i.e. 'can we agree that...'
- Homework

## 7.12 Appendix XII: Integrity Checklists from the international Center for Aggression Replacement Training (iCART)

Retrieved November 2013 from

[www.aggressionreplacementtraining.org/HOME](http://www.aggressionreplacementtraining.org/HOME)

Constructed by Bengt Daleflod May 2006



### Checklist for ART session on Anger Control Training

Date: \_\_\_\_\_ Head Trainer \_\_\_\_\_  
 Institution: \_\_\_\_\_ Co-Trainer \_\_\_\_\_  
 Facility: \_\_\_\_\_ Observer \_\_\_\_\_  
 Today's step/skill \_\_\_\_\_  
 Participants (number and name) \_\_\_\_\_

	<i>Yes</i>	<i>No</i>
1. Participants were welcomed to the session in a positive way	<input type="checkbox"/> <sub>a</sub>	<input type="checkbox"/> <sub>b</sub>
2. Questions from the previous session were followed up (difficulties with homework assignments, etc.)	<input type="checkbox"/> <sub>a</sub>	<input type="checkbox"/> <sub>b</sub>
3. The group was reminded of the rules with emphasis on constructive participation	<input type="checkbox"/> <sub>a</sub>	<input type="checkbox"/> <sub>b</sub>
4. All participants had completed their homework assignments	<input type="checkbox"/> <sub>a</sub>	<input type="checkbox"/> <sub>b</sub>
5. Situations from the hassle log were written down on the blackboard	<input type="checkbox"/> <sub>a</sub>	<input type="checkbox"/> <sub>b</sub>
6. Efforts and achievements regarding homework assignments were recognized and reinforced	<input type="checkbox"/> <sub>a</sub>	<input type="checkbox"/> <sub>b</sub>
7. Steps in the chain from previous sessions were repeated	<input type="checkbox"/> <sub>a</sub>	<input type="checkbox"/> <sub>b</sub>
8. The steps were visualized (written down or in some other way)	<input type="checkbox"/> <sub>a</sub>	<input type="checkbox"/> <sub>b</sub>
9. Today's lesson was introduced in an understandable and correct way	<input type="checkbox"/> <sub>a</sub>	<input type="checkbox"/> <sub>b</sub>
10. The purpose with today's step was clearly explained	<input type="checkbox"/> <sub>a</sub>	<input type="checkbox"/> <sub>b</sub>
11. The sequence was modelled with two specific examples with emphasis on the actual step	<input type="checkbox"/> <sub>a</sub>	<input type="checkbox"/> <sub>b</sub>
12. Steps were pointed out during the modelling and role-play	<input type="checkbox"/> <sub>a</sub>	<input type="checkbox"/> <sub>b</sub>
13. Participants role-played the steps as main actors from their own examples	<input type="checkbox"/> <sub>a</sub>	<input type="checkbox"/> <sub>b</sub>
14. Main actors did choose a co-actor (or more)	<input type="checkbox"/> <sub>a</sub>	<input type="checkbox"/> <sub>b</sub>
15. Trainees did give and receive feedback from other participants	<input type="checkbox"/> <sub>a</sub>	<input type="checkbox"/> <sub>b</sub>

- 16. Feedback was obtained in correct order starting with the co-actor, observers, trainer and last the main actor  a  b
- 17. The session was concluded with a summary  a  b
- 18. Participants were given new homework assignments/hassle logs  a  b
- 19. Problematic behavior during the session was handled properly  a  b
- 20. The tempo was such that participants were active and interested  a  b
- 21. Participants appeared to understand the session contents  a  b
- 22. Interaction between trainers and participants was positive  a  b
- 23. Interaction between trainers was good  a  b
- 24. Locale, arrangement and equipment was suitable  a  b
- 25. The trainers had prepared for the session properly  a  b

26. Comments

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27. Feedback from non-participating observers

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## Checklist for ART session on Interpersonal Skill Streaming

Date: \_\_\_\_\_ Head Trainer: \_\_\_\_\_

Institution: \_\_\_\_\_ Co-Trainer: \_\_\_\_\_

Facility: \_\_\_\_\_ Observer: \_\_\_\_\_

Today's skill \_\_\_\_\_

Participants (number and name): \_\_\_\_\_

- |   | <i>Yes</i>                            | <i>No</i>                             |
|---|---------------------------------------|---------------------------------------|
| 1. Participants were welcomed to the session in a positive way  | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| 2. Questions from the previous session were followed up (difficulties with homework assignments, etc) | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| 3. The group was reminded of the rules with emphasis on constructive participation                    | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| 4. All participants had done and completed their homework assignments                                 | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| 5. Homework assignments were reviewed at the beginning of the session                                 | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| 6. Efforts and achievements regarding homework assignments were recognized and reinforced             | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| <hr/>   |                                       |                                       |
| <i>Step 1: Define the skill</i>   |                                       |                                       |
| 7.1 A short presentation of the skill was given   | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| 7.2 Specific examples of the skill were given   | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| 7.3 The purpose of the skill was clearly explained  | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| <hr/>   |                                       |                                       |
| <i>Step 2: Model the skill</i>  |                                       |                                       |
| 8.1 The skill was modelled with two separate examples   | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| 8.2 Steps were followed clearly and specifically  | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| 8.3 The behavioral steps were thought out loud  | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| 8.4 The modelling displays had positive endings   | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |



- 8.5 Trainees were encouraged to watch and listen carefully <sub>a</sub> <sub>b</sub>
- 

*Step 3: Establish trainee skill need*

- 9.1 Each pupil described when they could have use of the skill <sub>a</sub> <sub>b</sub>  
9.2. Following was written on the blackboard: Name, with whom?  
theme/situation <sub>a</sub> <sub>b</sub>
- 

*Step 4: Select a role-player*

- 10.1 Everyone role played "voluntarily" <sub>a</sub> <sub>b</sub>  
10.2 Everyone participated actively ("no exceptions") <sub>a</sub> <sub>b</sub>
- 

*Step 5: Set up the role- play*

- 11.1 Trainees described a situation in detail <sub>a</sub> <sub>b</sub>  
11.2 One or more co-actor was chosen <sub>a</sub> <sub>b</sub>  
11.3 Each participant was given a specific observation task <sub>a</sub> <sub>b</sub>  
11.4 The role play was planned carefully and realistically <sub>a</sub> <sub>b</sub>
- 

*Step 6: Conduct the role- play*

- 12.1 Students were reminded of their roles and tasks before the role-play <sub>a</sub> <sub>b</sub>  
12.2 Main actor was given sufficient help in following the skill steps <sub>a</sub> <sub>b</sub>  
12.3 Co-actor was given adequate instructions <sub>a</sub> <sub>b</sub>
- 

