UNIVERSITY OF SOUTHAMPTON

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Exploring the effectiveness of universal interventions, in a primary school population, to develop resiliency and reduce anxiety levels.

by

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ABSTRACT

FACULTY OF SOCIAL AND HUMAN SCIENCES

Doctorate in Educational Psychology

EXPLORING THE EFFECTIVENESS OF UNIVERSAL INTERVENTIONS, IN A PRIMARY SCHOOL POPULATION, TO DEVELOP RESILIENCY AND REDUCE ANXIETY LEVELS

By Rachel Joyce Pawsey

The development of anxiety can be understood within a risk and resilience framework; interventions can be created to support the development of protective factors. A systematic review of anxiety reducing and resilience building interventions was conducted, with key studies evaluated. Universal interventions support all children to prevent mental health difficulties developing through emotional awareness and skill based teaching. The results of this systematic literature review highlighted that universal interventions are broadly effective at reducing anxiety in a primary aged population with positive effects continuing for between 3-24 months post intervention. Moderating factors were also considered (age, gender, highly anxious participants at baseline). Younger children (7-10 years) and highly anxious participants showed positive results; the moderating factor of gender was less clear. Implications for future research include the need for more evidence to understand the benefits of universal interventions for subgroups of participants e.g. implementing universal interventions when children are younger.

An empirical study was conducted with one hundred children recruited (mean age = 9 years 4 months) from three schools allocated to either the intervention group (n= 51) or wait-list group (n=49). A universal intervention (Friends for Life; Barrett, 2010) was delivered by qualified Educational Psychologists. Primary outcome measures (self-report and teacher-report anxiety levels) and secondary outcomes (self-report depression, coping skills, attentional control and loneliness, and teacher report pro-social behaviour and total difficulties) were collected at baseline, post-intervention and at 4 months follow up. The effectiveness of the intervention for subgroups of participants was also explored. The intervention group reported significantly lower

levels of anxiety immediately post intervention than the wait-list group; this was not maintained until the 4 month follow up. Self-report depression and teacher report pro-social behaviour and total difficulties indicated a significant positive time effect for both groups, indicating no intervention effect. These limited results do add to the evidence for the effectiveness of FfL (Barrett, 2010) in reducing anxiety in a universal population of primary school age children but the results were not sustained over time.

Table of Contents

Abstract i
Table of Contents i
List of Tables iii
List of Figures v
Declaration of Authorship vii
Acknowledgements ix
Definitions and Abbreviations x

Chapter 1
- Introduction 1
- Method 7
- Results 11
- Quality Assurance 25
- Discussion 27

Chapter 2
- Introduction 32
- Method 40
- Results 48
- Discussion 59

Appendices

Appendix A. **Literature Review: Search Term** 67
Appendix B. **Literature Review: Excluded Studies** 69
Appendix C. **Literature Review: Table of Studies** 74
Appendix D. **Proof of Ethics Committee Approval** 93
Appendix E. **Parental Consent Form (Experimental Group)** 95
Appendix F. **Parental Consent Form (Wait-List Group)** 96
Appendix G. **Information Sheet for Teachers** 98
Appendix H. **Teacher Consent Form** 100
Appendix I. **Assent form- Experimental group** 101
Appendix J. **Assent form- Wait List Group** 102
Appendix K. **Revised Child Anxiety and Depression Scale** 103
Appendix L. **Coping Efficacy Scale** 104
Appendix M. **Attentional Control Scale- Children** 105
Appendix N. **The Loneliness and Social Dissatisfaction Scale** 107
Appendix O. **School Anixety Scale- Teacher Report** 108
Appendix P. **Strength and Difficulties Questionnaire** 109
Appendix Q. **Debriefing Statement- Experiemental Group** 110
Appendix R. **Debriefing Statement- Wait List Group** 111
Appendix S. **Debriefing Statement- Adults** 112
List of References 113

List of Tables

Table 1. Resilience factors that have been identified by research. 34

Table 2. Means, standard deviations and range for intervention and wait-list group at each timepoint for self-report and teacher report anxiety, self-report depression, coping skills, attentional control, loneliness and teacher report pro-social behaviour and total difficulties 49

Table 3. Correlations between age, gender, self-report and teacher report anxiety, self-report depression, coping skills, attentional control, loneliness and teacher report pro-social behaviour and total difficulties at T1 using Pearson's correlation 50

List of Figures

Figure 1. Flowchart of Literature Review Process 8

Figure 2. Flowchart of Participant recruitment 42

Figure 3. The adjusted mean total anxiety score (and standard error) for self-report and teacher report for self-report anxiety scores the intervention and control group at post-intervention (Time 2) and at follow-up (Time 3). 52

Figure 3. The adjusted mean total anxiety score (and standard error) for self-report anxiety scores the intervention and wait-list groups by gender at post-intervention (Time 2) and at follow-up (Time 3)..... 53

Figure 4. The adjusted mean total anxiety score (and standard error) for self-report anxiety scores for the intervention and control group for 9 and 10 year olds at post-intervention (Time 2) and at follow-up (Time 3). 55

Figure 5. The adjusted mean self-report loneliness and depression levels for the intervention and control group at post-intervention (Time 2) and at follow-up (Time 3) 56

Figure 6. The adjusted mean total teacher report pro-social behaviour and total difficulties for the intervention and control group at post-intervention (Time 2) and at follow-up (Time 3) 58

Declaration of Authorship

I, RACHEL JOYCE PAWSEY, declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

Exploring the effectiveness of universal interventions, in a primary age population, to develop resiliency and reduce anxiety levels.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. None of this work has been published before submission

Signed: .....

Date:.....

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This thesis is dedicated to the memory of my mother, without whom this achievement would have remained a dream.

“Blessed is the one who trusts in the Lord, whose confidence is in Him”.

Jeremiah 17:7

Definitions and Abbreviations

α = Cronbach's Alpha

ANOVA/ANCOVA = Analysis of Variance/ Analysis of covariance

ACS-C= Attentional Control Scale - Child

CBT = Cognitive Behavioural Therapy

CES= The Coping Efficacy Scale

DfE(S) = Department for Education (and skills)

DSM-5= Diagnostic and statistical manual of mental disorders (5^{th} ed.)

EP(s) = Educational Psychologist(s)

F = *F* distribution, Fisher's *F* ratio

FfL = Friends for Life

LSDS= The Loneliness and Social Dissatisfaction Scale

M = Mean

N/n = Number of participants / studies

p = Probability

Partial η^2 = Partial eta-squared

PTSD = Post-traumatic Stress Disorder

r = Estimate of the Pearson product-moment correlation coefficient

RCADS = Revised Child Anxiety and Depression Scale

SAS-TR= School Anxiety Scale- Teacher Rating

SD = Standard Deviation

SDQ = Strengths and Difficulties Questionnaire

SE(A)L = Social Emotional (Aspects of) Learning

T1 = Time 1 (pre-intervention

T2 = Time 2 (post-intervention)

T3 = Time 3 (follow-up)

UI(s) = Universal intervention (s)

UK = United Kingdom

UNICEF = United Nations Children's Fund

WHO= World Health Organisation

z = A standardized score

An Exploration of Moderating Factors in Understanding the Impact of Universal Interventions for Children and Young People

The rise of Mental Health Difficulties in Children and Young People

One in ten children in the United Kingdom (UK) between the ages of five and 15 have a clinically diagnosed mental health disorder, with 4% having anxiety or depression (The Office for National Statistics, 2004). The rates of mental health problems rise as young people reach adolescence (The Office for National Statistics, 2004). It is estimated that while up to 10% of young people experience clinically significant mental health problems, many do not access appropriate support (Fisak, Richard & Mann, 2011). The annual cost to support an individual child with complex mental health difficulties is estimated at £50,000 (Clark, O'Malley, Woodham, Barrett & Byford, 2005). Studies have highlighted that mental health difficulties are linked to poor long term emotional and physical wellbeing, academic underachievement, low employment status, social isolation and family instability (Colman et al., 2009). Children with emotional disorders are also more likely to have unauthorised absences from school (The Office for National Statistics, 2005). If not treated, anxiety disorders developed in childhood persist into adulthood (Diagnostic and statistical manual of mental disorders, 5th ed; DSM-5; American Psychiatric Association, 2013).

The importance of reducing the incidence and longevity of mental health difficulties is not only an issue for individuals, but for society more widely. In an international study the UK was ranked at the bottom of 21 developed countries for child wellbeing, with high levels of teenage pregnancy and alcoholism, and a high proportion of school leavers out of education, training or employment (UNICEF, 2007). Although the UK moved to 16th place in the 2013 report, the UK is still not successfully addressing the emotional wellbeing of the country's children. This report clearly indicates that there is a need for early intervention to support children's emotional wellbeing and mental health.

Understanding Anxiety within a Risk and Resilience Framework

Anxiety is a normal physiological, adaptive response to perceived threat; only when it becomes maladaptive and long term is it a concern. For a diagnosis of anxiety to be given by a mental health professional, it requires for the person to be suffering from anxiety for a period of at least six months *(*American Psychiatric Association, 2013).

Anxiety is conceptualised as a future orientated mood state associated with preparation for possible upcoming negative situations and fear as a response to present or imminent danger (perceived or real; American Psychiatric Association, 2013). McLoone, Hudson and Rapee (2006, p.221) suggested that anxiety is largely accepted as an "irrational fear of a situation or stimulus that is in excess of what would be considered reasonable and age appropriate". The onset of anxiety is thought to be due to a number of influences, including genetic and environmental factors such as bereavement, family discord or substance abuse (Kraemer, Stice, Kazdin, Offord & Kupfer, 2001).

In recent years there has been an increased focus on how typically developing children overcome challenges, such as poverty or parental mental illness, and how these stressors affect their life outcomes. This approach has led to a less deterministic perspective of challenging circumstances, with researchers looking at the factors that enable children to overcome adversity; termed 'protective and resilience factors' (Curtis & Cicchetti, 2003). The theory of resilience is focused on an individual's strengths. It aims to understand healthy development and positive developmental outcomes in spite of exposure to risk (Brooks, 2006; Fergus & Zimmerman, 2005). The concept of resilience is generally understood as an individual's ability to successfully adapt, thrive and develop in the face of adverse circumstances (Gordon Rouse, 2001; Masten, 2001). In other words, resiliency is when, despite exposure to substantial risk, individuals lead successful lives (Brooks, 2006). An individual's capacity to be resilient is argued to be an interactive rather than static process; it develops over time, is influenced by risk and mediated by protective factors within the environment and individual (Tusaie, Puskar & Sereika, 2007).

There is debate between researchers as to how factors of resiliency impact an individual. Garmezy (1985, as cited in Luthar, 2003) suggested that resilience factors operate within three distinct dimensions: the individual, the family and the external

environment. Whereas other models of resiliency, such as Brofenbrenner's (1979) ecosystemic model, suggests children develop within contexts, with the interaction between the individual, family and community affecting a child's resilience.

Kumpfer (1999) suggested individual characteristics interact with external risk and protective factors. In her model, internal characteristics are divided into five areas. Increased spirituality is associated with high motivation, a purpose in life and perseverance. Cognitive competency is linked to academic and planning skills and problem solving. Emotional stability includes emotional skills, empathy and humour. Physical wellbeing reflects health and physical robustness, while behaviour/social skills include good communication and life skills. Additional researchers have included other 'within individual' factors such as: good natured temperament, being younger, higher IQ, good social skills, feelings of empathy, internal locus of control and personal awareness (Masten & Coatsworth, 1998; Newman & Blackburn, 2002; Tusaie et al., 2007).

Protective factors at the level of the family include: pro-social family values, low family stress, good parent/child relationships, good attachment, and strong extended family (Kumpfer, 1999). Other approaches have included community protective factors such as successful school experiences (success in learning, extracurricular activities), friendship networks, valued social role (responsibility at school) and close relationships with an unrelated mentor or a member of faith community (Masten & Coatsworth, 1998; Newman & Blackburn, 2002; Tusaie et al., 2007).

There are a number of models of resilience that aim to understand how the highlighted internal factors and environmental factors interact. Fergus & Zimmerman (2005) identified three models of resilience: compensatory, protective and challenge. The compensatory model proposes that a promotive factor (internal or external factors that bring about positive outcomes or reduce/avoid a negative outcome) counteracts a risk factor with a direct effect. In contrast, the protective model suggests that assets (internal factors) or resources (external to the individual such as parental support or community organisations), moderate or reduce the effect of a negative outcome. The challenge model suggests that moderate levels of risk are needed for children to learn how to overcome them, but not so much that the individual is overwhelmed. Through this, children learn to manage the challenge (risk) whilst practising skills, in order to know how to implement them in the future.

Luthar (2003) suggested that in order to develop children's resiliency, interventions need to develop protective factors, both internally and in the environment. School based interventions support children to develop resiliency and improve their emotional wellbeing at a number of levels: universal, targeted support and indicative. Universal interventions (UIs) work in a preventative way to support children before the development of mental health difficulties, whereas targeted interventions support identified children thought to be at risk of developing mental health difficulties. Indicative approaches support children when they already have high levels of anxiety.

Psycho-education as an Approach to Reduce Mental Health Difficulties

There are different treatment options available to reduce anxiety levels including antidepressant medication, talking therapies or a combination of both. Cognitive Behavioural Therapy (CBT) is one of the most commonly used evidence based approaches to treat anxiety. It is the treatment of choice in the UK National Health Service for anxiety (Hofmann & Smits, 2008; Ischikawa, Okajima, Matsuoka & Sakano, 2007). Beck, Rush, Shaw and Emery (1979) developed the model of CBT to explain the relationship between physiology, cognitions and behaviour. CBT focuses on addressing and challenging irrational beliefs and cognitions that maintain anxious behaviours, replacing them with adaptive thoughts (Beck, 1993). It uses the process of psycho-education to help individuals understand the links between their thoughts, feelings and behaviour in order to manage their anxiety and ease the negative effect it has on their lives. The effectiveness of CBT as an intervention for childhood anxiety is well supported, with one systematic review concluding that CBT is effective for children over the age of six (Cartwright-Hatton, Roberts, Chitsabesan, Fothergill, & Harrington, 2004; Ischikawa et al., 2007). School-based interventions also use the principles of psycho-education to build resiliency and develop emotional literacy.

Psycho-education became more popular in UK primary schools when, in 2005, the New Labour Government instigated a national strategy called 'Social and Emotional Aspects of Learning (SEAL; Department for Education and Skills, 2005). The SEAL programme was described as "a comprehensive approach to promoting the social and emotional skills that underpin effective learning, positive behaviour, regular attendance, staff effectiveness and the emotional health and wellbeing of all who learn and work in

schools" (Department for Children, Schools and Families, 2007, p.4). It was estimated that when the coalition government took power in 2010, 90% of UK primary schools were engaged in the SEAL programme (although it has now been discontinued).

Building Resiliency in Schools

Environments can build individual's resilience, by encouraging positive experiences within various contexts (Brooks, 2006). The family unit is argued to have the greatest impact on developing resiliency, but the logistics of developing community based projects has been shown to be difficult and it might not reach the most disengaged families who need it the most (Brooks, 2006). Therefore schools are an important context in which to develop social and emotional wellbeing, where children spend a significant portion of their time (Jones & Bouffard, 2012).

Using UIs within schools has been shown to have a number of benefits. Supporting all children to learn skills and develop protective factors (problem solving, reciprocal interactions, and emotional regulation) can reduce anxiety levels and prevent mental health difficulties from developing (Masten, Herbers, Cutuli & Lafavor, 2008). Furthermore, it is suggested that by supporting children who are already facing adversity to develop protective factors such as self-efficacy, positive peer interactions and resiliency, it moderates the risk, as suggested by the protective model (Fergus & Zimmerman, 2005; Reis, Colbert & Hebert, 2010).

There are positive aspects of delivering UIs in schools. It is cost effective to implement, as it can be run in regular personal, social and emotional class time by the existing teacher. It does not require a screening process to identify children who are most in need or additional staffing to lead the UI whilst the rest of the class are not accessing the programme. In addition, most UIs do not require a health professional to run them; after the initial training from a professional, the class teacher is able to lead it. This approach enables the class teacher to disseminate and generalise learning to other aspects of the curriculum; moreover it improves sustainability as the teacher can facilitate the intervention in other classes within their school. Moreover, UIs can also reach children who are less likely to access clinical settings because of high waiting lists or limited resources (Barrett & Pahl, 2006).

A number of meta-analyses evaluated the effectiveness of UIs. Neil and Christenson (2009), for example, found that UIs reduced anxiety for children aged five

to nineteen. Fisak et al. (2011) also suggested that children and adolescents may benefit from universal anxiety prevention regardless of their risk status (clinical levels vs normal levels of anxiety). Durlak, Weissberg, Dymnicki, Taylor and Schellinger (2011) also conducted a meta-analysis of 213 Social Emotional Learning (SEL) programmes for pre-school through to adolescent students in school-based UIs. They found that the children receiving the interventions, when compared to controls, had improved SEL skills, attitudes, behaviour and academic performance.

Aims and Objectives of Current Literature Review

The objective of the current literature review is to evaluate the published research to examine whether primary aged pupils benefit from UIs via a reduction in their anxiety levels. Previous literature reviews have evaluated the effectiveness of UIs and targeted support or assessed the impact of UIs on additional variables (behaviour, academic performance) or with limited focus on design (Durlak et al., 2011; Fisak et al., 2011; Neil & Christensen, 2009). The focus of the current review is to assess the effectiveness of universally implemented, anxiety reducing and resiliency building programmes for primary aged children, with a sole focus on measures of emotional wellbeing; all study designs will be included. The review will assess group change. In addition, it will consider if there are specific subgroups of young people (e.g. elevated levels of anxiety and by gender and age) who benefit more from an UI. The objective is to provide a clear recommendation whether UIs are beneficial to primary aged children.

Method

Search Strategy, Data Sources and Search Procedures

Two search databases, Psychinfo and Web of Science, were used. Search terms were entered into the databases; the thesaurus was also used to explore similar constructs of the same term. The search terms included: school based prevention, universal intervention, early intervention, anxiety, internalisation, psychopathy, internalising difficulties, worry, rumination, mental health, resilience, social and emotional, child, childhood and adolescence. Various combinations of terms were combined with OR and AND. In Psychweb, the results were limited by publication (peer review journal only), written in English, human population and preschool and school age children only (see Appendix A). In Web of Science the results were filtered by publication type (article only) and English language only. A total of 838 articles were identified with a further five added in through reference searches; 843 articles were evaluated by the title and abstract with 791 articles being discounted. Of the total 843 articles, 52 articles were accessed in full, with 24 meeting the inclusion and exclusion criteria for this review (see Figure 1; Appendix B & C).

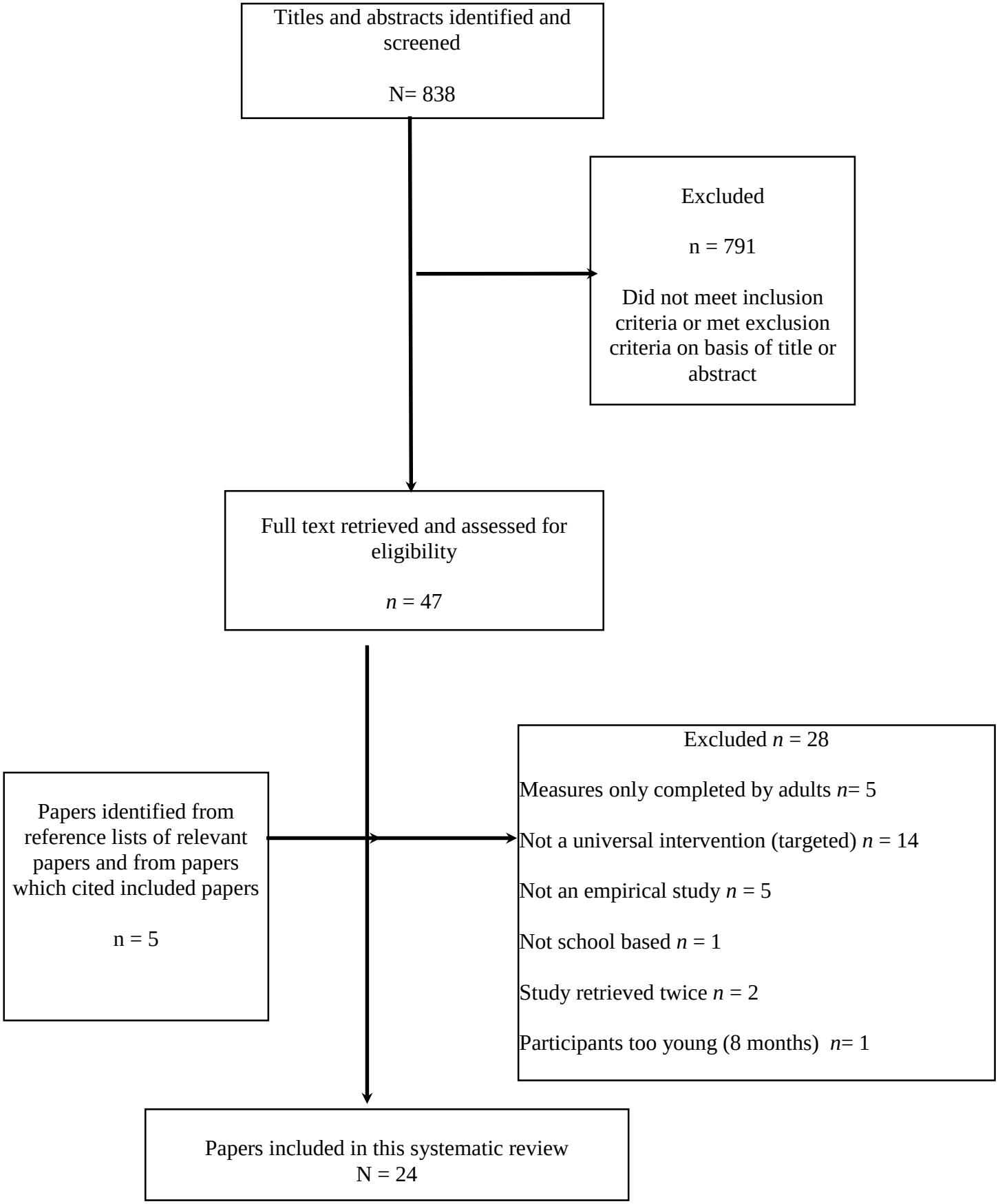

Figure 1. Flowchart of Literature Review Process

Inclusion and Exclusion Criteria

As the aim of this literature review was to assess the impact of UIs for primary aged children, studies were included if any of the participants were between 4-11 years old. Studies were only included if it was a UI, suitable for all children, rather than a targeted group of children; studies were excluded if the participants had been identified as having elevated anxiety levels prior to the intervention. Studies were only included if they were delivered in a school context; studies that were home based or delivered in a clinical setting were excluded. Only interventions that were implemented universally to a whole class of children rather than a targeted group, were included. All designs were included, regardless of whether they had an active-passive control group, a wait-list control group or no control group. Studies were included only if they had internalising behaviour (anxiety, worry, stress) as a primary outcome measure. Studies that only had measures completed by adults (teachers or parents) were excluded in order to gain an understanding of children's perception of their anxiety levels.

