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AN INVESTIGATION INTO THE EFFECTIVENESS OF MINDFULNESS-BASED COGNITIVE THERAPY WITH ADOLESCENTS

Section A: Mindfulness and Acceptance-Based Interventions for Children and Adolescents: A Review of Empirical Studies
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Summary of the MRP Portfolio

Section A investigates the literature for mindfulness and acceptance-based interventions (MABIs) for children and adolescents with clinical difficulties. It considers how developmental differences between young people and adults might impact the use of these interventions for which the theory and evidence is largely based on adults. It critically reviews the extant empirical literature, considering for whom and at what age MABIs might be effective. Limitations and gaps in the literature are discussed.

Section B reports on a mindfulness-based cognitive therapy (MBCT) intervention adapted for adolescents. This mixed-methods multiple-case study tested the hypotheses that mindfulness training results in reductions in anxiety, and depression if present, and improvements in mindfulness, self-compassion and executive function, in young people with clinical anxiety difficulties. It also explored the experience of mindfulness training and any changes experienced with mindfulness practice. Results indicated that some participants improved as predicted, and many reported feeling better able to cope with their difficulties. Improvements in executive function were particularly notable, tentatively suggesting a possible impact on emotion regulation for internalising difficulties. Limitations and implications are discussed.

Section C is a critical appraisal of the research process, reflecting on lessons learnt, and identifying further training needs, and clinical and research implications.

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Section A: Mindfulness and Acceptance-Based Interventions for Children and Adolescents: A Review of Empirical Studies

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Abstract

Background: Although there is growing interest in mindfulness and acceptance-based interventions (MABIs) for children and adolescents, it cannot be assumed that the adult evidence base for MABIs will generalise to young people.

Aims: The current review investigates the effectiveness of MABIs for children and adolescents with clinical difficulties, considering for whom they might be appropriate.

Method: Searches were conducted on PsychINFO, Medline, the Cochrane Library and Google Scholar to identify MABI studies targeting young people aged 5-18, with clinical difficulties, focusing on treatment outcome or moderators/mediators of outcome.

Results: Fifteen mindfulness-based intervention (MBI) and 10 Acceptance and Commitment Therapy (ACT) studies were identified. A broad range of outcomes with medium-large effect sizes was found, including significant improvements in executive function with MBIs, for young people with externalising difficulties; and in acceptance and general functioning using ACT for physical health conditions. Few studies focused on young people with anxiety and depression.

Conclusion: Preliminary evidence exists for the effectiveness of MABIs for children and adolescents with clinical difficulties. However, further robust research is required, particularly for young people with anxiety and depression. Further research is also needed to investigate mechanisms of change, including the possible role of executive function.

Keywords: mindfulness, acceptance, children, adolescents

Mindfulness and Acceptance for Young People

Interest in mindfulness and acceptance-based interventions (MABIs) has expanded considerably over the past two decades, in both clinical and non-clinical settings. In the current review, mindfulness refers to an awareness that arises through "paying attention in a particular way; on purpose, in the present moment, and non-judgementally" (Kabat-Zinn, 1994, p.4). Bishop et al. (2004) proposed an operational definition of mindfulness in a two-component model, comprising the self-regulation of attention, through sustained attention and deliberate attention shifting; and an orientation to experience, encompassing an attitude of curiosity, in which internal events such as thoughts and emotions are observed and accepted as they arise. Acceptance in this context does not refer to passive resignation, but rather to allowing oneself to be fully open to such present-moment experience (Roemer & Orsillo, 2002). Thus MABIs may be considered as a class of interventions that share an assumption that distress may be reduced through present-centred awareness, in which the relationship to experiences is one of acceptance with self-compassion (Hayes, 2004).

MABIs may be categorised into mindfulness-based interventions (MBIs), which focus on learning mindfulness skills through mindfulness meditation practices (MM); and interventions based on mindfulness and acceptance principles, in which mindfulness may be learned through other means, and which may or may not incorporate MM. Two predominant MBIs have emerged: Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn, 1990) and Mindfulness-Based Cognitive Therapy (MBCT; Segal, Williams, & Teasdale, 2002). Both are group-based, with eight weekly sessions including formal mindfulness practices such as the body scan, sitting

mediations and mindful-movement; and informal practices, such as intentionally attending to sensory experience during everyday activities. MBSR was originally developed as an intervention for chronic pain, but has since been applied in a wide variety of clinical areas. MBCT was subsequently developed for relapse prevention of recurrent depression (Kuyken et al., 2008; Ma & Teasdale, 2004; Teasdale et al., 2000) and combines mindfulness practices with elements of cognitive therapy. Like MBSR, MBCT has also been shown to be effective with adults in a wide range of clinical problems (for reviews see Baer, 2003; Hofmann, Sawyer, Witt, & Oh, 2010). More recently, Person-Based Cognitive Therapy (PBCT; Chadwick, 2006) has been developed for severe/chronic mental health problems including psychosis (Dannahy et al., 2011) and chronic depression (Strauss, Hayward, & Chadwick, 2012), using shorter (10 minute) mindfulness practices. Other approaches that incorporate mindfulness and acceptance principles include Dialectical Behavior Therapy (DBT; Linehan, 1993) originally developed for women with suicidal and non-suicidal self-injurious behaviour with a diagnosis of borderline personality disorder (BPD); and Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999). Hayes et al. (1999) suggest that ACT may be particularly appropriate for difficulties where attempts to control or avoid negative internal events become problematic, and paradoxically may result in further distress through restricting opportunities to engage in valued activities.

MABIs are considered part of the third wave (Hayes, 2004) of behaviour therapies, which may be distinguished from the second wave by a focus on changing the relationship to internal events (thoughts, emotions) rather than the content of the events themselves. It is argued that developing awareness of internal events, and

accepting them non-judgementally and with self-compassion, enables a person to distance themselves or defuse from distressing events, thereby allowing choice over how and whether to act in response. Acting mindfully has therefore been described as responding rather than reacting.

More recently, the use of MABIs has been extended to the difficulties faced by children and adolescents, has in part been driven by the need for additional interventions for emotional and behavioural problems in young people for whom recommended evidenced-based interventions may not always help. For example, a recent Cochrane review found a remission rate of 59% for Cognitive Behavioural Therapy (CBT) for young people experiencing anxiety versus 16% in controls (James, James, Cowdrey, Soler, & Choke, 2013), leaving around 40% of cases for whom CBT was not effective.

Although, evidence with adults suggests that MABIs might be beneficial for the clinical difficulties experienced by children and adolescents, it cannot be assumed that this evidence will generalise to young people, who differ from adults in terms of their cognitive, social and physical development. Moreover, there may be gender-based differences in developmental trajectories, and significant differences between the cognitive capacities of young children and older adolescents. This raises a number of questions, including how to adapt MABIs to be developmentally appropriate for a given age group, and whether the theoretical concepts underpinning MABIs apply for young people. Of particular importance is the question of the cognitive capability required to develop mindfulness and acceptance. Piagetian theory proposes that until around age 12, children have not yet reached the formal operations stage, at which abstract concepts may be understood, and therefore the

cognitive components of MABIs may not be meaningful for younger children (Thompson & Gauntlett-Gilbert, 2008). In CBT, a behavioural rather than cognitive approach tends to be used with younger children in the concrete operations stage (around 7-12 years), although abstract ideas may be conveyed in more concrete terms through the use of metaphors (Stallard, 2002). This suggests that mindfulness and acceptance concepts, such as self-awareness and cognitive flexibility, might also be explained through metaphors, which are commonly used in MABIs with adults (Thompson & Gauntlett-Gilbert, 2008). In addition, mindfulness has been conceptualised as comprising several components linked to executive function (EF), including sustained attention, attention switching and inhibition of elaborative processing (Bishop et al., 2004). These are considered high-level meta-cognitive concepts, whose development has an ongoing trajectory during childhood and adolescence (Weil et al., 2013). Thus, the length of mindfulness practices may need to be shortened and the practices made sufficiently interesting to engage young people's attention, in order to be effective.

Reviews of the literature for children and adolescents have been carried out for MBIs (Burke, 2010; Harnett & Dawe, 2012), ACT (Coyne, McHugh, & Martinez, 2011) and DBT (Groves, Backer, Bosch, & Miller, 2011; Quinn, 2009). Early studies have shown broad feasibility and acceptability for these MABIs for young people. Reviews of MBIs show a growing emphasis on preventative interventions for developing wellbeing for young people in non-clinical populations, particularly in schools. This contrasts with DBT adapted for adolescents, which, as for adults, has tended to focus on more severe clinical difficulties such as suicidal and non-suicidal self-injurious behaviour. Less attention has been directed towards the clinical use of

MBIs and of ACT with young people. Moreover, despite the common elements between these interventions, to date no systematic review has combined MBIs and ACT for children and adolescents.

The current review will therefore focus on MBIs and ACT for children and adolescents experiencing clinical difficulties. DBT will not be included, as its inclusion of multiple components and specific target populations make it less comparable with other MABIs. The following questions will be addressed: (a) what is the evidence for the effectiveness of MABIs for children and adolescents with clinical difficulties; (b) for which age groups, gender and presenting problems might these interventions be useful; and (c) why might one approach be chosen above another. The empirical evidence for MBIs and ACT will first be reviewed separately, before drawing together the findings in the discussion, with consideration of theoretical, clinical and research implications.

Methodology

Searches were conducted on the electronic databases PsycINFO, Medline, the Cochrane Library, and on Google Scholar, from inception to March 2013. Searches of titles and abstracts of studies published in peer-reviewed journals in English were performed for MBIs and ACT separately. Searches used the terms “mindfulness*” or “mindful awareness”, or “acceptance and commitment” for MBIs and ACT respectively, in combination with “child* or adolesc* or ‘young pe*’ or teen* or youth or juvenile or p*ediatric” and not “school”. Manual searches were also performed on reference lists of prior reviews and meta-analyses to identify potentially eligible studies.

Abstracts were then manually inspected for relevance using the following eligibility criteria: (a) study reported treatment outcome or mediators or moderators of outcome, (b) employed a MABI (as defined earlier), (c) for young people aged between 5 and 18 years, with (c) clinical difficulties. Interventions that primarily focused on the parent/caregiver/teacher rather than the child or child and parent/caregiver together were excluded. Further manual searches were performed of the references of the studies found (see Appendix A for details of the search process). As a result of this process, 15 clinical studies reporting on MBIs and 10 on ACT were found.

Literature Review

Studies found using MBIs and ACT will be reviewed in turn. Further details of the studies are included in Tables B1 and B2 in Appendix B.

Mindfulness-Based Interventions

Of the 15 MBI studies identified (see Table B1), one was a randomised controlled trial (RCT); three used a quasi-experimental wait-list control design; five used an uncontrolled pre-post design; five used a multiple-baseline across participants design and one a case-series.

Bögels, Hoogstad, van Dun, de Schutter, and Restifo (2008) reported on an MBCT-based intervention incorporating mindful-parenting, in a pilot quasi-experimental within-participant wait-list control study. Participants were 14 adolescents aged 11-17 with externalising disorders, including attention deficit hyperactivity disorder (ADHD), oppositional defiant disorder (ODD)/conduct disorder (CD) and autistic spectrum disorder (ASD), based on the assumption that these disorders share common underlying attention and behaviour-control difficulties.

Significant improvements with large effect sizes (ES) were found pre-post intervention in child- and parent-rated goals, child-rated externalising behaviours and attention, and parent-rated self-control. Significant improvements with medium ES were found in objective tests of sustained and directed attention, child-rated social behaviours, happiness and mindful-awareness. Improvements were maintained or increased at eight-week follow-up. Limitations of this study include the small sample size, non-randomised waitlist control, use of the Mindful Awareness and Attention Scale (MAAS; Brown & Ryan, 2003), which was not validated for this age group, and lack of longer-term follow-up. In addition, drop-out rates were high, with only seven families completing the treatment. However, this might be expected given the severity and duration of difficulties reported in the sample, which in turn means the findings have greater clinical relevance.

Two further studies built on the Bögels et al. (2008) intervention protocol, for children/adolescents with ADHD. In a quasi-experimental within-participant wait-list control study with 22 children aged 8-11 and their parent(s), van der Oord, Bögels, and Peijnenburg (2012) found significant pre-post reductions in parent-ratings of children's inattention (large ES) and hyperactivity/impulsivity (medium ES), maintained at eight-week follow-up. Significant reductions in parental ADHD symptoms pre-post (small ES), and parental-stress (medium ES) and over-reactivity (large ES) pre-follow-up were also found, but no significant changes in teacher ratings. Generalisability of these findings is limited by similar methodological issues to the Bögels et al. (2008) study, and selection of parents with medium-high education levels.

In a second small, uncontrolled pre-post study with 10 adolescents aged 11-15 and their parent(s), Van de Weijer-Bergsma, Formsma, de Bruin, and Bögels (2012a) found a significant improvement from pre-test to eight-week follow-up in adolescent and father-rated attention (large ES), but not mother- or tutor-ratings. Similarly, only fathers reported significant improvements in externalising behaviours and parenting stress pre-post, maintained at follow-up; and in EF pre-follow-up. Objective computerised tests of attention showed some significant improvement pre-post that was not maintained at follow-up. The findings were limited by a particularly small sample size and uncontrolled design. The authors suggest that the discrepancy between father and mother ratings may reflect the fathers' greater motivation for the course as a result of their own ADHD symptoms.

In another pre-post feasibility study on the use of Mindful Awareness Practices (MAPs) with 24 adults and eight adolescents with ADHD, Zylowska et al. (2008) found significant reductions in self-reported inattention, and clinically significant change in ADHD symptoms in 30% of participants. Significant improvements were also found on EF tasks of attention conflict and set-shifting, thought to be involved in the development of inhibition and self-regulation (Rueda, Posner, & Rothbart, 2004), both considered to be underdeveloped in ADHD (Barkley, 1997). However, adolescent and adult results for ADHD symptoms and neurocognitive tests were combined, limiting the conclusions that can be drawn. Attendance and completion rates were high, particularly amongst adolescents, but little change was found in adolescent-reported anxiety and depression, in contrast to the larger adult sample, possibly as a result of significantly less practice time per week in adolescents. Methodological limitations again limit the generalisability of these

findings. In particular, the sample was small and selective, predominantly female, more highly functioning than is common for ADHD, excluded conduct disorder, and had no control group or follow-up.

Haydicky, Wiener, Badali, Milligan, and Ducharme (2012) reported on a quasi-experimental wait-list control study with 60 boys aged 12-18 with learning disabilities (LD), ADHD and anxiety, attending the Integra Mindfulness Martial Arts (MMA) program. Compared with previous studies for children/adolescents with ADHD, this was a 20- rather than eight-week program that also included CBT and mixed martial arts. No significant changes were found post-intervention compared with the waitlist control. However, analysis of participant subcategories found that compared with controls, MMA participants with ADHD showed significant improvements in parent-rated oppositional defiant and conduct problems (large ES); participants with clinically elevated hyperactivity/impulsivity or inattention showed significant improvements in parent-reported social problems (large ES); and participants with clinical anxiety levels showed significant reductions in anxiety (large ES). These findings are limited the inclusion of multiple elements in the intervention, which means that the impact of the mindfulness component alone cannot be determined. Other limitations include the lack of a randomised control group, although it was reported this was for ethical reasons, to avoid delaying treatment unduly. Furthermore, follow-up data was not analysed due to high attrition rates at this stage of the study.

In a series of studies using a multiple-baseline across participant design, adolescents with ASD (N= 3; aged 14-17) (Singh et al., 2011a), Asperger's syndrome (N= 3; aged 13-18) (Singh et al., 2011b) and conduct disorder (N= 3; aged 13-14)

(Singh et al., 2007) were taught to use a mindfulness practice, Meditation on the Soles of the Feet. The aim was to shift attention from an emotionally-arousing trigger to an emotionally-neutral body part, in order to reduce aggressive behaviour. In the studies with ASD and Asperger's syndrome, the young people eliminated their aggressive behaviour after 23-30 weeks for ASD and 17-24 weeks for Asperger's syndrome. In the Singh et al. (2007) study, aggressive behaviours mainly reduced after the training phase when participants reported practicing more, having experienced the benefits of mindfulness. The same procedure was used in a mindful-eating programme with a 17-year old adolescent with Prader-Willi syndrome to manage his hyperphagia and food-seeking behaviours (Singh, Lancioni, Singh, & Adkins, 2008). Results suggested that mindfulness strategies were the most effective component of the intervention in achieving weight-loss. A notable feature of these case series was long-term follow-up of the participants, showing maintenance of improvements over several years.

In a further study using the same design with two boys aged 10 and 12 with ADHD and their mothers (Singh et al., 2010), a 12-session MBI was first taught to the mothers and then their children. Children's compliance with their mother's requests improved after the mothers were trained, but more substantial improvements were seen after the children were also trained. The authors suggest that training both mother and child enhanced their interactions, leading to positive reinforcement. The age of the children is notable, as self-reports suggested they were able to take on board the principles of mindfulness including changing their relationship to their thoughts.

In these case series, the use of a baseline allowed each participant to act as their own control. However, the behavioural measures used were arguably difficult to record accurately and may have been subject to measurement effects. Additional standardised measures might have captured changes in other domains. Replication with larger samples would be required before the findings could be considered more widely generalisable.

Few studies of MBIs for mood and anxiety disorders were found. However, Biegel, Brown, Shapiro, and Shubert (2009) reported on a large RCT of adjunctive MBSR for 102 adolescents aged 14-18 diagnosed with heterogeneous disorders, predominantly mood and anxiety disorders. Results indicated that compared with a waitlist control group receiving treatment as usual (TAU), the MBSR+TAU group showed significant improvements in state and trait anxiety, perceived stress, self-esteem, and somatic, obsessive-compulsive, interpersonal and depressive symptoms, post-test and at three-month follow-up (medium-large ES). MBSR participants also showed a significantly lower rate of mood disorder at follow-up, and time spent in sitting mindfulness practice predicted anxiety/depression symptoms. The completion rate for MBSR participants was 78%, comparable to adult MBSR trials (Baer, 2003). Although this study has many strengths, particularly the large sample size and randomisation using blind allocation, it is limited by the predominantly female sample (73.5%), lack of mindfulness assessment, and no adjustment of significance levels for multiple comparisons.

Other studies reported on MBIs targeting specific client groups. For example, Sibinga et al. (2011) reported on an uncontrolled pre-post study of an MBSR-based intervention with 33 young people aged 13-21, who were either HIV positive or “at

risk" of HIV. Significant reductions were found in hostility and emotional discomfort. Although the uncontrolled design means these findings cannot be attributed to MBSR, qualitative reports of MM use provide some support in this regard.

Britton et al. (2010), building on an earlier study (Bootzin & Stevens, 2005), reported an uncontrolled prospective trial of a multi-component sleep program involving MM training and CBT for 55 adolescents aged 13-19 with sleep problems, who had previous substance-misuse treatment. Completion rates were particularly low (42%), and male adolescents' substance misuse significantly increased, possibly as a result of the cessation of the substance-abuse programme. However, emotional distress significantly improved and was sustained to 60-week follow-up. Frequency of MM practice was associated with improvements in self-efficacy and sleep duration. Although the study included longer-term follow-up, the uncontrolled design and multi-component intervention limit the conclusions that can be drawn from these findings.

Waltman, Hetrick, and Tasker (2013) reported a case series of seven adolescents with disruptive behaviour disorders who took part in an Applied Mindfulness group in a residential treatment setting. Improvements in self-reported mindfulness and behavioural compliance were found. However the generalisability of the findings was limited by the uncontrolled design, significant drop-out, use of a non-validated mindfulness questionnaire, and participants receiving other interventions.

Summary. The studies reviewed in this section show some promising results for the use of MBIs with young people, particularly with neurodevelopmental and externalising disorders. Improvements were found in several components of EF,

lending support to the theory that this might be a possible mechanism of change. However, only one study focused on mood disorders and anxiety, which is surprising given the evidence of effectiveness for these difficulties with adults (Hofmann et al., 2010).

The studies suffered from a number of design limitations: there was only one RCT, and most were uncontrolled, meaning that the effects cannot be attributed to the interventions alone. Furthermore, power was limited by small sample sizes, and the generalisability of the findings was limited by the focus on specific and often selective populations. There was also considerable variation in the protocols used, prohibiting direct comparisons between the studies.

ACT

Of the 10 ACT studies identified (see Table B2), five focused on chronic pain, including one RCT (Wicksell, Melin, Lekander, & Olsson, 2009) with 32 young people aged 10-18. The intervention aimed to develop acceptance of pain through exposure to pain-related internal events, rather attempting to reduce or control pain. Improvements in pain-impairment beliefs and discomfort were significantly greater with ACT than with multidisciplinary treatment plus amitriptyline (MDT) (large ES). Post-intervention analyses also found significantly greater improvements for ACT compared with MDT in pain interference, health-related quality of life, kinesiophobia (fear of re/injury) and pain intensity (large ES). In an analysis of the mediators of change from this study, Wicksell, Olsson, and Hayes (2011) found that only pain-impairment beliefs and pain-reactivity, both consistent with psychological flexibility, significantly mediated the effects of treatment on outcome at follow-up.

The Wicksell et al. (2009) RCT built on a previous pre-post pilot study (Wicksell, Melin, & Olsson, 2007) with 14 adolescents aged 13-20 and a case study of a 14-year old girl from this pilot study (Wicksell, Dahl, Magnusson, & Olsson, 2005). The pre-post study found significant decreases in functional disability, pain intensity, pain interference, school absence and internalizing/catastrophizing pre-post (large ES), sustained at three- and six-month follow-up. The findings of this set of studies are limited by small sample sizes and reliance on self-report measures. Moreover, the treatment dose varied between participants in the pre-post study, and between the ACT and MDT groups in the RCT.

In a recent study, Gauntlett-Gilbert, Connell, Clinch, and McCracken (2013) investigated a three-week intensive residential program using ACT in a group, in an uncontrolled study with 98 severely disabled adolescents aged 10-19 with chronic pain. Improvements in physical functioning were sustained at three-month follow-up and were associated with increased acceptance of pain. Significant improvements were found in pain-specific anxiety, catastrophizing about pain, and acceptance of pain (small-medium ES); but initial improvements in depression were not sustained to follow-up. These findings were again limited by the lack of a control group and cannot therefore be directly attributed to the ACT intervention.

Case studies using ACT with a 16-year old boy with sickle cell disease (SCD; Masuda, Cohen, Wicksell, Kamani, & Johnson, 2011) and a 15-year old girl with anorexia nervosa (AN; Heffner, Sperry, Eifert, & Detweiler, 2002) were found. Masuda et al. (2011) reported improved functioning and quality of life that increased at three-month follow-up; Heffner et al. (2002) reported remission of AN symptoms with the exception of body-dissatisfaction. Although the positive outcomes of these

studies are not generalisable, they illustrate how ACT concepts are applicable for a range of presenting problems.

Hayes, Boyd, and Sewell (2011) carried out a pilot RCT of ACT versus TAU (CBT) with 38 adolescents aged 12-18 with depression. The ACT group showed significantly and clinically greater improvement in depression symptoms compared with the TAU group from pre- to post-intervention (small ES), and further improvement at three-month follow-up (large ES), although follow-up data was limited. Furthermore, 58% showed reliable reduction in depression in the ACT group compared with 36% in TAU. Again these findings are limited by the small sample size and could benefit from longer-term follow-up.

ACT has also been used with Habit Reversal Therapy (HRT) in a non-randomised design with 13 young people aged 14-18 with Tourette's syndrome (Franklin, Best, Wilson, Loew, & Compton, 2011). Similar significant reductions in tic severity were found for HRT+ACT and HRT alone. The authors suggested that therapists' lack of familiarity with ACT is likely to have affected these results, and that further adaptations would be needed for those with lower cognitive ability (Franklin et al., 2011). A case study using ACT with an 18-year old girl with moderate-severe LD and anxious and obsessive thoughts (Brown & Hooper, 2009) achieved this through extending the 10 session protocol over 17 sessions, and constructing metaphors in artwork. The negative impact of anxious thoughts reduced, and the girl returned to a part-time college course.