*Step 7: Provide performance feedback*

- 13.1 Feedback was obtained in correct order starting with the co-actor,  
observers, the trainer, and last the main actor <sub>a</sub> <sub>b</sub>  
13.2 Feedback focused on specific behaviors <sub>a</sub> <sub>b</sub>  
13.3 Trainees were given the opportunity to try again after performance  
feedback <sub>a</sub> <sub>b</sub>
- 

*Step 8: Assign skill homework*

- 14.1 Specific and suitable homework assignments were given <sub>a</sub> <sub>b</sub>
-

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*Step 9: Select the next role-player (step 8 and 9 can be switched)*

- 15.1 Steps 4-9 were repeated until everyone had role played the skill <sub>a</sub> <sub>b</sub>
- 
16. The session was concluded with a summary <sub>a</sub> <sub>b</sub>
17. Participants were given new homework assignments <sub>a</sub> <sub>b</sub>
18. Problematic behavior during the session was handled properly <sub>a</sub> <sub>b</sub>
19. The tempo was such that participants were active and interested <sub>a</sub> <sub>b</sub>
20. Participants appeared to understand the session contents <sub>a</sub> <sub>b</sub>
21. Interaction between trainer and participants was positive <sub>a</sub> <sub>b</sub>
22. Interaction between trainers was good <sub>a</sub> <sub>b</sub>
23. Locale, arrangement, and equipment was suitable <sub>a</sub> <sub>b</sub>
24. The trainers had prepared for the session properly <sub>a</sub> <sub>b</sub>

25. Comments

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26. Feedback from non-participating observers

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### Checklist for ART session on Moral Reasoning

Date: \_\_\_\_\_ Head Trainer: \_\_\_\_\_  
Institution: \_\_\_\_\_ Co-Trainer: \_\_\_\_\_  
Facility: \_\_\_\_\_ Observer: \_\_\_\_\_  
Today's dilemma \_\_\_\_\_  
Participants (number and name) \_\_\_\_\_

- |  | <i>Yes</i>                            | <i>No</i>                             |
|--|---------------------------------------|---------------------------------------|
| 1. <input type="checkbox"/> The dilemma was dealt out and answered individually before the session   | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| 2. <input type="checkbox"/> The answers were analyzed before the session in order to identify thought patterns and possible majority decisions   | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| 3. <input type="checkbox"/> Participants were welcomed to the session in a positive way  | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| 4. <input type="checkbox"/> Questions from the previous session were followed up   | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| 5. <input type="checkbox"/> The group was reminded of rules with emphasis on constructive participation  | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| 6. <input type="checkbox"/> The group was reminded of the typical "thought traps"  | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| 7. <input type="checkbox"/> The problem situation was read aloud in the group  | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| 8. <input type="checkbox"/> The dilemma was described and clearly-defined  | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| 9. <input type="checkbox"/> Participants could relate to the problem situation in their everyday lives   | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| <i>Mature morals were encouraged in the following ways:</i>  |                                       |                                       |
| 10.1 <input type="checkbox"/> Mature answers were encouraged first   | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| 10.2 <input type="checkbox"/> Less mature answers were reworded  | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| 10.3 <input type="checkbox"/> Reasons were written on the blackboard   | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| 11. <input type="checkbox"/> Participants with less mature reasoning were asked to explain their reasons   | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| 12. <input type="checkbox"/> Even the immature reasons were noted on the blackboard  | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |
| 13. <input type="checkbox"/> The participants with more mature reasoning were utilized to question the less mature reasoning and "thought traps" | <input type="checkbox"/> <sub>a</sub> | <input type="checkbox"/> <sub>b</sub> |

Constructed by Bengt Daleflod May 2006

14. The list of mature reasons was used to challenge self-centred reasoning and "thought traps" <sub>a</sub> <sub>b</sub>  
Participants were given the possibility to change perspective through
15. questions such as "How would you feel if you were in the same situation?" or "How would it be if everyone did such a thing?" <sub>a</sub> <sub>b</sub>
16. Attempts were made to reach positive, unanimous or majority decisions <sub>a</sub> <sub>b</sub>
17. Each participant's view was recognized <sub>a</sub> <sub>b</sub>
18. The group was applauded for good decisions and mature reasons <sub>a</sub> <sub>b</sub>
19. All participants were involved in the discussion <sub>a</sub> <sub>b</sub>
20. The session was concluded with a summary <sub>a</sub> <sub>b</sub>
21. Problematic behavior was handled properly <sub>a</sub> <sub>b</sub>
22. The tempo was such that participants were active and interested. <sub>a</sub> <sub>b</sub>
23. Trainers remained objective during the discussion <sub>a</sub> <sub>b</sub>
24. Interaction between trainers and participants was positive <sub>a</sub> <sub>b</sub>
25. Interaction between trainers was good <sub>a</sub> <sub>b</sub>
26. The locale, arrangement and equipment was suitable <sub>a</sub> <sub>b</sub>
27. The locale, arrangement and equipment was suitable <sub>a</sub> <sub>b</sub>

28. Comments

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29. Feedback from non-participating observer

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**7.13 Appendix XIII: The Socio-Moral Reflection Measure (Gibbs, Basinger & Fuller, 1992)**

**Social Reflection Questionnaire**

PP No. \_\_\_\_\_

Date: \_\_\_\_\_

School name: \_\_\_\_\_

**INSTRUCTIONS**

In this questionnaire, we want to find out about the things you think are important for people to do, and especially why you think these things (like keeping a promise) are important. Please try to help us understand your thinking by **WRITING AS MUCH AS YOU CAN TO EXPLAIN-EVEN IF YOU HAVE TO WRITE OUT YOUR EXPLANATIONS MORE THAN ONCE**. Don't just write 'same as before'. If you can explain better or use different words to show what you mean, that helps us even more. Please answer all the questions, especially the 'why' questions. If you need to, feel free to use the space in the margins to finish writing your answers.

1. Think about when you've made a promise to a friend of yours. How important is it for people to keep promises, if they can, to a friend?

Circle one:        very important        important        not important

WHY IS THAT VERY IMPORTANT/IMPORTANT/NOT IMPORTANT (WHICHEVER ONE YOU CIRCLED)?

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-----  
-----  
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2. What about keeping a promise to anyone? How important is it for people to keep promises, if they can, even to someone they hardly know?

Circle one:        very important        important        not important

WHY IS THAT VERY IMPORTANT/IMPORTANT/NOT IMPORTANT (WHICHEVER ONE YOU CIRCLED)?

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3. How about keeping a promise to a child? How important is it for parents to keep promises, if they can, to their children?