Quality Assessment

Downs and Black (1998) developed a checklist to assess the methodological quality of randomised and non-randomised studies with high test, retest reliability. Strengths and limitations of the studies included in this literature review are discussed at the end of the results.

Downs and Black (1998) suggested that a good study should report their aims/hypothesis, attrition rates, interventions and findings clearly. Participants should be recruited at the same time from the same population. Distributions of principal confounders, estimates of random variability, adverse events that could have affected the intervention, power and probability values also need to be detailed. Researchers should also outline if the interventions were representative of treatment that all patients receive and using different analysis from planned analyses should be made clear. The time between collecting measures also needs to be consistent between intervention and control groups and fidelity of intervention should be stringent and reported. Furthermore, they argue that it is more methodologically valid if participants are randomised to groups and if health care professionals (in this literature review the appropriate professionals would be educationalists), did not know which group the

participants are in (i.e. are blind to group allocation). It is important to triangulate the findings, to include additional measures rather than just self-report measures, in order to make the findings more robust and generalizable.

Similarly, Sutherland, Spiegelhalter and Burgman (2013) identified twenty areas to be aware of when interpreting scientific data, including factors highlighted by Downs and Black (1998). In their checklist they also included when completing research included large samples, control groups, ability to replicate, significance value and larger effect sizes. They outlined further areas to be aware of when interpreting results including: variance in results between participants, how change is being measured, the extent to which authors extrapolate results beyond the data used, power of the study, the ability to generalise the findings to another population and data dredging.

Results

Participant Sample

The participants in all 24 studies were between the ages of 3-16 years old with a proportion of participants in each study between 4-11 years (the age range of pupils in primary schools within the UK). All studies had approximately the same number of males and females. The total participants in each study differed from 50 participants to 1646 participants. The countries where the research was based included: Australia (*n* = 9), United Kingdom (*n* = 3), Israel (*n* =2), Sweden (*n* =2), United States of America (*n* =2), Canada (*n* =1), Germany (*n* = 1), Indonesia (*n* =1), Lebanon (*n* =1), Nepal (*n* = 1) and South Africa (*n* =1). The socioeconomic status (SES) and ethnicity of participants were not consistently reported across studies.

Study Design

All participants from the 24 studies completed baseline and post intervention measures. The majority of the studies assigned participants to groups at the level of the school or class (*n* = 18) and had an active or passive control group either within the same school or at a school matched by SES and sample size. Three studies had no independent control group; these studies had a within-subjects design, using a cross-trial design where the participants acted as their own control group. Three further studies did not have a control group at all. Of the sample a proportion collected follow up data (*n* = 13) ranging from 3 months to 36 months post intervention (see Appendix C).

Interventions/Description of Programmes

Around half of the interventions used the Friends for Life (FfL) programme (2000; *n* = 14), a programme recommended by the World Health Organisation (2004). The other interventions included: a classroom based manualised life skills/CBT programme, The Aussie Optimism Program (*n* =2; Roberts et al., 2003); “Building Resilience” (*n* =1; Baum, 2004); “Everybody’s Different (*n* =1; O’Dea & Abraham, 2000); and “Strong Kids” (*n* =1; Merrell, Carrizales, Feuerborn, Gueldner, & Tran, 2007). The facilitators of the groups varied between studies with class teachers (*n* =12), school nurses (n =3), psychologists (*n* =3), group facilitators (*n* = 3), school counsellors

(*n* =2) and a clinical social worker (*n* = 1) leading the interventions. One study compared the impact of a psychologist leading sessions to the class teacher. A description of each study is included in Appendix C. The programmes vary in their timescale from between five weeks to twenty weeks. The majority of the programmes were delivered every week for the duration of their implementation, with each session lasting between 45-80 minutes. All of the interventions focused on the reduction of anxiety levels in children and adolescences.

Measures

All of the interventions used self-report questionnaires for anxiety. These included the Spence Child Anxiety Scale (SCAS; Spence, 1998), the Revised Child Anxiety and Depression Scale, the Revised Child Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1978), Screen for Child Anxiety Related Emotional Disorders (SCARED; Birmaher et al., 1999), The Multidimensional Anxiety Scale for Children (MASC; March, 1997), Internalising Symptoms Scale for Children (ISSC; Merrell & Walters, 1998), Child Post-Traumatic Stress Disorder Scale (CPSS; Foa, Johnson, Feeny, & Treadwell, 2001), Anxiety Disorders Interview Schedule for Children (ADIS-C; Silverman & Albano, 1997) or the Post Traumatic Stress Disorder Reaction Index Stress/Mood Scale (Steinberg et al., 2004).

All of the studies (*N* =24) had measures completed by the child participants; six of the interventions also had measures completed by adults (*n* = 1 completed by teachers, *n* = 5 by parents/caregivers). The 'Strengths and Difficulties Questionnaire' (SDQ; Goodman, 1997) was used by two studies; teachers completed it in Ahlen et al. (2012) and parents completed it in Rooney et al. (2013). The remaining studies used parent measures (*n* = 4; Brown et al., 2006; Lowry-Webster, 2003; Roberts et al., 2010; Tol et al., 2008). They completed 'The Behavioural Assessment System for Children' (BASC; Reynolds & Kamphaus, 1992), 'The Child Behaviour Checklist' (CBCL; Achenbach, 1991) or 'The Children's Aggression Scale' (Halperin, McKay & Newcorn, 2002).

Can Universal Interventions Reduce Anxiety?

This section will consider the immediate and long-term impact of UIs on anxiety; benefits for subgroups of participants (highly anxious participants at baseline and by gender and age) will be considered separately. Results will be divided by intervention type: Friends for Life (FfL), other manualised interventions, interventions in war-torn countries. Results from adult measures will be assessed in an integrated way and discussed alongside results from self-report measures.

Friends for Life.

Barrett and Turner (2001) found a significant interaction between group (intervention vs control group) and time (pre and post intervention) on levels of self-report total anxiety (subscales were not used to determine what aspects of anxiety were reduced) for participants (aged 10-12 years). Lowry-Webster, Barrett and Dadds (2001) found similar results using FfL indicating a significant reduction in self-report anxiety for the participants (age 10-13 year olds) in the intervention group when compared to the passive control group post UI. Extending this study, using the sample participant group as Lowry-Webster et al. (2001), Lowry-Webster, Barrett and Lock (2003) found lower mean anxiety scores for the intervention group, compared to the control group at 12 month follow up. Lowry-Webster et al. (2003) also used a parent rated behaviour checklist to assess symptoms of internalisation and externalisation difficulties. Unlike the positive impact identified through self-report measures, the parent measures did not find any significant group effects from baseline to post intervention or at 12 month follow up. The study showed a main effect of time for parent measures, indicating that both groups scored lower on the internalising subscale at three time points (baseline, post intervention and 12 months later) suggesting no intervention effect of the FfL programme.

Lock and Barrett (2003) found similar results to Barrett and Turner (2001) and Lowry-Webster et al., (2001; 2003) through their large scale study (N = 977). Significant differences in self-report anxiety scores between the intervention and control groups were found immediately after the intervention and continued to the 12 month follow up for participants aged 9-16 years old. Barrett, Farrell, Ollendick and Dadds (2006) collected longitudinal data at 24 and 36 months from the same participant group as Lock and Barrett (2003). They did not find any group by time differences between

the intervention group and control group for the general population of children receiving FfL. However, they found positive effects for subgroups of participants up until the 36 month point; these will be discussed later.

Consistent with other studies Mostert and Loxton (2008) also found a significant change in self-report anxiety symptoms in children aged grade six (11-12 years old) following FfL, compared to a passive control group. The intervention group completed anxiety measures at baseline and at the completion of the intervention. At the four month follow up point, the wait list control group began the intervention; the six month follow up point for the original group was the conclusion of the programme for the wait list control group. The results indicated that there was no significant change in self-report anxiety by the intervention group when compared to passive controls within the same school immediately post FfL. Longitudinal results detected positive change for the intervention group at four months post FfL.

Essau, Conradt, Sasagawa and Ollendick (2012) also used FfL and found that there was a significant interaction between group (intervention vs passive control) and time for self-report total anxiety scores immediately post intervention. The findings from Essau et al. (2010) indicated that the positive intervention effects (significant interaction between groups by time for total anxiety scores) continued to six month and 12 month follow up.

Three studies collected measures from their participant groups up to six months before the intervention to use as a control group in a cross trial design (Ahlen, Breitholtz, Barrett and Gallengos, 2012; Stallard, Simpson, Anderson, Hibbert & Osborn, 2007; Stallard, Simpson, Anderson & Goddard, 2008). Stallard and colleagues implemented a large scale study with 9 -10 year old pupils in three junior schools in the UK. Two articles were published; the initial findings (Stallard et al., 2007) and a 12 month follow up (Stallard et al., 2008). The first study had a larger sample size (total cohort $N = 106$) than the second ($n = 63$), with natural attrition of participants occurring. The sessions were delivered by school nurses who had received training and monthly supervision (no information about fidelity was provided.) The project collected data six months prior to the intervention beginning, immediately prior to the intervention, three months post intervention and at 12 month follow up. Stallard et al. (2007) showed that there was a significant change for total self-report anxiety between baseline and three month post intervention. Results were not collected immediately post

intervention. Stallard et al. (2008) followed up the same participant group as Stallard et al (2007). They found that the positive change in anxiety post-intervention from Stallard et al. (2007) were maintained from the three month follow up; however there was no further significant decrease in self-report anxiety levels between the three month follow up and 12 month follow up. However, self-report anxiety levels were at their lowest level at 12 month follow up.

Ahlen et al. (2012) also used a cross trial design (without an independent control group). Participant data was collected nine weeks prior to starting FfL, one week before FfL began and immediately afterwards. They found a significant change in self-report anxiety scores one week prior to the intervention and immediately post the intervention indicating that FfL is effective in reducing within group anxiety levels. Teacher reports of total behavioural difficulties decreased, which indicated an intervention effect over time for participants in the FfL group.

Two further studies used FfL in their research; however as they did not have control groups, they assessed within group change rather than between group change. Stallard et al. (2005) found that there were significant changes in self-report anxiety symptoms levels after the FfL intervention for 9-10 year olds (N = 213*)*. There was a significant reduction in anxiety levels in panic, separation anxiety, social phobia and generalised anxiety. The only subscale that did not show a significant improvement was for ‘fears about physical injury’, although this did indicate a positive reduction. Similarly, Stopa, Barrett and Golingi (2010) implemented FfL led by class teachers who had received training. They measured change in anxiety levels in participants aged 10-13 years old (N = 963). Stopa et al. (2010) found similar results to Stallard et al (2005) highlighting a main effect of time between pre data collection and post intervention on self-report anxiety symptoms. They also found a significant change between pre and post intervention on self-report emotional difficulties immediately post intervention.

Most studies using FfL found positive results for the intervention group for self-report anxiety levels. In contrast, Rose, Miller and Martinez (2009) did not find any statistically significant results in self-report anxiety scores between the intervention group when compared to a control group. Rose et al. (2009) suggested that the difference in results from previous research could be due to all the children being within the normal range for anxiety at the beginning of the intervention. The sample size was also quite small, with only 26 children in the intervention group and 26 in the control

group. Miller et al. (2011) found similar results to Rose et al. (2009) with all the participants in an Aboriginal population reporting a reduction in anxiety levels regardless of whether they were in the intervention or control group. This research relied solely on self-report measures which the researchers felt could have impacted the non-significant results.

Fourteen studies used FfL; 12 of them had a control groups or a cross-trial design. Ten of the twelve studies with control groups showed a significant decrease for the intervention group in self-report anxiety levels compared to the control group post FfL; only two studies did not find a significant change post intervention. The two studies that did not have a control group indicated a main effect of time, with significant positive reductions in self-report anxiety over time, suggesting a within group positive change. However, as there is no independent control to compare the findings to, the positive findings could be due to maturation rather than the intervention. Only two studies collected adult measures, with only one of these finding a reduction in teacher report behavioural difficulties.

Other universal intervention programmes.

Ghaderi, Martensson and Schwan (2007) did not find any significant improvements for self-report anxiety between the intervention and passive control group after the “Everybody’s Different” intervention for 11 year olds (O’Dea & Abraham, 2000). The researchers suggested the non-significant result could have been due to a spill-over effect, where children in the intervention group share the programme strategies with children in the control group. It was suggested that this could be an appropriate way of disseminating interventions across peer groups.

Gueldner & Merrell evaluated the “Strong Kids” programme (Merrell et al., 2007); there was no significant interaction between time and group for internalising symptoms for 11.5 year olds (2011). There were three conditions, a control group, a teacher led condition and an enhanced teacher led condition (in which teachers received supervision from the programme consultant). The teacher led intervention group reported fewer (but not significantly) internalising of symptoms after the intervention, compared to the enhanced teacher led group. This was helpful as a recommendation for

real-world application, with teachers being able to effectively implement this UI without specialist support.

Roberts et al. (2010) also used 'The Aussie Optimism Program' with participants aged 11-13 years old and found no group effect on self-report anxiety for the intervention group when compared to the control group at either three, six or 18 months (data was not collected immediately after the conclusion of the intervention). Parents also completed the 'Child Behaviour Checklist'; which interestingly showed that parents reported significantly lower internalising symptoms three months after the 'Aussie Optimism Program' intervention, when compared to the participants in the control group. This was in contrast to the participants perceptions of their own anxiety levels.

Similarly to Roberts (2013), Rooney et al. (2013) implemented the "Aussie Optimism: Positive Thinking Skills Program with 11 control and intervention matched schools. They found that the anxiety levels of the intervention and control groups decreased at the same rate, indicating that the intervention was ineffective at reducing self-report anxiety levels for participants aged 8.75 years. Rooney et al. (2013) also collected parent-report data. Interestingly, the intervention group did show a significant decrease in total behavioural difficulties immediately after the intervention compared with the control group. The group difference on the parent measure was maintained at the six month follow up. The study indicated a significant increase in pro-social behaviour for both groups at six and 18 months post intervention, indicating that the intervention had no effect.

Unlike the other four studies that used manualised programmes, Brown, Mcquaid, Farina, Ali and Winnick-Gelles (2006) did not have a control group. They used a manualised, 10 week, classroom based programme with pupils aged 8-13 years old, to reduce symptoms of anxiety and post-traumatic stress disorder (PTSD). The only positive results they found were related to children who already met the criteria for having raised levels of PTSD (these results will be discussed later in the literature review). Parents in Brown et al. (2006) study completed the behavioural assessment system for their children. They did not find any significant differences between baseline scores and post intervention scores on the internalisation and externalisation of symptoms subscales. However, they did find a positive trend in reduction of internalising symptoms.

The four studies included in this review that used other manualised programmes (not FfL) with control groups did not find any significant group effects in self-report anxiety levels following a UI. This was in contrast to the adult report outcomes as parents reported lower total behavioural difficulties and fewer internalising of symptoms post UIs. There was also a positive trend in the reduction of internalising symptoms reported by teachers. The study without a control group found no significant difference for the general population of participants in the UI but positive results for children already with raised levels of PTSD; parent report measures did not find any positive reductions in internalisation or externalisation of symptoms.

Universal interventions in war-torn countries.

Berger, Pat-Horenczyk and Gelkopf (2007) also implemented a universal intervention in Israel to assess reductions in PTSD and generalised and separation anxiety for 7-11 year olds. The researchers created a self-report measure using questionnaires from published questions, including from SCARED (Birmaher et al., 1999). They found a significant reduction in self-report separation and generalised anxiety for the intervention group, when compared to the control group immediately post the intervention. Using the same design as Berger et al. (2007) and in a similarly volatile environment, Baum et al. (2013) implemented the 'building resilience intervention' (Baum, 2004) after the second Lebanon War. Data was collected at baseline and seven months post intervention for the intervention group (mean age = 11.08 years) and wait-list control group (mean age = 10.63 years) for self-report separation anxiety and levels of PTSD. As Berger et al. (2007) found, Baum et al. (2013) reported levels of self-report PTSD and separation anxiety decreased significantly for the intervention group compared to the control group.

Wolmer, Humphrey, Belsky and Deighton (2011) used a preventative manualised life skills programme, delivered by school counsellors, to reduce the effects of PTSD. The children had experienced rocket attacks in Israel; the aim of the intervention was to build resilience prior to further rocket attacks. Their study (N = 1488; age range 9-11 year olds) showed that participants from the intervention group had significantly lowered symptoms of self-report PTSD and stress/mood difficulties over time than the control group who had been exposed to the same war experiences, but who did not receive the intervention.

Tol, et al. (2008) used a manualised UI programme to reduce the risks of developing mental health difficulties from exposure to political violence in Indonesia. They found that there were no statistical differences between the intervention and control group as measured by self-report anxiety measures at any time point (baseline, post intervention, six month follow up) for participants aged 9.9 years. Tol et al. (2008) collected data from parents about their child's aggression/externalisation of anxiety which showed no difference post-intervention; the findings were in line with the self-report measures.

Jordans et al. (2010) implemented a resiliency building UI (mean age = 11-14 years) for children living in conflict-affected Nepal. Using change scores, the researchers found no treatment effects on self-report anxiety levels by group or time after the UI. Although the results were not significant, there was a positive reduction in psychological symptoms, including anxiety.

As all studies had a control group, it is possible to compare them at the level of the design, with results indicating that resiliency building UIs in war torn countries are inconsistent with three studies showing a significant reduction in anxiety and PTSD symptomology post UI and two studies not indicating significantly positive results. The only study that gathered parent measures of changes in their children's anxiety levels also did not find a significant result.

Benefits of Resiliency Building Universal Interventions for Specific Participants

This section will consider the immediate and long term benefits for specific subgroups of children by age, gender and for participants who were identified as having raised levels of anxiety at the start of the UI. It aims to establish the impact of moderating factors in the reduction of self-report anxiety levels after UIs.

Age.

Three of the studies that identified age as a moderator in the evaluation of the effectiveness of UIs used the FfL intervention (Lock & Barrett, 2003; Barrett et al., 2006; Essau et al., 2012) and one used another manualised programme in a war torn country (Berger et al., 2007).

Lock and Barrett (2003) had two cohorts of participants, those aged 9- 10 years and 14-16 years old; the younger population showed a greater benefit immediately. It was suggested that this could be because children are given the tools to cope with difficulties at the most appropriate time (earlier) in order to cope with life challenges, whereas when they are between 14-16 years old, they have already encountered challenging situations.

Using the same participant sample as Lock and Barrett (2003), Barrett et al. (2006) found that the results indicating an immediate benefit for participants in Lock and Barrett (2003) continued to the 12 and 24 month point, finding a significant intervention group difference when comparing the intervention and passive control group for the younger pupils; no difference was found for the older pupils. Barrett et al. (2006) strengthens Lock and Barrett's (2003) findings and the suggestion that the younger children are, the more impact UIs have on the prevention of anxiety and development of resilience.

Similarly Essau et al. (2012) participants (aged between 9-12 years old) found that the younger participants (9-10 year olds) reported lower anxiety scores immediately post FfL, whereas the older participants (11-12 years) only displayed reductions in self-report anxiety levels at the six and 12 month follow-ups. The study supports the hypothesis that age moderates effects over time. The researchers suggested that differences between age groups could be due to development experience being important (e.g. that real-life practise is needed).

The participants in Berger et al. (2007) were aged between 7-12 years old; the younger population of 7-9 year olds indicated more reduction in self-report anxiety after the manualised UI. Berger et al. (2007) suggested that this could have been due to higher levels of parental involvement, with younger children looking to their parents for more support with emotional regulation than older children and therefore having better outcomes.

Of the total sample of studies (*N = 24),* four studies assessed age as a moderating factor in anxiety reduction. They all found that younger participants benefitted more from UIs. The results from the four studies that assessed age as a moderating factor in reductions of self-report anxiety post UIs suggests that younger participants (under 10 years old) benefitted the most. The positive effects were sustained until the 24 month point post intervention.

Gender.

Of the seven studied that assessed the moderating impact of gender in the effectiveness of UIs, four studies used FfL (Barrett & Turner, 2001; Barrett et al., 2006; Lock & Barrett, 2003; Miller et al., 2011) and three were UIs implemented in war torn countries (Baum et al., 2013; Tol et al., 2008; Wolmer et al., 2011).

Lock and Barrett (2003) suggested females were more likely to be at risk of an anxiety disorder and report higher levels of anxiety on standardised measures at all-time points, compared with males. Baum et al. (2013) and Miller et al. (2011) concurred with this research, finding that females had significantly higher levels of anxiety at all time periods. Similarly, Barrett and Turner (2001) found that boys had significantly lower anxiety levels pre and post treatment. This was unsurprising because it is well established through research that most anxiety disorders 'occur more frequently in females than males' (approximately 2:1 ratio; American Psychiatric Association, 2013).

Barrett et al. (2006) found that girls in the FfL intervention group benefited more than girls in the control group in terms of anxiety reduction, with girls displaying a significant reduction in anxiety at the 24 month point, but not the 36 month point. Furthermore, Lock and Barrett (2003) found the immediate reduction in anxiety levels displayed by female participants' anxiety levels post FfL continued to the 12 month follow up. Whereas Tol et al. (2008) only found a moderate reduction in PTSD symptomology for girls in the intervention group when compared to the control groups at baseline, post intervention and six month follow up. Conversely, Wolmer et al. (2011) found that boys benefitted more than girls after an intervention aimed at reducing self-report PTSD levels using a manualised UI. Wolmer et al. (2011) suggested that this was due to males reporting fewer internalising symptoms, males identifying more with characters in their UI, and boys, potentially for the first time, being explicitly taught internally orientated strategies to reduce anxiety.

Of the total sample (N = 24), eight of the studies assessed the moderating effect of gender in the reduction of self-report anxiety post UI. Four studies found that girls had higher levels of anxiety at all-time points than boys (in line with American Psychiatric Association, 2013, 2013). Three of the studies found that females benefitted more than males after the UIs; the two that had significant reductions in anxiety levels used FfL. One study, targeting PTSD symptomology found that males benefited more from the UI

High-risk group.

Ten studies identified initially highly anxious participants as a moderating factor. Of the 10 studies, 8 used FfL (Ahlen et al., 2012; Barrett et al., 2006; Lock & Barrett, 2003; Lowry-Webster et al., 2003; Miller et al., 2011; Stallard et al., 2005, 2007, 2008) and two studies used other manualised interventions (Brown et al., 2006; Roberts et al., 2010).

