Evaluating a universal cognitive behavioural intervention: What is the impact on pupils' self-esteem?

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Abstract

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This study evaluated a short-term Cognitive Behavioural Intervention (CBI) delivered by school staff to whole classes, designed to promote self-esteem. The research had a practical purpose, as the intervention had been implemented within multiple schools without being evaluated. A mixed methods design was employed to assess the impact of the CBI and to explore why this impact was occurring, to inform future use.

171 pupils in years 5 and 6 from three mainstream schools were criterion-sampled, 108 in the intervention group (4 classes selected by school staff) and 63 in the wait-list control group (3 classes, matched by school and year). All pupils completed scales from the Self-Description Questionnaire (SDQ) and the Children's Automatic Thoughts (CAT) scale at pre-intervention and post-intervention. One class also completed the scales for a third, follow-up occasion. Qualitative data were collected through semi-structured interviews with 3 school staff and 6 pupils. In addition, school staff were observed delivering the intervention to ascertain implementation fidelity.

Results suggest that the CBI had no impact on pupils' global self-esteem or peer related self-concept, but it had a negative impact on pupils' school self-concept. There were no immediate impacts on Negative Automatic Thoughts (NATs), except for pupils with below-average academic attainment who showed reductions in NATs at post-intervention. Follow-up data showed positive impacts on NATs, peer and school self-concept two months after the intervention, although this lacked a control comparison.

Thematic analyses of the qualitative data revealed factors influencing the impact of the intervention included its universal design, the involvement of school systems and individual pupil differences. The study concluded that the intervention has value as a psycho-educational learning tool, but does not directly improve global self-esteem. There are implications for the role of educational psychologists in supporting schools to critically select and implement interventions.

I hereby declare that, except where explicit attribution is made, the work presented in this thesis is my own.

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Contents
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List of Figures and Tables

Figures

Tables

Chapter 1: Introduction

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This chapter offers an overview of the context in which the research occurred in order to provide background for the study rationale. This includes discussing the relevance to educational psychologists to introduce the professional perspective from which the research took place.

1.1. Key terms and definitions

For the purposes of this research, the term 'mental health' refers to the aspects of mental wellbeing as identified by the National Institute for Health and Care Excellence (NICE) review of mental wellbeing interventions in schools (Adi, Killoran, Janmohamed & Stewart-Brown, 2007). This includes emotional, psychological and social wellbeing such as happiness, confidence, prosocial behaviour, healthy peer relationships and self-esteem. The term 'mental health' has not been used to simply refer to an absence of mental illness, as these concepts are not at opposite ends of a spectrum (Huppert, 2009), although they are clearly related constructs. Instead, this study recognises that children and young people without a diagnosed mental illness may still lack aspects of mental health and would therefore potentially benefit from interventions that promote mental health.

Reference is made to Cognitive Behavioural Therapy (CBT) and Cognitive Behavioural Intervention (CBI). CBT refers to the therapeutic uses of cognitive-behavioural theory in which a psychologically trained professional works directly with an individual or small group who have identified difficulties in their behaviour or thinking. CBI refers to the use of the theory and principles behind CBT with both targeted and universal groups focusing on promoting aspects of positive mental health (e.g. self-esteem). Psychologists and non-psychologists, such as school staff, might deliver a CBI.

Theories of self-esteem and self-concept are considered, these terms are used interchangeably in some literature but in this study the term 'self-esteem' has been used to refer to the global component of self-concept whereas 'self-concept' refers to a person's evaluation of themselves in different domains (e.g. peer relations self-concept). This is in line with the multidimensional theory that has been used to conceptualise self-esteem in the current study (O'Mara, Marsh, Craven & Debus, 2006).

1.2. Research Context

This research was undertaken as part fulfilment of the Professional Doctorate in Educational, Child and Adolescent Psychology. The purpose of the research was to evaluate a universal school-based intervention that used methods and approaches derived from CBT with the aim of promoting self-esteem in pupils. As a Trainee Educational Psychologist working in a Local Authority (LA 1), this study topic not only appealed to my personal and professional interests, but also contributed directly to LA 1 by evaluating an intervention that was already taking place in multiple schools, without having been formally assessed. Therefore, the study had a practical and real-world purpose and rationale, which was to critically consider the value of the intervention in terms of its impact on pupils and to inform its future use. In addition, the study aimed to contribute to the widening body of research on school-based mental health interventions and to consider the role of Educational Psychologists (EPs) in such interventions.

1.3. National and legislative context

At the time of the current study, research indicates that children in the UK are at risk of developing poor emotional well-being and mental health (Department of Health (DoH), 2013). It is estimated that 10-15% of school-aged children have mental health needs, which do not warrant a clinical diagnosis, but would benefit from some form of structured input (DoH, 2004). The national mental health strategy (HM Government, 2011) highlighted the importance of universal interventions that promote mental health for children and young people, alongside targeted support for those who require more specialist input. There has been a growing interest in the role of schools in signposting and providing such interventions (Attride-Stirling et al., 2001) and it has been identified that schools should provide:

> *'evidence-based interventions for children and young people who have, or are at risk of developing, emotional and behavioural problems, alongside universal mental health promotion approaches'*
> (DoH, 2012, P.33)

Given the time children spend at school and its familiarity to children and parents, it seems logical that schools are in a good position to facilitate and sustain mental health interventions where staff can closely monitor, adapt and track specific programmes (Aggett, Boyd, & Fletcher, 2006). This relates to the current study in which teaching staff implemented and delivered an intervention based on cognitive-behavioural approaches.

1.4. Theoretical context

CBT has been increasingly adopted in school-based mental health interventions due to its evidence base as an effective approach for a range of difficulties (Layard, Clark, Knapp & Mayraz, 2007). As a therapeutic approach, CBT aims to modify a person's cognitions - specifically their core beliefs and assumptions - in order to change their thoughts, feelings and behaviour to promote positive emotional health (Graham, 2005). The theory behind CBT has also been adopted within non-therapeutic school interventions (such as in the current study) to prevent mental health related difficulties and to promote aspects of good mental health, including self-esteem.

Self-esteem is generally understood to refer to an evaluation of one's self and is often a focus for intervention as it positively correlates with desired traits such as resilience, interpersonal skills and academic achievement (Delugach, Bracken, Bracken & Schicke 1992; Davies & Brember, 1999) and it may therefore act as a 'buffer' against poor mental health. However, self-esteem is widely believed to be a complex and multidimensional concept in which domain-specific self-concepts (e.g. academic or appearance self-concept) contribute to global self-esteem depending on the values placed on those self-concepts (Marsh, 1993). Previous CBIs in schools have shown indirect effects on self-esteem but this relationship appears complex and there is a lack of research into CBIs that have specifically targeted self-esteem within a universal population. Consequently, there was a theoretical, as well as practical, need to evaluate the current intervention to explore how and why it was affecting pupil self-esteem.

1.5. Local context and background to the intervention

At the time of this study, the impacts of a recession were being felt throughout LA 1 and had included significant reductions in children's services. Many services that were previously freely available to schools had been reduced or removed altogether. LA 1 schools were given the opportunity to 'buy back' some of these services, which resulted in school leaders having increased freedom and choice about the methods they used to promote children's development and mental health. In addition, the increase of Academies and Free Schools (which have greater budgetary control and receive limited council-maintained services) meant there was widening variation in how different schools addressed the mental health needs of their pupils.

These factors contributed to the creation of the intervention evaluated in this study. Within LA 1 there was an increasing awareness of the value of CBT and a widening

use of it as a therapeutic approach within health services, such as through the 'Increasing Access to Psychological Therapies' (IAPT's) programme. As a result of this increasing awareness, but with limited availability of local services, two school leaders within council-maintained schools independently commissioned a CBI from a private clinical psychologist. This intervention (described in Appendix 1) was designed to enable teachers to utilise principles and methods from CBT in order to promote self-esteem in a universal pupil population.

The intervention was initially implemented with whole classes in key stage 2 and 3 and the staff involved anecdotally reported positive impacts on pupils' attitudes and behaviour, but no objective evaluations were carried out. As a result of these anecdotal reports, the intervention was offered to all LA 1 schools. Staff members from interested schools attended a specially designed 2-day training session led by clinical psychologists from Children and Adolescent Mental Health Services (CAMHS) within LA 1. This training explained the CBT principles that underpinned the intervention and provided guidance on how to use the intervention, including lesson plans. Following this, schools began implementing the intervention; this study was started soon after. During the research period, no further training was offered from CAMHS to the schools involved and there was very limited involvement from the Educational Psychology Service (EPS) in LA 1. However, during the latter stages of this study, the responsibility for the intervention was passed to the EPS and EPs are currently considering how best to utilise the intervention in future, based on its value and impact as measured in part by this study.

1.6. Professional Context: The role of the EP

It could be questioned why EPs in LA 1 were not involved in the commissioning, designing and implementation of this intervention from the start. One suggestion could be that schools do not perceive EPs as typically engaging in therapeutic or preventive mental health intervention. However, there has been a recent increase in the academic and practical interest that EPs are devoting to therapeutic work (MacKay, 2007). Although the diversity of practice between EPs means it can't be assumed that a desire to engage in therapeutic intervention is universal (Greig, 2007); for those EPs that are engaging in such work, CBT approaches are increasingly being adopted (Pugh, 2010) and many EP doctoral training courses are now providing CBT training.

EPs have adapted CBT approaches to the different levels at which they work, i.e. child, group and organisational level (Boyle & Lauchlan, 2009). It therefore appears that EPs are not only offering CBT in traditional 1:1 therapy, but are utilising CBIs within social

and educational contexts where the focus is not purely on the individual child (Squires, 2006). This supports Rait, Monsen and Squires (2010) who suggest that, due to EPs' unique knowledge of school systems, they are well placed to implement a variety of CBIs (as opposed or in addition to 1:1 therapy) and to support school staff who may be more directly involved in the programme delivery. This raises questions about why the intervention within the current study was not implemented with greater support from the EPS.

The reason may relate to a lack of time and funding for such EP work, although it had been previously anticipated that reductions in EP statutory duties could create more opportunity for mental health intervention and therapy (Farrell et al., 2006). However, there appear to be other, related, barriers preventing EPs from engaging in such work, including issues around professional territory (Squires & Dunsmuir, 2011). For example, in the current study, clinical psychologist involvement may have inhibited initial EP involvement. Farrell et al recommend that, to overcome any professional role conflict, EPs and clinical psychologists should develop plans for effective joint working where their skills could be complemented effectively. This would potentially help overcome funding difficulties for EPs who wish to use therapeutic interventions, as other providers are often more cost effective and therefore EPs are less likely to be bought in to provide it (MacKay, 2002).

However, the initial lack of EP involvement may have been due to school leaders being unaware that EPs could offer such services, therefore indicating a need for better advertisement of EP skills. This might partially reflect a perceived lack of competence at the individual EP level, as many EPs have not received training in CBT and therefore may believe they are not able to design or contribute to an associated intervention. However, Squires (2010) argues that EPs are capable of utilising a CBI without additional training because CBT has roots in other familiar areas of psychology such as Personal Construct Psychology. Additionally, key aspects of CBIs, such as that in the current study, involve activities that already form the repertoire of EP practice such as goal setting, behavioural experiments and increasing awareness of one's own thinking. It would therefore seem appropriate for EPs who have not had specific CBT training to still support and supervise school staff in the use of this CBI.

Overall it appears that, despite some potential barriers, EPs are well positioned to support school staff in the use of CBIs. The purpose of the current study therefore, was not only to evaluate the intervention, but also to consider how EPs can support schools to critically consider the use of CBIs and other mental health interventions.

1.7. Research rationale

This study evaluated a school-based short-term CBI that was designed to increase the self-esteem of non-targeted pupils in key stage 2. The rationale for the study was both practical and theoretical in nature. The practical justification was that the intervention was an original creation for schools in LA 1 and had not yet been formally evaluated in any way. Due to the time already being given by teachers and pupils to the use of this intervention, there was a significant need to assess if it was having its intended impact on the promotion of pupils' self-esteem and to explore how and why any impact was occurring. This information was intended to contribute to guiding future use of the intervention for schools and for EPs.

The theoretical justification, which is explained in reference to previous literature in Chapter 2, related to the lack of existing research into universal CBIs for self-esteem and the complexity of promoting global self-esteem, given its multidimensional nature. It was intended that this study would contribute to this field and would add to the growing body of research into the use of school-based CBIs and the role of EPs in supporting them.

Chapter 2: Literature Review

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This chapter critically considers the literature relevant to this study that has helped to inform the research questions, design and approach.

2.1. Literature search

A narrative literature review approach was used in which initial literature was selected using key word searches, which then signposted other relevant research. This process began by conducting key word searches in electronic databases including the Institute of Education Library catalogue, the Senate House Library catalogue, web based search engines and the Education Resources Information Centre.

The initial key word searches were conducted using combinations of the terms 'cognitive behavioural therapy', 'cognitive behavioural intervention', 'self-esteem' and 'self-concept'. These searches produced very large numbers of results and therefore the use of 'Boolean operators' such as 'AND', 'OR' and 'NOT' were used to eliminate and specify the most relevant information. This led to additional search terms including 'school', 'children', 'young people', 'whole-class', 'universal', 'mental health' and 'teachers'. The initial literature search then allowed the identification of other relevant research.

2.2. Why are mental health interventions needed for children and young people?

Addressing the mental health of Children and Young People (CYP) has been identified as a critical issue in ensuring healthy development and reducing mental illness in adulthood. In 2004, the Department of Health estimated that 10% to 15% of CYP suffer from a mental disorder that would meet the criteria for a clinical diagnosis. It went on to suggest that a similar number have less serious problems that would benefit from some structured input. In total, around two million children were thought to require intervention to improve their mental health but around 40% were not receiving any form of specialist input. Ford, Goodman and Meltzer (2003) found that in the UK, only 22% of children with identified mental health difficulties received intervention within 18 months of receiving a diagnosis. For CYP with mental health needs who do not meet the criteria for a clinical diagnosis, support may be even harder to access. This is worrying as evidence suggests that many adults and children that do not have a diagnosed mental illness often lack aspects of mental health (Keyes, 2005). Consequently, there is a strong argument for the widespread provision of universal,

preventive mental health interventions for CYP, alongside targeted support for those who require more specialist input.

In 2004, the World Health Organisation produced a report summarising the recent scientific literature on the prevention of mental disorders (Hosman, Jané-Llopis & Saxena). This defined preventive interventions as those that work by reducing the risk factors associated with mental ill health and enhancing protective factors. Protective factors were defined as features of positive mental health, such as self-esteem, emotional resilience, positive thinking and social skills. Most preventive interventions used with CYP therefore try to build up these protective factors. The intervention in the current study could be termed a 'preventive' intervention because it aimed to promote self-esteem in CYP. However, the current study evaluated the intervention in terms of the impact on self-esteem, rather than on the potential prevention of later mental health difficulties.

There are ethical and practical concerns with the use of universal or preventive interventions. For example, it could be considered ethically unsound to assume that all CYP require intervention to promote their self-esteem as it implies that they are likely to suffer from future difficulties without this intervention. Conversely, it does not take into account that the needs of CYP vary widely and some may have a negative response to a non-targeted intervention. For example, some could experience a reduction in self-esteem due to being given opportunities to engage in critical self-reflection within a preventive intervention. This also relates to the argument regarding universal versus targeted interventions, which is discussed in more detail below.

A more practical problem with preventing mental health difficulties is that such difficulties have multiple determinants and therefore prevention needs to be a multipronged effort that not only addresses psychological factors but also addresses neurological, social and environmental factors. This raises the importance of having professionals such as Educational Psychologists (EPs) involved in such interventions who are able to work with schools and families to try and address multiple systemic issues and to link with other agencies. However, addressing all these determinants within preventive interventions is exceptionally difficult and is not within the scope of many small-scale interventions, such as the one in the current study.

More generally, there are questions about who should pay for preventive mental health interventions. In the current national, economic climate, in which the health and education budgets are being squeezed, there is increasing competition for resources between services. This puts prevention, usually seen as a long-term outcome, at a

disadvantage as it is hard for services to justify spending money without any near-term benefits.

2.3. The role of schools

The large amount of time that CYP spend at school makes it a convenient arena for mental health interventions to take place. However, that doesn't automatically mean that schools should be used for this purpose. It could be argued that schools should only be asked to focus on traditional educational outcomes such as academic attainment. But this argument seems counter-intuitive given the obvious role that schools play in the development of children's social and emotional health, even if they are not directly targeting these issues. In addition, evidence shows that school-based programmes are largely successful at promoting mental health outcomes and preventing behaviours associated with low mental health (Hosman et al., 2004).

Because schools provide familiar contact, families of children with mental health difficulties are more likely to seek help through the school than through mental health services in the community, such as Child and Adolescent Mental Health Services (CAMHS) (Ford et al., 2003). Government initiatives such as Targeted Mental Health in Schools (TaMHS, 2008) have shown that schools are in a good position to facilitate and sustain mental health interventions (Graham, 2005). Many schools are now able to offer therapeutic services for their pupils through internal mental health practitioners, such as 'Place 2 Be'. It has been suggested that almost 70% of children and young people receiving intervention for psychological difficulties do so at school (Farmer et al., 2003). However, these mental health services are often still accessed through external referral systems, meaning they are not made available to a wide range of children and are not always using preventive approaches, but instead are reactive measures. The lack of mental health professionals available and the cost of providing them in schools presents an argument for the role of widespread preventive mental health interventions that school staff can deliver independently, but which are still rooted in psychological and evidence-based theory. For example, the Department for Education's evaluation of the TaMHS project recommended that schools should be encouraged to consider using more manualised approaches with a clear evidence base (Wolpert et al., 2011), such as cognitive behavioural approaches.

2.4. Preventive mental health interventions in schools

The past two decades have seen a significant growth of research and implementation of mental health promotion and prevention in schools (Weare & Nind, 2011). These

have used a range of terms including 'emotional intelligence' 'wellbeing' and 'resilience' (Weare, 2010) but most seem to be focused on promoting similar aspects of mental health. The growth of mental health promotion in schools included the 'Social and Emotional Aspects of Learning' (SEAL) education initiative (DfES, 2005), which aimed to provide a whole-school approach to facilitate emotional and social wellbeing in all pupils. However, SEAL was conceived as a flexible enabling framework for overall school improvement rather than a set programme. It therefore cannot be readily compared to other preventive mental health interventions that provide a more structured package.

A huge number of school programmes exist that are designed to prevent specific forms of mental ill health including: externalising behaviours such as aggression and bullying (Wilson & Lipsey, 2007); internalising disorders such as depression or anxiety (e.g. Essau, Conradt, Sasagawa & Ollendick, 2012); or to promote more general features of positive mental health such as self-esteem (Wells, Barlow & Stewart-Brown, 2003). Weare & Nind's (2011) review of school based mental health interventions found that the majority of interventions studied had showed positive impacts on pupil outcomes including reduced mental health difficulties, increased positive mental health traits, social and emotional learning, bullying and educational outcomes. However this may be a reflection of publication bias as they only reviewed published articles. This review identified that each intervention needs to be evaluated individually on its own merits, as the variation between them means it can be difficult to compare even those that are targeting similar behaviours or characteristics.

One way in which preventive interventions can be classified is by the level of the population at which they are targeted. Mrazek & Haggerty (1994) classified this into 3 groups: Universal (targeting the whole school or class population); Selective (pupils who are identified as having an increased risk of mental ill health); and Indicated (pupils displaying symptomology of mental ill health). The argument for universal approaches is that they do not stigmatise an individual or group (Bailey, 2005) and are more inclusive as they offer all pupils access to the same opportunities and support. They could also be argued to be more preventive since they are not simply targeting those students that are already indicating some signs of difficulties.

However, Greig (2007) argues that universal programmes do not deliver the right level of support to those who really need it, which might indicate that only selective and indicated intervention should be used. It is true that many universal interventions yield low overall effect sizes due to a ceiling effect with those who do not have overt difficulties (Horowitz & Garber, 2006). But this is not an effective argument against

universal intervention, rather it could be seen as why there is benefit in also using targeted intervention as well. Weare & Nind (2011) found that most school based mental health interventions used a universal delivery and that this was the most effective approach if used alone, which suggests that targeted-only approaches are less useful. This could be due to the difficulty of targeted approaches selecting appropriate CYP, as there is the danger that some do not show any overt mental health difficulties but may still be in need of additional support. This was supported by Squires (2001) who found that school staff experienced significant difficulties in selecting children for targeted interventions using Cognitive Behavioural Therapy (CBT).

 Adi et al. (2007) support the notion that universal approaches are particularly effective when used in combination with a targeted approach; this may be because they can act as a 'screening' tool for identifying those who need further support. This implies that universal mental health interventions in schools should be viewed as the 'base' level of support and intervention for CYP, from which more targeted and specialist interventions can arise as needed.

Kavanagh et al. (2009) suggest that universal interventions should be recommended in order to reduce health inequities by attempting to improve the mental health of the population as a whole. However, this has the potential to actually increase existing inequalities, as more advantaged pupils may benefit the most from the intervention while pupils with disadvantaged backgrounds or learning difficulties may receive less positive impact. This potential inequality must be weighed up, however, with the ethical difficulty of not offering preventive approaches based on this assumption. This highlights the need for universal mental health interventions to be inclusive and accessible, which indicates a role for EPs to help school staff consider such issues.

One difficulty with evaluating preventive interventions is that it is very difficult to empirically show whether a negative behaviour or outcome has actually been prevented as a result of the intervention. For example, in the current study, it was not possible to ascertain if by raising the self-esteem of pupils, future mental health difficulties would be prevented. This was partly due to methodological constraints (e.g. lack of time available for long term tracking of participant outcomes) but was also due to theoretical constraints. For example, there is mixed evidence about the direction of causation between self-esteem and mental health difficulties and therefore it cannot be assumed that by raising self-esteem, mental health outcomes are improved. Consequently, the argument could be made that even if self-esteem scores were increased by this intervention, it couldn't imply that it was preventing future difficulties for those pupils. Therefore the intervention could be said to have less worth. This is an

important consideration when considering the overall impact of the intervention in this research.

2.5. Why focus on self-esteem in preventive interventions?

The concept of self-esteem has been strongly argued to be a crucial component of mental health, for example the presence of low or exceptionally high self-esteem is a classifying symptom for some mental disorders within the DSM-IV (American Psychiatric Association, 2000). Most individuals will attempt to defend their own self-esteem to prevent it being lowered implying that it represents an important concept which must have an evolutionary function. Therefore maintaining a positive and realistic sense of one's own self-esteem appears to be a valid focus of interventions designed to improve mental health in CYP.

Self-esteem is widely referred to in many forms of literature and everyday discourse. Greenberg (2008) suggests that it can be traced as far back as the philosophies of Plato and Aristotle, the latter of whom referred to 'self-love' which could be positive and lead to the maximisation of one's potential, but could also be negative, leading to excessive pride. This suggests that from its earliest inception, self-esteem was recognised as being problematic to one's mental health if it was either too high or too low and the past century has seen a huge amount of psychological research into the causes and consequences of both high and low self-esteem. For example, Maslow (1943) included self-esteem as a crucial component of his hierarchy of needs and believed that without it, one would be unable to gain self-actualisation.

Despite a wealth of research, self-esteem does not have a simple or agreed definition and its relationship to mental health is complex. Historically self-esteem was understood as a one-dimensional construct, which could be measured in a simple manner and fully represented by a single score (O'Mara, Marsh, Craven & Debus, 2006). However, in the current study self-esteem has been conceptualised, according to more recent theories, as a multidimensional construct that can differ across situations and contexts (Marsh & Craven, 1997). This multidimensional view still recognises that a global, overarching self-esteem exists as an overall evaluation of one's worth but identifies that people also evaluate themselves in individual domains such as scholastic competence and peer likability (Harter, 2003; Marsh, 2006). This can be represented as a hierarchical model in which:

> *Perceptions of personal behaviour in specific situations are located at the base of the hierarchy, inferences about self in broader domains (e.g., social, physical, and academic) are at the middle of the*

hierarchy, while a global, general self-concept or self-esteem is found at the apex (O'Mara, Marsh, Craven & Debus, 2006, P.182)*.*

This model suggests that global self-esteem, as the apex of the hierarchy, is relatively stable, whereas self-concepts in specific areas are more situation-specific and more easily changed through intervention. This has important implications for the intervention within the current study, which was designed to increase global self-esteem but, according to this model, may be more likely to affect less stable facets of self-concept, such as peer-relations self-concept. O'Mara, Green and Marsh (2006) suggest that self-esteem interventions should be evaluated by instruments which measure specific self-concepts, as well as global self-esteem, to account for this; therefore this was taken into account within the current study. However, to better understand the apparent stability of global self-esteem, consideration must be given to different perspectives on how self-esteem develops in order to explore how it can potentially be changed.

2.5.1. How does self-esteem develop and change?

The cognitive view of self-esteem defines it as a schema; a cognitive representation of the self that develops through experience and subsequently influences how incoming information is processed (Fennell, 1997). Although the self-esteem schema is developed by environmental factors, these factors can themselves be influenced by innate characteristics within the child. For example, infant temperament can influence their attachments and their confidence to confront novelty (van den Boom, 1989; cited in Fennell, 1997, P.4). This will affect their environment, which will subsequently contribute towards shaping their self-esteem.

Advocates of the multidimensional view of self-esteem, (e.g. Marsh & Shavelson, 1985) take a cognitive approach and theorise that self-concept arises through a cognitive interpretation of one's environment including evaluations by significant others and attributions for one's own behaviour. Harter (1999) states that this cognitive process involves comparing the ideal self and the real self. If there is a discrepancy between the values a child places on a certain competence area (i.e. their ideal self) and their perceived self-competence in that area (their real self), then their self-esteem will be lowered. This comparison occurs concurrently with the comparisons they make between their competencies in specific self-concept domains and the competency of their peers and significant others (Harter). The importance of others in the formation of self-esteem was acknowledged much earlier by Cooley's (1902) 'looking-glass self' theory and the work of Mead (1934) (both cited in Harter, Waters & Whitesell, 1998, P.757). Cooley proposed that individuals partly see themselves based on how they

believe others perceive and evaluate them. This led to the theory of social interactionism, which suggests that significant others form a 'social mirror'.

Global self-esteem is not based on all aspects of self-concept, only those that are valued for that individual, which can change over time. For example, children can have a high correlation between their academic self-concept in a subject and their performance in that subject but very low correlation between school performance and global self-esteem (Marsh, 2006), suggesting that global feelings of worth are not always affected by performance in specific areas. Marsh has suggested that this is due to the different frames of reference that individuals use to evaluate their performance in different domains, which can either affect global self-esteem or not.

An affective approach to the development of self-esteem suggests that it develops in early childhood in response to attachment relationships and is promoted by carers who express how much they value the child, stick to firm boundaries and provide opportunities to participate in decision-making (Coopersmith, 1967). By changing these factors within a child's caring environment their self-esteem can also be changed, which supports the idea that deliberate intervention can be used to manipulate self-esteem in young children while it is still relatively unstable (Trzesniewski, Donellan & Robins, 2003).

The affective approach suggests that once self-esteem is formed it acts as a buffer by endowing people with the ability to promote and restore high feelings of self-worth in individual domains. This indicates there is value in trying to raise self-esteem to buffer against mental health difficulties. Gottman (1997) (cited in Morris, 2002) found that children with high self-esteem were not only more 'buffered' against stress but were also more able to support themselves with affirming self-talk and were more likely to join in with social and emotional interventions in school, such as circle time. This might imply that classroom based self-esteem interventions, such as in the current study, are most accessible to those who already have high self-esteem. This indicates a potential ethical issue as the intervention may only promote self-esteem in pupils who don't really need such support. However, there is difficulty in showing the direction of causality between self-esteem and 'buffers' against other difficulties or the ability to engage in circle time. These correlations might not even be directly related but instead could be the outcome of other factors.

Unlike the cognitive approach, the affective model does not acknowledge the thinking and evaluating processes involved in making self-judgements and therefore does not explain the complexity of self-esteem adequately, including how it is affected by the

changing value of individual self-concepts. An additional problem with the affective approach is that it implies that self-esteem is not a valid focus of intervention as it is difficult to change once a child has formed their early attachment relationships. But there is evidence that self-esteem can be changed, either through life experiences or through deliberate intervention (Morris, 2002) although this has been shown to be more difficult in adulthood when the stability of global self-esteem is high (Brown, Dutton, and Cook, 2001).

2.5.2. How do self-esteem interventions work?

Most research into self-esteem does not differentiate between a cognitive and affective approach as the development of self-esteem depends on a combination of emotional, cognitive and social factors, including the support of significant others. As children develop, their self-esteem gradually becomes more entwined with school influences (Lawrence, 1987) therefore suggesting that any self-esteem intervention would be useful within a school context. However, this raises issues for the current study as it could be suggested that any increase in self-esteem is the result of the importance that pre-adolescent children place on the perceptions of their teacher. This could imply that if it was delivered by other individuals, or to a different age group, then different effects could be found. For example it has been shown that global self-esteem tends to drop in adolescence for most individuals (Trzesniewski et al., 2003) even when most domains of self-concept remain quite stable. This reflects the increasing value that adolescents place on the perceptions of their relationships with peers (as opposed to parents or teachers) (Brown & Lohr, 1987), which can impact on their self-esteem without changing how they view themselves in other domains, such as physical abilities. This suggests that any intervention with adolescents would need to focus on these relationships rather than simply focusing on the individual.

The purpose of many self-esteem interventions has been to affect traits or behaviours with which self-esteem has been shown to correlate, rather than targeting it directly. For example, high self-esteem positively correlates with desired traits such as resilience, interpersonal skills and social functioning (Delugach et al., 1992). In contrast, low self-esteem has been linked with negative outcomes including substance abuse, delinquency, depression, and social anxiety (Lipka & Brinthaupt, 1992; Mann, Hosman, Schaalma, & de Vries, 2004). Children with low self-esteem are usually less accepted by their peers (Bos, Muris, Mulkens & Schaalma, 2006) and are more likely to report feelings of loneliness. In considering these links it seems reasonable that self-esteem should be a consideration within any intervention designed to promote mental health. Additionally it has been shown that self-esteem is linked to academic

attainment, particularly in literacy (Davies & Brember, 1999). This suggests that national curriculum attainment level should be taken into account when evaluating a self-esteem intervention and this was therefore included within the current study.

However, the significance of self-esteem is sometimes exaggerated to the extent that low self-esteem is viewed as the cause of many difficulties with CYP (Manning, Bear, & Minke, 2006), therefore promoting self-esteem should overcome these difficulties. Three problems exist with this view; firstly, as discussed above, it is it is widely agreed that notions of a single 'global' self-esteem are too simplistic and that self-esteem is likely to be intertwined with separate domains of self-concept. Therefore it may be far more effective to target interventions towards specific self-concepts rather than global self-esteem.

Secondly, although research has established that global self-esteem and self-evaluations in different domains of self-concept are correlated (Marsh, 1993; 2006), this does not explain the direction of causality between them. This correlation could arise because self-evaluations affect self-esteem, as proposed by a cognitive model, or could be because self-esteem influences self-evaluations, as proposed by an affective model. Alternatively there could be no causal link between them and the correlation could instead arise from an unknown, third variable which influences both global self-esteem and evaluations of self-concept.

Thirdly, there is also mixed evidence regarding the direction of causation between self-esteem and other traits or outcomes such as resilience, social functioning, metal health difficulties and academic achievement. Most research suggests that self-esteem can both influence and be influenced by these factors (e.g. Marsh, 2006; Lawrence, 2006) and it is not to be expected that simply raising self-esteem will automatically improve other traits, which could therefore question whether there is any point in focusing only on self-esteem rather than on a range of issues. This may be a particularly critical point for the intervention in the current study, which is directly targeting global self-esteem. However, previous research has shown that interventions designed to raise global self-esteem have shown positive effects on a number of other outcomes therefore supporting the notion that self-esteem may somehow contribute towards the development of positive traits and that high self-esteem may act as a buffer that prevents some mental health difficulties. This could support the use of interventions specifically targeting self-esteem.

