The Hopeful Minds programme: a mixed method evaluation of 10 school curriculum based, theoretically framed lessons to promote mental health and coping skills in 8-14 year olds.

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3   Background literature
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6   The rise in adolescent mental ill health has become a major worldwide concern and is a
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8   leading global cause of disability in those under 25 years (Erskine et al., 2015). It has been
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10   reported that mental health problems affect 10–20% of children and adolescents worldwide
11   (Keiling et al., 2011), with 50% developing by age 14 and 75% by age 24 (Kessler et al.,
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13   2005), with demand outweighing resources (Belfer, 2008). WHO (2014) state that over 50%
14   of young people remain untreated into their adult life.
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18   Keiling et al., (2011) recommends that '*early intervention and prevention offer the hope to*
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20   *avoid later adult mental health problems and improve personal wellbeing and productivity'*
21   *(p.1515).* For example, many of the interventions that have been developed are aimed at
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23   promoting positive mental health, emotional-regulation and helpful coping strategies in
24   young people (Collins, Marks Woolfson, & Durkin, 2013). Schools are a very suitable
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26   context for the delivery of such interventions (Frydenberg, 2008), where resilience-building
27   and trauma focused interventions have been adapted and implemented via schools (Fazel,
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29   Patel, Thomas, & Tol, 2014). Meta-analyses suggest interventions developed for depression,
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31   through the promotion of resilience and protective factors are effective (Durlack, Weissberg,
32   Dymnicki, Taylor, & Schellinger, 2011; Stice, Shaw, Bohon, Marti, & Rohde, 2009; Werner-
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34   Seidler, Perry, Calear, Newby, & Christensen, 2017). Further meta-analyses highlight the
35   benefits of school-based prevention strategies, appraising ability to improve skills, resilience,
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37   pro-social behaviour and academic performance (Taylor, Oberle, Durlak, & Weissberg,
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39   2017) and potential to reduce symptoms of anxiety and depression (Werner-Seidler et al.,
40   2017). Programmes such as the 'SPARK Resilience Programme' (Pluess, Boniwell,
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42   Hefferon, & Tunariu, 2017) showed reduced symptoms of depression for at least 6 months
43   following participation (Brunwasser et al., 2009) although a reported limitation of such
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45   studies has been the over focus on reducing symptoms of depression rather than increasing
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47   resilience (Pluess et al., 2017).
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49   A systematic review of early intervention programmes in schools for anxiety indicated that
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51   most universal, selective prevention programmes are effective in reducing symptoms (Neil &
52   Christensen, 2009). Whilst many programmes have been evaluated there are no conclusive
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54   findings on the most effective techniques to achieve these outcomes. A longitudinal study by
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56   Horwitz, Berona, Czyz, Yeguez, and King (2017), recommended building hope and optimism
57   as a critical intervention target for suicidal adolescents. However, introducing hope to pre-
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59   adolescents to target the potential precursors to suicidal ideation has not be carried out before.
60   Furthermore, hopelessness is the most negative state of mind, before the onset of suicidal

ideation (Horwitz, et al., 2017), and is the opposite of hope.

Snyder and colleagues (1994, 2000) pioneered the development of hope in terms of promoting goal-directed thinking, whereby the individual can find routes to goals (pathways thinking), and motivation to use them (agency thinking) (Snyder et al., 2002). As individuals learn to be more hopeful, they may be more able to make commitments, set goals, and work towards attaining them (Shorey et al., 2003). Research shows that hope exists uniquely beyond optimism and positive thinking (Feldman & Kubota, 2015).