Summary. Although the evidence for the effectiveness of ACT for children and adolescents is somewhat limited, with only two small RCTs to date, the studies reviewed provide a useful insight into the ways in which ACT might be used with this

age group and how it might result in change. Overall, ACT shows promise as an intervention for young people, particularly for difficulties in which control and/or avoidance maintain the presenting problem.

Discussion

The evidence from the studies in the present review suggests that MABIs might be effective for children and adolescents presenting with a range of behavioural problems, and mental and physical health difficulties. The majority of studies were with adolescents, but one MBI study was with children aged 8-12, and one ACT study with young people aged 10 years upwards. No age-related effects were reported.

MBIs were found to be effective for young people with externalising behaviours, particularly in those with neurodevelopmental difficulties, and ACT was used in combination with HRT for Tourette's syndrome. Fewer studies focused on young people with mental health problems: one RCT investigated MBSR for heterogeneous disorders and another evaluated ACT for depression, with promising results. ACT was found to be effective for difficulties associated with physical health conditions, particularly chronic pain. Single case studies also reported the use of ACT with sickle cell disease and AN. In addition, MBIs were used with young people with HIV, and with sleep problems; and both MBIs and ACT were used with young people with learning disabilities and ADHD and/or anxiety.

In terms of outcomes, some studies found significant improvements in mindfulness (medium ES), and in components of EF thought to be linked to mindfulness, including sustained attention, set-shifting, monitoring and self-control (large ES), and reductions in impulsivity (medium ES). In ACT studies, significantly greater acceptance was found (large ES) and improved psychological flexibility.

Significant improvements were also found in some studies in symptoms of depression, anxiety, perceived stress, and in emotional distress/discomfort (medium-large ES), and in happiness and self-esteem (medium ES).

Behavioural outcomes included significant reductions in externalising behaviours (large ES), hostility, oppositional-defiant and conduct problems (medium ES). Social functioning significantly improved (medium-large ES) and improvements in functional ability, school/college attendance/achievement, quality of life, and personal goals were found.

Physical health-related benefits included significant improvements in sleep, and significant reductions in pain intensity and pain-related discomfort. Significant improvements in pain-related functioning, fear of re-injury, pain interference and catastrophizing in relation to pain were also found (medium-large ES).

The minimum age of participants in this review, 8-years-old, contrasts with previous reviews (e.g. Burke, 2010), including non-clinical populations, which reported on MBIs with children as young as five (Napoli, Krech, & Holley, 2005). This raises the question of whether MABIs can be used with younger clinical populations, who might not have the necessary cognitive capacity to benefit, given that their development may be impacted by neurodevelopmental, psychological or physical difficulties.

Most studies in the current review reported adaptations for the target age group and level of cognitive development of their participants; and the evidence of this review suggests that such adapted MABIs might be effective for young people from late middle-childhood/pre-adolescence. Moreover, further evidence suggests that mindfulness and acceptance concepts may be used with adolescents with LD.

However, in the two studies to do this (Haydicky et al., 2012; Brown &Hooper, 2009), the number of sessions was increased, suggesting that those with less developed cognitive capabilities may require more input to benefit from MABIs.

Participant gender ratios varied across the studies, possibly reflecting gender differences in the expression of distress, i.e. more externalising behaviour in boys and internalising behaviour in girls. However, overall it appears that MABIs may be effective for young people regardless of gender.

It was notable that many MBIs focused on neurodevelopmental difficulties and externalising behaviour, while ACT studies mainly focused on physical health conditions. Theories of mindfulness propose that MM may result in improvements in sustained attention and attention switching (Bishop et al., 2004), suggesting that MBIs may be particularly relevant for ADHD; whereas the emphasis on committed action in accordance with values in ACT (Hayes et al., 1999) might be particularly helpful in improving general functioning for young people with physical health conditions.

The lack of studies focusing on psychological difficulties found in this review is somewhat surprising given the beneficial impact of MABIs for depression and anxiety in adults (Hofmann et al., 2010). Moreover, the effect sizes for anxiety symptoms were generally not as high as for other measures. One possible explanation might be that MABIs may lessen the impact of anxious thoughts, as reported by Brown and Hooper (2009), rather than the reducing anxiety directly. This is in line with the argument that ACT aims for greater psychological flexibility and improved functioning as opposed to symptom reduction (Hayes et al.,1999). A reduction in distress may occur as a by-product of increased flexibility.

A number of studies noted a relationship between the amount of practice and the level of improvement (e.g. Biegel et al., 2009), and several reported continued improvement from post-intervention to follow-up (e.g. Hayes et al., 2011; Masuda et al., 2011; Singh et al., 2007). Learning any new skill takes time and repeated practice and thus longer-term benefits may accrue. Further follow-up data incorporating a mixed-methods approach may be helpful in elucidating the ongoing impact of MABIs.

The findings of this review are limited by a significant number of methodological limitations in the studies reviewed. The majority of studies used uncontrolled pre-post designs; and where controls were used, they tended to be inactive TAU conditions, often with quasi-experimental rather than random blind allocation. In many cases therefore, effectiveness cannot be attributed to the MABI under investigation. Moreover, sample sizes were generally small, and some samples were highly selective and focused on a very specific population, reducing the power and generalisability of the findings. There was also considerable variability across studies in the form of MABI, and some involved multiple elements, making it difficult to draw conclusions about the active ingredients of change. Although several studies gave details of the protocol used, adherence to the protocol was often not reported. A number of studies relied on subjective self-report measures, although parent and teacher measures were fairly common and some studies included objective behavioural assessments. Overall, these methodological limitations restrict the generalisability of the findings and the extent to which outcomes can be attributed specifically to the use of MABIs. Moreover, although in the present review, MABIs were found to be more effective than TAU for some presenting problems, the lack of

active controls makes it difficult to determine the comparative effectiveness of MABIs in relation to other evidence-based interventions.

It should be noted that the findings of this review are limited by the exclusion of unpublished studies and dissertations. Furthermore, despite a systematic search strategy, it is possible that some studies meeting the inclusion criteria might have been missed.

Clinical implications

This review found evidence for the effectiveness of MABIs for children aged eight upwards and adolescents across a range of clinical difficulties, particularly of MBIs for externalising problems and ACT for chronic pain.

A major contrast in the studies reviewed was that most MBIs used group formats, whereas with one exception (Gauntlett-Gilbert et al., 2013), ACT was used with individuals. Moreover, some studies across both approaches included family members in individual, group or parallel sessions. Although it was beyond the scope of this review to consider parent interventions in detail, this suggests that MABIs may require a flexible approach to the inclusion of families.

The use of groups in most MBIs means that they may require less overall therapist input than with ACT. However, MBIs based on MBSR and MBCT usually require that facilitators have their own mindfulness practice and are trained to teach mindfulness, in order to model a mindfulness approach; whereas ACT does not require further formal training beyond existing relevant therapeutic experience.

Research implications

Overall, the quality of the evidence for the effectiveness of MABIs was poor, with only one clinical RCT for MBIs and two small RCTs reported for ACT. Future

research needs to replicate the findings of the studies reviewed, using robust designs, with larger well-defined samples, active control conditions with blind allocation, assessment of adherence to protocol, and longer-term follow-up, before more reliable conclusions about effectiveness can be made.

Mixed-methods designs may offer insights into the process of change with MABIs and how this might differ between young people and adults. The relative effectiveness of group and individual interventions, the impact of parent/caregiver involvement and the contribution of non-specific factors including group-processes to outcomes also require further investigation.

Further research is also required into the possible impact of MABIs on the development of EF skills, suggested by a number of studies in this review. Furthermore, a notable gap in the literature was the lack of studies on mental health problems and anxiety in particular, which commonly occurs in young people. A recent review by Vøllestad et al. (2012) in the adult literature found MABIs to be effective across a range of anxiety disorders, and thus further research on the use of MABIs for anxiety disorders in young people is required.

Conclusion

The studies reviewed have begun to address the question of for whom MABIs might be appropriate. There is evidence for the use of MBIs for young people with neurodevelopmental difficulties and behavioural problems, with significant improvements found in components of EF. Several studies reported on ACT for chronic pain, with significant improvements found in acceptance and general functioning. Although, there are promising findings for MABIs for young people with depression and anxiety, very few studies focused on these difficulties. MABIs

were used with young people from eight years upwards, suggesting that mindfulness and acceptance concepts can be adapted for this age group. Overall, a broad range of outcomes with medium-large effect sizes was reported, but from largely uncontrolled studies with small samples. Further research is required to establish the effectiveness of MABIs with child and adolescent clinical populations.

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Section B: Mindfulness-Based Cognitive Therapy for Adolescents with Anxiety Disorders: A Multiple-Case Study

Word Count: 7992

Abstract

Background: Research has shown mindfulness-based interventions (MBIs), such as mindfulness-based cognitive therapy (MBCT), to be effective for adults with clinical difficulties, but little research has focused on MBIs for mental health difficulties in adolescents.

Aims: This study investigated a 6-week MBCT-based intervention, testing the hypotheses that mindfulness-training would reduce anxiety, and depression, and improve mindfulness, self-compassion and executive function, in adolescents with anxiety disorders. It also explored the experience of mindfulness-training and the changes experienced with mindfulness practice.

Method: The study used a mixed-methods multiple-case AB design with 6- and 12-week follow-up. Adolescents aged 14-17 (N=8), meeting DSM-IV criteria for an anxiety disorder, completed personal anxiety measures weekly during baseline, intervention and follow-up phases. The resulting time-series were analysed using simulation modelling analysis (Borckardt et al., 2008). Adolescents and parents also completed standardised measures at the start and end of each phase. Qualitative analysis of post-intervention interviews used Critical Incident Analysis (Butterfield et al., 2009) to identify helpful and hindering themes.

Results: Significant reductions in anxiety and/or concern about anxiety were found from baseline to follow-up for three participants. Reliable reductions were also found for some participants in anxiety and/or depression, and improvements in mindfulness, self-compassion, and executive function, on self- and/or parent-reported standardised measures, mostly maintained at follow-up. Qualitative themes included the importance of the group and usefulness of mindfulness practices in everyday life.

Conclusion: An MBCT-based intervention may be effective for anxiety in adolescents, but further research with a randomised controlled trial is required.

Keywords: mindfulness, MBCT, adolescents, anxiety, executive function

MBCT for Adolescents with Anxiety

Anxiety disorders are common in childhood and adolescence, with a recent survey finding lifetime prevalence in US adolescents of 31.9% (Merikangas et al., 2010). Anxiety disorders in adolescence can have considerable impact on social and academic functioning (Pine, 1997), and are predictive of further difficulties in adulthood (Copeland, Shanahan, Costello, & Angold, 2009). Although interventions such as cognitive behavioural therapy (CBT) have been shown to be effective for anxiety disorders in children and adolescents, with a recent Cochrane review finding a remission rate of 59% for CBT versus 16% in controls (James, James, Cowdrey, Soler, & Choke, 2013), CBT is not effective in around 40% of cases (James et al, 2013). Thus there is a clear clinical need for additional interventions to augment existing treatments for young people (James et al., 2013).

Many young people who present with anxiety have comorbid difficulties including neurodevelopmental disorders, and problems in emotion and behaviour regulation, that may have a significant impact on academic performance and social development. Moreover, during adolescence, young people face the task of identity formation (Erikson, 1968), a process involving continual self-evaluation and social comparison that may result in negative appraisals, which can contribute to both anxiety and depression (Neff & McGehee, 2010). Thus an intervention that has the potential not only to reduce anxiety and depression, but also to improve executive function (EF) and foster a less self-critical approach might be of particular benefit for this age group. The present study sought to investigate one such approach, a mindfulness-based intervention.

Mindfulness has been defined as paying attention, intentionally, in the present moment, non-judgementally (Kabat-Zinn, 1994). Bishop et al. (2004) proposed an operational definition of mindfulness in a two-component model, comprising the self-regulation of attention, through sustained attention and deliberate attention shifting; and an orientation to experience, encompassing an attitude of curiosity, in which internal events such as thoughts and emotions are observed and accepted as they arise.

Mindfulness-based interventions (MBIs) focus on developing mindfulness through the use of regular mindfulness practices, including formal practices such as the body scan, and informal practices, such as attending to sensory experience during everyday activities. There is a growing evidence base for the effectiveness of MBIs in promoting psychological wellbeing with adults (Baer, 2003; Hofmann, Sawyer, Witt, & Oh, 2010; Keng, Smoski, & Robins, 2011). Two predominant approaches have emerged: Mindfulness-based stress reduction (MBSR; Kabat-Zinn, 1990) and mindfulness-based cognitive therapy (MBCT; Segal, Williams & Teasdale, 2002). MBSR was originally developed for adults with medical conditions including chronic pain, and MBCT was subsequently developed for relapse-prevention in adults with recurrent depression. These approaches have been shown to be effective for a wide range of psychological problems in adults including anxiety (Hofmann et al., 2010) and depression (Hofmann et al., 2010; Teasdale et al., 2000; Ma & Teasdale, 2004).

Over the past decade, interest in MBIs has extended their use to children and adolescents. However, it cannot be assumed that the findings from MBIs with adult populations generalise to children and adolescents, whose development may not be sufficiently advanced to meet the cognitive demands of MBIs. Most studies with young people report adaptations to the standard MBSR/MBCT interventions,

including shorter session and practice lengths, and more active practices to accommodate a shorter attention span in young people. Other adaptations include the use of age-appropriate, less abstract examples. Although a number of studies have established the feasibility and acceptability of MBIs adapted in this way for children and adolescents (see Burke, 2010 for a review), no published study to date has focused on the evaluation of MBIs for clinical anxiety problems in young people. Only one clinical randomised controlled trial (RCT) has been conducted with young people (Biegel, Brown, Shapiro, & Shubert, 2009), using an adapted MBSR intervention in which adolescents with anxiety disorders formed part of a heterogeneous sample; thus it is not possible to determine the effectiveness of the intervention for anxiety. Most clinical studies with adolescents in this field have focused on attention-deficit hyperactivity disorder (ADHD; van de Weijer-Bergsma, Formsma, de Bruin, & Bögels, 2012a; Zylowska et al., 2008) and other neurodevelopment difficulties (Bögels, Hoogstad, van Dun, de Schutter, & Restifo, 2008), finding evidence of significant improvements in attention regulation components of EF. Non-clinical research has investigated the use of mindfulness in schools with a focus on improving attention and stress-reduction (Burke, 2010; Greenberg & Harris, 2012; Harnett & Dawe, 2011). Although findings from these studies show some promise, the evidence base for MBIs with adolescents lags behind their popularity, suggesting a need for further research into both their effectiveness with defined clinical populations and their mechanisms of change.

Theories of mindfulness

A number of reviews have sought to propose theoretical frameworks for the mechanisms through which mindfulness might work. Hölzel et al. (2011) propose

that mindfulness practice impacts on a number of components, including emotion regulation and attention regulation, which combine to enhance self-regulation.

Enhanced emotion regulation may arise from the repeated direction of attention towards difficulties with acceptance, which may result in greater ability to tolerate distress (Hölzel et al., 2011). This process may operate in a similar manner to exposure, shown to be effective in reducing anxiety in adults (Chambless & Ollendick, 2001) and young people (Davis, May, & Whiting, 2011).

Bishop et al. (2004) propose that mindfulness also enhances the inhibition of elaborative processing and cognitive flexibility, which again may be considered components of EF. These components relate to the development of meta-cognitive insight (Teasdale et al., 2002), in which thoughts are seen as transient mental events rather than representations of reality. This awareness can facilitate increased cognitive flexibility, which in turn allows a conscious choice of response rather than habitual reaction. Enhanced cognitive flexibility may be able to interrupt processes thought to be implicated in psychological distress, such as worry over future events in anxiety and rumination over past events in depression. Weil et al. (2013) suggest that the development of meta-cognitive ability undergoes a prolonged trajectory during adolescence, and thus it is as yet unclear to what extent younger adolescents in particular may be able to benefit from this aspect of mindfulness.

Research into MBIs with adults also suggests that the effects of mindfulness practice are mediated by improved mindfulness and self-compassion (Kuyken et al., 2010). Mindfulness and self-compassion might be considered to be closely related, overlapping constructs, since according to Neff (2003), mindfulness forms one component of self-compassion, together with self-kindness and common humanity;

and definitions of mindfulness incorporate acting non-judgementally (Kabat-Zinn, 1990). Given that difficulties such as anxiety may arise with negative self-evaluation and social comparisons in adolescence (Neff & McGehee, 2010), the potential for MBIs to increase self-compassion in this age group merits further investigation. In summary, there are a range of mechanisms through which mindfulness practices may result in change, including enhanced attention and emotion regulation, inhibition of elaborative processing, cognitive flexibility, and self-compassion. All these areas are thought to undergo significant development during adolescence and thus it is unclear whether mindfulness may operate in adolescents in the same way as for adults. However, a lack of maturity in these functions could be considered as offering even greater potential for gain in adolescents. Furthermore, given the prevalence of anxiety in adolescents and the clinical need for additional interventions, particularly in cases where other interventions have not worked, the possibility that MBIs might be effective for adolescents with anxiety disorders requires further research.

Present study

The aim of the present study was to explore the effect of an MBCT-based intervention for adolescents with anxiety disorders, to add to the evidence base for MBCT adapted for this population. The primary hypothesis was that mindfulness training would reduce anxiety. Further hypotheses were that mindfulness training would reduce depression if present, and improve mindfulness, self-compassion and EF. In addition, this study sought to explore the following questions:

1. What changes do adolescents experience when practicing mindfulness?
2. What is adolescents' experience of mindfulness training?

Method

Participants

Participants were recruited from adolescents aged 14-18 who were referred to an MBCT-based course, who were not severely depressed or suicidal, not receiving other psychological therapy, and who met criteria for at least one anxiety disorder on the Structured Clinical Interview for DSM Axis I disorders (SCID-I/P: First, Spitzer, Gibbon, & Williams, 2002). Seven female and three male adolescents agreed to participate, with a mean age of 15.6 (SD = 1.47, range = 14-17). Nine participants described their ethnicity as white British and one as mixed race. All were attending school or college and living with at least one parent. See Table 1 for demographic details.

Table 1

Participant Demographic Information, Suggested Diagnoses and Attendance

Participant	Group	Gender	Primary diagnosis suggested by SCID-I/P	Above clinical cut-off on MFQ?	No. of sessions attended (of 6)	Attended follow up?
1	1	F	Social phobia	Y	6	N[a]
2	1	F	Generalised anxiety disorder	N	6	Y[b]
3	1	M	Social phobia	Y	6	Y
4	1	F	Panic disorder	N	6	Y
5	1	M	Social phobia	Y	6	Y
6	1	F	Hypercondriasis	Y	5	N
7	1	M	Generalised anxiety disorder	Y	5	Y
8	2	F	Social phobia	Y	5	N/A[c]
9	1	F	Social phobia	Y	2	N
10	2	F	Anxiety disorder not otherwise specified	Y	1	N/A

Notes: [a] unable to attend due to bad weather; [b] attended subsequent follow-up; [c] no follow-up available for group 2.

Eight participants attended a larger group, and the remaining two attended a smaller group. Two participants were excluded from the analyses as non-completers. The remaining eight participants attended a mean of 5.63 (SD = 0.52, range = 5-6) intervention sessions (see Table 1 for details).

Design

This study used a mixed-methods multiple-case AB design with follow-up (Barlow, Nock, & Hersen, 2009; Yin, 2009). Compared with an RCT or an uncontrolled pre-post design, this design facilitated exploration of change in anxiety over time. It also enabled the detection of change that might otherwise be lost through averaging in a group design (Barlow et al., 2009). The use of four or more cases is considered sufficient to establish replication (Barlow et al., 2009).

Each case included a time-series of weekly personal anxiety measures, covering baseline, intervention and follow-up phases. In contrast to an uncontrolled pre-post design, a baseline allows each participant to act as their own control (Yin, 2009). Standardised measures were also collected at the start and end of each phase, to test additional hypotheses and increase the validity of the time-series analysis (Yin, 2009).

A sequential explanatory mixed-methods strategy was used (Creswell, 2003). Semi-structured interviews were carried out post-intervention to interpret the quantitative data, and explore the adolescents' experience of change and of mindfulness training. Qualitative data were interrogated using a pragmatic approach (Johnson & Onwuegbuzie, 2004) based on critical incident analysis (CIA; Butterfield, Borgen, Maglio, & Amundsen, 2009) to identify specific helpful and hindering aspects of mindfulness.

Measures

Personal anxiety measure. A personal anxiety measure was developed for each participant, providing greater sensitivity to the individual's subjective experience of anxiety than a standardised measure (Morley, 2007), and enabling weekly measurement of the primary outcome variable without overly burdening participants. The present measure assessed the weekly frequency of up to five anxiety-related events that could be articulated from a behavioural, cognitive or physiological perspective (see Appendix F), using a 5-point Likert scale. The level of concern about each item was also rated on a scale of 0 (not concerned at all) to 10 (extremely concerned), based on the theory that increased mindfulness may not result in symptom reduction, but in greater acceptance of difficulties (Greco & Hayes, 2008). Mean frequency and concern were calculated from these measures. Participants also rated their overall experience of anxiety over the week on a scale of 0-10 (10 being the highest). Tests of the psychometric properties of the frequency measure showed adequate concurrent validity with the SCARED ($r = 0.76$) and adequate test-retest reliability over two weeks in the baseline phase ($r = 0.77$).

SCID-I/P. The research version of the SCID-I/P (First et al., 2002) can be used with young people to establish whether they meet diagnostic criteria for DSM-IV Axis I disorders (First et al., 2002).

Screen for Child Anxiety Related Emotional Disorders (SCARED). The SCARED (Birmaher et al., 1999) is a 41-item anxiety measure, with young person and parent versions. Total scores, on a 3-point scale, range from 0 to 82; scores of 25 and above suggest an anxiety disorder is possible; scores of 30 and above indicate an anxiety disorder is likely. The SCARED has been found to have excellent internal

consistency (α=.91), and convergent and discriminant validity (Hale, Crocetti, Raaijmakers, & Meeus, 2011).

Mood and Feelings Questionnaire (MFQ). The MFQ (Wood, Kroll, Moore, & Harrington, 1995) is a 33-item (young person) and 34-item (parent) measure of depression, using a 3-point scale, with total scores above 27 indicating significant depressive symptoms (Wood et al., 1995). This measure has high internal consistency for the young person (α=.95) and parent (α=.96) measures, and good test-retest reliability (intraclass correlation coefficients (ICC) =.80) (Burleson Daviss et al., 2006).

Child and Adolescent Mindfulness Measure (CAMM). The CAMM (Greco, Baer, & Smith, 2011) is a 10-item questionnaire measuring mindfulness in children and adolescents. Total scores range from 0 to 40, with higher scores representing greater levels of mindfulness. This measure has been validated for children and adolescents (Greco et al., 2011) and has adequate internal consistency (α=.81).

Self-Compassion Scale (SCS). The SCS (Neff, 2003) is a 26-item self-report measure, using a 5-point scale, with higher scores representing greater self-compassion. A total mean of six subscales is calculated, giving a value between 1 and 5 (see Appendix F). The SCS demonstrates good concurrent, convergent and discriminant validity, and test–retest reliability (r=0.93) (Neff, 2003). Internal consistency was found to be high (α=.90) with adolescents (Neff & McGehee, 2010).

CAMHS Outcome Research Consortium (CORC) Goal-Based Outcomes (CORC, 2011). Goal-based outcomes were included to track changes experienced by

participants. This measure allows identification of up to three personal goals and assessment of progress towards them on a scale from 0 to 10.