2.5.3. Evidence for self-esteem interventions in schools

Haney & Durlak (1998) conducted a meta-analysis of self-esteem interventions in schools and revealed that they had an overall modest effect size but many also brought about positive changes in measures of behaviour, personality and academic functioning. Those that were most successful tended to focus on global self-esteem and be guided by theory, such as the cognitive theory (Fennell, 1997). Care must be taken when interpreting this meta-analysis as each study reviewed was reduced to a single effect size and therefore it does not reveal what specific impact each intervention had or if they were all using a multidimensional model of self-esteem. However, this meta-analysis supports the current intervention as it is mainly directed at global self-esteem (although specific domains of self-concept may also be affected) and is based on the theory behind Cognitive Behavioural Therapy (CBT), therefore meeting the 'success criteria' that Haney and Durlak identified.

Harter (1999) also appears to support the current intervention as she suggested that to be successful, self-esteem interventions should be directed at cognitive determinants such as reducing discrepancies between aspirations and perceived competence, reframing internal attributions for failures and encouraging accurate self-evaluation. Hattie (1992) has also concluded that cognitive-orientated approaches tended to be the most effective when increasing pupil self-concept. This suggests that a cognitive-behavioural intervention may be appropriate in changing self-esteem as it focuses on the cognitive biases and negative automatic thoughts that are dictating emotional states and behaviour. Emler (2001) has supported this by showing that CBT is particularly useful in changing self-esteem. However this may only be the case with traditional 1:1 or small group therapy and it does not indicate if this effect can be generalised to a whole-class intervention. To explore this, literature must be examined which has investigated non-therapeutic cognitive-behavioural interventions.

2.6. Cognitive Behavioural Interventions

An increasingly popular approach within school-based mental health interventions is to use the theory and approach behind CBT (Weare & Nind, 2011). CBT is an umbrella term for a group of therapies that combine strategies from cognitive and behavioural psychology and that are based on the work of Ellis (1973) and Beck (1979).

There is considerable evidence of the effectiveness of CBT for adults suffering from a range of disorders including anxiety and depression (Hawton, Salkovkis, Kirk & Clark, 1989) and to help promote positive mental health traits in clinical populations, such as

raising self-esteem in patients with Schizophrenia (Gumley, Birchwood, Fowler & Gleeson, 2006). Previously, it was thought that CBT wouldn't be appropriate for children due to their limited abstract cognitive ability (Greig, 2007). However there is now increasing evidence of the effectiveness of CBT with CYP (Fonagy et al., 2002) and research has shown that children as young as four years old can discriminate adequately between thoughts, feelings and behaviours (Quakely, Reynolds & Coker, 2004). The range of difficulties that CBT has been shown to ameliorate in CYP includes anxiety disorders (James, Soler, & Weatherall, 2005), depression (Harrington, Whittaker, Shoebridge & Campbell, 1998) and many non-clinical difficulties such as school refusal (King et al., 1998).

CBT is not usually used preventively; rather it is a therapeutic treatment for individuals or groups with existing mental health needs. Most CYP do not display symptoms or difficulties requiring therapeutic treatment such as CBT. However, many of the concepts and theories within CBT are useful for non-clinical populations and may also help prevent any future difficulties before they occur through the use of non-therapeutic Cognitive Behavioural Interventions (CBIs). These could be described as interventions that use the theory behind Cognitive Behavioural Psychology with groups who do not present with any existing needs (Mrazek & Haggerty, 1994).

2.6.1. What is the impact of universal CBIs on self-esteem?

The evidence base for CBT with anxiety, depression and difficulties associated with low self-esteem has led to a range of CBIs in schools designed to address such difficulties. For example, Merry et al. (2004) showed that a universal school-based CBI was effective for depression prevention. However, as discussed, although self-esteem is often negatively correlated with mental health difficulties, this does not mean that a direction of causality can be confirmed between them.

One well established CBI is the 'FRIENDS' programme (Barrett, 2004), which has been endorsed by the World Health Organization (Hosman et al., 2004) due to its large evidence-base for addressing and preventing childhood anxiety (Essau et al., 2012). Although not purely targeting self-esteem, it has been shown to increase it when used as a universal intervention with whole classes (Stallard et al., 2005). However, reviews of 'FRIENDS' have tended to assess its impact when delivered by mental health staff or nurses within school, rather than school teaching staff (e.g. Dadds et al., 1999; Stallard et al., 2005). Therefore the impact of the 'FRIENDS' intervention cannot be fully generalised to the use of CBIs delivered directly by school staff, such as the one in the current study. Kavanagh et al. (2009) found that universal interventions delivered

by school staff had greater impact than those delivered by external professionals, but other research has suggested the opposite (e.g. Hattie, 1992) and it appears that studies into the factors that affect the success of teacher-delivered CBIs are limited.

Other CBIs such as PATHS (Promoting Alternative Thinking Strategies) (Kusche & Greenberg, 1994) and 'I Can Problem Solve' (Shure, 2001) have shown a positive indirect effect on self-esteem (Christner, Forrest, Morley & Weinstein, 2007). However, like the 'FRIENDS' programme, these CBIs do not target self-esteem directly and therefore the results cannot be generalised to an intervention that is primarily focused on increasing self-esteem.

One CBI that was primarily focused on increasing self-esteem in whole classes was designed and evaluated by Burnett (2004) who found that the intervention had no positive impact on either self-esteem or self-concept. This study supported an earlier review by Hattie (1992), which concluded that short-term school interventions tend to be unsuccessful in enhancing the self-esteem of preadolescent pupils. This therefore suggests that the intervention in the current study could be unsuccessful in promoting self-esteem. However, there is a lack of further evidence regarding the effectiveness of CBIs that are directly targeting global self-esteem. In addition, even the small selection of CBIs discussed above encompass a variety of instructional strategies and appear to have no single prescribed method, for example, they vary widely in terms of length and method of delivery. Therefore evaluating their effectiveness as a whole is difficult; Banks (2011) suggests that, due to this variability, each individual school-based CBI needs to be assessed on its own merits. This supports the evaluation of the CBI in the current study, as it cannot be assumed that the evidence base for any other CBI is adequate to justify or nullify its use.

2.7. Rationale and research questions

Previous literature suggests that there is an increasing argument for the use of preventive mental health interventions in schools that can be used with all pupils. Self-esteem is a major component of good mental health and therefore is a valid focus of any intervention designed to prevent mental ill health. Cognitive-behavioural approaches have a robust evidence base for addressing mental health needs therapeutically and also have a widening evidence base for being used within non-therapeutic interventions. For example, being used with targeted populations in schools to address and prevent a range of difficulties associated with low self-esteem including anxiety and depression. However, there appears to be a lack of research into CBIs delivered by school staff that aim to improve global self-esteem in all pupils without

addressing a specific difficulty such as anxiety and without targeting pupils perceived to be at risk. Therefore the current study, which evaluates a universal CBI aimed to promote self-esteem, is justified in order to contribute to understanding the usefulness of universal school-based CBIs.

In addition, as discussed in Chapter 1, there is a practical justification for the study to evaluate an intervention that is already taking place within schools without having been empirically evaluated. Therefore, the theoretical and practical justification for the study led to the following research questions:

1(a). What impact does a universal cognitive behavioural intervention have on the self-esteem and negative automatic thoughts of pupils?

1(b). Is the impact moderated by gender, age, free school meals, special educational need or National Curriculum literacy level?

2. What factors do staff and pupils perceive as affecting the impact of the intervention?

3. To what extent does the delivery of the intervention adhere to its intended aims?

The research literature that contributed specifically to each of these separate research questions is briefly discussed below to provide further explanation of the rationale for each question.

2.7.1.   Research Question 1(a)

1.(a). What impact does a universal cognitive behavioural intervention have on the self-esteem and negative automatic thoughts of pupils?

Research suggests that the evaluation of an intervention should focus on the specific components most logically related to the intervention aims (O'Mara, Green & Marsh, 2006). This implied that, in the current study, the intervention should be evaluated based on its impact on global self-esteem. Marsh and Shavelson's (1985) cognitive, multi-dimensional model was used to conceptualise self-esteem and therefore it was considered appropriate to utilise Marsh's (1992) Self-Description Questionnaire (SDQ-I) in order to measure the target outcome of global self-esteem. However, global self-esteem is relatively stable, being at the apex of the self-concept hierarchy outlined by Marsh and Shavelson's model. Therefore it was considered important to also assess

the impact on facets of self-concept related to the intervention aims that were more situation-specific and therefore more liable to change. This included peer relations self-concept, due to the intervention aiming to increase the awareness of one's own social responses and the mental states of others. It also included general school self-concept, given that it was a school-based intervention delivered by teachers and many of the teaching activities within the intervention referred to school-based situations, therefore it had the potential to change how pupils perceived school.

A core feature of cognitive behavioural approaches, including school-based CBIs, is that they aim to change or reduce Negative Automatic Thoughts (NATs) which are believed to shape how individuals view the world and therefore how they feel and behave. Research suggests that measures of NATs in children correlate with clinical disorders including anxiety and depression (Micco & Ethrenreich, 2009). Therefore any CBI would benefit from, not only being evaluated in terms of the target issue (i.e. self-esteem), but also to explore its effect on NATs. It seems likely that the frequency of NATs would negatively correlate with self-esteem and this has been supported by measures of NATs in both adults (Kazdin, 1990) and children (Schneiering & Rapee, 2002) although these studies did not indicate any direction of causality between the two concepts. Cognitive-behavioural theory might imply that cognition (e.g. core beliefs) lead to NATs, which would then lead to an emotional evaluation of the self (self-esteem). However, this is likely to be a complex interaction rather than a simple causality and is difficult to unpick. The issue of this causality was not a focus of the current research but it was anticipated that the inclusion of a NATs measure would provide a greater level of insight into the impact of the intervention.

2.7.2. Research Question 1(b)

1.(b). Is the impact moderated by gender, age, free school meals, special educational need or National Curriculum literacy level?

The National Institute of Health (2001) (cited in Kavanagh et al., 2009) has advocated for all evaluations of interventions to carry out routine subgroup analysis on variables such as age, gender and socio-economic status, which might moderate or mediate impact. However, Brookes et al. (2001) suggest that analysis of these additional variables should only take place when an appropriate rationale can be given. In the current study, previous literature had indicated that certain individual pupil differences could have a potentially moderating effect on the impact of the intervention and these were therefore considered appropriate for inclusion within the research.

Evidence indicates that age may be one such factor. For example, a meta-analysis of CBT with children suggested that the intervention showed less efficacy with younger children (Durlak, Fuhrman & Lampman 1991). In contrast, the 'FRIENDS' intervention has been shown to be more effective in decreasing anxiety symptoms in children aged 9–10 years than those aged 14–16 years (Barrett, 2005). This indicates that the nature of the moderating effect of age on the impact of a CBI is likely to be affected by other contextual factors. For example, Harter (1999) suggests that self-esteem interventions are most successful and useful at times of transition such as between primary and secondary school. This supports the current intervention, which is used with key stage 2 and 3 pupils, so is delivered around the time of this transition.

Stallard (2010) identified that very few evaluations of CBIs have addressed the impact of potentially moderating variables other than age. Pugh (2010) agrees and suggests that although the impact of CBIs is often affected by factors such as culture, most studies do not take this into account and focus only on efficacy. This is supported by Kavanagh et al. (2009) who found that many evaluations of CBIs have failed to report any data regarding whether the impact of the intervention was moderated by gender or economic background. This suggests that further study is needed of how variables such as these interact with the impact of CBIs in schools and therefore in the current study, pupil gender and eligibility to receive free school meals were included as potentially moderating variables.

In addition, it was considered likely that Special Educational Need (SEN) would also moderate the impact the intervention. This was supported by Humphrey & Mullins (2002) who found that children with learning difficulties, including dyslexia, scored lower on the Self-Description Questionnaire (Marsh, 1992) than children without SEN. It was therefore important to account for SEN pupils having potentially lower baseline measures of self-esteem (and NATs) prior to the intervention, as well as measuring whether the intervention has a different impact on these pupils. In relation to this, it was important to account for pupils' academic levels within the analysis to see if the intervention had a different impact on those pupils who had above or below-average attainment. The importance of taking into account attainment and SEN is especially crucial to consider whether the intervention is inclusive and accessible for all pupils.

2.7.3. Research Question 2

2. What factors do staff and pupils perceive as affecting the impact of the intervention?

A focus of many areas of real-world research is not only to investigate *what* is happening, but also to explore *why* it is happening (i.e. explore process as well as effect). The current study could lack usefulness if it only investigated the intervention's impact on its intended target (i.e. self-esteem) without also exploring why this impact was occurring. However, this is a difficult question to address, as it requires understanding the complex processes underlying both the delivery and the reception of the intervention. Due to the practical and real-world rationale of the study, it was considered appropriate to focus on the type of information that would be most useful in evaluating the intervention and for considering its future use. As school staff were delivering the intervention to pupils, it was deemed helpful to find out what perceptions these two groups had about the intervention, to understand the factors that might be affecting its impact. In this way, any changes made to the intervention as a result of this study would be directed by the experiences of those most familiar with it.

Previous research suggests that contextual school-based factors may affect the impact of the intervention, such as the difficulty of providing consistent teaching staff to deliver and support a CBI (Squires, 2001). However, the impact of such factors on the current CBI was predicted to vary due to the differences between schools, such as ethos, policies, and staffing structure. Therefore, it was important that school staff in the current study were given the opportunity to identify any particular contextual factors that were pertinent for their school.

Another reason for exploring staff attitudes was because previous research has shown that their personal opinions and beliefs about pupils can be changed as a result of the intervention. For example, Squires (2001) found that teachers delivering CBIs experienced a change in perception towards certain pupils, in terms of those who were the most capable of behaviour change and those who were the most in need of additional emotional support. This links to previously discussed research, which indicates that universal intervention can serve as a screening tool for targeted support (Adi et al., 2007). Therefore, in the current intervention, the universal design could enable staff to identify concerns or strengths in pupils of which they were not previously aware

As well as providing school staff with an opportunity to identify such issues, it is important that pupils within mental health interventions are also offered the opportunity to identify factors that they perceive as affecting its impact. This can also provide a chance for pupils to express their views about what impact the intervention had on them personally. For example, Stallard (2010) found that pupils identified changes in their peer relationships following the use of the FRIENDS intervention. Therefore, in the

current study, it was considered useful to explore any impacts the pupils identified as a result of the intervention to further illuminate the findings of RQ 1, as well as the factors that might have affected this impact.

2.7.4. Research Question 3

3. To what extent does the delivery of the intervention adhere to its intended aims?

In the discussion of the previous research question, it was highlighted that the intervention needed to be understood both in terms of its delivery and its reception. The former is a particularly important consideration as any major variations in how it was delivered from class to class could invalidate the overall evaluation. Therefore an important consideration in the analysis and evaluation of the intervention was to establish how closely the delivered intervention followed the original programme model as designed. This is described in the literature as 'implementation fidelity' (Carroll et al., 2007), which can affect the relationship between the intervention and its intended impact. This is of particular importance in school interventions where teachers are delivering the programme, as it means that each cohort of pupils may have received a different style of intervention due to differences within the delivery. Consequently, in the current study it was important to determine if any potential lack of impact was due to poor implementation or inadequacies inherent in the intervention itself.

Previous literature on measuring implementation fidelity suggests that it is commonly assessed in one or more of five ways.

(1) Adherence: whether an intervention was delivered as it was designed (Mihalic, 2004). One strategy for assessing this is teacher self-report, however, teachers may not be able to objectively evaluate their own performance. Therefore observer assessments can provide more reliable measures.
(2) Exposure: Whether all elements of the designed intervention were delivered to pupils.
(3) Quality of delivery: The way in which the trained staff member delivered the programme (Mihalic, 2004). This includes observation of key teaching skills such as use of multi-sensory strategies to explain concepts, behaviour management and the communication of clear aims and expectations.
(4) Participant responsiveness: How engaged the participants were within the intervention, which can be measured through observation or self-reports by those receiving the intervention.

(5) Programme differentiation: this is defined as identifying the unique features of a single intervention. However Carroll et al. (2007) argue that, rather than measuring implementation fidelity, this is actually a focus on determining the elements within interventions that are essential for success and often requires comparison between interventions.

In assessing the intervention within the current research, it was necessary to establish whether the aims of the intervention were being met within the delivery. Therefore the first four approaches to implementation fidelity described above were included in the research design in order to address RQ 3 and to inform the overall evaluation of the intervention.

Chapter 3: Method

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This chapter explains the approach that underpinned the mixed methods research design and describes the quasi-experimental methodology, including measures, potential limitations and ethical considerations. It provides information on participants and procedures, including adaptations made following the outcomes of the pilot study.

3.1. Overview

- The intervention evaluated in this study involved 6 lessons, delivered once a week by school staff to whole classes and is described in Appendix 1.
- The school staff who delivered the intervention all held the role of Special Educational Need Coordinator (SENCo) for their school and they were not the main class teachers of the intervention or control classes.
- The study sample involved 108 pupils who received the intervention and 63 wait-list control pupils matched by school and year group.
- All pupils completed self-esteem and Negative Automatic Thoughts (NATs) scales before the intervention began (time 1) and immediately after the intervention finished (time 2).
- One intervention class (n=27) also completed the scales 2 months after the intervention finished (time 3).

3.2. Research approach

The way in which research is conducted and understood is dependent on the belief system and worldview that is guiding the researcher (Guba & Lincoln, 1994). This is known as a research paradigm and can been characterised by Ontology (the nature of reality), Epistemology (beliefs about how knowledge can be discovered) and Methodology (how research is carried out).

Historically two of the main research paradigms, positivist and constructivist, have been defined by different research approaches. A positivist paradigm argues that an objective reality exists and that psychological phenomena can be studied through scientific, objective methods. Whereas, a constructivist research paradigm views reality as constructed and therefore, can only be understood subjectively (Creswell & Plano-Clark, 2011).

In terms of methodology, positivist approaches have tended to be aligned with quantitative methods whereas constructivist approaches have been more aligned with

qualitative methods. Arguments have been made that the two perspectives are entirely separate (Guba & Lincoln, 1994) and therefore the associated methodologies are incompatible. However, Teddlie and Tashakkori (2009) argue that, rather than viewing positivist and constructivist paradigms as incompatible, one can adopt a pragmatic approach in which the research question guides the research methods, instead of the other way round. This can often lead to the use of 'mixed' methodologies[1], which have been increasingly adopted over the past 30 years (Tashakkori & Creswell, 2007).

Pragmatism is not a new approach and was derived from the thinking and writing of a number of American philosophers, in particular Peirce (1839-1914) and later Dewey (1859-1952) (both cited in Creswell, 2009, P.11). There are various forms of this philosophy and a number of debates within this approach have arisen about how it specifically relates to other philosophical approaches such as constructivism and positivism. However, the approach broadly states that truth is what works at the time and is not understood at either pole of a duality between objective or subjective reality (Creswell, 2009). For the purposes of this research, a pragmatic approach was used in order to address the Research Questions (RQs) most effectively in order to guide future, practical use of the intervention; this resulted in the use of a mixed methodological design.

Tashakkori & Creswell (2007) note the need to distinguish between mixed method studies that utilise two types of data without integration and those that integrate the qualitative and quantitative strands. Within this study, the qualitative and quantitative data was gathered concurrently but was initially analysed separately in order to directly answer the RQs. However the data was integrated within the discussion in order to illuminate the interpretation of the results.

3.3. Design

This study was a quasi-experiment, which used mixed methods to evaluate the impact and process of a universal six-session Cognitive Behavioural Intervention (CBI) (described in Appendix 1) that was completed by whole classes in a range of schools in Local Authority (LA) 1. The study used research methods that most effectively answered the following RQs:

1.(a). What impact does a universal cognitive behavioural intervention have on the self-esteem and negative automatic thoughts of pupils?

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[1] Mixed methods have been defined as: *'research in which the investigator collects and analyzes data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study'* (Tashakkori & Creswell, 2007; P4).

1.(b). Is the impact moderated by gender, age, free school meals, special educational need or National Curriculum literacy level?

2. What factors do staff and pupils perceive as affecting the impact of the intervention?

3. To what extent does the delivery of the intervention adhere to its intended aims?

RQ 1 was explored quantitatively using a quasi-experiment to evaluate the impact of the intervention by comparing the intervention group with a wait-list control (treatment as normal) group. The Independent Variable (IV) was the intervention group versus control group and the Dependent Variable (DV) was the participants' pre and post-intervention scores on measures of self-esteem and Negative Automatic Thoughts (NATs). A comparison was then made between how much these scores changed over time for the intervention and control groups. In addition, information was gathered on whether demographic factors (age, gender, Special Educational Need (SEN), Free School Meals (FSM) and National Curriculum (NC) literacy level) had any moderating effect on the impact of the intervention.

RQ 2 was explored qualitatively to address why the intervention was having the impact shown. The pragmatic research approach adopted involved interviewing teachers and pupils using a semi-structured technique because this allowed RQ 2 to be addressed without closing off the opportunity for the participants to offer additional information or ideas.

RQ 3 was assessed quantitatively through observations of each class receiving the intervention. The purpose was to explore whether there were any concerns about the fidelity of the implementation of the intervention. This was important as, if it appeared that the intervention was not being delivered as intended, then it would be hard to generalise the results of the study. Variations in delivery was one of the main potentially confounding variables that was considered in the design of the study and RQ 3 represents the method used to attempt to account for this. However there were additional confounding variables that also needed consideration and these are briefly discussed.

3.3.1. Research design constraints

In evaluation studies, a randomised control trial is usually advocated in order to reduce the impact of confounding factors, such as selection bias, on the results (Rubin, 2007).

However, this was a real world study in which the intervention was being evaluated in a natural environment, therefore the participants could not be randomly allocated to groups as they had been pre-selected by school staff before the study began. A limitation of this is that the internal validity of the results could be affected by the presence of extraneous variables. In this study this could have included issues regarding the non-random nature of the sample; for example, learning or behavioural difficulties may have been more prevalent in one group than the other and therefore could have affected the impact of the intervention. In order to control for this, information was gathered about the demographics of the participants to ensure that there were no measurable differences between the groups based on these factors. In addition, during the analysis of the quantitative data, Analysis of Covariance (ANCOVA) tests were used in order to control for any pre-intervention differences between the groups on the scales used.

An additional difficulty with generalising the outcomes of the study was that schools taking part had volunteered and therefore may not have represented typical schools. This issue meant that care was taken during the interpretation of results to not make any definitive causal links or conclusions without considering other factors that might have been involved.

Another potential limitation of the research design was that, due to time constraints, it was not initially thought possible to conduct follow-up measures with the intervention classes to assess their self-esteem or NATs a few months after the intervention finished. However, during the process of data collection, it became apparent that a 2-month follow-up measure would be possible with one intervention class (n=27 pupils) but there was no longer a control class with which to compare their results (as the wait-list control classes had already received the intervention). Therefore, the follow-up data was interpreted cautiously, as it could not be assumed that any changes seen at follow-up would be due to the intervention rather than due to other factors.

3.4. Measures for Research Question 1

The quantitative dependent variables were levels of self-esteem and NATs. The former was operationalised using a multidimensional theory of self-esteem (Marsh, 2006) and was measured using selected scales from the Self-Description Questionnaire (SDQ-I) which was created based on this theory (Marsh, 1992) and was designed to be used with pre-adolescents. The full SDQ-I measures four non-academic areas (physical ability, physical appearance, peer relations and parent relations), three academic areas (reading, mathematics and school in general) and also has a global self-concept scale.

It was considered too long to use in its entirety and many of the scales were entirely unrelated to the aims of the intervention. Inspection of the SDQ-I measure led to three of the sub-scales being selected that were most closely linked to the intervention:

- General Self (SDQ-Self): 8-point scale measuring global self-esteem which was the main focus of the intervention
- Peer-Relations (SDQ-Peer): 8-point scale measuring self-concept about sociability. This was closely related to the intervention as pupils considered how they viewed others and how others viewed them.
- General School (SDQ-School): 8-point scale measuring self-concept about academic ability in general (not subject specific), which was related to the intervention as it was delivered at school by teachers.

The questions on each SDQ scale contained positively worded statements (e.g. '*I do lots of important things*') to which pupils responded using a 5-point scale ranging from *True* (1) to *False* (5).

NATs were measured because many sessions within the intervention were focused on helping pupils identify and then change their NATs in order to increase their self-esteem (see Appendix 1 for a full description of the intervention). The Children's Automatic Thoughts (CAT) scale (Schneiering & Rapee, 2002) was used to measure any changes in the NATs of pupils before and after the intervention. This was selected because it was the only measure of NATS available that was designed to be developmentally sensitive to children and took account of internalising and externalising traits (Micco & Ethrenreich, 2009).

The full CAT questionnaire comprises of four scales; two of which (Physical Threat and Hostile Intent) were deemed largely unrelated to the intervention. The two CAT scales that were selected were those that were most closely related to the content of the intervention:

- Social Threat (CAT-Social): 10-point scale measuring NATs related to the way the child believes others perceive them.
- Personal Failure (CAT-Personal): 10-point scale measuring NATs about the child's own abilities and self-perception.

For both CAT scales the pupils responded according to how much they had experienced each thought over the past week based on a 5-point scale ranging from '*not at all*' (1) to '*all the time*' (5).

The SDQ and CAT scales that were used are shown in Appendix 2 in the format that they were given to pupils. Because the CAT and SDQ questionnaires had different types of responses (although both on a 5-point scale) they were presented separately, with the CAT scale being administered first, immediately followed by the SDQ scale. The sub-scales within each questionnaire were mixed up so that none were presented in order.

3.4.1. Validity and reliability of SDQ and CAT scales

An important consideration was whether the SDQ and CAT scales provided valid and reliable measures of the concepts of self-esteem and NATs. A range of other measures into self-esteem and other traits associated with mental health were considered and a brief examination of these is presented in Appendix 3. Through research and examination of some of these scales, it appeared that the SDQ and CAT scales provided the most effective methods of evaluating the impact of the intervention. Both scales have demonstrated good internal consistency and external reliability on a range of populations (e.g. Marsh, Smith, Barnes & Butler, 1983; Marsh, 1992; Schneiering & Rapee, 2002; Micco & Ethrenreich, 2009). Therefore both appear to provide reliable results that can be generalised to the target population and would allow the research to guide future use of the intervention.

Judging the validity of the scales and the extent to which they are truly measuring self-esteem or NATs was more difficult. The validity of the SDQ scales was supported by previous studies (Marsh, 1992) but it must be acknowledged that the SDQ scales may not be capable of measuring all aspects of self-esteem as this is beyond the scope of any self-report measure. However, the SDQ did appear to measure aspects of self-concept that are consciously accessible and that can be shown via self-report. The CAT scales appeared to provide a valid measure of NATs in children (Micco & Ethrenreich, 2009) but, again, only those that an individual was aware of and willing to report.

An additional difficulty was the potential for participants to be influenced by social desirability bias. Therefore care had to be taken in the delivery of these measures that the participants were aware of the importance of their honesty and this was supported by assurance that their responses were private and confidential.

3.5. Measures for Research Question 2

RQ 2 was explored through qualitative data gathered from semi-structured interviews with 3 staff who had delivered the intervention, using an original interview schedule and

with 6 pupils (2 from each school) using a different interview schedule (both shown in Appendix 4). These questions were written from a pragmatic research perspective in order to elicit responses most likely to answer the research questions while keeping the questions quite open to allow for a range of responses. The interview schedules included additional prompts that were used depending on the participants' responses; not all participants were asked exactly the same questions in the same order. Both interview schedules were shown to EP colleagues prior to their use in order to gauge their suitability. This resulted in some small changes to the question wording and the pupil interview was shortened from its original form.

3.6. Measures for Research Question 3

This was assessed quantitatively through observations of each class receiving the 6th lesson of the intervention. This lesson was chosen to allow the staff and class to become accustomed to the intervention before the observation. An original observation schedule (Appendix 5) was created that addressed aspects of the intervention recommended by Carroll et al. (2007) in their review of assessing implementation fidelity.

- Adherence:
    1. Whether the intervention was being delivered as it was designed, indicated by adherence to the lesson plans given to teachers as part of the training.
- Quality of delivery:
    2. Whether the teachers delivering the session used techniques and language as fitting with the intervention.
    3. Whether the teachers used session materials appropriately to meet the aims of the lesson.
- Participant responsiveness:
    4. How alert and engaged the students appeared.

- Exposure:

    5. Whether the frequency and duration of the intervention fitted with the original design, i.e. weekly lessons for 6 weeks. Teachers were asked to report on this as part of the observation schedule.

A 5-point scale was created to measure each of the 5 observation issues and the combined score indicated the extent to which the intervention delivery matched the design.

3.7. Ethical issues

All pupils and staff involved in the study were fully informed of the purpose of the research and their right to decline involvement or withdraw data. I used a flexible 'script' with pupils in which the study was explained in the same way but the details were slightly adjusted depending on whether I was speaking to an intervention or control class. The main points of this were:

- Informing the class about my role;
- Explaining that the questionnaire measured how they felt about themselves and that they would be asked to do it again in 7-8 weeks to see if anything had changed. The intervention classes were told that they would be doing some lessons during this time and that I was evaluating what impact these lessons had;
- Pupils were given repeated opportunities to ask questions or to withdraw from participating. It was anticipated that pupils would be unlikely to verbally withdraw in front of their class so they were told that they could simply skip any part of the questionnaire;
- The standardised instructions at the top of the scales were read out loud. It was explained that the results would not be shared with anyone. The importance of honesty and not being influenced by one's wishes, or concerns about what others might think was emphasised;
- On the 2nd and 3rd data collection times, pupils were re-informed of their right to refuse or withdraw data and of the confidentiality of their responses;
- During each data collection session (including the pilot study), the pupils were reminded about whom in school they could speak to if they felt unsure or upset after completing the questionnaire.

All data about pupils was anonymised so that neither the school nor pupil names were identifiable. Parental information letters (Appendix 6) were given out by schools to the parents of all pupils within the intervention group prior to the first session to inform them of the research and to provide the opportunity for them to withdraw their child from being involved. No parents chose to withdraw their child and no replies to this letter were received. Staff signed a consent form (Appendix 6) prior to the interview.

All interview participants were first put at ease and were given the opportunity to ask questions. The pupils were asked prior to the interview if they would like a familiar member of staff to be present but none requested this. The interviews with pupils took place in a quiet but familiar area, away from other pupils or teachers but in which they

had easy access to their classroom if they wished to leave. The pupil and staff interviews were voice recorded and then transcribed, after which the recordings were deleted.

3.8. Participants

The population of schools initially considered for inclusion within the study consisted of 7 primary schools and 1 secondary school in LA 1. These schools had all sent staff to the intervention training and were contacted to find out whether they had put the intervention into practice. From this information the population was reduced to 5 primaries and 1 secondary school. It was decided that the secondary school would not be included in order to reduce the variation within the sample. A criterion sampling method was then used which involved selecting as many of the 5 primary schools in the population which met the following criteria:

- Implemented the intervention with at least one class prior to December 2013;
- Had a control class in the same year group who had not yet received the intervention;
- Willing for research to be conducted in their school.

School staff had determined which classes would receive the intervention and therefore the researcher did not have control over the sample of participants. However, all schools had similar population demographics within their catchment area and did not 'set' pupils; therefore each class was expected to contain pupils from a similar range of backgrounds.

The resulting sample consisted of 3 primary schools – labelled Schools A, B and C. School B implemented the intervention with 2 classes (in separate year groups in different terms) during the study period; consequently a total of 4 intervention classes were studied. Methodological difficulties prevented gathering data from the control class within school C and therefore the total sample had a larger number of participants in the intervention group. Figure 3.1 shows the final number of participants in each group who completed the SDQ and CAT scales.

Table 3.1: Numbers of participants in intervention and control classes

	School A	School B	School B	School C	Totals
Intervention Class	29	23	28	28	108
Control Class	23	15	25	0	63
Year Group	Yr 6	Yr 6	Yr 5	Yr 5	171

The staff interview participants were selected using the same criterion methods as the school sampling procedure. This involved emails being sent to the intervention-trained staff member from the population of 5 primary schools and 1 secondary school who had implemented the intervention prior to December 2013. In all the schools within the target population, it was the Special Educational Needs Coordinator (SENCo) who had attended the training and had led the delivery of the intervention and therefore this was the role of each staff member interviewed. This was a weakness of the design as it meant that the staff data did not represent the views of staff in other roles. In two schools, one other member of staff had also attended the training but pressures on staff time prevented them from being available for interview.