Since the creation of hope theory, there has been a growing body of research evaluating its role in wellbeing. Low hope is significantly related to negative outcomes: psychological distress (Snyder, LaPointe, Crowson, & Early, 1998); depressive symptoms (Kwon, 2000), poorer academic achievement; disengaged coping styles (Folkman, 2010) and tendencies to engage in self-doubt and negative rumination (Snyder, 1999). Low-hope and negative rumination has been linked to anxiety (Michael, 2000), low emotional regulation (ER), low self-esteem and low social support satisfaction in children and adolescents (Merkaš & Brajša-Žganec, 2011). Those higher in hopeful thinking show positive associations with perceived competence and self-efficacy (Davidson, Feldman, Margalit & 2012), increased confidence (Snyder, 2000), lower emotional distress (Gilman, Dooley, & Florell, 2006), greater use of engaged coping styles (Chang & DeSimone, 2001), and positive coping abilities such as problem solving (Snyder, 2000).

Nevertheless, there remains some mixed reports, as a meta-analysis by Weis and Speridakos (2011) found no conclusive evidence that hope enhancement strategies alleviate psychological distress, although Klausner and colleagues (2002) found a hope-based intervention for older adults diagnosed with depression resulted in significant improvements on all measured outcomes (hope, anxiety, and family interactions). Using college students, Brown and colleagues (1999), found they experienced increases in levels of hope, academic performances and self-esteem on completion of a hope-based programme. There is a lack of longitudinal research on the impact of hope interventions (Ciarrochi, Heaven, & Davies, 2007), however one post-primary school study showed that students who had received a hope intervention showed significant increases in levels of hope, self-worth and life satisfaction up to 18 months after completion (Marques, Lopez, & Pais-Ribeiro, 2011).

Considering relatively weak evidence base on the effectiveness of hope-based interventions in pre and early adolescent children (not just those at risk), a purposeful theoretically sound intervention was considered necessary. Further there are no curriculum-based programmes which explicitly teach children to develop an innate conceptualisation of hope and goal setting

alongside the development of lifelong skills. Finally, no such pilot has assessed how these hope factors (agency & pathway thinking, Snyder et al., 2002) combined contribute to what may constitute building levels of resilience, coping, problem solving and confidence building, and ultimately develop a mastery over future feelings of hopelessness in children.

The purpose of the current study therefore was to evaluate a unique programme which incorporates all these elements. *Hopeful Minds* (www.hopefulminds.org) was developed in the US by www.iFred.org (Goetzke, Tate, Patel, & Lewis, 2014) and it endorses the concept that hope is a teachable skill (Rand & Cheavens, 2008), thereby equipping children with tools to develop and maintain hope. It was originally designed to prevent hopelessness, a key predictor of suicide in youth (Horwitz, Hill, & King, 2011), whilst improving mental wellbeing in young people. It is a universal prevention programme, suitable for both low and higher risk groups.

More specifically, the purpose of *Hopeful Minds* is to prevent the development of negative states of mind *and* the precursors to hopelessness which is a key predictor of suicide. To support this, literature suggests that anxiety, emotional dysregulation and low mood precede a state of hopelessness, as Miranda, et al. (2013) suggest that '*perceived inability to access emotion regulation strategies may increase vulnerability to suicidal ideation through its effects on rumination and hopelessness*' (pp. 786). It is these precursors which the programme attempts to prevent. This is supported by Horowitz et al. (2017) who suggest that a lack of positive expectations, rather than presence of negative expectations, accounts for the relationship between hopelessness, future depression and suicidal behaviour among adolescents. There are no known studies on the effectiveness of the programme in promoting mental health outcomes outside the US (Goetske et al., 2014).

As recommended by Kieling et al. (2011), when designing interventions to prevent child and adolescent mental health problems in a new setting, the pilot study should collect and utilise data from both quantitative and qualitative methods to inform any required modifications to the intervention before wider implementation. Hence, using a one group pre-test post-test pilot design, it was hypothesised that participation in the programme would result in reduced levels of hopelessness, anxiety, and increases in reported ER, positive coping strategies and resilience. The study also aimed to explore participants' experiences of the programme by incorporating a qualitative focus group evaluation.