Circle one:        very important        important        not important

WHY IS THAT VERY IMPORTANT/IMPORTANT/NOT IMPORTANT (WHICHEVER ONE YOU CIRCLED)?

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-----  
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4. In general, how important is it for people to tell the truth?

Circle one:        very important        important        not important

WHY IS THAT VERY IMPORTANT/IMPORTANT/NOT IMPORTANT (WHICHEVER ONE YOU CIRCLED)?

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-----  
-----  
-----  
-----

5. Think about when you've helped your mother or father. How important is it for children to help their parents?

Circle one:        very important        important        not important

WHY IS THAT VERY IMPORTANT/IMPORTANT/NOT IMPORTANT (WHICHEVER ONE YOU CIRCLED)?

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6. Let's say a friend of yours needs help and may even die, and you're the only person who can save him or her. How important is it for a person (without losing his or her own life) to save the life of a friend?

Circle one:        very important        important        not important

WHY IS THAT VERY IMPORTANT/IMPORTANT/NOT IMPORTANT (WHICHEVER ONE YOU CIRCLED)?

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7. What about saving the life of anyone? How important is it for a person (without losing his or her own life) to save the life of a stranger?

Circle one:        very important        important        not important

WHY IS THAT VERY IMPORTANT/IMPORTANT/NOT IMPORTANT (WHICHEVER ONE YOU CIRCLED)?

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8. How important is it for a person to live even if that person doesn't want to?

Circle one:        very important        important        not important

WHY IS THAT VERY IMPORTANT/IMPORTANT/NOT IMPORTANT (WHICHEVER ONE YOU CIRCLED)?

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9. How important is it for people not to take things that belong to other people?

Circle one:        very important        important        not important

WHY IS THAT VERY IMPORTANT/IMPORTANT/NOT IMPORTANT (WHICHEVER ONE YOU CIRCLED)?

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10. How important is it for people to obey the law?

Circle one:        very important        important        not important

WHY IS THAT VERY IMPORTANT/IMPORTANT/NOT IMPORTANT (WHICHEVER ONE YOU CIRCLED)?

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11. How important is it for judges to send people who break the law to jail?

Circle one:        very important        important        not important

WHY IS THAT VERY IMPORTANT/IMPORTANT/NOT IMPORTANT (WHICHEVER ONE YOU CIRCLED)?

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**7.14 Appendix XIV: The Prompt Sheet Used in the Semi-Structured Interviews with the Participants in the Experimental Groups.**

**Aggression Replacement Training**

**Semi-structured interview-pupil prompts.**

**Effectiveness;** Do you think the ART group helped you? How?

Have you used what you learnt?

Which part have you used the most?

What parts do you think were effective?

Were there things that didn't work for you?

**Implementation;** What did you think of the ART sessions?

How did you feel taking part in the groups?

What did you like about the sessions/not like?

What could be changed to make ART better?

## 7.15 Appendix XV: Questionnaire Distributed to the Educational Psychologists Facilitating the Experimental Groups.

### Aggression Replacement Training EP Questionnaire

Please could you complete the following questionnaire, providing as much detail as possible, regarding your experience of implementing the ART programme.

Group (school) name:

Do you think the ART intervention was effective?

What, in your opinion, contributed to these outcomes? (What worked well or did not work so well?)

If you were to run this programme again what changes would you make?

Any other comments?

## **7.16 Appendix XVI: Letter Confirming Ethical Approval Received from the Ethical Committee of the University of Nottingham.**

Ref: 499R

Wednesday, 09 July 2014

Dear Samantha Grimes & Neil Ryrie,

### **Ethics Committee Review**

Thank you for submitting an account of your proposed research 'An Evaluation of Aggression Replacement Training: The impact of a multi-component, CBT-based intervention on the problem behaviours, pro-social skills and moral development of pupils in English secondary schools'.

That research has now been reviewed by the Ethics Committee and I am pleased to tell you that your submission has met with the committee's approval.

Final responsibility for ethical conduct of your research rests with you or your supervisor. The Codes of Practice setting out these responsibilities have been published by the British Psychological Society and the University Research Ethics Committee. If you have any concerns whatever during the conduct of your research then you should consult those Codes of Practice.

Independently of the Ethics Committee procedures, supervisors also have responsibilities for the risk assessment of projects as detailed in the safety pages of the University web site. Ethics Committee approval does not alter, replace, or remove those responsibilities, nor does it certify that they have been met.

Yours sincerely

Dr Alan Sunderland

Chair, Ethics Committee

## 7.17 Appendix XVII Parental Information and Consent Form for the Qualitative Measures



### Parent Consent Form for Pupil Interviews

#### **Research Project on a Multi Component Social Competence Intervention based on Cognitive Behaviour Therapy**

Researcher: Samantha Grimes (Trainee Educational Psychologist)

Email: [Samantha.Grimes@birmingham.gov.uk](mailto:Samantha.Grimes@birmingham.gov.uk)

Telephone: 0121 303 8288.

University supervisor: Neil Ryrie. [neil.ryrie@nottingham.ac.uk](mailto:neil.ryrie@nottingham.ac.uk)

As part of my research into the social competence training that your child has recently taken part in, I would like to ask them some questions about their experience of the group sessions.

This will take no more than 15-20 minutes and will include questions such as 'Do you think the ART group has helped you?'

This interview will be recorded on a voice recorder so that the information can be referred to at a later date. Whilst excerpts from these recordings may be used in the final write-up, great care will be taken to ensure that these are anonymised and that any data gathered is stored securely.

Your child will be made aware, in their own consent form, that they are free to leave at any point and can choose not to answer any questions.

If you are happy for your child to take part in the questions, please could you fill out the attached consent slip and return it to the school office no later than 20<sup>th</sup> January 2015.

If you have any questions or concerns please do not hesitate to enquire at your child's school or using the contact details above.

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Child's name \_\_\_\_\_

Year \_\_\_\_\_

Please cross out as necessary:

- Have you read and understood the information sheet YES/NO

- Have you had the opportunity to ask questions and discuss the study  
YES/NO
- Have all the questions been answered satisfactorily YES/NO
- Have you received enough information about the study YES/NO
- Do you understand that your child is free to withdraw from the study at any time without having to give a reason and that you are also free to withdraw on their behalf YES/NO
- I give permission for the session to be recorded on voice recorder YES/NO
- Do you give permission for your child to take part in the interview session (subject to them giving consent also) YES/NO

‘The interview has been explained to me to my satisfaction, I give permission for my child to participate. I understand that my child is free to withdraw at any time.’