Lowry-Webster et al. (2001), in their implementation of FfL used the clinical cut-off point from the SCAS (levels higher than 42.48) to identify a high-risk group (Spence, 1998). They found, in their initial findings, that more children in the comtrol group who had raised levels of anxiety pre-test continued to have high levels of anxiety post FfL. There was also a significant reduction in the anxiety levels of the elevated anxiety group, from the intervention group post FfL. Lowry-Webster et al. (2003) used the same participant group, assessing the long term effects of the FfL programme 12 months later. They also found that there was a significant relationship between high anxiety participant risk status and treatment group, with more children moving into the 'at risk' category from the control group at the 12 month follow up compared with the intervention group. The researchers also found a maintenance effect with the intervention group participants who were at 'low risk' at baseline, continued to be so at the 12 month follow up.

Stallard et al. (2005) identified the participants with the 10 % highest levels of anxiety from their total sample; they found significant reductions in this subgroup of participants' anxiety levels post FfL, compared with their baseline scores (no control group). Stallard et al. (2007 & 2008) defined their high risk group by the SCAS clinical cut-off (Spence, 1997). Stallard et al. (2007 & 2008), using a cross trial design, did not collect post intervention data immediately but found a statistically significant reduction in anxiety scores for the highly anxious group after 3 months post FfL.

Barrett et al. (2006) collected follow up data from Lock and Barrett's (2003) study; they used the clinical cut-off from the SCAS (Spence, 1998) to identify a group of participants who had elevated risk before FfL. They found that there was a trend towards a higher number of participants in the control group having elevated levels of anxiety than in the intervention group at all-time points (12 months, 24 months, 36 months). They found this was significant at the 36 month follow up point, with the percentage of participants in the intervention group who were at increased risk of

anxiety reducing whereas the numbers of participants with elevated levels of anxiety in the control group significantly increased (Lock and Barrett, 2003; Barrett et al., 2006).

Miller et al. (2011) found similar results at the three month follow up for FfL; children who were considered to be of 'high risk' when the intervention begun, had lowered anxiety levels. Similarly, using a cross trial design, Ahlen et al. (2012) identified a participant group with elevated anxiety levels using the clinical cut offs from the SCAS (Spence, 2010). This research indicated that only children who had elevated levels at the beginning of the intervention benefitted from the FfL programme.

Brown et al. (2006) found that only those individuals with higher levels of PTSD symptoms prior to the beginning of the manualised intervention, showed a significant reduction in their self-report PTSD symptomology from baseline to post intervention. They did not have a control group.

Conversely, unlike the other studies, Roberts et al. (2010) did not find any difference in results for the highly anxious group after 'The Aussie Optimism Program'. The researchers used the clinical cut off point for the RCMAS (Reynolds & Richmond, 1985). However, they also did not find any significant time or group difference on self-report anxiety at any time point after the UI for the universal population.

Of the 10 studies, 7 had independent control groups, 1 had a cross trial design and 2 did not have control groups. The studies all used self-report anxiety measures. Of the 10 studies, 4 were found to have a preventative impact on levels of self-report anxiety. Three studies showed that FfL had a maintenance impact on levels of anxiety, with highly anxious participants in Barrett et al. (2006) continuing to show reductions in anxiety levelf for up to 36 months post intervention. Six of the 10 studies showed an immediate positive impact of the UI for high anxious participants. One study did not find any significant difference (Roberts et al. (2010). The numbers of each gender who comprised the high risk groups was not consistently reported with only Barrett et al. (2006) reporting that at baseline, 58 % of the high risk participants in the intervention group were female. The composition of the groups could help to explain the results, as females consistently display higher levels of anxiety (American Psychiatric Association, 2013.

Quality Assurance

The studies were evaluated using Downs and Black's (1998) quality assessment for interventions to assess their methodological quality. Studies are appraised by the reporting, external validity, internal validity (bias and confounding) and power. For further detail about each study, see Appendix D.

Reporting

The majority of the publications in this literature review described their rationale through clearly described hypothesis, aims and objectives, measures and main outcomes. Characteristics of the participants, the interventions, principal confounding variables and findings were also described by the majority of the studies. Of the studies that collected follow up data (n = 13), a limited number (n =2) gave the attrition rates and reasons for it (e.g. participants had moved, were absent, had refused to participate). Four studies listed important adverse events that might have had a bearing on the intervention (Berger et al., 2007; Brown et al., 2006; Jordans et al., 2010; Tol et al., 2008), which included events surrounding terrorism and war. Over half of the studies (n =15) in this literature review reported actual probability values with a quarter of the total (n =7) also reporting effect sizes.

External validity

The number of participants who refused to participate and participant group composition was inconsistently reported therefore it was difficult to assess the representativeness of the sample across all 24 articles. An inclusion criterion of this literature review was that the study was school based; the participants completing the measures were representative of participants within a school population, increasing the validity of the results.

Internal validity (bias)

None of the studies attempted to blind participants; all of the participants who took part in the interventions knew if they were receiving the programme or not. The

studies were randomised by the school or class level (n = 18). All of the studies used published self-report measures either as standalone questionnaires or subsections of questionnaires. Six studies also used additional measures completed by adults. The time between the participants receiving the intervention and the wait list control group completing the measures was consistent. The statistical tests that were used by the researchers were largely appropriate, although most studies did not report controlling for Type 1 error when using multiple comparisons.

Only some of the studies (n = 8) assessed the fidelity of the intervention through self-report checklists or independent observations of the implementation of the programme. Consequently it is difficult to reliably evaluate how many of the participants' received the full intervention protocol. With reference to participants' non-compliance, as the interventions are universal, the potential for participants to drop out is reduced. However, no study considered the commitment of the participants in the intervention.

Internal validity (confounding)

The participants (intervention and control groups) within the studies were all from the same population of school children, with at least some participants in the sample being aged between 4-11 years old (UK primary school age). However, the contexts within which they were being raised and educated did differ (i.e. between settled westernised countries such as Australia and the UK to war torn countries such as Lebanon and Israel). The majority of the studies did not specify the time period over which participants were recruited. The most common form of randomisation of participants was by school or by class. None of the interventions were blind to the child or adult participants. Although generally the attrition rate of participants from follow up studies was acknowledged, reasons were not consistently given.

Power

The implications of research being underpowered were discussed by under half of the articles included in the literature review (n = 10). Only Miller et al. (2011) and Tol et al. (2008) conducted analysis to discover the power levels needed for the research

Discussion

The aim of this systematic literature review was to explore whether UIs build resilience and are effective in reducing anxiety for primary aged children. It conducted an analysis of anxiety reducing UIs that included participants between the ages of 4-11 years old to gain an understanding on the effectiveness of interventions for primary aged children. It aimed to provide a critical analysis of results for all children and to see whether there are subgroups of young people, specifically those with high baseline levels of anxiety and by gender and age, who benefit more from UIs.

According to the checklist compiled by Downs and Black (1998), there are methodological weaknesses to the studies that are included in this literature review. No study used an RCT design to allocate participants to groups at the individual level, which is considered to be the 'gold standard' of studies. Therefore it is difficult to determine if the results are due to other factors such as sample biases. However, because one of the criteria for the studies to be included in this literature review was that it had to be based within a school, rather than a clinical setting, randomisation at the individual level is less likely because of the pragmatic limitations of doing so within an educational environment. The majority of the studies with a control group randomised at the school or class level which is considered to the next best methodology. Furthermore it is also difficult to blind the participants and teachers to whether a group is receiving the intervention. It has been argued that randomisation by school and class is appropriate when the intervention is universal and the difficulties of implementing RCTs in school and community based studies has been acknowledged in previous research (Humphrey, Lendrum & Wigelsworth, 2013).

The Impact of Universal Interventions on Anxiety Levels

The results of the studies that are included in this literature review suggest that UIs targeting anxiety levels are broadly effective for studies with and without a control group, showing significant results or positive trends in anxiety reduction. The most positive results were found for FfL; either immediately or through follow up research, 12 of the 14 studies using the FfL intervention had a positive impact on self-report anxiety levels for all the participants (n = 8 with control groups, n = 3 with cross-trial

design, n = 1 with no comparison group). Two of the studies showed no significant change in self-report anxiety levels after FfL. Nine out of the 14 studies collected follow up data; positive, long-term effects were found for the intervention groups from between three to 24 months post intervention. The only study collecting measures from parents after the universal implementation of FfL did not find a significant impact on internalising or externalising of behaviour.

Of the other interventions, four studies using different manualised programmes did not find any statistical reduction in self-report anxiety measures. This was in contrast to the adult report measures used by two studies which identified reductions in total behavioural difficulties and fewer internalisation of symptoms for the intervention group post UI (Roberts et al., 2010; Rooney et al., 2013). However, Brown et al. (2006) did not find a significant impact on parent rated levels of internalising and externalising of anxiety post a UI. Five studies assessing the effectiveness of resilience building UIs in war-torn countries found inconsistent results, with three studies indicating significant reductions in self-report anxiety and two studies finding no difference. Tol et al. (2008) did not find a significant impact on parent rated levels of externalisation of behaviour. Four of the ten studies that used other manualised curriculums also collected follow up data; the results indicated no long-term impact, with no significant differences between the intervention and control groups over time suggesting that the positive impact of the UI either benefits participants in the short term only or the positive impact is due to other factors such as maturation. As these studies all used a repeated measures design, it is possible to compare the findings at the level of the design.

In conclusion, the literature indicates that UIs do, in general, reduce self-report anxiety levels in primary school aged children, specifically those using FfL. These have positive effects have been sustained until the 24 month point in one study (Barrett et al., 2006).

Impact of Universal Interventions on Subgroups of Participants Anxiety Levels

This literature review has considered moderating effects for subgroups of participants to see if there was any evidence as to who might benefit more from UIs. Four studies that considered age as a moderating factor in the reduction of anxiety levels found that younger participants (7-10 years old) benefit more from UIs than older participants. These findings support previous empirical research that have found that

middle to late childhood is the optimal time for preventive intervention to build resilience (Lock & Barrett, 2003; Lowry-Webster et al., 2001; Barrett & Turner, 2001). This could be because children have developed the cognitive capacity to understand the techniques and implement it, and yet have not come up against very challenging situations that are more characteristic of adolescence. Universal interventions aim to develop protective factors, and from a resiliency perspective, teaching children skills before the onset of mental health difficulties is effective for prevention (Fisak et al., 2011). Therefore primary school is a good time to implement resiliency building UIs, before young people begin to avoid stressful situations (Lock & Barrett, 2003). By avoiding challenge, young people cannot use strategies and coping skills learnt to successfully manage the situation (Fergus and Zimmerman, 2005).

The research is less clear as to whether boys or girls show a greater reduction in anxiety levels post UIs. Four of the studies indicated that girls had higher levels of anxiety at all-time points (baseline, post UI and follow up if applicable). This is not unexpected as females are known to have higher internalisation of symptoms and being a female through puberty is a risk factor for the development of anxiety (Newman & Blackburn, 2002). The FfL programme reduced self-report levels in girls more than boys. Lock and Barrett (2003) suggest that females tend to employ more problem-solving strategies and seek support more than boys, which FfL develops and encourages. Other interventions focusing on the reduction of PTSD through a manualised programme were less clear about which gender benefitted most.

When assessing the impact of UIs for participants with raised levels of anxiety, the analysis of the research suggests that nine of the ten studies that assessed initial raised anxiety levels as a moderating factor, found significantly positive reductions for this subgroup of participants on self-report anxiety levels. Barrett et al. (2006) found that the positive impact for participants who had increased anxiety levels at baseline continued for up to 36 months post intervention compared with the control group. Significantly more highly anxious participants in the intervention group moved into the normal range than in the control group. These results are consistent with other meta-analyses that suggested that UIs that reduce anxiety are effective for children from aged five years to 19 years (Fisak et al., 2011; Neil and Christensen, 2009). Fisak et al. (2011) suggested that children, regardless of their risk status benefit from UIs.

It is important to be cautious when interpreting and applying these findings as relatively few studies out of the total sample evaluated moderators in the reduction of self-report anxiety levels. Further research is needed to understand the moderating factors in anxiety levels after a UI.

Strengthens and Limitations of Current Review

This literature review contributes to the existing evidence base by assessing the appropriateness of UIs aimed at reducing and preventing anxiety in primary aged children. By focusing specifically on UIs rather than targeted and indicated programmes, the results have been able to be considered more in-depth. The review has also assessed studies by using the checklist compiled by Downs and Black (1998) to evaluate the methodological quality of randomised and non-randomised studies. This review is comprised of a systematic search of the literature, using clear inclusion and exclusion criteria to ensure that no appropriate research has been missed. This limits the bias within the data when selecting the studies, interpreting and reporting them. However, it is important to be cautious when interpreting and applying the seemingly positive findings from the review of studies in this systematic literature review due to potential conflicts of interest and design confounds. The majority of the studies in this literature review comprising this literature review used the FfL curriculum (n = 14) which was developed by Paula Barrett who was also an author of 7 of the 14 studies. These studies all reported that the FfL curriculum had a positive impact on (self-report) anxiety reduction. As Barrett is selling the intervention but also involved in a large proportion of research indicating successful effects could be viewed as a conflict of interest. There is a need for more empirical research into other universal intervention as currently the evidence biased towards FfL being the most successful intervention available. Furthermore, none of the studies used randomised control trials as the design for the studies which makes the results less generalizable as the participants taking part and the adults completing measures knew if they were receiving the intervention. It is also important to acknowledge that this review is subject to publication bias, as only studies published and peer review articles in English were used. Furthermore, a single author evaluated the studies which can increases bias.

Conclusions and Implications for Future Research

This review has highlighted a growing literature that demonstrates that short term UIs reduce anxiety levels in children and young people in the short term, with a long term impact for all participants until 24 months in one study (Lock & Barrett, 2003). The findings of this literature review are supported by previous meta-analysis that considered the whole age range rather than just UIs that include 4-11 year olds (Durlak et al., 2011; Fisak et al., 2011; Neil & Christensen, 2009). The FfL programme has been identified by previous meta-analyses as being more effective at reducing anxiety than other manualised or non-manualised programmes, which is consistent with this review. However, as previously outlined, it is important to be cautious when applying the FfL results to the wider population as there is a conflict of interest in the author of the programme also being an author of a significant amount of research indicating its success in reducing anxiety levels. As far as the author is aware, no meta-analysis has previously assessed the impact of the moderating factors included in this literature review.

While there is clear evidence of the effectiveness of UIs, the need for additional empirical research to deliver rigorously designed intervention studies, including RCTs, is needed. Furthermore, there is a need to conduct more research to understand the benefit of UIs to subgroups of participants, particularly assessing which gender benefits most from UIs. There is also a need for more empirical, non-biased, studies conducted by researchers not involved in the publication of the FfL curriculum. This literature review observed that there are not many studies that include measures from adults to assess the impact of UIs on children; additional research is needed in this area as multiple respondents increase the quality of data collection (Schniering, Hudson & Rapee,. 2000).

Building Resilience in Young Children. Exploring the Impact of a Universal CBT Intervention on Primary (anxiety) and Secondary Outcome Measurements (depression, attentional control, loneliness and self-efficacy).

Prevalence and rise of anxiety in childhood and effects into adulthood

The prevalence of anxiety disorders or depression in young people between the ages of five and fifteen is approximately 4% (The Office of National Statistics, 2005). The Diagnostic and Statistical Manual of Mental Health Disorders (American Psychiatric Association, 2013) categorises anxiety as a mental health disorder. Anxiety is conceptualised as a fear (real or perceived) of an event that is going to occur in the future (McIntosh et al., 2004). Anxiety is typically characterised by cognitive or trait like features (i.e. negative thoughts, rumination), physiological components linked to state anxiety (i.e. high heart rate, shortness of breath) and behaviour (i.e., avoidance) (Stallard, 2009). Anxiety has been found to have a negative impact on a child's health, social relationships, academic performance, self-confidence and ability to enjoy daily life (Fisak et al., 2011). It is estimated that support is not accessed by up to 10% of young people with clinical levels of anxiety due to undiagnosed and limited services available (Fisak et al., 2011). Anxiety typically follows a chronic course from childhood into adulthood; in the long term, mental health disorders have been shown to have an impact on employment, social interactions, and physical health (Colman et al., 2009; Stallard et al., 2008).

Theoretical underpinnings of resilience

Several theoretical frameworks have been developed to understand risk factors linked to the development of anxiety. Typically these highlight the interaction between the role of genes/physiology and the environment, where temperamentally vulnerable individuals are at increased risk of developing anxiety when faced with negative or stressful life events, for example uncertainty about the future, bereavement, or family discord (Kraemer et al., 2001). The vulnerability of the individual and environmental factors interact, leading to mental health difficulties such as anxiety. For example in the Emotional Dysregulation model, anxiety is the result of a triggering event, combined with the individual's emotional dysregulation of negative affect and deficiencies in positive affect (Hofman, Sawyer, Fang & Asnaami, 2012). This model suggests that the

individual experiences a greater intensity of negative emotions and less ability to self-soothe.

Research has suggested that protective factors can moderate the impact of risks to protect children from the development of mental health difficulties in what has been proposed as the 'model of risk and resilience' (Luthar, Cicchetti & Becker, 2000). While there is not one theoretical perspective (Hjemdal et al., 2011), protective factors are typically divided into three broad areas including personal dispositions/inner characteristics, family factors and social/community factors (see Table 1). There is debate amongst researchers as to whether these areas remain distinctively different, as in the triarchic framework of resilience where salient protective and vulnerable factors operate at the three separate levels affecting the child's development (Garmezy, 1985 as cited in Luthar et al., 2000). Alternatively, some researchers suggest that the three factors interact at different levels in close proximity with the individual, as in the ecological-transactional model (Cicchetti & Lynch, 1993) and Bronfenbrenner's ecological theory (1979). These models propose that children are influenced by the factors surrounding them, both directly and indirectly (i.e. relationships with their parents, or parents' relationship with each other). A third relevant theory proposed in risk and resilience research is the structural-organisational perspective (Sroufe, 1979). This suggests that there is a universal developmental trajectory, with developing competence over time. This theory suggests that although historical and current environmental factors contribute, it is individual's choice and self-organisation that are the critical factors in the development of resiliency.

Table 1: *Resilience factors that have been identified by research.*

The Child (internal factors)	The Family	Social/community factors
Temperament (active, good-natured)	Warm, supportive parents	Supportive extended family
Female prior to and male during adolescence	Good parent-child relationships	Successful school experiences
Age (being younger)	Parental harmony	Friendship networks
Higher IQ	Value social role	Valued social role
Social skills	Close relationship with one parent	Close relationships with unrelated mentor
Personal awareness		Member of religious or faith community
Feelings of empathy		
Internal locus of control		
Humour		
Attractiveness		

Note. This detail is compiled from meta-analysis studies conducted by Masten et al. (2008) and Newman & Black, (2002).

Developing resiliency as a treatment for anxiety

The theory of risk and resilience aims to understand why anxiety develops through multiple, either distinct or interacting, risk factors. Research has explored how the impact of risks experienced can be reduced through the development of protective factors. Schools play a pivotal role in child development and are in an advantageous position to support the development of resiliency through the curriculum (Stallard & Buck, 2013). Effective schools and positive school experiences provide opportunities to develop skills, persistence and experience success (Masten et al., 2008). Children are more likely to become more resilient adults if they develop effective problem solving strategies, good attachments with significant others, high self-efficacy, motivation and self-regulation (Masten et al., 2008). These skills can be taught and practiced through school based interventions.

Curricula to support the development of resiliency have been created at various levels: universal, targeted/selective and indicated. Universal programmes are delivered

to all children using a preventative approach. Selected/targeted groups support a smaller number of children who have been identified as needing additional intervention. Indicative approaches support children who are already identified as having high levels of anxiety and are implemented to prevent negative outcomes (Luthar, 2003).

Universal programmes typically focus on the prevention of disorder. They are designed to build resilience and teach explicit skills in order to protect against the development of risks and prevent anxiety. Universal approaches are thought to be cost-effective to prevent multiple problems before they occur. Moreover, they are argued to reduce stigmatisation because no specific group of children are identified (Masten, et al., 2008). A large scale meta-analysis found evidence to support the implementation of UIs within schools to prevent and reduce anxiety (Wells, Barlow & Steward-Brown, 2003).

Specific curricula that aim to develop emotional wellbeing and resiliency have been implemented universally across the education system. These include Personal, Social, Health and Emotional education and the SEAL curriculum (Social and Emotional Aspects of Learning; Department for Education, 2005) and TAMHS (Targeted Mental Health in Schools; Department for Children, Schools and Families, 2008; Wolpert, Humphrey, Belsky & Deighton, 2013). The DfE implemented the Penn Resiliency (developed in the USA) program for children who had just entered secondary school (aged 11-12 years) in three local authorities within in the UK (2007-2008; published 2011). It aimed to prevent depression, build resilience and develop skills. Long term data was collected over a three year period. The manualised intervention comprised of 18 workshops; measures of fidelity were collected. Measures assessing children's wellbeing (anxiety, depression, and life-satisfaction) were collected. Positive but short term impact on participants' levels of depression was found with the impact on anxiety being limited to specific subgroups of participants (pupils receiving free school meals, achieving lower levels of national curriculum levels at key stage 2, highly anxious participants at baseline) and was inconsistent. The intervention was more successful at reducing participants' anxiety and depression levels in schools where the programme was supported by the school's senior management and delivered by trained facilitators over a shorter period but with embedded support in other areas of the curriculum to reinforce skills learnt.

Resiliency programmes develop self-efficacy, peer networks and self-regulation. Social cognitive theory (SCT) highlights high self-efficacy as an important protective factor against the development of anxiety (see Bandura, 1988). Self-efficacy is the perception an individual has of their competence or effectiveness in a situation or their ability to produce a desired action (Bandura, 1997 as cited in Muris, 2002). An individual's ability to exercise control over the source of their anxiety arousal is a protective factor (Bandura, 1988). Consistent with this theoretical framework, Muris (2002) found a negative relationship between self-efficacy and symptoms of anxiety in a typically developing sample of 596 adolescents (mean age 15 years); participants' who reported less self-efficacy also reported feeling more anxious. Similarly, Rudy, Davis and Matthews (2012) found a significant negative association between negative self-statements and general and social self-efficacy in 11-14 year olds. Children experiencing high levels of anxiety also made more negative evaluations about their performance and perceived themselves as unable to cope with challenging situations (Stallard, 2009).

Positive relationships with others are a key protective factor in the development of resilience and emotional wellbeing (Brooks, 2006; Cacioppo, Hughes, Waite, Hawkley & Thisted, 2006; Cheng & Furnham, 2002; Stillman et al., 2009; Cohen & Willis, 1985; Newman & Blackman, 2002). Children who report that they are more socially satisfied children tend to play more collaboratively with their peers (Qualter & Munn, 2002). Positive friendships have not only been found to be beneficial in the development of resilience but also to moderate and protect against the impact when families are facing adversity (Criss, Pettit, Bates, Dodge & Lapp, 2002; Fergus & Zimmerman, 2005). Chu, Saucier and Hafner (2010) found a small but significant positive association between the impact of social support and well-being in children.