Method

Design

A convergent mixed methodology design was used over two phases. Phase 1 consisted of a pre-post intervention pilot. Phase 2 consisted of focus group interviews conducted with pupils partaking in the pilot programme.

Phase 1 Quantitative Study

Sample

The sample consisted of 88 primary and secondary school students who completed the *Hopeful Minds* programme, four primary school groups (*n* = 63) and three post-primary school groups (*n* = 25) (44 males and 44 females). Both primary and post primary school samples were obtained using opportunity sampling technique from P7 and Year 8/9 children who volunteered and consented (both parent & child) to participate in the Hopeful Minds programme.

Primary school participants were 26 females and 37 males between the ages of 8 and 11. Post-primary school participants were 18 females and 7 males between 11 and 13 years. All pupils with full parental consent, who had agreed and signed assent form, and who participated in the programme were eligible for inclusion, as per the agreed ethics protocol, approved by Ulster Research Ethics Committee (UREC). The sample size was lower in the post primary group due to timing issues with securing parent consent.

Measures

To secure ethical approval, age appropriate measures of anxiety, emotional regulation, resilience and coping were selected for each age group (8-11 primary schools; and 11-13 post-primary schools). All measures are shown in Table 1.

Table 1 near here

Primary school measures:

The Generalised Anxiety Disorder (GAD) 6-item sub-scale from the 44-item Spence Children's Anxiety Scale (SCAS; Spence, 1998), is a self-report measure of anxiety developed for children aged 8–12 years. Participants indicate frequency of occurrence of symptoms such as "*When I have a problem, my heart beats very fast*", on a four-point Likert scale from Never to Always. Higher scores reflect higher levels of symptomatology. Previous studies demonstrate high internal consistency, high concurrent validity with other measures of child and adolescent anxiety, and adequate test–retest reliability (Méndez et al., 2014). Internal consistency of the sub-scales has been found to be acceptable (Spence, et al., 2002).

The How I Feel Scale (Walden, Harris, & Carton, 2003) is designed for children between 8 and 12 years of age and measures emotional arousal and regulation using three sub-scales - positive emotion (8 items), negative emotion (12 items) and emotion control (10 items). Items concern the frequency, intensity and control of positive and negative emotions. Participants rate on a five-point Likert scale the extent to which statements describe their emotional experience over the previous three months. The Control Scale measures control over the same set of positive and negative emotions. Walden et al. (2003) found that the HIF has demonstrated reliability, stability, and validity and is particularly helpful in understanding the interplay between arousal and control in emotional development. Children who have excesses in emotion arousal may find it difficult to develop strategies to control it. This may contribute to the development of psychopathology and dysfunction. Lower scores on the emotion control scale indicate less arousal indicating better control and regulation. Ciucci et al. (2016) supported the reliability and validity of the scale and found good internal constancy of the sub-scales (Table 1).

Post-Primary measures:

The GAD-7 (Spritzer et al., 2006) measures anxiety levels over the previous two weeks. Items such as "*how often, over the past two weeks, have you felt nervous, anxious or on edge?*" range from 0 (not at all) to 3 (nearly every day). Item scores are summated and range from 0 to 21. Scores in the range of 5-9, 10-14, and 15-21 represent mild, moderate, and severe anxiety symptoms respectively (Spritzer et al., 2006). Studies indicate excellent internal reliability (Daig et al., 2009).

The Difficulties in Emotional Regulation Scale-Short Form (Kaufman, Xia, Fosco, Yaptangco, Skidmore, & Crowell; 2015), developed from the original 36-item scale (DERS; Gratz & Roemer, 2004), assesses deficits in ER. Items such as, *"I pay attention to how I feel"* with items rated on a five-point Likert scale (1= almost never to 5 = almost always)*.* Items scores are summated to provide an overall score and six sub-scale scores: non-acceptance (? Items); difficulties with goal directed behaviour (? items); impulse control (?); lack of emotional awareness(?); clarity and limited access to ER strategies(?). DERS-SF has been shown to have excellent psychometric properties within an adolescent sample. Cronbach's alpha values for both the DERS-SF total scale and sub-scales exceed .70, ranging from .78 to .91. Kaufman et al. (2015) indicated correlations between the DERS and DERS-SF ranged from .90 to .97 and indicated that the DERS and the DERS-SF shared 81–94% of their variance.