Signed: \_\_\_\_\_

Print name: \_\_\_\_\_

Date: \_\_\_\_\_

## 7.18 Appendix XVIII: Pupil Information Sheet and Consent Form for Participation in the Qualitative Measures



### Pupil consent form for an Interview Session

Researcher: Samantha Grimes (Trainee Educational Psychologist), University of Nottingham, School of Psychology.

As part of my research into the Aggression Replacement Training groups that you have attended I would like to ask you some questions about what you thought of the sessions, such as 'Do you think the ART group has helped you?' This should take no more than 15-20 minutes. For this last set of questions I will use a voice recorder so that I can remember everything you said later when writing up the results.

All of the information that you provide will be kept confidential (your name will not be used), it will be stored safely and if you do not want to answer the questions in the interview you can leave at any time.

Please cross out as necessary:

- Have you read and understood the information above YES/NO
- Have you had the opportunity to ask questions and discuss the interview YES/NO
- Have all the questions been answered so that you understand what you are being asked to do YES/NO
- Do you understand that you are free to leave the question sessions at any time without having to give a reason YES/NO
- Do you give permission for Sam to record this session on a voice recorder? YES/NO
- Do you agree to take part in the study YES/NO

'The interview has been explained to me and I understand what I will be doing. I agree to take part in Sam's questions. I understand that I can choose not to answer these questions at any time.'

Signed: \_\_\_\_\_

Print name: \_\_\_\_\_

Date: \_\_\_\_\_

## 7.19 Appendix XIX: Tables displaying exploratory analyses of normal distribution

Dependent variable	pre-test							post-test						
	Skew	SE	z score	Kurtosis	SE	z score	SW	Skew	SE	z score	Kurtosis	SE	z score	SW
Communication	-0.499	0.580	-0.860	-1.000	1.121	-0.892	0.085	-0.074	0.580	-1.276	-0.275	1.121	-0.245	0.394
Cooperation	0.101	0.580	0.174	-0.955	1.121	-0.852	0.753	0.331	0.580	0.571	-1.413	1.121	-1.260	0.133
Assertion	-0.044	0.580	-0.076	-1.321	1.121	-1.178	0.248	-0.097	0.580	-0.167	1.336	1.121	-1.192	0.331
Responsibility	0.180	0.580	0.310	0.309	1.121	0.276	0.986	-0.382	0.580	-0.659	0.101	1.121	0.090	0.673
Empathy	-0.177	0.580	-0.305	-0.702	1.121	-0.626	0.938	-0.139	0.580	-0.240	-0.751	1.121	-0.670	0.610
Engagement	0.508	0.580	0.876	1.953	1.121	1.742	0.406	-0.511	0.580	-0.881	0.305	1.121	0.272	0.873
Self Control	0.276	0.580	0.476	-1.463	1.121	-1.305	0.112	0.587	0.580	1.012	-1.027	1.121	-0.916	0.101
Social skills raw	-0.189	0.580	0.326	-0.442	1.121	-0.394	0.896	0.157	0.580	0.271	-0.188	1.121	-0.168	0.493
Social skills standardised	-0.217	0.580	-0.374	-0.307	1.121	-0.274	0.829	0.137	0.580	0.236	-0.194	1.121	-0.173	0.700
Externalising	0.180	0.580	0.310	-0.542	1.121	-0.483	0.360	0.572	0.580	0.986	0.350	1.121	0.312	0.243
Bullying	0.255	0.580	0.440	-0.589	1.121	-0.525	0.938	0.777	0.580	1.340	0.127	1.121	0.113	0.338
Hyperactivity	-0.071	0.580	-0.122	-1.268	1.121	-1.131	0.243	0.121	0.580	0.209	-0.638	1.121	-0.569	0.684
Internalising	-0.110	0.580	-0.190	-1.160	1.121	-1.035	0.303	0.839	0.580	1.447	-0.107	1.121	-0.095	0.139
Problem Behaviours raw	0.251	0.580	0.433	-0.371	1.121	-0.331	0.280	0.315	0.580	0.543	-0.312	1.121	-0.278	0.865
Problem Behaviours Standardised	0.284	0.580	0.490	-0.369	1.121	-0.329	0.265	0.311	0.580	0.536	-0.329	1.121	-0.293	0.790
SRMS	1.158	0.845	1.370	-0.407	1.741	-0.238	0.055	-0.541	0.845	-0.640	-1.220	1.741	-0.701	0.564

Table 7.3 Table to Show the Skew, Kurtosis and Shapiro Wilk Analyses for the Self Report Data from the Control Group

\*scores in bold represent the which is not normally distributed.



Dependent variable	pre-test				post-test									
	Skew	SE	z score	Kurtosis	SE	z score	SW	Skew	SE	z score	Kurtosis	SE	z score	SW
Communication	-0.893	0.752	-1.188	-0.414	1.481	-0.280	0.122	0.271	0.752	0.360	0.159	1.481	0.107	0.963
Cooperation	0.029	0.752	0.039	-1.074	1.481	-0.725	0.682	-0.034	0.752	-0.045	-0.927	1.481	-0.626	0.945
Assertion	-1.241	0.752	-1.650	1.949	1.481	1.316	0.318	0.938	0.752	1.247	1.047	1.481	0.707	0.385
Responsibility	-0.600	0.752	-0.798	1.765	1.481	1.192	0.583	-0.229	0.752	-0.305	-1.254	1.481	-0.847	0.714
Empathy	-0.240	0.752	-0.319	0.761	1.481	0.514	0.205	0.089	0.752	0.118	-1.337	1.481	-0.903	0.608
Engagement	-0.514	0.752	-0.684	-0.770	1.481	-0.520	0.381	-0.823	0.752	-1.094	-0.516	1.481	-0.348	0.400
Self Control	1.148	0.752	1.527	1.336	1.481	0.902	0.367	0.041	0.752	0.055	-0.239	1.481	-0.161	0.935
Social skills raw	-0.802	0.752	-1.066	-0.826	1.481	0.558	0.108	0.012	0.752	0.016	-0.412	1.481	-0.278	0.989
Social skills standardised	-0.686	0.752	-0.912	-0.997	1.481	-0.673	0.181	-0.020	0.752	-0.027	-1.263	1.481	-0.853	0.675
Externalising	0.295	0.752	0.392	-1.188	1.481	-0.802	0.594	-1.273	0.752	-1.693	-0.175	1.481	-0.118	<b>0.008</b>
Bullying	0.109	0.752	0.145	-0.803	1.481	-0.542	0.559	-0.572	0.752	-0.761	-1.563	1.481	-1.055	0.066
Hyperactivity	0.144	0.752	0.191	-0.329	1.481	-0.222	0.804	-0.745	0.752	-0.991	-0.600	1.481	-0.405	0.266
Internalising	0.564	0.752	0.750	-0.115	1.481	-0.078	0.725	0.807	0.752	1.073	0.020	1.481	0.014	0.519
Problem Behaviours raw	-0.350	0.752	-0.465	-0.940	1.481	-0.635	0.564	-1.094	0.752	-1.455	-0.003	1.481	-0.002	<b>0.038</b>
Problem Behaviours Standardised	-0.250	0.752	-0.332	-1.067	1.481	-0.720	0.646	-1.111	0.752	-1.477	0.032	1.481	0.022	0.042
SRMS	1.045	0.845	1.237	1.043	1.741	0.599	0.571	1.314	0.845	1.587	1.588	1.741	0.912	0.302