Behavior Rating Inventory of Executive Function (BRIEF). The parent-rated BRIEF (Gioia, Isquith, Guy, & Kenworthy, 2000) and self-rated BRIEF-SR (Guy, Isquith, & Gioia, 2004) are 86- and 80-item questionnaires assessing EF. Both comprise two indexes, the Behavioural Regulation Index (BRI) and Meta-cognition Index (MI), which are in turn composed of a number of clinical subscales representing components of EF. Scores of 65 and above are considered clinically significant and scores of 60 and above suggest clinical interpretation may be warranted. Good internal consistency and test-retest reliability have been found on the BRIEF (Gioia et al., 2004), α=.93-.97, r=0.74-0.95, and BRIEF-SR (Guy et al., 2004), α=.93-.95, r=0.84-0.87.

Interview Schedule. The interview schedule (Appendix G) was developed to address the research questions using the CIA technique of probing for specific helpful and hindering incidents and wish list items (Butterfield et al., 2009).

Procedure

Ethical approval was received from an NHS Research Ethics Committee (Appendix C) and from the Research and Development Department of the host trust (Appendix D).

Participants were recruited from two Child and Adolescent Mental Health Services (CAMHS). The study was explained to potential participants and their parent(s), who were given information sheets (Appendix E) at assessment for the mindfulness groups. Parents and young people who subsequently agreed to take part completed written informed consent/assent forms (Appendix E). An interview was

then conducted with each participant, to categorise their anxiety difficulties using the SCID-I/P for DSM-IV-TR (First et al., 2002), and to construct their personal measure.

During the baseline phase, participants were asked to complete their personal anxiety measures each week using an internet survey tool or by telephone, for four-seven weeks. Participants continued to complete these measures during the six-week intervention phase and subsequent follow-up phase.

Personal goals were evaluated at baseline and post-intervention. Standardised measures were collected at the start and end of the baseline phase, to establish the stability of the baseline; post-intervention; and at six-week and twelve-week follow-ups to assess the durability of intervention effects.

After the last session, participants were invited to participate in a telephone interview covering their experience of change during the course and of mindfulness training (see Appendix G).

Intervention

The larger mindfulness group was facilitated by two clinical psychologists (both trained MBCT teachers), and one counsellor, and the smaller group by one psychiatrist and one clinical psychologist, all of whom had three years supervised MBCT teaching and training. All facilitators met regularly for group supervision with a Masters Programme Tutor from the Centre for Mindfulness Research Practice at Bangor University.

The manualised MBCT-based intervention consisted of six weekly, 75-minute sessions. The course was shortened from the eight-week MBCT programme to improve accessibility by fitting within the school term, while still retaining the overall structure of the adult programme (see Appendix H). Adaptations from the adult

MBCT course included briefer practices, e.g. a 10 minute rather than 40 minute body scan, and shorter sessions and homework practices, more developmentally appropriate to the shorter attention span of this age group. Multi-media resources were used to increase engagement, and examples focused on issues relevant to adolescents.

Analysis

Statistical analysis. Simulation modelling analysis (SMA; Borckardt et al., 2008) was used to analyse the time-series data. This method has greater statistical power for short data streams than conventional time-series analyses. Autocorrelation adjustments were used to reduce the likelihood of Type 1 errors, and Bonferroni corrections were used to control for multiple comparisons (α=.017).

Where suitable population norms were available, a reliable change index (RCI) was calculated according to method defined by Jacobson and Truax (1991). A change was considered clinically significant if its magnitude was large enough to be reliable for the given measure and if the score crossed the clinical cut-off.

Non-parametric group-level tests were used to analyse the standardised measures, due to the small sample sizes. Two related-samples Wilcoxon signed rank tests were performed in preference to Friedman's test for k-related-samples (pre, post, follow-up), as this would have excluded cases with missing follow-up data. Alpha levels were set conservatively using a Bonferroni adjustment (α=.025) to minimise the possibility of making a Type I error as a result of multiple comparisons.

Qualitative analysis. Post-intervention interviews were audio-taped and transcribed. Transcripts were read to get a sense of the data, before recording helpful and hindering critical incidents and wish-list items in the left hand margin (see Appendix I). Themes were extracted from the most generally applicable incidents and

the frequency at which incidents contributed to each theme recorded. Coding reliability was evaluated by a doctoral student in clinical psychology independently identifying critical incidents on one transcript, resulting in 100% concordance. Validity was addressed through cross-checking the findings with those of an undergraduate student who was also investigating the intervention and identified similar themes. The qualitative findings were then used to provide a contextual explanation of the quantitative results (Creswell, 2003).

Results

The results are based on the eight out of 10 participants who completed the course. Group level results are presented first, followed by detailed results integrating quantitative and qualitative findings for each participant, and an overall summary of the emerging qualitative themes.

Group Results

Diagnoses. Four participants met DSM-IV-TR diagnostic criteria on the SCID-I/P (First et al., 2002) for social phobia, one for panic disorder, two for generalised anxiety disorder (GAD) and one for hypochondriasis (health anxiety). One participant also had an autistic spectrum diagnosis. Six of the eight participants were above the clinical cut-off for depression on the MFQ at interview. See Table 1 for details.

Baseline. As expected, no significant differences were found in Wilcoxon signed-ranks tests for related-samples between the start and end of the baseline on any of the standardised measures, suggesting a stable baseline period at group-level (see Table 2).

Table 2

Self-and Parent-rated Measures at Start and End of Baseline, Post-intervention and at Six-week Follow-up

	Start of baseline		End of baseline	Start-end baseline		Post-intervention		Pre-post intervention			Follow- up 1	
	N	Md (IQR)	Md (IQR)	Z	p	N	Md (IQR)	Z	p	Cohen's d	N	Md (IQR)
Adolescent												
SCARED	8	45.00 (44.25)	39.50 (39.50)	-0.25	.799	8	35.5 (49.75)	-1.47	.141	0.51	7	37.00 (52.50)
MFQ	8	35.5 (17.25)	33.5 (30.00)	-0.11	.916	8	32.5 (28.50)	-0.51	.612	0.05	7	23.00 (22.00)
CAMM	8	14.5 (8.75)	16.00 (13.75)	-1.76	.078	8	18.5 (14.50)	-1.54	.123	0.52	7	17.00 (19.00)
SCS	7	2.00 (0.88)	2.00 (1.08)	-0.73	.465	7	2.31 (1.42)	-0.51	.611	0.10	5	2.15 (1.79)
BRIEF-SR-BRI	8	62.00 (31.00)	68.00 (27.25)	-0.37	.715	7	61.00 (47.00)	-1.40	.160	0.46	2	87.00 (14.00)
BRIEF-SR-MI	8	69.00 (26.25)	63.5 (31.25)	-0.14	.893	7	61.00 (16.00)	-0.17	.865	0.20	2	66.50 (21.00)
Goal 1	8		2.00 (3.75)			7	5.00 (6.00)	-2.12	.034*	0.85		
Goal 2	8		2.00 (2.50)			7	5.00 (1.00)	-2.00	.045*	0.66		
Goal 3	5		2.00 (3.50)			4	4.00 (4.25)	-1.07	.285	0.26		
Parent												
SCARED	7	42.00 (47.00)	41.00 (40.00)	-0.94	.345	6	34.50 (42.75)	-1.75	.080	0.92	3	36.00 (44.00)
MFQ	7	33.00 (45.00)	37.00 (42.00)	-0.11	.916	6	23.00 (32.25)	-2.21	.027#	0.89	3	35.00 (43.00)
BRIEF-BRI	6	69.00 (30.75)	70.00 (29.50)	-1.34	.180	6	61.50 (33.00)	-2.20	.028#	1.59	4	76.00 (26.50)
BRIEF-MI	6	69.50 (19.50)	69.50 (19.50)	-0.54	.593	6	68.00 (23.50)	-1.26	.207	1.05	4	73.50 (11.25)

* significant at $p < .05$; # nearing significance at $p<.025$, Bonferroni-corrected for two comparisons (start-end baseline and pre-post intervention)

Pre- to post-intervention. A 2-tailed Wilcoxon signed-ranks test for related-samples showed significant improvements in the first two self-rated goals from pre- to post-intervention with large and medium effect sizes (ES) respectively (see Table 2). Improvements in parent ratings of their child's depression on the MFQ and behaviour regulation on the BRIEF-BRI from pre- to post-intervention approached significance, with large ES (see Table 2).

No significant changes were found pre- to post-intervention on the self-rated SCARED, MFQ, CAMM, SCS or BRIEF-SR-BRI/MI, or on the parent-reported SCARED or BRIEF-MI (see Table 2). However, these tests were underpowered to detect anything other than large ES, given the small sample size.

Follow-up. Due to the small sample size and consequent lack of power, follow-up data were not included in the group-level statistical analysis. Median values are included in Table 2 and individual results are presented in the following section.

Individual Results

Participant 1 ("Anna"). Anna's personal anxiety rating showed a stable baseline at a level suggesting significant distress (see Figures 1-3). Despite her social anxiety, she reported that she had found it helpful "to meet others there for the same reasons". This was matched by a significant reduction in her personal anxiety rating from baseline to intervention that was maintained at follow-up (see Figure 1 and Table 3).

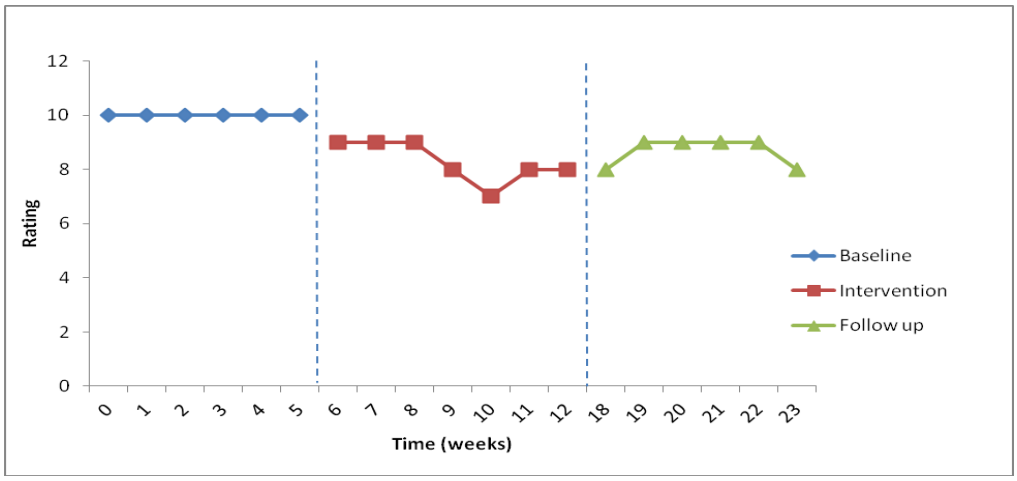

Figure 1. Anxiety rating scores (Anna)

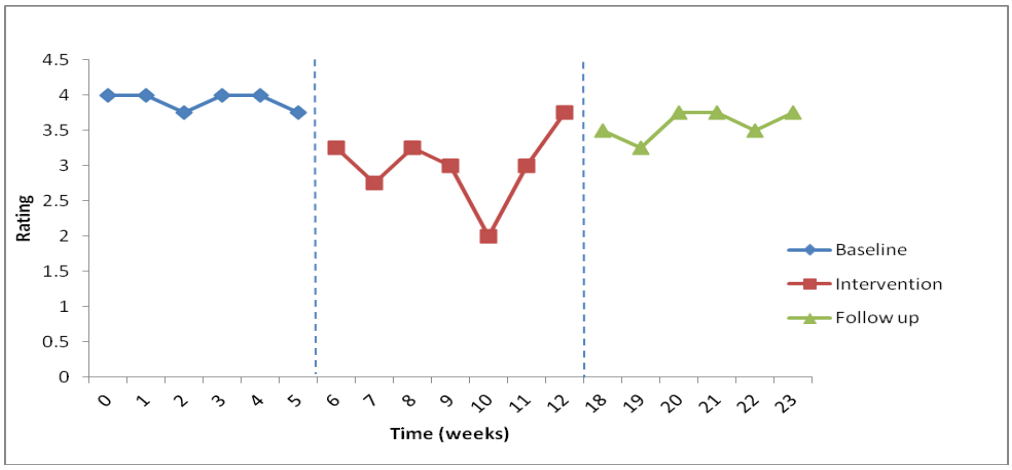

Figure 2. Anxiety frequency scores (Anna)

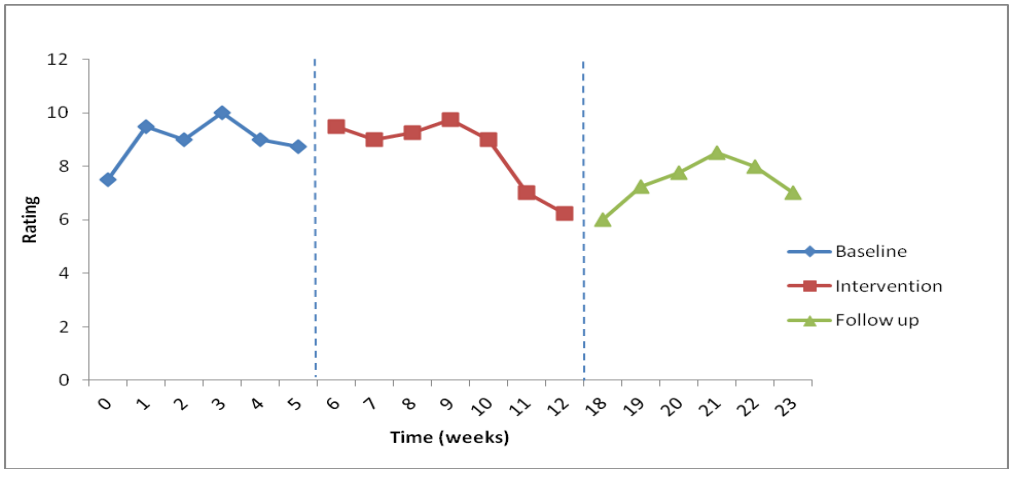

Figure 3. Anxiety concern scores (Anna)

Table 3

Phase Level Change in Personal Anxiety Measure (Anna)

	Baseline to intervention		Intervention to follow-up		Baseline to follow-up	
Measure	Rho	p	Rho	p	Rho	p
Anxiety Rating	-0.92	.0001*	0.28	.586	-0.95	.0001*
Anxiety Frequency	-0.84	.036	0.65	.104	-0.75	.038
Anxiety Concern	-0.06	.087	-0.48	.420	-0.74	.041

* significant at p <.001

Anna recorded the highest scores in the group for anxiety, depression and executive dysfunction and the equal lowest mindfulness score pre-intervention (see Table 4). However, she made a reliable improvement in mindfulness from post-intervention to follow-up 1 that was maintained at follow-up 2 (see Table 4).

Table 4

Anna's Scores on the Standardised Measures

Measure	Start of baseline	Pre-intervention	Post-intervention	Follow-up 1	Follow-up 2
Adolescent					
SCARED	78	79	78	80	82
MFQ	59	61	61	59	56
CAMM	4	4	8	17 [RI]	13
SCS	1.12	1.81	1	1	1.15
BRIEF-SR-BRI	92	82	97 [RW]	94	-
BRIEF-SR-MI	74	61	75 [RW]	56 [RI]	-
Goal 1		0	1		
Goal 2		0	0		
Goal 3		0	0		
Parent					
SCARED	57	67	57 [RI]	60	66 [RW]
MFQ	58	58	45 [RI]	46	57 [RW]
BRIEF-BRI	79	79	71 [RI]	78 [RW]	-
BRIEF-MI	62	67	56 [RCI]	69 [RW]	-

[RI] Reliable improvement from previous time-point, [RW] Reliable worsening from previous time-point

[RCI] Reliable and clinically significant improvement from previous time-point

As Table 4 shows, Anna's mother's reports also showed a reliable improvement in depression from pre- to post-intervention on the MFQ that was maintained at follow-up 1, but reliably worsened again to follow-up 2. Similarly, a pre-post reliable improvement in EF reliably worsened to follow-up 1 (see Table 4). Anna's mother's anxiety rating on the SCARED was not stable at baseline, and thus the changes in this measure should be treated with caution.

Although Anna's anxiety and depression scores remained well above clinical cut-off after the group (see Table 4), her qualitative reports indicated that she had a positive experience of mindfulness practices, particularly the breathing space, which she said she was using at home to help her sleep, and at school, where it had "made it easier to focus without [her] mind going everywhere".

Participant 2 ("Bella"). Bella had a positive trend in her anxiety rating over the baseline period but showed significant improvement in anxiety and concern about her anxiety symptoms from baseline to follow-up on her personal measure (see Figures 4-6 and Table 5). She reported initial uncertainty about being in a group, and was therefore surprised to find it particularly helpful, creating a "secure environment", where she could learn from others' experiences.

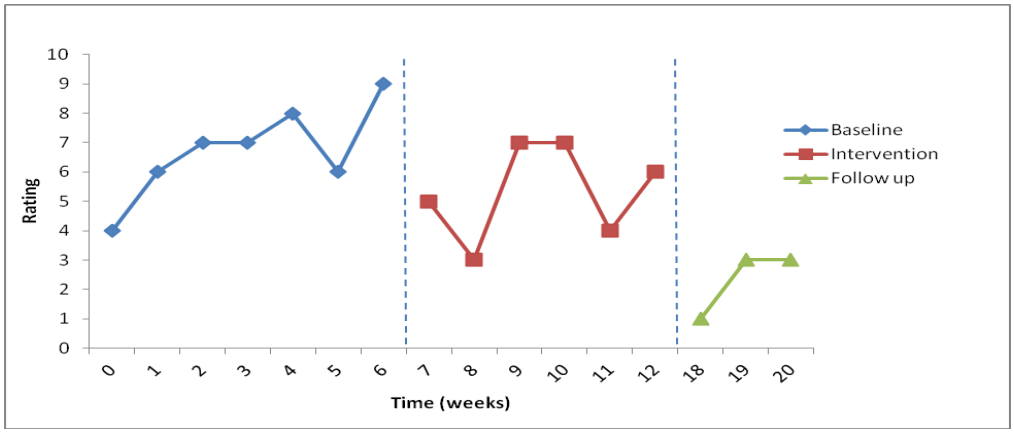

Figure 4. Anxiety rating scores (Bella)

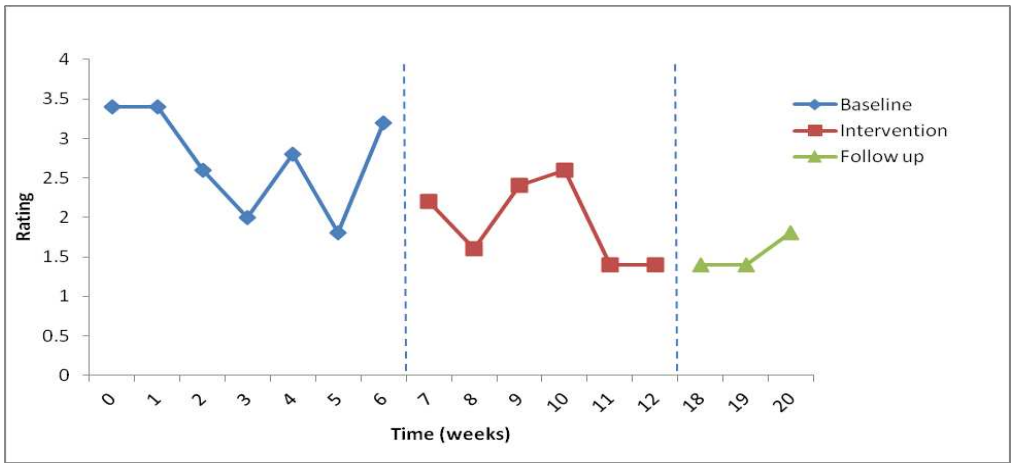

Figure 5. Anxiety frequency scores (Bella)

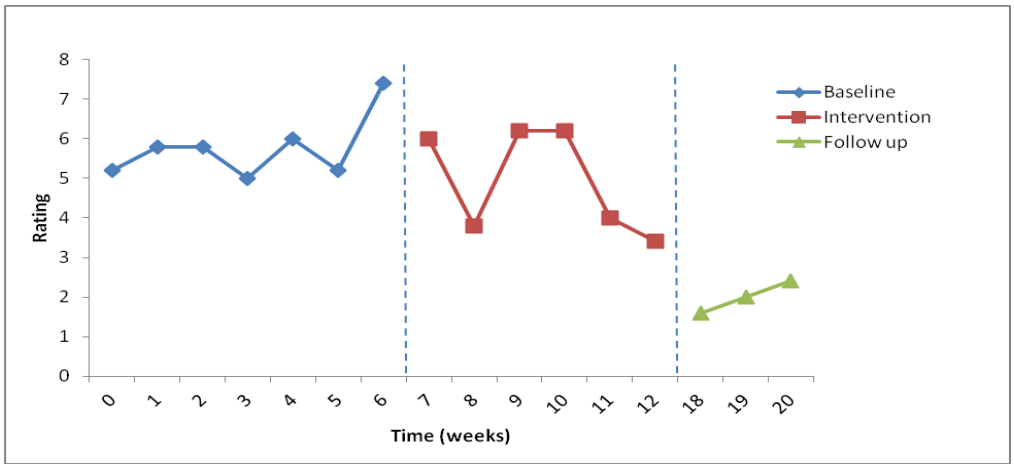

Figure 6. Anxiety concern scores (Bella)

Table 5

Phase Level Change in Personal Anxiety Measure (Bella)

	Baseline to intervention		Intervention to follow-up		Baseline to follow-up	
Measure	Rho	p	Rho	p	Rho	p
Anxiety Rating	-0.04	.955	-0.75	.023	-0.81	.0001*
Anxiety Frequency	-0.60	.071	-0.38	.361	-0.77	.030
Anxiety Concern	-0.15	.643	-0.83	.0001*	-0.80	.0001*

* significant at p<.001

Although Bella made reliable improvement from pre- to post-intervention in depression on the MFQ (see Table 6), this had reliably worsened again by follow-up 1. Another notable change was in Bella's self-reported EF scores, which reliably improved from pre- to post-intervention (see Table 6). Bella's mother's ratings on the SCARED and MFQ were very low and did not match with Bella's self-reported scores (see Table 6). However, as with Anna, Bella's mother reported reliable improvement in behaviour regulation pre- to post-intervention on the BRIEF-BRI.

Table 6

Bella's Scores on the Standardised Measures

Measure	Start of baseline	Pre-intervention	Post-intervention	Follow-up 1
Adolescent				
SCARED	24	22	18	20
MFQ	26	26	16 [RI]	23 [RW]
CAMM	15	15	21	18
SCS	2.23	2.23	2.92	2.15
BRIEF-SR-BRI	62	74	46 [RCI]	-
BRIEF-SR-MI	83	95	61 [RI]	-
Goal 1		4	7	
Goal 2		3	5	
Parent				
SCARED	9	4	6	-
MFQ	4	4	1	-
BRIEF-BRI	46	51	39 [RI]	-
BRIEF-MI	67	63	61	-

[RI] Reliable improvement from previous time-point

[RW] Reliable worsening from previous time-point

[RCI] Reliable and clinically significant improvement from previous time-point

Participant 3 ("Cameron"). Cameron showed no significant change across the three phases in his personal measure (see Figures 7-9 and Table 7), which may be partly explained by his reports of not having used the practices as much as he might have done. However, he said he thought they would be helpful for coping with stressful social situations and depression in future. Like Anna, he identified a wish list item of more sessions to go over the exercises again.