Attentional control theory suggests that anxiety impairs an individual's ability to sustain attention towards a chosen stimulus (Eysenck, Derakshan, Santos & Calvo, 2007). This theory was developed from processing efficiency theory (Eysenck & Calvo, 1992) which is based on two assumptions: worry is the factor of state anxiety that is responsible for the impact on performance and efficiency, and secondly that anxiety affects an individual's central executive. An assumption of attentional control theory is that anxiety is experienced when a current intention is threatened, with attention being directed to identifying and responding to its source (Eysenck et al., 2007). Attentional

control is commonly defined as a 'regulative trait referring to individual differences in the ability to focus, sustain, and shift attention at will' (Muris, Mayer, van Lint & Hofman, 2008, p.1495). Muris, de Jong and Engelen (2004) conducted a large-scale study involving 303 typically developing children (mean age 10.8 years) using self-report measures and a standardised measure of attention to explore the link between anxiety and attentional control. The results showed that high anxiety levels were associated with impaired attention control. Further research has shown that a lack of attentional control is strongly linked to internalisation of symptoms, for example anxiety and depression rather than physical aggression (Muris & Ollendick, 2005). By reducing anxiety, attentional control should increase.

The Friends For Life programme (Barrett, 2010)

The FfL intervention is a manualised universal programme which uses the principles of Cognitive Behavioural Therapy (CBT), to prevent childhood anxiety (Barrett, 2010). It is recommended by the World Health Organisation (2004). CBT is an empirically supported therapeutic intervention that is widely used in clinical populations to treat anxiety, as recommended by the National Institute for Health and Clinical Excellence guidelines (2011). It helps individuals to understand the relationship between physiology, cognitions and behaviour and, through support, it aims to reduce irrational beliefs and negative cognition (Beck, Rush, Shaw & Emery, 1979; Stallard, 2009). Its primary aim is to reduce and prevent anxiety symptoms by developing coping skills and emotional regulation. Moreover, it aims to challenge negative cognition, as well as encourage the development of positive relationships to build resiliency (Barrett, 2010). Through psycho-education, the individual begins to understand their own thoughts, emotions and behaviour and how they interact (Stallard, 2010). The FfL curriculum comprises of 10 weekly sessions each lasting an hour; each session has a different focus.

Briesch, Hagermoser- Sanetti and Briesch (2010) conducted a meta-analysis into the effectiveness of the FfL programme for universal and targeted populations. Their findings concluded that FfL might be "a promising intervention for the treatment of anxiety in school-based settings" (Briesch et al., 2010, p. 163). In support, Barrett and Turner (2001) conducted a large scale study in Australia using the FfL programme with 489 children (mean age 10years, 9 months) divided between an intervention group and a

wait-list group. The participants were assigned to groups by the level of the group (class or school) rather than at the individual level (not a randomised control trial). The results showed that children in the intervention group reported significantly lower self-report anxiety levels post intervention compared to a wait-list group. They also found a significant reduction in self-report depressive symptoms for the intervention group when compared to the control group. Similarly, Lock and Barrett (2003) used the FfL intervention with 977 participants between the ages of 9-16 years. The results found significant differences on self-report measures of anxiety between the two groups immediately post the intervention and at 12 months follow up. They also showed that there was a moderating effect of age and gender, with younger children and females showing greater reductions in anxiety levels when compared to the older children and males. Children who reported high anxiety symptoms at the beginning of the intervention continued to have elevated levels of self-report anxiety 12 months later, but symptoms were lower than their baseline scores.

Stallard (2010) reviewed studies (three studies, one long term follow up) that have implemented FfL in the UK. The initial findings are encouraging, with anxiety levels reducing after universal implementation of FfL. For example, Stallard et al. (2007) evaluated FfL with 197 children aged 9-10 years old from six UK primary schools, using a cross trial design where the participants acted as their own control group. The research used self-report measures of anxiety. A significant reduction in anxiety was identified post intervention compared to the participants pre intervention scores (collected 6 months prior to beginning FfL).

Whilst there is a growing international literature base to support the use of FfL in a universal population to reduce anxiety levels; studies within the UK are more limited. The aim of the current study was to assess the effectiveness of FfL (comparison of intervention group and wait-list group) within a universal school based population on changes of total anxiety (self-report and teacher-report). In addition, it aimed to extend current research to explore the impact of this intervention on several secondary outcomes including self-report depression, coping skills, attentional control, loneliness and teacher report pro-social behaviour and total difficulties. Its objective was to add to the limited UK evidence base for FfL and gain a greater understanding of the broader benefits on secondary outcomes. Moreover, it aimed to explore whether specific variables moderated outcomes for the intervention group, including age, gender and anxiety level pre-intervention. Participants were allocated by their school (at the level of

class) to either the intervention or wait-list group, and variables were measured at three time points (baseline, post-intervention and four month follow up).

Following previous research, it was anticipated that participants in the intervention group would show a significant reduction in their anxiety levels (measured by self-report and teacher-report) compared to the wait-list group and that subgroups of participants (females, younger participants, highly anxious participants) would benefit most from the intervention. Furthermore, it was anticipated that this universal intervention would show broader benefits with a positive impact on self-report depression symptoms, reports of loneliness, coping skills and attentional control, as well as for teacher report behavioural difficulties and pro-social behaviour, compared to the wait-list control.

Method

Design Overview

This study used a between groups (intervention group and wait-list group) repeated design to explore the impact of time (baseline, post intervention and follow up 4 months later) on primary outcome measures of self and teacher report anxiety. Secondary outcome measures of depression, coping skills, attentional control, loneliness and teacher-report pro-social behaviour and total difficulties were also collected. The follow up data was collected in a new academic year (November) when the children were in a new class, with a new teacher and the questionnaires completed by teachers were different adults. Participants were assigned to the intervention or wait-list group at the level of the class.

The Friends for Life programme (Barrett, 2010).

The intervention is a universal CBT programme recommended by the World Health Organisation for the prevention of childhood anxiety (2004). The primary aim of the programme is to reduce and prevent anxiety symptoms by developing resilience through skill based teaching and the development of positive relationships (Barrett, 2010). The prescriptive curriculum is made up of 10 weekly sessions lasting an hour. Each session has a different CBT focus including the physiological effects of anxiety, reducing negative thought, increasing coping skills and developing peer networks.

Participants

One hundred participants (mean age = 9 years, 4 months, SD = .74, range = 8 years, 8 months – eleven years, 10 months, 56 males) from three primary schools participated. Using the clinical cut off points from the published RCADS-short questionnaire, one participant (intervention group) met the criteria for clinical levels of anxiety (t-scores over 70); four participants meet the criteria for borderline clinical levels (t-scores over 65). The recruitment procedure and attrition rates and reasons are outlined in figure 2.

School one had 34 participants, (mean age = 9 years, 1 month, SD = .52, range = 8 years, 1 month – 10 years 1 month), 38 participants were from school two (mean age = 9 years, 4 months, SD = .78, range = 8 years, 1 month- 11 years, 5 months), and 22 were from school three (mean age = 10 years, SD = .73, range = 9 years, 1 month – 11 years, 10 months. All participating schools had a predominately white British population of children.

Participants were included in this research if they were in the intervention class or were in the wait-list group. Participants' data were excluded from the data set if they had missed two sessions or more of the curriculum (one participant missed three sessions) or their parents had opted out of them taking part in the research. As it was a universal intervention, there were no exclusion criteria.

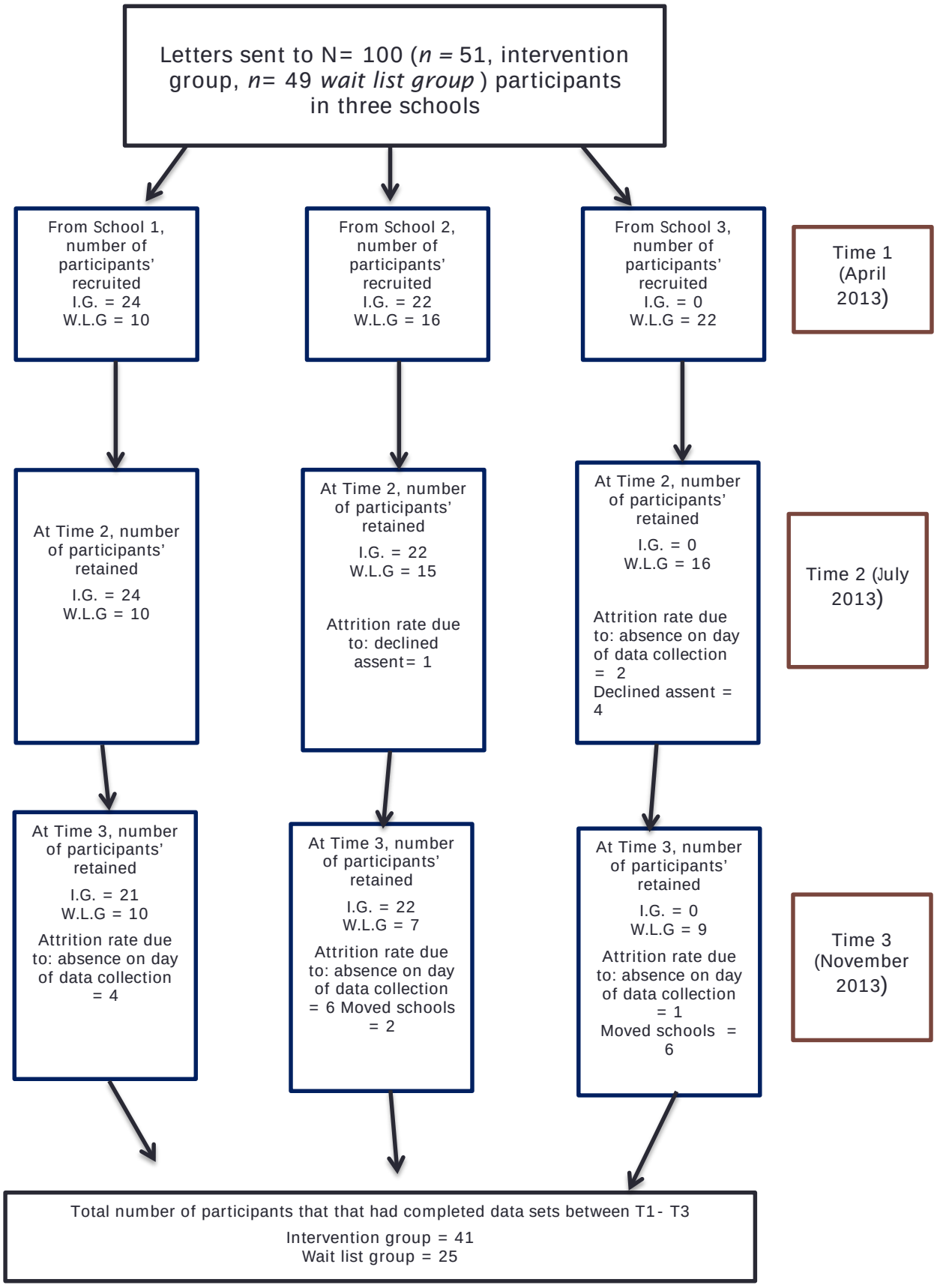

Figure 2: Flowchart of participant recruitment

Measures

Primary outcomes.

Self-report anxiety.

The Revised Child Anxiety Depression Scale short (RCADS-short) version was used to measure symptoms of self-report anxiety (Chorpita, Moffitt & Gray, 2005; Chorpita, Yim, Moffitt, Umemoto & Francis, 2000). The questionnaire is a shortened version (25 items) of an original 47 item scale and was developed to measure anxiety symptoms in children and adolescents aged between 6 and 18 years (Chorpita et al., 2005; Chorpita et al., 2000). The questionnaire gives separate subscale scores for anxiety and depression.

For each item participants are asked to rate the questions according to how characteristic they think they are of themselves. Responses range from 0 (never) to 3 (always), making a total possible score range from 0 to 75. A t-score of 65 or above indicates a borderline clinical threshold, a T-score of 70 or above indicates scores above the clinical threshold. For the purpose of this study, question 18, "I think about death" was removed.

Research has indicated that the questionnaire has a clear-cut factor structure and reliable internal consistency (Cronbach's alpha scores for each anxiety subscale > .70 and for depression = .65). The Cronbach's alpha score for the RCADS- short for this research is 0.90.

Teacher-report anxiety.

The School Anxiety Scale - Teacher Report assesses the presenting anxious behaviour and feelings of pupils' aged 5-12 year olds within a school setting (SAS- TR; Lyneham, Street, Abbott & Rapee, 2007). A teacher who knows the pupil well completes 16 questions on a four point scale ranging from 0 (never) to 3 (always). The internal consistency of the scale was shown to be high (Cronbach's alpha= 0.92 for social anxiety and 0.90 for generalised anxiety). Test-rest reliability was also shown to be acceptable over an eight week period (ICC = 0.73). The items were added together to give two subtotals, social anxiety (possible range 0-21) and generalised anxiety

(range 0-27) and a total score (0-48). The Cronbach's alpha score for the SAS-TR for this research is 0.93.

Secondary outcomes

The Coping Efficacy Scale (CES).

The CES assesses how children aged between 9 and 12 years feel about how they have managed problems in the past and how confident they feel at dealing with problems in the future (Sandler, Tein, Mehta, Wolchik & Ayers, 2000). There are seven items on the brief questionnaire; children are asked to rate different questions on a scale from 1 (not at all satisfied) to 4 (very satisfied). A total score is given out of a maximum score of 28.

The questionnaire has been standardised on a limited population sample, consisting predominately of children of divorced parents or parents with alcoholism. The questionnaire did have acceptable test-rest reliability (r= 0.75) and internal consistency (α = 0.82-0.91). The Cronbach's alpha score for the CES for this research is 0.83. For the purpose of this study, standardised data was not used; change data was used to evaluate the effectiveness of the FfL intervention.

Attentional control.

The attentional control scale-children (ASC-C) is a simplified version of the original created by Derryberry and Reed (2002) that can be used with children aged eight years and above. The 20-item self-report questionnaire measures focusing and attentional shifting. Items are scored on a four point scale ranging from 0 (never) to 3 (always). An overall total and two subtotals are gained by adding up the scores. Nine questions assess attentional focusing (out of 36) and 11 questions assess attentional shifting (out of 40) giving a total out of a possible 80. A high score indicates lower levels of attentional control. The total of the two subscales is used in this research.

The questionnaire has good internal consistency (α = 0.72) and correlates positively with perceived control (r = 0.22) and negatively with trait anxiety (r = 0.38) in previous research (Susa, Pitică, Benga & Miclea, 2012; Muris, de Jong & Engelen, 2004; Musis, Mayer, Van Lint & Hofman, 2008). The ACS-C has also been shown to

positively correlate with teacher reported performance (r = 0.45) and school performance (r = 0.23 – 0.42) for attentional control. The Cronbach's alpha score for the ASC-C for this research is 0.70.

Loneliness.

The Loneliness and Social Dissatisfaction Scale (LSDS) is a self-report questionnaire that is widely used with children aged between five and 12 years to assess feelings of loneliness and dissatisfaction with peer relations. The LSDS is a 24 item questionnaire with children having to tick a box labelled 'no', 'sometimes' or 'yes'. There are 16 main items and eight filler questions. The filler questions do not contribute to the total score. High scores indicate a greater loneliness and social dissatisfaction. The average total score is 7.6 with scores above 14 or above being considered high (Cassidy & Asher, 1992). The LSDS has good internal reliability with Cronbach's alpha being 0.79 (Cassidy & Asher, 1992). The Cronbach's alpha score for the LSDS for this research is 0.88.

Total difficulties and pro-social behaviour.

The Strengths and Difficulties Questionnaire (SDQ) is a brief behavioural questionnaire for use with three to 16 year olds. It has 25 questionnaires which break down into five subscales (emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, pro-social behaviour) each with five questions (Goodman, 1997). The questions are on a three point scale range from "not true" to "always true" and are completed by school staff. For the purpose of this research emotional symptoms, conduct problems, hyperactivity/inattention, and peer relationship problems were combined into a total difficulties subscale; pro-social behaviour remained a separate subscale. Goodman (2001) demonstrated that the consistency of the scale is high (Cronbach's alpha = 0.73) and test-rest reliability was also shown to be acceptable after four to six months (mean= 0.62). The Cronbach's alpha score for the SDQ for this research is 0.71.

Procedure

A large Educational Psychology service in Southern England recruited three schools to take part in an evaluation of FfL. Three qualified Educational Psychologists, who had received training, delivered the 10 week programme to the children taking part in this research. A member of school staff helped to facilitate the sessions. Each session lasted between 60 and 75 minutes and occurred as part of the normal school day and curriculum during the summer term of the academic year 2012/2013.

Ethical approval was granted by the University of Southampton's ethics committee and Research Governance (Appendix D). Prior to the FfL intervention beginning; opt out consent forms were sent to all parents/guardians (experimental and wait-list groups) to gain consent for their child to take part in the evaluation of the intervention (Appendix E & F). The researcher then attended each school, working with small groups of participants (maximum eight participants) to complete the RCADS-short, CES, ACS-C and LSDS (Appendix K, L, M, N). The questionnaires were presented to all children (experimental and wait-list group) in the same order at the three time periods (baseline, post intervention and four month follow up). The researcher explained the research and answered any questions, gaining informed assent from the children prior to completing the questionnaires (Appendix I & J). The researcher read aloud all the questions to the children. When the questionnaires were completed, the children were offered a sticker and given time to share jokes with each other. School staff were given an information letter (Appendix G) and asked to complete a consent form (Appendix H) before completing the SAS-TR and SDQ at each time point for each participant taking part in the research (Appendix O & P).

The baseline measures were completed between three to seven days prior to beginning the programme (Time 1; T1). The programme was then delivered by the qualified Educational Psychologists for 10 weeks. The same measures were completed by the child participants (experimental and wait-list groups) and school staff at the conclusion of the intervention between two to five days after the programme finished (Time 2; T2). Follow up data, gathered through the same measures, was collected for the pupils who were available four months later in November (Time 3; T3). The follow up data was collected within a new academic year; the participants had moved classes and the questionnaires were completed by different school staff. Measures were collected within the same one week period for all participants at all-time points. Child

participants were read the debriefing statement (Appendix Q & R); school staff were also asked to sign a debrief statement (Appendix S).

Results

Exploration of the data highlighted that assumptions of normality were violated for several variables including self-report total anxiety, loneliness and teacher rated measures of total anxiety, pro-social behaviour and total difficulties. Analyses were therefore carried out using both parametric and non-parametric statistical techniques. The descriptive statistics for each measure at T1 is shown in Table 1. Considering self-report anxiety, 5% of participants had clinically raised or borderline raised levels of anxiety at time 1. Considering differences between the intervention and the control group at T1, analysis highlighted significant group differences between self-report anxiety, indicating that the intervention group had higher initial mean scores on these subscales.

Further analysis considered the associations between variables (see Table 2). This comparison of variables showed a high correlation coefficient between self-report anxiety and depression. The correlation between levels of depression and coping skills, and depression and loneliness also indicates that these variables are strongly related to each other; as an individual becomes more depressed, their perception of their ability to cope reduces and their feelings of loneliness increase. Self-report total anxiety and attentional control were negatively correlated; indicating that the more anxiety symptoms an individual reports, the less attentional control they reported. Additionally, Table 2 shows that self-report symptoms of anxiety were not correlated with teacher report anxiety. Teacher report anxiety or pro-social behaviour scales were not associated with any self-report measure.

Table 1: Means, standard deviations and range for intervention and wait-list groups at each time point for self-report and teacher report anxiety, self-report depression, coping skills, attentional control, loneliness and teacher report pro-social behaviour and total difficulties.

		Intervention Group			Wait-list group		
		T1	T2	T3	T1	T2	T3
Outcome		Mean(SD), Range	Mean(SD) Range	Mean(SD) Range	Mean(SD) Range	Mean(SD) Range	Mean(SD) Range
Primary							
Self-report	Total anxiety	12.13(7.42), 2-33	8.92(6.94), 0-29	14.58(9.55), 0-45	7.67(6.53), 0-26	9.80(6.08), 0- 22	14.19(8.55), 0-33
Teacher-report	Total anxiety	12.65(8.89), 2-34	11.51(6.87), 1-28	10.53(6.52), 0-28	10.16(8.22), 0-33	9.59(7.55), 0-26	9.52(8.11), 0-26
Secondary							
Self-report	Depression	7.93(4.40), 1-18	6.08(4.73), 0-21	1.49(1.83), 0-9	7.27(5.30), 0-23	7.32(4.73), 0-20	1.31, (1.74), 0-7
	Coping skills	19.67(3.53), 13-26	18.38(7.44), 0-28	21.20(3.55), 14-28	19.21(4.70), 9-28	19.66(4.47), 9-28	20.50(3.84), 14-28
	Attentional control	31.89(8.29), 12-47	28.82(8.70), 6-49	28.67(8.56), 9-44	29.67(7.57), 4-47	30.05(6.22),10-44	29.00(7.31), 11-41
	Loneliness	6.73(5.15), 0-22	6.27(4.66), 0-20	2.56(4.85), 0-20	8.10(6.10), 0-21	7.95 (5.85), 0-24	4.73(4.65), 0-15
Teacher-report	Pro-social behaviour	7.00(2.15), 2-10	6.66(2.82), 1-10	8.49(1.99), 4-10	7.58(2.45), 2-10	7.48(2.46),1-10	8.00(2.20), 3-10
	Total difficulties	14.65(11.13), 0-46	14.70(9.55), 0-38	10.77(7.40), 0-32	14.29(8.07), 0-36	12.17(9.14), 0-34	11.33(11.37), 0-42

Note: Self-report total anxiety and depression measured by RCADS- Revised Child Anxiety and Depression Scale (Chorpita et al., 2000); Teacher reported total anxiety measure by SAS-TR- School Anxiety Scale-Teacher Report (Lyneham et al., 2007). Self-report coping skills measured by The Coping Efficacy Scale (Sandler et al., 2000); Self-report attentional control measured by Attentional Wait-list Scale- Children (Derryberry & Reed, 2002); Self-report loneliness measured by Loneliness and Social Dissatisfaction Scale (Cassidy & Asher, 1992). Teacher reported pro-social behaviour and total difficulties measured by Strengths and Difficulties Questionnaire (Goodmans, 1997).

Table 2: Correlations between age, gender, self-report and teacher report anxiety, self-report depression, coping skills, attentional control, loneliness and teacher report pro-social behaviour and total difficulties at T1 using Pearson's correlation.