Table 7.4: Table to Show the Skew, Kurtosis and Shapiro Wilk Analyses for the Self Report Data from the Intervention Group

Dependent variable	pre-test							post-test						
	Skew	SE	z score	Kurtosis	SE	z score	SW	Skew	SE	z score	Kurtosis	SE	z score	SW
Communication	-0.491	0.661	-0.743	-1.486	1.279	-1.162	<b>0.029</b>	0.385	0.661	0.582	-1.418	1.279	-1.109	0.225
Cooperation	-0.132	0.661	-0.200	-1.821	1.279	-1.424	0.092	0.351	0.661	0.531	-1.918	1.279	-1.500	<b>0.013</b>
Assertion	-0.019	0.661	-0.029	-0.366	1.279	-0.286	0.696	-0.011	0.661	-0.017	0.251	1.279	0.196	0.985
Responsibility	0.249	0.661	0.377	-1.634	1.279	-1.278	0.083	0.432	0.661	0.654	-1.441	1.279	-1.127	0.088
Empathy	0.409	0.661	0.619	-1.617	1.279	-1.264	<b>0.041</b>	0.239	0.661	0.362	-1.305	1.279	-1.023	0.431
Engagement	-0.582	0.661	-0.880	-1.104	1.279	-0.863	0.156	-0.031	0.661	-0.047	-0.153	1.279	-0.120	0.749
Self control	0.154	0.661	0.233	-1.767	1.279	-1.382	0.086	0.922	0.661	1.395	-0.430	1.279	-0.336	0.069
Social skills raw	-0.119	0.661	0.180	-1.955	1.279	-1.529	0.066	0.383	0.661	0.579	-1.322	1.279	-1.034	0.287
Social skills standard	-0.166	0.661	-0.251	-1.980	1.279	-1.548	0.054	0.343	0.661	0.519	-1.429	1.279	-1.117	0.222
Externalising	0.200	0.661	0.303	-1.690	1.279	-1.321	0.064	-0.303	0.661	-0.458	-1.466	1.279	-1.646	0.268
Bullying	0.573	0.661	0.867	-1.539	1.279	-1.203	<b>0.009</b>	0.058	0.661	0.088	-1.626	1.279	-1.271	0.119
Hyperactivity	-0.224	0.661	-0.339	-2.003	1.279	-1.566	<b>0.028</b>	-0.438	0.661	-0.663	-1.548	1.279	-1.210	0.074
Internalising	0.167	0.661	0.253	-1.737	1.279	-1.358	0.053	0.725	0.661	1.097	-0.448	1.279	-0.350	0.399
Autistic Spectrum	-0.070	0.661	-0.106	-1.932	1.279	-1.511	0.089	-0.103	0.661	-0.156	-1.064	1.279	-0.832	0.604
Problem behaviours raw	0.033	0.661	0.050	-2.003	1.279	-1.566	<b>0.038</b>	-0.327	0.661	-0.495	-1.227	1.279	-0.998	0.253
Problem behaviours standard	0.034	0.661	0.051	-2.029	1.279	-1.586	<b>0.027</b>	-0.254	0.661	-0.384	-1.465	1.279	-1.145	0.206

Table 7.5: Table to Show the Skew, Kurtosis and Shapiro Wilk Analyses for the Teacher Report Data from the Control Group

Dependent variable	pre-test							post-test						
	Skew	SE	z score	Kutosis	SE	z score	SW	Skew	SE	z score	Kutosis	SE	z score	SW
Communication	-0.226	0.752	-0.301	-0.956	1.481	-0.646	0.697	0.342	0.752	0.455	-1.533	1.481	-1.035	0.393
Cooperation	0.051	0.752	0.068	-1.964	1.481	-1.326	0.077	0.388	0.752	0.516	-1.204	1.481	-0.813	0.608
Assertion	-1.033	0.752	-1.374	-0.313	1.481	-0.211	0.063	-0.133	0.752	-0.177	-1.731	1.481	-1.169	0.375
Responsibility	-0.143	0.752	-0.190	-1.025	1.481	-0.692	0.627	0.191	0.752	0.254	-1.488	1.481	-1.005	0.397
Empathy	-0.416	0.752	-0.553	-0.461	1.481	-0.311	0.456	0.689	0.752	0.916	-0.321	1.481	-0.217	0.078
Engagement	-0.439	0.752	-0.584	-0.250	1.481	-0.169	0.952	0.412	0.752	0.548	0.383	1.481	0.259	0.680
Self control	0.090	0.752	0.120	-1.111	1.481	-0.750	0.451	0.339	0.752	0.451	-0.886	1.481	-0.598	0.758
Social skills raw	0.376	0.752	0.500	-0.378	1.481	-0.255	0.836	0.306	0.752	0.407	-1.501	1.481	-1.014	0.509
Social skills standard	0.302	0.752	0.402	-0.618	1.481	-0.417	0.824	0.168	0.752	0.223	-1.668	1.481	-1.126	0.537
Externalising	-0.567	0.752	-0.754	-0.519	1.481	-0.350	0.247	-0.263	0.752	-0.035	-1.307	1.481	-0.883	0.222
Bullying	0.275	0.752	0.366	-1.374	1.481	-0.928	0.476	-0.386	0.752	-0.513	-0.448	1.481	-0.302	0.408
Hyperactivity	-1.098	0.752	-1.460	0.902	1.481	0.609	0.208	-0.275	0.752	-0.366	-1.483	1.481	-1.001	0.343
Internalising	-0.196	0.752	-0.261	0.047	1.481	0.032	0.941	-1.330	0.752	-1.769	1.668	1.481	1.126	0.076
Autistic Spectrum	-0.204	0.752	-0.271	-0.789	1.481	-0.533	0.962	-0.615	0.752	-0.818	-1.481	1.481	-1.000	<b>0.018</b>
Problem behaviours raw	-0.502	0.752	-0.668	-0.489	1.481	-0.330	0.655	-0.767	0.752	-1.020	-0.778	1.481	-0.525	0.319
Problem behaviours standard	-0.142	0.752	-0.189	-1.509	1.481	-1.019	0.661	0.130	0.752	0.173	-0.975	1.481	-0.658	0.912