The Measure of Adolescent Coping Strategies (Sveinbjornsdottir & Thorsteinsson, 2012) measures coping strategies using 34 items. Participants think of a stressful situation from the recent past and answer questions relating to how often they used different methods of coping. Participants circled numbers in response to statements like "I tried to be or stay happy" and "I tried to harm myself", rated on a four-point Likert scale ranging from 0 "I did not use" to 3 "I used almost all the time. The scale measures 3 'adaptive' (self-care-7 items, distraction-8 items & seeking social support-7 items) and 2 "maladaptive" (rumination-6 items & acting out-6 items) strategies. Higher total scores indicate greater use. Good internal consistency for each of the sub-scales is reported, ranging from .70 - .81 (Sveinbjornsdottir & Thorsteinsson, 2014). One study reported Cronbach's Alpha was satisfactory for distraction (.67), seeking social support (.75), and self-care (.69). Internal consistency was low for rumination (.55) and acting out (.62) though, which may reduce confidence in results related to rumination and acting out (Thorsteinsson, Sveinbjornsdottir, Dintsi, & Rooke, 2013).

The Adolescent Resilient Questionnaire (Gartland, Bond, Olsson, Buzwell & Sawyer, 2011) measures individual and environmental factors relating to resilience. Items such as "*I take it easy on myself when I am not feeling well",* are rated on the extent to which they are true on a five-point scale from 'almost never' to 'almost always'. Items are grouped into five resilience domains: 1) self (40 items); 2) family (11 items); 3) friends (15 items); 4) school (16 items); and 5) community (6 items). Minimum and maximum scores range between 1 and 5. The original version (Gartland et al., 2011) and the Spanish/Catalan version (Guilera, Pereda, Paños, & Abad, 2015) have both shown adequate psychometric properties. Cronbach's alphas in this study were .61 for self, .87 for family, .73 for peers, .77 for school, and .84 for community.

The Intervention

Hopeful Minds is a universal-based preventative mental health programme designed for children and adolescents (www.hopefulminds.org). The programme at the time of the pilot contained ten core lessons based on the theoretical foundations of hope theory (Snyder, 2000). The programme is divided into two curricula; 'fall' and 'spring' and focuses on teaching children social and emotional learning tools to develop and maintain '*hope*'. The winter (or fall) curriculum focuses on developing understanding of the meaning of hope, and why it is important for the individual. It teaches children how to develop a 'hopeful mind'. An array of evidence-based tools are used including cognitive behavioural techniques, meditation, visualisation and journaling, to achieve these outcomes. In the spring curriculum, focus is on hopeful goals and pathways (based on Snyder's hope theory; 1994, 2000), overcoming challenges in the path to reaching goals, and giving hope.

Procedure

Ethical approval was given by the Ulster Research Ethics Committee (UREC). All participants, their parents/guardians and the relevant school principals were given an information pack containing an information sheet, frequently asked question sheet and consent form. Each school principal, and parents/guardians and child were asked to read, sign and return to the school. The study adopted an *'opt in' approach* whereby parental consent was necessary for the child to participate. Those who provided written consent were brought into a separate classroom during a pre-arranged time slot. Participants were given details of the study using a standardised script, with additional verbal and written instructions on how to complete the questionnaires. Questionnaires were distributed before the programme commenced (time 1) and within one week of completion (time 2). Researchers, class teachers and programme facilitators were on site to provide additional support for participants. On completing the questionnaires, each participant was given a debriefing sheet containing the principal investigators contact information, local counselling services (inside and outside the school) should they or their parents wish to discuss anything, seek advice or learn more about the study or its findings.