In total 3 staff participants were interviewed:

- Participant 1 was the SENCo from School A. This participant was also observed when delivering lesson 6 of the intervention as part of the data collection for RQ 3.
- Participant 2 was a SENCo from a school that was not included within the collection of quantitative data. This participant was not observed and no additional data was gathered from this school.
- Participant 3 was the SENCo from School C and was also observed when delivering lesson 6 of the intervention as part of the data collection for RQ 3.

Situational factors prevented a staff interview being conducted in School B. However an observation was completed of the intervention-trained staff member in School B delivering lesson 6.

Pupil interview participants were randomly selected from each intervention class after first controlling for gender (randomly selecting 1 male and 1 female pupil). In total, 6 pupils were interviewed (2 from school A, 2 from school B (from one intervention class only) and 2 from school C), this sample comprised of four pupils from year 5 and two from year 6.

3.9. Pilot Study

The aim of the pilot study was to assess the appropriateness of the CAT and SDQ scales. It was conducted with year 4 pupils in one mainstream primary school sampled opportunistically from LA 1, which had not been involved in the intervention. This was the youngest potential age group in the main study and it was hypothesised that if the

measures were appropriate for these pupils, it would also be suitable for those in years 5 and 6.

The pupils were fully informed that the purpose of the pilot study was to assess the questionnaire suitability and that their involvement was entirely voluntary and their responses were confidential. Following completion, pupils and staff provided verbal feedback about the questionnaire.

3.9.1. Results

56 pupils (31 male, 25 female) completed the selected CAT and SDQ scales and the following qualitative points were considered useful in guiding the data collection within the main study:

- There was some confusion over the meaning of the word 'worthless' in question 5 resulting in it being excluded from the final analysis within the pilot study. Therefore, within the main study this word was always defined during the questionnaire administration using the synonyms 'no use', 'no value' and 'good-for-nothing' as these terms were found to be most useful for pupils in the pilot study;
- Some pupils required definitions for 'life is not worth living' (Q16), 'overcome' (Q19) and 'proud' (Q29);
- Administration of the questionnaire took approximately 20 minutes which included each question being read out loud following an introduction and explanation of how to complete it;
- Comments about the Likert scale (ranging from 0-4) indicated that there was some confusion about the use of 0. The scale rating was therefore changed to 1-5 for the main study.

The pilot data distribution was inspected and appeared normally distributed; only one participant was an outlier. Closer inspection of the frequency of responses for each individual question revealed that the responses were slightly positively skewed, indicating higher self-esteem and fewer NATS. However, the responses to the SDQ scale were more spread out than responses to the CAT questions. Almost all questions were answered using all the possible responses and the few exceptions to this all occurred in the CAT scales:

- Questions 10: *'I've made such a mess of my life'* – no participants indicated feeling this way *'all of the time'*;

- Question 14 *'I am a failure'* – no participant indicated *'often'*, however 3 participants responded with *'all of the time'*;
- Question 16 *'Life is not worth living'* – no participants responded with *'all of the time'*.

It was considered likely that the lack of participants using all possible responses to the questions noted above reflected the relatively small sample size and therefore it did not seem appropriate to change this for the main study.

Age, gender, SEN and FSM were considered independent variables to anticipate what effect these factors may have on the measures used. This data were collected from class registers and was immediately anonymised. Table 3.2 shows the mean score for each scale (decimals rounded to nearest whole number). On the CAT scale, a higher score indicated greater levels of NATs. On the SDQ scales a higher score indicated lower self-concept.

Table 3.2: Mean scores on each scale for each independent group in pilot study

(Number of pupils)	Social-CAT	Personal-CAT	Peer-SDQ	School-SDQ	Self-SDQ
All Participants (56)	10	9	12	13	11
Age	Age 8 (19)	9	9	14	15	13
	Age 9 (37)	10	9	11	12	10
Gender	Male (31)	9	9	9	12	10
	Female (25)	10	8	15	14	11
*SEN	No SEN (41)	9	7	12	12	9
	SA (13)	10	10	10	13	11
	SA+ (1)	8	18	25	27	23
	Statement (1)	18	16	24	26	21
FSM	No FSM (35)	10	9	12	13	11
	FSM (21)	9	8	12	12	10

* Special Educational Needs were classified into 3 levels of intervention ranging from School Action (SA) representing the lowest level of intervention, to School Action Plus (SA+), then Statement, which represents the greatest level of intervention.

The means in table 3.2 were compared statistically using independent t-tests to reveal any significant differences between the groups on the combined SDQ scales and on the combined CAT scales:

- Age - Younger pupils scored slightly higher on all the SDQ scales however these differences were statistically insignificant which was unsurprising given the very small age range being studied;
- Gender – No significant difference between males and females on any scale;
- FSM – No significant difference between those with and without FSM on either scale.
- SEN – All three SEN categories were combined into a single group due to their small sample sizes separately. There was no significant difference between those with and without SEN. However, visual analysis showed that although there was a small difference between pupils without SEN and those at the SA level, there was a large increase in scores for those at the SA+ level. This suggested that an increase in the level of SEN support was related to decreased self-esteem and increased personal NATs but caution was taken when interpreting the data as the number of pupils was very small in each subsequent SEN category.

The conclusions from the pilot study indicated that the following changes should be made in the main study:

- Change the scale rating to 1-5;
- Explain the term 'worthless' when reading out question 5;
- Investigate the impact of each level of SEN separately;
- Gather data on NC attainment levels as well as the other potentially moderating variables;

In addition, it was determined that it would be more appropriate to analyse each of the 5 scales independently instead of combining the 3 SDQ scales together and the 2 CAT scales together. This was decided after visually inspecting the data and noting that pupils often scored quite differently on each of the 5 scales and therefore combining them would be inappropriate.

3.10. Procedure

Figure 3.1: Overview of main study data collection and analysis.

Phase 1: Pre-Intervention data collection

Pupils in intervention and wait-list control classes completed SDQ and CAT scales. Pupil demographic data collected (gender, age, SEN, FSM, literacy level).

Phase 2: Mid-intervention data collection

Session 6 observed in each intervention class in Schools A, B and C.

Phase 3: Post-intervention

Quantitative

All pupils completed SDQ and CAT scales for 2nd time

One intervention class also completed the scales for 3rd time, 2 months later

Qualitative

Interviews with 6 pupils from intervention classes

Interviews with 3 staff

Phase 4: Data analysis

Quantitative

Statistical comparison of pre and post-intervention data and moderating factors.

Descriptive analysis of observation data.

Qualitative

Thematic analysis of pupil interview data.

Thematic analysis of staff interview data.

In each school, the intervention and control classes in the same year group were given the SDQ and CAT scales on the same day (except for School C where the control class were unavailable). The researcher administered the scales, with the class teacher or SENCo present. All intervention classes completed the scales no more than 2 weeks prior to starting the intervention. Each pupil was given a numbered copy of the scales. This was required to match them with their responses at the follow up and match their demographic data to their response form. The questionnaire instructions and questions were read out slowly. Additional definitions were offered for some of the terms identified within the pilot study.

Following the first administration, the intervention was delivered to the intervention class by school staff. The sixth lesson was observed to assess the fidelity of the intervention to its original aims. The staff member delivering the lesson had been shown a copy of the observation proforma in advance and had been informed about its purpose. After the final session, the SDQ and CAT scales were delivered again to both the intervention and control classes (separately) using the same procedure as the first time.

Two pupils, from three of the intervention classes (6 pupils in total), were randomly selected to be interviewed. School staff confirmed that all the pupils selected were suitable interview participants, as none had any significant learning, language or emotional difficulties. Following the data collection with the whole class, these pupils were asked privately by their teacher if they would like to complete an individual interview with the researcher, they were reassured that this was entirely their choice. All pupils gave verbal consent to their teacher and then again to the researcher who informed them of the interview purpose and gave opportunities to withdraw. Reserve pupils could have been picked if the selected pupils had been unwilling or absent, but this situation did not occur. All pupils appeared happy to have been asked and showed enthusiasm about expressing their views.

Within 4 weeks of completing the intervention, the staff members delivering it in School A and in School C were interviewed at a time and location convenient for them. This was not possible for the staff participant from School B who was not interviewed due to unavailability. However, a SENCo from a separate school who had used the intervention was interviewed to increase the staff sample to 3.

Following this phase, the wait-list control classes in each school received the intervention. The CAT and SDQ scales were not administered again in School B or C due to time constraints. However, they were administered for a 3rd time in School A (2 months after completing the intervention) for the intervention class only.

3.10.1. Data Analysis

Figure 3.2 shows which type of data addressed each research question.

Figure 3.2: Overview of Research Questions and associated data

Research Question 1(a)
What impact does a universal cognitive behavioural intervention have on the self-esteem and negative automatic thoughts of pupils?

- **Quantitative Data**
- Descriptive and statistical comparison of the pre-intervention and post-intervention CAT and SDQ scale data between the intervention and control groups

Research Question 1(b)
Is the impact moderated by gender, age, free school meals, special educational need or National Curriculum level?

- **Quantitative Data**
- Descriptive and statistical analysis of the impact of each moderating factor on the pre and post-intervention data for the intervention and control grouops

Research Question 2
What factors do staff and pupils perceive as affecting the impact of the intervention?

- **Qualitative Data**
- Thematic analyses of staff interview data and pupil interview data.

Research Question 3
To what extent does the delivery of the intervention adhere to its intended aims?

- **Quantitative data**
- Descriptive analysis of the observation data.

Research Question 1

RQ 1(a) was addressed through a statistical analysis (using SPSS-20 (Statistical Package for the Social Sciences, Version 20)) of the intervention and control groups' scores on each scale (CAT and SDQ) at time 1 (pre-intervention) and time 2 (post-intervention). The data was initially explored using descriptive statistics and graphs to look at the main trends, distribution and outliers. Independent group t-tests were conducted to compare the time 1 scores of the intervention and control groups to check that there were no significant differences between them prior to the intervention. Chi Square was used to compare the classes in terms of each of the variables that may have a moderating effect (SEN, FSM, gender, age, NC literacy level) to check for any significant differences in the demographic profiles between the groups. Analyses of Variance (ANOVA) and Covariance (ANCOVA) were then conducted to investigate the impact of the intervention on the SDQ and CAT scale scores while controlling for the differences in the pre-intervention scores. In addition, an ANOVA was conducted separately on the intervention data from school A to assess the additional follow-up

(time 3) data that had been collected two months after the intervention. There was no control group available with which the time 3 scores could be compared.

RQ 1(b) was addressed using the same data within SPSS-20 as RQ 1(a). Independent group t-tests were conducted to explore the impact of the potentially moderating variables (e.g. age, gender, etc.) on the pre-intervention data. ANCOVA tests were then used to assess whether there was an interaction between the main independent variable (intervention versus control group) and each of these potentially moderating variables on the post-intervention scores, while controlling for the differences at pre-intervention.

Research Question 2

The qualitative data from staff and pupils were analysed separately within two inductive (data driven) thematic analyses based on the method advocated by Braun and Clarke (2006):

- The recorded interviews were transcribed into Microsoft Office Word. This process involved familiarisation with the data;

- The data were coded which involved summarising the meaning of small parts of the data that appeared interesting. The coding process occurred on multiple occasions, often with a few weeks apart to regain some sense of 'distance' and perspective on the codes. This resulted in many of the initial codes being changed or adapted to more accurately reflect the meaning of the data;

- Themes and sub-themes that conceptualized the data were identified by comparing and finding relationships between the codes. This process occurred gradually and the themes were frequently reviewed and refined. The question of what counted as a theme (i.e. amount of 'evidence' needed) was considered during this process by becoming familiar with the data without applying any rigid rules. Given the small number of interviews, it was determined that, although it would not be necessary for a theme to be relevant to all participants, there should have been a number of instances of the theme across the data set. During this stage, I asked a peer Trainee Educational Psychologist to look at the themes to check they appropriately represented the data. This resulted in a few small refinements but no significant changes;

- Once I felt satisfied that the themes and sub themes were meaningful and distinct, I created a table of quotes in which all the supporting quotes for each

theme and sub-theme were collated. This allowed further checking that each theme was supported by the data and some changes were made during this process;

- I then created thematic maps to portray each thematic analysis. This resulted in further small modifications to the sub-themes and some consideration of the language used to describe them.

Research Question 3

The quantitative data from the 3 lesson observations was analysed descriptively to note any low scores that might indicate flaws in the fidelity of the implementation. Each observation resulted in an overall score out of 25 and this score was used as part of the overall analysis to inform the validity of the results to the other RQs.

3.11. Dissemination

At the time of this study, a network meeting had been arranged with representatives from all schools in LA 1 who were using the intervention (including those involved in the study) and with mental health professionals involved (including EPs). The intended purpose of the meeting was to share the study findings in order to discuss the future use of the intervention within LA 1 and to consider how good practice can be shared across schools. This included consideration of how EPs can support schools in using this intervention to increase its effectiveness.

Chapter 4: Results

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This chapter addresses the research questions in turn by presenting the quantitative and qualitative analysis of data. The type of data that related to each research question was:

Research Question 1(a)
What impact does a universal cognitive behavioural intervention have on the self-esteem and negative automatic thoughts of pupils?

- **Quantitative Data**
- Descriptive and statistical comparison of the pre-intervention and post-intervention CAT and SDQ scale data between the intervention and control groups

Research Question 1(b)
Is the impact moderated by gender, age, free school meals, special educational need or National Curriculum level?

- **Quantitative Data**
- Descriptive and statistical analysis of the impact of each moderating factor on the pre and post-intervention data for the intervention and control grouops

Research Question 2
What factors do staff and pupils perceive as affecting the impact of the intervention?

- **Qualitative Data**
- Thematic analyses of staff interview data and pupil interview data.

Research Question 3
To what extent does the delivery of the intervention adhere to its intended aims?

- **Quantitative data**
- Descriptive analysis of the observation data.

4.1. Research Question 1(a)

What impact does a universal cognitive behavioural intervention have on the self-esteem and negative automatic thoughts of pupils?

This question was addressed through statistical analysis of the pre-intervention (time 1) and post-intervention (time 2) data from the CAT and SDQ scales. This began with exploratory data analysis.

4.1.1. Exploratory data analysis

The data was initially explored visually to show the distribution on each scale (Appendix 7). Histograms displaying the pre-intervention data showed the same positive skew as shown in the pilot data, indicating that most pupils scored towards the

lower end of each scale (i.e. most had high self-concept and few Negative Automatic Thoughts (NATs)). The post-intervention data was also positively skewed on each scale and the kurtosis ('peakedness') of the distribution was relatively high. This positive skew was more noticeable for the CAT scales, which supports previous literature about the use of these scales on larger populations (Schniering & Rapee, 2002). However, visual inspection of the data suggested it was fairly normally distributed. Given the large sample size (Stevens, 2009) and the robustness of the parametric tests used, it was not judged to require a non-parametric test. Prior to each statistical test described below, additional checks were conducted to ensure the data met the assumptions of the statistical models used. Violations were noted and checked but transformations were not conducted based on the recommendations of Pallant (2007). Boxplots were created to visually inspect the pre-intervention data and these are shown in Figure 4.1.

Figure 4.1: Boxplots to show distribution of pre-intervention data for all participants
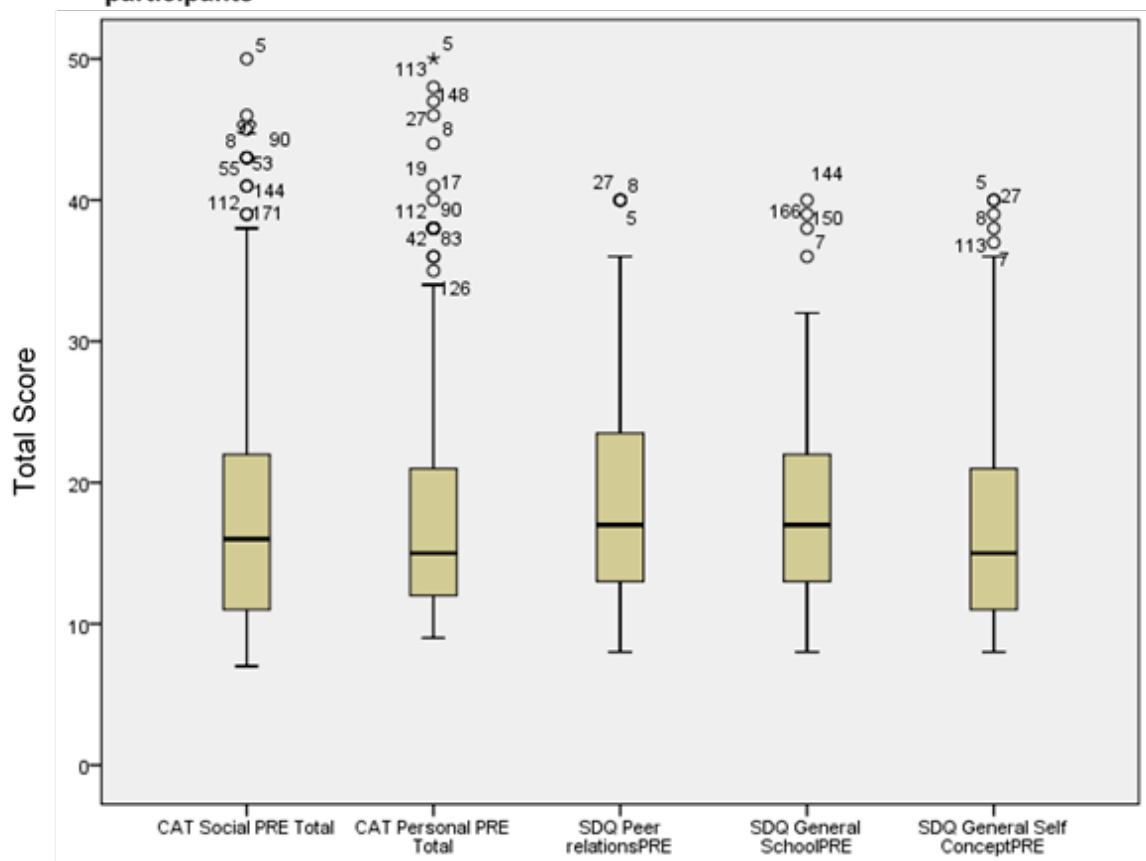
Figure 4.1 indicates that, on each scale, there were some participants who scored much higher than the median. Participants 5 and 8 (both in an intervention class) occurred most frequently as outliers. Inspection of their scores revealed they had selected the maximum response for many questions but both showed internal consistency within their responses, suggesting that their scores were a valid reflection

53

of their beliefs. The median scores for each scale were recalculated without these outliers but this made little difference to the overall distribution of the data. Therefore they were not excluded from the data set.

4.1.2. Reliability

The reliability of pre-intervention scores on each scale was calculated using all participants' scores. Cronbach's Alpha was calculated using SPSS-20 to examine the extent to which responses for each question correlated with each other. An Alpha score between .7-.9 indicated good reliability. Table 4.1 shows that each scale had high internal consistency. It could be argued that because the Alpha score of each CAT scale was over .9 some of the questions were repetitive. However, for each scale, no single question contributed largely to the reliability and removing any one question only lowered the reliability score slightly.

Table 4.1: Calculated reliability for each scale (measured pre-intervention)

	Number of questions	Cronbach's Alpha
CAT-Social	10	.92
CAT-Personal	10	.92
SDQ-Peer	8	.88
SDQ-School	8	.86
SDQ-Self	8	.89

4.1.3. Comparison of the intervention and control samples

There were 171 participants in the study; 108 in intervention classes and 63 in control classes. As the groups were not sampled randomly, the data were initially explored to compare the profile of pupils within the intervention and control groups to ensure there were no significant differences between them. Table 4.2 shows the frequencies of participants within each demographic group; Chi Square was used to statistically compare the intervention and control groups on the basis of the data:

- The intervention group had mostly year 5 pupils whereas the control group had mostly year 6 pupils, but this difference was statistically insignificant ($\chi^2(1)=1.90$, $p>.05$);
- The groups had exactly the same proportions of males and females;
- There was no significant difference between the proportion of pupils in each group without SEN, with SEN at the SA level and with SEN at the SA+ level ($\chi^2(2)=1.90$, $p>.05$). An additional Chi Square to compare the groups in terms of non-SEN

versus SEN (SA and SA+ combined) was also not significant (χ^2(1)=1.68, P>.05). There were no participants with a statement of SEN in either group;

- There was no significant difference between the proportion of pupils with and without FSM (χ^2(1)=.00, p>.05);

- The intervention group had a greater proportion of pupils with low attainment and a smaller proportion of pupils with high attainment but there was no significant difference in NC attainment level between the groups (χ^2(2)=1.72, p>.05).

Table 4.2: Frequency (and percentage) of pupils in each group

		Intervention	Control	Total Frequency
Age	Year 5	56 (52%)	25 (40%)	81
	Year 6	52 (48%)	38 (60%)	90
Gender	Male	44 (41%)	26 (41%)	70
	Female	64 (59%)	37 (59%)	101
Special Educational Needs (SEN)	No SEN	67 (62%)	46 (73%)	113
	SEN (SA)	33 (31%)	12 (19%)	45
	SEN (SA+)	8 (7%)	5 (8%)	13
Free School Meals (FSM)	No FSM	78 (72%)	46 (73%)	124
	Yes FSM	30 (28%)	17 (27%)	47
National Curriculum Achievement[1]	Below-Average	26 (24%)	11 (17%)	37
	Average	72 (67%)	43 (68%)	115
	Above-Average	10 (9%)	9 (14%)	19

[1] Year 6: Below 4C= Below Average, between 4C-4A= Average, Above 4A= Above Average
Year 5: Below 3B= Below Average, between 3B-4C=Average, Above 4C= Above Average

Overall, the intervention and control group samples did not significantly differ in terms of any of the potentially moderating variables.

4.1.4. Comparison of the pre-intervention scores

Independent group t-tests comparing the pre-intervention scores between the intervention and control groups showed the following results.

- A significant difference between the CAT-Social mean scores of the control (M=16.32 SD=6.86) and intervention group (M=19.48 SD=9.94); t (164)=2.45, p=.02; indicating that the intervention group had more social NATs prior to the intervention.

- A significant difference between the CAT-Personal scores of the control (M=15.95 SD=7.00) and intervention group (M=19.68 SD=10.19); t(164)=2.82, p=.01. This indicated that the intervention group had more personal NATs prior to the intervention.

- No significant difference between SDQ-Peer scores of the control (M=17.43 SD=6.71) and intervention group (M=19.23 SD=7.67); t (169)=1.55, p>.05 which showed that the groups had similar peer related self-concepts prior to the intervention.

- A significant difference between the SDQ-School scores of the control (M=15.90 SD=5.42) and intervention group (M=18.92 SD=7.42); t (161)=3.05, p=.00, showing that the intervention group had lower school self-concept prior to the intervention.

- No significant difference between the SDQ-Self scores of the control (M=15.68 SD=6.69) and intervention group (M=17.55 SD=7.70); t (169)=1.60, p>.05. This indicated that the two groups had similar levels of self-esteem prior to the intervention.

These findings suggest there were measurable differences between the groups on the CAT scales and the SDQ-School scale prior to the intervention.

4.1.5. Comparison of the pre and post-intervention scores

Because of the significant differences between the pre-intervention scores of the groups shown above, Analysis of Covariance (ANCOVA) was used to compare the post-intervention scores while controlling for pre-intervention differences, by including them as a covariate. This technique was chosen because Stevens (2009) advises that, when faced with a choice, it is appropriate to use ANCOVA (with pre-test scores used as a covariate) instead of repeated measures ANOVA. However, although the ANCOVA results were the primary form of data analysis for RQ 1(a) (and are shown in section 4.1.6), it was also considered helpful to use ANOVA techniques first, in order to explore, describe and visually present the differences between the pre and post-intervention data; the outcomes of which are presented below.

Prior to using ANOVA, the Mauchly test of sphericity was calculated and was significant for each scale (p<.01); therefore multivariate test outcomes were used as these do not assume sphericity (Pallant, 2007). The Levene test was significant for the

CAT-Social, CAT-Personal and SDQ-Self scales ($p<.05$), which indicated unequal variability in each sample. This could imply that parametric tests, which assume homogeneity of variance, would be unsuitable. However, Stevens (2009) recommends that if the sample size is similar to largest/smallest=1.5, this warrants the use of parametric tests[2].

On the CAT-Social scale the ANOVA showed no significant interaction between group (intervention or control) and time (Wilks Lambda=.99, $F(1, 169)=.54$, $p>.05$) as there was a similar decrease in scores over time for each group (Table 4.3), which indicates the intervention did not affect social NATs. There was a significant main effect for group ($F(1, 169)=6.01$, $p=.02$) as the control group had significantly lower scores at both times (Figure 4.2).

Table 4.3: Mean scores on the CAT-Social scale at times 1 and 2

	Intervention (N=108)		Control (N=63)	
	Mean	Std. Dev	Mean	Std. Dev
CAT-Social PRE (Time 1)	19.51	9.90	16.0	6.02
CAT-Social POST (Time 2)	18.38	9.31	15.78	8.08

Figure 4.2: Graph to show CAT-Social scores on times 1 and 2 for the intervention and control groups

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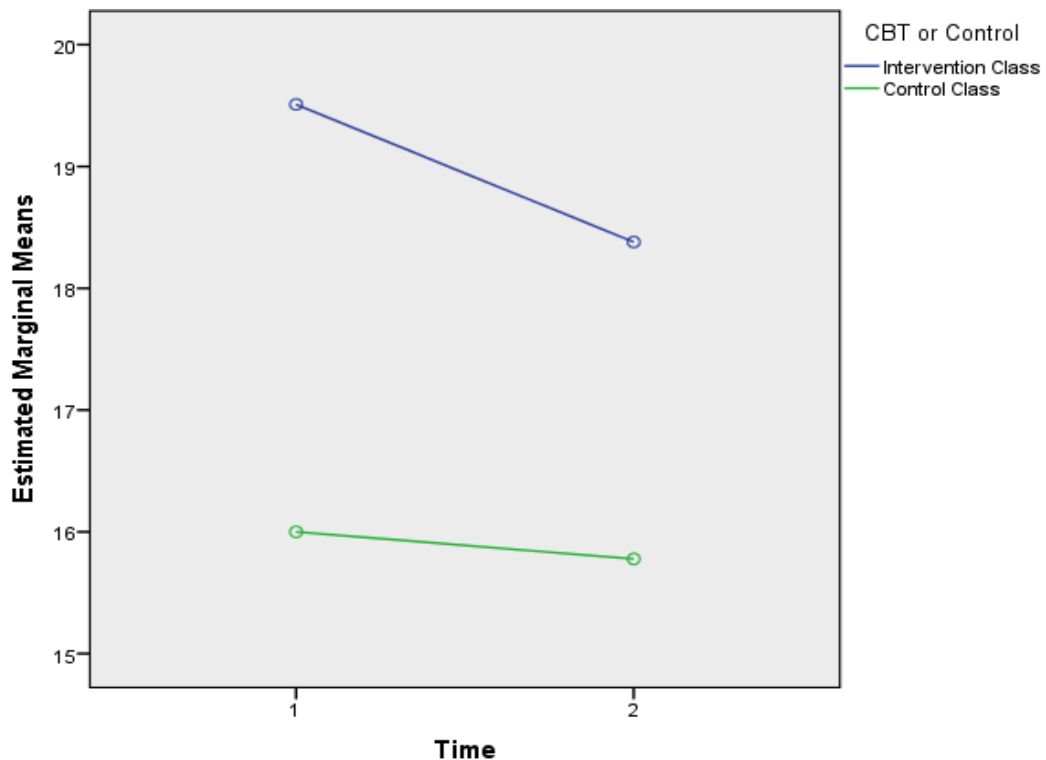
[2] In this study, this was calculated as 108/63=1.7 which was judged to be similar to 1.5

On the CAT-Personal Scale there was no significant interaction (Wilks Lambda=.99, $F(1, 169)=1.48$, $p>.05$) as there was a similar decrease in scores over time for the two groups (Table 4.4), which indicates that the intervention did not affect personal NATs. There were significant main effects for time (Wilks Lambda=.96, $F(1, 169)=6.75$, $p=.01$) and for group $F(1, 169)=6.24$, $p=.01$. Figure 4.3 shows that scores for both groups significantly reduced over time but the control group had significantly lower scores at both times, therefore this decrease cannot be directly attributed to the intervention.

Table 4.4: Mean scores on the CAT-Personal scale at times 1 and 2

	Intervention (N=108)		Control (N=63)	
	Mean	Std. Dev	Mean	Std. Dev
CAT-Personal PRE (Time 1)	19.68	10.19	15.81	6.57
CAT-Personal POST (Time 2)	17.66	8.89	15.08	7.90

Figure 4.3: Graph to show CAT-Personal scores at times 1 and 2 for the intervention and control groups
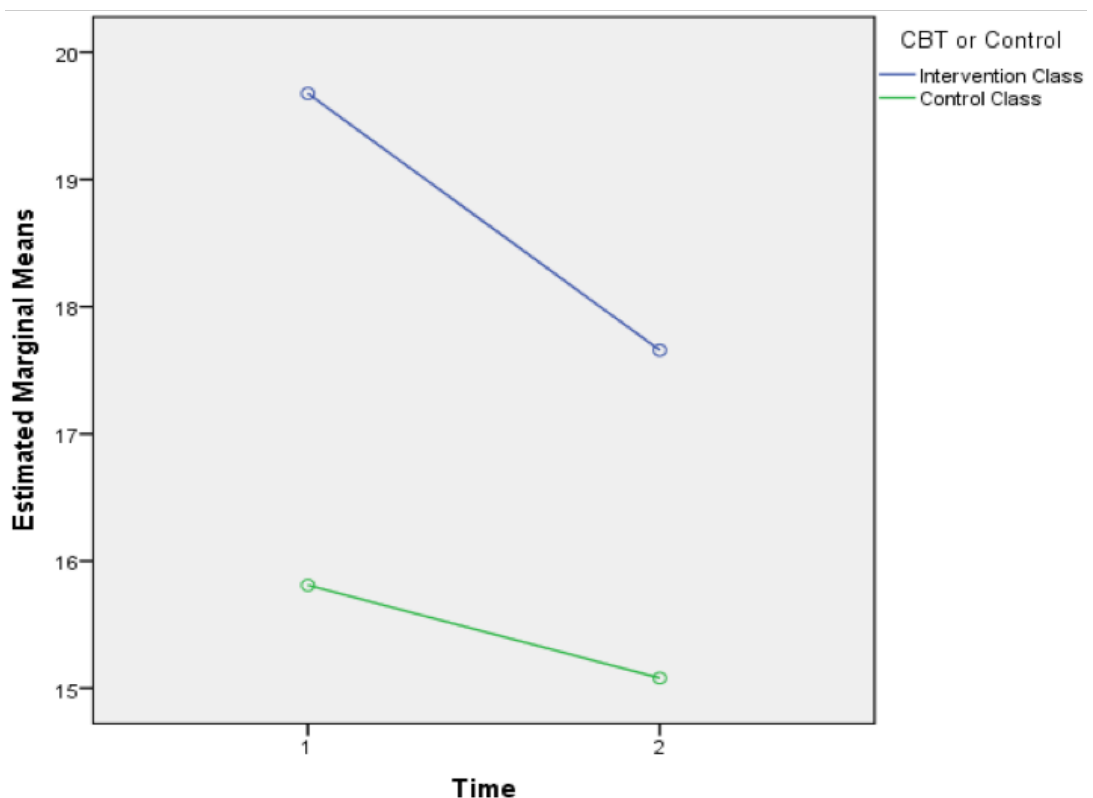
On the SDQ-Peer Scale there was no significant interaction (Wilks Lambda=.99, $F(1, 169)=.37$, $p>.05$) as there was a similar decrease in scores over time for the two groups (Table 4.5), which indicates that the intervention did not significantly affect peer relations self-concept. There were significant main effects for time (Wilks Lambda=.92, $F(1, 169)=13.94$, $p=.00$) and for group ($F(1, 169)=4.29$, $p=.04$). As Figure 4.4 shows, this indicates that scores significantly decreased over time for both groups (indicating

an increase in peer related self-concept) but scores were significantly lower for the control group at both times and this decrease cannot be attributed to the intervention.