		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Self-report	1. Age	1	-.165	-.210*	. -.052	-.037	.080	-.172	. .024	. .158	-.119
	2.Gender		1	.293**	.089	.165	-.118	.205	.103	.271**	-.277**
	3. Total anxiety			1	.062	.709**	-.383**	.435**	.360**	.016	.015
Teacher-report	4. Total anxiety				1	.068	-.038	-.070	-.111	-.260	.355**
Self-report	5. Depression					1	-.523**	.398**	.514**	-.065	.135
	6. Coping skills						1	-.294	-.352**	.147	-.080
	7. Attentional control							1	.336**	.065	.026
	8. Loneliness								1	-.015	.103
Teacher-report	9 .Pro-social									1	-.480**
	10. Total difficulties										1

Note: Self-report total anxiety and depression measured by RCADS- Revised Child Anxiety and Depression Scale (Chorpita et al., 2000); Teacher reported total anxiety measure by SAS-TR – School Anxiety Scale- Teacher Report (Lyneham et al., 2007). Self-report coping skills measured by The Coping Efficacy Scale (Sandler et al., 2000); Self report attentional control measured by Attentional Wait-list Scale- Children (Derryberry & Reed, 2002); Self-report loneliness measured by Loneliness and Social Dissatisfaction Scale (Cassidy & Asher, 1992). Teacher reported pro-social behaviour and total difficulties measured by Strengths and Difficulties Questionnaire (Goodmans, 1997).
Note: As not all the variables were normally distributed, Spearman's rho correlation was also conducted on the data. No significant difference was found so Pearson's correlation was used because of its more robust nature (Field, 2009).

Primary outcome

Self-Report Total Anxiety.

In order to explore change in anxiety over time (T1, T2, T3) and group (intervention and wait-list group) differences were considered post-T2 and follow-up (controlling for T1 anxiety scores). A group 2 (intervention n = 41; wait-list n = 25) by time 2 (T2, T3) ANCOVA on the total anxiety scores showed a main effect of group $F(1,63) = 4.23$, $p = .04$, $\eta^2 = .06$, indicating elevated anxiety scores in the control group compared with the intervention group (mean = 11.40). In addition, the analysis showed a main effect of time $F(1,63)=6.83$, $p = .01$, $\eta^2=.098$ highlighting lower anxiety scores at T2 compared with T3. There was no interaction between time and group $F(1,63) = .01$, $p = .94$, $\eta^2 = .001$.

Following up this analysis at all-time points, a one way repeated measures ANOVA (T1, T2, T3) in the intervention group showed that there was a significant effect of time $F(2,40) = 17.67$, $p<.01$, $\eta^2= .30$. Planned comparisons (paired t-tests) identified that self-report anxiety at T2 was significantly lower than T1, (p = .0001) and that self-report anxiety at T3 was significantly higher than T1, (p = .006) and T2 anxiety, (p = .0001), (see Figure 3). The effect of time in the wait-list group was also significant $F(2,24) = 10.74$, $p < .01$, $\eta^2 = .31$ and post-hoc analyses showed that there was no difference between T1 and T2 anxiety, however, T1 and T2 anxiety scores were significantly lower than T3 scores, see Figure 2[1]. The results for self-report anxiety indicate that the intervention had a positive impact on self-report anxiety scores between T1 and T2 (while there was no T1 to T2 difference for the control group); however anxiety scores for both groups increased at T3, highlighting that any benefit of the intervention was not maintained over time.

[1] Because self-report anxiety was not normally distributed non-parametric analyses were carried out and these confirmed the results of this analysis. The total self-report anxiety score for the intervention group showed a significant result from T1, T2, T3 on the Friedman's ANOVA ($\chi2$ (2) = 22.34, $p < 0.01$). Planned comparisons identified (Wilcoxon test with Bonferroni adjustment) indicated that there is a positive reduction in anxiety scores between T1-T2 (z = -3.72, p<0.01), and a significant increase in total anxiety scores between T2-T3 (z = -4.35, p<0.01). There was a significant increase in anxiety scores, between scores at T1 and T3 (z= -2.75, p<0.01). The total anxiety score for the wait-list group also showed a significant result from T1, T2, T3 ($\chi2$ (2) = 10.83, p < 0.01). Post hoc tests indicated that total anxiety scores increased at all-time points: T1-T2 (z = -2.10, p <0.05), T2-T3 (z = -3.06, p<0.01), T1 and T3 (z = -3.15, p<0.01).

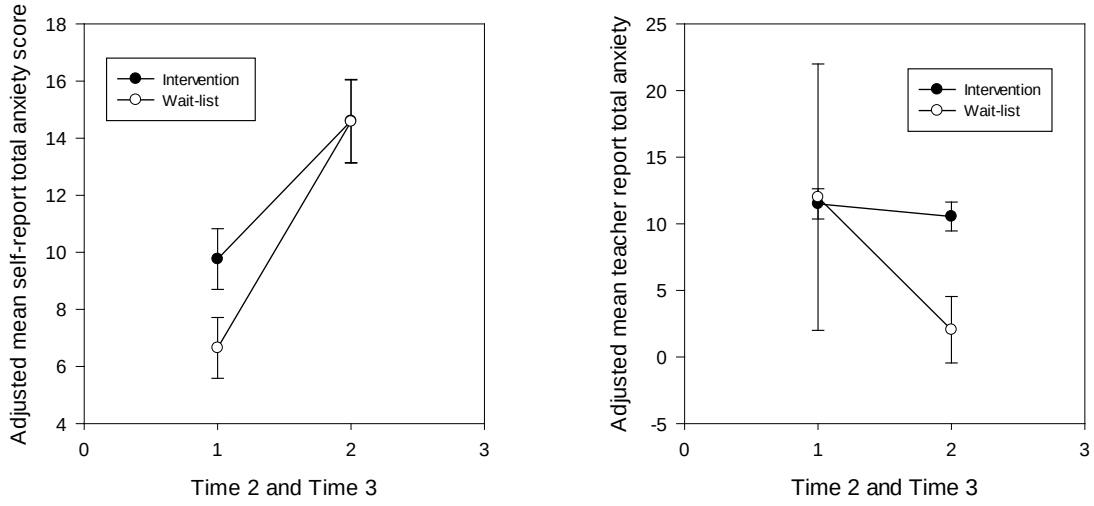

Figure 3. The adjusted mean total anxiety score (and standard error) for self-report and teacher report for the intervention and control group at post-intervention (Time 2) and at follow-up (Time 3).

For teacher report total anxiety there were no main effects of time $F(1,68) = .84$, $p=.36$, $\eta^2 = .01$, group; $F(1,68) = .76$, $p = .39$, $\eta^2 = .01$ or time by group interaction effects $F(1,68) = .001$, $p = .97$, $\eta^2 = .01$.

Subgroups of participants.

Gender.

A group 2 (intervention $n = 41$; wait-list $n = 25$) by time 2 (T2, T3) by gender (intervention group, males = 21, females = 20; wait list group, males n = 10, females = 15) showed a main effect of time $F(1,61) = 6.63$, $p = .01$, $\eta^2=.10$ indicating an increase in self-report anxiety for both genders between T2-T3. There was not a main effect of group $F(1,61)= 3.89$, $p=.06$, $\eta^2=.06$ or time by group by gender interaction $F(1,61)= .42$, $p=.51$, $\eta^2=.07$.

Following up this analysis at all-time points, one way repeated measure ANOVAs (T1, T2, T3) were conducted. Males in the intervention group showed a significant effect of time $F(2,40)=6.86$, $p<0.01$, $\eta^2= .26$. Planned comparisons (paired t-tests) indicated that self-report anxiety for the males in the intervention group reduced between T1-T2 but increased between T2-T3 (in both cases $p <.01$). There was significant increase in self-report anxiety scores between T1-T3 ($p >.05$). Females in the intervention group showed a significant effect of time $F(2,38)=10.97$, $p<0.01$, $\eta^2= .37$. Planned comparisons (paired t-tests-) identified that self-report anxiety was significantly reduced for intervention group females between T1- T2 ($p<.05$), but significantly increased between T2-T3 and T1-T3 ($p <.0.01$). For males in the wait-list group there was no significant effect of time $F(2,18)= 2.63$, $p =.10$, $\eta^2= .23$. For females in the wait-list group there was a significant effect of time $F(2,28)=10.68$, $p <0.01$, $\eta^2= .43$. Planned comparisons (paired t-tests) identified that self-report anxiety for girls in the wait-list group significantly increased between T2-T3 and T1-T3 ($p<.01$) (see figure 4).

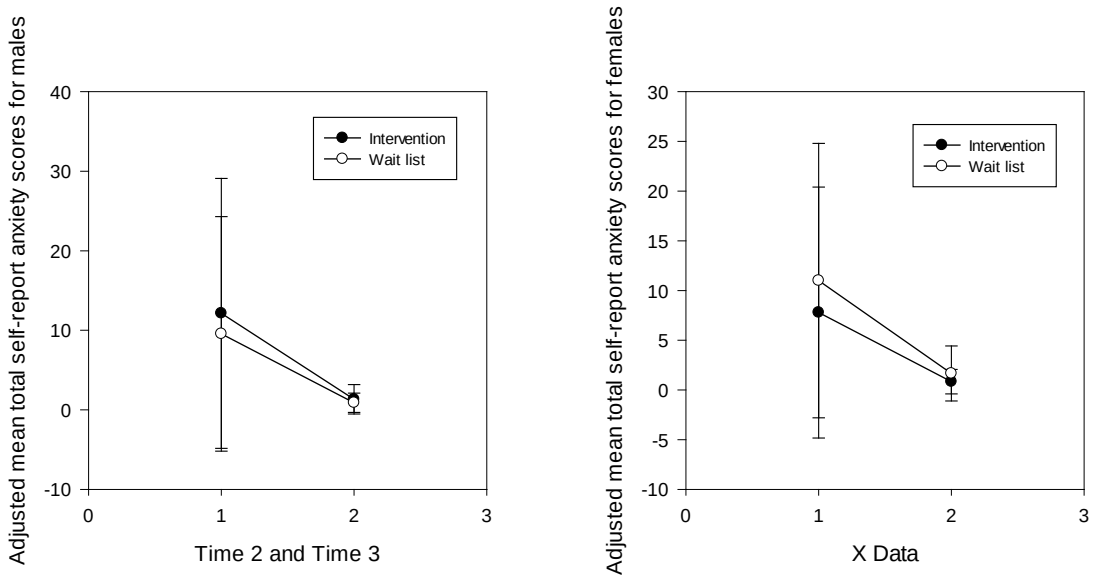

Figure 4. The adjusted mean total self-report anxiety score (and standard error) for the intervention and control group by gender at post-intervention (Time 2) and at follow-up (Time 3).

Age.

A group 2 (intervention *n* =41; wait-list *n* = 25) by time 2 (T2, T3) by age (the participants ranged from 8 years 8 months to 11 years 10 months; they were coded by age at baseline, 0= 8 years, 1 = 9 years, 2 = 10 years, 3 = 11years). There was a main effect of time $F(1,58)= 5.82$, $p=.02$, $\eta^2=.10$ but not of group ($F(1,58)= 1.90$, $p=.17$, $\eta^2=.03$) or time by group by age interaction $F(2,58)= 5.7$, $p=.06$, $\eta^2=.161$.

Following up this analysis at all-time points, one way repeated measure ANOVA (T1, T2, T3) were conducted. For eight year olds in the intervention group (*n* = 5), no significant effect of time was found (*p>.05).* For nine year olds in the intervention group (*n* = 26) a significant effect of time was found $F(2,50) =15.63$, $p<.01$, $\eta^2= .39$. Planned comparisons (paired t-tests) identified that there was a significant reduction in self-report anxiety between T1-T2 and a significant increase between T2-T3 and T1-T3 (in all cases *p<.01).* For ten year olds in the intervention group (*n*= 11), no significant effect of time was found (*p*>.05). As only one eleven year old completed measures at all three time points, analyses could not be run.

As only one eight year old in the wait-list group participated completed measures at all three points, analyses could not be run. For nine year olds in the wait-list group (*n*= 15) a significant effect of time was found $F(1,2,28)=3.71$, $p=.04$, $\eta^2= .21$. Planned comparisons (paired t-tests) identified there was a significant increase in self-report anxiety between T1-T3 (*p<.05).* For ten year olds in the wait-list group (n= 8) a significant effect of time was found $F(2,14)= 5.12$, $p= .02$, $\eta^2= .42$. Planned comparisons (paired t-tests) identified a significant a significant increase in self-report anxiety between T2-T3 (*p<.05).* As only one eleven year old completed measures at all three time points, analyses could not be run (see figure 5).

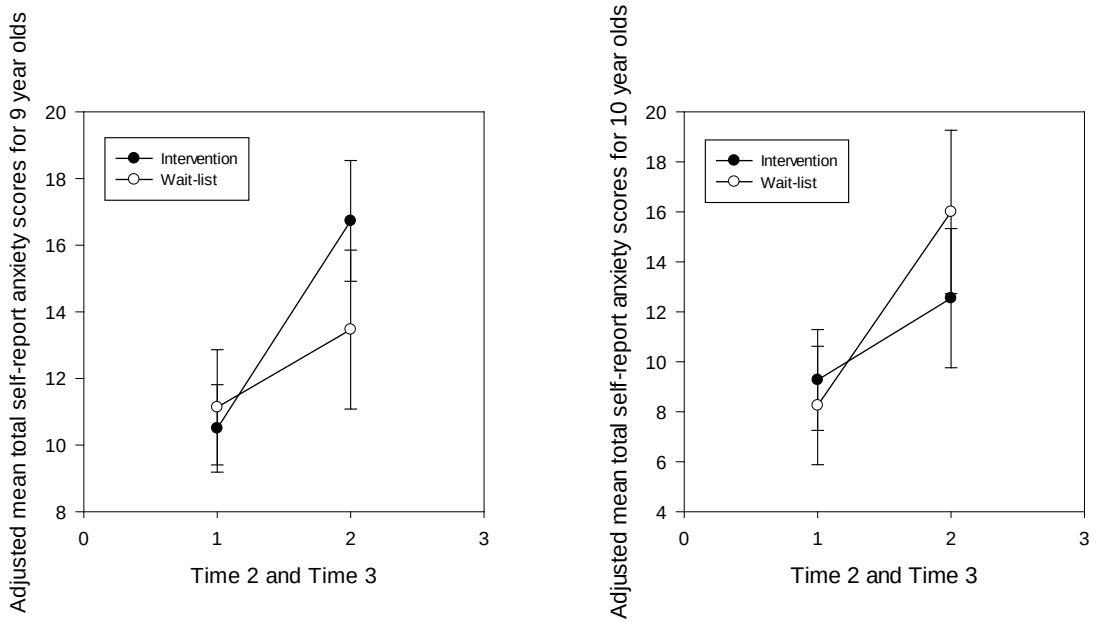

Figure 5. The adjusted mean total self-report anxiety score (and standard error) for the intervention and control group for 9 and 10 year olds at post-intervention (Time 2) and at follow-up (Time 3).

Highly anxious participants.

The top 10% (n = 10) of each group created a sub group of highly anxious participants. There was no main effect of time $F(1,61) = 2.82$, $p=.09$, $\eta^2=.10$, of group $F(1,61)= .01$, $p=.92$, $\eta^2=.001$ or time by group by highly anxious participants $F(1,61)= .03$, $p=.86$, $\eta^2=.001$.

Secondary outcomes

Self-report total depression.

A group 2 (intervention n = 43; wait-list control n = 25) by time 2 (T2, T3) ANCOVA indicated a main effect of time $F(1, 65) = 6.78$, $p = .01$, $\eta^2 = .09$, indicating there was no main effect of group $F(1,65) = .16$, $p > .05$, $\eta^2 = .002$ on levels of self-report depression or interaction between time and group $F(1,65) = .155$, $p = .695$, $\eta^2 = .002$. Considering the effect of time within groups, a one way repeated measures ANOVA for the intervention group indicated a significant reduction in depression level

between T1-T2 (p<.05) and between T2-T3 and T1-T3 (p<.01). For the wait-list group, there was a significant reduction in depression levels between T2-T3 and betweenT1-T3 (p<.01) (see figure 2).

Self-report loneliness.

A group 2 (intervention N = 40; wait-list N = 23) by time 2 (T2, T3) ANCOVA for loneliness scores did not show a main effect of time $F(1, 57) = .90$, $p = .35$, $\eta^2 = .02$. It did show a main effect of group $F(1,57) = 4.81$, $p = .03$, $\eta^2 = .08$ indicating higher levels of loneliness in the wait-list group than the intervention group. There was no interaction between time and group $F(1, 57) = 1.12$, $p = .29$, $\eta^2 = .02$. Considering within group change, a one way repeated measures ANOVA (T1, T2, T3) for the intervention group $F(2,78) = 22.08$, $p < .01$, $\eta^2 = .37$ and wait-list $F(2,38) = 11.25$, $p < .01$, $\eta^2 = .36$ showed a significant effect of time for both groups across time periods. Planned comparisons (paired t-tests) indicated that for both groups self-report loneliness reduced between T2-T3 and between T1-T3 (in all cases p<.01) (see figure 6). There was no difference between T1-T2.

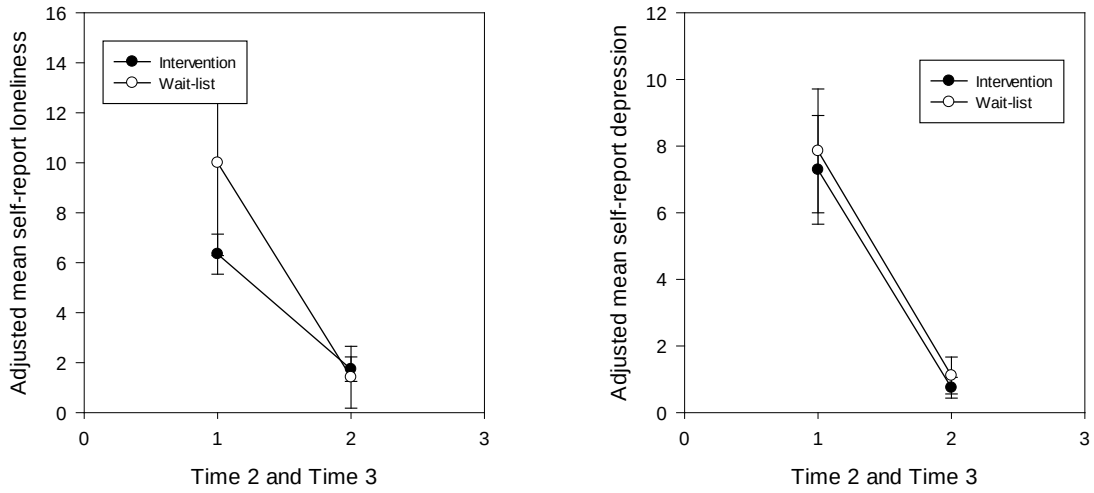

Figure 6. The adjusted mean self-report loneliness and depression levels for the intervention and control group at post-intervention (Time 2) and at follow-up (Time 3).

Self-report coping skills and attentional control.

For coping skills, a group 2 (intervention n = 43; wait-list n = 25) by time 2 (T2, T3) ANCOVA showed no main effect of time $F(1,65) = 2.34$, $p = .13$, $\eta^2 = .04$, group $F(1,65) = .08$, $p = .79$, $\eta^2 < .01$ or time by group interaction $F(1,65) = .41$, $p = .52$, $\eta^2 < .01$.

For attentional control a group 2 (intervention N = 39; wait-list N = 24) by time 2 (T2, T3) ANCOVA showed no main effect of time ($F(1,60) = 2.07$, $p = .16$, $\eta^2 = .03$), group $F(1,60) = .66$, $p = .42$, $\eta^2 = .01$ or interaction between time by group $F(1,60) = .29$, $p = .59$, $\eta^2 = .01$.

Teacher report pro-social behaviour.

A group 2 (intervention n = 46; wait-list n = 27) by time 2 (T2, T3) ANCOVA on pro-social behaviour showed a main effect of time $F(1, 70) = .34.60$, $p = <.01$, $\eta^2 = .33$ but not a main effect of group $F(1,70) = .05$, $p = .83$, $\eta^2 < .01$. There was no interaction between group and time $F(1,70) = 1.96$, $p = .17$, $\eta^2 = .03$. Planned comparisons (paired t-tests) identified that there was no significant difference in teacher report pro-social behaviour between T1-T2 ($p > .05$) for the intervention group. However, there was a significant increase in participants' pro-social behaviour between T2-T3 and T1-T3 ($p < .01$) (see Figure 7). The effect of time to increase pro-social behaviour in the wait-list group was not significant at any time period ($p > .05$)[2]

Teacher report total difficulties score.

A group 2 (intervention n = 46; wait-list n = 27) by time 2 (T2, T3) ANCOVA on the total difficulties scores showed a main effect of time $F(1,70) = 4.40$, $p = .04$, $\eta^2 = .06$ but not a main effect of group $F(1,70) = .00$, $p = .99$, $\eta^2 = .00$. There was no interaction between group and time $F(1,70) = .01$, $p = .95$, $\eta^2 < .01$[2]. Within group

[2] Because teacher rated total difficulties (as measured by the SDQ) was not normally distributed non-parametric analyses were carried out and these confirmed the results of this analysis. The total difficulties score for the intervention group showed a significant result from T1, T2, T3 on the Friedman's ANOVA ($\chi 2$ (2) = 9.5, $p < 0.01$). Post hoc tests (Wilcoxon test with Bonferroni adjustment) indicated that there is no positive reduction in total emotional difficulties scores between T1-T2 (z= -.64, p<0.05). There was a significant decrease in total emotional difficulties between T2-T3 (z = -.2.72, p<0.01) and T1-T3 (z = -2.84, p<0.01).
The total emotional difficulties score for the wait-list group also showed a significant result from T1, T2, T3 ($\chi 2$ (2) = 7.17, $p <$ 0.05). Post hoc tests indicated that teacher rated emotional difficulties was not significant between T1-T2: (z= -1.85, p>0.05) or T2-T3 (z= -1.59, p>0.05) but was significant between T1 and T3 (z= -2.44, p<0.05).

comparisons showed no significant difference in teacher report emotional difficulties totals between T1-T2 ($p > .05$) for the intervention group. However, there was a significant decrease in participants difficulties between T2-T3 and T1-T3 ($p < .01$) (see Figure 7). The effect of time to decrease difficulties for the wait-list group was only significant between T1-T3 ($p < .01$).