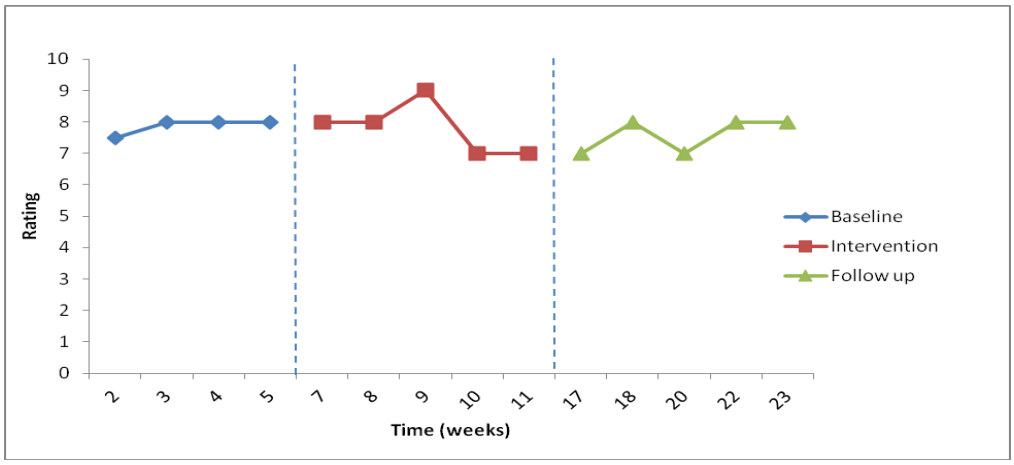

Figure 7. Anxiety rating scores (Cameron)

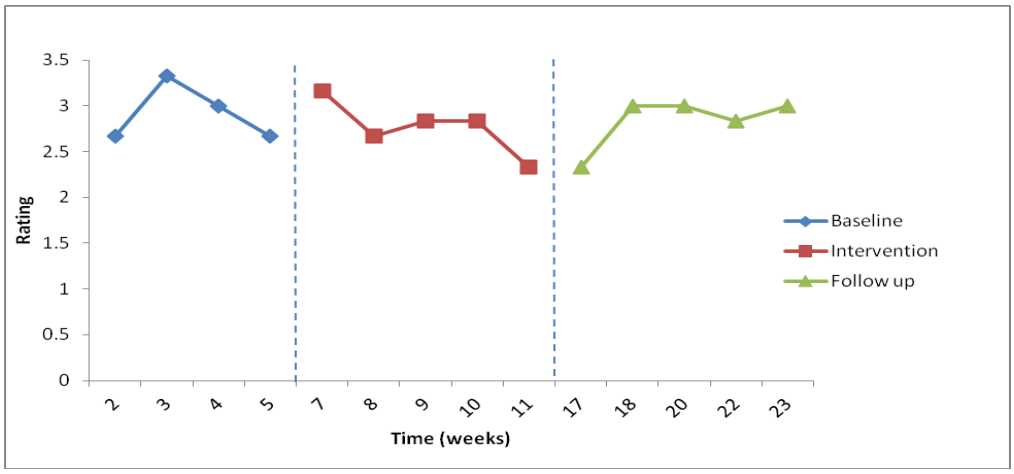

Figure 8. Anxiety frequency scores (Cameron)

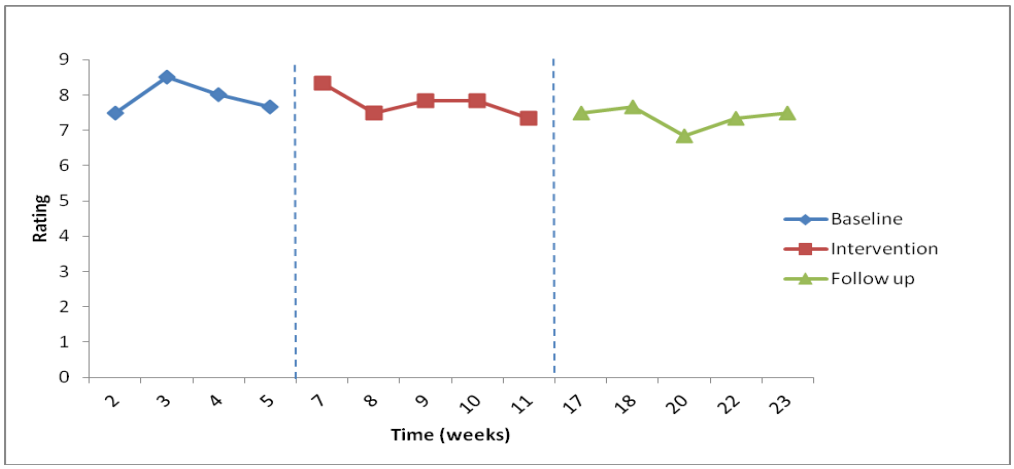

Figure 9. Anxiety concern scores (Cameron)

Table 7

Phase Level Change in Personal Anxiety Measure (Cameron)

	Baseline to intervention		Intervention to follow-up		Baseline to follow-up	
Measure	Rho	p	Rho	p	Rho	p
Anxiety Rating	-0.10	.735	-0.12	.692	-0.26	.252
Anxiety Frequency	-0.18	.501	0.22	.598	-0.05	.903
Anxiety Concern	-0.22	.433	-0.50	.162	-0.66	.136

On the standardised measures, Cameron showed reliable improvement in anxiety pre-to post-intervention on the SCARED, that reliably worsened again at follow-up 1 (see Table 8). However, as he also showed a reliable improvement in his SCARED and MFQ scores over the baseline, these results should be treated with caution.

Table 8

*Cameron's S*cores on the Standardised Measures

Measure	Start of baseline	Pre-intervention	Post-intervention	Follow-up 1	Follow-up 2
Adolescent					
SCARED	52	39 RI	28 RI	37 RW	-
MFQ	33	25 RCI	22	23	-
CAMM	14	17	18	17	-
SCS	1.88	1.69	2	2	-
BRIEF-SR-BRI	61	59	53	-	-
BRIEF-SR-MI	54	63	59	-	-
Goal 1		2	4		
Goal 2		2	6		
Goal 3		0	5		
Parent					
SCARED	26	33 RW	28	36	37
MFQ	26	45 RW	27 RI	35 RW	32
BRIEF-BRI	79	79	73 RI	74	-
BRIEF-MI	77	78	77	80	-

[RI] Reliable improvement from previous time-point

[RW] Reliable worsening from previous time-point

[RCI] Reliable and clinically significant improvement from previous time-point

As Table 8 shows, Cameron's mother's ratings showed a reliable improvement in depression on the MFQ from pre- to post-intervention. Similarly, as with both Anna and Bella, Cameron's mother's ratings of BRIEF-BRI showed a reliable improvement from pre- to post-intervention, which in Cameron's case was maintained at follow-up 1.

Participant 4 ("Daisy"). Although Daisy's scores on her personal measure showed a decreasing trend from baseline to follow-up (see Figures 10-13), phase level changes did not reach significance (see Table 9).

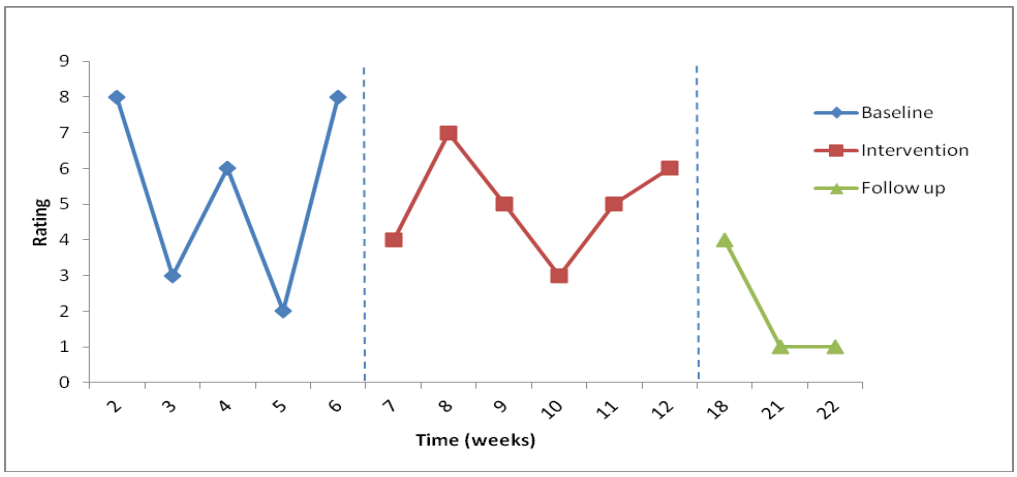

Figure 10. Anxiety rating scores (Daisy)

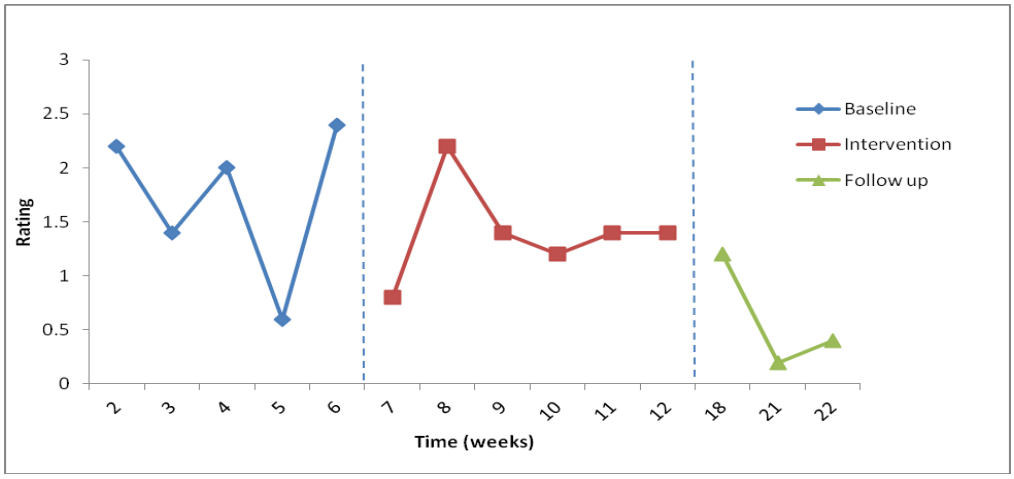

Figure 11. Anxiety frequency scores (Daisy)

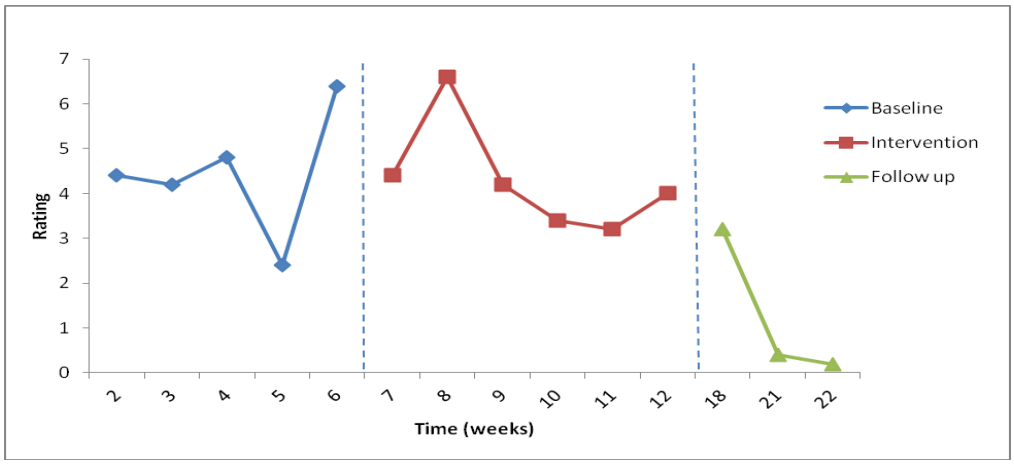

Figure 12. Anxiety concern scores (Daisy)

Table 9

Phase Level Change in Personal Anxiety Measure (Daisy)

	Baseline to intervention		Intervention to follow-up		Baseline to follow-up	
Measure	Rho	p	Rho	p	Rho	p
Anxiety Rating	-0.05	.910	-0.69	.126	-0.71	.028
Anxiety Frequency	-0.30	.078	-0.70	.091	-0.73	.073
Anxiety Concern	-0.26	.326	-0.79	.104	-0.73	.120

Daisy made a reliable and clinically significant improvement in anxiety, on the SCARED, which was replicated in her mother's ratings (see Table 10). Unlike other group members, Daisy was not experiencing difficulties with depression prior to the group and she had the highest mindfulness scores at each stage of the research, which also reliably improved from baseline to follow-up. She also had the highest self-compassion scores at each time-point.

Daisy also made reliable and clinically significant improvement in behaviour regulation on both the self- and parent-rated BRIEF-BRI from pre- to post-intervention (see Table 10).

Table 10

Daisy's Scores on the Standardised Measures

Measure	Start of baseline	Pre-intervention	Post-intervention	Follow-up 1
Adolescent				
SCARED	22	36 [RCW]	21 [RCI]	18
MFQ	7	9	13	9
CAMM	21	24	29	31
SCS	3.08	2.96	3.08	3.73
BRIEF-SR-BRI	53	60 [RCW]	45 [RCI]	-
BRIEF-SR-MI	40	38	42	-
Goal 1		5	7	
Goal 2		3	5	
Parent				
SCARED	31	34	17 [RCI]	16
MFQ	6	9	4	3
BRIEF-BRI	59	61	46 [RCI]	-
BRIEF-MI	46	46	43	-

[RI] Reliable improvement from previous time-point

[RW] Reliable worsening from previous time-point

[RCI] Reliable and clinically significant improvement from previous time-point

[RCW] Reliable and clinically significant worsening from previous time-point

Daisy's qualitative results indicated that she, like a number of others, had experienced a calming effect from mindfulness practice and found the breathing space particularly useful when she was worried about having a panic attack. She was one of several participants to note that a more mindful response had become "natural" with practice.

Participant 5 ("Eddie"). Eddie showed a pattern of frequent and high levels of anxiety symptoms and concern about these during the baseline and intervention phases (see Figures 13-15). The group setting likely represented a particular challenge for Eddie, given his high levels of social anxiety. Despite these difficulties, Eddie's qualitative reports indicated that he viewed getting to know others in the group as helpful.

Although Eddie continued to experience frequent anxiety symptoms post-intervention, his concern about them and subjective experience of anxiety both significantly reduced from baseline to follow-up (see Table 11). Qualitatively, he reported that this coincided with his use of "new strategies" learnt in the group. In particular, he reported that the body scan helps "when there's something that I'm nervous about or if something's happened".

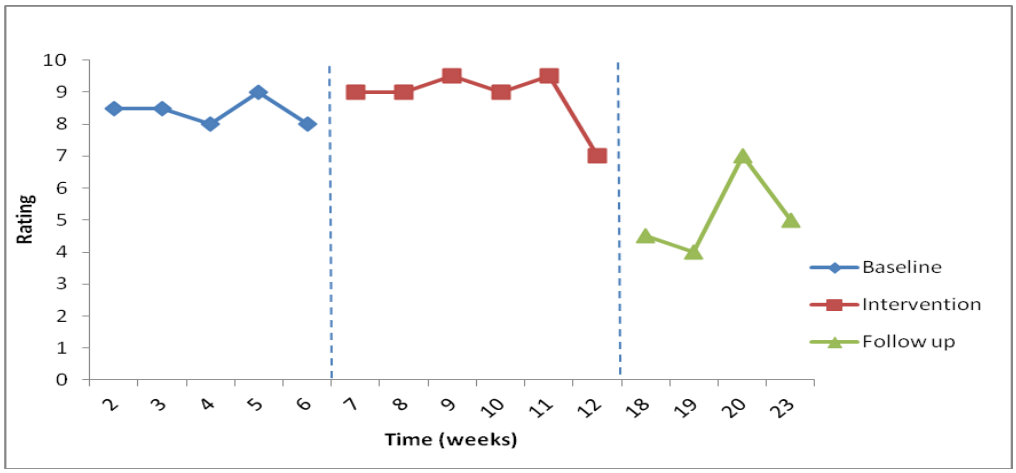

Figure 13. Anxiety rating scores (Eddie)

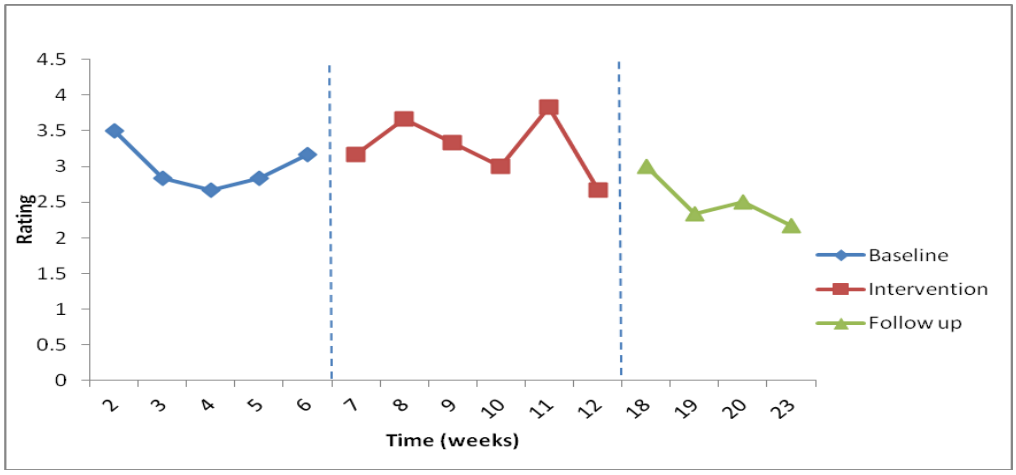

Figure 14. Anxiety frequency scores (Eddie)

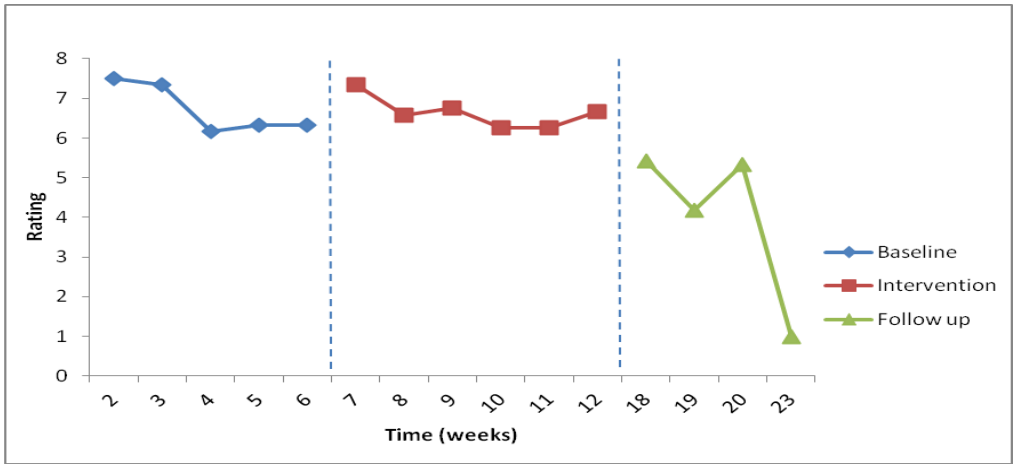

Figure 15. Anxiety concern scores (Eddie)

Table 11

Phase Level Change in Personal Anxiety Measure (Eddie)

	Baseline to intervention		Intervention to follow-up		Baseline to follow-up	
Measure	Rho	p	Rho	p	Rho	p
Anxiety Rating	0.22	.74	-0.83	.088	-0.87	.0001*
Anxiety Frequency	0.35	.205	-0.81	.034	-0.61	.126
Anxiety Concern	0.05	.943	-0.86	.0001*	-0.87	.0001*

* significant at p <.001

Eddie remained above the clinical cut-offs for anxiety, depression and executive dysfunction post-intervention and at follow-up on both self and parent-rated measures. However, he made reliable improvements in mindfulness on the CAMM, in self-reported behaviour regulation on the BRIEF-SR, and in parent-reported anxiety on the SCARED from pre- to post-intervention, the latter two improvements being maintained at follow-up 2 (see Table 12).

Table 12

Eddie's Scores on the Standardised Measures

Measure	Start of baseline	Pre-intervention	Post-intervention	Follow-up 1	Follow-up 2
Adolescent					
SCARED	79	79	74	72.5	-
MFQ	48	48	43	45	-
CAMM	4	4	14 [RI]	7 [RW]	
BRIEF-SR-BRI	89	89	80 [RI]	-	80
BRIEF-SR-MI	78	78	72	-	77
Goal 1		0	5		
Goal 2		0	4		
Parent					
SCARED	78	78	57[Ri]	-	58
MFQ	37	37	32	-	40[RW]
BRIEF-BRI	94	94	90	-	89
BRIEF-MI	79	79	75	-	78

[RI] Reliable improvement from previous time-point, [RW] Reliable worsening from previous time-point

Participant 6 ("Francesca"). No parent measures were completed for Francesca, and she was lost to follow-up. Her personal measures are not reported here as they were insufficient for time-series analysis. However, she provided useful feedback on her experience of the course. Given her difficulty with health anxiety, she cited "having to pay attention to her body" as difficult as this had increased her awareness of her symptoms and might potentially have increased her worries about her health. However, her qualitative reports indicated insight into the process of mindfulness, including learning to "be in the moment" and "focusing on something that isn't your future or past" during the practices. Moreover, Francesca made a reliable improvement in depression on the MFQ from pre- to post-intervention (see Table 13).

Table 13

Frances*ca's* Scores on the Standardised Measures

Measure	Start of baseline	Pre-intervention	Post-intervention
Adolescent			
SCARED	37	34	30
MFQ	35	41	30 [RI]
CAMM	13	17	19
SCS	2.0	2.0	2.31
BRIEF-SR-BRI	62	62	61
BRIEF-SR-MI	64	64	61
Goal 1		2	1
Goal 2		2	5
Goal 3		2	5

[RI] Reliable improvement from previous time-point

Participant 7 ("George"). George reported difficulty in remembering to complete his personal measures, despite prompting. Like Francesca, his personal measures were insufficient for time-series analysis and are not reported here. The

highest score on his parent-reported BRIEF was for planning and organisation, and was also the highest score in the group, suggesting particular difficulty in this area.

George's depression scores on the MFQ showed considerable variability. However, he showed a reliable improvement in mindfulness on the CAMM, from pre-intervention to follow-up 2 (see Table 14).

Table 14

George's Scores on the Standardised Measures

Measure	Start of baseline	Pre-intervention	Post-intervention	Follow-up 1	Follow-up 2
Adolescent					
SCARED	38	40	41	35	38
MFQ	36	15 [RCI]	35 [RCW]	23 [RCI]	21
CAMM	15	21	25	26	28
SCS	2.42	2.77	2.54	2.85	2.77
BRIEF-SR-BRI	60	60	57	-	-
BRIEF-SR-MI	60	55	61	-	-
Goal 1		4	7		
Goal 2		5	4		
Goal 3		5	3		
Parent					
SCARED	42	41	41	-	38
MFQ	33	31	28	-	31
BRIEF-BRI	54	54	52	-	55
BRIEF-MI	72	72	70	-	68

[RCI] Reliable and clinically significant improvement from previous time-point

[RCW] Reliable and clinically significant worsening from previous time-point

In common with several other participants, George reported finding the shorter practices, such as the breathing space, that could be done while at school or on the bus helpful, and that hearing other people's experiences of using mindfulness in the group gave him useful ideas.

Participant 8 ("Helena"). In contrast to participants in the larger group, Helena reported that she found having fewer people in the group more comfortable.

Helena was also the only participant to report finding the mindful-walking activity helpful, suggesting that this might be more feasible in a smaller group.