Table 4.5: Mean scores on the SDQ-Peer scale at times 1 and 2

	Intervention (N=108)		Control (N=63)	
	Mean	Std. Dev	Mean	Std. Dev
SDQ-Peer PRE (Time 1)	19.23	7.67	17.93	7.30
SDQ-Peer POST (Time 2)	17.27	6.47	15.46	7.02

Figure 4.4: Graph to show SDQ-Peer scores at times 1 and 2 for the intervention

On the SDQ-School Scale there was no significant interaction (Wilks Lambda=.98, $F(1, 169)=2.84$, $p>.05$) as there was a similar decrease in scores over time for the two groups (Table 4.6), which indicates that the intervention did not significantly affect school self-concept. There were significant main effects for time (Wilks Lambda=.96, $F(1, 169)=7.37$, $p=.01$) and for group ($F(1, 169)=16.29$ $p=.00$). Figure 4.5 shows that, although both groups showed a reduction in scores (and therefore an increase in school-related self-concept) at time 2, the control group continued to have significantly lower scores at both times and the intervention had no significant impact.

Table 4.6: Mean scores on the SDQ-School scale at times 1 and 2

	Intervention (N=108)		Control (N=63)	
	Mean	Std. Dev	Mean	Std. Dev
SDQ-School PRE (Time 1)	18.92	7.42	15.75	5.11
SDQ-School POST (Time 2)	18.54	6.82	14.13	4.36

Figure 4.5: Graph to show SDQ-School scores on times 1 and 2 for the intervention and control groups
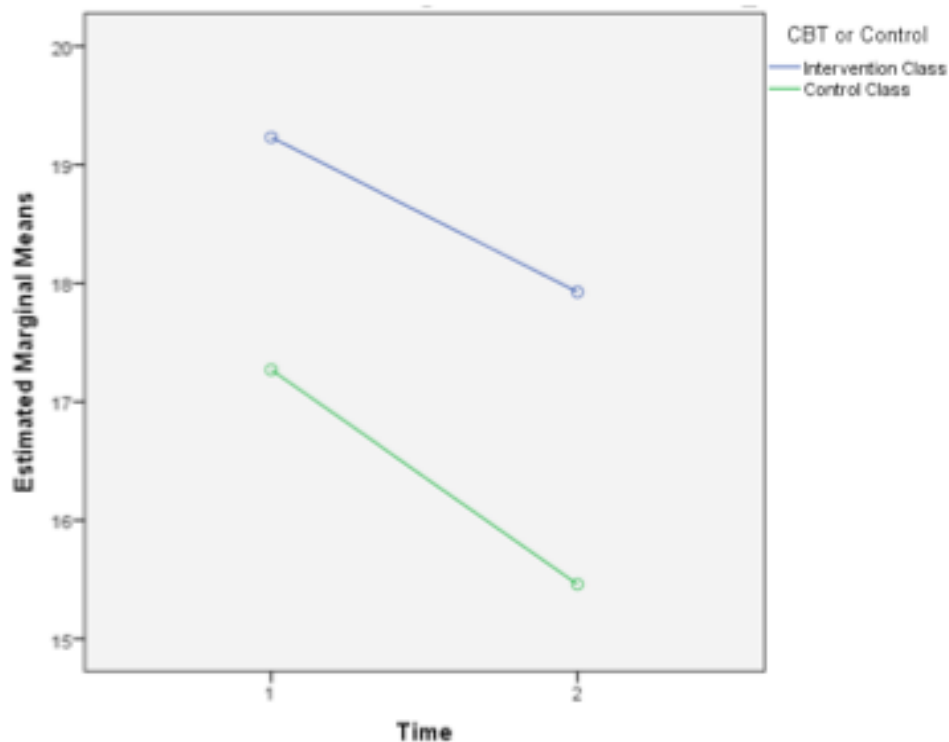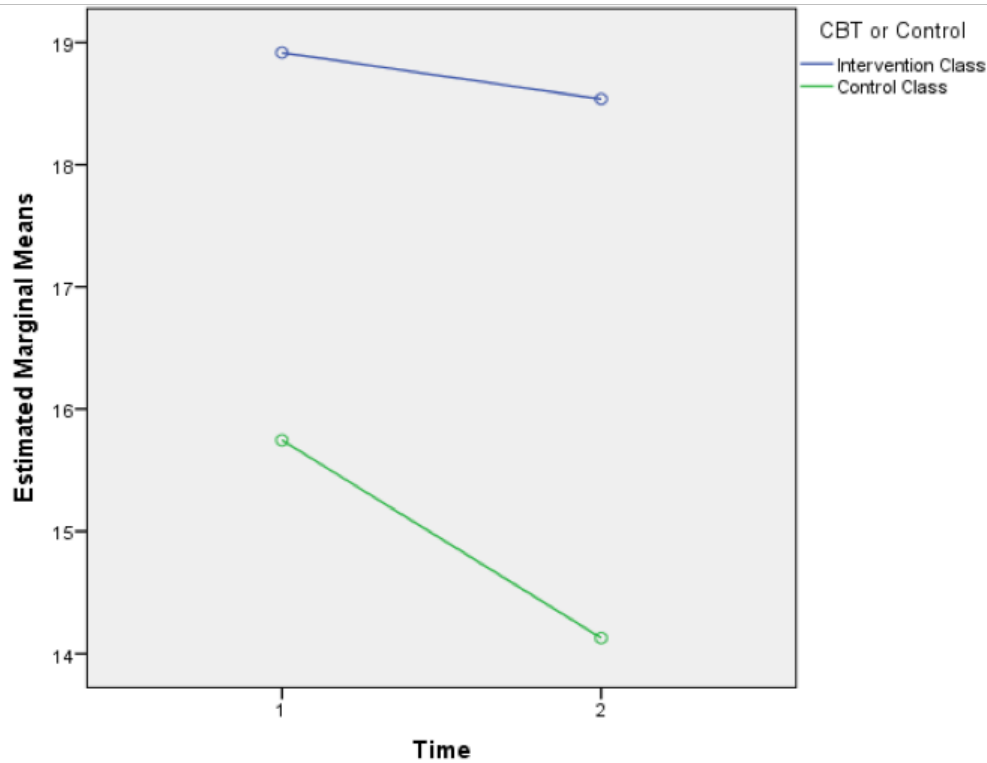

On the SDQ-Self Scale there was no significant interaction (Wilks Lambda=.99, $F(1, 169)$=.14, $p>.05$) as there was a similar decrease in scores over time for the two groups (Table 4.7), which indicates that the intervention did not significantly affect self-esteem. There were significant main effects for time (Wilks Lambda=.95, $F(1, 169)$=9.19, $p=.00$) and for group ($F(1, 169)$=4.71 $p=.03$) which suggests that although self-esteem increased at time 2 (shown by the decrease in scores in Figure 4.6), the control group pupils had significantly better self-esteem at both times.

Table 4.7: Mean scores on the SDQ-Self scale at times 1 and 2

	Intervention (N=108)		Control (N=63)	
	Mean	Std. Dev	Mean	Std. Dev
SDQ-Self PRE (Time 1)	17.55	7.70	15.52	6.64
SDQ-Self POST (Time 2)	16.47	6.44	14.14	5.75

Figure 4.6: Graph to show SDQ-Self scores at times 1 and 2 for the intervention and control groups
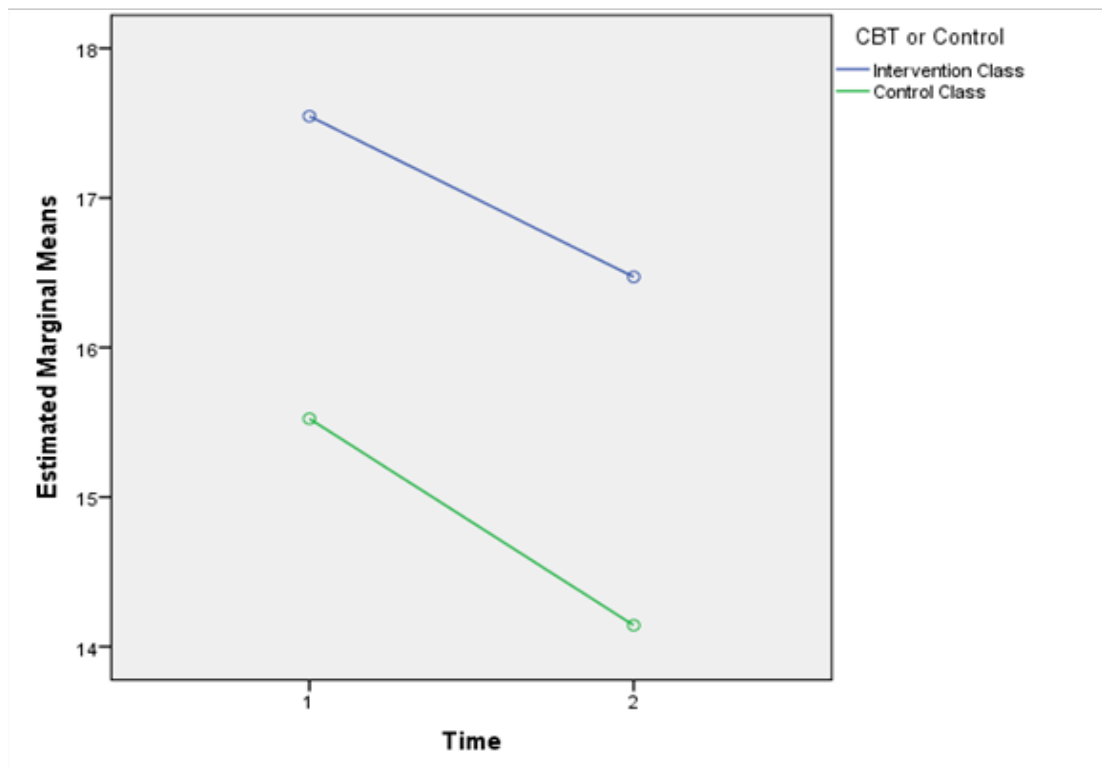
The ANOVA outcomes show that the intervention had no significant impact on any scales. However, it was considered important to use ANCOVA to compare the groups at time 2 while controlling for differences between them at time 1.

4.1.6. Comparison of the post-intervention scores using ANCOVA

The main analysis to address RQ 1(a) was the use of between-groups ANCOVA to compare the intervention and control groups on each of the scales at time 2 (post-intervention) while controlling for the pre-intervention differences (time 1 scores were used as a covariate). Preliminary checks were conducted on assumptions of normality, linearity, homogeneity of variances, homogeneity of regression slopes and reliable measurement of the covariate. After adjusting for pre-intervention scores, the following was found:

- No significant difference between the intervention and control groups on post-intervention scores on the CAT Social scale, $F(1, 168)=.15$, $p>.05$;
- No significant difference between the groups on post-intervention scores on the CAT Personal scale, $F(1, 168)=.00$, $p>.05$;
- No significant difference between the groups on post-intervention scores on the SDQ Peer scale, $F(1, 168)=1.75$, $p>.05$;

- A significant difference was found between the groups on post-intervention scores on the SDQ School Scale, $F(1, 168)=11.89$, $p=.00$, although only 7% of the variance was explained by the type of group (partial eta squared=.07) so this was a small effect. A visual inspection of this data (shown above in Table 4.6) indicated that the control group had lower scores (higher school self-concept) at time 2, even when their lower scores at time 1 were controlled for. Although both groups showed some reduction in scores, the control group showed a larger reduction, which suggests that the intervention might have prevented an increase in school self-concept. However, there was also a significant relationship between the pre and post-intervention scores which shows that most of the variance (54.4%) at time 2 was explained by the scores at time 1 rather than by group;

- No significant difference between the groups on post-intervention scores on the SDQ Self Scale, $F(1, 168)=2.26$, $p>.05$.

4.1.7. Conclusions to Research Question 1(a)

The outcomes from the ANOVA and ANCOVA described above suggest the following conclusions about the impact of the intervention on each scale:

- The intervention did not have a significant impact on social NATs.
- The intervention did not have a significant impact on personal NATs.
- The intervention did not have a significant impact on peer related self-concept.
- The intervention had a negative impact on school-related self-concept as the control group show a greater decrease in scores on the SDQ-School scale than the intervention group. Overall this suggested that being in the control group was more beneficial for school related self-concept than being in the intervention group.
- The intervention did not have a significant impact on self-esteem.
- On all scales, the control group had lower scores (indicating fewer NATs and greater self-concept) than the intervention group at times 1 and 2.

This data raised the following questions for discussion:

- Why did the intervention have no impact on NATs, peer related self-concept or self-esteem?
- Why did the control group show a significant greater increase in school related self-concept than the intervention group?
- Why did all the scores for both groups decrease when measured at time 2?

4.2. What impact did the intervention have at follow-up?

The intervention class from School A (n=27), were given the CAT and SDQ scales on a follow-up occasion, 2 months after they had completed the intervention. The three occasions that they completed the scales (pre-intervention, immediately post-intervention and 2 months post intervention) were compared using repeated measures ANOVA[3].

The mean scores on the CAT-Social scale decreased on each subsequent time (Table 4.8), but this difference was not statistically significant ($F(2, 52)=1.79$; $p>.05$).

Table 4.8: Mean scores for School A on the CAT-Social scale at times 1, 2 and 3

	Mean	Std. Deviation
CAT-Social PRE (Time 1)	20.81	10.25
CAT-Social POST (Time 2)	20.41	8.04
CAT-Social follow up (Time 3)	17.37	9.12

The CAT-Personal scores reduced over the 3 times as shown in Table 4.9. This difference was statistically significant: $F(2, 52)=4.49$; $p=.02$, partial eta squared=.15, which was interpreted as a large effect (Cohen, 1988). Pairwise comparisons revealed that the difference was only significant between times 1 and 3 ($p=.05$ when adjusted for multiple comparisons using the Bonferroni method). This indicated that personal NATS significantly improved within the period before the intervention and 2 months following it.

Table 4.9: Mean scores for School A on the CAT-Personal scale at times 1, 2 and 3.

	Mean	Std. Deviation
CAT-Personal PRE (Time 1)	24.63	11.53
CAT-Personal POST (Time 2)	21.44	9.79
CAT-Personal follow up (Time 3)	19.00	10.36

There was a reduction in SDQ-Peer scores at each of the 3 times (Table 4.10). This difference was statistically significant, $F(2, 52)=5.59$; $p=.01$, Partial eta squared=.18 which was interpreted as a large effect. Pairwise comparisons revealed the difference

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[3] Within this analysis Bonferroni adjustments were made to the alpha level when conducting pairwise comparisons because making multiple comparisons increases the risk of making a type 1 error (finding a statistical difference when there isn't one). This involves dividing the alpha level by the number of comparisons being made (P<.05 divided by 3) to calculate a new alpha.

was only significant between times 1 and 3 (p=.02), suggesting that peer-related self-concept significantly improved between the pre-intervention time and 2 months following the end of the intervention.

Table 4.10: Mean scores for School A on the SDQ-Peer scale at times 1, 2 and 3.

	Mean	Std. Deviation
SDQ-Peer PRE (Time 1)	22.63	7.82
SDQ-Peer POST (Time 2)	20.44	6.88
SDQ-Peer follow up (Time 3)	17.56	6.423

The mean SDQ-School scores for the 3 times differed significantly (sphericity not assumed), F(1.57, 40.69) =4.34; p=.03, partial eta squared=.14 which was interpreted as a moderate-large effect. Table 4.11 shows that the scores reduced over each of the 3 times but pairwise comparisons revealed that this reduction was only significant between times 2 and 3 (p=.04) which suggested that school self-concept improved in the 2 months following the intervention but not immediately after.

Table 4.11: Mean scores for School A on the SDQ-School scale at times 1, 2 and 3.

	Mean	Std. Deviation
SDQ-School PRE (Time 1)	21.81	6.51
SDQ-School POST (Time 2)	21.04	5.58
SDQ-School follow up (Time 3)	18.59	7.20

There was a small reduction in mean SDQ-Self scores between times 1 and 2 but a greater reduction at time 3 (Table 4.12). This difference was not statistically significant (sphericity not assumed) F(1.39, 36.02)=3.31; p>.05 indicating that self-esteem did not significantly improve at follow-up.

Table 4.12: Mean scores for School A on the SDQ-Self scale at times 1, 2 and 3.

	Mean	Std. Deviation
SDQ-Self PRE (Time 1)	21.52	8.13
SDQ-Self POST (Time 2)	20.26	5.61
SDQ-Self follow up (Time 3)	17.11	7.82

Overall it appeared that there was a delayed positive impact of the intervention on the CAT-Personal, SDQ-Peer and SDQ-School scales. However this was based on the results from one class only and there was no available control class with which to compare these differences so the effects were interpreted with caution.

4.3. Research Question 1(b)

Is the impact of the intervention moderated by gender, age, free school meals, special educational need or National Curriculum level?

Before answering this research question, it was first established what impact these potentially moderating variables had on the pre-intervention data.

4.3.1. Impact of potentially moderating variables on the pre-intervention data

Table 4.13 shows the mean pre-intervention scores for each of these independent groups (decimals rounded to nearest whole number). The maximum possible score for the CAT scales was 50 and for the SDQ scales was 40. Statistical comparisons on each group using independent group t-tests and one–way ANOVA revealed:

- No significant difference between years 5 and 6 on any of the scales ($p>.05$);
- No significant difference between male and female scores on any scale ($p>.05$);
- No significant differences between the 3 SEN groups (Non-SEN, SA and SA+) on the CAT-Personal scale or any SDQ scales. However, there was a statistically significant difference between the 3 groups on the CAT-Social scores (Welch's $F_{(2, 28.5)}$ = 3.89, $p>.05$). Post-hoc comparisons using the Tukey HSD test indicated that the mean score for non-SEN (m=16.84) was significantly lower than the SA group (m=21.69). The SA+ group (m=18.15) did not differ significantly from either the non-SEN group or SA group, suggesting that pupils at the SA level of SEN had significantly more socially related NATs than pupils without SEN;
- Pupils receiving FSM scored higher on all scales than those not receiving FSM. These differences were statistically significant on the SDQ-Peer scale (t(169)=-2.56, $p=.01$), SDQ-School scale (t(169)=-2.01, $p=.05$) and SDQ-Self scale (t(169)= -2.56, p=.01). This suggested that having FSM was related to lower self-concept but not with level of NATs;
- One-way ANOVAs revealed statistically significant differences between the pre-intervention scores of pupils at the 3 levels of NC attainment (below average, average, and above-average) on each scale. Post-hoc comparisons showed that pupils achieving below average had significantly more NATs and significantly lower

peer, school and general self-concept (self-esteem) than pupils with average or above-average attainment.

Table 4.13: Mean scores on each pre-scale for each independent group (intervention and control groups combined)

		CAT-Social	CAT-Personal	SDQ-Peer	SDQ-School	SDQ-Self
Age	Year 5	18	17	18	17	17
	Year 6	18	20	19	19	19
Gender	Male	18	19	18	18	17
	Female	19	18	19	17	17
SEN	No SEN	17	17	18	17	16
	SA	22	20	19	19	19
	SA+	18	20	20	16	17
	SEN combined	21	20	20	19	19
FSM	No FSM	18	18	18	17	16
	FSM	19	20	21	20	19
NC Attainment	Below Average	22	23	21	20	20
	Average	16	16	17	17	15
	Above Average	16	15	17	14	15

In conclusion, it appeared that SEN, FSM and NC attainment all impacted pupils' scores on some or all of the pre-intervention measures. These differences were accounted for during the analysis of the post-intervention data by using between-groups ANCOVA to assess the impact of each factor (gender, age, SEN, FSM and NC attainment) on the intervention and control groups to see whether these variables moderated the effectiveness of the intervention.

4.3.2. What was the impact of age, gender and free school meals?

A series of ANCOVA tests were conducted to assess if age, gender or eligibility to receive Free School meals (FSM) had any moderating effect on the impact of the intervention. In each ANCOVA analysis, the two IVs were group (intervention or control) and the potentially moderating variable (e.g. age). The DV was scores at time 2 and the covariate was scores at time 1. These analyses revealed no significant interaction between group and each of the potentially moderating variables (age/gender/FSM) on any of the SDQ or CAT scales. This suggested that age, gender and FSM did not moderate the impact of the intervention.

4.3.3. What was the impact of SEN?

A further series of ANCOVA tests were used to assess the interaction between group and SEN (non-SEN, SA or SA+) on each post-intervention scale, to assess if SEN had any moderating effect on the impact of the intervention. It should be noted that the number of pupils in the SA+ group was small for both the intervention (n=8) and control groups (n=5) and therefore care was taken to check that the statistical results gained were supported by inspection of the raw data.

- On the CAT Social scale there was no significant interaction between SEN and group $F_{(2, 164)}=.53$, $p>.05$ but there was a significant main effect of SEN $F_{(1, 164)}=2.88$, $p=.05$. Figure 4.7 showed that participants at the SA level of SEN scored lower (indicating fewer social NATS) than participants without SEN, whereas participants at the SA+ level had higher scores than those without SEN. This impact was not affected by group, which implies that level of SEN affected social NATS but the intervention did not.

Figure 4.7: Graph to show CAT-Social scores at time 2 for the intervention and control groups for each level of SEN
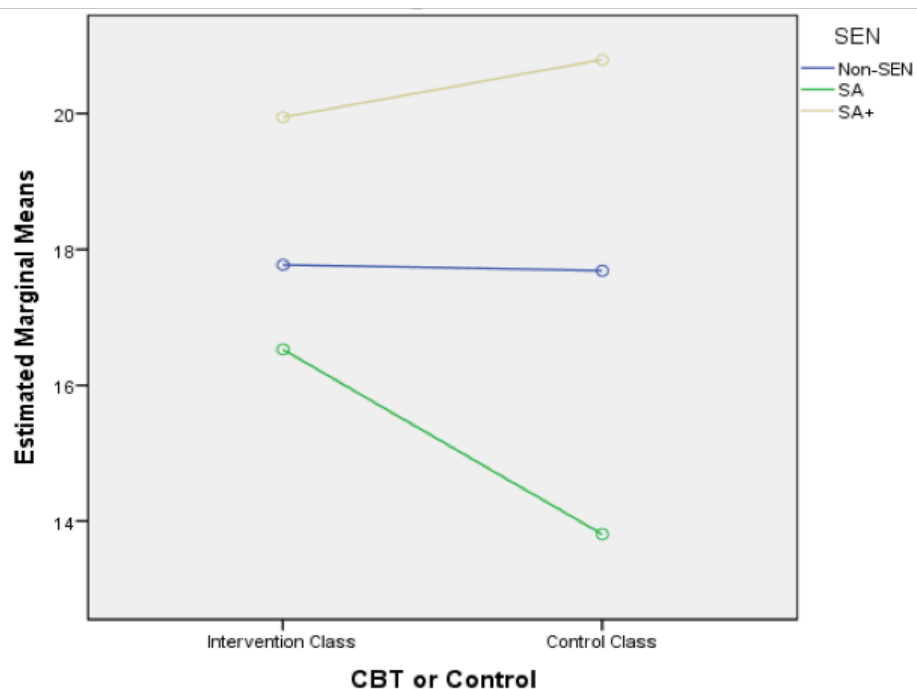
- On the CAT Personal scale there was no significant interaction $F_{(2, 164)}=.03$, $p>.05$ and neither of the main effects (group or SEN) were statistically significant (group $F_{(1, 164)}=.00$, $p>.05$, SEN $F_{(1, 164)}=1.22$, $p>.05$). This suggests the intervention did not affect level of personal NATS and this impact was not affected by SEN.

- On the SDQ Peer scale there was no significant interaction $F(2, 164)=.66$, $p>.05$ and neither of the main effects (group or SEN) were statistically significant (group, $F(1, 164)=3.38$, $p>.05$, SEN, $F(1, 164)=.81$, $p>.05$). This suggests the intervention did not affect peer self-concept and this was not affected by SEN.

- On the SDQ School scale there was no significant interaction $F(2, 164)=.06$, $p>.05$, but there were significant main effects for group, $F(1, 164)=5.13$, $p=.03$, and for SEN, $F(1, 164)=3.02$, $p=.05$). Figure 4.8 shows that the control group had better school-related self-concept (indicated by lower scores) than the intervention group and for both groups, school self-concept was poorest (indicated by highest scores) for participants with SEN at the SA+ level.

Figure 4.8: Graph to show SDQ-School scores at time 2 for the intervention and control groups for each level of SEN
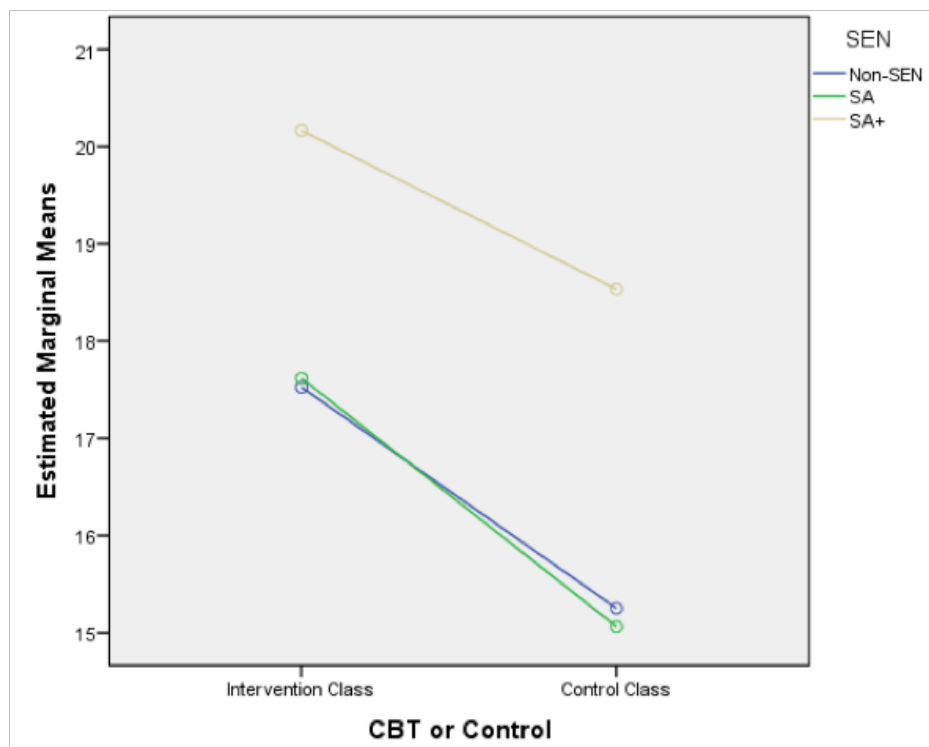
- On the SDQ-Self scale, there was no significant interaction $F(2, 164)=.66$, $p>.05$ or main effect of SEN, $F(1, 164)=2.01$ $p>.05$. There was a significant main effect of group $F(1, 164)=4.01$, $p=.05$, which showed that the intervention group pupils had poorer self-esteem than those in the control group, but this effect was not moderated by SEN.

4.3.4. What was the impact of NC attainment?

The following ANCOVA tests looked at the interaction between group (intervention or control) and NC attainment (above-average, average or below-average) on each post-

intervention scale. There were a relatively small number of pupils in the above-average group within both the intervention (n=10) and control (n=9) samples and therefore the statistical results were inspected to ensure they accurately represented the raw data and were not unduly influenced by outliers. After adjusting for time 1 scores (covariate) the results were:

On the CAT-Social scale there was a significant interaction, $F(2, 164)=4.96$, $p=.01$, which indicated that attainment level moderated the impact of the intervention. Figure 4.9 showed that the intervention had a positive impact on the social NATS of participants who have below-average NC attainment. However it had a negative impact on the social NATS of participants who have average or above-average attainment.

Figure 4.9: Graph to show CAT-Social scores at time 2 for the intervention and control groups for NC attainment
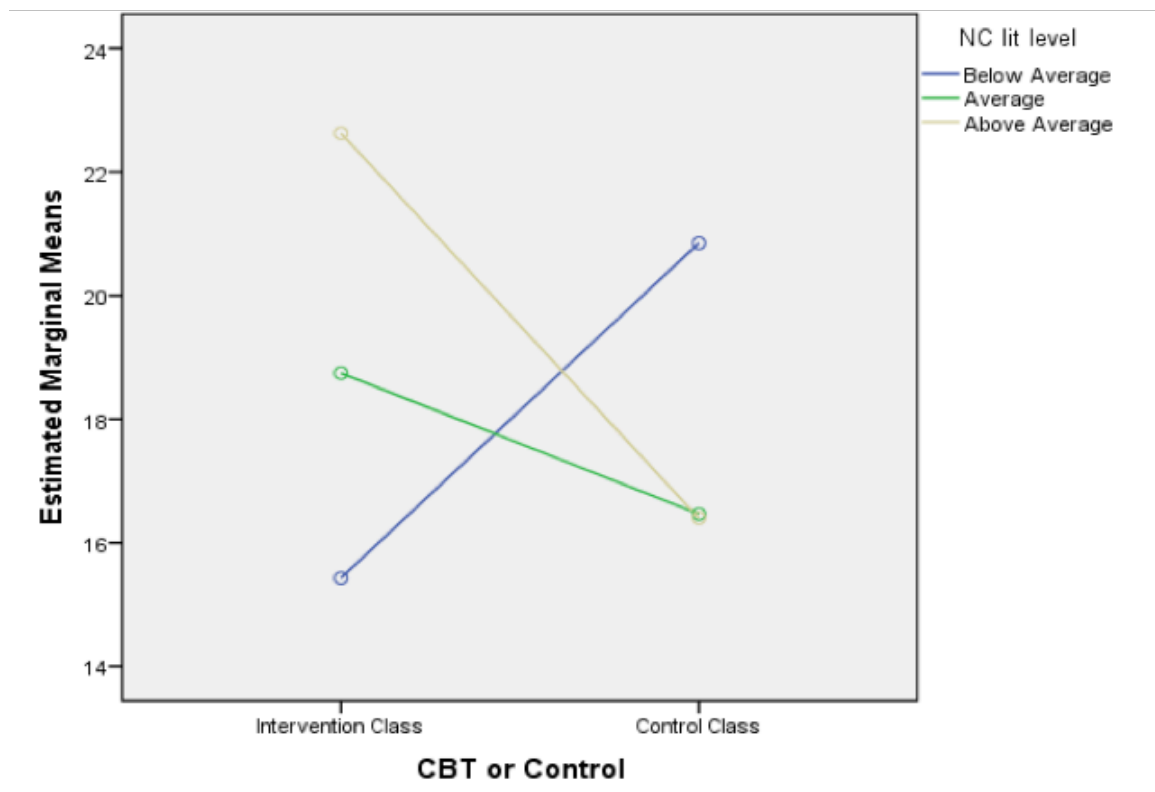
- On the CAT-Personal scale there was a significant interaction, $F(2, 164)=2.96$, $p=.05$, which indicated that level of NC attainment moderated the impact of the intervention. Figure 4.10 showed that, as with the CAT social scale, the intervention had a positive impact on the personal NATS of pupils with below-average attainment but a negative impact on the personal NATS of pupils with above-average attainment.