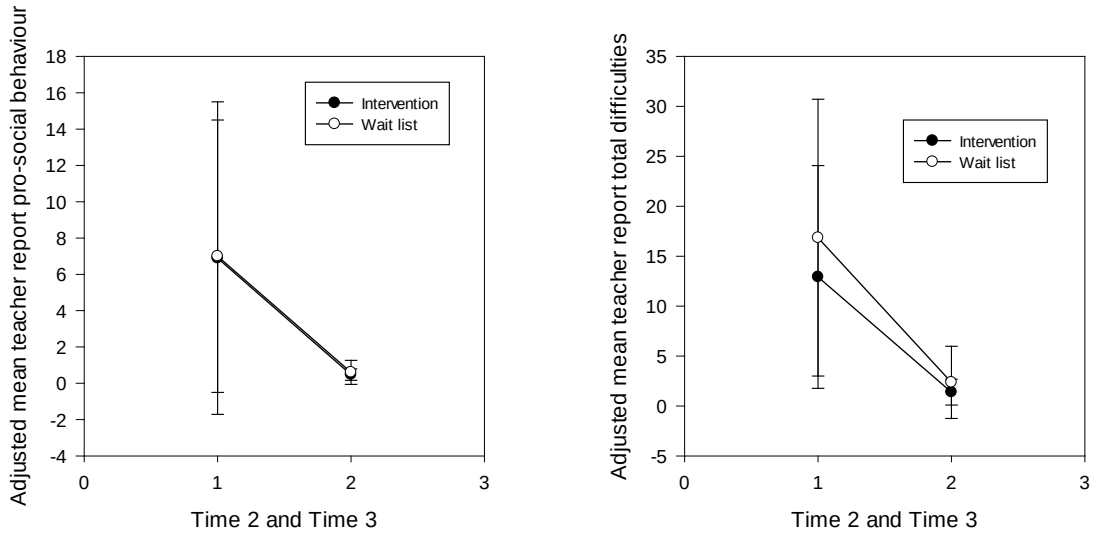

Figure 7. The adjusted mean total teacher report pro-social behaviour and total difficulties for the intervention and control group at post-intervention (Time 2) and at follow-up (Time 3).

Discussion

The aim of the current study was to evaluate the effectiveness of FfL at reducing anxiety within a universal school population. Secondary self-report outcome measures of depression, coping skills, attentional control, loneliness and teacher-report pro-social behaviour and total difficulties were considered. The results indicated that the FfL programme had a positive effect between pre and post intervention in reduction of self-report total anxiety levels for the intervention group compared to the wait-list group. This improvement was not maintained at the four month follow up, with both groups displaying an increase in their anxiety levels post-intervention to follow-up. There was no intervention effect on teacher report of total anxiety.

This research also explored whether there are subgroups of participants (by gender, age, highly anxious participants) who benefit more from FfL. A significant effect of time was found for gender; females in the intervention group showed a reduction in self-report anxiety levels between T1-T2 and increase between T2-T3 and T1-T3, whereas females in the wait-list group did not show a reduction in anxiety levels between T1-T2 but the same increase between T2-T3 and T1-T3. Therefore the intervention appeared to have an immediate effect for the females in the intervention group (compared to the wait-list group), but that by four months later, the females in the two groups showed a similar increase in levels of self-report anxiety. Males in the intervention group showed a similar pattern of change in self-report anxiety levels as the females in the intervention group (decrease in self-report anxiety between T1-T2 and an increase in anxiety between T2-T3 and T1-T3) whereas the males in the wait-list group did not show a main effect of time. The moderating factor of age showed that self-report anxiety levels of nine year old participants in the intervention group's anxiety levels decreased between T1-T2 but increased between T2-T3 and T1-T3 (in line with the overall results of the universal population), whereas anxiety levels for nine year olds in the wait-list group only increased between T1-T3. Ten year olds in the wait-list group also showed a significant increase in self-report anxiety levels between T2-T3, whereas 10 year olds in the intervention group did not show this significant increase. No significant effect (time, group or interaction between time, group and highly anxious state) was found for highly anxious participants.

For secondary outcomes self-report depression, and teacher report pro-social behaviour and total difficulties showed some change. Self-report symptoms of depression reduced over time for both groups; the intervention group decreased at all-time points (T1- T2, T2-T3, and T1-T3) and the wait-list group scores decreased between T2-T3 and T1-T3. A significant group effect on levels of loneliness identified higher levels for the wait-list group, while both groups indicated significant reductions in loneliness between T2-T3 and T1-T3. There was no significant change in participants' perception of their coping skills or attentional control. Measures of pro-social behaviour indicate an increase in scores, whereas total difficulties indicated a significant decrease for the intervention group between T2-T3. For total difficulties the wait-list group indicated a significant difference between T1-T3.

The findings from this study are consistent with previous FfL research, indicating a positive impact on self-report symptoms of anxiety for the intervention compared to the control group (Barrett & Turner, 2001; Lock & Barrett, 2003, Stallard et al., 2007). However, unlike the current research, previous studies have found a long-term impact on anxiety symptoms of FfL up to 24 months post intervention (Barrett et al., 2006). In the current study anxiety symptoms increased post-intervention to follow-up. It is hypothesised that the increase in anxiety levels at the four month follow up could be due to the skills learnt (as demonstrated by anxiety reduction immediately post intervention) not being disseminated and embedded in the curriculum going into a new academic year. Similarly, the UK resiliency Programme Evaluation found that the impact of resiliency building workshops only lasted as a long as the stability of the academic year (DfE, 2011). Within a resiliency framework, Doll et al. (2011) suggests that it is important to embed skills associated with developing resiliency and reducing mental health difficulties into a child's daily routine.

Considering subgroups of participants, Lock and Barrett (2003) found that female participants benefitted more from UIs, with greater reductions in their anxiety levels. The universal implementation of FfL in this study was equally effective in reducing anxiety immediately for both genders in the intervention group. There was a significant difference between the time points at which the females in the study showed a significant time effect; the reduction in anxiety levels that the females in the intervention group showed could have been due to them having higher levels of anxiety at baseline than the wait-list group. Younger participants have been shown to benefit

more from FfL (Lock & Barrett, 2003). However, the difference between the participants' ages in the current research might not have been broad enough to detect differences between them. Previous research has also found that high risk participants benefitted from UIs (Stallard et al., 2007 & 2008; Stopa et al., 2010). The difference in results from subgroups of participants could be due to the smaller sample size in this study than in other research.

There has been limited research into the impact that the FfL intervention has on secondary outcomes. Previous research has shown a positive reduction in self-report depressive symptoms after FfL (Ahlen et al., 2012; Barrett & Turner, 2001; Lock & Barrett, 2003; Lowry-Webster et al., 2003). In the current research there was a positive decrease for the intervention group between baseline and post intervention but this was not maintained to follow up. The wait-list group also displayed decreases in self-report depression but not immediately post intervention (between T2-T3 and T1-T3).

Previous research has only assessed the impact of FfL on self-report social skills and social adaptive functioning (Essau et al., 2012). Resiliency research suggests that positive relationships with others are key protective factors, promoting good emotional wellbeing (Brooks, 2006; Newman & Blackman, 2002). Friendships also have a positive impact on classroom engagement through modelling of behaviour and reinforcing belonging and community (Doll, Jones, Osborn, Dooley & Turner, 2011; Berndt, 2002). The FfL programme encourages peer interaction through group work to develop relationships between children not usually working together. The current study showed that the participants did benefit from the increased interaction with their peers with reduced levels of self-report loneliness at the conclusion of the intervention which continued to the four month follow up point. The positive impact that the wait-list group also displayed could have been due to children in the intervention group interacting more with children in the wait-list group, consequently children not receiving the FfL programme were also experiencing less loneliness. This is known as a spill-over effect (see Ghaderi et al., 2007 for a similar explanation in their universal implementation of 'Everybody's Different' by O'Dea & Abraham, 2000).

Only three studies have previously assessed participants' coping skills in relation to the universal versions of FfL. Stopa et al (2010) found a significant impact on participants' cognitive avoidance behaviour and Lock and Barrett (2003) found that children were less likely to avoid stressful situations. Similarly, Essau et al. (2012)

found that cognitive avoidance behaviour mediated treatment gains in anxiety levels. No previous study using the FfL programme in a universal way has evaluated the impact of the intervention on attentional control.

Only one previous study used the collapsed subscales from the SDQ to collect measures from teachers (Ahlen et al., 2012). Their findings were consistent with this research; total difficulties decreased and pro-social behaviour increased. However, as they did not have a control group the researchers could not determine whether it was due to the intervention or other factors such as maturation. This study indicates that, as all participants showed a similar change in teacher-report total difficulties and pro-social behaviour, that maturation might have more of an effect than the FfL intervention.

Strengths and Limitations

This study had a number of strengths in its methodology which increases its generalizability. It collected outcome data using reliable measures at three time points, including at four month post intervention. It also had a wait-list group. Although the results found in this research are positive, there are a number of limitations. The participants were not randomly allocated to each group and the children and teachers completing the measures were not blind. In addition, attrition rates of participants in the wait-list control were far higher than the intervention group which reduced the numbers of participants at follow up. This could have had an impact on the findings and power of the research, limiting its generalizability.

In line with Mosert and Loxoton (2008) follow up data was collected four months later (November) which was a new academic year (baseline = April, post intervention = July). This could have had an impact on the participants increased anxiety levels at follow-up because they were in a new class, with a new teacher and different peers. The measures were completed by different teachers at time 3 than at time 1 and 2, affecting consistency across the data set. A measure of programme fidelity was not completed; therefore it is difficult to know how stringently the Educational Psychologist's adhered to the curriculum.

Future research should aim to collect data across one academic year. Baseline measures collected in September and FfL beginning in the Autumn Term, with follow

up data collected twice (three months and six months post intervention) with the same teacher completing all measures. A measure of fidelity to the intervention should also be collected.

Considering measurements of secondary outcomes, adult data across all measures would have enhanced this research to detect change that the participants might not have been aware of. Furthermore, the authors of the UK resilience project suggest that some measures are good at "detecting change above a certain level of symptoms, but were unable to detect improvements in those who already had good psychological well-being or more 'ordinary behaviour'. (DfE, 2011, p.4). This argument has some implications for measures used in the current study. For example, the coping skills measure might not have been sensitive enough to detect changes in participants' perception of their own coping skills; with only seven questions it may therefore not have been able to detect change across time periods. A different questionnaire might have been more appropriate.

Implications for Educational Psychologists

Educational Psychologists have a role in supporting schools to identify appropriate, effective and evidence based interventions. The findings of this research were positive in relation to the limited immediate effects of FfL on self-report total anxiety levels for the intervention group when compared to the wait-list group. However, assessing the impact of FfL on other variables, participants in the study did not appear to benefit, with no significant results on levels of self- report attentional control, loneliness and coping skills. Levels of self-report depression and teacher report pro-social behaviour and total difficulties showed a time effect for both groups indicated no intervention effect of FfL. Educational Psychologists have a responsibility to support schools to seek evidence base material especially when significant amounts of money are being spent on them. On the basis of this research it is not possible to support FfL as an effective UI, however it is important to view research within the evidence base rather than as an isolated study. The literature base for FfL is extensive both in the UK and internationally, however it is important to consider the potential conflict of interest of Paula Barrett having developed the curriculum and being involved in a large proportion of the supporting studies.

One challenge highlighted from this current research is to ensure that any positive benefits are maintained over time (immediate positive effects of FfL on levels of self-report anxiety). Educational Psychologists can support schools to embed the content that the children have learnt (and evidence has shown to be effective) into their normal educational experiences to refine their skills and build resilience. Booster sessions, as outlined in FfL, would have been beneficial for the EPs to have led, to remind the children about the skills that they had learnt and to encourage teachers to embed the intervention content within their classrooms.

Jones and Bouffard (2012) suggest schools reinforce resiliency building skills through daily interactions with children rather than standalone sessions in order to reduce anxiety. Teachers are not taught emotional literacy skills through their training, for school staff to be given a curriculum, such as FfL, that they can apply, that has an evidence base, could be helpful to them. They developed an organising social and emotional learning framework for children to learn emotional processes, social/interpersonal skills and cognitive regulation within a supportive school context. This enables children to develop healthy relationships, gain SEL instructional support and practise skills learnt. Jennings & Greenberg (2009) developed the 'pro-social classroom model' which encompasses the interacting model of resiliency; internal aspects, contextual and community factors (Garmezy,1985, as cited in Luthar, 2003; Masten et al., 2008). EPs can support implementation of interventions across the school day to develop emotional regulation, peer relationships and positive school experiences. Specifically, UIs could support schools to develop children's emotional wellbeing, though easily implemented sustainable curriculums (Barrett & Pahl, 2006; Vostanis, Humphrey, Fitzgerald, Deighton & Wolpert, 2012).

Cameron (2006) identified that one of the distinct contributions made by EPs is in drawing upon the psychological perspectives in a situation. This is relevant when considering the mediating variables that might be impacting a child's level of resiliency. Training provided to schools by EPs to develop an understanding of children's needs and the potential risks they experience can help resiliency to be developed through a systemic school approach. This would be helpful when school staff are using FfL so that they can consider the risk factors that individual children might have/be experiencing and what protective factors they need to learn in order to compensate for the risk factors (Fergus & Zimmerman, 2005).

Providing supervision to school staff to develop and strengthen their own emotional capacity and resiliency in order to support children is another role for EPs. Supervision can empower, educate and provide pastoral support which would be applicable to enable school staff develop their own emotional and social competence (Cameron, 2006; Dunsmuir & Leadbetter, 2010). Supervision allows a space for current challenges to be discussed and understood; this has been shown to reduce the effects of stress. Observing adults modelling appropriate responses to challenging situations is important for children to internalise responses; staff might need support for their own wellbeing to be able to do this. Anecdotally, teachers within this study appeared to be managing a large volume of work at a stressful time of the year when transitions to new schools are occurring, work needs to be completed and targets met. This could have affected the research; previous research (Stallard et al., 2007 & 2008) have provided supervision groups for FfL facilitators led by psychologists.

Summary

Resiliency research has suggested that the best "inoculation" for threats to general risks is healthy development (Masten et al., 2008, p. 7). Children become well-adjusted adults if they possess problem-solving skills, attachment relationships, self-efficacy, motivation to meet challenges and self-regulation capacity (Masten et al., 2008). These are the very skills that FfL is targeting in a preventative way. Schools are well placed to support the development of resiliency through social and emotional development alongside academic learning. There can be logistical barriers to family based resilience interventions (Brooks, 2006). Jones & Bouffard (2012) suggest that the support implemented needs to be disseminated across the school day, not just in one area of the curriculum. It is through these positive and effective school experiences that children can strengthen friendships and develop self-efficacy and self-determination, which builds resilience (Jones & Bouffard, 2012).

In conclusion, the results of this study indicate that FfL can have a limited positive immediate impact on anxiety within a universal population, although the results were not maintained until the four month follow up, with results showing a significant increase in self-report anxiety levels for the intervention and wait-list group. Moreover, these positive benefits are limited and it is important to be cautious when interpreting and applying the findings of this empirical study as there are some confounding

variables in the design of the research; it is not a randomised control trial, the child and adult participants were not blinded to the purpose of the research and different adults completed the measures at time 3. As the secondary outcomes indicate a time effect for the intervention and wait-list group for self-report depression, teacher-report pro-social behaviour and total difficulties, the results indicate that FfL had no impact as the group not receiving the curriculum showed the same changes in self report and teacher report results. A group effect was found for levels of loneliness indicating differences between the two groups but no interaction between time and group therefore no intervention effect is suggested by these results on levels of self-report loneliness.

The current research did not identify that FfL had a significant impact for subgroups of participants, however substantial previous research has found positive effects. Further research is needed to understand the impact of UIs on subgroups of participants and whether subgroups of participants benefit from being within a large group where they can learn from good role models or where a more targeted intervention in small groups would be more appropriate. Additional research as to how the curriculum can be disseminated throughout the school day is needed to add to the evidence base and provide schools with additional information about the effectiveness of the FfL intervention.

Appendix A. Literature Review Search Terms

Search 1: Psychinfo (via Ebsco conducted between October 2013-December 2013)

School based intervention OR Prevention OR Universal intervention OR Early invention

AND

Anxiety OR Internalisation OR Psychopathy OR Internalising difficulties OR Worry OR Rumination

AND

Mental Health OR Resilience OR Social and emotional

AND

Child OR Childhood OR adolescence

All results were filtered by:

Publication (peer review journal only)

Journal written in the English language only

Participants aged 2-5 years (preschool) and School Age (6-12 years).

Human as population group

Search 2: Web of science (conducted by via Ebsco; October 2013- December 2013)

Citation databases used:

Science Citation Index Expanded (SCI-EXPANDED) 1970- present

Social Sciences Citation Index (SSCI)- 1970- present

Arts & Humanities Citation Index (A&HCI)- 1975- present

Book Citation Index- Science (BKCI-S) -2008 present

Book Citation Index- Social Sciences & Humanities (BKCI-SSH) 2008-present

School OR School Based or Universal Intervention or Prevention or Early Intervention or Program

AND

Anxiety OR worry OR internalisation OR rumination OR Psychopathy

AND

Mental health OR Resilience OR social and emotional

AND

Childhood OR children

All results were filtered by:

Publication (article only)

Journal written in the English language only

Appendix B. Literature Review. Excluded Studies

Reference	**Rationale for Exclusion**
Anticich, S. A., Barrett, P. M., Silverman, W., Lacherez, P., & Gillies, R. (2013). The prevention of childhood anxiety and promotion of resilience among preschool-aged children: a universal school based trial. *Advances in school mental health promotion, 6*(2), 93-121. doi: 10.1080/1754730X.2013.784616.	Measures only completed by adults
Barrett, P. M., Duffy, A. L., Dadds, M. R., & Rapee, R. M. (2001). Cognitive–behavioral treatment of anxiety disorders in children: Long-term (6-year) follow-up. *Journal of Consulting and Clinical Psychology, 69*(1), 135. doi: 10.1037//0022-006X.69.1.135.	Not universally implemented (highly anxious participants)
Bayer, J. K., Rapee, R. M., Hiscock, H., Ukoumunne, O. C., Mihalopoulos, C., Clifford, S., & Wake, M. (2011). The Cool Little Kids randomised controlled trial: Population-level early prevention for anxiety disorders. *BMC public health, 11*(1), 11. Retrieved from: http://www.biomedcentral.com/1471-2458/11/11.	A study protocol, not an empirical study
Cooley-Strickland, M. R., Griffin, R. S., Darney, D., Otte, K., & Ko, J. (2011). Urban African American youth exposed to community violence: A school-based anxiety preventive intervention efficacy study. *Journal of prevention & intervention in the community, 39*(2), 149-166. doi: 10.1080/10.1080/10852352.2011.556573.	Not universally implemented
Dadds, M. R., & Roth, J. H. (2008). Prevention of anxiety disorders: Results of a universal trial with young children. *Journal of Child and Family Studies, 17*(3), 320-335. doi: 10.1007/s10826-007-9144-3.	Measures only completed by adults
Ehrenreich-May, J., & Bilek, E. L. (2011, December). Universal prevention of anxiety and depression in a recreational camp setting: An initial open trial. In *Child & youth care forum* (Vol. 40, No. 6, pp. 435-455). Springer US. doi: 10.1007/s10566-011-9148-4.	Not school based (based in a recreational camp).

Essau, C. A., Conradt, J., Sasagawa, S., & Ollendick, T. H. (2012). Prevention of Anxiety Symptoms in Children: Results From a Universal School-Based Trial. *Behavior Therapy, 43*(2). doi: 450-464. 10.1016/j.beth.2011.08.003.	Retrieved from Web of Science and Psychinfo
Fox, J. K., Warner, C. M., Lerner, A. B., Ludwig, K., Ryan, J. L., Colognori, D., & Brotman, L. M. (2012). Preventive intervention for anxious preschoolers and their parents: Strengthening early emotional development. *Child Psychiatry & Human Development, 43*(4), 544-559. doi: 10.1007/s10578-012-0283-4.	Not universally implemented (mild to moderately anxious pre-schoolers). Measures only completed by adults.
Fujii, C., Renno, P., McLeod, B. D., Lin, C. E., Decker, K., Zielinski, K., & Wood, J. J. (2013). Intensive Cognitive Behavioral Therapy for Anxiety Disorders in School-aged Children with Autism: A Preliminary Comparison with Treatment-as-Usual. *School Mental Health, 5*(1), 25-37. doi: 10.1007/s12310-012-9090-0.	Not universally implemented. Intervention specifically for children with autism.
Gillham, J. E., Hamilton, J., Freres, D. R., Patton, K., & Gallop, R. (2006). Preventing depression among early adolescents in the primary care setting: A randomized controlled study of the Penn Resiliency Program. *Journal of abnormal child psychology, 34*(2), 195-211. doi: 10.1007/s10802-005-9014-7.	Not universally implemented (targeted and selected individuals)
Ginsburg, G. S., Becker, K. D., Drazdowski, T. K., & Tein, J.-Y. (2012). Treating Anxiety Disorders in Inner City Schools: Results from a Pilot Randomized Controlled Trial Comparing CBT and Usual Care. *Child & Youth Care Forum*, 41, 1-19. doi: 10.1007/s10566-011-9156-4.	Not universally implemented (targeted and selected individuals)
Hiscock, H., Bayer, J. K., Lycett, K., Ukoumunne, O. C., Shaw, D., Gold, L., Gerner, B., et al. (2012). Preventing mental health problems in children: the Families in Mind population-based cluster randomised controlled trial. *BMC Public Health, 12*, 420. doi: 10.1186/1471-2458-12-420.	Participants too young (8 months old)
Kley, H., Heinrichs, N., Bender, C., & Tuschen-Caffier, B. (2012). Predictors of outcome in a cognitive-behavioral group program for children and adolescents with social anxiety disorder.	Not universally implemented (targeted and selected individuals)