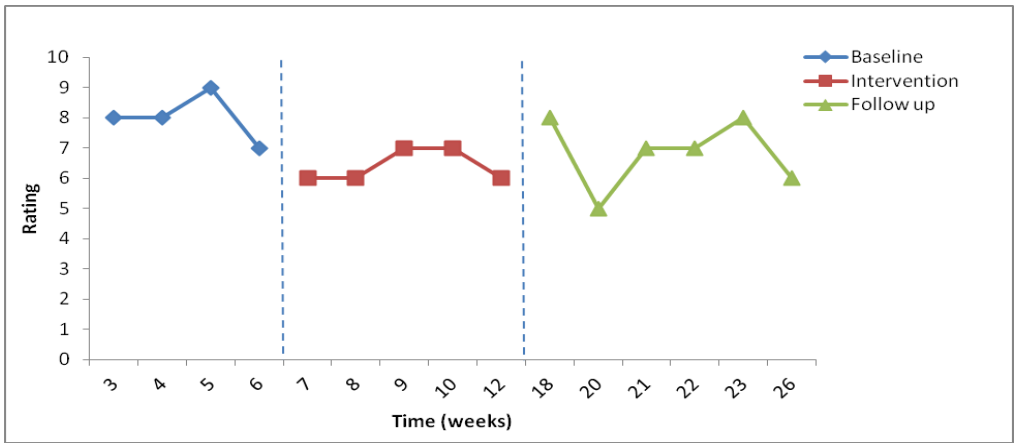

Figure 16. Anxiety rating scores (Helena)

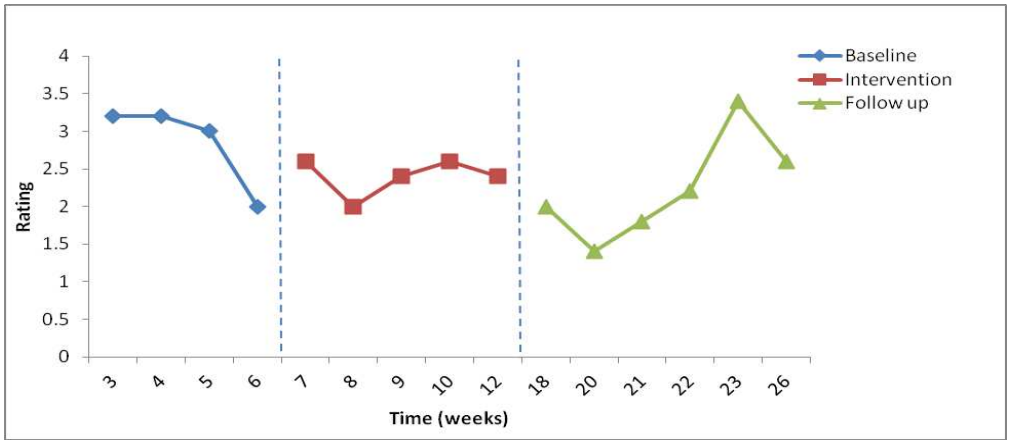

Figure 17. Anxiety frequency scores (Helena)

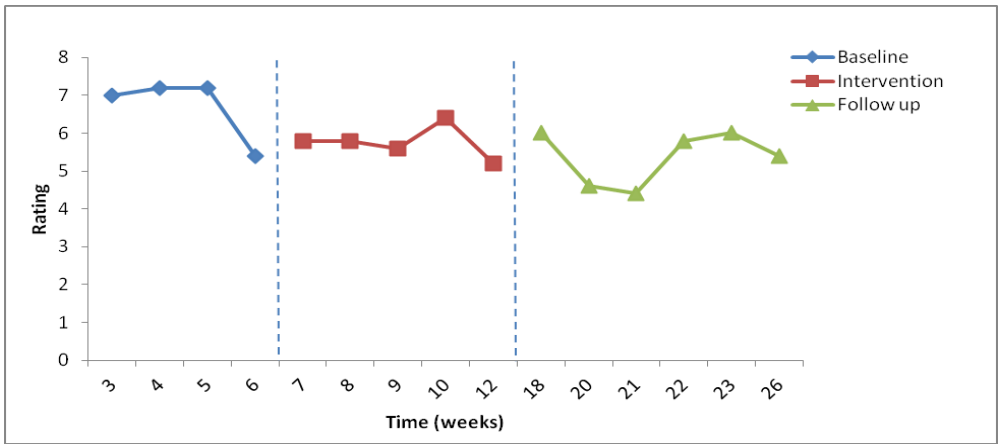

Figure 18. Anxiety concern scores (Helena)

Table 15

Phase Level Change in Personal Anxiety Measure (Helena)

	Baseline to intervention		Intervention to follow-up		Baseline to follow-up	
Measure	Rho	p	Rho	p	Rho	p
Anxiety Rating	-0.66	.103	0	1.0	-0.63	.094
Anxiety Frequency	-0.48	.313	-0.26	.569	-0.39	.480
Anxiety Concern	-0.52	.209	-0.18	.553	-0.61	.220

As with Anna and Eddie, Helena reported high levels of anxiety, depression and executive dysfunction pre-intervention, and some scores reliably worsened from pre- to post-intervention (see Table 16). Although this suggests that the intervention was not helpful for Helena, her qualitative reports contradicted these findings, as did her personal measure ratings (see Figures 16-18 and Table 15). She reported many positive personal changes including greater confidence, feeling happier and finding it easier to cope. Her reports suggested she had a good understanding of mindfulness, particularly the benefits of reducing her over-elaborated thinking.

Table 16

Helena's Scores on the Standardised Measures

Measure	Start of baseline	Pre-intervention	Post-intervention	Follow-up 1
Adolescent				
SCARED	52	59	68 [RW]	65
MFQ	36	46	47	34 [RI]
CAMM	12	13	4 [RW]	5
SCS	1.54	1.54	1.5	1.23
BRIEF-SR-BRI	92	92	93	-
BRIEF-SR-MI	91	91	91	-
Goal 1		2		
Goal 2		2		
Parent				
SCARED	73	73	-	-
MFQ	51	51	-	-

[RI] Reliable improvement from previous time-point

[RW] Reliable worsening from previous time-point

Summary of Qualitative Findings

The findings are presented in Tables 16-18. Overall, 16 helpful themes, 6 hindering themes and 6 wish list themes emerged, which were then further grouped into categories representing particular topics of relevance to the present study. The frequency represents how often themes were identified. The implications of these themes are considered in the discussion section.

Table 17

Helpful Themes

No.	Category	Helpful theme	Frequency
1.	Group factors	Meeting people, less isolation	6
2.	Group factors	Being with others with similar difficulties	3
3.	Group factors	Not pressurised to talk	3
4.	Group factors	Secure environment	3
5.	Group factors	Learning from others	2
6.	Personal change	Feeling calmer	5
7.	Personal change	Feel happier	3
8.	Personal change	Feeling more confident	3
9.	Personal change	More able to cope with difficulties	4
10.	Mindfulness	Being in the moment	5
11.	Mindfulness	Acceptance	2
12.	Mindfulness	Less over-thinking	8
13.	Practicality	Can use in everyday situations	7
14.	Practicality	Becomes automatic	2
15.	Practicality	Effective as works quickly	1
16.	Practicality	Easy to do	2

Table 18

Hindering Themes

No.	Category	Hindering theme	Frequency
1.	Group factors	Self-conscious in group	7
2.	Mindfulness	More aware of difficulties	4
3.	Practicality	Difficult to use in everyday situations	5
4.	Motivation	Couldn’t see the benefits	4
5.	Motivation	Not interesting	1
6.	Motivation	Difficult to find motivation to practice	1

Table 19

Wish List Themes

No.	Category	Wish list items	Frequency
1.	Structure	More sessions	2
2.	Content	More active practices	2
3.	Content	Less sitting	2
4.	Content	Learning more techniques	1
5.	Content	Going over techniques	1
6.	Motivation	Will use more as see benefits with more practice	7

See Appendix L for ratings of mindfulness practices by participants.

Discussion

The aim of the present study was to explore the effects of an MBCT-based intervention for adolescents with anxiety disorders. Tentative evidence was found that the intervention was associated with reductions in anxiety and depression, and improvements in mindfulness, self-compassion and EF for some young people, as predicted.

Three of eight participants recorded significant reductions in anxiety on their personal measure, and two also recorded significant reductions in their concern about anxiety from baseline to follow-up. Two of these participants recorded the highest anxiety and depression scores pre-intervention on the self-rated SCARED and MFQ respectively and remained well above clinical cut-offs post-intervention. However, both showed significant improvements in mindfulness, and when taken with the qualitative evidence of their experience of change, it may be tentatively hypothesised that greater mindfulness may have lessened the impact of distressing events.

Other participants also showed improvement on the standardised measures, with Daisy in particular showing reliable and clinically significant improvement in anxiety on the self- and parent-rated SCARED that was maintained at follow-up. Daisy also showed sustained significant improvement in mindfulness through to follow-up, in line with her reports that practices such as the breathing space had become "natural", a process that might be expected with repeated use. It is notable that Daisy also had the lowest depression scores, whereas the three participants with the highest anxiety and depression scores pre-intervention (Anna, Eddie, Helena) also had the lowest mindfulness scores and greatest reported difficulties with EF. These two contrasting patterns lend some support to the theory of a link between emotional regulation and mindfulness (Hölzel et al., 2011).

A particularly notable finding was the improvement in EF scores from pre- to post-intervention, with four of the six parents who completed these measures reporting a reliable improvement in their child's behaviour regulation on the BRIEF-BRI. Bella and Daisy, who had the lowest anxiety scores on the SCARED pre-intervention, made the biggest gains on both the self- and parent-reported BRIEF-BRI post-intervention. These findings were in line with Zylowska et al. (2008), who found significant improvements in attention conflict and set-shifting, thought to be involved in the development of inhibition and self-regulation, which form part of the BRIEF-BRI that showed improvement in the present study. However, the present study appears to be the first to find a significant improvement on the BRIEF pre- to post-intervention.

A number of participants also made reliable or clinically significant improvements in the self-rated and/or parent-rated anxiety on the SCARED and/or

depression on the MFQ, although these gains were not always maintained. The improvement in both anxiety and depression is in line with the adult literature (Hofmann et al., 2010), suggesting that MBIs may be trans-diagnostic in their effects. Furthermore, the qualitative themes of "acceptance" and "less over-thinking" suggest that meta-cognitive processes may have been operating to reduce worry and rumination (Raes & Williams, 2010).

Self-compassion scores broadly followed the same pattern as mindfulness scores, as would be expected given the overlap in these constructs. However, although a number of helpful themes emerged citing changes related to mindfulness such as "being in the moment"; themes linked to self-compassion were notably absent. It may be that it may be that self-compassion is a more difficult concept for adolescents to assimilate, possibly given the intense focus on self-evaluation and social comparisons in this developmental stage (Neff & McGehee, 2010). Despite this, the improvements in mindfulness found in this study were promising, particularly in comparison to other studies with adolescents, few of which reported such improvements.

The changes experienced by young people included feeling calmer. Although unlike relaxation exercises, mindfulness does not explicitly aim to be calming (Thompson & Gauntlett-Gilbert, 2008), several young people cited this as a major benefit of practices such as the body scan. Several participants reported a preference for shorter practices, such as the breathing space, and informal practices, that were easier to use in everyday situations. However, Biegel et al. (2009) found that time spent in sitting mindfulness practices was linked to a number of improvements. Moreover, when asked to rate the usefulness of the practices, many rated longer

practices such as the body scan as helpful, suggesting that with practice, further benefits may be possible.

Strengths and Limitations

The limitations of this study include the relatively short time-series data. Borckardt et al. (2008) recommend at least 10 points per pair of phases in SMA analysis, and hence the time-series for Francesca and George were excluded. Moreover, using a personal time-series measure limited the ability to generalise from the single cases, although the measure was found to have a reasonable degree of construct validity and reliability. The use of additional standardised measures and parent ratings to some extent ameliorated this issue. Furthermore, the personalised measures had the strength of being relevant to the young people's individual concerns and less burdensome to collect weekly than standardised measures. Moreover, the design provided useful information about the pattern of change. However, it is also possible that the results were subject to measurement effects: regular self-monitoring may have reinforced the young people's development of mindfulness, and inclusion in the research process may have been experienced as therapeutic.

The small number of cases and absence of a control group inherent in a single case design limit the generalisability of the findings and the extent to which change may be attributed to the intervention. The design was also underpowered to detect change within the group-level statistical analysis. However, the study is strengthened by the inclusion of participants who were representative of a typical CAMHS population. Moreover, the use of mixed-methods allowed the quantitative findings to be placed within a meaningful context, taking into account issues relevant to young people.

Theoretical Implications

The significant reductions found for some young people in concern about their anxiety, regardless of whether they also recorded a significant reduction in their subjective experience of anxiety lends some support to the theory that mindfulness can increase acceptance of difficult internal events (Hayes, 2004). This was further supported by the qualitative findings, in which many reported feeling better able to cope with their anxiety.

The BRIEF-BRI, in which notable parent-reported improvements were found, is composed of three subscales, inhibit, shift (behavioural and cognitive), and emotion control. Daisy made the largest gains on the shift subscale, which given her significant improvement in mindfulness, lends support to the notion of cognitive flexibility as a component of mindfulness (Bishop et al., 2004), and provides some evidence that these skills can be learnt by adolescents. The most consistent improvement on the BRIEF-BRI was found in the inhibit subscale, which also lends support to the theory that mindfulness might facilitate more responsive rather than reactive behaviour.

Clinical Implications

The findings of this study tentatively suggest that young people whose levels of anxiety and depression are less severe might particularly benefit from this intervention, possibly because they may be more able to make use of the skills taught. However, young people with more complex difficulties were able to tolerate the intervention and reported significant personal gains from it. The qualitative findings also tentatively suggest that further support of home practice, and ensuring the

number of sessions and follow-up is sufficient to establish regular mindfulness practice, may help young people maximise the benefits of the intervention.

Future Research

Further research is needed to build on the findings of this study, for example using an RCT with an active control group, to provide more robust evidence for the effectiveness of MBCT adapted for adolescents is comparison with other interventions. Further research is also needed to follow up the tentative findings of a differential impact of mindfulness training between young people who are functioning relatively well and those with more severe difficulties, to investigate for whom the intervention might be most appropriate. In addition, exploration of the optimum number of sessions and longer-term follow-up are required to establish the potential for further gains with increased practice. The findings with regard to EF also warrant further investigation, given the role of EF in both internalising and externalising difficulties. Furthermore, as the qualitative findings included a number of group-related themes, future research needs to explore the extent to which mindfulness or non-specific factors are involved in the process of change in MBCT for adolescents.

Conclusion

This study presents tentative evidence for the effectiveness of a six-week MBCT-based intervention for adolescents with anxiety disorders. Some young people experienced significant reductions in their anxiety over the course of the intervention and through follow-up, compared with baseline levels. However, in line with theories of mindfulness and acceptance, even where anxiety levels remained relatively high post-intervention, participants reported feeling better able to cope. Improvements in mindfulness and components of executive function were also found, lending support

to conceptualisations of mindfulness as comprising attention and emotion regulation, and psychological flexibility. Attendance and completion rates were high, and qualitative findings suggested that many young people had acquired a good understanding of mindfulness concepts and were applying mindfulness practices in their daily lives. Emerging themes focused on the impact of the group environment, the ease of use of mindfulness practices, the need for more practice and personal change. Further research in a larger-scale RCT is warranted.

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Section C: Critical Appraisal

Word count: 1973

In this section, I present a critical appraisal and reflection on my research, a mixed-methods multiple-case study of the use of Mindfulness-Based Cognitive Therapy (MBCT) adapted for adolescents with anxiety disorders. The appraisal is guided by four questions, which are addressed in turn.

1. **What research skills have you learned and what research abilities have you developed from undertaking this project and what do you think you need to learn further?**

I have developed a broad range of research skills and abilities from undertaking this project, particularly given the mixed-methods approach used, which meant that I gained experience in both quantitative and qualitative methods and how these might be integrated.

I developed skills in writing research proposals that fit with the research interests of potential sponsors, and experience of NHS Research Ethics Committee procedures, and of gaining Research and Development department approval. This experience will be useful for any future research I may be involved with.

Although I obtained sufficient numbers in the first round of recruitment to meet the study requirements, the experience heightened my awareness of the potential difficulties in recruiting children and adolescents, in which ethical considerations concerning the potential research burden and the need to gain parental consent are of particular importance. However, although filling in questionnaires might have felt burdensome for some participants, others completed them online almost immediately. Moreover, I became aware that the outcome of the intervention for some young people might be impacted by their engagement in the research process, through the increased self-reflection and additional contact and interest shown to them that it involved.

The use of mixed-methods and a three-phase time-series design in this project meant that data collection took place over a period of seven months, which required quite an intensive time commitment. My planning and organisational skills developed considerably over the course of this project, to ensure that data was collected at the appropriate times, while meeting the other demands of the doctorate course. In addition, I learnt to use electronic data collection methods where possible, in order to increase efficiency and reduce participant burden, following feedback from a consultation with previous MBCT course participants. This method of data collection was a new approach for me and something that could be applied more widely, particularly with young people.

Given the small sample size, I learnt to use non-parametric statistical tests, in addition to the use of time-series analysis. I also learnt to use Critical Incident Analysis, although quantitative methods in this study took a more dominant position. These methods could be useful in future, particularly in evaluating routine clinical practice.

In future, I would benefit from undertaking a larger piece of qualitative research, or research in which qualitative analysis was fore-grounded, rather than providing a supporting and explanatory role to the quantitative analysis. This would enable me to develop my experience with qualitative methodologies further and allow more detailed presentation of the qualitative findings, which were limited in this project by the need to integrate the analysis of multiple data sources within a given word count.

2. If you were able to do this project again, what would you do differently and why?

Overall, given the aims and scope of the project, I would still chose the mixed-methods multiple-case study approach as this gave a more in-depth insight into mindfulness

for adolescents than a pre-post study might have done, while still producing results that will hopefully provide some direction for future research. Given the timing of my project, it would not have been possible to have organised a sufficiently powered randomised controlled trial (RCT) within the host teams. Moreover, I was aware of the need to balance research priorities with clinical need and ethical considerations, which may be a dilemma for any service attempting to contribute to the evidence base for a given intervention.

As a researcher, I was possibly overly mindful of not over-burdening participants and the need to retain participant engagement in the study. This mirrored the approach of the course facilitators, who similarly tended not to emphasise the completion of homework tasks for fear of losing engagement. In practice, however, on a few occasions when I had assumed that a participant had not completed a questionnaire when asked or not responded to a text message reminder because they were not interested in doing so, I was later surprised by their commitment and engagement in the process. If I were to do the project again, I would therefore try to remain more open-minded about possible reasons for participant actions and be more transparent with participants about the reasons for needing timely data collection.

I would allow more time and give more weight to the qualitative elements of the study. For example, due to the timing constraints and reducing participant burden, interviews were conducted by telephone. Face to face interviews might have allowed a more in-depth exploration of the participants' experience of the course and of change. Another possibility would be to interview the participants again at follow-up, as a number of young people appeared to make further improvements as they started using the practices more. This might have elicited more information about the ongoing process of change and the sustainability of the effects of the intervention. Moreover, I would also have allowed more time between each interview to reflect more on the themes arising, and adjust subsequent interviews to take

these into account. In addition, I might have verified the themes arising from the qualitative analysis with the participants. This presented a dilemma, as my ethics proposal had not included further follow-up in the procedure in order to reduce the participant burden, and the analysis took place some time after the course and the interviews.

An alternative qualitative analysis approach could also have been used. Many qualitative methods, including Critical Incident Analysis, aim to produce a group-level analysis that draws out themes across participants. While this fitted with the research questions, which aimed to explore the participants' experience of change and of mindfulness training, a further aim of the qualitative analysis was to explain and expand on the quantitative results. Although I attempted to map the individual contributions to the group-level themes back to the individuals when writing up the results, in order to enrich and explain the quantitative results, it was difficult to do this systematically. A qualitative approach that more specifically addressed both individual and group level analysis might have been helpful in this regard.

3. **<u>Clinically</u>, as a consequence of doing this study, would you do anything differently and why?**

One of the themes to emerge from the qualitative analysis was a belief, held by some participants, that with more practice they could have benefitted more from the course. I would therefore suggest that facilitators may need to adopt a slightly more directive approach with adolescents than is usual in adult mindfulness courses, in which it is stressed that everything is by invitation, in line with a non-striving and non-judgemental attitude. These recommendations are in line with those of Rogers and Maytan (2012) who developed a mindfulness intervention for emerging adults. They suggested that as young people are

familiar with an educational environment and the expectation that homework is completed, they may be less reluctant to complete such tasks than adults, as long as its importance is made clear (Rogers & Maytan, 2012). However, increasing motivation to practice must be balanced with the need for retain engagement, particularly in teenagers with clinical difficulties, for whom it may be considered an additional stressor. Repeated attendance by some young people at follow-up groups has suggested that "expert" participants could be invited to help with future courses. Although course facilitators should be fully trained, having a peer contribute to the group could potentially be a very powerful way to model mindfulness with this age group.

I would also suggest that more thought is given to who is referred to the MBCT groups. Although current referral criteria state that young people should have already had some clinical input or have more mild difficulties, such that the MBCT course serves more as a relapse prevention program, referrers do not always heed the referral criteria. However, again balance is required, and a number of young people in this study presenting with significant difficulties still gained from the course.

Mindfulness interventions were an area of clinical and personal interest for me prior to undertaking this research; and my involvement with a committed team of clinicians and researchers working in this field over the course of two years has increased this interest. The process of considering how mindfulness might work has increased my awareness of areas in which mindfulness and acceptance approaches might be helpful for a broad range of difficulties and to improve general wellbeing. I would hope to be able to pursue further training in mindfulness myself at some point in future, and in the meantime increase my own mindfulness practice and use of mindfulness practices in client work.

4. If you were to undertake further research is this area what would that research project seek to answer and how would you go about doing it?

The support I received for this research formed part of a broader interest within the host Trust in developing the MBCT intervention for adolescents. I would therefore hope that the findings of my study might contribute to making the case to undertake a future RCT that can provide more robust evidence for the effectiveness of the intervention, and how it might compare with other interventions. At present, the evidence base remains limited, despite a growing interest in research in this field, which means that some young people might not be given the opportunity to benefit from learning mindfulness, given the emphasis on evidence-based practice within the NHS.

A number of other areas for research were suggested by the findings of my project, in particular the relative influence of mindfulness practice, group factors and other non-specific factors in the process of change. A number of mechanisms of change for mindfulness have been proposed in recent years (e.g. Hölzel et al., 2011; Kuyken et al., 2010), but no research to date appears to have investigated whether these might apply in children and adolescents. I would be interested in pursuing these questions further, possibly starting with a qualitative or mixed-methods study. Furthermore, although a recent guideline from the National Institute for Clinical Excellence (NICE) guideline has not recommended that MBIs be routinely used for social anxiety (NICE, 2013), the qualitative findings from this project suggest that they might have much to offer. Moreover, while there is limited evidence for longer-term sustainability for Cognitive Behavioural Therapy (CBT) for anxiety in adolescents (James, James, Cowdrey, Soler, & Choke, 2013), MBIs may be particularly useful in this regard, as they emphasise the learning of skills that may be used throughout life. In addition, the cost-

effectiveness of MBIs in terms of group versus individual delivery and longer-term benefits would be an area that would merit further investigation with regard to service commissioning.

Another question is whether the effects of mindfulness differ between male and female adolescents and whether this might relate to gender differences in developmental trajectories. I was fortunate to be able to recruit both male and female participants, although the intent to treat sample was predominantly female (70%), as might be expected given the higher prevalence of anxiety in female adolescents (Merikangas et al., 2010). However, the small sample size precluded any clear implications being drawn about gender effects.

Finally, the young people themselves could also be more fully involved in future research. Although previous course participants were consulted about the design of the current project and the development and completion of the personal measure, young people could for example be involved in data collection, provide feedback on data analysis, and help with dissemination of the findings of future projects.