Phase 2 Qualitative Study: focus group interviews

Horner (2000) found children between 11 and 14 years old tend to be more hesitant when talking to adult strangers and suggests this age group are more relaxed and willing to share perceptions when discussions are with a group of peers. This reason contributed to the decision of using focus groups for the qualitative analysis.

Sample

Three focus groups were conducted from two post-primary school groups who had completed the programme, limiting bias that might be seen in a single group or site and allow examination of themes across groups (Castel et al., 2008). Two of the groups were from two classes in an all-female school (School 1 A, School 1 B) with the third group from a mixed-gender school (School 2 C). Inclusion criteria were based on completion of the programme and written parental consent. Interviews were conducted within a two-week period post-programme in the participants' own school during allocated times. Table 2 outlines focus groups sample characteristics. Thirty-nine students took part in focus groups (females = 32; males = 7; age ranged from 11-13 years).

Table 2 near here

Data Collection

Face-to-face, semi-structured focus group interviews were conducted and video-recorded. The interview schedule was designed to facilitate exploration using questions such as: *"What did you think of the Hopeful Minds programme?"*. Follow-up and probing questions were used to encourage discussion, exploring concepts that emerged during interviews. Interviewers aimed to adhere to a naturalistic method, creating a relaxed and comfortable environment for a conversation to take place. Interviews were conducted by a moderator team comprising of two researchers to improve outcomes and the validity of findings (Krueger, 1994). The moderator led the interview process, an assistant moderator video-recorded the session and contributed to verifying, analysing and interpreting the data (Krueger & Casey, 2000).

Data Analysis Procedure

On completion of the focus group, data was transcribed verbatim and analysed by the author and a second researcher. The transcribed data was read several times, and videos were re-

watched to ensure accuracy of the transcription. Transcripts were thematically analysed by the two researchers (the author and a second researcher) following the guidelines of Braun and Clarke (2006). Researchers became familiar with data, then generated initial codes, identified and reviewed themes, then defined and named them. A broad and descriptive coding framework for generation of initial codes was used. Coding was conducted on a semantic (explicit) and a latent level (from underlying ideas or references to semantic content). It began immediately after the first transcription was complete. To establish validity and reliability both researchers analysed all transcripts separately, generating initial codes and themes, before reviewing the transcripts together and redefining themes.

A Thematic Network Analysis (Attride-Stirling, 2001) was used to organise the themes on three levels: (i) Basic Themes, or the lowest-order themes in the text; (ii) Organising Themes, which groups the basic themes together in clusters; and (iii) Global Themes, which are the super-ordinate themes encapsulating the principal metaphors in the whole data set. This tool created web-like network structure of themes (see figure 1). Tables of each 'organising theme' with brief data extracts were then created. The analysis was written up in a narrative account. Themes not relevant to the aims of this evaluation were discarded. Through the collection of qualitative focus group data and quantitative data, the researcher hoped to identify patterns of convergence to develop and corroborate an overall interpretation. This triangulation ensures comprehensiveness and encourages reflexive analysis of the data (Mays & Pope, 2000).

Results

Phase 1 Quantitative Study

This section outlines comparisons between primary and post-primary school pre- and post-programme outcome measures. Statistical analyses were conducted using SPSS-23. The distribution of variables was examined, data was found to be approximately normally distributed with no significant outliers, and so no transformations were made to any of the scale variables for the prior to the substantive statistical analyses.

Primary school findings

Paired-samples *t*-tests were conducted on time 1 (pre- programme) and time 2 (post-programme) scores to evaluate the average change in participant scores on anxiety, emotional arousal and regulation scores. Results are summarised in table 3.

…. Insert Table 3 here…..