Figure 4.10: Graph to show CAT-Personal scores at time 2 for the intervention and control groups for NC attainment
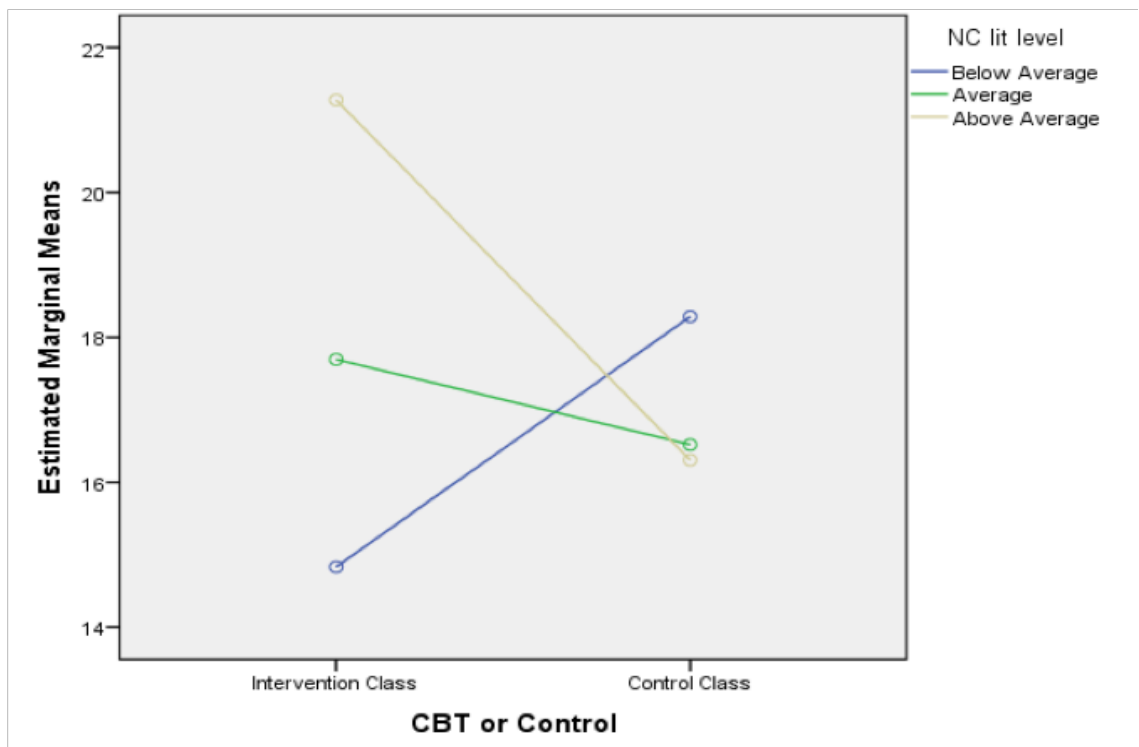
- On the SDQ-Peer scale there was no significant interaction, $F(2, 164)=2.60$, $p>.05$ or main effect of NC attainment, $F(2, 164)=2.81$, $p>.05$. There was a significant main effect for group, $F(2, 164)=6.75$, $p=.010$ which showed that the intervention group had significant poorer peer-related self-concept, regardless of NC attainment level, although Figure 4.11 indicated that above-average attaining pupils appeared to receive a noticeably (but non-significant) negative effect from the intervention.

Figure 4.11: Graph to show SDQ-Peer scores at time 2 for the intervention and control groups and NC attainment
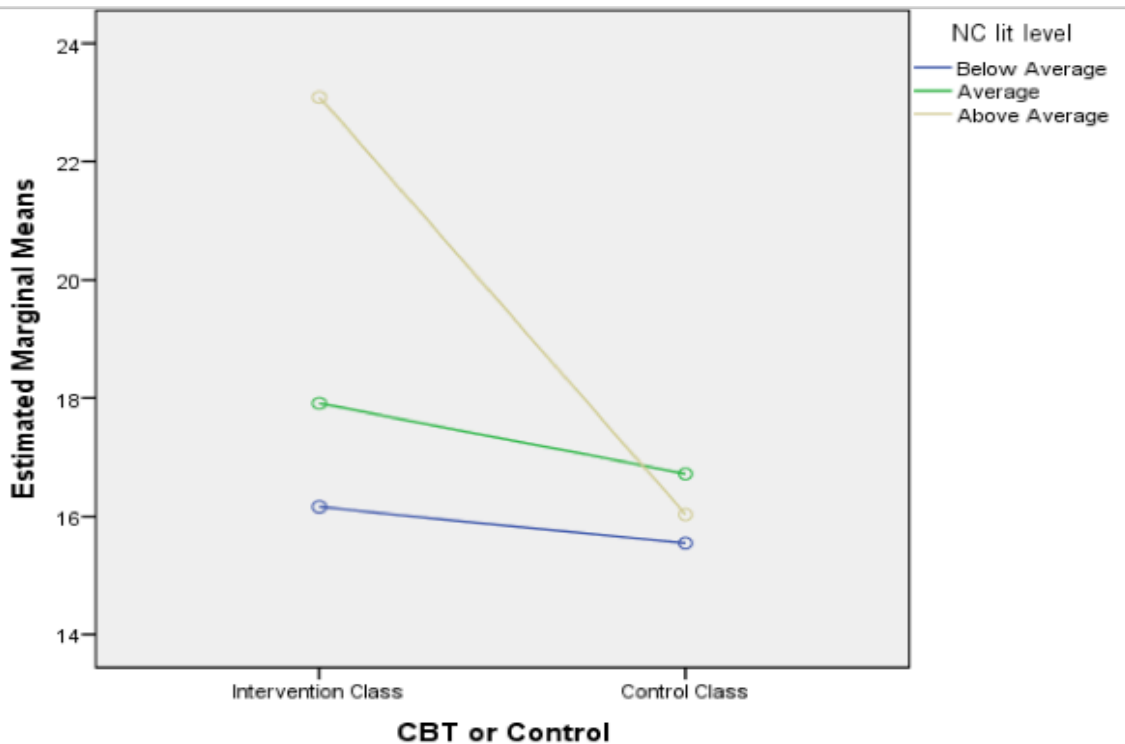
- On the SDQ-School scale there was no significant interaction, $F_{(2, 164)}=1.47$, $p>.05$, or main effect for NC attainment, $F_{(2, 164)}=.60$ $p>.05$ but there was a significant main effect for group, $F_{(2, 164)}=12.00$ $p=.00$. Figure 4.12 showed that the intervention group had poorer school self-concept, regardless of NC attainment level but, although the interaction was not significant, pupils attaining above-average had a more noticeable negative impact from the intervention.

Figure 4.12: Graph to show SDQ-School scores at time 2 for the intervention and control groups and NC attainment
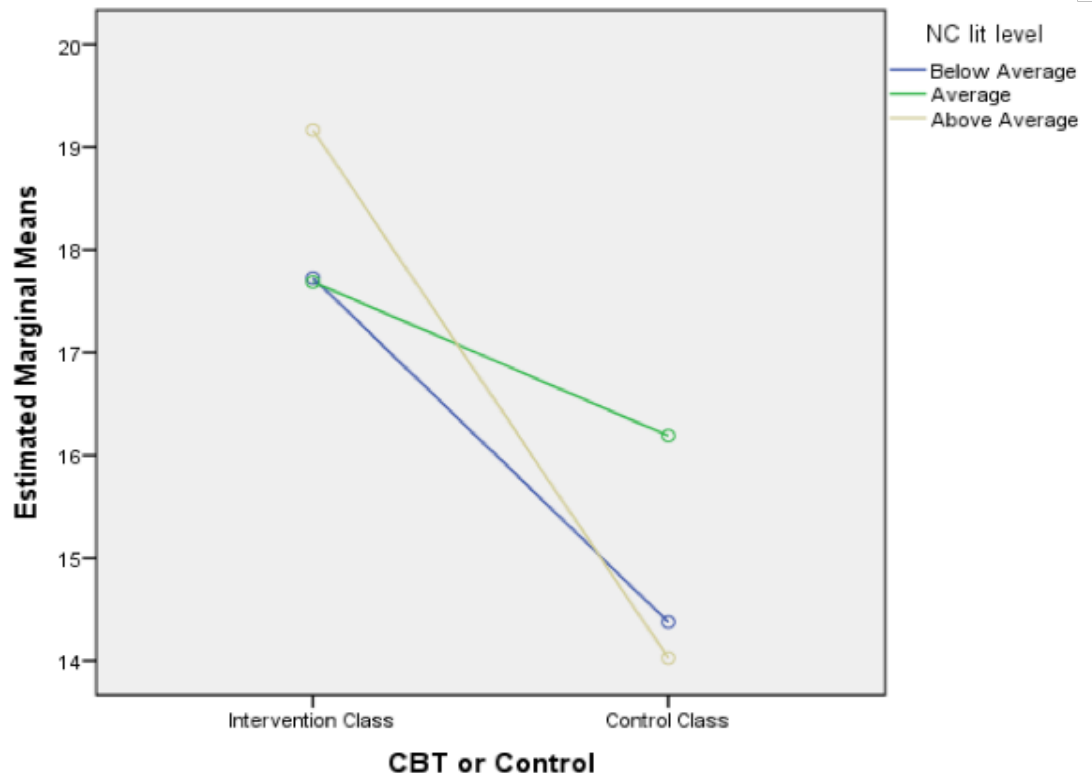
- On the SDQ-Self scale there was no significant interaction, $F_{(2, 164)}=2.39$, $p>.05$) or main effect of NC attainment, ($F_{(2, 164)}=1.28$, $p>.05$. There was a significant main effect for group, $F_{(2, 164)}=6.84$, $p=.01$ as the control group reported greater self-esteem that the intervention group and Figure 4.13 showed that the difference between the groups was particularly noticeable for pupils with above-average attainment, which suggested that the intervention had more of a negative impact on these pupils than on those with below-average attainment, although this difference was statistically insignificant.

Figure 4.13: Graph to show SDQ-Self scores at time 2 for the intervention and control groups and NC attainment
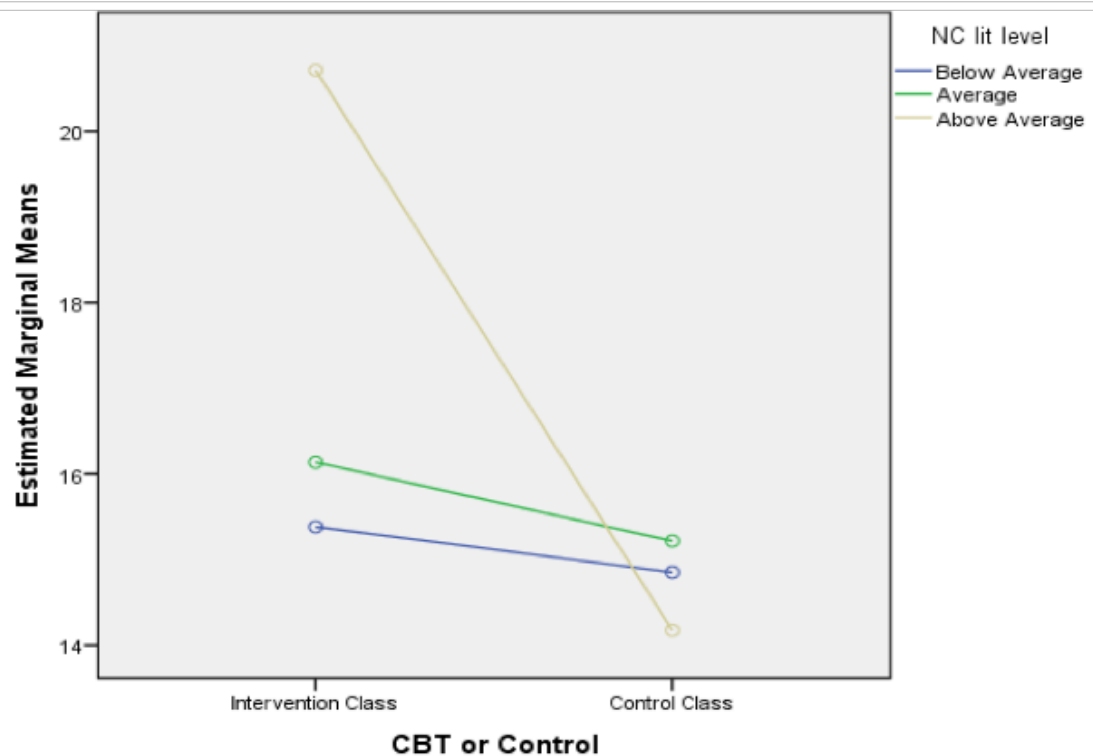
4.3.5. Conclusions to Research Question 1(b)

The outcome from the ANCOVA tests above indicate the following main conclusions:

- Age, FSM and gender did not moderate the impact of the intervention for any of the scales.
- SEN did not moderate the impact of the intervention as there was no interaction effect between group and SEN. However, level of SEN did have a significant main effect on scores on the CAT-Social and SDQ-School scales, but this was true for pupils in both groups. Specifically, it appeared that pupils at the SA+ level of SEN had more social NATs and significantly poorer school self-concept than those at the SA level or without SEN.

73

- NC level moderated the impact of the intervention on both CAT scales; pupils with below-average attainment received some positive impact from the intervention on their level of NATs, whereas those with average or above-average attainment appeared to receive a negative impact on their NATs from being in the intervention group.
- NC level did not significantly moderate the impact of the intervention on any of the SDQ scales but it appeared visually from the data that pupils with above-average attainment showed a more negative impact from the intervention than pupils with average or below-average attainment.

Overall it appears that the intervention was not moderated by any of the measured variables other than NC attainment level. Because pupils with low NC attainment are likely to also represent many of the pupils with SEN, it is surprising that these did not show more similar interacting effects with the intervention and control groups. It appears that, overall, pupils achieving below-average received some positive impact from the intervention. However, other pupils received either no impact or showed a negative impact from the intervention compared with the control group pupils.

4.4. Research Question 2

What factors do staff and pupils perceive as affecting the impact of the intervention?

This was addressed qualitatively through two thematic analyses. The first was conducted on data gathered from semi-structured interviews with 3 teaching staff who had each delivered the intervention. The second thematic analysis was conducted on data from semi-structured interviews with 6 pupils who had received the intervention. Each thematic analysis was conducted separately and then the main conclusions from each were used to address RQ 2. Following the analysis, further consideration was given as to how the themes identified help to explain the results of the quantitative data gathered for RQ 1 and this is discussed within chapter 5.

4.4.1. Thematic analysis of staff interview data

The thematic analysis process is described in Chapter 3 and an example of a coded interview transcript is shown in Appendix 8. Following the coding of each of the 3 interviews, the final themes and sub themes were collated into a table with supporting quotes (shown in Appendix 9). These are represented in Figure 4.14.

Figure 4.14: Thematic Map of staff interview data
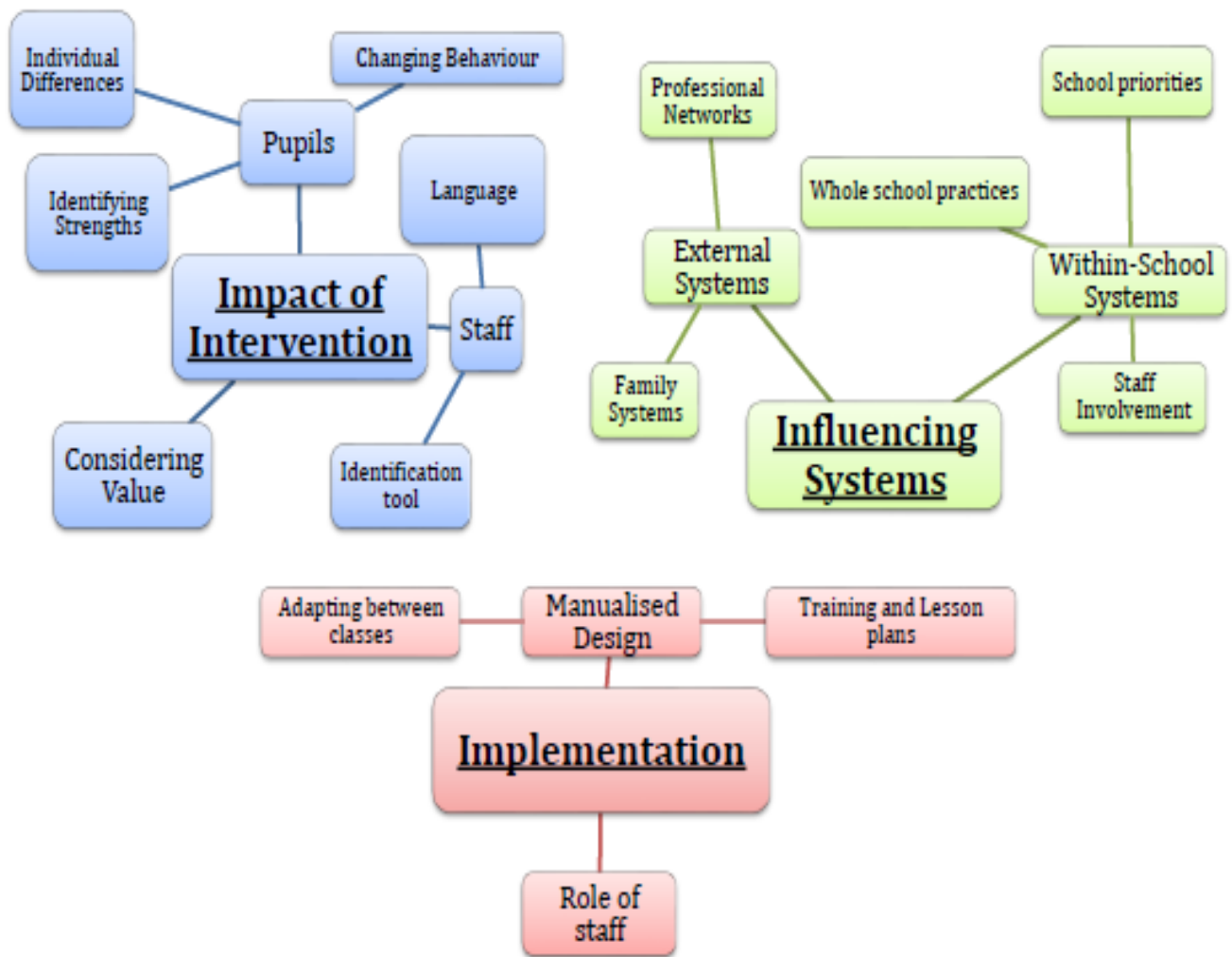
4.4.2. Theme: Impact of Intervention

Each of the 3 teacher participants talked about the impact of the intervention on the pupils, on the school staff, and how that impact was assessed. These topics formed sub-themes, which are explained in turn.

Sub-Theme: Pupils

The impact on pupils was acknowledged by all participants to be variable due to individual differences between the pupils and classes. One difference related to how deeply the pupils connected with the emotional and personal content of the sessions. Pupils who were believed to have poor emotional or mental health were described as connecting with the content on a more shallow level than pupils who had good emotional and mental health.

> *'some who had more difficult home lives……. chose to engage on a less deep and meaningful level. Whereas…..children who have more settled lives were actually more willing to open up and be, you know, talk about their feelings in more depth.' (2)*

Pupils who were perceived by staff as usually being engaged in class were described as connecting more deeply and personally with the emotional content and thus were more likely to have been affected by it.

> *'the ones who seemed most affected…. they were mostly the kids that are usually really engaged.' (3)*

This suggests that the intervention had most impact on pupils who were willing and able to emotionally relate to it. Activities that gave pupils the chance to identify their own strengths also highlighted these differences.

> *'they were happy to talk about the fact they were really good at computer games but the rest of it, they didn't want to go in too deeply' (2)*

However, although pupils' degree of engagement was variable, the same participant emphasised the value of the activities in which pupils' identified their strengths, because it enabled a process of positive social comparison for some individuals.

> *'children could see the strengths that people had, also people were happy to say 'yeah I'm not that good at that but actually I'm really good at something else' (2)*

The perceived impact of the intervention on pupil behaviour appeared mixed. Although participant 2 noted a reduction in minor behavioural incidents and attributed this to the intervention; participant 1 reported that no such changes had been observed. This reflects the difficulty of making generalisations, given the individual differences between pupils. It also reflects the difficulty of applying the ideas from Cognitive Behavioural (CB) psychology learned in the intervention to everyday behaviour and participant 2 described this.

> *'Some of the lessons for some children were quite tricky, like the one where you are linking a trigger event to how to feel and then how you think and how you behave. For some children that was still quite hard and for some of them, their reactions are so entrenched in them' (2)*

However, participant 3 had noticed changes in pupil behaviour that they related to the language of the intervention. It appeared that intervention terminology had been helpful in providing an 'operating tool' for pupils to apply their understanding of CB concepts outside of the lessons.

'phrases like 'flipping thoughts' or 'mind reading' have been really good because the kids have been able to generalise those ideas at other times' (3).

This suggests that that the language specifically related to the intervention had supported the pupils' recall of these intervention concepts and ideas and provided a simple way for them to refer to these concepts at other times.

Sub-Theme: Staff

The perceived impact of the intervention on staff appeared to be partially linked to the usefulness of the intervention language, as described above for pupils. Participants 2 and 3 noted that the intervention language provided a useful tool to support the understanding of the intervention concepts for staff and therefore enabled staff to support pupils' understanding and application of these concepts. Participants reported that if more staff were trained in the intervention, the language would be used more widely and this could facilitate generalising the CB concepts across the school.

'We also plan to do a staff training in school so that the language can be used by all staff' (3)

Another way that the intervention impacted staff was by changing their perception of certain pupils and enabling them to identify pupils who may benefit from targeted intervention.

we found out stuff that we wouldn't have otherwise known about that we then were able to follow up on.' (1)

It appeared that the process of the intervention provided a forum for pupils to express emotions and thoughts that were previously unknown to staff. The teachers interviewed acknowledged that some of these disclosures were surprising, sometimes due to the nature of the difficulties expressed and sometimes due to coming from pupils that had not previously indicated emotional difficulties. This finding implied that, although the intervention had little impact on pupils' self-esteem or NATs as assessed by quantitative measures, it had value for staff as an identification tool enabling them to identify pupils who could benefit from additional emotional support. This has implications for the value of universal interventions in general and suggests that they should be considered as a precursor to targeted interventions to ensure that the latter are targeted at the most appropriate individuals.

Sub-Theme: Considering Value

In the process of discussing the impact of the intervention, all the staff interviewed commented on their own evaluation of its value and it appeared that there was some weighing up of the cost of staff time versus the beneficial impacts on pupils.

> *'It is taking up a lot of staff resources as there are two staff in the class at a time so it's not cheap. So we need to think about whether it is worth it' (1)*

Participants' expressed mixed views about whether they considered the intervention to be worthwhile. Participants 1 and 2 reported that they had partially attempted to measure the impact on pupils through simple feedback questionnaires but these had revealed limited information which had left them wondering whether it was having any measurable impact on pupils. It appeared that this difficulty was less of a concern for participant 3 who reported that their school had made no attempt to measure the intervention impact. This participant expressed the most positive view of the intervention; their belief in its value could have both caused and been an effect of them not attempting to assess it.

4.4.3. Theme: Influencing Systems

Another theme that arose from the analysis of staff interviews was the influence that school and non-school systems had on the intervention, both in terms of its implementation and its impact. This theme was named 'Influencing Systems' as it was noted that the intervention both influenced and was influenced by the systems within which it was occurring.

Sub-Theme: Within School Systems

All participants identified that the impact of the intervention would be increased by generalising the concepts used across school systems, which required greater staff involvement. By involving more staff; participants hoped that the intervention concepts could be applied in multiple settings across the school.

> *'we need to work together on how we are going to filter it down to the school and how we are going to make sure staff are using the same language' (2)*

This linked back to the use of language and terminology as an operating tool to enable pupils to generalise the concepts more easily. However this was difficult due to lack of

time, training and staff availability, therefore the school systems in place were preventing the intervention from expanding.

Participant 3 discussed whole school practices that were adapted in order to use concepts from the intervention. This included changes to behaviour policy so that a CB based reflection was completed following an incident and use of a 'circle time' based CB activity. These ideas reflected the flexible nature of the intervention activities and concepts as they were being used in ways that were preventive (with the whole class), reactive (following an incident) and targeted (with small groups). However, these activities were only reported by participant 3 and this appeared to be due to their belief that the intervention fitted in well with the whole school ethos and priorities. For participants 1 and 2, whole school intervention-based activities were mentioned as a possible plan but this depended on the barriers already mentioned and underlying these barriers appeared to be the issue of school priorities.

> *'You know it's not the major focus of the school' (2)*

All the teachers interviewed valued the idea of generalising the intervention across school systems; training was identified as an important aspect in enabling this to happen. This implied that the participants believed that the CB theory underpinning the intervention could be applied flexibly and be reinforced across school once more staff had been trained in it.

Sub-Theme: External Systems

The need for more training and to increase the use of the intervention across school settings was linked to external systems, such as the role of EPs. Participant 3 reported a desire for EP support in widening the intervention across the school and for supporting the staff in its continued use. The same teacher also expressed a desire to include parents within CB workshops and linked this to EP support.

> *'We would like to do some sort of workshop with parents in the future once we have more staff who are trained to use the intervention… We could use EP help with that'* (3)

This implied that the school recognised they would need support to broaden the intervention further. Interestingly, participants 1 and 2 did not refer to involving any external systems such as parents or EPs, which may have reflected they did not share the same high level of enthusiasm for widening the use of the intervention.

4.4.4. Theme: Implementation

This theme related to the factors participants had identified that had impacted the implementation and use of the intervention including the design and the role of the staff involved.

Sub-Theme: Manualised Design

In the process of implementing the intervention, there seemed to be some agreement among all participants that the 'manualised' nature of the design was helpful due to the training and the lessons plans that were provided.

> *'I thought it* [the training] *explained the theory behind CBT really clearly and then the lessons plans that they gave us were easy to follow' (3)*

However, there was also some belief that the lesson plans should be used as a starting point only and then adapted and changed according to the needs of pupils.

> *'they did need adapting depending on the group of children you were working with' (2)*

Participant 1 and 3 did not echo this as strongly but the latter did identify that they were seeking another 'manualised' CB programme to follow in order to continue to use the ideas with the same classes who had started them.

> *'We've also found it hard to think about how we can continue it with the classes that have already done it' (3)*

This implied that participant 3 did not believe they were able to create their own follow-up lessons using the CB theory they had learnt and they preferred to be given a programme of lessons to follow. The extent to which the staff involved should adapt the intervention was a difficult one to find agreement on, even with only 3 participants. On one hand, there was recognition that each class and pupil had individual differences and therefore responded to the intervention very differently according to their needs. As such it made sense that staff should be able to adapt the intervention to best meet those needs. However, there was also an issue of staff competency and knowledge. Although all the staff expressed the belief that the training gave them an understanding of CB theory, this was very brief training that was designed to give them to tools to use the intervention with the accompanying lessons plans and was not designed to give them the knowledge needed to change the intervention. Participant 2 acknowledged feeling some lack of competence following the training which they attributed to their *'own feelings'* rather than the training itself. However the same participant also

described having adapted the intervention to the needs of each class and their plans to adapt it further in future to address different needs.

> *'I may do it with the other year 5 class but I'm going to focus more on general friendship skills.' (2)*

This suggests that staff who believed they lacked competence in CB theory and in delivering the intervention, might still choose to use it in an adapted form without following the lesson plans closely.

Sub-Theme: Role of Staff

Another sub-theme related to implementation was the role of the school staff involved. All of the staff participants were in a senior role within their school (as SENCo) and participant 1 reported that this was considered an important factor for two reasons: Firstly it was believed that having a senior member of staff attend and implement the training would enable the intervention to be widened to a whole school approach more readily.

> *'someone from SLT* [Senior Leadership Team] *should do it so that it can be a whole school approach eventually'* (1)

Secondly, this participant believed that the role of the staff delivering the intervention might have an impact on how pupils perceive it, as a result of them finding the sessions more memorable if delivered by a senior member of staff.

> *'students who may have been listening more or remembering more because the head* [Headteacher] *was doing it'.* (1)

In addition, there appeared to be some belief that it was important that someone other than the class teacher delivered it, as this would enable the pupils to feel more comfortable about expressing personal feelings.

> *'we told them that they might find it easier to talk about private things with another teacher'* (1)

This raised the issue of whether pupils would find it easier or harder to be open and honest with an adult who is familiar but not their normal teacher. This issue was mentioned by one of the pupil participants who expressed the belief that the staff member delivering the intervention was more appropriate than the class teacher, as they were a teacher who often dealt with pupils when they were in trouble or upset. This offers some agreement that the role of the staff member delivering the intervention

affected its impact on some pupils, but it does not necessarily need to be a senior member of staff.

4.4.5. Conclusions from staff interviews

The staff interviews addressed RQ 2 by suggesting that the following factors affected the impact of the intervention:

- Individual differences between pupils including their willingness and ability to connect with the content of the sessions;
- Generalising the use of intervention specific language for both pupils and staff to help remember and apply the concepts to enable behaviour change;
- The universal nature of the intervention which changed staff perspectives on some pupils who revealed previously unknown information, sometimes leading to further targeted support;
- Consideration of the systems in schools such as whole school priorities, practices and staff time and whether these were enabling the intervention concepts to be generalised across school or if these were preventing this from happening;
- Factors that influence the implementation of the intervention including the effectiveness of the training and lesson plans, the extent to which it is adapted between classes and the role of the staff involved.

4.4.6. Thematic analysis of pupil interview data

The pupil interview data was thematically analysed in the same manner as the staff interview data; an example of a coded pupil interview transcript is shown in Appendix 10. Following coding of the 6 pupil interviews, the themes were collated into a table shown in Appendix 11. Figure 4.15 represents each of the themes and sub-themes identified.

Figure 4.15: Thematic map of the data from pupil interviews
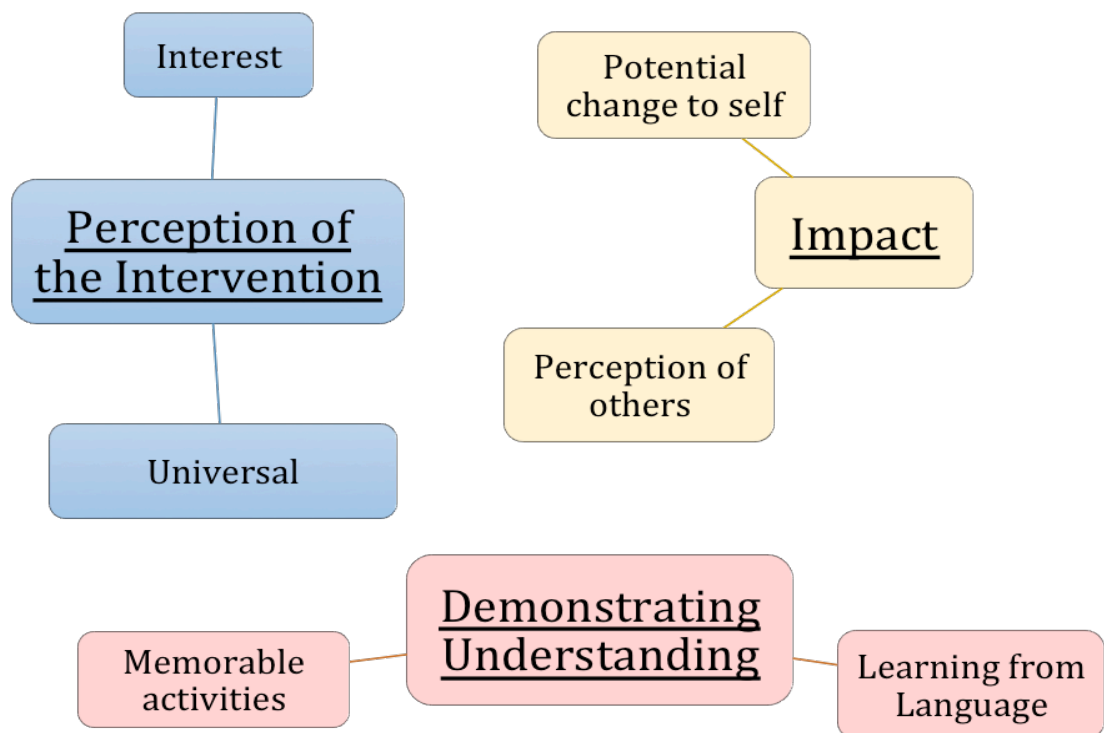
4.4.7. Theme: Impact

All of the pupils interviewed referred to the potential and actual impacts of the intervention on themselves and others.

Sub-Theme: Potential Change to Self

This sub-theme included examples that the participants gave of the changes to their emotional state, self-concept, thinking and behaviour. The word 'potential' was used as many of these were described as possible or hypothetical changes as a result of the intervention and therefore did not indicate an actual impact on the pupil but showed what impact they believed it could have.