Table 7.6: Table to Show the Skew, Kurtosis and Shaprio Wilk Analyses for the Teacher Report Data from the Intervention Group

Dependent variable	Pre- test				Post- test									
	Skew	SE	z score	Kutosis	SE	z score	SW	Skew	SE	z score	Kutosis	SE	z score	SW
Communication	-0.676	0.661	-1.023	-0.005	1.279	-0.004	0.502	-0.838	0.661	-1.268	0.689	1.279	0.539	0.596
Cooperation	0.061	0.661	0.092	-0.472	1.279	-0.369	0.988	-0.531	0.661	-0.803	-0.429	1.279	-0.335	0.639
Assertion	0.15	0.661	0.227	-0.148	1.279	-0.116	0.506	-0.984	0.661	-1.489	1.392	1.279	1.088	0.473
Responsibility	-0.128	0.661	-0.194	-1.105	1.279	-0.864	0.649	-1.647	0.661	<b>-2.492</b>	2.963	1.279	<b>2.317</b>	<b>0.023</b>
Empathy	0.085	0.661	0.129	-0.904	1.279	-0.707	0.677	-0.596	0.661	-0.902	-0.442	1.279	-0.346	0.3
Engagement	-0.054	0.661	-0.082	-0.939	1.279	-0.734	0.627	-0.011	0.661	-0.017	-1.037	1.279	-0.811	0.798
Self control	-0.26	0.661	-0.393	0.839	1.279	0.656	0.214	-1.558	0.661	<b>-2.357</b>	3.245	1.279	<b>2.537</b>	0.055
Social skills raw	-0.473	0.661	-0.716	-0.781	1.279	-0.611	0.578	-0.257	0.661	-0.389	-0.283	1.279	-0.221	0.752
Social skills standard	-0.427	0.661	-0.646	-0.71	1.279	-0.555	0.761	-0.287	0.661	-0.434	-0.199	1.279	-0.156	0.663
Externalising	-0.143	0.661	-0.216	-0.905	1.279	-0.708	0.874	0.373	0.661	0.564	-1.164	1.279	-0.91	0.348
Bullying	1.02	0.661	1.543	0.344	1.279	0.269	0.12	0.906	0.661	1.371	-0.482	1.279	-0.377	0.071
Hyperactivity	0.062	0.661	0.094	-1.592	1.279	-1.245	0.27	0.677	0.661	1.024	-0.635	1.279	-0.496	0.235
Internalising	0.366	0.661	0.554	-1.097	1.279	-0.858	0.164	1.501	0.661	<b>2.271</b>	3.267	1.279	<b>2.554</b>	0.076
Autistic Spectrum	1.206	0.661	1.825	1.2	1.279	0.938	0.085	0.31	0.661	0.469	-0.207	1.279	-0.162	0.878
Problem behaviours raw	0.214	0.661	0.324	-0.999	1.279	-0.781	0.716	0.773	0.661	1.169	-0.07	1.279	-0.055	0.507
Problem behaviours standard	0.369	0.661	0.558	-0.808	1.279	-0.632	0.551	0.921	0.661	1.393	0.469	1.279	0.367	0.523

Table 7.7: Table to Show the Skew, Kurtosis and Shapiro Wilk Analyses for the Parent Report Data from the Control Group

Dependent variable	pre-test							Post-test						
	Skew	SE	z score	Kutosis	SE	z score	SW	Skew	SE	z score	Kutosis	SE	z score	SW
Communication	-1.774	0.845	<b>-2.099</b>	2.863	1.741	1.644	<b>0.014</b>	-0.831	0.845	0.983	0.208	1.741	0.119	0.341
Cooperation	0.828	0.845	0.98	-1.809	1.741	-1.039	<b>0.024</b>	-0.148	0.845	-0.175	-1.128	1.741	-0.648	0.801
Assertion	-1.113	0.845	-1.317	0.533	1.741	0.306	0.248	0	0.845	0	-0.3	1.741	-0.172	0.96
Responsibility	-0.666	0.845	-0.788	0.586	1.741	0.337	0.473	-1.697	0.845	<b>-2.008</b>	3.064	1.741	1.76	0.078
Empathy	-1.589	0.845	-1.88	2.96	1.741	1.7	0.2	-0.707	0.845	-0.837	-0.648	1.741	-0.372	0.442
Engagement	-0.15	0.845	-0.178	-1.357	1.741	-0.779	0.439	-0.663	0.845	-0.785	0.586	1.741	0.337	0.923
Self control	0.515	0.845	0.609	0.729	1.741	0.419	0.953	1.301	0.845	1.54	1.28	1.741	0.735	0.295
Social skills raw	-1.041	0.845	-1.232	2.206	1.741	1.267	0.502	-0.444	0.845	0.525	1.649	1.741	0.947	0.718
Social skills standard	-1.129	0.845	-1.336	2.213	1.741	1.271	0.525	-0.568	0.845	-0.672	1.751	1.741	1.006	0.6
Externalising	1.447	0.845	1.712	2.227	1.741	1.279	0.169	1.927	0.845	<b>2.28</b>	4.121	1.741	<b>2.367</b>	<b>0.042</b>
Bullying	2.149	0.845	<b>2.543</b>	4.92	1.741	<b>2.826</b>	<b>0.01</b>	0.811	0.845	0.96	0.158	1.741	0.091	0.468
Hyperactivity	0	0.845	0	-0.008	1.741	-0.005	0.998	0.668	0.845	0.791	0.455	1.741	0.261	0.77
Internalising	0.148	0.845	0.175	-2.484	1.741	-1.427	0.237	1.682	0.845	<b>1.991</b>	3.029	1.741	1.74	0.083
Autistic Spectrum	0.578	0.845	0.684	2.315	1.741	1.33	0.394	1.778	0.845	<b>2.104</b>	3.575	1.741	<b>2.158</b>	0.071
Problem behaviours raw	0.988	0.845	1.169	1.499	1.741	0.861	0.663	1.888	0.845	<b>2.234</b>	4.159	1.741	<b>2.389</b>	0.051
Problem behaviours standard	0.974	0.845	1.153	1.018	1.741	0.585	0.673	1.438	0.845	1.702	2.683	1.741	1.541	0.293
Problem behaviours standard	0.369	0.661	0.558	-0.808	1.279	-0.632	0.551	0.921	0.661	1.393	0.469	1.279	0.367	0.523