There was a statistically significant decrease in anxiety scores from time 1 (*M* = 8.20, *SD* = 5.16) to time 2 (*M* = 6.28, *SD* = 3.02), *t* (45) = 3.30, p < 0.01 (two-tailed), mean decrease was 1.91 with a 95% confidence interval ranging from .74 to 3.08, *r* = .35. Cohens' D indicates a medium effect size (Cohen, 1988, pp.284-7). Lower scores indicate lower GAD symptomatology following completion.

Emotional arousal and regulation was measured through the sub scales, Negative Emotion, Positive Emotion and Emotional Control. A significant decrease was noted in Negative Emotions from time 1 (*M* = 29.00, *SD* = 8.33) to time 2 (*M* = 26.37, *SD* = 7.94), *t* (48) = 2.19, p = 0.03 (two-tailed) and in Emotional Control (*M* = 31.65, *SD* = 7.75) to time 2 (*M* = 28.56, *SD* = 7.28), *t* (47) = 3.07, p = 0.004 (two-tailed). There were no changes in levels of Positive Emotion from time 1 (*M* = 31.04, *SD* = 5.88) to time 2 (*M* = 29.03, *SD* = 6.55), *t* (47) = 1.39, p = 0.17 (two-tailed). Children who participated reported reductions in negative emotions, with simultaneous reductions in emotional arousal (emotional control), indicating improved emotional regulation skills, and demonstrated stable positive emotions throughout. The mean decrease in Negative Emotion and Emotional Control scores were 2.63, 3.08 respectively with a 95% confidence interval ranging from .22 to 5.05 (negative emotions), 1.06 to 5.10 (emotional arousal & control). Cohen's D indicates a medium effect size for Emotional Control, and small to medium effect size for changes in Negative Emotions.

Post Primary school findings

Paired-samples *t*-tests were also conducted on time 1 (pre- programme) and time 2 (post-programme) scores to evaluate the impact on participant's scores for measures outlined in Table 2 (anxiety, ER, coping and resilience) and results are summarised in See Table 4.

…. Insert table 4 here……

There were no changes were observed in anxiety scores between time 1 (*M* = 5.25, *SD* = 6.27) to time 2 (*M* = 6.60, *SD* = 6.29), *t* (19) = -1.23, p = .232 (two-tailed).

For ER scores, an increase was found between time 1 (*M* = 44.85, *SD* = 20.74) and time 2 (*M* = 46.92, *SD* = 16.38), *t* (13) = -.48, p = 0.642 (two-tailed). Higher scores indicate greater ER although the increase did not reach statistical significance. The mean increase in ER scores was 2.08 with a 95% confidence interval ranging from 11.61 to 7.45, *r* = .62. Cohen's D indicates a small effect size.

There were statistically significant increases recorded in the coping scale scores from time 1 (*M* = 50.67, *SD* = 7.50) to time 2 (*M* = 57.00, *SD* = 7.62), *t* (6) = 2.96, *p* < 0.05 (two-tailed), and the emotional resilience scores between time 1 (*M* = 129.24, *SD* = 22.26) to time 2 (*M* = 138.38, *SD* = 20.06), *t* (20) = -2.06, *p* = 0.05 (two-tailed). Both findings support the hypotheses that post-primary participants' coping, and resilience scores would increase. The mean increase in coping scores was 6.33 with a 95% confidence interval ranging from 11.83 to .83, *r* = .76. Cohen's D indicates a very large effect size. The mean increase in resilience scores was 20.38 with a 95% confidence interval ranging from 18.42, .13, *r* =.74. Cohen's D indicates a medium effect size.

Examining the sub-scales of the MAC coping scale shows that self-care increased significantly between time 1 (M = 12.11, SD = 3.62) to time 2 (M =13.56, SD = 3.78), t (8) = 2.49, *p* = 0.038 (two-tailed), suggesting post primary pupils independently engaged in attending to their own self-care needs by the end of the programme. The remaining sub-scales noted some changes (rumination, seeking social support, acting out and stoicism). However, these did not reach significance (*p* > .05).