> *'if you're sad, maybe you can do something good about it'* (1)

Many of these comments related to the ability to change one's behaviour and emotional state by changing a thought or by understanding what can trigger a certain thought and emotion.

> *'what makes the feelings positive or negative and when they could be made to happen'* (2)

The hypothetical and 3rd person nature of the way in which the intervention was described by many participants meant that the impact on behaviour was hard to establish, as the participants struggled to identify specific and personal examples of change. One participant stated that their behaviour hadn't changed as a result of the intervention and expressed a negative perception of the intervention as a whole, possibly indicating that they were not able or willing to apply the intervention concepts to themselves. Another participant who was very positive about the impact of the intervention explained the difficulty that was faced in changing one's behaviour in the real world as opposed to when discussing it in the intervention session:

> *'other people are like, 'maybe you should try this next time', but it's kinda hard to actually do it in the moment.'* (5)

Although pupils were able to say what impact the intervention could have (and explain why) this did necessarily not mean they were able to put these ideas into practice in their behaviour. This raised the question of whether the intervention would benefit from giving pupils greater opportunity to reflect on their thinking or behaviour out of the sessions in order to consciously relate their learning to their everyday actions. This linked to the sub-theme identified by staff about the importance of broadening the intervention concepts across school settings.

Sub-Theme: Perception of Others

It appeared that one way in which participants were more consciously able to apply their knowledge of the intervention was in their perception of the behaviour of their peers. It seemed that there was an impact on empathy and perspective taking for some of the pupils, as they were able to consider other reasons for the behaviour of the peers.

> *'it made me think that if they are talking or whispering it doesn't mean its always gonna be about you or its gonna be something bad about you.'* (4)

Comments such as this suggested that the intervention had an impact on pupils' ability to consider other reasons for the behaviour of those around them. Therefore the intervention appeared to increase the flexibility of their thinking in this way.

4.4.8. Theme: Demonstrating Understanding

This theme arose as many of the participants described aspects of the intervention that seemed memorable and that had helped them understand what it was about, therefore

giving indications of which aspects of the content and delivery were most useful in changing their perceptions.

Sub-Theme: Memorable Activities

The types of learning activities that participants recalled most readily were helpful in identifying the parts of the intervention that were effective due to their memorability. Unsurprisingly, these tended to be the interactive or unusual activities such as teachers acting out an idea or the use of a video.

> *'there was this fake argument and everyone thought it was real.'* (4)

This indicates that the impact of the intervention was affected by the types of activities used to teach the concepts and some consideration should be given to how these could be made more interactive. However recalling an activity type didn't equate to recalling the purpose or meaning behind the activity.

> *'The first lesson there was kind of a show, I can't remember what it was about …. respect I think?'* (1)

This suggests that the impact of the intervention was only partly related to the use of memorable and interactive lesson activities. However, teaching strategies and activities were still likely to have been an important part of ensuring the intervention was memorable.

Sub-Theme: Learning from Language

Another factor that appeared pertinent in identifying what helped the participants to remember the CB concepts was their use of language and specific terminology. Many of the participants included reference to NATs and also to quite specific concepts taught within the intervention such as *'fortune telling and mind reading'* (4). This linked to the staff comments regarding the importance of the intervention language in helping pupils to recall and generalise these ideas to their behaviour. This supports staff assertions that having this type of language used across school by greater numbers of staff would help pupils apply the intervention concepts more readily.

4.4.9. Theme: Perception of the Intervention

Pupils referred to their perception of the intervention in terms of whether they found it interesting and enjoyable and their views regarding its use with all pupils universally.

Sub-Theme: Interest

This sub-theme arose from the mixed reactions from the participants regarding the level of appeal and enjoyment gained from the intervention. Most acknowledged that while it had been difficult, it had also been enjoyable, while others found that the difficulty of the activities prevented them from becoming engaged in it.

> *'I found that a bit boring cause it was really hard'* (1)

This implies that there needed to be greater consideration in the differentiation of tasks for pupils, as it seemed that task difficulty was acting as a barrier. This relates to the assertions by the staff participants regarding the high level of individual differences within the class and the extent to which some pupils were able and willing to personally connect with the concepts. Perhaps there was a combination of emotional detachment from the activities due to pupils' emotional wellbeing but also, for some, difficulty with cognitively processing the meaning of the concepts. However, this somewhat contrasted with the finding from RQ 1(b) that pupils with below-average attainment received the most positive impact from the intervention, implying that they must have understood the concepts.

Sub-Theme: Universal

Most pupils interviewed agreed that the intervention should be given to all pupils rather than only being targeted at some and this led to the sub-theme entitled 'Universal'. One pupil appeared to support the sub-theme identified in the staff interviews regarding using the universal design as an identification tool for those who need extra help afterwards:

> *'I think it should be for all pupils, and there should be a bit extra for pupils who are getting in trouble.'* (5)

There were also some implications about the potentially preventive nature of the intervention as participants explained that it might help some pupils in the future, even if they did not need this type of help now.

> *'It's good for everyone because it's not just about if you're in trouble and it can make others learn the same things you learn'* (6)

This participant recognised the value of providing all pupils with the same types of strategies and skills to support their personal, social and emotional development. This related to an issue raised in one staff interview regarding the social nature of the

learning process, i.e. that behavioural incidents had reduced as a result of the way in which pupils were interacting with each other.

> *'Some …who had a lot more incidents than others I would say have had a fall in incidents. Some of that's to do with the way other children are reacting to them or not reacting to them'* (staff participant 2).

This implied that the advantage of the universal design was in the way it changed the class dynamic and the interactions within the group rather than, or alongside, changing individual perceptions of self. This linked to pupil comments on how the intervention changed their perspective of others as, it is hypothesised that, this type of perspective taking increases the potential for change in behaviour among peers.

4.4.10. Conclusions from the pupil interview data

In addressing RQ 2, the factors identified by pupils as affecting the impact of the intervention appeared to be:

- Changes in the way pupils viewed the behaviour of their peers;
- The universality of the design, which seemed to contribute to changes in class dynamic as pupils reacted differently to each other;
- The type of activities and language used and the memorability and applicability of these to pupil behaviour and learning;
- The enjoyment and interest felt about CB concepts.

4.5. Research Question 3

To what extent does the delivery of the intervention adhere to its intended aims?

RQ 3 was addressed by observing the sixth lesson of the intervention in each of the 3 schools. A score-based observation schedule (described in Chapter 3) was created to address whether the delivery of intervention matched the intended aims. The observation was focused on 5 aspects of implementation fidelity, measured by giving a scored response to 5 questions, each on a scale ranging from 1 (indicating very low implementation fidelity) to 5 (indicating high implementation fidelity). Table 4.14 shows the scores gained on each scale for each school and the total score.

Table 4.14: Intervention fidelity scores for each school

	School A	School B	School C
1. To what extent did the lesson adhere to the design of the intervention as shown in the lesson plan?	5	5	4
2. To what extent did the quality of the teachers' delivery adhere to the aims?	5	5	5
3. How effectively and appropriately were materials (e.g. worksheets, visual cues) used?	4	3	4
4. For what period of the intervention do the majority of students appear engaged? (i.e. contributing, responding, active involvement)	4	5	5
5. To what extent were pupils exposed to the intervention as designed?	3	4	4
Total (/25)	21	22	22

For question 1 it was observed that all teachers adhered to the lesson plan without any significant deviations. However in school C, time constraints prevented the teacher from delivering the plenary. This was not deemed to have affected the aims of the session but resulted in a score of 4 rather than 5.

For question 2, all teachers clearly explained the aims and tasks; pupil questions and comments were answered appropriately. Each teacher showed a clear understanding of the principles behind the intervention and communicated this effectively to pupils.

For question 3 there was some variation in use of the lesson materials but on the whole they appeared to be implemented fairly effectively. School B had a more limited multisensory teaching approach than schools A or C in terms of how the teacher used a range of visual, auditory and kinaesthetic cues. For example, there was more teacher talk in school B and less use of the whiteboard or of visual cues.

For question 4, there was good engagement of pupils; almost all appeared to be listening and responding appropriately most of the time. The teacher in School A did not immediately notice a period of disengagement for a small group of pupils and therefore was scored 4. However, this was not judged to be an issue that would have had any significant bearing on the impact of the intervention.

School's B and C scored 4 on question 5 as the staff reported that all 6 sessions were delivered but not in a 6 week period. In School B this had taken 8 weeks, due to staff

being unavailable on 2 occasions. In School C, the intervention had been delivered over a 4-week period. In school A, the teacher reported that one of sessions had been cut short due to an external issue which meant that not all the learning objectives had been addressed as planned.

In conclusion, all 3 schools appeared to have implemented the intervention with a high degree of fidelity to its intended aims and there were no obvious extraneous variables that might have affected its impact. It was acknowledged by staff in School A and School C that they may adapt the way it is implemented in future. However, for the purposes of this research, it did not appear that the way in which the intervention was implemented would have had a significant effect or difference on the impact for pupils in each of the schools. This therefore means that the results gained for RQs 1 and 2 had a greater degree of validity as no major or significant implementation variables were noted that would account for the results.

4.6. Conclusions from data analysis

The data analysis suggests that the intervention had no significant impact on formal measures of personal or social NATs or on measures of peer related or general self-concept (self-esteem). It appeared to have a negative impact on school self-concept as pupils in the control group showed greater improvement at time 2. The intervention impact was partially moderated by NC attainment, as those with below-average attainment received greater benefit to their NATs than those with average or above-average attainment. There was also evidence that the intervention had some positive impact at follow-up.

The main factors that staff and pupils perceived as affecting the impact of the intervention included: the individual differences between pupils; whether the intervention concepts could be generalised across school systems; the use of intervention language; the universal design which allowed it to be used as a means of identifying pupils requiring targeted support and the role of staff who deliver it including their knowledge and competency in adapting it for individuals.

These findings raise the following questions, which are discussed throughout Chapter 5:

- Given the lack of impact on self-esteem, what does this indicate about the nature of self-esteem and what does it imply about future use of the intervention?

- What processes might have caused the intervention to have limited or negative impact at post-intervention but a delayed positive effect at follow-up?
- To what extent does the qualitative data offer explanations for the questions above and what else does it indicate about the value of the intervention?

Chapter 5: Discussion

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This chapter discusses the results for each research question, including potential explanations in relation to previous literature. The quantitative and qualitative data were used concurrently where possible to help understand the impacts of the evaluated Cognitive Behavioural Intervention (CBI) on pupils. The implications from these findings are discussed in regards to future use of the intervention, including the role for educational psychologists.

5.1. Research Question 1(a)

What impact does a universal cognitive behavioural intervention have on the self-esteem and negative automatic thoughts of pupils?

5.1.1. Impact on self-esteem

The main purpose of the intervention being evaluated was to promote the self-esteem of pupils. However, as discussed in Chapter 2, measuring self-esteem is a complex issue given that most recent theories conceptualise it within a multidimensional, hierarchical construct (O'Mara, Green & Marsh, 2006). Within this study, self-esteem was therefore understood to represent the evaluative, global component of multiple self-concepts across different domains. The Self-Description Questionnaire (SDQ) was utilised as it enabled the measurement of general self-concept (an indication of global self-esteem) as well as self-concepts in specific domains (peer-relations and school). As these self-concepts can differ from each other, the results to each were discussed separately prior to an overall consideration of what the findings implied about the impact of the intervention.

General self-concept

The outcomes from the analysis of the SDQ-self scores indicated that the intervention had no immediate or delayed impact on pupils' general self-concept. This implies that this CBI did not improve global self-esteem, which could be viewed as a failure to achieve its main aim. This has implications when considering the value and purpose of using this intervention in the future, such as how it is advertised to schools. However, before these implications are presented, it must first be discussed what reasons there could be for this lack of impact, to help understand what the findings suggest about the nature of self-esteem and the intervention.

One possible reason for the lack of impact is that global self-esteem, as conceptualised by Marsh & Shavelson's (1985) multidimensional model, is the relatively stable apex of the self-concept hierarchy, meaning that it is less influenced by situational changes or intervention. It is therefore not entirely surprising that a short-term intervention was not successful in changing global self-esteem but was able to impact specific facets of self-concept (school self-concept and peer-relations self-concept both significantly improved at time 3). This is supported by other theorists, who argue that higher order schemas such as global self-esteem are more resistant to change than lower order schemas, such as domain specific self-concepts, which are more situation-based and therefore less stable (Hattie, 1992). The multidimensional theory also acknowledges that not all self-concepts are weighted equally and so, some could change with little impact on global self-esteem. For example, the negative impact on school self-concept found immediately after the intervention (time 2), may not have affected self-esteem for pupils, unless they particularly valued school self-concept.

The stability of self-esteem is supported by research which indicates that it becomes established in early childhood and then remains fairly immutable because people tend to resist any evidence which might change it and seek out evidence which supports it (Harter & Whitesell, 2003). This could suggest that pupils would not have attended to or processed any information in the intervention that might have challenged their general perception of their self-worth in an attempt to avoid cognitive dissonance (Festinger, 1954). Harter (1999) has noted that this is one of the problems of trying to change global self-esteem through intervention and some research has supported this by showing that universal self–esteem interventions have limited success (e.g. Burnett, 2004; Harden et al., 2001; Hattie, 1992). Perhaps, therefore, a short-term CBI such as this would be more likely to have the intended impact if it was designed to improve self-concept in a specific domain, instead of global self-esteem.

However, it has been shown that self-esteem is less stable during childhood and early adolescence (Harter & Whitesell, 2003) and that it is possible to change it through deliberate school based interventions (Haney & Durlak, 1998). So why did it not change in this case? One possible reason is that the intervention did not successfully target the causes of low global self-esteem, possibly because it was too general as it was delivered universally to all pupils rather than targeting the specific causes of low self-esteem in individuals. Harter (1999) suggests that effective self-esteem interventions need to be directed at certain cognitive and social determinants, including highlighting the importance of areas in which the child is skilful and discounting the areas in which they are unsuccessful. This intervention attempted to address this

partially, as it involved activities in which pupils identified their strengths and acknowledged that everyone has weaknesses. However, it did not attempt to improve pupils' skills in areas where there might be discrepancies between their aspirations and perceived competence. This implies that the intervention could potentially be improved by having more skills-based training to improve pupils' abilities in areas that they perceive as being weak.

In addition, the lack of impact on self-esteem is likely to be related to the lack of involvement of family and home systems. Perhaps some pupils experienced cognitive conflict resulting from changes in the school context, conflicting with no changes in other contexts. For example, the lack of generalisation of the intervention ideas and language out of school is likely to have affected pupils' ability to internalise these concepts. This would imply that a self-esteem intervention delivered in schools would need some application in non-school contexts in order to be effective.

5.1.2. Peer related self-concept

The outcomes from the SDQ-peer scale indicated that the intervention had no immediate impact on peer-related self-concept, despite some of the intervention content and delivery being focused on relationships and understanding of the behaviour of others, such as considering the differing perspectives of those involved in a mock 'argument'. This might further suggest that consideration needs to be given to how the intervention is advertised to schools, as some of the staff reported that they hoped it would reduce peer conflicts. This finding is supported by Burnett (2004) who also found that a short-term CBI, designed to increase self-esteem, had no impact on domain specific self-concept.

However, this intervention did have a positive impact on peer self-concept at follow-up, which suggests that pupils' self-concept about their social relationships improved in the two months following the intervention. Interestingly, some of the staff interviewed noted that peer relations had improved following the intervention due to fewer minor peer incidents. One hypothesis is that, although behaviour among peers improved soon after the intervention (and was noted by staff), pupils were not able to immediately identify this for themselves and required time within peer situations for any initial changes to be noticed and to start affecting their self-concept. This might indicate that the intervention did impact peer interactions and that these changes gradually led to changes in pupils' self-concept.

Alternatively, this could have indicated that the teachers immediately perceived the pupils differently following the intervention and subsequently inferred peer relationships as improving, an effect that had been noted in previous school-based CBIs (Squires, 2001). Perhaps the teachers were likely to notice any small changes because they had gone to the trouble of putting the intervention into place and were therefore looking for changes. This is supported by Liddle and Macmillan (2010) who found that teachers reported improvements in the social skills of pupils following use of the 'FRIENDS' CBI, even when the pupils themselves did not report these improvements. This could suggest that staff and pupil perceptions of changes in their peer relationships were quite different.

However, the pupil interview data appeared to support the idea that peer relations were impacted in some way, as pupils reported changes in how they viewed others and how they believed others perceived them. This supports the improvements to peer-related self-concept shown at follow-up, as after a few months the pupils may have been able to reflect and internalise these changes in perceptions, due to repeated exposures to their changed relationships. This might indicate that the intervention had a delayed, indirect effect on peer-relations self-concept, which could have been caused by a combination of social and cognitive processes. Further consideration of such processes is discussed below in relation to the other positive impacts found at follow-up.

5.1.3. School self-concept

The results showed that, although the control group had improved school self-concept at time 2, the intervention group did not show this improvement, as their school self-concept scores remained largely unchanged. This suggests that the intervention somehow prevented the improvement in school self-concept that was experienced by the control group pupils and therefore could imply that the intervention is ethically unsound. To explore this, some consideration must be given to how school self-concept typically develops.

School self-concept is based on a range of factors; this not only includes feedback about academic performance such as National Curriculum (NC) levels but also how highly the pupil rates the importance of that performance, the social comparisons they make with peers and the feedback from their parents, teachers and peers (Gniewosz, Eccles and Noack, 2012). The combination of these factors can explain why school self-concept tends to decline after children first start school (Eccles, Wigfield, Harold & Blumenfeld, 1993) because they increasingly receive feedback and opportunities for

social comparisons, which results in academic and school self-concepts becoming more accurate and stable (Marsh, 1993). This might shed some light on the findings of the current study, as it could be suggested that the intervention increased the feedback pupils received about their abilities, through self-reflection tasks, which led to increased self-awareness and increased social comparison. This would explain why the intervention group showed less improvement in school self-concept, in comparison with the control group who were not receiving this amount of feedback. Perhaps if this intervention occurred with adolescents it would have a positive impact, as older pupils receive more opportunities for this type of feedback in secondary school (e.g. more standardised exams) and their school self-concept is more stable. Support for this 'increased feedback' hypothesis comes from the analysis of the NC attainment and SEN data. Pupils achieving below-average and those at the School Action Plus level of SEN showed more positive impact from the intervention than those with average or above-average attainment. This could be because low achieving pupils were already receiving a high level of feedback about their performance (through increased adult support and intervention) and were already in the process of making negative comparisons with their peers. Therefore, the increased self-reflection caused by the intervention had less negative impact on them.

However, the follow-up data revealed that one intervention class showed a significant positive improvement in school self-concept 2 months later. Although this data needs to be interpreted with care (due to a lack of control group), it implies that the initial negative impact on school self-concept was overcome later on. This suggests that the 'increased feedback' may have prevented improvement to school self-concept at first but then this feedback was either disregarded or assimilated, resulting in increased school self-concept. This may be related to the control group having received the intervention by this stage and therefore the intervention concepts and language were being used by a greater number of pupils in the school. This relates to sub-themes identified from staff interview data regarding the importance of generalising the intervention across school systems, as this is more likely to occur once a greater number of pupils have received the intervention.

5.1.4. Impact on Negative Automatic Thoughts

The intervention did not have any immediate significant impact on pupils' scores on either sub-scale from the Children's Automatic Thoughts (CAT) questionnaire. This implied that the intervention did not change pupils' levels of NATs related to personal failure (CAT-Personal) or social threat (Cat-Social). However, the pupil interview data

suggested that they understood what NATs were and that they could be changed to a more positive thought:

> '*You might have a negative automatic thought but you can learn how to replace it with something else*' (pupil participant 6).

Therefore, it seemed that the intervention had psycho-educational value as it impacted pupil knowledge about their cognition, but this was insufficient to have immediately affected their behaviour, as knowledge about NATs did not impact scores on the CAT scales when measured straight after the intervention. This finding is supported by previous research, which has shown that short-term intervention can be effective in increasing participants' knowledge about how to recognise self-defeating thoughts without having significant impact on their behaviour (Haldeman & Baker, 1992).

One reason could be that, to change NATs, the core beliefs or any negative assumptions influencing those NATs also needs to be changed. Consequently, it must be questioned whether the intervention had the potential to change core beliefs which are difficult to address even in Cognitive Behavioural Therapy (as opposed to a non-therapeutic CBI). Therefore, in this universal CBI, it may have been difficult to enable individual pupils to access their core beliefs without greater individualised support. The staff interviews indicated that this might have been particularly difficult for pupils who had experienced emotional or social difficulties, for whom negative core beliefs may have developed over a significant period of time and therefore would be unlikely to have immediately changed. Staff perceived that these pupils found it difficult to connect with the intervention ideas on a deep or meaningful level, possibly indicating that they would have required more specialised intervention or more time to gradually adapt their cognition. However, a limitation of this hypothesis is that the lack of immediate impact on NATs was true for almost all pupils, not only those perceived by staff as having trouble connecting with the intervention. Therefore, perhaps there was little in the intervention itself that was designed to change core beliefs, which means the automatic thoughts stemming from these beliefs are also less likely to be changed. This may also link to the lack of impact on self-esteem as Stallard (2010) argues that core beliefs are the basis of self-concepts. Perhaps the intervention needed to give more consideration to core beliefs by helping pupils to think about what assumptions and beliefs were causing their NATs.

Alternatively, the lack of immediate impact on NATs after the intervention could reflect that pupils required longer exposure to experiences where those NATs may have operated, to challenge their existing ways of thinking in order to influence their core beliefs. This is supported by the follow-up data, which indicated that the intervention did

have a significant positive impact on the CAT-Personal scale after 2 months, suggesting that NATs related to personal failure decreased in the time between the intervention and two months later. This finding might indicate that the intervention does improve personal NATs once a delay has passed because it takes time for the ideas from the intervention to be fully understood and assimilated. Further discussion of the reasons for delayed positive impact will be discussed below in reference to all measures used.

5.1.5. Why did the scores for both groups decrease at time 2?

Both the intervention and control groups showed improvements to their self-concept and NATs when measured at time 2. This effect has been found in other CBIs, for example, a meta-analysis of school based universal CBT interventions found that it was quite common for levels of anxiety to decrease in both the intervention and control groups following the intervention (Mychailyszyn, Brodman, Read & Kendall, 2012). However, such a change cannot be directly attributed to the intervention as it occurred for both groups.

It is possible that this improvement occurred as a result of a confounding variable such as a specific investigator effect. For example, to avoid any deception, pupils were informed that the purpose of the repeated measurements was to assess for any change. This knowledge may have resulted in them reporting improvements in their scores, either through conscious or unconscious processes. However, almost all pupils showed an improvement, despite not being given any indication that scores were expected to change in a particular direction (improve or get worse). Therefore it seems unlikely that this change was simply the result of such an effect.

An alternative explanation is that self-concept and NATs did improve at time 2, but as an indirect result of the intervention such as due to the general increase in attention all pupils received about their emotional wellbeing, both from staff in school and also from being visited by the researcher whom they knew was an educational psychologist. This hypothesis would benefit from further study to understand why this finding occurred.

5.1.6. Explanations for the delayed positive impact

When follow-up measures were taken, two months after the intervention, it revealed that there was a significant positive impact on the CAT-Personal, SDQ-Peer and SDQ-School scales. This suggests that there was a consolidation period after the intervention during which the concepts were internalised by pupils, perhaps as an outcome of having time to reflect on them. This implies that CBIs in schools should

always be measured for impact after a few months so that the pupils have had an opportunity to assimilate the ideas.

This is a tentative hypothesis as it cannot be assumed that a control group would not also have shown the same or greater improvements at follow-up and therefore further study would need to explore this. But previous research has indicated that a delay in positive impact can occur following a school based mental health intervention (Dubow et al., 1993). Burnett (2004) also shows some indication of this as he found that although a whole class CBI failed to increase self-esteem immediately after the intervention, it did increase pupils' positive 'self-talk' and decrease their negative 'self-talk'. Burnett hypothesised that because self-esteem is correlated with self-talk, the changes to the latter might result in changes to self-esteem in the long term.

However, Liddle and McMillan (2010) found the opposite was true for the use of the 'FRIENDS' CBI in Scotland, as self-reported social skills initially increased, but had decreased 3 months later. They suggested that this was because the intervention had been conducted with a small group out of class and therefore the ideas, language and concepts were not reinforced when they returned to normal classes. This could indicate why the opposite result was found in the current study; the whole-class design and delivery by school staff meant that the concepts and language were more likely to have been used after the intervention finished and therefore pupils had more exposure to them. In addition, the fact that the intervention was implemented with another class (the wait-list control class), within the two-month follow-up period, meant that the concepts had been further generalised across the school. This supports the 'within-school systems' sub-theme identified in the staff interviews, in which the importance of applying the intervention across school systems was emphasised. It also links to the 'universal' sub-theme identified by pupils, as they reported that the intervention should be done with all pupils rather than targeted groups, therefore helping the intervention concepts to be used more widely.

The delayed impact found could be related to cognitive theories regarding the 'incubation' period which can occur after initially trying to solve a problem within a collaborative social process, during which time the new concepts and knowledge are gradually appreciated and creative solutions can occur (Howe, McWilliam & Cross, 2005). Within this intervention, the 'problem' presented to pupils involved processing and understanding new ways of thinking and conceptualising oneself and others. The 'incubation' theory implies that pupils would have gradually understood the CBI concepts, as they encountered social situations in which those concepts were challenged. In this way, the CBI may have 'primed' pupils to understand subsequent

events using the newly learnt concepts, which led to further understanding of that knowledge, gradually impacting their self-concepts.

A related, but alterative, cognitive process through which the delayed impact could have occurred, might be understood by Karmiloff-Smith's (1994) 'Representation Redescription' theory, which proposes how new knowledge is transformed from implicit (procedural) to explicit (conscious thought). According to this theory, pupils' knowledge about the links between their thoughts, feelings and behaviours (including automatic thoughts) would initially have been procedural (i.e. learnt but not internalised) straight after the intervention. However, if this new knowledge was rehearsed during social situations, it would become part of the pupils' language (rendering the concepts more adaptable), and would have gradually transformed to conscious thought, leading to changes to behaviour.

Further study would be needed to explore the process through which the positive delayed impacts might be more fully understood. However, the main conclusion from the follow-up findings is that the intervention appears to need time to affect pupils' self-concept and thinking.

5.2. Research Question 1(b)

Is the impact of the intervention moderated by gender, age, free school meals, special educational need or National Curriculum (NC) level?

The impact of the intervention was not significantly moderated by gender, age, FSM or SEN, but it was moderated by NC attainment.

5.2.1. Why did NC attainment moderate the impact of the intervention?

NC attainment level significantly moderated the intervention impact on both CAT scales; pupils with below-average attainment showed greater improvement to their level of social and personal NATs than those with average or above-average attainment. On the SDQ scales, attainment did not have a significant moderating effect but visual analysis of the data showed that pupils achieving at an above-average level of attainment tended to show a relatively negative impact from the intervention compared with low or average-attaining pupils. This could imply that the intervention might be more useful if it was targeted at low achieving pupils. This is partially supported by the SEN data, which indicated that pupils at the School Action Plus level showed less negative impact from the intervention than those at the School Action level or those without SEN (although this was statistically insignificant).

One reason could be that low attaining pupils had greater NATs and lower self-concept to begin with and therefore more possibility for improvement, due to a ceiling effect with those who do not have such difficulties (Horowitz and Garber, 2006). However, this moderating effect may also be related to the social processes that could have caused the negative impact on school self-concept. It was hypothesised above that the 'increased feedback' pupils received about their abilities from the intervention would have led to greater self-awareness and self-analysis, resulting in more social comparison. For many pupils, this seemed to cause initial negative impact to their school self-concept. However, pupils with below-average attainment would be likely to have already been aware of their academic weaknesses and negatively compare themselves to their peers, before the intervention took place. Therefore, perhaps the self-reflection process within the intervention did not cause any negative change in self-perception, but instead helped them to recognise their strengths. Whereas pupils with average or above-average attainment would be more likely to be making largely positive comparisons with peers. Therefore, if the intervention increased their self-analysis, it may also have highlighted some areas in which they felt inadequate, which they had previously ignored.

5.3. Conclusions to Research Question 1

Overall, the findings to RQ 1 strongly indicate concerns about the value of the intervention given its lack of immediate impact on formal measures, particularly on self-esteem. This supports previous research (e.g. Burnett, 2004; Hattie, 1992) and implies that the intervention should not be advertised to schools as a self-esteem intervention as this is not supported by evidence. It suggests that this intervention may primarily have value as a psycho-educational learning programme, as pupils indicated new knowledge but showed no immediate positive changes. The discussion above has hypothesised that the new knowledge gained from the intervention increased pupils' self-awareness, which had an initial negative impact on school self-concept but gradually led to positive changes in their self-concept and NATs as pupils were exposed to situations in which their new knowledge could challenge their existing beliefs. In this way, it could be suggested that the intervention has a distal effect on self-concept and NATs, by initially causing a greater understanding of one's emotional state, leading eventually to improved self-concept. Therefore, it must be questioned whether this potential for eventual improvement is justification to advertise the sessions as a primarily psycho-educational tool, which can potentially improve self-concept and negative thinking after some delay. The findings to RQ 2 are helpful in answering this question by highlighting the factors that affected the intervention impact.

5.4. Research Question 2

What factors do staff and pupils perceive as affecting the impact of the intervention?

RQ 2 was designed to help understand the impacts of the intervention from the perspective of those involved with it – the pupils and staff. The outcomes from the staff and pupil interviews are discussed to help illuminate the findings to RQ 1 and to further understand the value of the intervention.

5.4.1. Factors identified by staff

One of the themes from staff interviews was the impact of the individual differences between pupils, which affected their willingness and ability to respond to the intervention. This is supported by previous research which has found that self-esteem interventions have more impact on pupils with externalising behaviour traits such as aggression, than on those with internalising traits such as anxiety, worry or depression (Haney & Durlak, 1998). This appeared to be partially supported by the current study as school staff perceived pupils with poor emotional wellbeing (internalising traits) as connecting less deeply with the intervention concepts. This could imply that universal interventions could increase existing inequalities between pupils as those with greater emotional difficulties may receive less positive impact. Greig (2007) argues a related point and suggests that universal interventions only affect pupils who already have good mental health, without delivering support to those who really need it and are therefore not an efficient use of resources.

However, arguing against universal intervention negates one of the other factors identified by staff, which was the usefulness of the intervention in identifying pupils who had social or emotional difficulties that had not previously been known. Teachers perceived the intervention as providing a screening tool that could lead to more targeted support for pupils who needed it. This finding is supported by previous research which has shown that school based interventions are most effective when a universal delivery leads to a targeted delivery (Weare & Nind, 2011). Without using a universal approach first it can be hard for staff to accurately select children for targeted intervention (Squires, 2001). Therefore, perhaps the value of the intervention should not be based on its lack of impact on self-esteem, but instead on its role as a psycho-educational tool that acts as a foundation intervention, upon which more targeted and specialist intervention can be laid. This is supported by Weare and Nind's review, which identified that the most effective mental health interventions did not view pupils

as having a problem that needed changing, such as trying to raise low self-esteem, but instead adopted a positive educational approach that aimed to teach ideas and skills in a holistic way across school systems.

School Systems

The importance of holistic implementation was also raised in the current study. Although school staff perceived that the individual differences between pupils affected the impact, this did not explain why a significant majority of pupils showed no changes in NATs or self-esteem. Staff indicated that this lack of overall impact was affected by the involvement of school systems, such as the extent to which whole-school systems were changed and other staff were able to generalise the ideas, such as by using the intervention language. This implies that one of the recommendations for the future use of this intervention is that it needs to be embedded across the whole school in order for it to have more impact on pupils. This is supported by previous studies which have shown that mental health interventions are only successful if they implement changes in the whole school environment, rather than just being conducted discretely with one class (Wells et al., 2003; Weare & Nind, 2011).

Staff competency

Stallard (2010) argues that teachers can successfully deliver standardised CBIs that have a manualised design as the level of training and knowledge needed for this is limited to a basic CBT model. This supports the current intervention as staff largely indicated feeling competent following the training and showed good implementation fidelity, as indicated by the lesson observations within RQ 3, which suggested that the manualised lesson plans were being followed accurately.