Journal of Anxiety Disorders, *26*(1), 79-87. doi: 10.1016/j.janxdis.2011.09.002.	
Leff, S. S., Gullan, R. L., Paskewich, B. S., Abdul-Kabir, S., Jawad, A. F., Grossman, M., Munro, M. A. & Power, T. J. (2009). An Initial Evaluation of a Culturally Adapted Social Problem-Solving and Relational Aggression Prevention Program for Urban African-American Relationally Aggressive Girls, *Journal of Prevention & Intervention in the Community, 37(4)*, 260-274. doi: 10.1080/10852350903196274.	Not universally implemented (targeted and selected individuals)
McArdle, P., Young, R., Quibell, T., Moseley, D., Johnson, R., & LeCouteur, A. (2011). Early intervention for at risk children: 3-year follow-up. *European child & adolescent psychiatry*, *20*(3), 111-120. doi: 10.1007/s00787-010-0148-y.	Not universally implemented (targeted and selected individuals)
McLoone, J. K., & Rapee, R. M. (2012). Comparison of an anxiety management program for children implemented at home and school: Lessons learned. *School Mental Health*, *4*(4), 231-242. doi: 10.1007/s12310-012-9088-7.	Not universally implemented (targeted and selected individuals)
Metsäpelto, R. L., Pulkkinen, L., & Tolvanen, A. (2010). A school-based intervention program as a context for promoting socio-emotional development in children. *European Journal of Psychology of Education*, *25*(3), 381-398. doi: 10.1007/s10212-010-0034-5.	Measures only completed by adults
Njoroge, W. F., & Yang, D. (2012). Evidence-based psychotherapies for preschool children with psychiatric disorders. *Current psychiatry reports*, *14*(2), 121-128. doi: 10.1007/s11920-012-0253-3.	Not an empirical study
Olsson, A., Fahlén, I., & Janson, S. (2008). Health behaviours, risk-taking and conceptual changes among schoolchildren aged 7 to 19 years in semi-rural Sweden. *Child: care, health and development*, *34*(3), 302-309. doi: 10.1111/j.1365-2214.2008.00836.	Not an empirical study
Pahl, K. M., & Barrett, P. M. (2010). Preventing anxiety and promoting social and emotional strength in preschool children: A universal	Only adults completed measures

evaluation of the Fun FRIENDS program. *Advances in School Mental Health Promotion, 3*(3), 14-25. doi:10.1080/1754730X.2010.9715683.	
Riley, A. (2012). Exploring the effects of the 'Seasons for Growth 'intervention for pupils experiencing change and loss. *Educational and Child Psychology*, *29*(3), 38. Retrieved from: http://seasonsforgrowth.co.uk/wp-content/uploads/2009/07/Anna-Riley-research-2013-published.pdf.	Not universally implemented (for children who had experienced bereavement).
Roberts, C., Kane, R., Bishop, B., Matthews, H., & Thomson, H. (2004). The prevention of depressive symptoms in rural school children: A follow-up study. *International Journal of Mental Health Promotion*, *6*(3), 4-16. doi: 10.1080/14623730.2004.9721934.	Not universally implemented (for highly anxious participants).
Semple, R. J., Lee, J., Rosa, D., & Miller, L. F. (2010). A randomized trial of mindfulness-based cognitive therapy for children: Promoting mindful attention to enhance social-emotional resiliency in children. *Journal of Child and Family Studies, 19*(2), 218-229. doi: 10.1007/s10826-009-9301.	Not universally implemented (targeted and selected individuals)
Sheridan, S. M., Knoche, L. L., Edwards, C. P., Bovaird, J. A., & Kupzyk, K. A. (2010). Parent engagement and school readiness: Effects of the Getting Ready intervention on preschool children's social–emotional competencies. *Early Education and Development*, *21*(1), 125-156. doi: 10.1080/10409280902783517.	Measures only completed by adults
Sherr, L., Brgenstrom, A., & McCann, E. (1999). An audit of a school-based counselling provision for emotional and behavioural difficulties in primary school children. *Counselling Psychology Quarterly*, *12*(3), 271-284. doi: 10.1080/09515079908254097.	Not an empirical study
Stallard, P., Simpson, N., Anderson, S., & Goddard, M. (2008). The FRIENDS emotional health prevention programme: 12 month follow-up of a	Retrieved from Web of Science and Psychinfo

universal UK school based trial. *European Journal of Child and Adolescent Psychiatry* 17(5), 283–9. doi: 10.1007/s00787-007-0665-5.	
Stallard, P., Taylor, G., Anderson, R., Daniels, H., Simpson, N., Phillips, R., & Skryabina, E. (2012). School-based intervention to reduce anxiety in children: study protocol for a randomized controlled trial (PACES). *Trials*, *13*(1), 227. Retrieved from http://www.trialsjournal.com/content/13/1/227	A study protocol, not an empirical study
Weiss, B., Harris, V., Catron, T., & Han, S. S. (2003). Efficacy of the RECAP intervention program for children with concurrent internalizing and externalizing problems. *Journal of Consulting and Clinical Psychology*, *71*(2), 364. doi: 10.1037/0022-006X.71.2.364.	Not universally implemented (selected participants with high levels of anxiety)

Appendix C. Table of Studies

Author	Design	Target Sample	Intervention	Outcome Measures (anxiety)	Key results by primary outcome measure (anxiety)
Friends for Life					
Barrett & Turner (2001)	Random allocation to groups by school Preliminary results Two experimental group. One monitoring group. T1- pre intervention T2- post intervention No follow up	N= 489 Age range= 10-12 years (mean age- 10.75 years). Australia	**Experimental group 1** (n= 107). Psychologist led. **Experimental group 2** (n= 263). Teacher led. 10 x 75 min weekly sessions, 2 booster sessions , 4 parent sessions Integrity assessed using checklists and observations (25%).	Spence Children's Anxiety Scale (SCAS) Revised Children's Manifest Anxiety Scale (RCMAS)	**Impact on anxiety** a) Significant interaction between group and time as measured by the SCAS and RCMAS. Children in the intervention groups (experimental group 1 & 2) reported lowered anxiety levels after the intervention ($p < 0.05$) when compared to the monitoring group. **Subgroups of participants** b) Males reported lower anxiety scores as measured by SCAS and RCMAS scores than females at T1 and T2. c) At risk groups (as measured by clinically raised levels of anxiety on SCAS) were more

			Monitoring group (n= 137). No change to curriculum/care.		likely to move in to healthy range post intervention.
Lowry-Webster, Barrett & Dadds (2001).	Random assignment to groups by the school. Wait list control group	N= 594 (314 females, 280 males). Age range = 10-13 years. Australia	**Experimental group (n=392)** FRIENDS for LIFE program delivered by teachers. 10x 1 hour sessions. Booster sessions at 1 month and 3 months. Parents received 3 sessions. **Wait-list control group (n=139)** No change to curriculum/care.	Spence Children's Anxiety Scale (SCAS) The Revised Manifest Anxiety Scale (RCMAS)	**Impact on anxiety** a) Greater reduction in anxiety scores as measured by the SCAS universal group (<p.05). **Subgroups of participants** b) Greater reduction in anxiety for high risk participants in intervention group.
Lock & Barrett (2003)	Random assignment to groups by school	N= 737	**Experimental group** (n= 442)	Spence Children's Anxiety Scale (SCAS)	**Impact on anxiety** a) Significant positive differences as measured by

	T1- pre intervention T2- post intervention T3- 12 month follow up Intervention group and monitoring group	Age range = 9-16 years (grades 6 & 9) Australia	Weekly 70 minutes sessions x 10 2 booster session 3 parent sessions Integrity checked. **Monitoring group** (n=295)= No change to curriculum/care.	Revised Children's Manifest Anxiety Scale (RCMAS) Anxiety Disorders Interview Schedule for Children (ADIS-C)	the SCAs and RCMAS, between the intervention and monitoring group (P<0.016) at post intervention and 12 month follow up. **Subgroups of participants** b) significant differences between ages groups, as measured by the SCAS, with the younger children showing significantly lower anxiety levels (p<0.016) c) females showed a greater reduction in anxiety post and at 12 months follow up as measured by the SCAS and RCMAS (p<0.016) d) Children in the high risk group continue to have high elevated scores at 12 month follow up although there were reductions in their scores as measured by the RCMAS.

Lowry-Webster, Barrett & Lock (2003)	Random allocation to groups by the school T1- pre intervention T2- post intervention T3- 12 month follow up Control group	N= 594 (314 females, 280 males). Age range = 10-13 years. Australia	Experimental group (n= 432). Delivered by teachers. 10x 1 hour sessions. Booster sessions at 1 month and 3 months. Parents received 3 sessions. **Control group** (n= 162) care as usual.	Spence Children's Anxiety Scale (SCAS) Revised Children's Manifest Anxiety Scale (RCMAS) Anxiety Disorders Interview Schedule for Children (ADIS-C) **Measures completed by adults** The Child Behaviour Checklist- Revised	**Impact on anxiety** a) Lower means for the intervention group when compared to the control group as measured by the SCAS and RCMAS at 12 month follow up. **Subgroups of participants** b) Significant relationship between risk status and treatment group was found with more children moving into the "at risk" group at 12 month follow up in the control group. c) Maintenance effects showed that children who had low anxiety levels at pre testing continued to have low anxiety levels at 12 month follow up. **Impact on adult measures**

					a) No significant effects were found on the parent rated CBCL internalising scale from pre to post intervention.
Stallard, Simpson, Anderson, Carter, Osborn & Bush (2005).	One group pre and post design No control group T1- pre intervention T2- post intervention	N= 197 Age range= 9-10 year olds. UK	Delivered by school nurses. 10 x weekly sessions.	Spence Children's Anxiety Scale (SCAS).	**Impact on Anxiety** a) Significant changes in anxiety levels post intervention (p= 0.003) as measured by the SCAS. b) Five out of six subscales showed an significant improvement in anxiety scores (p<0.05). **Subgroups of participants** c) Levels of anxiety for most anxious children significantly reduced p=0.023).
Barrett, Farrell & Ollendick (2006).	Random assigned to intervention or control group. Longitudinal design based on Lock and Barrett (2003).	N= 669 (follow up n= 379). Age range = 10- 14 years old.	**Experimental group** (n= 442) Weekly 70 minutes sessions x 10 2 booster session	Spence Children's Anxiety Scale (SCAS). Revised Children's Manifest Anxiety Scale (RCMAS)	**Impact on Anxiety** a) No significant results for universal population. **Subgroups of participants**

Follow up at: T1- 12 month T2- 24 month T3- 36 month	Australia	3 parent sessions Integrity checked. **Monitoring group** (n=295) Care as normal.	b) Younger students (grade 6) from the intervention group scored significantly lower on the SCAS and on the RCMAS ($p<0.005$) compared to the control group. c) No significant differences for the older pupils as measured by the SCAS and RCMAS. d) Girls in the intervention group scored lower on the RCMAS at 12 month and 24 month follow up. This was not evident for the boys. e) Significant group by time effect for girls as measured by the RCMAS ($p<0.04$) when compared to the control group at 24 month follow up but not36 month. f) High risk participants in intervention group (highest 10% of the normative sample)

					were stable over time, compared to a substantial increase in high-risk students in the control group.
Stallard, Simpson, Anderson, Hibbert & Osborn (2007) **&** **Stallard, Simpson, Anderson & Goddard (2008)**	One group with pre, post and 3 month follow up design. No independent control group. T1- 6 months pre intervention T2- pre intervention T3- 3 months post intervention T4-12months follow up.	N=106 participants (60 boys, 46 girls) & 63 pupils (34 boys, 29 girls) at follow up. Age range= 9-10 years old UK	Delivered by school nurses who received training. 10x weekly sessions. One parent psycho-educational session pre-intervention.	Spence children's anxiety scale (SCAS)	**Impact on anxiety** a) Significant positive change ($p=0.003$) for total anxiety between T1-T3 and T1-T4. Subscales showed significant difference on separation anxiety, OCD behaviour and GAD ($p=<0.029$). **Subgroups of participants** b) Highly anxious participants significantly reduced anxiety levels between, T1-T3, T2-T3, T2-T4, T1-T4.
Mostert & Loxton (2008)	Quasi- experimental. Matched classes with in the same school T1- pre intervention	N= 46 (29 boys 36 boys, 17 girls) Age = 11-12 year olds.	**Experimental group** (n=25). 10x 1 hour sessions over 5 weeks (2x sessions per week).	Spence Children's Anxiety Scale (SCAS)	**Impact on anxiety** a) Significant positive change in the intervention groups SCAS scores over time (4 months and 6 months follow up) over time for experimental group.

	T2- post intervention T3- 4month follow up (pre intervention for control group) T4- 6month follow up (post intervention for control group).		Psychologist delivered **Control group** (n=21) Received intervention after the experimental group		b) No significant group difference.
Rose, Miller & Martinez (2009).	Quasi-experimental Wait- list control group T1- pre intervention T2- post intervention	N= 52 Age range = 8-9 years Canada	**Experimental group** (n=26) Teacher led 8 weekly 1 hour sessions. **Wait-list control group** (n=26) Received intervention after the experimental group	**Anxiety Measures** Multidimensional Anxiety Scale for Children (MASC)	**Impact on anxiety measures** a) No statistical significance results found but positive trend in lowered mean scores post intervention. b) No between group differences.

Stopa, Barrett & Golingi (2010).	Pre/post/follow up No control group. T1- pre intervention T2- post intervention T3- 12 month follow up	N= 963 (494 males, 469 females). Age range= 10-13 years old (5^{th}-7^{th} grade) Australia	Teacher led sessions. 10x weekly 1 hour sessions. 2x parent sessions	The Revised Manifest Anxiety Scale (RCMAS) The Spence Children's Anxiety Scale.	**Impact on anxiety** a) Significant main effect for time ($p<0.001$) between T1 and T2 but not T2-T3 as measured by RCMAS and SCAS (including all subscales). **Subgroups of participants** b) 21.9% children exhibited clinically high anxiety levels as measured by the SCAS at T1, 14.7% at T2 and 12% at T3. c) Differences between genders. Girls showed reductions in SCAS total score. Boys displayed reductions in social phobia scale (SCAS). d) High risk participants at T1 displayed reductions at T2.
Miller, Laye-Gindhu,	Random assignment to groups by schools.	N= 533	**Experimental group (n=269)**	**Measure of Anxiety**	**Impact on Anxiety**

Bennett, Liu, Gold, March, Olson & Waechtler (2011).	Active intervention group and waitlist control T1= pre intervention T2 post intervention T3= 3 months follow up	Age range = 7-13 years (4^{th}-6^{th} grade). Context= Australia with Aboriginal population	Friends programme enriched for Aboriginal population. Led by teacher and school counsellor. 10x 9 weekly sessions (last 2 combined). **Waitlist control group (n =264)** Care as usual. Fidelity testing through observation	Multidimensional anxiety scale for children (MASC).	a) The culturally enriched FRIENDS programme did not effectively reduce anxiety when compared to receiving no treatment at all. **Subgroups of participants** b) Girls have consistently higher scores as measured by the MASC, at all time periods. No differences between genders. c) Children with elevated anxiety at T1 were more likely to have reduced anxiety levels at T2 and T3.
Ahlen, Breitholtz, Barrett & Gallegos (2012).	Repeated measures design. No independent control group (T1-T2 acted as control group).	N= 50 (24 boys, 26 girls) Age range = 8-10years (Mean 9.0years). Sweden	Group leader had received training. 10 sessions over consecutive weeks. Fidelity assessed by psychologist.	**Anxiety** Spence children's anxiety scale (SCAS) **Measures completed by adults**	**Impact on anxiety** a) Statistical difference across between T2-T3 but not T1-T2. **Subgroups of participants** b) High anxiety group-showed significant reduction

	T1- 9 week pre-intervention T2- 1 week pre-intervention T3- completion of programme.			Strengthens and Difficulties Questionnaire (SDQ)	in anxiety scores between T1-T2. c) Low anxiety group showed significant reduction between T1-T2. **Teachers results** d) Two subscales (difficulties scale and pro-social behaviour scale). Intervention effects decrease in difficulties between T2-T3.
Essau, Conradt, Sasagawa & Ollendick (2012).	Random allocation to groups by school Control group T1- 1 week prior to intervention T2- 1 after intervention T3- 6 month follow up	N= 638 (346 males, 292 females). Age range= 9-12 years (mean age= 10.91 years) Germany	**Experimental group(n**= 302; n= 155 at 12 month follow up). Psychologist led 10x 1 hr sessions, 2 booster sessions. 4 parent sessions. A fidelity to the programme	**Anxiety** The Spence Children's Anxiety Scale (SCAS) Revised Child Anxiety and Depression Scale (RCADS)	**Anxiety** a) Significant interactions between group x time for total anxiety scores. b) Significant reduction for SCAS subscales (separation anxiety, panic disorder, GAD). c) No significant difference for CYP of parents taking

	T4- 12 month follow up		checklist was used by all facilitators **Control group** (n= 336; 154 at 12 month follow up. Invited to take part in study 6 months later.		part. Marginal effect on larger reductions in anxiety. **Subgroups of participants** d) Younger children benefitted immediately from the intervention. Delayed benefits for older group.
Other universal programmes					
Ghaderi, Mårtensson & Schwan (2005).	Matched pair design T1- pre intervention T2- post intervention	N= 164 (87 girls, 77 boys). Age= 11 years. Sweden	**Experimental group** **(n= not reported).** Teacher led intervention- "Everybody's Different". Nine weekly 50- 80 min sessions. Homework activities. **Control group**	Measures of anxiety Multidimensional Anxiety Scale for Children: short (MASC)	**Impact on anxiety** a) No significant results but intervention group showed modest effect compared to control group (effect size 0.36) on MASC. **Subgroups of participants** b) Girls reported significantly higher levels of anxiety than boys at both time points.

			(n =not reported): Care as usual.		
Brown, McQuaid, Farina, Ali & Winnick-Gelles (2006).	T1- pre intervention T2- post intervention No independent control group	N= 63 children Age range= 8- 13 years old. USA	CBT based manualised 10 week, classroom based model (universal). Delivered by a licensed clinical social worker	**Impact on anxiety/stress** The Child PTSD symptom Scale (CPSS) The Multidimensional Anxiety Scale for Children (MASC). **Additional measures completed by adults** The behavioural Assessment System for Children (BASC)	**Impact on anxiety** a) Significant reduction in PTSD symptoms of children who met levels of high PTSD symptoms. b) No other significant results. **Measures completed by adults** c) no significant difference found on BASC.
Berger, Pat-Horenczyk & Gelkopf (2007).	Quasi random allocation to group by class Wait list control.	N= 142 (intervention group = 70), wait list control = 72). Israel	**Experimental group (n= 70)** Teacher led "Overshadowing the Threat of Terrorism program".	SCARED A structured questionnaire containing 58 questionnaires compiled from several questionnaires. Measuring objective and subjective	**Impact on anxiety** a) Significant reduction in separation and generalised anxiety at for intervention group. **Subgroups of participants**

	T1- one week prior to starting intervention T2- post intervention		Weekly sessions of 8 x 90 mins. 2x parent sessions. **Wait list control (n=72)** Care as usual.	exposure to terrorism, PTSD symptomatology, functional impairment, somatic complaints.	b) Younger group of children showed greater reduction in anxiety. c) Boys showed a larger reduction in functional problems ($p<0.05$). d) Children who met criteria for clinical levels of PTSD and were in the intervention group no longer met criteria at post-test.
Tol, Komproe, Susanty, Jordans, Macy & de Jong (2008).	Cluster randomised trial. Wait list control group. T1- pre intervention T2- 1 week post intervention T3- 6 month follow up	N= 495 Mean age = 9.9 years. Indonesia	**Experimental group** (n =182) Psychologist led manualised programme of 15x 60 mins over 5 weeks. **Wait-list group** (n= 221)	Child Post traumatic Stress Scale. Self-report for Anxiety Related Disorders (SCARED-5). **Additional measures** completed by adults Children's Aggression scale for parents	**Impact on anxiety** a) No difference between the intervention group and wait list control group as measured by the SCARED-5 over time. b) Significant improvement in PTSD symptoms. **Adult completed measures**

			Care as usual		c) No significant differences for children's levels of aggression as measured by parents for intervention group.
Jordans, Komproe, Tol, Kohrt, Luitel, Macy & de Jong (2010).	Matched pairs by school T1= pre intervention T2= post intervention	N= 325 (167 boys, 158 girls) Age range = 11 – 14 years (mean age= 12.7 years). Nepal	**Experimental group** (n= 164) Led by facilitator. Classroom based Intervention. 15x 60 mins over 5 weeks. **Wait-list group** (n= 161)	Screen for Child Anxiety Related Emotional Disorders (SCARED-5). Child PTSD symptom Scale (CPSS)	**Impact on anxiety** a) Small effect size (0.27) for anxiety as measured by SCARED-5. b) No other significant results
Roberts, Kane, Bishop, Cross, Fenton & Hart (2010).	A cluster randomised control trial. Random assignment of participants by school (schools matched on SES, size and number of participants).	N= 496 participants (45.2% male in intervention group; 46.5% male in control group). Age range= 11-13 years old.	**Experimental group (n= 274).** Teacher led. "The Aussie Optimism Program". Twenty 20x 60 min sessions.	**Impact on anxiety** The Revised Manifest Anxiety Scale (RCMAS) **Measures completed by adults**	**Impact on anxiety** a) No significant group effect at T2, T3, T4 ($p>0.08$). Reductions for both groups I anxiety levels over time. **Subgroups of participants**

	T1- pre intervention T2- post intervention (3months later) T3- 6 month follow up T4- 18 months follow up	18 month follow up- 75.4% available. Australia	Fidelity tested. **Control group (n= 222)** 20x regular health education classes.	The Child Behaviour Checklist (CBCL)	b) No significant difference for high risk students. c) Significantly larger number of participants reporting increased levels of internalizing difficulties at T2 in intervention group. **Measures completed by adults** a) Parents reported significantly lower internalisation at T2 (p.0.29) but not externalising problems for intervention group.
Gueldner & Merrell (2011).	Quasi experimental design. Not random assignment to group. Control group. T1-pre intervention T2- post intervention	N= 125 children (71 = boys, 57= girls) Mean age = 11.5 years USA	**Experiment group 1-** (standard instruction; n= 40) Teacher led- "Strong Kids" program. Weekly 50 minute sessions. **Experimental group 2-** (enhanced	Internalizing symptoms Scale for Children (ISSC).	**Impact on anxiety** a) No significant interaction between time and group as measured by the ISSC (p=0.16). b) The experimental group 1 reported fewer internalisation symptoms, as measured by the ISSC, post-test (effect size=

			performance feedback; n =39) Teacher led- "Strong Kids" program with additional support from programme consultant. Weekly 50 minute sessions. Fidelity tested via direct observation. **Control group** (n= 46) Care as usual		0.24) compared to experimental group 2.
Wolmer, Hamiel & Laor (2011).	Quasi experimental design. Allocation to groups decided by local authority. Control group 55 classes.	N= 1488 (50% males, 50% females) Age range = 4th- 5th grade. Southern Israel	**Experimental group (n= 748)** School counsellors led a manualised life skills programme. 14 weekly x 45 min sessions.	UCLA- Post traumatic Stress Disorder Reaction Index Stress/Mood scale	**Impact on anxiety/stress** a) Significant lower symptoms of post trauma and stress/mood among the intervention group ($p<0.001$) and children with lower SES ($P<0.02$) on both measures. **Subgroups of participants**

			All teachers within school received basic training. **Control group (n= 740).** Care as usual.		b) Boys and high SES children in intervention group benefitted more.
Baum, Cardozo, Pat-Horenczyk, Ziv, Blanton, Reza, Weltman & Brom (2013).	Matched pairs via schools. Control group school as wait list school T1- pre teacher training T2- 7 months later.	N= 287 Age range= 4th grade and 6th grade. Lebanon	**Experimental group (n= 138)** Teacher led/directed intervention- 'Building resilience'. Teachers receive 12 hours of training over 3 months. **Wait list group (n =149)** Care as usual.	**Impact on anxiety/stress** UCLA- Post traumatic Stress Disorder Reaction Index Separation subscale of the SCARED.	**Impact on anxiety/stress** a) Levels of PTS decreased significantly for intervention group. **Subgroups of participants** b) Female and younger participants had significantly higher levels of PTS and anxiety.