Table 7.8: Table to Show the Skew, Kutosis and Shapiro-Wilk Analyses for the Parent Report Data for the Intervention Group

## 7.20 Appendix XX: Tables displaying the Results of the Analyses of Homogeneity of Variances.

Dependent variable	pre-test			post-test		
	F	df	sig.	F	Df	sig.
Communication	2.173	1, 21	0.155	0.002	1, 21	0.964
Cooperation	0.557	1, 21	0.464	0.16	1, 21	0.693
Assertion	1.396	1, 21	0.251	1.562	1, 21	0.225
Responsibility	0.107	1, 21	0.746	0.006	1, 21	0.939
Empathy	1.777	1, 21	0.197	0.046	1, 21	0.832
Engagement	1.345	1, 21	0.259	0.014	1, 21	0.906
Self Control	4.846	1, 21	<b>0.039</b>	1.382	1, 21	0.253
Social skills raw	0.372	1, 21	0.548	0.067	1, 21	0.789
Social skills standardised	0.309	1, 21	0.584	0.201	1, 21	0.659
Externalising	0	1, 21	0.992	0	1, 21	0.996
Bullying	0.019	1, 21	0.893	0.6	1, 21	0.447
Hyperactivity	2.157	1, 21	0.157	0.011	1, 21	0.916
Internalising	0.425	1, 21	0.522	0.02	1, 21	0.889
Problem Behaviours raw	0.033	1, 21	0.857	0.026	1, 21	0.874
Problem Behaviours Standardised	0.033	1, 21	0.857	0.026	1, 21	0.874
SRMS	0.225	1, 10	0.645	1.376	1, 10	0.268

Table 7.9: Table to Show the Non-parametric Levene's test Results for the Self Report Measures

- Scores in bold represent data which was significantly heterogeneous in its variances

Dependent variable	pre-test			post-test		
	F	df	Sig.	F	Df	Sig.
Communication	1.246	1, 15	0.282	0.234	1, 15	0.636
Cooperation	0.017	1, 15	0.898	0.72	1, 15	0.409
Assertion	0.152	1, 15	0.703	0.852	1, 15	0.371
Responsibility	10.715	1, 15	<b>0.005</b>	3.802	1, 15	0.07
Empathy	0.33	1, 15	0.574	0.009	1, 15	0.926
Engagement	0.49	1, 15	0.495	0	1, 15	0.994
Self control	0.001	1, 15	0.978	0.214	1, 15	0.65
Social skills raw	0.054	1, 15	0.819	0.356	1, 15	0.56
Social skills standard	0.054	1, 15	0.819	0.314	1, 15	0.584
Externalising	0.21	1, 15	0.653	2.295	1, 15	0.151
Bullying	0.244	1, 15	0.629	0.386	1, 15	0.544
Hyperactivity	1.573	1, 15	0.229	1.312	1, 15	0.27
Internalising	0.33	1, 15	0.574	0.856	1, 15	0.37
Autistic Spectrum	0.061	1, 15	0.808	0.056	1, 15	0.816
Problem behaviours raw	0.04	1, 15	0.844	0.874	1, 15	0.365
Problem behaviours standard	0.04	1, 15	0.844	1.461	1, 15	0.246

Table 7.10: Table to Show the Non-parametric Levene's test Results for the Parent Report Measures

Dependent variable	pre-test			post-test		
	F	df	sig.	F	Df	sig.
Communication	2.455	1, 17	0.136	0.051	1, 17	0.824
Cooperation	2.65	1, 17	0.122	0.536	1, 17	0.474
Assertion	5.755	1, 17	<b>0.028</b>	0.468	1, 17	0.503
Responsibility	0.503	1, 17	0.488	0.364	1, 17	0.554
Empathy	1.283	1, 17	0.273	9.576	1, 17	<b>0.007</b>
Engagement	1.938	1, 17	0.182	0.159	1, 17	0.695
Self control	0.995	1, 17	0.333	0.078	1, 17	0.783
Social skills raw	3.075	1, 17	0.098	0.186	1, 17	0.672
Social skills standard	3.155	1, 17	0.094	0.185	1, 17	0.672
Externalising	0.851	1, 17	0.369	3.279	1, 17	0.088
Bullying	6.99	1, 17	<b>0.017</b>	7.108	1, 17	<b>0.016</b>
Hyperactivity	1.587	1, 17	0.225	3.349	1, 17	0.085
Internalising	1.588	1, 17	0.225	0.319	1, 17	0.579
Autistic Spectrum	0.314	1, 17	0.582	1.156	1, 17	0.297
Problem behaviours raw	1.279	1, 17	0.274	0.692	1, 17	0.417
Problem behaviours standard	2.72	1, 17	0.117	2.19	1, 17	0.157

Table 7.11: Table to Show the Non-parametric Levene's Test Results for the Teacher Report Measures





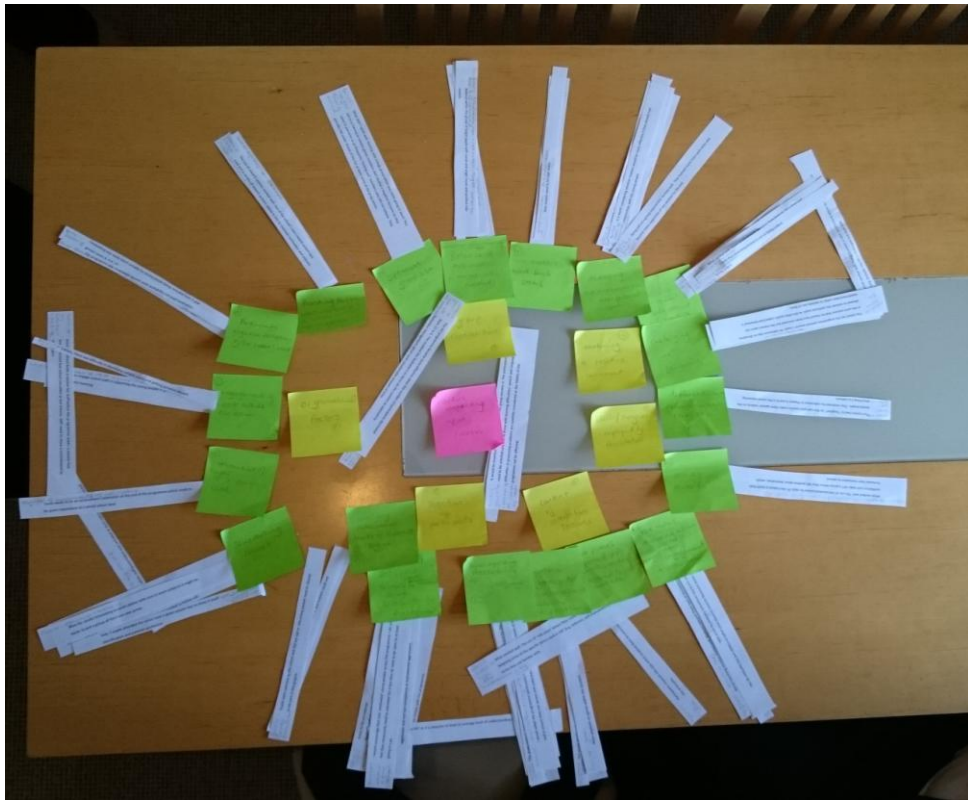


Fig 7.3 Original Thematic Network for the 'Factors Impacting Upon Success' Overarching Theme for the Facilitator Questionnaire Data