However, some staff noted that they were planning to adapt the delivery in future which raises concerns as such adaptation would require a greater level of training and supervision, given the small amount of CBT training that the staff had received. This implies that care needs to be taken in the future when giving non-mental health professionals a small amount of information regarding the CBT approach, without then providing them with supervision. This linked to another sub-theme identified by staff which was the influence of non-school systems. Some staff had sought support and supervision from other teachers who were also involved in the intervention. One staff member expressed hope that they would be linking to their school Educational Psychologist (EP) in future but had not yet done so. This implies that teachers lacked clear advice and guidance about accessing supervision during the process of

implementing the intervention. If structured supervision was not possible, then this supports the assertion that such a programme should not be termed as an 'intervention' which changes self-esteem, because this might suggest to teachers that they are failing if such changes do not occur, leading them to adapt the programme structure without guidance. Instead, it would be more appropriate if it was reframed as a psycho-educational tool that provides pupils with greater information about the link between their thoughts, feelings and behaviours but does not change self-esteem.

Involvement of parents

One of the interesting findings from both the staff and pupils interviews was the limited involvement of parents. This appears to be fairly common criticism of many other school-based mental health interventions (Weare & Nind, 2011). It could be suggested that the lack of parental involvement could explain some of the limited impact of the intervention, as indicated by previous research (Adi et al., 2007; Stallard, 2010). Given the importance of widening the intervention across school systems and to other staff, it seems plausible to suggest that it should also be widened to parents so that they can support the ideas and utilise the same language. However, this would require parents to also receive training on the CBT based approaches used in the intervention and it would be inappropriate for teachers to provide this. Perhaps this would be a logical role for EPs who could give staff and any interested parents the chance to attend a meeting about the intervention and to break down how they could support it at home. The intervention could also start to include homework that requires parent support or could give regular updates to parents about what each lesson of the intervention involves. When parents are involved in intervention in this way the effect can be two-fold, as studies have shown positive changes in families as a result of them being involved (Durlak & Weissberg, 2007). However this relies on schools ensuring that parents are fully informed and on the parents themselves being interested. Both of these factors can be difficult to generate and are likely to be significant barriers to parental involvement in this intervention.

5.4.2. Factors identified by pupils

The themes gathered from pupil interviews were slightly limited in the extent to which they directly explained the lack of impact shown for RQ 1. This was partly because the pupil interview data lacked the depth and detail found in staff interviews, which was unsurprising given the participants' young age. However, it was also because many of the pupils described the impact of the intervention in hypothetical terms, rather than identifying the factors that enabled or prevented its impact on them personally. One of

the themes identified was termed 'Demonstrating Understanding' as many of the pupils described the knowledge gained from the intervention but very few explicitly linked this learning to their own thoughts or behaviour. This indicated that the lack of impact for RQ 1 was partly due to pupils not applying the intervention concepts to themselves. This supports the assertion that the primary impact of the intervention is educational, as it teaches pupils about the links between their thoughts, feeling and behaviours without affecting their self-esteem. Alternatively, it may imply that the pupil interviews occurred too soon for them to have time to apply their learning from the intervention to relevant situations and to generalise the concepts to their own state and behaviour.

Peer relationships

However, the intervention did appear to have some direct impact on pupils at the time of interview, as some reported that it had affected their perceptions of others and changed their beliefs about how others perceived them. It led to increased empathy for a few pupils, as they noted that they were better able to understand the behaviour of their peers in a way that was not related to them personally. This finding was supported by Stallard (2010) who also found that pupils identified changes in their peer relationships after a CBI was used at their school. It was therefore interesting that no immediate impact was found on either the CAT-Social scale or the SDQ-Peer scale, which measured aspects of NATs and self-concept about peer relations. This might be because pupils were only at the starting process of adapting the way they viewed others and the way they believed others viewed them. Perhaps, given more time this would have started to have greater impact on their self-concepts and level of NATs as they were exposed to social situations in which their new knowledge could be applied. This might be particularly powerful given that all the pupils in the class received this teaching and therefore would be experiencing and testing their new knowledge together. The theory of symbolic interactionism (Mead, 1934; as cited in Harter, Waters & Whitesell, 1998, P.757) supports this as it proposes that significant others (such as peers) form a 'social mirror', which shapes one's self-concept and self-worth. Therefore, an important part of this intervention appears to be related to it being conducted within a class rather than individually, as it could encourage increased understanding of how pupils perceived each other.

5.5. Research Question 3

To what extent does the delivery of the intervention adhere to its intended aims?

The importance of measuring implementation fidelity is widely recognised because well-designed interventions can still fail if they are not well implemented (Durlak et al., 2011). It is particularly important for naturalistic evaluation studies such as this, because there is a risk of incorrectly concluding that the intervention was not effective when, in fact, the findings were actually due to inadequate implementation and delivery (Domitrovich & Greenberg, 2000). In the current study, all three schools scored highly on the measure of implementation fidelity, which suggests that the intervention was implemented and delivered with a high degree of fidelity to the original design. This implies that the lack of impact found was due to the design of the intervention itself, rather than due to poor implementation. By measuring the implementation fidelity and concluding that it was adequate, this study had reduced the risk of making a type II error (a false positive) in its conclusions that the intervention had limited effectiveness.

Despite the risk of a type II error, it appears that very few studies that evaluate preventive interventions have provided data on the programme implementation (Kam, Greenberg & Walls, 2003). However, studies that have looked at implementation fidelity appear to suggest that it is related to programme outcomes (Dane & Schneider, 1998), which would therefore indicate that, in this study, the high implementation fidelity should have been matched by positive impacts on pupils. This was not the case for the immediate post-intervention impact but could be linked to the positive impacts found at follow-up.

One of the implications from the high level of implementation fidelity is that it suggests that teachers can effectively deliver a universal preventive CBI and therefore mental health professionals do not need to deliver these directly. However, previous research regarding this issue has been mixed. Some studies have advocated that the knowledge of a mental health professional is needed for truly effective delivery (e.g. Hunt et al., 2009) but others assert that delivery by school staff leads to better outcomes (Kavanagh et al., 2009). It could be argued that because self-concept is partly based on the appraisals of significant others such as teachers (Harter et al., 1998) it is appropriate that a school based self-esteem intervention should be delivered by school staff. However, the lack of impact on self-esteem shown in this study implies that there are problems with the design of the intervention, which may exist regardless of who delivers it.

5.6. Implications

The implications of the research findings are presented in regards to the future use of the intervention and the theoretical contribution of this study, including the role of EPs.

5.6.1. Implications of the findings for the intervention design

Given the high implementation fidelity found in RQ 3, the limited positive impact of the intervention on pupil self-esteem indicates that the design of the intervention itself was flawed or did not take into account the developmental stage of the children who would be involved. The latter is a concern noted by O'Conner and Creswell (2005) who suggest that there are too few guidelines about what sorts of modifications and allowances are needed when using CBT based approaches with children. In the case of this universal CBI, it was designed to be used with children ranging from age 7-12 which is quite broad in terms of developmental and cognitive levels. It would be very difficult to ensure that the intervention was at the appropriate developmental level for each child. Perhaps this could imply that the intervention needed to be more specifically adapted by educational or health professionals according to the developmental stage of the pupils. This might indicate a role for EPs, who could support school staff to adapt the intervention for each individual class.

Another limitation of the intervention design is that pupils were not involved of their own volition and might therefore have lacked the incentive to attend to the information presented. This is supported by the sub-theme 'interest' from the pupil interview data, as some pupils reported interest and enjoyment in the intervention and some didn't. This limitation is one that is faced by many school based interventions, including those that are used therapeutically with targeted children as they have usually been identified by adults and they may not view themselves as needing to change (Friedberg and McClure, 2002). However, Rapee et al. (2006) has found that pupils receiving indicated or targeted prevention reported more satisfaction with the programme than those in universal intervention. This implies that level of pupil interest is likely to be a particular concern in universal CBIs such as this. Stallard et al. (2005) suggest that prior to engaging children in a CBI or in CBT, motivational interviewing could be used to help them engage more fully within the process. However, this is not feasible with large groups of children in a universal CBI therefore, although this may be a solution to improving the use of targeted CBT in schools, it would be difficult to use to improve the impact of the current intervention. This indicates that the current CBI will continue to face the difficulty that the pupils involved may be unengaged in the process as they (possibly quite rightly) feel little desire to change their behaviour, thoughts or feelings.

This supports the previous assertion that the aim of this universal CBI should be to primarily educate, rather than to intervene. Therefore, perhaps this intervention needs evaluation in terms of how much pupils learn, rather than whether it changes self-esteem.

5.6.2. Implications about the impact of the intervention

One of the overall implications is that there needs to be greater consideration and evaluation of universal CBIs such as this, before they are widely distributed across schools. This is because the findings call into question the usefulness of this intervention given the lack of positive impact on pupils. This raises the wider implication of whether universal interventions should be used at all, given that the majority of the population exposed to it already have a healthy level of psychological functioning. However, Harnett & Dadds (2004) argue that even when universal programmes show no immediate impact on functioning, they are still useful because all pupils are likely to face adversity in the future, for which they need to be prepared. Therefore, this intervention could be justified in attempting to raise self-esteem in all pupils, even though it was not successful. In other words, the intervention may help prevent later difficulties associated with poor mental health even though it had no immediate measurable impact. Alternatively, it could be argued that because the direction of causality between self-esteem and traits that may act as 'buffers' against future difficulties appears mixed (Marsh, 2006; Lawrence, 2006); it may not be worthwhile to simply try and raise self-esteem without giving greater consideration to improving related factors such as skills in social functioning and academic abilities. It therefore appears that the prevention of difficulties associated with low self-esteem needs to be a multi-level effort that not only addresses psychological factors, but also addresses social and environmental factors. Consequently, although it is not possible from this study to predict the preventive value of this intervention, it could be suggested that it would need to support pupils across a wider variety of skills in order to prevent later difficulties.

A related implication is that this study calls into question whether universal CBIs should aim to change something about the pupils, such as their self-esteem, or whether there is value simply in educating pupils and teachers about cognitive behavioural principles. Given the limited impact on NATs, which were a major focus due to the cognitive-behavioural basis of the intervention, it seems that little was changed in pupils, except for their knowledge. Pupils could describe and identify NATs, which might suggest that, even though the CAT scales showed no differences, there was value in simply giving pupils this information. However, it is possible this information could be forgotten if it is

not rehearsed and generalised and this raises the importance of ensuring that any learning gained from 'one off' interventions can be maintained. The importance of schools continuing to promote the learning gained from such programmes is therefore highlighted and this indicates the importance of involving multiple school staff and wider school and community systems, including parents.

Additionally, it could be argued that although the intervention only had initial impact as an educational programme, this was because time was needed for it to have any impact on pupils' self-concepts or NATs. Perhaps with time, the new knowledge could be assimilated and processed through exposure to experiences where that information was relevant. Some discussion has already been given to the implications related to RQ 1 in terms of the possible 'increased feedback' hypothesis, which suggests the intervention increased the level of feedback pupils received about themselves, which subsequently increased their self-awareness and social comparisons. Although this had no immediate positive impact at post-intervention, the positive impacts at follow-up appear to indicate that a consolidation process occurred. This implies that pupils required time to experience life events where their new knowledge could be tested and assimilated, eventually leading to changes in their self-concepts and NATs. This has implications for the future use of the current intervention and also implies that many school-based CBIs should be evaluated on the basis of follow-up measures.

5.6.3. Implications for the practice of Educational Psychology

The discussions of the research findings have indicated some implications for the role of EPs in school-based interventions such as this one. At one level, these findings imply that there would be value in EPs taking a lead role in training and supervising school staff. EPs are well placed for this due to their knowledge of school and community systems, which would help the intervention ideas to be more imbedded across these. For example, EPs could help staff consider whether these ideas could be used within the curriculum with pupils all year round rather than a one-off intervention. The regular visits that EPs conduct in schools means that they are a regular point of contact for school staff to discuss any issues or concerns. In addition, EPs would be able to provide training and support to parents so that the intervention ideas and language could be broadened to home environments.

However, given the limited impact that this intervention had on the self-esteem of pupils, it seems that EPs could also play an important role in helping school leaders think more critically about the type of intervention they decide to buy in or use. School leaders need to carefully consider such interventions to establish if they are having the

type of effect that they advertise and if the intervention itself is causing this impact or if it is some other factor. For example, the current intervention was used in multiple schools but, until now, has lacked any formal evaluation. The findings of this study could imply that the time and money spent on it have been somewhat in vain due to the limited impact on measurable pupil outcomes. However, the reports from pupils and staff in this study suggest the intervention does have value as a psycho-educational tool that provides knowledge about cognitive behavioural ideas, which might have some distal positive effects on self-concept. This implies that EPs have a role in explaining this to school leaders so that future use of the intervention is conducted with more understanding of its likely impact.

Part of the reason that the current intervention was so widely adopted by schools, before it had been evaluated, was because it used approaches from CBT which has become a popular and publicised idea in recent years. In the current mental health climate CBT is advocated as one of the most useful types of intervention and therefore could be thought of as a 'buzz term', of which teachers and school leaders are aware. Perhaps EPs have a role to play, not only in helping school leaders consider such interventions, but also in providing education and training to school staff in general on mental health approaches, so that there is more awareness about what sorts of difficulties CBIs are useful for. This could also help school staff more carefully consider whether to use universal or targeted approaches or both. This study has indicated that universal approaches can be helpful initially as they act as a 'screening tool' for follow-up targeted intervention. EPs can therefore ensure that school staff are given this information and can be used to support staff in selecting pupils that may benefit from additional support.

In addition, given that pupils with below-average attainment showed more positive impact from the current intervention than those achieving at an average or above-average levels, it seems that EPs also have a role in helping school staff think about how academic levels will impact pupils within universal interventions. Future use of the current intervention might be most effective and efficient if it is targeted at pupils with low attainment. Alternatively, this might result in less positive impact on low-attaining pupils if they are singled out rather than receiving the intervention within their whole class.

One of the barriers to EPs being involved with CBIs in the ways mentioned above is that EP time in schools is often in short supply and schools may want to prioritise this time for statutory SEN duties. This study cannot address the problem of how the EP profession can widen its role in schools to include more preventive work, as this is a

much wider and well-discussed issue (e.g. Farrell et al., 2006). However, the outcomes from this study imply that schools are keen to use CBIs and would be likely to welcome EP guidance and advice around this. It also implies that it is in the best interest of schools and local authorities to ensure that CBIs are evaluated before implementation, to use them most effectively. Therefore, EPs are well placed to conduct such research given their roles as scientist-practitioners.

5.6.4. Implications for future research

The implications from this study suggest that further research is needed into the long-term impacts of this CBI by tracking pupils over time to assess whether fewer emotional and social difficulties are experienced following the intervention. In particular, the findings of this study appear to suggest that there was some positive impact on NATs and self-concept two months after the intervention but this could not be confirmed due to the absence of a control group. Therefore, research is needed to assess whether this intervention is having a positive impact a few months later as, if it is, this would suggest it has value and should continue to be used in its current form. If this is the case, research could explore through what processes this delayed impact is occurring. For example, is it due to pupils requiring time and opportunity to experience situations where their NATs would usually operate and where they can consider new perspectives? Or is it due to some other process?

Alternatively, if further research revealed that the intervention did not have any positive impact on NATs or self-concept at follow-up, this would strongly indicate that its future use and design would need reconsideration. Such reconsideration could involve exploring its value as a psycho-educational tool that is designed to increase understanding of cognitive behavioural approaches rather than one that is designed to change pupil attitudes or behaviour. Given that the findings showed no impact at all on global self-esteem, even at follow-up, it suggests that the intervention does need some form of reframing in this way. Therefore, it could be assessed based on learning outcomes, such as pupil understanding of cognitive behavioural principles. If it was shown to increase such knowledge, then it could be argued to have value as an educational programme and could be advertised as such.

This would require dialogue with school leaders to find out whether they would be willing to use this type of intervention if it did not aim to change pupils' self-esteem, as it may sound less appealing to schools. It would be interesting to find out what school leaders sought in mental health interventions, for example the perceived value of universal approaches versus targeted. Given that school leaders directly commissioned

the current intervention, it would suggest there is a market for universal interventions. But whether there would be a market for a universal intervention that does not claim to directly improve any particular traits, such as self-esteem, is less clear.

In addition, future research is needed to explore the impact on staff and pupils if the intervention is more widely used to underpin whole school practice. For example, when more staff use the language of the intervention and a wider selection of pupils are given access to the intervention concepts. This would require greater involvement from EP services to support staff with further training and supervision and therefore it would also help explore what other roles EPs could play in the use of a universal CBI and other mental health interventions.

5.7. Limitations of the study

The discussion above makes the assumption that the results are valid, but some consideration must be given to the possibility that the results were found in error, due to the nature of the study or the measures used. Although steps were taken when designing the research to account for potentially confounding variables, due to the natural study design, not all such variables or limitations could be controlled. It has been argued that the advantage of greater external validity in natural studies such as this outweighs the lack of control (Dunsmuir, Brown, Iyadurai & Monsen, 2009).

One limitation is that the schools who took part in the intervention were not sampled randomly. This can be a common problem in real world research but it creates some difficulties with generalising the results at different systemic levels. At the whole school level, the schools had self-selected by choosing to send staff on the training and prioritising the intervention to implement it. This could indicate systemic differences between the ethos of these schools and other schools that chose not to engage in training or decided not to implement the intervention after attending the training. However, given that the intervention showed a limited impact even in schools which prioritised generalising the intervention ideas and language across whole school practices, it could be argued that it would have even less impact in a school which did not already prioritise these approaches.

At an individual staff level, only 3 senior staff members were interviewed who were not sampled randomly. The views of other staff (e.g. class teachers, teaching assistants) were not represented. However, the staff interview data was richly detailed and it was considered appropriate to focus on only interviewing the staff who had the most

knowledge about implementing the intervention in their school, rather than seeking a wider range of staff who may have known much less about it.

A potential limitation of the CAT and SDQ scales used is that they employed a closed question approach and therefore may not have been sensitive enough to capture all of the impacts of the intervention on the pupils' sense of self and their level of NATs. However this raises the wider difficulty of capturing a child's internal word (such as self-concept) accurately and fully. Other methods, such as observations of behaviour or in-depth pupil interviews would also have been subject to limitations (e.g. interviewer bias) and would have raised additional ethical concerns. Therefore, written self-reporting measures represented the most effective method of capturing the pupils' perspective in this study.

5.8. Conclusion

This study contributes to the growing body of research on the use of universal CBIs in schools. This study evaluated a short-term CBI, which did not specifically target a particular difficulty or group but was delivered by teachers to increase self-esteem in all pupils. However, the findings showed that the intervention had no impact on global self-esteem, probably due to the relative stability of this concept and the difficulty of changing it using a short term, discrete intervention without the involvement of wider school and home systems. This implies that future use of the intervention should not be advertised solely on the basis of changing self-esteem.

The intervention had no immediate positive impact on peer self-concept and showed an initial negative impact on school self-concept. It had no initial impact on NATs, except for pupils with below-average attainment who showed a significant reduction in their NATs, potentially indicating that the intervention has most value for these pupils. However, the intervention did increase pupils' understanding of the link between their thoughts, feelings and behaviour and the follow-up data suggested positive changes to self-concept and NATs two months later. This indicated that as pupils were exposed to situations in which their new knowledge could challenge their existing beliefs, it gradually led to changes that resulted in improved self-concept and NATs. This finding requires further investigation but implies that the intervention has value as a universal psycho-educational programme which can potentially improve self-concept and negative thinking after some delay and can act as a 'screening tool' for staff to identity pupils who could benefit from targeted support.

The findings also imply that there is an important role for EPs to help school leaders critically consider the use of mental health interventions and to ensure that such interventions are evaluated, so that they can be applied appropriately. EPs can also support schools to ensure that intervention concepts are embedded across school systems and to include parents and carers where possible, to ensure the intervention has maximum effect.

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Appendices
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Appendix 1: Outline of the intervention

Lesson 1: What is an emotion?

- Pupils discuss emotions caused by real life examples and have opportunity to express feelings about themselves
- Pupils witness a mock argument staged by teachers about a trivial issue. They are made aware it is not real. Recognise the different perspective of the same event. Exploring how the adults might have been feeling and how this might have affected the argument.
- Identifying/naming emotions, discussion of how they are different to thoughts/skills/qualities.
- Differentiating between emotions that could be considered positive and negative.
- Think of one positive emotion you have experienced in the past week, what caused you to feel this way? How did it make your body feel?
- Introduction that our emotional reaction to an event is shaped by our thoughts. This leads to a discussion of how different people's emotional reactions to the same event could be very different as it is subjective depending on how the event is perceived.

This lesson introduces the basic concept behind CBT - that thoughts and feelings are different and that our emotional reactions are shaped by our thoughts. It does this by making sure students understand what is meant by emotion and helping them identify how emotions feel in their body so that they can identify their own emotions. It provides students with a positive example of how an emotion is caused by a thought in order to provide a safe way of discussing these ideas.

Lesson 2: Naming our thoughts

- Describing what sort of thoughts lead to positive or negative emotions and considering how these thoughts could be changed.
- Define a thought – it is so quick we don't notice it (automatic) but go straight to a feeling.
- Groups are given an event – have to identify the thought and the accompanying emotion. Discuss how you can change the thought to change the emotion.
- Then do it for an event that actually happened. They practise 'flipping' a thought so it would create a more positive emotion. E.g. 'I always get things wrong' could be changed to 'yesterday in maths I got most of the answers right'.

- A homework task is given for students to identify a time in the week when they tried to think about a situation in a more positive way by looking at what evidence they were using to support their immediate thought.

The lesson introduces the idea of thought monitoring to identify Negative Automatic Thoughts (NATs) and starting to look for cognitive distortions in one's thinking by comparing one's thoughts about a situation compared to how others may see it. The homework is designed to help students practice looking for evidence to support their thoughts.

Lesson 3: How I think=how I feel=how I behave=how I think

- Trigger event – thought – emotions – physical sensations – behaviour. A picture based worksheet gives students examples to help them understand and consolidate this link.
- How we feel and behave is determined by that initial automatic thought. This is modelled with a simple example that all students do as a class, such as: trigger = 'my friend walked past me and didn't say anything'. As a class they discuss what could be the automatic thoughts and which emotions and behaviours would stem from these thoughts.
- We often have the same negative automatic thoughts in situations - we need to identify these to remember that the emotions and behaviour that comes afterwards is a result of how we interpret situation.
- Turning NATs to realistic alternative thoughts – how is this thinking helping you? Is there an alternative view? What are the pros for thinking like this in the short and long term?

This lesson builds on the idea of NATs and helps students start to consider how these thoughts cause us to behave in certain ways because we interpret a situation quickly, without reflecting on other possible interpretations of the situation. It also helps students consider the coping strategy of considering what other interpretations or thoughts might be more useful.

Lesson 4: Challenging unhelpful beliefs

- Absolute words such as 'everybody, always, never' are extreme. They don't apply to how we describe ourselves in truth but we still use them. Students identify general statements such as this that are not true. Then do the same for statements about themselves.

- Recognising that 'absolute' words can create unhelpful beliefs. Beliefs are like filters that alter how we see the world but our beliefs about ourselves are not facts; can be changed.

- Challenging unhelpful beliefs – rewriting the absolute beliefs they hold about themselves by comparing the positive and negatives of continuing to hold this belief.

This lesson continues to help students look at the idea of NATs but also highlights that these thoughts might come about because of the dysfunctional beliefs or assumptions they have about themselves. This is designed to help them think deeper about where NATs come from (i.e. from their core beliefs/assumptions) and consider that the way they view themselves is shaping the way they view the world.

Lesson 5: Self-esteem

- Discussion about self-esteem. Consider how the words that students use to describe themselves can affect their self-esteem. Link to previous lesson – how we view ourselves can affect how we interpret situations and the thoughts we have.

- Drawing 'the egg of the class' – a diagram summarising whole class. What makes our class different or special? Recognising that everyone has different views and that we all see the same situation differently.

- Looking at the self as a whole – describe self in both negative and positive terms. Identifying that no one if perfect and accepting our faults while not downplaying our strengths. Write words that describe you – count the number of positive, negative and neutral words. How does it affect self-esteem if there are mostly negative?

- If you did the same for your best friend how would they describe you? Try to be your own best friend – would that change the words you use? Why? Starting to see that we can look at ourselves more objectively using evidence.

- Would your egg look the same tomorrow/next year? The way you feel at this moment affects how you see yourself. Think about how you are viewing yourself and use the ideas already discussed to ensure that you are using evidence to back up your beliefs.

This lesson draws on the CBT concepts of trying to be more objective in our perceptions by looking for evidence. It starts by doing this in a non-personal way, by helping students see that they all view the class as a whole differently and that they have used examples to back up their ideas. It then allows them to think about how they perceive themselves and how this might change if another person was describing them. This is designed to help them think about how others see them, which might be

different from how they see themselves. This lesson addresses some of the cognitive determinants of self-esteem which previous research (Harter, 1999) has shown to be important such as highlighting the importance of areas in which the individual is skillful and discounting the areas in which they are unsuccessful.

<u>Lesson 6: Problem Solving</u>

- Developing task confidence is hard as NATs lead to self-defeating behaviours and emotions.
- Identify danger zones - situations/feelings that make us feel out of control – e.g. some may laugh it off when teased but others become angry. Their behaviour can then make them believe that their initial thoughts or assumptions were correct leading to a cycle of negative thoughts, feelings and behaviours.
- By identifying situations that lead to danger zone, students can be prepared for the feelings that follow if that situation happens – identify ways in advance to change feelings and behaviour about that danger zone by changing the thoughts that it creates in us.

This lesson helps students recognise possible maintenance cycles for their NATS and the behaviour that it causes. Students identify the triggers and modifiers of their behaviour so that they are more aware of the situations when they need to reconsider their thoughts or interpretations. Students use role-play and imagining future scenarios to practice for dealing with these situations.

Most of the intervention lessons involve learning techniques that have been identified as important features of successful school-based mental health interventions (Weare & Nind, 2011). This includes giving the students' information and behavioural strategies, rather than just one or the other. It also includes using active rather than didactic teaching methods including: interactive activities; role-plays; paired work and small group work.

Appendix 2: CAT and SDQ scales

Pupil code:

Have a go at answering the following questions about yourself. There are no right or wrong answers! All your answers are confidential and will not be shared with anyone else.

Say to yourself "Over the past week I thought…"	Not at all	Sometimes	Fairly often	Often	All the time
1.Kids will think I'm stupid (1)	1	2	3	4	5
2. I can't do anything right (2)	1	2	3	4	5
3. I'm worried I'm going to get teased(1)	1	2	3	4	5
4. Kids are going to laugh at me(1)	1	2	3	4	5
5. I am worthless (2)	1	2	3	4	5
6. Nothing ever works out for me anymore(2)	1	2	3	4	5
7. I'm going to look silly(1)	1	2	3	4	5
8. It's my fault that things have gone wrong(2)	1	2	3	4	5
9. People are thinking bad things about me(1)	1	2	3	4	5
10. I've made such a mess of my life(2)	1	2	3	4	5
11. I'm afraid of what other kids think about me(1)	1	2	3	4	5
12. I look like an idiot(1)	1	2	3	4	5
13. I'll never be as good as other people are(2)	1	2	3	4	5
14. I am a failure(2)	1	2	3	4	5
15. Other kids are making fun of me(1)	1	2	3	4	5
16. Life is not worth living(2)	1	2	3	4	5
17. Everyone is staring at me (1)	1	2	3	4	5
18. I'm afraid I will make a fool of myself(1)	1	2	3	4	5
19. I will never overcome my problems(2)	1	2	3	4	5
20. I hate myself(2)	1	2	3	4	5

These questions have slightly different answers so read carefully before responding

Which describes you best?	True	Mostly true	Sometimes true	Mostly false	False
21. I have lots of friends (3)	1	2	3	4	5
22. I am good at all school subjects (4)	1	2	3	4	5
23. I do lots of important things (5)	1	2	3	4	5
24. I make friends easily(3)	1	2	3	4	5
25. I enjoy doing work in school(4)	1	2	3	4	5
26. In general, I like being the way I am(5)	1	2	3	4	5
27. I get along with other kids easily(3)	1	2	3	4	5
28. I get good marks in school(4)	1	2	3	4	5
29. Overall I have a lot to be proud of(5)	1	2	3	4	5
30. I am easy to like(3)	1	2	3	4	5
31. I learn things quickly in all subjects(4)	1	2	3	4	5
32. I can do things as well as other people(5)	1	2	3	4	5
33. Other kids want me to be their friend(3)	1	2	3	4	5
34. I am interested in all school subjects(4)	1	2	3	4	5
35. Other people think I am a good person(5)	1	2	3	4	5
36. I have more friends than most other kids(3)	1	2	3	4	5
37. I look forward to all school subjects(4)	1	2	3	4	5
38. A lot of things about me are good(5)	1	2	3	4	5
39. I am popular with kids my own age(3)	1	2	3	4	5
40. Work in all school subjects is easy for me(4)	1	2	3	4	5
41. I'm as good as most other people(5)	1	2	3	4	5
42. Most other kids like me(3)	1	2	3	4	5
43. I like all school subjects(4)	1	2	3	4	5
44. When I do something, I do it well(5)	1	2	3	4	5

Finished - well done!

Appendix 3: Different measures considered to assess intervention

Description	Evaluation
Self-Description Questionnaire (Marsh, 1992) Measures self-concept in: Physical ability, Physical appearance, Peer relations, Parent relations, Reading, Maths, and School in general. Also global self-esteem. Separate scales available for different age groups.	Excellent evidence base for the model of self-concept that the measure is based on. Very strong validity and reliability data. It advocates picking and choosing only the scales that are specifically relevant to intervention. But, it does not consider the extent to which an individual values each separate domain of self-concept.
Burnett Self Scale (Burnett, 1994) Measures 8 aspects of self-concept and global self-esteem. 40 items in total	Very similar to Marsh's SDQ but more repetitive and less empirical evidence. Burnett's data shows that there is strong homogeneity on subscales that describe and evaluate (mean correlation: .62). This supports Shavelson et al. (1976) assertion that self-description and self-evaluation are empirically indistinguishable but this actually adds more validity to Marsh's SDQ above.
Beck's Youth inventory 5 scales: Depression, Anxiety, anger, disruptive behaviour, and self-concept. 100 items in total.	Very long to use all of it. Most scales not relevant. Could use self-concept scale alone but it does not measure self-concepts in other domains.
Self Esteem Inventory (Coppersmith, 1989) Not available to inspect items	Conceptualises self-esteem as unidimensional, therefore not supported by current research
Piers-Harris Self Concept Scale (1996). 80 item measure for children and adolescent	Correlates with Coppersmith measure. Conceptualises self-esteem as unidimensional, therefore not supported by current research
Insight Preschool Assessing and Developing Self-Esteem (Morris, 2002). Evaluates and assesses self-esteem in 3 domains of self-esteem – sense of self, sense of belonging and sense of personal power.	Appears to only be available for pre-school ages. It is based on Coopersmith's (1967) research on which is partly outdated. It provides activities to allow design of an intervention to enhance self-esteem.
Self-Perception profile (Harter, 1985) Five specific domains: Scholastic competence, athletic competence, social acceptance, physical appearance, and behavioural conduct. Also global self-worth. 36 items. No copy available for close inspection.	It appears very similar in structure to Marsh's SDQ but is older and has a smaller evidence base. The length, language and repetitiveness of this scale has been shown to be confusing for children (Eiser et al., 1995) due partly to a lack of differentiation between the similar subscales.However it does measure perceptions of the importance of each domain.
The Children's Automatic Thoughts Scale (Schneiering & Rapee, 2002). Developed through a study about the nature of self-statements in clinically depressed, anxious or behaviour disorder children. Factor analysis loaded onto 4 distinct factors – physical threat, social threat, personal failure and hostility.	Measures key aspect of intervention but only the social threat and personal failure scales appear relevant. High internal consistency and good test-retest reliability (tested in Australia). Micco & Ethrenreich (2009) assessed its validity in non-clinical US children.
The Resiliency Scales for Children & Adolescents (Prince-Embury, 2007). Questionnaire that looks at three global scales: Sense of Mastery; Sense of Relatedness; Emotional Reactivity.	This appears to be the most validated measure of resilience available. However it is not directly measuring what the intervention is designed to impact.
The Trait Emotional Intelligence Questionnaire Measures trait Emotional Intelligence (EI) as opposed to ability EI. It comprises 153 items, within which there are 15 distinct facets.	Trait EI perceptions are generally stable over time and have a direct influence on mood, behaviour, achievement, and action. But much of the evidence for this appears to come from the authors. The measure was investigated and seemed interesting but not directly related to the intervention.
Strengths and Difficulties Questionnaire (Goodman, 1999) 5 scales: Emotional symptoms; Conduct problems; Hyperactivity; Inattention; Peer relationship problems; Prosocial behaviour.	It can only be administered to an adult about the child – so couldn't be done in large numbers.