Rooney, Hassan, Kane, Roberts & Nesa (2013).	22 schools matched (11 matched pairs) T1- pre-intervention T2- post intervention T3- 6 month T4- 18 month	N= 910 (467= males, 442= female) Mean age = 8.75 years Australia	**Experimental group (n= 467)** Led by trained facilitator- "The Aussie Optimism: Positive Thinking Skills Program". 10x weekly of 60 mins. Fidelity checked **Control group (n= 443).** Care as usual.	**Anxiety** Spence children's anxiety scale (SCAS) **Measures completed by adults** Strengths and Difficulties (SDQ) completed by parents.	**Impact on anxiety levels** a) anxiety symptoms decreased at same rate for both groups (p=0.019) **Subgroups of participants** b) The highly anxious participants did not show a significant reduction in anxiety levels. **Adult completed measures** c) Both groups showed an increase in pro-social behaviour between T1-T3, T3-T4. d) Intervention group showed a significant decrease from across the time periods for total difficulties.

Appendix D. Proof of Ethics Committee Approval

Submission Number 5484:
Submission Title Mediating factors (coping efficacy, social satisfaction, attentional control) in the effectiveness of anxiety reduction after completing the FRIENDS intervention. :

The Research Governance Office has reviewed and approved your submission. You can begin your research unless you are still awaiting specific Health and Safety approval (e.g. for a Genetic or Biological Materials Risk Assessment) or external ethics review (e.g. NRES).The following comments have been made:

This is to confirm the University of Southampton is prepared to act as 'Research Sponsor' for this study, and the work detailed in the protocol/study outline will be covered by the University of Southampton insurance programme.

As the Sponsor's representative for the University this office is tasked with:

1. Ensuring the researcher has obtained the necessary approvals for the study

2. Monitoring the conduct of the study

3. Registering and resolving any complaints arising from the study

As the Chief/Principle Investigator you are responsible for the conduct of the study and you are expected to:

1. Ensure the study is conducted as described in the protocol/study outline approved by this office

2. Advise this office of any change to the protocol, methodology, study documents, research team, participant numbers or start/end date of the study

3. Report to this office as soon as possible any concern, complaint or adverse event arising from the study

Failure to do any of the above may invalidate your ethics approval and therefore the insurance agreement, affect funding and/or sponsorship of your study; your study may need to be suspended and disciplinary proceedings may ensue.

On receipt of this letter you may commence your research but please be aware other approvals may be required by the host organisation if your research takes place outside the University. It is your responsibility to check with the host organisation and obtain the appropriate approvals before recruitment is underway in that location.

May I take this opportunity to wish you every success for your research

Submission ID : 5484
Submission Name: Mediating factors (coping efficacy, social satisfaction, attentional control) in the effectiveness of anxiety reduction after completing the FRIENDS intervention.
Date : 27 Mar 2013
Created by : Rachel Pawsey

Appendix E. Letter to Parents (Experimental Group)

Dear Parent

Research Project

XXX XXXX School are going to be doing the FRIENDS for Life programme with year X during the summer term. One class will be receiving the intervention during the summer term with an educational psychologist leading the sessions and the other class will be receiving the programme in the autumn term lead by school staff. The programme aims to reduce worries, develop confidence, coping skills and resilience as well as encourage peer learning and the development of positive relationships. Each FRIENDS session will last for 45-60 minutes. As it is part of the normal school day and curriculum, all the children in the class receiving the programme will be attending the sessions.

A trainee educational psychology, Rachel Pawsey, as part of her thesis will be collecting evaluation data about the effectiveness of the programme. All children in year X will be asked to complete 4 questionnaires before the start of the FRIENDS programme and at the conclusion of it. They will also be asked to complete the same questionnaires in November to determine the long term effectiveness of the programme. The questionnaires are focusing on measuring how much your child worries, how well they think they cope with problems, friendships and their ability to concentrate. The questionnaires have all been designed for primary aged pupils. Your child's class teacher will also be asked to complete a questionnaire about your child's anxiety and attention in the classroom. The aim is to see how the programme affects these areas of a child's development, when compared to a class who are not receiving the FRIENDS programme. Your child will also be asked if they want to participate by completing the questionnaires and will be reassured of their right to stop at any point. If you would like to see copies of questionnaires, they will be made available in the school office.

All this information will remain confidential and will be anonymised. If you have questions about your rights as a participant in this research, or if you feel that you have been placed at risk, you may contact the Chair of the Ethics Committee, Psychology, University of Southampton, Southampton, SO17 1BJ. Phone: +44 (0)23 8059 4663, email slb1n10@soton.ac.uk

If you DO NOT wish your child to take part please return the slip below by the 20th April 2013. If you wish to withdraw your child during the project or have any questions please ask to speak to the school's Headteacher, X XX.

Thank you in advance for your support and co-operation.

Research Project

Parental Opt Out Form

I do NOT wish for my child to take part in the evaluation for the FRIENDS project.

Child's Name ……

Parents signature …… Date ……

Appendix F. Letter to parents (Wait List Group)

Dear Parent

Research Project

XXX XXXX School are going to be contributing to the evaluation of a programme that aims to reduce children's worries. As part of her thesis, trainee Educational Psychologist, Rachel Pawsey, will be collecting evaluation data about the effectiveness of the programme in schools across XXXX. Your child will not be receiving the intervention this term. All children in year X will be asked to complete 4 questionnaires at the beginning and end of the summer term so that the data can be compared with children who are receiving the FRIENDS for Life intervention at different schools. They will also be asked to complete the same questionnaires in November to determine the long term effectiveness of the programme. The questionnaires measure how much your child worries, how well they think they cope with problems, friendships and their ability to concentrate. The questionnaires have all been designed for primary aged pupils. Your child's class teacher will also be asked to complete a questionnaire about your child's anxiety and attention in the classroom. The aim is to see how the programme affects these areas of a child's development. Your child will also be asked if they want to participate and will be reassured of their right to stop at any point. If you would like to see copies of questionnaires, they will be made available in the school office.

All this information will remain confidential and will be anonymised. If you have questions about your rights as a participant in this research, or if you feel that you have been placed at risk, you may contact the Chair of the Ethics Committee, Psychology, University of Southampton, Southampton, SO17 1BJ. Phone: +44 (0)23 8059 4663, email slb1n10@soton.ac.uk

If you DO NOT wish your child to take part please return the slip below by the 20th April 2013. If you wish to withdraw your child during the project or have any questions please ask to speak to the school's Headteacher, X XX.

Thank you in advance for your support and co-operation.

Yours sincerely

Research Project

Parental Opt Out Form

I do NOT wish for my child to take part in the evaluation for the FRIENDS project.

Child's Name ……

Parents signature …… Date ……

Appendix G. Information Letter to Teachers

Participant Information Sheet (5484)

Exploring the impact of anxiety reduction via a CBT intervention on children's attentional control, social satisfaction and perceptions of self-efficacy.

Researchers: Rachel Pawsey

Please read this information carefully before deciding to take part in this research. If you are happy to participate you will be asked to sign a consent form.

What is the research about?

I am an Educational Psychologist from the University of Southampton undertaking this research in conjunction with XXXXXX Educational Psychology Service. This project forms part of my doctorate training. I am evaluating the effectiveness of the FRIENDS programme and what factors contribute to it being effective.

Why have I been chosen?

You have been chosen to participate in this research due to your class receiving the intervention from a XXXXX Educational Psychologist.

What will happen to me if I take part?

You will be asked to complete a simple questionnaire about anxiety for each child in your class. This should take about 5 minutes to complete.

Are there any benefits in my taking part?

This research will provide a valuable opportunity for you to offer an insight into the effectiveness of the FRIENDS programme from the teachers' perspective.

Are there any risks involved?

We do not envisage any risk in this research. However, there is a possibility that you may become aware of anxious children that you may be concerned about. The Educational Psychologist who is leading the FRIENDS programme at your school will be able to provide information if you are concerned.

Will my participation be confidential?

Your responses obtained in this study will be kept confidential. Any data containing your name/child's name or any other identifying details will be kept separately in either a locked cabinet or password protected computer. Only the researcher conducting the programme evaluation will have access to personal information.

What happens if I change my mind?

You are free to withdraw from the research at anytime, without providing an explanation.

What happens if something goes wrong?

In the unlikely case of concern or complaint, please contact:

Chair of the Ethics Committee, Psychology,

University of Southampton

Southampton

SO17 1BJ.

Phone: +44 (0)23 8059 4663, email slb1n10@soton.ac.uk

Where can I get more information?

If you would like any more information I am happy for you to contact me:

Rachel Pawsey (Trainee Educational Psychologist): rjp2g11@soton.ac.uk

Appendix H. Teacher Consent

University of Southampton

Study title: Exploring the impact of anxiety reduction via a CBT intervention on children's attentional control, social satisfaction and perceptions of self-efficacy.

Researchers' names: Rachel Pawsey

Study reference: 5484

Please initial the boxes below and sign the consent form:

- I confirm that I have read and understand the participant information sheet (Dated 19/2/13, Version 1). I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐
- I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason. ☐
- I understand that I will participate by completing questionnaires about pupils in my class and their anxiety levels. I understand that I will complete these questionnaires twice, once at the beginning of the FRIENDS programme and once at the end. ☐
- I understand that it will not be possible to identify individuals from the questionnaires. The data will be stored anonymously and will be destroyed after 10 years. ☐
- I consent to the published reporting of the study so long as my name or any other personal or identifying information is never used in the reports. ☐
- I agree to take part in the above study. ☐

Name of Participant	Date	Signature

Male/Female	Telephone number	Email address

Appendix I. Assent form (Experimental group)

ASSENT FORM (30/03/12 *v.2*)

Study title: Exploring the impact of anxiety reduction via a CBT intervention on children's attentional control, social satisfaction and perceptions of self-efficacy.

Researcher name: Rachel Pawsey
Study reference: 5484

I have asked you to take part in my research about how the FRIENDS programme benefits children.

I am going to ask you to complete 4 short questionnaires. They will take about 15 minutes. After approximately 10 weeks you will complete the questionnaires again. Your answers will only be seen by the researcher.

Please write your name on this form if:

- You are happy to do this task
- Understand what I am asking you to do
- Have had a chance to ask any questions
- Understand that you can stop doing the questionnaires at any time without any consequences

Child's Name ……

Date ……

Appendix J. Assent form (Wait-List group)

ASSENT FORM (19/02/13 *v.1*)

Study title: **Exploring the impact of anxiety reduction via a CBT intervention on children's attentional control, social satisfaction and perceptions of self- efficacy.**

Researcher name: Rachel Pawsey
Study reference: 5484
Ethics reference:

I have asked you to take part in my research about how children feel about their friends, coping skills and how they concentrate.

I am going to ask you to complete 4 short questionnaires. They will take about 15 minutes. After approximately 10 weeks you will complete the questionnaires again. Your answers will only be seen by the researcher.

Please write your name on this form if:

- You are happy to do this task
- Understand what I am asking you to do
- Have had a chance to ask any questions
- Understand that you can stop doing the questionnaires at any time without any consequences

Child's Name ……

Date ……

Appendix K. Revised Child Anxiety and Depression Scale- Short

Please complete the questions below by circling the answer which most applies to you. E.g. If you always feel sad or empty, circle always.

1.	I feel sad or empty	Never	Sometimes	Often	Always
2.	I worry when I think I have done poorly at something	Never	Sometimes	Often	Always
3.	I would feel afraid of being on my own at home	Never	Sometimes	Often	Always
4.	Nothing is much fun anymore	Never	Sometimes	Often	Always
5.	I worry that something awful will happen to someone in my family	Never	Sometimes	Often	Always
6.	I am afraid of being in crowded places (like shopping centres, cinema, buses, busy playgrounds)	Never	Sometimes	Often	Always
7.	I worry what other people think of me	Never	Sometimes	Often	Always
8.	I have trouble sleeping	Never	Sometimes	Often	Always
9.	I feel scared if I have to sleep on my own	Never	Sometimes	Often	Always
10.	I have problems with my appetite	Never	Sometimes	Often	Always
11.	I suddenly become dizzy or faint when there is no reason for this	Never	Sometimes	Often	Always
12.	I have to do some things over and over again (like washing my hands, cleaning or putting things in a certain order)	Never	Sometimes	Often	Always
13.	I have no energy for things	Never	Sometimes	Often	Always
14.	I suddenly start to tremble or shake when there is no reason for this	Never	Sometimes	Often	Always
15.	I cannot think clearly	Never	Sometimes	Often	Always
16.	I feel worthless	Never	Sometimes	Often	Always
17.	I have to think of special thoughts (like numbers or words) to stop bad things from happening	Never	Sometimes	Often	Always
18.	I feel like I don't want to move	Never	Sometimes	Often	Always
19.	I worry that I will suddenly get a scared feeling when there is nothing to be afraid of	Never	Sometimes	Often	Always
20.	I am tired a lot	Never	Sometimes	Often	Always
21.	I feel afraid that I will make a fool of myself in front of people	Never	Sometimes	Often	Always
22.	I have to do some things in just the right want to stop bad things from happening	Never	Sometimes	Often	Always
23.	I feel restless	Never	Sometimes	Often	Always
24.	I worry that something bad will happen to me	Never	Sometimes	Often	Always

Appendix L. The Coping Efficacy Scale

Please read each question carefully and tick the response that best describes how you think you handle problems.

	Not at all satisfied	A little satisfied	Pretty well satisfied	Very satisfied
1. Overall, how satisfied are you with the way you handled your problems during the last month? Would you say…..?				
2. Overall, compared to other kids, how good do you think you have been in handling your problems during the last month?				

	Did not work at all	Worked a little	Worked pretty well	Worked very well
3. Overall, how well do you think that the things you did during the last month worked to make the situation better?				
4. Overall, how well do you think that the things you did during the last month worked to make you feel better?				

	Not at all good	A little good	Pretty good	Very good
5. In the future, how good do you think that you will usually be in handling your problems?				
6. Overall, how good do you think you will be at making things better when problems come up in the future?				
7. Overall, how good do you think you will be at handling your feelings when problems come up in the future?				

Appendix M. Attentional Control Scale- Children

		1 Almost never	2 Sometimes	3 Often	4 Always
1.	It's very hard for me to concentrate on a difficult lesson, if there is a lot of noise in the class	O	O	O	O
2.	If I have to concentrate and solve a difficult math problem, I have trouble to focus my attention	O	O	O	O
3.	When I am working hard on something, I still get distracted by things going on around me	O	O	O	O
4.	My concentration is good, even when somebody turns the music on	O	O	O	O
5.	When I concentrate myself, I do not notice what is happening in the room around me	O	O	O	O
6.	When I am reading in the classroom, I am easily disturbed by other children talking to each other	O	O	O	O
7.	When I try to concentrate myself, I find it difficult not to think about other things	O	O	O	O
8.	I find it difficult to concentrate myself when I am excited about something	O	O	O	O
9.	When I am concentrated, I do not notice that I am hungry or thirsty	O	O	O	O

10.	When I am doing something, I can easily stop and switch to some other task	O	O	O	O
11.	When I have to start a new task, it takes me a while to get really involved in it	O	O	O	O
12.	When the teacher explains something, I find it difficult to understand and writing it down at the same time	O	O	O	O
13.	When it is necessary, I can become interested in a new topic very quickly	O	O	O	O
14.	It is easy for me to read or write, while I am also talking to someone on the telephone	O	O	O	O
15.	I have trouble to have two conversations at the same time	O	O	O	O
16.	I find it difficult to come up quickly with new ideas	O	O	O	O
17.	After being interrupted or distracted, I can easily shift my attention back to what I was doing before	O	O	O	O
18.	When I am daydreaming or having distracting thoughts, it is easy for me to switch back to the work I have to do	O	O	O	O
19.	It is easy for me to switch back and forth between two different tasks	O	O	O	O
20.	I find it difficult to let go my own way of thinking about something, and to look at it in a different way	O	O	O	O

Thank you!

Appendix N. The Loneliness and Social Dissatisfaction Scale

Read each of the following questions carefully and tick one of the boxes (No, Sometimes or Yes) to show your answer.

	No	Sometimes	Yes
1. It is easy for you to make friends at school?			
2. Do you like to read?			
3. Do you have other kids to talk to at school?			
4. Are you good at working with other kids at school?			
5. Do you watch TV a lot?			
6. Is it hard for you to make friends at school?			
7. Do you like school?			
8. Do you have lots of friends at school?			
9. Do you feel alone at school?			
10. Can you find a friend when you need one?			
11. Do you play sports a lot?			
12. Is it hard to get kids in school to like you?			
13. Do you like science?			
14. Do you have kids to play with at school?			
15. Do you like music?			
16. Do you get along with other kids at school?			
17. Do you feel left out of things at school?			
18. Are there kids you can go to when you need help in school?			
19. Do you like to paint and draw?			
20. Is it hard for you to get along with the kids at school?			
21. Are you lonely at school?			
22. Do the kids at school like you?			
23. Do you like playing card games?			
24. Do you have friends at school?			

Appendix O. School Anxiety Scale- Teacher Report

School Anxiety Scale – Teacher Report

For each item please fill in the circle that best describes how this child has been **over the last three months or this school year**. Please answer all of the items.

	Never	Sometimes	Often	Always
1. This child is afraid of asking questions in class	○	○	○	○
2. This child speaks only when someone asks a question of them	○	○	○	○
3. This child worries what other people think of him/her	○	○	○	○
4. This child does not volunteer answers or comments during class	○	○	○	○
5. This child is afraid of making mistakes	○	○	○	○
6. This child hates being the centre of attention	○	○	○	○
7. This child hesitates in starting tasks or asks whether they understood the task before starting	○	○	○	○
8. This child worries about things	○	○	○	○
9. This child worries that (s)he will do badly at school	○	○	○	○
10. This child worries that something bad will happen to him/her	○	○	○	○
11. This child seems very shy	○	○	○	○
12. This child complains of headaches, stomach aches or feeling sick	○	○	○	○
13. This child feels afraid when (s)he has to talk in front of the class	○	○	○	○
14. This child hesitates to speak when in group situations	○	○	○	○
15. When this child has a problem, (s)he feels shaky	○	○	○	○
16. This child appears nervous when approached by other children or adults	○	○	○	○

Appendix P. Strengths and Difficulties Questionnaire

Strengths and Difficulties Questionnaire

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain or the item seems daft! Please give your answers on the basis of the child's behaviour over the last six months or this school year.

Child's Name ..... Male/Female

Date of Birth.....

	Not True	Somewhat True	Certainly True
Considerate of other people's feelings	☐	☐	☐
Restless, overactive, cannot stay still for long	☐	☐	☐
Often complains of headaches, stomach-aches or sickness	☐	☐	☐
Shares readily with other children (treats, toys, pencils etc.)	☐	☐	☐
Often has temper tantrums or hot tempers	☐	☐	☐
Rather solitary, tends to play alone	☐	☐	☐
Generally obedient, usually does what adults request	☐	☐	☐
Many worries, often seems worried	☐	☐	☐
Helpful if someone is hurt, upset or feeling ill	☐	☐	☐
Constantly fidgeting or squirming	☐	☐	☐
Has at least one good friend	☐	☐	☐
Often fights with other children or bullies them	☐	☐	☐
Often unhappy, down-hearted or tearful	☐	☐	☐
Generally liked by other children	☐	☐	☐
Easily distracted, concentration wanders	☐	☐	☐
Nervous or clingy in new situations, easily loses confidence	☐	☐	☐
Kind to younger children	☐	☐	☐
Often lies or cheats	☐	☐	☐
Picked on or bullied by other children	☐	☐	☐
Often volunteers to help others (parents, teachers, other children)	☐	☐	☐
Thinks things out before acting	☐	☐	☐
Steals from home, school or elsewhere	☐	☐	☐
Gets on better with adults than with other children	☐	☐	☐
Many fears, easily scared	☐	☐	☐
Sees tasks through to the end, good attention span	☐	☐	☐

Signature ..... Date .....

Parent/Teacher/Other (please specify:)

Thank you very much for your help

Appendix Q. Debrief form (Experimental Group)

Reducing children's worries

Thank you very much for helping me.

The information you have given me will help us to understand if the Friends for Life programme helped to reduce any worries that children might have. The questionnaires will tell me about your friendships, how well you feel you can concentrate and how you feel you cope with things you are worried about. Your school will tell me how many schools days you have missed.

The results from the study will provide me with information that can help us to understand more about worries and how the Friends for Life programme might be able to help other children.

Answers from every questionnaire that we asked you to do are not measured as right or wrong. We will not include your name in the study and no-one will look at your answers.

If you are worried or concerned about anything we have done you can talk to me or to your teachers and parents. If I am worried about anything you might have told me, I will tell one of the adults at your school.

Do you have any questions?

My Signature _____ Date _____

My name: Rachel Pawsey

THANK YOU FOR HELPING!

Appendix R. Debrief form (Wait-List Group)

Reducing children's worries

Thank you very much for helping me.

The information you have given me will help us to understand any worries that children might have. The questionnaires will tell me about your friendships, how well you feel you can concentrate and how you feel you cope with things you are worried about. Your school will tell me how many schools days you have missed.

The results from the study will provide me with information that can help us to understand more about worries and what might be able to help reduce these worries.

Answers from every questionnaire that we asked you to do are not measured as right or wrong. We will not include your name in the study and no-one will look at your answers.

If you are worried or concerned about anything we have done you can talk to me or to your teachers and parents. If I am worried about anything you might have told me, I will tell one of the adults at your school.

Do you have any questions?

My Signature _____ Date _____

My name: Rachel Pawsey

THANK YOU FOR HELPING!

Appendix S. Debrief form- Adults

Debrief sheet (5484)

Mediating factors (coping efficacy, social satisfaction, attentional control) in the effectiveness of anxiety reduction after completing the FRIENDS intervention.

Researchers: Rachel Pawsey

The aim of this research was to evaluate the FRIENDS programme in terms of its effectiveness and the factors that make it effective. The data that I have collected via questionnaires, completed by children and teachers, will be quantitatively analysed and written into a research report. Results of this study will not include your name/the children's names or any other identifying characteristics. You may have a copy of this summary and the research findings (when completed) if you wish.

Thank you for taking the time to complete the questionnaires so that the effectiveness of the FRIENDS programme can be evaluated.

If you have any further questions please contact Rachel Pawsey:

rjp2g11@soton.ac.uk

Thank you once again for your participation in this research.

Signature _____ Date _____

Name _____

If you have questions about your rights as a participant in this research, or if you feel that you have been placed at risk, you may contact the Chair of the Ethics Committee, Psychology, University of Southampton, SO17 1BJ, UK. Phone: +44 (0)23 8059 4663, email slb1n10@soton.ac.uk

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