## 7.22 Appendix XXII: Image of the Original Thematic Network for the Group Member Interview Data

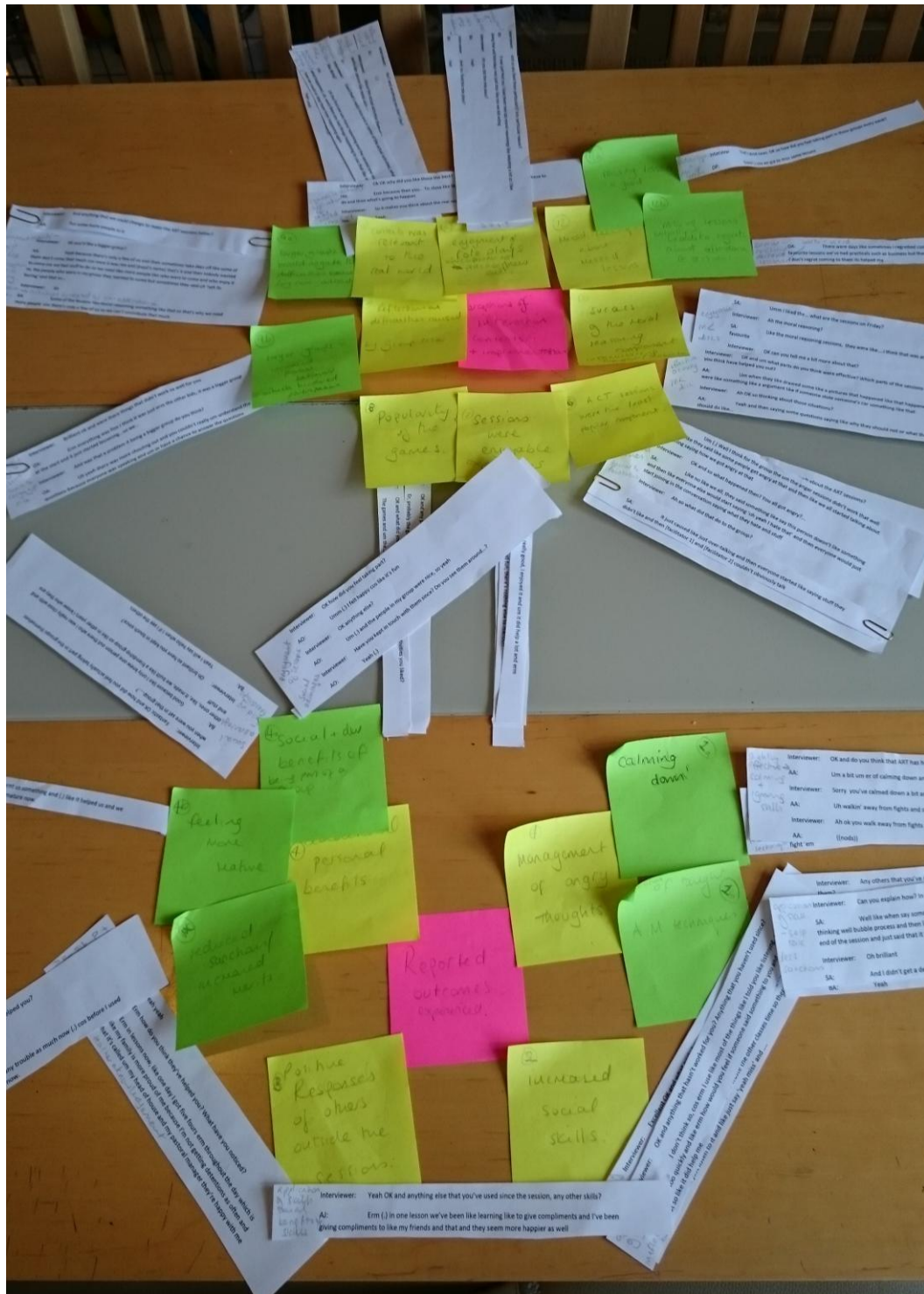


Fig 7.4: Original Thematic Network for Both Overarching Themes Constructed from the Group Member Interview Data

**7.23 Appendix XXIII: Needs of the Role Model and Target Individuals Provided by the Member of Staff from Each School Responsible for Selection.**

Target pupils	Role models
Rude to staff	Disrespectful/Rude to staff
Refusal to follow instructions	Easily lead
Aggressive and defiant	Loses temper
Self esteem issues	Silly, easily wound up by peers
Low level disruption	Physical aggression
Externalised aggressive behaviour	Anger issues when younger
Verbal conflicts with staff and peers	Lacks tact
Physical fights	Quiet and reserved
Verbal aggression to peers and staff	Disruptive
Physical violence with peers	Emotionally immature
Disruptive	Fighting
Verbally abusive	Physically/verbally abusive
Bullying	Uncooperative
Theft	Mischievous
Defiant	Gets involved in other's disputes

Table 7.12 Behaviour Descriptors for the Role Models and Target Pupils Provided by School Staff During the Selection Process.

## 7.24 Appendix XXIV: Glossary of Abbreviations

Abbreviation	Translation
ACT	Anger Control Training
ART	Aggression Replacement Training
BESD	Behavioural, Emotional and Social Difficulties
CBT	Cognitive Behaviour Therapy
EP	Educational Psychologist
EPPI	Evidence for Policy and Practice Information and Co-ordinating Centre
EPS	Educational Psychology Service
iCART	International Centre for Aggression Replacement Training
RCT	Randomised Control Trial
SCED	Single Case Experimental Design
SD	Standard Deviation
SEN	Special Educational Needs
SENDA	Special Educational Needs and Disabilities Act (2001)
SRMS	Sociomoral Reflection Maturity Score
SRM-SF	Sociomoral Reflection Measure-Short Form
SSIS-RS	Social Skills Improvement System-Rating Scales

Table 7.13 Table of Abbreviations