Appendix 4: Interview Schedules

<u>Staff interview schedule</u>

1. What led to your involvement in the project?

What were the reactions of other staff?

2. How confident did you feel following the training? (1-10).

What stopped you being a 10? Why?

3. Tell me about your hopes and concerns at the start of project

What did you think it would achieve?

4. When delivering the sessions, which aspects/lessons did you feel were most useful?

Why/how could you tell? What was the response of pupils?

5. Which aspects/lessons were least useful?

Why/how could you tell? What was the response of pupils?

6. Did you notice any impact on the children's behaviour during the 6-week delivery period or since it finished?

Has this been measured/noted? Did anyone else notice? Did the pupils make any comments about the sessions?

7. Have any parents made comments to staff about the project?

8. What have been the reactions of other staff to the project?

9. Has the intervention had any impact on whole-school practices?

10. Looking back, are there any aspects you would change/omit? How did your early concerns and hopes relate to the reality?

<u>Pupil interview schedule</u>

This schedule was less structured and involved more optional cues, as it was anticipated that more flexibility would be needed to seek pupil views while ensuring they all received similar core questions.

1. What can you tell me about the 'positive thinking' course?

Opinions at the start/during/end? What were you told about it? Follow up on anything noted by pupil.

2. Which parts did you feel were most useful/enjoyable?

Why? Tell me more, opinions of others.

3. Which parts were least useful/enjoyable?

Why? Tell me more, opinions of others.

4. Do you think it had any effect on the way you feel about yourself?

How? Why? Changed your behaviour and/or thoughts? Do you think it should be done with all pupils or just some pupils?

5. What did you tell your parents about it?

What was their response?

6. What will you take away from it?

Appendix 5: Observation schedule of implementation fidelity

1. To what extent did the lesson adhere to the design of the intervention as shown in the lesson plan?

1		2	3	4	5
Not as intended *Lesson plan was not followed at all and lesson objectives were not addressed.*		**Slightly as intended**	**Mostly as intended**	**Largely as intended**	**Exactly as intended** *Lesson plan was followed closely with no significant deviations from activities or objectives.*

2. To what extent did the quality of the teachers' delivery adhere to the aims?

1	2	3	4	5
Not as intended *The delivery was very confusing or unclear and showed the teacher had limited understanding of the principles behind the intervention.*	**Slightly as intended**	**Mostly as intended**	**Largely as intended**	**Exactly as intended** *The teacher clearly explained the aims/tasks and all questions were answered fully. The teacher showed a clear understanding of the principles behind the intervention and was able to communicate this well to all pupils.*

3. How effectively and appropriately were the intervention materials (e.g. worksheets, visual cues) used?

1	2	3	4	5
Not as intended *Lesson materials were not used at all or were used entirely inappropriately.*	**Slightly as intended**	**Mostly as intended**	**Largely as intended**	**Exactly as intended** *All lesson materials were implemented effectively and a multisensory teaching approach was used such as a range of visual. auditory and kinaesthetic cues.*

4. For what period of the intervention do the majority of students appear engaged as shown by looking at the teacher, putting up hands, responding to tasks immediately and engaging in group work?

1	2	3	4	5
Not as intended *Many pupils appear disengaged for the majority of the lesson. The teacher does not attempt to appropriately address disengagement.*	**Slightly as intended**	**Mostly as intended**	**Largely as intended**	**Exactly as intended** *Almost all pupils appear engaged all of the time. The teacher immediately addresses any disengagement appropriately.*

5. To what extent were pupils exposed to the intervention as designed?

1	2	3	4	5
Two or more sessions have been missed.	*One session has been missed and lesson objectives from other sessions were also not addressed as planned.*	*One session missed but its objectives were partially addressed in other sessions. Or all sessions have been delivered but some have not addressed all their learning objectives as planned.*	*All 6 sessions were delivered but it took longer or shorter than a 6-week period or lesson objectives from one session were not addressed as planned.*	*All 6 sessions were delivered over a 6-week period. All the main activities and lesson objectives within each session were addressed.*

Appendix 6: Ethical considerations

Parental assent Letter

Dear Parents/Guardians,

This term, your child's class will be involved in a research study about the impact of a programme of lessons entitled 'positive thinking' that they will shortly be completing in class. This research study is being conducted by a Trainee Educational Psychologist (EP) in collaboration with [LA 1] and the Institute of Education.

The purpose of the research study is to find out the impact of the lessons on pupils' self-perceptions. Your child's class will be asked to complete a questionnaire before the first lesson and again at the end of the final lesson. A few pupils will also be given the option to meet with the researcher individually, within school, to give their views about the lessons. Participation will be voluntary and the information collected will be anonymous and confidential.

Your child's participation in the project will help plan for future use of these lessons. However, if you would prefer that your child was not involved please feel free to contact the school office or speak to their class teacher directly. Alternatively, if you have any questions about the project or require further information, please contact me on the details below.

Yours faithfully,

Sarah Hardy
Trainee Educational Psychologist

Staff Consent

You are invited to participate in a research study exploring the impact of the cognitive behavioural intervention with which your school has recently been involved. If you consent to participate you will be asked to take part in a face-to-face interview to seek your personal experiences and opinions on delivering the intervention. The interview will be recorded and then later transcribed, after which the recording will be destroyed.

You will also be observed delivering lesson 6 of the intervention using the attached observation scale. The purpose of this is to establish to what extent the intervention has been implemented and delivered in line with its original design.

You may decide to withdraw from the study at any time without explanation and you have the right to ask that any data you have supplied up to that point be destroyed. You have the right to have your questions about the research answered at any time before, during or after the study. The data collected will be anonymised and no personal information about you, the school or the pupils will be included within the study.

By signing below, you are agreeing that: (1) you have read and understood the information above, (2) questions about your participation in this study have been answered, and (3) you are taking part in this research study voluntarily.
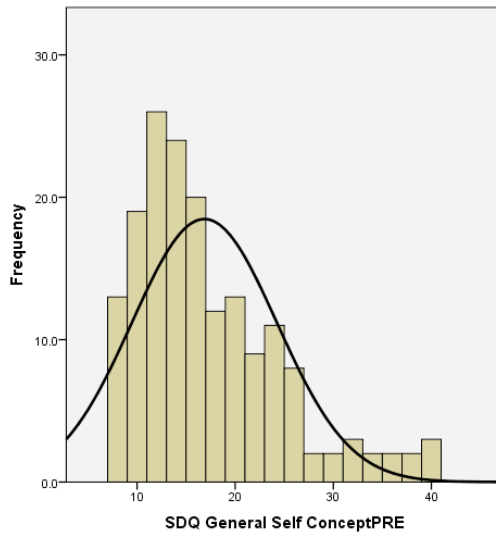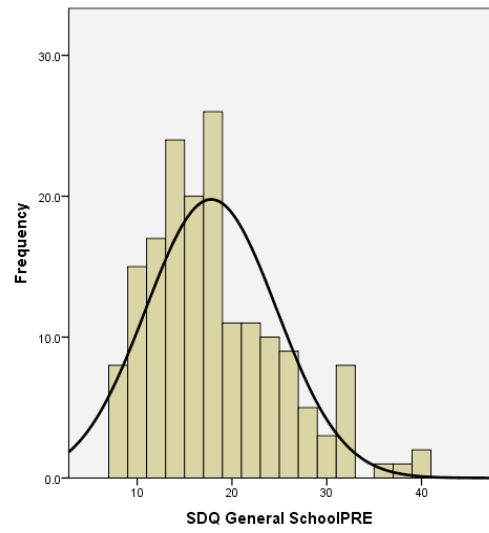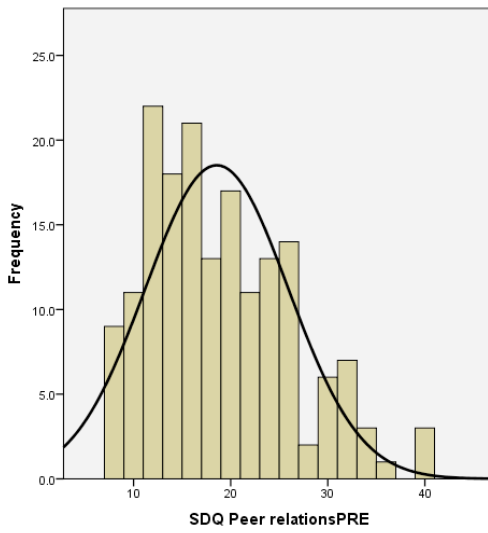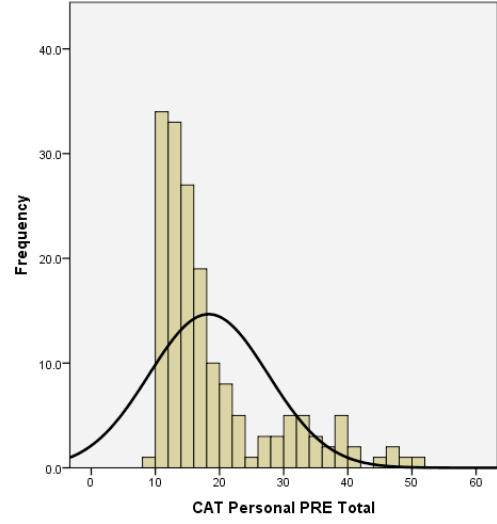
Participant's Name	*Participant's Signature*

SARAH HARDY	
Researcher obtaining consent	*Researcher's Signature*

Appendix 7: Histograms showing distribution of pre-intervention data

Interview Transcript	Coding	Sub Theme	Theme
What led to your involvement in the project?			
Well I found out about the training from another SENCo and it sounded like it would be a really useful thing to try so I asked my head if I could attend.	Advertised by schools	Non-external system	School Systems
We use SEAL in some aspects of our PSHE already and I thought it might fit in well with that and	Own initiative to attend training		
would be a little extra help with addressing some of the emotional and social issues that pupils	Intervention fits school ethos	Social-emotional ethos	
often have such as low self esteem and lots of petty arguments.	Self esteem	Aim for self esteem	
How confident did you feel following the training? (1-10). Why?	Minor social difficulties		
10 because I thought it explained the theory behind CBT really clearly and then the lessons plans that they gave us were easy to follow and we had time in the training to think about how we would use them and how to get started.	Training effective due to simple theory and lesson plans	CB theory/staff competency	Design and Implementation
Most of the ideas in the lessons are actually really simple and straightforward so we were able to understand them straight away and I felt confident about giving the lessons	Training time used effectively		
although we did realise that it would be hard for the kids to actually put a lot of the ideas into practise and we were right about that.	Personal competency for staff	Manualised intervention	
Tell me about your hopes and concerns at the start of project.	lack of competency in pupils correctly predicted	Staff competency	
Ummm, I think we wanted to just help the kids think more about their own thinking processes really	Hopes for changing thoughts	Pupil understanding	Impact on pupils
and also to help them be a bit more reflective about their behaviour.	Increase understanding of own behaviour		
I guess I also hoped it would improve behaviour in the playground to reduce the number of silly arguments	Improve playtime behaviour		
Which aspects of the lessons did you feel were more useful?			
The language that is used about the way everyone behaves	Key terms makes simple ideas memorable and easier to apply		
like the triggers that cause behaviour and phrases like 'flipping thoughts' or 'mind reading' have been really good because the kids have been able to generalise those ideas at other times	Generalisation of language by staff led to generalisation of ideas		
because I use that language with them all the time now.			
So the other day a boy was disagreeing with me about a behaviour thing and I was able to point out that he was 'mind reading' because he was assuming things about what I was thinking which	Application of learning using intervention language	Importance of language	Impact - language
he didn't have any evidence for and that helped him rethink his reactions.			Impact on staff

Transcript	Codes		
And then he said later that I was mind reading because I assumed he had been planning to do something which he hadn't so he was really happy that he had noticed me do it as well.	Equaliser between pupil and teacher – both learning new skills	Changing teacher actions	and pupil
So things like that have been great as we've noticed the students using that language.	Pupils using language independently		
What we really want is for other staff to have training so that they can be using the same language in school to really back up the lessons.	Training needed for more staff to generalise language and teaching	Using language to generalise learning across school	School staff and systems
Which aspects were least useful?			
I don't think any bits weren't useful but there were some parts I was worried about them understanding like the core beliefs stuff which I think can be quite hard for year 5 to understand at first so we really had to take our time with that and keep coming back to it.	Difficulty accessing core cognitions	Limitations of intervention in changing cognitions	Limits of impact
	Time and repetition		
Some of them had more trouble with it and the ones who seemed most affected.... in terms of what they were saying during the sessions and stuff, they were mostly the kids that are usually really engaged.	Individual differences	Individual differences	Impact on pupils
	Most engaged were most affected		
We've also found it hard to think about how we can continue it with the classes that have already done it.		Importance of continuing	Design does not address follow on
So we've been looking at some bits of the 'cool connections' book that we might use with year 6 who have already done the course as we don't want them to forget all the stuff they've learned.	Limitations of one-off programme Finding links to other CBT programmes		
We'd really like to have more training on how we can continue it without just repeating the same activities.	Ideas forgotten if learning not continued		
Actually it's something that we could talk to our school EP about.	Lack of knowledge to continue without training EP role in training	Professional Support	Wider systems – role of EP
Did you notice any impact on the children's behaviour during the 6 week delivery period or following the intervention?			
No not really, but we haven't been measuring it properly to be honest.	No formal evaluation of impact on behaviour	pupil behaviour unchanged	Impact
Have any parents made comments to staff about the project?			
No they haven't actually which surprised me because we had sent a letter telling them a little about it and saying that it was part of PSHE but that we were going to be thinking about thoughts feelings and behaviours.	Surprised by lack of parent interest	Family involvement limited but plans to change this	Involvement of wider systems
	Part of curriculum		
We would like to do some sort of workshop with parents in the future once we have more staff who are trained to use the intervention so that parents can also be given the language and ideas to use at home. We could use EP help with that.	Plans to include parents to increase application of intervention		
	EP role identified	Professional Support	

Transcript	Codes	Themes	Higher themes
What have been the reactions of other staff to the project? Really positive when they've been told about it and so we are going to send 2 more staff on the next training so that it can become a more school wide thing. We also plan to do a staff training in school so that the language can be used by all staff.	Positivity from other staff External training sought Internal staff training planned to increase language use	Increasing whole school involvement through training Language	Increased staff involvement
That brings me on to my next question – has the intervention had any impact on whole-school practices? We've already changed our behaviour policy a little so that when a pupil from one of the classes that has had the project has a behaviour incident, they have to complete a reflection form with me that uses the same language as the CB stuff like the triggers to their behaviour and what they were thinking or assuming about others and stuff. So that's been really good as it's given us a way to continue to use the ideas. Also, I think it can be really good after an incident for the kids to have some time to think about their behaviour in terms of what they were feeling and thinking so that they can start to see it from other perspectives. It doesn't always work but we are going to carry on doing that and also hopefully increase it more as we give more classes the intervention. We've also started having a 'sharing circle' at lunchtimes that kids can go to that is like a mini circle time but is a chance to discuss issues that have come up and that also uses the same ideas and language as well. I think we want to increase it as much as possible so that it eventually is part of our whole school approach to SEAL.	Applying intervention to school policies and practices Language underpinning school practice Dedication to pupils using new skills leant Using language and ideas in other contexts Perspective taking Complimenting and adding to school ethos Ideas and language from intervention applied in other settings Plans for continue application to whole-school	Changing school practices School ethos and priorities	Underpinning school systems and complimenting school ethos
Looking back, are there any aspects of the intervention you would change or omit? Did it live up to your initial hopes? Nothing really, I think its been good but we do need to get more staff involved.			

139

Appendix 9: Supporting quotes for thematic analysis of staff interview data

Theme	Sub Theme	Category	Illustrative quotes *(participant number)*	Contextual factors
Impact of Intervention	Pupils	Individual Differences	*'some who had more difficult home lives and find life a bit more tricky…. choose to engage on a less deep and meaningful level. Whereas some very willing - I'd say children who have more settled lives - were actually more willing to open up'* (2) *'some wanted help sorting things out and some didn't.'* (2) *'children who have really difficult home lives. They were the ones who couldn't really access it'*(2) *'Some of them had more trouble with it and the ones who seemed most affected…. they were mostly the kids that are usually really engaged.'* (3) there were a handful of students it did have a good impact on' (1) *'for some of them it is about their reputation in the class as well. Some of them, particularly the boys, it would be 'I don't want to show anything that maybe perceived as a weakness'* (2)	Greater impact on pupils with good mental health Willingness to share in class
		Changing behaviour	*'for some of them, their reactions are so entrenched in them'* (2) *'smaller incidences had calmed down'* (2) *'I think there have been less incidents.'* (2) *'we did realise that it would be hard for the kids to actually put a lot of the ideas into practise and we were right'* (3) *'The language that is used about the way everyone behaves like the triggers that cause behaviour and phrases like 'flipping thoughts' or 'mind reading' have been really good because the kids have been able to generalise those ideas at other times'* (3) *'No, not really' (1)* *'we've noticed the students using that language'* (3) *'he said later that I was mind reading .. so he was really happy that he had noticed me do it as well'* (3)	Including use of intervention language as an operating tool through which the ideas are recalled and then applied to behaviour
		Identifying strengths	*'they all really enjoyed … thinking about themselves as their own best friend'* (2) *'children could see the strengths that people had, also people were happy to say 'yeah I'm not that good at that but actually I'm really good at something else"* (2) *'They did take away from it that they felt better about themselves and that everybody had different strengths.'* (2) *'it was a struggle to try and think of things they were good at, it was a struggle to try and think of what they could do well'* (2)	Positive social comparison

Influencing Systems	Staff	Identifying Tool	'we found out stuff that we wouldn't have otherwise known about that we then were able to follow up on' (1) 'some of the children we wouldn't have picked out as needing any extra help.'(1) when talking about what made him sad he identified the boy he sat next to as making his life difficult, we wouldn't have picked that up' (1) 'It did bring up some issues that we didn't know about. Some of those quieter children.' (2) 'that was a really useful insight into her and gave her an opportunity to explore why she felt that some of the time because it's not the impression anyone had ever got from her'. (2) 'you wouldn't know, and I said to her teacher 'guess who said……' and he couldn't guess. 'And I was thinking, yeah that's really fascinating because I'd never put that to her at all' (2)	Screening process
		Language	'I use that language with them all the time now' (3) 'We also plan to do a staff training in school so that the language can be used by all staff' (3) 'how we are going to make sure staff are using the same language with the children that have done CBT, to help them try to resolve problems'(2)	
		Considering Value	'It is taking up a lot of staff resources as there are 2 staff in the class at a time so it's not cheap. So we need to think about whether it is worth it' (1) 'We didn't feel it had much impact although there were a handful of students it did have a good impact on. But overall we were disappointed with the impact it had' (1) 'We will do other classes this year and see what impact is like with them' (1) 'We've also found it hard to think about how we can continue it with the classes that have already done it. …. as we don't want them to forget all the stuff they've learned' (3) 'we haven't been measuring it properly to be honest' (3) 'I was expecting them to show that in the follow up but it didn't really because I think they didn't want to admit it. But out loud during the sessions they said it did bother them' (2)	Includes efforts to assess value and difficulties with formal measures not matching observations made by staff
	Within-School	Staff Involvement	'they know we are doing it but everyone is really busy so we haven't had time to feedback to staff about it (1) 'I'm going to do some staff training on it I think, so people know what we are doing' (2) 'Everybody was really interested and really keen to just give it a try' (2) 'What we really want is for other staff to have training so that they can be using the same language in school to really back up the lessons' (3) 'we need to work together on how we are going to filter it down to the school and how we are going to make sure staff are using the same language' (2) 'its hard to reinforce the ideas when there is only one trained teacher in it' (2)	
		Whole school practices	'We might use some of the stuff from the project such as introduce a time for reflection each day for all students when they have a chance to think about that stuff and to talk about their own behaviour and thoughts' (1) 'We've already changed our behaviour policy a little' (3) 'We've also started having a 'sharing circle' at lunchtimes that kids can go to that is like a mini circle time but is a chance to discuss issues that have come up and that also uses the same ideas and language as well' (3)	

		School priorities	'It will depend how long the piece of work I need to do with the other class – that from a school PoV is much more urgent' (2) 'You know it's not the major focus of the school' (2) 'I think we want to increase it as much as possible so that it eventually is part of our whole school approach to SEAL' (3)	
	External Systems	Family Systems	'We didn't tell parents anything ..as it is part of the curriculum' (1) 'Nobody came in to make any comments or ask any questions.' (2) 'We would like to do some sort of workshop with parents' (3) 'No they haven't actually which surprised me because we had sent a letter telling them a little about it and saying that it was part of PSHE' (3)	
		Professional Networks	'I worked in partnership with one of my friends who worked in another primary school…..Then when I've needed to discuss things I've contacted her to see how they've run it and things.' (2) 'We would like to do some sort of workshop with parents in the future ….We could use EP help with that' (3) 'We'd really like to have more training on how we can continue it without just repeating the same activities. Actually its something that we could talk to our school EP about.' (3) 'I found out about the training from another SENCo' (3)	
Implementation	Manualised design	Adapting between classes	'I may do it with the other year 5 class but I'm going to focus more on general friendship skills' (2) 'they did need adapting depending on the group of children you were working with' (2) 'I think some of the ways I've used it with the first group, I've changed with the second group because they are a different group of children' (2) 'We did think about tweaking them a tiny bit but we thought we should try using them first and then see what we would need to change, and actually we probably won't change anything major' (1) 'Every cohort is so different, isn't it? So that's the difficulty really and that's the impact that we've had in doing it in different classes' (2) 'Like with any scheme of working you are doing really, you just make sure you change it for the class and revisit certain things if you need to' (2)	
		Lesson plans and training	'As a teacher anything that is a time saver is useful so it was great that lesson plans were provided by the psychologists that had been tried and tested' (1) 'It [the training] was really useful, really interesting. It seemed something you could go away and try which was really useful' (2) 'I thought it explained the theory behind CBT really clearly and then the lessons plans that they gave us were easy to follow'(3) 'There's nothing about the training, it's my own feelings' (2) 'I felt confident about giving the lessons' (3)	Feelings of competency
		Role of staff	'they had the Headteacher delivering it who would have had more of an impact on students who may have been listening more or remembering more' (1) 'the head thought someone from SLT should do it so that it can be a whole school approach eventually.' (1) 'They wanted to know why their normal teacher wasn't doing it and we told them that they might find it easier to talk about private things with another teacher'. (1) 'I think its important to have 2 staff in the class who know what they are doing with it' (2) 'during one of the sessions she was then taking children out to talk to them about how they felt.' (2)	Seniority of staff Not class teacher TA support

Appendix 10: Pupil interview transcript and coding example

Transcript	Coding	Sub-Theme	Theme
What could you tell me about the lessons? SEER[1] is basically a lesson helping you, like if you had trouble in school before and like you haven't sorted it out properly and then you got angry. SEER helps you to find out positive reasons to help you sort out the situation. And it helps to find out what emotions you'll be feeling when that happens. And how you can change those around.	Anger management Identify and manage emotions	Potential impact on emotions	Impact
Ok, do you think it's helped you with those things? It has, cause I used to get angry a lot yeah, and then I'd just not do my work and shout at the teachers and stuff. But, it helps me to go talk to someone so when I got angry, I told my teacher if I can go outside and talk to someone about it.	Anger management strategies Changed behaviour	Impact on self	Impact
Ok, so it's given you ways of managing your anger. Which bits did you enjoy? My favourite bit was sorting out rights from wrongs, and watching this video where there was this guy who had, a lady left her bag, and the guy instead of stealing the purse, he went and then found the lady and gave her her bag back.	Interactivity increases memorability	Memorable activity	Demonstrating understanding
Is that what you thought would happen? No, most people was thinking that he was going to steal it and .... so then we just wanted to see what would happen, and then he gave it back.	Video challenged assumptions		
Ok, why do you think they showed you that video? Probably because, I think the point of that video was to realise that you have automatic thoughts because you could be thinking straight away. this lady left her purse I might as well take it. But he stopped and thought about it and then he gave the purse back.	Language Attributes it to self	Learning from language	Understanding
Were there any bits that you thought were not so good? ....I don't really think there was any. I really enjoyed most of it. But it was hard.		Enjoyment	Impact
Which bits were hard? Talking about some bits, cause I felt, there was some people, especially on my table, that have never had stuff happen to them and they've always been	Positive but difficult		Perception of Intervention

1 'SEER' stands for 'Self Esteem Emotional Resilience' and is the acronym given to the lessons in school 3 as well as calling it 'positive thinking'

Transcript	Codes	Sub-theme	Theme
good, they've never got in trouble. And I felt just embarrassed because I'm usually getting into trouble. And then other people are like, 'maybe you should try this next time', but it's kinda hard to actually do it in the moment. So you felt it's hard for them to understand if they haven't been in that situation? Yeah Ok, so what are you going to take away from it? That you should be in control of your emotions, don't just let the first thing you think be the right thing to do. Ok, I understand. Did you talk to your parents about it? No. Do you think it should be done with all students, or just some students?	Difficulty expressing. Perception of self and others. Difficult to change behaviour	Potential change to self	Impact
	Implies different impact for different pupils		
	Control thoughts and feelings		
I think it should be for all pupils, and there should be a bit extra for pupils who are getting in trouble. I think that, say you've never got in trouble, well maybe in the future you will, and then it will help you to prepare and then you will know what to do when you get angry.	Universal followed by targeted. Preventive.	Universal design	Perception of Intervention
And I think it will help the other people that this has happened to them because then it would help them realise how they've done wrong and what they can do to make it better. That's a really good point. Do you think it's changed the way you feel about yourself?	Increases empathy	Perception of others	Impact
I think I'm getting good because sometimes I would have just got in trouble, and then I would have just laughed about it.....at other peoples faces and try and make them feel sad, but now I've realised what I've been doing wrong and how I can help it and make it better. And that makes me feel happier.	Change behaviour; Increased empathy changes behaviour; Own emotions affected	Changing behaviour; Changing emotional state	Impact
That sounds really positive. Is there anything else you think I should know? It's really fun, that's one thing. Really fun even though most people would think it was boring yeah. And errr... that it really does really help.	Enjoyment and impact	Interest	Perception of Intervention
Cause most people would go and say 'yes I will do this lesson and I'll do it' but they just do it just to get out of it, cause if you got in trouble you say 'yes, yes, yes, I'm sorry, I'm sorry', but it really helps you stop and think.	Changes behaviour by changing thoughts	Potential impact on behaviour	Impact

Transcript	Codes	Sub-theme	Theme
And I think it was good cause we got to work with teachers who don't usually teach us much. That's a really interesting point. What did you think about it not being your class teacher? I think its better not being my class teacher because those teachers are usually some of the teachers you go to when you are in trouble, cause like Mrs (SENCo) works in the office and when you get a problem most of those people talk to you about it. And because they had more experience probably having all those children getting in trouble they would know how to sort it out more than your normal teacher.	Delivery; Unusual teacher; Impact affected by who delivers it; Assigning teachers to roles	Teacher role	Delivery of sessions

Appendix 11: Supporting quotes for thematic analysis of pupil interview data

Theme	Sub Theme	Illustrative quotes (participant number)	Contextual factors
Impact	Potential change to self	'They teach you how to change a negative feeling into a positive.' (1) 'If you're sad, maybe you can do something good about it.' (1) 'When we done the 'egg of I'… you look at it to prove that …you're not bad or anything' (3) 'It's made me change my feelings so if I was kind of depressed it would make me feel … maybe there is another way to think.' (4) 'It helps to find out what emotions you'll be feeling when that happens. And how you can change those' (5) 'Makes me feel happier.'(5) 'What makes the feelings positive or negative and when they could be made to happen' (2) 'Helping you with your choices and thoughts, like automatic thoughts' (3) 'Not having negative thoughts' (3) 'Helps you to find out positive reasons to help you sort out the situation.' (5) What you are thinking of and the next one is what you are feeling is and the last one is what would you do about it.' (2) 'It's about your feelings and what your reaction would be' (1) 'Some students find it difficult ... it may help them change their thinking' (3) 'Now I've realised what I've been doing wrong and how I can help it and make it better.' (5) 'Cause I used to get angry a lot yeah, and then I'd just not do my work and shout at the teachers and stuff. But, it helps me to go talk to someone so when I got angry' (5) 'Other people are like, 'maybe you should try this next time', but it's kinda hard to actually do it in the moment.' (5) 'You should be in control of your emotions, don't just let the first thing you think be the right thing to do.' (5) 'It really helps you stop and think.' (5) 'That might not be the best thing to do because you might need to think about it more' (6)	Potential as some are described hypothetically.
	Perception of others	'It made me think that people in my class are like, nice and not mean and stuff.' (2) 'If someone is whispering and the teacher said that, said that, if someone is whispering it's not cause they are saying bad stuff but it might be that they are just talking about something else.' (2) 'I think maybe the person whispering is whispering about something else.' (2) 'How to think why the other person might have done what they done.' (3) 'It made me think that if they are talking or whispering it doesn't mean it's always gonna be about you or it's gonna be something bad about you.' (4) 'It makes them think how other people are feeling as well.' (4) 'You got to think about if the other person really thought that	Increased empathy

		or if that is what they meant' (6)	
Demonstrating Understanding	Memorable activities	'The first lesson there was kind of a show, I can't remember what it was about (pause) respect I think?' (1) 'We had to say which feelings were positive or neutral or negative and then there was a bit where we said what we thought and whether the other groups agreed with what we did' (2) 'There was this fake argument and everyone thought it was real and we had to give our feelings about what we thought of them and what we thought.' (4) 'My favourite bit was sorting out rights from wrongs, and watching this video.' (5)	Some recall of activities without remembering the purpose of learning aims.
	Learning from language	'A trigger event, like what they are doing to you' (2) 'Positive, neutral and negative feelings.' (2) 'Automatic thought that was negative' (3) 'thoughts, like automatic thoughts' (3) 'feelings that are neutral, positive and negative and then there were these words that we had to put in neutral, positive or negative' (4) 'all the things we think like fortune telling and mind reading' (4) 'you have automatic thoughts' (5) 'you might have a negative automatic thought but you can learn how to replace it with something else' (6)	
Perception of the Intervention	Universal	'it might be good for everyone' (2) 'I think you should do it for all pupils because it makes them all think, even if they're not unhappy' (4) 'I think it should be for all pupils, and there should be a bit extra for pupils who are getting in trouble.' (5) 'it will help you to prepare and then you will know what to do when you get angry.' (5) 'Its good for everyone because its not just about if you're in trouble and it can make others learn the same things you learn' (6)	Implications of the preventive nature. Link to its use as an identification tool for targeted intervention
	Interest	'They can be a bit boring.' (1) 'I found that a bit boring cause it was really hard.' (1) 'All the bits I found hard with the egg of I was bits what I have to find what I'm good at' (3) 'They were really good. They were fun.' (2) 'It was quite fun because we were all wondering what ones to put them in and we were quite unsure with some of them.' (4) 'Its really fun, that's one thing. Really fun even though most people would think it was boring yeah' (5) 'I really enjoyed most of it but it was hard' (5) 'It can be hard …but its fun to talk about because we don't usually talk about that stuff very much' (6)	Positive and negative reactions. Some acknowledgement of the difficulty of the activities and concepts