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Section D: Appendix of Supporting Material

Appendix A. Literature Search Process

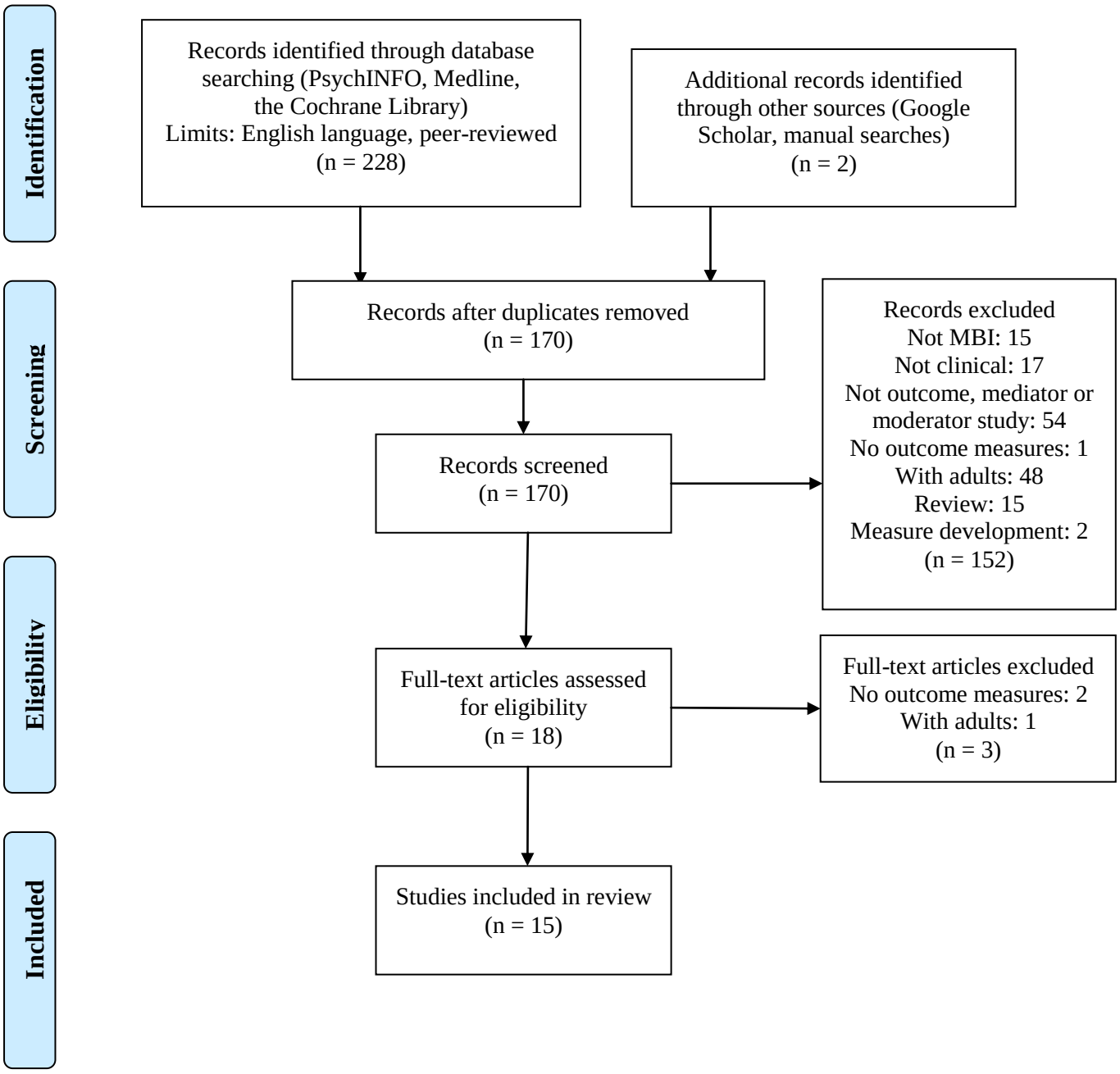

Figure A1. PRISMA diagram for MBI literature search

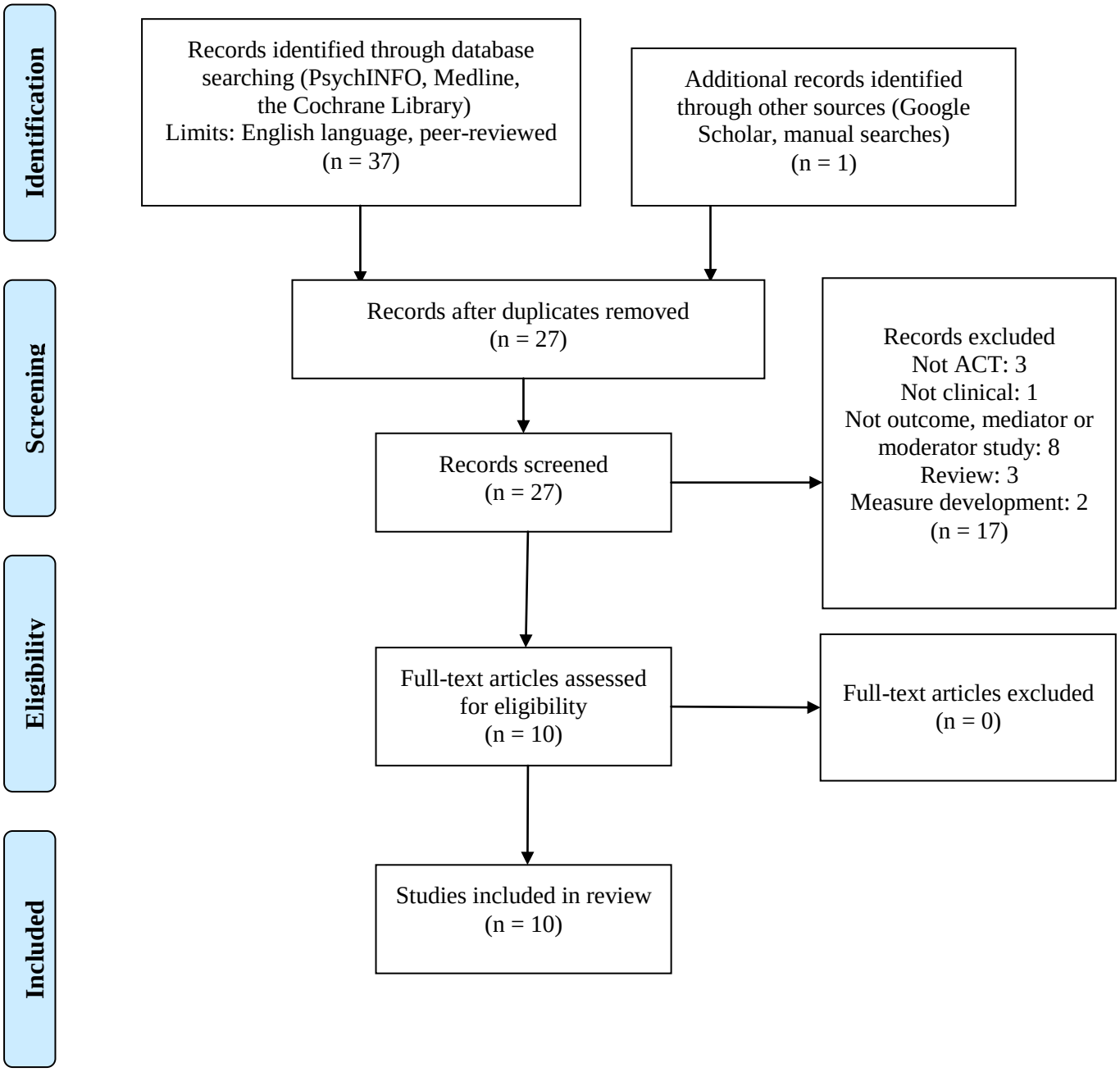

Figure A2. PRISMA diagram for ACT literature search

Appendix B. Studies Included in Literature Review

Table B1

MBI Study Characteristics

Study	Participant type	Intervention	Design	N, % female, ages	Setting	Results / effect size
Waltman et al., 2013	Disruptive behaviour disorders	Applied Mindfulness skills group: 7 x twice weekly x 1hour	Case series	7(4), 0%, 15.4	US residential treatment facility	Improved mindfulness (d=0.1 pre-post, 0.7 pre-follow-up) and behavioural compliance (d=-0.6 pre-post, -0.48 pre-follow-up).
Haydicky et al., 2012	Co-occurring ADHD and anxiety in adolescents with LD	Integra mindfulness martial arts (MMA): 20 x 90 min weekly MM + CBT + mixed martial arts	Quasi-experimental waitlist control	60, 0%, 12-18	Children's MH centre for youth with LD, Canada	Significant improvements in: - oppositional-defiant (group μ_p^2=0.25) and conduct problems (group μ_p^2=0.26) for ADHD/LD subgroup. - monitoring (EF) (group x time μ_p^2=0.24), social problems (group μ_p^2=0.39) and oppositional defiant behavior (group μ_p^2=0.13) for hyperactive/impulsive subgroup. - social problems (group μ_p^2=0.18) for inattentive subgroup. - DSM anxiety (group μ_p^2=0.23) for anxious subgroup.

Study	Participant type	Intervention	Design	N, % female, ages	Setting	Results / effect size
van der Oord et al., 2012	ADHD	8 x 1.5 hour weekly group sessions adapted from MBCT/MBSR for ADHD +Mindful Parenting	Quasi-experimental within-participant waitlist control, 8 week follow-up	22 (18), 21%, 8-12	Academic clinic in Dutch outpatient MH centre	Significant reductions: - pre-post in child (d=0.8) and parent (d=0.36) inattention, child (d=0.56) and parent hyperactivity/impulsivity (d=0.48) and parent mindfulness (d=0.28) -pre-FU in child (d= 0.80) and parent (d=0.34) inattention, child (d=0.59) and parent (d=0.50) hyperactivity/impulsivity, and parental stress (d=0.57) and over-reactivity (d=0.85).
van de Weijer-Bergsma et al., 2012	ADHD	8 x 1.5 hour weekly group sessions + Mindful Parenting (based on Bögels et al. 2008, van der Oord et al., 2012 and Huppert & Johnson, 2010)	Pre-post, 8 week + 16 week follow-up	10, 50%, 11-15	Academic clinic in Dutch outpatient MH centre	Significant improvement in meta-cognition pre-FU1 (d=1.8), attention pre-FU1 (d=0.9-1.5). Significant reduction in parenting stress pre-FU1 (d=1.1) and over-reactivity pre-post (d=0.9-1.0). Significant improvement pre-post in reaction speed on computerised test, not maintained at FU.
Sibinga et al., 2011	HIV-infection or risk of infection	MBSR: 9 x weekly	Mixed methods: Pre-post + qualitative interview	33(26), 77%, 13-21	US hospital adolescent outpatient clinic	Significant reductions in hostility and emotional discomfort. Qualitative reports of improvements in interpersonal relationships, physical health and school achievement, and reduced stress.
Singh et al., 2011a	ASD & aggressive behaviour	Meditation on the Soles of the Feet: 5d x 30 min training with mother, then twice daily practice until no incident for 4 weeks.	Multiple- baseline across participants	3, 14, 16, 17	Primary care	Rates of aggression reduced to 1 per year during 3 year follow-up from 14-20 per week at baseline.

Study	Participant type	Intervention	Design	N, % female, ages	Setting	Results / effect size
Singh et al., 2011b	Asperger's syndrome & aggressive behaviour	Meditation on the Soles of the Feet: 5d x 15min training with mother, then twice daily practice until no incident for 3 weeks (17-24 weeks)	Multiple- baseline across participants	3, 0%, 13, 15, 18	Home-based	No incidents of physical aggression during 4 year follow-up
Singh et al., 2010	ADHD	12 x weekly sessions with mother, then repeated for child	Multiple- baseline across participants	2 + 2 mothers, 0%, 10, 12	Home-based	Compliance with mother's requests improved from a mean of 13-14% at baseline, to 23-36% after mothers were trained, to 82-83% after children trained, and 90-91% at follow-up.
Britton et al., 2010	Substance abuse, sleep disorder	MBSR: 6 x 1.5 hour weekly group sessions	Pre-post, 3m, 12m follow-up	55(18), 50%, 13-19		Significant improvement in emotional distress, but significant increase in substance misuse over all follow-up points, particularly in male adolescents. 43% completion rate.
Biegel et al., 2009	Heterogeneous	MBSR: 8 x 2 hour weekly sessions	RCT: MBSR + TAU vs. TAU. Pre-post, 3m follow-up	102, 73.5%, 14-18	US outpatient child and adolescent psychiatry facility	Significant reductions in state and trait anxiety (d= 0.7, 0.79), perceived stress (d=0.89), self-esteem (d=0.59), somatisation (d=0.80)., obsessive (d=1.11), interpersonal sensitivity (d=0.82), and depressive symptoms (d=0.95) compared with TAU (d=pre-post).
Bögels et al. 2008	Externalising disorders, mixed	MBCT-based +Mindful Parenting: 8 x 1.5 hour weekly group sessions	Quasi-experimental within-participant waitlist control, 8-week follow-up	14 (7), 43%, 11-17	Community MH clinic	Significant reductions in externalising behaviours pre-post, pre-FU (d=1.1, d=1.2). Significant improvements in personal goals (parent and child) pre-post (d=1.4-2.0), pre-FU (d=1.5-1.7); pre-post, pre-FU in attention (d=1.0, 0.9), sustained/directed attention (d=0.6, 1.1), social behaviours (d=0.6, 0.5), self-control (d=0.8, 0.6), happiness (d=0.6, 0.6), mindfulness (d=0.5, 0.5).

Study	Participant type	Intervention	Design	N, % female, ages	Setting	Results / effect size
Singh et al., 2008	Prader-Willi syndrome	Exercise, food awareness + mindfulness: Meditation on the Soles of the Feet, mindful eating and hunger visualisation.	ABCD multiple-baseline changing criterion design, 4 yr follow-up	1, 0%, 17	Home-based, therapist-assisted remote treatment	Greatest and most sustained weight loss with mindfulness training with further weight loss during 3-year follow-up.
Zylowska et al., 2008	ADHD/probable-ADHD	Mindfulness Awareness Practices (MAPs) based on MBSR/MBCT: 8 x 2.5 hour weekly + 5-15 min daily home practice.	Pre-post	8 (7) adol-escents, 62.5%, 15+	US University	Significant improvements in inattentive and total ADHD symptoms, attentional conflict and set-shifting but not working memory. Little change in depression and anxiety in adolescents. Effect sizes not reported.
Singh et al., 2007	Conduct disorder, referred by school.	Meditation on the Soles of the Feet: 15 min x 3/week with therapist for 4 weeks, then 15 min monthly for 25 weeks.	Multiple baseline across participants	3, 33% 13,13,14	Not stated.	Reductions in bullying and aggression over 25 week post-training period.
Bootzin & Stevens, 2005	Substance abuse, sleep disorder	MBSR + insomnia intervention	Pre-post	55 (23), 38%, 13-19	US treatment center	Significant improvements in a number of sleep measures, but for completers and non-completers. Substance abuse increased during the programme, but decreased by 12 month follow-up in completers.

Table B2

ACT Study Characteristics

Study	Participant type	Intervention	Design	N, % female, ages	Setting	Results
Gauntlett-Gilbert et al., 2013	Severely disabled adolescents with chronic pain	ACT: 3 weeks residential group pain rehabilitation course	Pre-post, 3m follow-up	98, 75%, Mean=15.6	UK national specialist centre	Significant improvement pre-post, pre-FU in physical disability (d=0.32), social disability (d=0.28), walk distance (d=0.47), sit-to-stand (d=0.61), pain-specific anxiety (d=0.48), catastrophizing about pain (d=0.62), acceptance of pain (d=1.0) and development (d=0.21). Improved functioning including school attendance and physical performance at FU. Improvements associated with changes in acceptance.
Franklin et al., 2011	Tourette's syndrome	Habit reversal training (HRT) + ACT (manualised): 10 x weekly + 2 follow-up sessions (weeks 14,18)	Pilot HRT+ACT vs HRT, consecutive allocation, blind assessment,1m follow-up	13, 15%, 14-18	2 US university clinics	Clinically significant reductions in tic symptoms in both conditions to 1m follow-up (μ_p^2=0.75). Improvements in global functioning.
Hayes et al., 2011	Depression	ACT: individual TAU: manualised CBT	RCT: ACT vs. TAU, 3m follow-up	38(30), 81%, 12-18	Australian child and adolescent psychiatric outpatient service	Significantly greater improvement in ACT for depression pre-post (d=0.38) and pre-FU (d=1.45). 58% showed clinically reliable change vs.36% TAU post-treatment.
Masuda et al., 2011	Sickle cell disease	ACT: 8 x 60 min weekly with parents	Single case study, 3m follow-up	1, 0%, 16	US specialist medical service	Social anxiety & pain scores little change pre-post-treatment. Reduction in social anxiety and improved QoL and psychological flexibility at follow-up.

Study	Participant type	Intervention	Design	N, % female, ages	Setting	Results
Wicksell et al., 2011	Longstanding idiopathic pain	See Wicksell et al. (2009)	Mediators of change	30, 77%, 10-18	Swedish pain treatment service	Pain-impairment beliefs and pain-reactivity (consistent with psychological flexibility) significantly mediated the effects of treatment on outcomes at follow-up.
Wicksell et al., 2009	Longstanding idiopathic pain	ACT: 10 x 60 min weekly individual + 1-2 x 90 min with parent + 3.5m & 6.5m follow-up vs. multidisciplinary treatment (MDT) + amitriptyline	RCT: ACT vs. MDT	32, 83%, 10-18	Swedish pain treatment service	ACT significantly better than MDT post-treatment and at follow-up for pain-related functioning (μ_p^2=0.29, 0.23), pain intensity (μ_p^2=0.13, 0.13) and pain-related discomfort (μ_p^2=0.34, 0.15). Significant differences post-treatment for ACT in fear of re/injury or kinesiophobia (μ_p^2=0.21), pain interference (μ_p^2=0.16) and QoL. (μ_p^2=0.15).
Brown & Hooper, 2009	Anxious and obsessive thoughts, LD (moderate-severe)	ACT: 10 session protocol implemented over 17 sessions	Single case study	1, 100%, 18	UK	Reduced negative impact of anxious thoughts, returned to a part-time college course.
Wicksell et al., 2007	Idiopathic chronic pain	ACT: 5-29 weekly individual sessions + 0-10 with parents	Pilot study: pre-post, 3m & 6m follow-up	14, 79%, 13-20	Swedish pain treatment service	Significant improvements pre-post in functional ability (d=1.05), school attendance (d=1.05), catastrophizing (d=0.90), pain intensity (d=1.53) and pain interference (d=1.27), maintained at 3m & 6m. Clinically relevant change in pain intensity (73%) and pain interference (100%).
Wicksell et al., 2003	Idiopathic chronic pain	ACT: 10 with client + 3 with parents	Single case study	1, 100%, 14	Swedish pain treatment service	Improvements in valued life activities & functional ability: increased school attendance, lower pain ratings & individual goal achievement.
Heffner et al., 2002	Anorexia nervosa (AN), restricting type	ACT: 18 x weekly individual + monthly follow-up	Single case study	1, 100%, 15	US university psychology dept. providing general MH services	Remission of AN symptoms except body dissatisfaction.

Appendix C. Copy of Research Ethics Committee Approval

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Appendix D. Copy of Research and Development Approval

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Appendix E. Participant and Parent Information Sheets and Consent/Assent Forms

Exploring mindfulness based cognitive therapy with adolescents

Participant information sheet (under 16 years)
Version 2. 28/5/2012.

Hello. My name is Gemma Davies and I am a trainee clinical psychologist at Canterbury Christ Church University. I would like to invite you to take part in a research study. Before you decide, it is important that you understand why the research is being done and what it would involve for you.

Talk to others about the study if you wish.

Part 1 of this information sheet tells you the purpose of this study and what will happen to you if you take part.

Part 2 gives you more detailed information about the study.

Please ask if there is anything that is not clear.

Part 1

What is the purpose of the study?
The study aims to explore your experience of attending the mindfulness course and practicing mindfulness, and the impact these have on you. Although much research has been done on mindfulness based cognitive therapy (MBCT) with adults, there has been less research on its effects and how it works with young people. I hope to find out more about this in this study.

Why have I been asked to take part?
You have been asked to take part in the study because you have shown an interest in attending a mindfulness course. I am really interested to know about your experience of the course and of mindfulness, and any impact it might have in your life.

Do I have to take part?

It is up to you whether you decide to join the study. If you decide to take part and your parent/caregiver agrees, I will ask your parent/caregiver to sign a consent form before asking you to sign an assent form. You are free to withdraw at any time, without giving a reason. Your decision will not affect your care in any way and you are very welcome to attend the mindfulness course whether you take part in the research or not.

What does the study involve?
All the people who choose to take part will be interviewed about their anxiety. This will take up to 30 minutes. They will also be asked to fill out some questionnaires asking about anxiety, mood, mindfulness and skills related to attention, which may be linked to mindfulness. Your parent/caregiver will also be asked to fill out some similar questionnaires about you. If you would like to take part in this study, you will be invited to do this a few weeks before the mindfulness course starts and again just before the course, taking about 30-35 minutes each time. You can choose to do this online or on paper.

In order to get a clearer picture of how things change for you over time, you would be asked to rate your level of anxiety each week via a website. This should take you less than 5 minutes. You would be asked to do this approximately 5-8 times before the course starts, then each week during the course. Completion of at least 5 sets of anxiety ratings before the course starts will result in entry to a prize draw with a £25 gift voucher prize.

After the end of the course, I would meet with you, either in person or by Skype/phone, to ask you about your experience of the course and of mindfulness. This would take approximately 30 minutes. I would also ask you to complete another set of questionnaires, which would take up to 45 minutes.

About 3 months after the course has finished I would ask you to rate your anxiety online again, approximately 5-8 times and complete another set of questionnaires, again taking about 35 minutes. Completion of at least a further 5 sets of anxiety ratings will result in entry to another prize draw with a £25 gift voucher prize.

Expenses

You will be able to claim up to £10 in travel expenses during the course of the study.

What are the possible disadvantages and risks of taking part?

We do not anticipate any significant disadvantages or risks in taking part. You should contact your care coordinator should you become distressed and need to speak to a clinician. You may also contact the [redacted]. Some of the questions in the interview may lead you to remember frustrations if you found mindfulness practice difficult or remind you of something challenging in your life.

What if I felt upset during the interview?

If you seemed to be finding the interview difficult, I would check whether you wished to continue. If not, I could arrange another time to see your or you could withdraw from the study if you preferred. I would ask you how you found the interview at the end, and if you had any questions. If you were distressed during or following the interview, I would think with you about who would be most helpful for you to talk to. If you were to disclose details of risk to self or others during the interview, then I would need to discuss this with your care coordinator or other appropriate person or agency, who might then need to take further action e.g. if you disclosed abuse.

What are the possible benefits of taking part?

We hope that this research will give us a better understanding of how mindfulness is helpful that can then be used to improve future courses.

What if there is a problem?

Any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed. The detailed information on this is given in Part 2.

Would my taking part in this study be kept confidential?

Yes. We will follow ethical and legal practice and all information about you will be handled in confidence. The details are included in part 2.

This completes part 1.

If the information in Part 1 has interested you and you are considering participation, please read the additional information in Part 2 before making any decision.

Exploring mindfulness based cognitive therapy with adolescents

Participant information sheet (under 16 years)
Version 2. 28/5/2012.

Part 2

What will happen if I don't want to carry on with the study?

If you withdraw from the study, we would like to use the data collected up to your withdrawal.

What if there is a problem?

If you had a concern about any aspect of this study, you would be welcome to contact me (on the phone number or email address below) and I would do my best to answer your questions. If you were still unhappy and wished to complain formally, you could do this by contacting:

Professor Paul Camic
Department of Applied Psychology
Canterbury Christ Church University
Salomons Campus
Broomhill Road
Tunbridge Wells, Kent TN3 0TG

Email:

Would my taking part in this study be kept confidential?

All information will be kept confidential. A code number will be used to identify you, and I will keep the list that links codes to people's identity locked separately from the data. All data use is strictly within the Data Protection Act (DPA, 1998). Data will be kept locked away securely for ten years after the completion of the study and destroyed after this time.

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What will happen to the results of the research study?

Anonymous data and findings from the study may be shared with research colleagues, presented at conferences and published in scientific journals. If you are interested in receiving a report of the overall findings, let me know and I will send them to you when the study is finished.

Who is organising and funding the research?

I am organising and leading this research study as part of my doctorate in clinical psychology. It is partially funded by my training organisation (Canterbury Christ Church University).

Who has reviewed the study?

All research in the NHS is looked at by independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by the South East Coast – Surrey Research Ethics Committee.

Further information and contact details

Thank you for taking the time to read this sheet and for your interest.

I would recommend that you take your time to decide whether you would like to take part in this research and discuss it with family and friends, if you wish, before you decide.
You are welcome to discuss this research and any concerns or questions with me:

Gemma Davies
Trainee Clinical Psychologist
Department of Applied Psychology
Canterbury Christ Church University
Salomons Campus
Broomhill Road
Tunbridge Wells, Kent TN3 0TG

Email:

Phone number for messages: 01892 507673 (24 hour voicemail)
Please say that the message is for Gemma Davies and leave a name and contact number so that I can get back to you.

You may also contact my lead supervisor should you have any further questions regarding the study:

Dr Fergal Jones
Department of Applied Psychology
Canterbury Christ Church University
Salomons Campus
Broomhill Road
Tunbridge Wells, Kent TN3 0TG

Email:

Alternative Contact details
Feel free to contact Patient Advice and Liaison Service (PALS), which provides information, advice and support for patients, families and carers. Although PALS will not have information about this study, they will be able to advise you on what participation in a research project might entail in general.

Thank you for reading this information sheet.
I hope to be talking to you soon.

Best wishes,
Gemma Davies

Exploring mindfulness based cognitive therapy with adolescents

Participant information sheet (16 years+)
Version 2. 28/5/2012.

Hello. My name is Gemma Davies and I am a trainee clinical psychologist at Canterbury Christ Church University. I would like to invite you to take part in a research study. Before you decide, it is important that you understand why the research is being done and what it would involve for you.

Talk to others about the study if you wish.

Part 1 of this information sheet tells you the purpose of this study and what will happen to you if you take part.

Part 2 gives you more detailed information about the study.

Please ask if there is anything that is not clear.

Part 1

What is the purpose of the study?

The study aims to explore your experience of attending the mindfulness course and practicing mindfulness, and the impact these have on you. Although much research has been done on mindfulness based cognitive therapy (MBCT) with adults, there has been less research on its effects and how it works with young people. I hope to find out more about this in this study.

Why have I been asked to take part?

You have been asked to take part in the study because you have shown an interest in attending a mindfulness course. I am really interested to know about your experience of the course and of mindfulness, and any impact it might have in your life.

Do I have to take part?

It is up to you whether you decide to join the study. If you decide to take part, I will ask your parent/caregiver to sign a consent form before asking you to do the same. You are free to withdraw at any time, without giving a reason. Your decision will not affect your care in any way and you are very welcome to attend the mindfulness course whether you take part in the research or not.

What does the study involve?

All the people who choose to take part will be interviewed about their anxiety. This will take up to 30 minutes. They will also be asked to fill out some questionnaires asking about anxiety, mood, mindfulness and skills related to attention, which may be linked to mindfulness. Your parent/caregiver will also be asked to fill out some similar questionnaires about you. If you would like to take part in this study, you will be invited to do this a few weeks before the mindfulness course starts and again just before the course, taking about 30-35 minutes each time. You can choose to do this online or on paper.

In order to get a clearer picture of how things change for you over time, you would be asked to rate your level of anxiety each week via a website. This should take you less than 5 minutes. You would be asked to do this approximately 5-8 times before the course starts, then each week during the course. Completion of at least 5 sets of anxiety ratings before the course starts will result in entry to a prize draw with a £25 gift voucher prize.

After the end of the course, I would meet with you, either in person or by Skype/phone, to ask you about your experience of the course and of mindfulness. This would take approximately 30 minutes. I would also ask you to complete another set of questionnaires, which would take up to 45 minutes.

About 3 months after the course has finished I would ask you to rate your anxiety online again, approximately 5-8 times and complete another set of questionnaires, again taking about 35 minutes. Completion of at least a further 5 sets of anxiety ratings will result in entry to another prize draw with a £25 gift voucher prize.

Expenses

You will be able to claim up to £10 in travel expenses during the course of the study.

What are the possible disadvantages and risks of taking part?

We do not anticipate any significant disadvantages or risks in taking part. You should contact your care coordinator should you become distressed and need to speak to a clinician. You may also contact the [redacted]. Some of the questions in the interview may lead you to remember frustrations if you found mindfulness practice difficult or remind you of something challenging in your life.

What if I felt upset during the interview?

If you seemed to be finding the interview difficult, I would check whether you wished to continue. If not, I could arrange another time to see your or you could withdraw from the study if you preferred. I would ask you how you found the interview at the end, and if you had any questions. If you were distressed during or following the interview, I would think with you about who would be most helpful for you to talk to. If you were to disclose details of risk to self or others during the interview, then I would need to discuss this with your care coordinator or other appropriate person or agency, who might then need to take further action e.g. if you disclosed abuse.

What are the possible benefits of taking part?

We hope that this research will give us a better understanding of how mindfulness is helpful that can then be used to improve future courses.

What if there is a problem?

Any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed. The detailed information on this is given in Part 2.

Would my taking part in this study be kept confidential?

Yes. We will follow ethical and legal practice and all information about you will be handled in confidence. The details are included in part 2.

This completes part 1.

If the information in Part 1 has interested you and you are considering participation, please read the additional information in Part 2 before making any decision.

Exploring mindfulness based cognitive therapy with adolescents

Participant information sheet (16 years+)
Version 2. 28/5/2012.

Part 2

What will happen if I don't want to carry on with the study?

If you withdraw from the study, we would like to use the data collected up to your withdrawal.

What if there is a problem?

If you had a concern about any aspect of this study, you would be welcome to contact me (on the phone number or email address below) and I would do my best to answer your questions. If you were still unhappy and wished to complain formally, you could do this by contacting:

Professor Paul Camic
Department of Applied Psychology
Canterbury Christ Church University
Salomons Campus
Broomhill Road
Tunbridge Wells, Kent TN3 0TG

Email:

Would my taking part in this study be kept confidential?

All information will be kept confidential. A code number will be used to identify you, and I will keep the list that links codes to people's identity locked separately from the data. All data use is strictly within the Data Protection Act (DPA, 1998). Data will be kept locked away securely for ten years after the completion of the study and destroyed after this time.

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What will happen to the results of the research study?

Anonymous data and findings from the study may be shared with research colleagues, presented at conferences and published in scientific journals. If you are interested in receiving a report of the overall findings, let me know and I will send them to you when the study is finished.

Who is organising and funding the research?

I am organising and leading this research study as part of my doctorate in clinical psychology. It is partially funded by my training organisation (Canterbury Christ Church University).

Who has reviewed the study?

All research in the NHS is looked at by independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by the South East Coast – Surrey Research Ethics Committee.

Further information and contact details

Thank you for taking the time to read this sheet and for your interest.

I would recommend that you take your time to decide whether you would like to take part in this research and discuss it with family and friends, if you wish, before you decide.

You are welcome to discuss this research and any concerns or questions with me:

Gemma Davies
Trainee Clinical Psychologist
Department of Applied Psychology
Canterbury Christ Church University
Salomons Campus
Broomhill Road
Tunbridge Wells, Kent TN3 0TG

Email:

Phone number for messages: 01892 507673 (24 hour voicemail)
Please say that the message is for Gemma Davies and leave a name and contact number so that I can get back to you.

You may also contact my lead supervisor should you have any further questions regarding the study:

Dr Fergal Jones
Department of Applied Psychology
Canterbury Christ Church University
Salomons Campus
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Email:

Alternative Contact details

Feel free to contact Patient Advice and Liaison Service (PALS), which provides information, advice and support for patients, families and carers. Although PALS will not have information about this study, they will be able to advise you on what participation in a research project might entail in general.

Thank you for reading this information sheet.
I hope to be talking to you soon.

Best wishes,
Gemma Davies

Exploring mindfulness based cognitive therapy with adolescents

Parent/Caregiver information sheet (under 16 years)
Version 2. 28/5/2012.

Hello. My name is Gemma Davies and I am a trainee clinical psychologist at Canterbury Christ Church University. I would like to invite your child to take part in a research study. Before you decide whether to consent to this, it is important that you understand why the research is being done and what it would involve for your child.

Talk to others about the study if you wish.

Part 1 of this information sheet tells you the purpose of this study and what will happen to you child if she/he takes part.

Part 2 gives you more detailed information about the study.

Please ask if there is anything that is not clear.

Part 1

What is the purpose of the study?
The study aims to explore your child's experience of attending the mindfulness course and practicing mindfulness, and the impact these have on them. Although much research has been done on mindfulness based cognitive therapy (MBCT) with adults, there has been less research on its effects and how it works with young people. I hope to find out more about this in this study.

Why has my child been asked to take part?
Your child has been asked to take part in the study because they have shown an interest in attending a mindfulness course. I am really interested to know about their experience of the course and of mindfulness, and any impact it might have in their life.

Do they have to take part?

It is up to you and your child to decide to join the study. If your child agrees to take part and you also agree, I will then ask you to sign a consent form and your child to sign an assent form. Your child is free to withdraw at any time, without giving a reason. This decision will not affect your child's care in any way and they are very welcome to attend the mindfulness course whether they take part in the research or not.

What does the study involve?
All the people who choose to take part will be interviewed about their anxiety. This will take up to 30 minutes. They will also be asked to fill out some questionnaires asking about anxiety, mood, mindfulness and skills related to attention, which may be linked to mindfulness. You will also be asked to fill out some similar questionnaires about your child. If your child would like to take part in this study, they will be invited to do this a few weeks before the mindfulness course starts and again just before the course, taking about 30-35 minutes each time. They can choose to do this online or on paper.

In order to get a clearer picture of how things change for your child over time, they would be asked to rate their level of anxiety each week via a website. This should take less than 5 minutes. They would be asked to do this approximately 5-8 times before the course starts, then each week during the course. Completion of 5 weeks of ratings before the course starts will result in entry to a prize draw with a £25 gift voucher prize.

After the end of the course, I would meet with your child, either in person or by Skype/phone, to ask them about their experience of the course and of mindfulness. This would take approximately 30 minutes. I would also ask you and your child to complete another set of questionnaires, which would take up to 45 minutes.

About 3 months after the course has finished I would ask your child to rate their anxiety online again, approximately 5-8 times and complete another set of questionnaires, again taking about 35 minutes. Completion of a further 5 weeks of ratings will result in entry to another prize draw with a £25 gift voucher prize.

Expenses

Your child will be able to claim up to £10 in travel expenses during the course of the study.

What are the possible disadvantages and risks of taking part?

We do not anticipate any significant disadvantages or risks in taking part. Your child should contact their care coordinator should they become distressed and need to speak to a clinician. They may also contact the [redacted]. Some of the questions in the interview may lead your child to remember frustrations if they found mindfulness practice difficult or remind them of something challenging in their life.

What if my child felt upset during the interview?

If your child seemed to be finding the interview difficult, I would check whether they wished to continue. If not, I could arrange another time to see your child or they could withdraw from the study if preferred. I would ask them how they found the interview at the end, and if they had any questions. If they were distressed during or following the interview, I would think with them about who would be most helpful for them to talk to. If they were to disclose details of risk to self or others during the interview, then I would need to discuss this with their care coordinator or other appropriate person or agency, who might then need to take further action e.g. if they disclosed abuse.

What are the possible benefits of taking part?

We hope that this research will give us a better understanding of how mindfulness is helpful that can then be used to improve future courses.

What if there is a problem?

Any complaint about the way you or your child have been dealt with during the study or any possible harm they might suffer will be addressed. The detailed information on this is given in Part 2.

Would my child's taking part in this study be kept confidential?

Yes. We will follow ethical and legal practice and all information about your child will be handled in confidence. The details are included in part 2.

This completes part 1. If the information in Part 1 has interested you and you are considering your child's participation, please read the additional information in Part 2 before making any decision.

Exploring mindfulness based cognitive therapy with adolescents

Parent/Caregiver information sheet (under 16 years)
Version 2. 28/5/2012.

Part 2

What will happen if my child doesn't want to carry on with the study?

If your child withdraws from the study, we would like to use the data collected up to the withdrawal.

What if there is a problem?
If you had a concern about any aspect of this study, you would be welcome to contact me (on the phone number or email address below) and I would do my best to answer your questions. If you were still unhappy and wished to complain formally, you could do this by contacting:

Professor Paul Camic
Department of Applied Psychology
Canterbury Christ Church University
Salomons Campus
Broomhill Road
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Email:

Would my child's taking part in this study be kept confidential?
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Who is organising and funding the research?
I am organising and leading this research study as part of my doctorate in clinical psychology. It is partially funded by my training organisation (Canterbury Christ Church University).

Who has reviewed the study?
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Further information and contact details

Thank you for taking the time to read this sheet and for your interest.

I would recommend that you take your time to decide whether you would like your child to take part in this research and discuss it with family and friends, if you wish, before you decide.

You are welcome to discuss this research and any concerns or questions with me:

Gemma Davies
Trainee Clinical Psychologist
Department of Applied Psychology
Canterbury Christ Church University
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Thank you for reading this information sheet.
I hope to be talking to you soon.

Best wishes,
Gemma Davies

Exploring mindfulness based cognitive therapy with adolescents

Parent/Caregiver information sheet (16 years+)
Version 2. 28/5/2012.

Hello. My name is Gemma Davies and I am a trainee clinical psychologist at Canterbury Christ Church University. I would like to invite your child to take part in a research study. Before you decide whether to consent to this, it is important that you understand why the research is being done and what it would involve for your child.

Talk to others about the study if you wish.

Part 1 of this information sheet tells you the purpose of this study and what will happen to you child if she/he takes part.

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Please ask if there is anything that is not clear.

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The study aims to explore your child's experience of attending the mindfulness course and practicing mindfulness, and the impact these have on them. Although much research has been done on mindfulness based cognitive therapy (MBCT) with adults, there has been less research on its effects and how it works with young people. I hope to find out more about this in this study.

Why has my child been asked to take part?
Your child has been asked to take part in the study because they have shown an interest in attending a mindfulness course. I am really interested to know about their experience of the course and of mindfulness, and any impact it might have in their life.

Do they have to take part?
It is up to your child to decide to join the study. If your child agrees to take part, I will ask you to sign a consent form and then ask your child to do the same. Your child is free to withdraw at any time, without giving a reason. This decision will not affect their care in any way and they are very welcome to attend the mindfulness course whether they take part in the research or not.

What does the study involve?
All the people who choose to take part will be interviewed about their anxiety. This will take up to 30 minutes. They will also be asked to fill out some questionnaires asking about anxiety, mood, mindfulness and skills related to attention, which may be linked to mindfulness. You will also be asked to fill out some similar questionnaires about your child. If your child would like to take part in this study, they will be invited to do this a few weeks before the mindfulness course starts and again just before the course, taking about 30-35 minutes each time. They can choose to do this online or on paper.

In order to get a clearer picture of how things change for your child over time, they would be asked to rate their level of anxiety each week via a website. This should take less than 5 minutes. They would be asked to do this approximately 5-8 times before the course starts, then each week during the course. Completion of at least 5 sets of anxiety ratings before the course starts will result in entry to a prize draw with a £25 gift voucher prize.

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What are the possible disadvantages and risks of taking part?

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What if my child felt upset during the interview?

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Exploring mindfulness based cognitive therapy with adolescents

Parent/Caregiver information sheet (16 years+)
Version 2. 28/5/2012.

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Further information and contact details
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Thank you for reading this information sheet.
I hope to be talking to you soon.

Best wishes,
Gemma Davies

CONSENT FORM – YOUNG PERSON

Version 2 28/5/2012

Participant Identification Number for this study:

Title of Project: Exploring mindfulness based cognitive therapy with adolescents.

Name of Researcher: Gemma Davies

		Please initial box
1.	I confirm that I have read and understand the information sheet dated 28/5/2012 (version 2) for the above study. I have had the opportunity to think about the information, ask questions and have had these answered.	
2.	I understand that my participation is voluntary and that I am free to withdraw from the study at any time without giving any reason, without my participation on the mindfulness course or other medical care or legal rights being affected.	
3.	I understand that relevant sections of my medical notes and data collected during the study may be looked at by the research team. I give permission for these individuals to have access to my data.	
4.	I understand that the interview may take place in person or via Skype or phone.	
5.	I understand that the interview will be digitally recorded for the purpose of data analysis, and I hereby give permission for the interview to be recorded.	
6.	I agree that anonymous quotes from my interview may be used in published reports of the study findings.	
7.	I agree to take part in the above study.	
8.	I wish to receive a summary of the results on completion of the study.	

Name of Participant_____ Date_____

Signature _____

Name of Person taking consent _____ Date_____

Signature _____

1 copy for participant; 1 copy for researcher

ASSENT FORM – YOUNG PERSON

Version 2 28/5/2012

Participant Identification Number for this study:

Title of Project: Exploring mindfulness based cognitive therapy with adolescents.

Name of Researcher: Gemma Davies

		Please initial box
1.	I confirm that I have read and understand the information sheet dated 28/5/2012 (version 2) for the above study. I have had the opportunity to think about the information, ask questions and have had these answered.	
2.	I understand that my participation is voluntary and that I am free to withdraw from the study at any time without giving any reason, without my participation on the mindfulness course or other medical care or legal rights being affected.	
3.	I understand that relevant sections of my medical notes and data collected during the study may be looked at by the research team. I give permission for these individuals to have access to my data.	
4.	I understand that the interview may take place in person or via Skype or phone.	
5.	I understand that the interview will be digitally recorded for the purpose of data analysis, and I hereby give permission for the interview to be recorded.	
6.	I agree that anonymous quotes from my interview may be used in published reports of the study findings.	
7.	I agree to take part in the above study.	
8.	I wish to receive a summary of the results on completion of the study.	

Name of Participant_____ Date_____

Signature _____

Name of Person taking assent _____ Date_____

Signature _____

1 copy for participant; 1 copy for researcher

CONSENT FORM – PARENT/CAREGIVER

Version 2 28/5/2012

Participant Identification Number for this study:

Title of Project: Exploring mindfulness based cognitive therapy with adolescents.

Name of Researcher: Gemma Davies

		Please initial box
1.	I confirm that I have read and understand the information sheet dated 28/5/2012 (version 2) for the above study. I have had the opportunity to think about the information, ask questions and have had these answered.	
2.	I understand that my participation and that of the child in my care is voluntary, and that we are free to withdraw from the study at any time without giving any reason, without my child's participation on the mindfulness based cognitive therapy course or other medical care or legal rights being affected.	
3.	I understand that relevant sections of my child's medical notes and data collected during the study may be looked at by the research team. I give permission for these individuals to have access to this data.	
4.	I understand that the interview may take place in person or via Skype or phone, and I hereby give permission for this.	
5.	I understand that the interview will be digitally recorded for the purpose of data analysis, and I hereby give permission for the interview to be recorded.	
6.	I agree that anonymous quotes from my child's interview may be used in published reports of the study findings.	
7.	I agree to my child taking part in the above study.	
8.	I agree to take part in the above study.	
9.	I wish to receive a summary of the results on completion of the study.	

Name of Parent/Caregiver_____ Date_____

Signature _____

Name of Person taking consent _____ Date_____

Signature _____

1 copy for parent/caregiver; 1 copy for researcher

Appendix F: Copies of Standardised Measures

Measures subject to copyright have been removed from the electronic copy

Personal Anxiety Measure: Cameron Today's Date: _____

1. In the last week, how often did you notice having physical anxiety symptoms?

0	1	2	3	4
Not at all	Once	Several days	More than half the days	Nearly every day

How much did this bother you?

0 1 2 3 4 5 6 7 8 9 10

Not at all ----------A lot

2. In the last week, how often did you notice worrying what people were thinking about you?

0	1	2	3	4
Not at all	Once	Several days	More than half the days	Nearly every day

How much did this bother you?

0 1 2 3 4 5 6 7 8 9 10

Not at all ----------A lot

3. In the last week, how often did you notice feeling disconnected from the conversation?

0	1	2	3	4
Not at all	Once	Several days	More than half the days	Nearly every day

How much did this bother you?

0 1 2 3 4 5 6 7 8 9 10

Not at all ----------A lot

4. In the last week, how often did you notice avoiding meeting friends if people you didn't know would be there?

0	1	2	3	4
Not at all	Once	Several days	More than half the days	Nearly every day

How much did this bother you?

0 1 2 3 4 5 6 7 8 9 10

Not at all ----------A lot

5. In the last week, how often did you notice worrying about the past, e.g. things you'd said?

0	1	2	3	4
Not at all	Once	Several days	More than half the days	Nearly every day

How much did this bother you?

0 1 2 3 4 5 6 7 8 9 10

Not at all ----------A lot

6. Overall, how would you rate your anxiety over the past week?

0 1 2 3 4 5 6 7 8 9 10

Didn't feel anxious at all ---------- Felt very anxious on several occasions or anxious most of the time

Screen for Child Anxiety Related Disorders (SCARED)

Child Version—Pg. 1 of 2 (To be filled out by the CHILD)

Name: _____

Date: _____

Directions:
Below is a list of sentences that describe how people feel. Read each phrase and decide if it is "Not True or Hardly Ever True" or "Somewhat True or Sometimes True" or "Very True or Often True" for you. Then for each sentence, fill in one circle that corresponds to the response that seems to describe you for the last 3 months.

	0 Not True or Hardly Ever True	1 Somewhat True or Sometimes True	2 Very True or Often True
1. When I feel frightened, it is hard to breathe.	○	○	○
2. I get headaches when I am at school.	○	○	○
3. I don't like to be with people I don't know well.	○	○	○
4. I get scared if I sleep away from home.	○	○	○
5. I worry about other people liking me.	○	○	○
6. When I get frightened, I feel like passing out.	○	○	○
7. I am nervous.	○	○	○
8. I follow my mother or father wherever they go.	○	○	○
9. People tell me that I look nervous.	○	○	○
10. I feel nervous with people I don't know well.	○	○	○
11. I get stomachaches at school.	○	○	○
12. When I get frightened, I feel like I am going crazy.	○	○	○
13. I worry about sleeping alone.	○	○	○
14. I worry about being as good as other kids.	○	○	○
15. When I get frightened, I feel like things are not real.	○	○	○
16. I have nightmares about something bad happening to my parents.	○	○	○
17. I worry about going to school.	○	○	○
18. When I get frightened, my heart beats fast.	○	○	○
19. I get shaky.	○	○	○
20. I have nightmares about something bad happening to me.	○	○	○

Screen for Child Anxiety Related Disorders (SCARED)
Child Version—Pg. 2 of 2 (To be filled out by the CHILD)

	0 Not True or Hardly Ever True	1 Somewhat True or Sometimes True	2 Very True or Often True
21. I worry about things working out for me.	○	○	○
22. When I get frightened, I sweat a lot.	○	○	○
23. I am a worrier.	○	○	○
24. I get really frightened for no reason at all.	○	○	○
25. I am afraid to be alone in the house.	○	○	○
26. It is hard for me to talk with people I don't know well.	○	○	○
27. When I get frightened, I feel like I am choking.	○	○	○
28. People tell me that I worry too much.	○	○	○
29. I don't like to be away from my family.	○	○	○
30. I am afraid of having anxiety (or panic) attacks.	○	○	○
31. I worry that something bad might happen to my parents.	○	○	○
32. I feel shy with people I don't know well.	○	○	○
33. I worry about what is going to happen in the future.	○	○	○
34. When I get frightened, I feel like throwing up.	○	○	○
35. I worry about how well I do things.	○	○	○
36. I am scared to go to school.	○	○	○
37. I worry about things that have already happened.	○	○	○
38. When I get frightened, I feel dizzy.	○	○	○
39. I feel nervous when I am with other children or adults and I have to do something while they watch me (for example: read aloud, speak, play a game, play a sport.)	○	○	○
40. I feel nervous when I am going to parties, dances, or any place where there will be people that I don't know well.	○	○	○
41. I am shy.	○	○	○

SCORING:

A total score of ≥ **25** may indicate the presence of an **Anxiety Disorder**. Scores higher that 30 are more specific.

A score of **7** for items 1, 6, 9, 12, 15, 18, 19, 22, 24, 27, 30, 34, 38 may indicate **Panic Disorder** or **Significant Somatic Symptoms**.

A score of **9** for items 5, 7, 14, 21, 23, 28, 33, 35, 37 may indicate **Generalized Anxiety Disorder**.

A score of **5** for items 4, 8, 13, 16, 20, 25, 29, 31 may indicate **Separation Anxiety Disorder**.

A score of **8** for items 3, 10, 26, 32, 39, 40, 41 may indicate **Social Anxiety Disorder**.

A score of **3** for items 2, 11, 17, 36 may indicate **Significant School Avoidance**.

**For children ages 8 to 11, it is recommended that the clinician explain all questions, or have the child answer the questionnaire sitting with an adult in case they have any questions.*

Developed by Boris Birmaher, M.D., Suneeta Khetarpal, M.D., Marlane Cully, M.Ed., David Brent M.D., and Sandra McKenzie, Ph.D., Western Psychiatric Institute and Clinic, University of Pgh. (10/95). E-mail: birmaherb@msx.upmc.edu

Screen for Child Anxiety Related Disorders (SCARED)

Parent Version—Pg. 1 of 2 (To be filled out by the PARENT)

Name: _____

Date: _____

Directions:
Below is a list of statements that describe how people feel. Read each statement carefully and decide if it is "Not True or Hardly Ever True" or "Somewhat True or Sometimes True" or "Very True or Often True" for your child. Then for each statement, fill in one circle that corresponds to the response that seems to describe your child for the last 3 months. Please respond to all statements as well as you can, even if some do not seem to concern your child.

	0 Not True or Hardly Ever True	1 Somewhat True or Sometimes True	2 Very True or Often True
1. When my child feels frightened, it is hard for him/her to breathe.	○	○	○
2. My child gets headaches when he/she is at school.	○	○	○
3. My child doesn't like to be with people he/she doesn't know well.	○	○	○
4. My child gets scared if he/she sleeps away from home.	○	○	○
5. My child worries about other people liking him/her.	○	○	○
6. When my child gets frightened, he/she feels like passing out.	○	○	○
7. My child is nervous.	○	○	○
8. My child follows me wherever I go.	○	○	○
9. People tell me that my child looks nervous.	○	○	○
10. My child feels nervous with people he/she doesn't know well.	○	○	○
11. My child gets stomachaches at school.	○	○	○
12. When my child gets frightened, he/she feels like he/she is going crazy.	○	○	○
13. My child worries about sleeping alone.	○	○	○
14. My child worries about being as good as other kids.	○	○	○
15. When he/she gets frightened, he/she feels like things are not real.	○	○	○
16. My child has nightmares about something bad happening to his/her parents.	○	○	○
17. My child worries about going to school.	○	○	○
18. When my child gets frightened, his/her heart beats fast.	○	○	○
19. He/she gets shaky.	○	○	○
20. My child has nightmares about something bad happening to him/her.	○	○	○

Screen for Child Anxiety Related Disorders (SCARED)

Parent Version—Pg. 2 of 2 (To be filled out by the PARENT)

	0 Not True or Hardly Ever True	1 Somewhat True or Sometimes True	2 Very True or Often True
21. My child worries about things working out for him/her.	○	○	○
22. When my child gets frightened, he/she sweats a lot.	○	○	○
23. My child is a worrier.	○	○	○
24. My child gets really frightened for no reason at all.	○	○	○
25. My child is afraid to be alone in the house.	○	○	○
26. It is hard for my child to talk with people he/she doesn't know well.	○	○	○
27. When my child gets frightened, he/she feels like he/she is choking.	○	○	○
28. People tell me that my child worries too much.	○	○	○
29. My child doesn't like to be away from his/her family.	○	○	○
30. My child is afraid of having anxiety (or panic) attacks.	○	○	○
31. My child worries that something bad might happen to his/her parents.	○	○	○
32. My child feels shy with people he/she doesn't know well.	○	○	○
33. My child worries about what is going to happen in the future.	○	○	○
34. When my child gets frightened, he/she feels like throwing up.	○	○	○
35. My child worries about how well he/she does things.	○	○	○
36. My child is scared to go to school.	○	○	○
37. My child worries about things that have already happened.	○	○	○
38. When my child gets frightened, he/she feels dizzy.	○	○	○
39. My child feels nervous when he/she is with other children or adults and he/she has to do something while they watch him/her (for example: read aloud, speak, play a game, play a sport.)	○	○	○
40. My child feels nervous when he/she is going to parties, dances, or any place where there will be people that he/she doesn't know well.	○	○	○
41. My child is shy.	○	○	○

SCORING:

A total score of ≥ **25** may indicate the presence of an **Anxiety Disorder**. Scores higher than 30 are more specific.

A score of **7** for items 1, 6, 9, 12, 15, 18, 19, 22, 24, 27, 30, 34, 38 may indicate **Panic Disorder** or **Significant Somatic Symptoms**.

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A score of **8** for items 3, 10, 26, 32, 39, 40, 41 may indicate **Social Anxiety Disorder**.

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Developed by Boris Birmaher, M.D., Suneeta Khetarpal, M.D., Marlane Cully, M.Ed., David Brent M.D., and Sandra McKenzie, Ph.D., Western Psychiatric Institute and Clinic, University of Pgh. (10/95). E-mail: birmaherb@msx.upmc.edu

Child and Adolescent Mindfulness Measure (CAMM; Greco, Baer, & Smith, 2010)

We want to know more about what you think, how you feel, and what you do. **Read** each sentence. Then, circle the number that tells **how often each sentence is true for you.**

	Never True	Rarely True	**Some-times True**	**Often True**	**Always True**
1. I get upset with myself for having feelings that don't make sense.	0	1	2	3	4
2. At school, I walk from class to class without noticing what I'm doing.	0	1	2	3	4
3. I keep myself busy so I don't notice my thoughts or feelings.	0	1	2	3	4
4. I tell myself that I shouldn't feel the way I'm feeling.	0	1	2	3	4
5. I push away thoughts that I don't like.	0	1	2	3	4
6. It's hard for me to pay attention to only one thing at a time.	0	1	2	3	4
7. I get upset with myself for having certain thoughts.	0	1	2	3	4
8. I think about things that have happened in the past instead of thinking about things that are happening right now.	0	1	2	3	4
9. I think that some of my feelings are bad and that I shouldn't have them.	0	1	2	3	4
10. I stop myself from having feelings that I don't like.	0	1	2	3	4

Scoring Instructions: Compute total score on the CAMM by reverse scoring and summing all items.

Self-Compassion Scale (SCS)

To all interested, please feel free to use the Self-Compassion Scale for research or use with any other population. It is appropriate for ages 14 and up (as long as individuals have at least an 8th grade reading level). If you aren't that interested in using the subscales, you might also want to consider using the Short SCS (12 items), which has a near perfect correlation with the long scale.

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Reference:

Neff, K. D. (2003). Development and validation of a scale to measure self-compassion. Self and Identity, 2, 223-250.

Coding Key:

Self-Kindness Items: 5, 12, 19, 23, 26

Self-Judgment Items: 1, 8, 11, 16, 21

Common Humanity Items: 3, 7, 10, 15

Isolation Items: 4, 13, 18, 25

Mindfulness Items: 9, 14, 17, 22

Over-identified Items: 2, 6, 20, 24

Subscale scores are computed by calculating the mean of subscale item responses. To compute a total self-compassion score, reverse score the negative subscale items - self-judgment, isolation, and over-identification (i.e., 1 = 5, 2 = 4, 3 = 3. 4 = 2, 5 = 1) - then compute a total mean.

(This method of calculating the total score is slightly different than that used in the article referenced above, in which each subscale was added together. However, I find it is easier to interpret the scores if the total mean is used.)

HOW I TYPICALLY ACT TOWARDS MYSELF IN DIFFICULT TIMES

Please read each statement carefully before answering. To the left of each item, indicate how often you behave in the stated manner, using the following scale:

Almost never				**Almost always**
1	**2**	**3**	**4**	**5**

_____ 1. I'm disapproving and judgmental about my own flaws and inadequacies.

_____ 2. When I'm feeling down I tend to obsess and fixate on everything that's wrong.

_____ 3. When things are going badly for me, I see the difficulties as part of life that everyone goes through.

_____ 4. When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world.

_____ 5. I try to be loving towards myself when I'm feeling emotional pain.

_____ 6. When I fail at something important to me I become consumed by feelings of inadequacy.

_____ 7. When I'm down and out, I remind myself that there are lots of other people in the world feeling like I am.

_____ 8. When times are really difficult, I tend to be tough on myself.

_____ 9. When something upsets me I try to keep my emotions in balance.

_____ 10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.

_____ 11. I'm intolerant and impatient towards those aspects of my personality I don't like.

_____ 12. When I'm going through a very hard time, I give myself the caring and tenderness I need.

_____ 13. When I'm feeling down, I tend to feel like most other people are probably happier than I am.

_____ 14. When something painful happens I try to take a balanced view of the situation.

_____ 15. I try to see my failings as part of the human condition.

_____ 16. When I see aspects of myself that I don't like, I get down on myself.

_____ 17. When I fail at something important to me I try to keep things in perspective.

_____ 18. When I'm really struggling, I tend to feel like other people must be having an easier time of it.

_____ 19. I'm kind to myself when I'm experiencing suffering.

_____ 20. When something upsets me I get carried away with my feelings.

_____ 21. I can be a bit cold-hearted towards myself when I'm experiencing suffering.

_____ 22. When I'm feeling down I try to approach my feelings with curiosity and openness.

_____ 23. I'm tolerant of my own flaws and inadequacies.

_____ 24. When something painful happens I tend to blow the incident out of proportion.

_____ 25. When I fail at something that's important to me, I tend to feel alone in my failure.

_____ 26. I try to be understanding and patient towards those aspects of my personality I don't like.

How close are you to the goals you wanted to get to?

On a scale from zero to ten, please circle the number below that best describes how close you are to your goal today. Remember: zero is as far away from your goal as you have ever been, and ten is having reached your goal completely.

Your first goal when we started meeting was:
(Enter brief description of goal and goal number as recorded on the Goal Setting Record Form)

.....

.....

Half way to reaching this goal

Goal not at all met 0 1 2 3 4 5 6 7 8 9 10 Goal reached

Your second goal when we started meeting was:
(Enter brief description of goal and goal number as recorded on the Goal Setting Record Form)

.....

.....

Half way to reaching this goal

Goal not at all met 0 1 2 3 4 5 6 7 8 9 10 Goal reached

Your third goal when we started meeting was:
(Enter brief description of goal and goal number as recorded on the Goal Setting Record Form)

.....

.....

Half way to reaching this goal

Goal not at all met 0 1 2 3 4 5 6 7 8 9 10 Goal reached

Clinic ID.....

Date.....

Completed by child/young person / parent/carer / other (please specify).....

Developed by:
Hertfordshire Partnership NHS
CORC

Appendix G: Participant Interview Schedule

1. Introduction
2. Experience of mindfulness training:
    a. What was it like being on the mindfulness course?
    b. How did you find being in the group?
    c. Is there anything that you found particularly helpful?
    d. Is there anything that you didn't find so helpful?
    e. What did you think of the facilitators approach and knowledge?
    f. How did you find the home practice and the materials (CD, booklet)?
    g. How would you rate the following on a scale from 0 (not helpful at all) to 10 (extremely helpful)? [Use to elicit further experience of mindfulness]
        i. Mindfulness of the senses
        ii. Body scan
        iii. Text reminders
        iv. Breathing space
        v. Mindful movement
    h. Is there anything you'd have liked to have been different?
    i. Is there anything that you'd liked to have had more or less of?
    j. Do you have any other suggestions for improving the course in future?
3. Changes
    a. What do you think might be different in your life as a result of the course?
    b. Have you noticed any other changes in your life since starting mindfulness?
    c. Are you continuing to practice mindfulness in any way and if so how?
    d. How do you think you might benefit from mindfulness in future if at all?
    e. Is there anything else you would like to say in terms of how things have changed for you since you started the course?
4. Ending the interview
    a. How did you find the interview?
    b. Do you have any questions for me?
    c. Is there anything we have talked about that you would prefer me not to include in my research?

Appendix H: Mindfulness Course Content

Session 1: Automatic pilot & the stresses of being a teenager

Session 2: “Being with difficulty”

Session 3: Moving ourselves into calm - Mindfulness of the breath

Session 4: Thoughts are not facts: staying present using our senses

Session 5: Allowing and letting be

Session 6: Taking care of ourselves and looking to the future

Appendix I: Coded Transcript

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Appendix J: Development of Themes and Categories

Table J1 shows how critical incidents and experiences of change from individual transcripts were first combined.

Table J1

Key Critical Incidents and Experiences of Change by Participant

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Table J2

Initial Helpful Category and Theme Development

	Category	Helpful Theme	Frequency
1.	Group factors	Meeting people, feeling less isolated	6
2.	Group factors	Being with others with similar difficulties	3
3.	Group factors	Not pressurised to talk/do anything	3
4.	Group factors	Secure environment	3
5.	Group factors	Learn from others	2
6.	Group factors	Feel less shy / can talk to people	2
7.	Group factors	Easier to talk without parents	1
8.	Group factors	Feel more confident	1
9.	How it helps: coping strategies	Learn new strategies/coping techniques	2
10.	How it helps: coping strategies	Makes it easier to cope with stressful situations	2
11.	How it helps: physical	Helps relax/calm down/slow down	4
12.	How it helps: physical	Heart stops beating so fast in stressful situations	1
13.	How it helps: thinking	Learn to be in the moment Focus on something that isn't your past or future Takes your mind off things More easy to focus without your mind going everywhere Reins in your thoughts	5
14.	How it helps: thinking	Getting used to fact that I can't spend my life worrying	1
15.	How it helps: thinking	Makes the big things less	1
16.	How it helps: thinking	Thought patterns the same but can get rid of them quicker	1
17.	How it helps: thinking	Don't second guess what people are thinking	1
18.	How it helps: emotional	Feel less anxious/panicky	2
19.	How it helps: emotional	Feel happier	1
20.	Specific practices: breathing space	Can use in everyday situations (school, bus, exams, tests, social)	6
21.	Specific practices: breathing space	Becomes 'natural', 'subconscious', 'instinctive' with practice	3
22.	Specific practices: breathing space	Helpful as other people can't tell you're doing it	1
23.	Specific practices: breathing space	Effective as works quickly	1

	Category	Helpful Theme	Frequency
23.	Specific practices: breathing space	Easy to do	1
24.	Specific practices: mindful activity	Makes you more aware of surroundings and takes you out of your head	3
25.	Specific practices: .m texting	More motivating as someone else is thinking about mindfulness and asking you to use mindfulness	2
26.	Specific practices: .m texting	Useful reminder	1
27.	Specific practices: .m texting	Like it because it's social but anonymous	1
28.	Specific practices: mindful walking	Makes you think about what you are doing	1
29.	Specific factors: CD	Can put CD on ipod	1
30.	Specific factors: CD	CD just like group so can remind you if you've forgotten something	1

Table J3

Initial Hindering Category and Theme Development

	Category	Hindering theme	Frequency
1.	Group factors	Uncomfortable in group initially	3
2.	What got in the way	Need to be in situations where you would need to use the techniques to notice the benefits	2
3.	Specific practices: mindful walking	Felt awkward, lost balance, bumped into people, distracting	4
4.	Specific practices: mindful walking	Couldn't see the benefits or how it applies to everyday life	2
5.	Specific practices: mindful walking	Made me more aware of difficulties (e.g. conscious of body symptoms, being near others in a restricted space)	1
6.	Specific practices: mindful walking	Had to concentrate on controlling symptoms	1
7.	Specific practices: mindful walking	Didn't find it interesting	1
8.	Specific practices: body scan	Difficult to do every day	
9.	Specific practices: body scan	Mind wanders more	1
10.	Specific practices: body scan	Felt agitated	1
11.	Specific practices: do-in	Can't use in public as people would notice	1

	Category	Hindering theme	Frequency
12.	Specific practices: .m texting	Lost phone numbers	1
13.	Specific practices: .m texting	Difficult to motivate self despite being aware of reminder	1
14.	Specific practices: .m texting	Would feel uncomfortable to contact others	1

Table J4

Initial Wish List Category and Theme Development

	Category	Wish list	Frequency
1.	Structure	More sessions	2
2.	Content	More active practices	2
3.	Content	Less sitting	2
4.	Content	Learning more techniques	1
5.	Content	Going over techniques	1
6.	Personal change	Use CD in future	4
7.	Personal change	Try to use more in future as could have benefited more with more practice	3

These categories and themes were then further refined to produce the final results.

Appendix K. Mindfulness practices ratings

Participants were asked to rate specific practices on a scale from 0 (not helpful at all) to 10 (extremely helpful).

Practice	Anna	Bella	Cameron	Daisy	Eddie	Francesca	George	Helena
Mindfulness of the senses	8	9	7	4	9	8	7	9
Body scan	5	9	6	7	9.5	5	6	5
.m text reminders	9	5	8	7	N/A	6	8	N/A
Breathing Space	9	7	9	9	7	8-9	6	7
Mindful movement	3	2	6	6	5-6	3	5	8

Appendix L. NHS Research Ethics Committee End of Study Declaration and Report

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Appendix M. Instructions for Authors

Journal of Child and Family Studies

General

In general, the journal follows the recommendations of the 2010 Publication Manual of the American Psychological Association (Sixth Edition), and it is suggested that contributors refer to this publication. The research described in the manuscripts should be consistent with generally accepted standards of ethical practice. The anonymity of subjects and participants must be protected and identifying information omitted from the manuscript.

Manuscript Submission

The Journal uses Editorial Manager™ as its submission and peer review tracking system. All authors are required to register as a new user with Editorial Manager the first time they login in to the system. Straightforward login, registration procedures and step-by-step instructions for submitting manuscripts can be found on the website. Authors can use the Editorial Manager to track the review of their manuscripts in real time.

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Suggested Reviewers

Authors of research and review papers, excluding editorial and book review submissions, should provide the names and contact information for four possible reviewers of their paper. The suggested reviewers should be authorities in the research field of the submission who can provide unbiased and fair evaluation of the authors' work. The authors may also request that a particular researcher may not be considered a reviewer because of a conflict of interest. Colleagues from the authors' institution(s) may not be included as possible reviewers. One or more of these suggested reviewers may be selected by the Journal as reviewers, but the final choice of reviewers for any submission remains the prerogative of the Editor-in-Chief and the Associate Editors of the Journal.

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Authors can expect a decision usually within 8 to 10 weeks. Reviewers comments are sent with the decision. Accepted papers are subject to editorial revisions and copyediting. However, the contents of the paper remain the responsibility of the author.

Double-Blind Peer Review

All submissions are subject to double-blind peer review. In general, experimental/research studies are judged in terms of the following criteria: originality, contribution to the existing research literature, methodological soundness, and readability.

When you are ready to submit a manuscript to JCFS, please be sure to upload these 2 separate files to the Editorial Manager site to ensure timely processing and review of your paper:

- A title page with no running head, manuscript title, and complete author information. Followed by the Abstract page with keywords and the corresponding author e-mail information.
- The blinded manuscript containing no author information (no name, no affiliation, and so forth).

Manuscript Style

All manuscripts should be formatted to print out double-spaced at standard 8" x 11" paper dimensions, using a 10 pt. font size and a default typeface (recommended fonts are Times, Times New Roman, Calibri and Arial). Set all margins at one inch, and do not justify the right margin. Double-space the entire manuscript, including title page, abstract, list of references, tables, and figure captions. After the title page, number pages consecutively throughout including the reference pages, tables, and figure legends. The average article length is approximately 30 manuscript pages. For manuscripts exceeding the standard 30 pages, authors should contact the Editor in Chief, Nirbhay N. Singh directly at nirbsingh52@aol.com.

The Journal encourages the publication of research that is virtually jargon-free and easy to read. Thus, a personalized manuscript, written in active tense, is preferred. For example, “This study examined . . .” could be stated as, “We examined . . .” The Journal encourages a conversational rather than an impersonal tone in the manuscripts. Hypotheses should be written as a part of the last paragraph of the Introduction and not in bullet form. All reference to the study being reported should be consolidated in the last (or, if necessary, the last and penultimate) paragraph of the Introduction and not scattered throughout the introductory section.

Title Page

A title page is to be provided and should include: (1) the title (maximum of 15 words); (2) full names of the authors (without degree), with a bullet between the names of the authors; (3) brief running head; and, at the bottom of the title page, (4) the corresponding author’s initials and last name (without degree), affiliation, mailing address, and e-mail address. The initials and last name of all authors should be listed as well. All authors from the same institution should be listed together, with a bullet separating the names. For all, but the corresponding author, list the affiliation, city and state only.

Abstract

The abstract should be between 200 and 250 words. It should be concise and complete in itself without reference to the body of the paper. In addition to a general statement about the field of research as the first sentence, abstracts of experimental/research papers should contain a brief summary of the paper's purpose, method (design of the study, main outcome measures, and age range of subjects), results (major findings), and clinical significance. Abstracts of review papers should include a general statement about research area being reviewed as the first sentence, it should contain a brief summary of the review's purpose, method (data sources, study selection process), results (methods of data synthesis and key findings), and conclusions (summary statement of what is known, including potential applications and research needs). Do not use sub-headings and do not cite data or references in the abstract.

Key Words

A list of 5 key words is to be provided directly below the abstract. Key words should express the precise content of the manuscript, as they are used for indexing purposes.

Text

Text should begin on the second numbered page. Authors are advised to spell out all abbreviations (other than units of measure) the first time they are used. Do not use footnotes to the text. When using direct quotations from another publication, cite the page number for the quotation in the text, immediately after the quotation. When reporting statistically significant results, include the statistical test used, the value of the test statistic, degrees of freedom, and p values. In the discussion include an evaluation of implications (clinical, policy, training or otherwise) of the study when appropriate. Also, discuss limitations in study design or execution that may limit interpretation of the data and generalizability of the findings. Do not use any sub-headings in the Introduction or Discussion sections.

Footnotes

No footnotes are to be used.

References Cited Within the Text

Cite references in alphabetical order within the text.

References

The accuracy of the references is the responsibility of the authors.

List references alphabetically at the end of the paper and refer to them in the text by name and year in parentheses. References should include (in this order):

• last names and initials of all authors,

year published (in brackets)

title of article

name of publication

volume number

and inclusive pages

Do not include issue numbers of journals unless each issue begins with page 1. For book chapters, include volume number (if applicable) and page numbers, as shown below.

Consult the Publication Manual of the American Psychological Association, 6th Edition (Chapter 7) for formatting references. The style and punctuation of the references should conform to strict APA style – illustrated by the following examples:

• Journal Article:

Roelofs, J., Meesters, C., & Muris, P. (2008). Correlates of self-reported attachment (in)security in children: The role of parental romantic attachment status and rearing behaviors. Journal of Child and Family Studies, 17, 555-566.

Book:

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