On closer analyses of post-primary resilience sub-scales (ARQ-R), findings show significant positive improvements in three sub-scales relating to resilience. These are confidence (in self and future), time 1 (M = 26.22, SD = 6.33) time 2 (M =30.52, SD = 6.39), t (22) = -2.97, *p* = 0.007 (two-tailed), emotional insight, time 1 (M = 26.37, SD = 5.68) time 2 (M =30.79, SD = 5.11), t (18) = -3.00, *p* = 0.008 (two-tailed), and negative cognitions which improved from time 1 (M = 28.65, SD = 6.67) to time 2 (M =23.78, SD = 5.22), t (22) = -5.77, *p* < 0.001 (two-tailed). Post-primary school pupils reported experiencing higher levels of confidence in themselves and their future, greater emotional insight and less negative thoughts. No significant changes were reported in the remaining resilience sub-scales (family, friends, school connectedness, social environment in school, or neighbourhood/ community connectedness, *p* >0.05).

Phase 2 Qualitative Study

Participants' experiences of the programme were organised into themes based on the Thematic Network Analysis model (Attride-Stirling, 2001). The global theme 'Learning Hope' was established; from that 4 organising themes were identified: what hope means, skills gained, sharing hope, and future recommendations. Each theme had a range of clustered lowest-order basic themes (See figure 1).

Figure 1 near here

Discussion

Phase 1 Quantitative Study

This preliminary pilot has shown some evidence of effective change, when comparing children's' responses to a range of measures before and after the delivery of *Hopeful Minds* (10 weekly lessons). The findings are mixed for primary and post primary participants. Potential reasons are documented in the limitations section.

Primary school sample findings indicated statistically significant positive changes in anxiety and emotional arousal scores. The large effect sizes reported in the primary school samples are like that found by similarly higher-powered studies such as a meta-analysis conducted by Neil and Christensen (2009) which reported that most universal-school based mental health prevention programmes are effective in reducing symptoms of anxiety in young people. A further explanation for this may be related to the teaching of hope as Michael (2000), found high-hope individuals are less susceptible to anxiety provoking behaviours such as negative rumination and self-doubt.

Supporting this reduction may be the significant positive changes observed in negative emotions and emotional arousal of the pupils. These may have contributed to the positive reduction in anxiety in the 8-11 years old group. Literature supports that high emotional arousal is associated with anxiety (Bilek, 2015). Findings are comparable to those by Gilman et al. (2006), who suggest individuals with higher levels of hope experience lower emotional distress.

For the post primary group, whilst there were no changes reported in the levels of anxiety, the programme was able to show that overall levels of coping and resilience improved significantly despite the smaller sample size. This is consistent with previous findings that suggest those with higher hope adopt a greater use of positive coping strategies (Snyder, 2000). Whilst overall resilience had improved significantly, it was raised confidence in the pupils' themselves and their future, greater emotional insight and less negative thoughts on completion of the

programme which contributed to this raised resilience. This is reassuring considering Horowitzs' et al. (2017) emphasis on how lack of positive expectations contributes to hopelessness and suicidal behaviour. Raising confidence is a very encouraging indicator of being able to increase positive expectations. No changes were noted for rumination or acting out, however, Thorsteinsson, et al. (2013) reported that the internal consistency for these subscales were poor to start with. Hence future studies may wish to adapt the programme to include additional lessons on rumination, and the measurement of it, as rumination is a strong precursor to depression and suicidal ideation (Miranda et al., 2013).

Work is needed to develop external resilience within the child's school, family and friends, and a general sense of hope within their own social environment. The programme is delivered to the pupils directly in one class, not to every class in each school, and not with every teacher in the school. Parents, community groups and the general social school environment need to also be introduced to the concept of developing hopeful conceptualisations and skills. *Hopeful Minds* may need to become a whole school, systemically embedded programme, as evidence suggests that for school based mental health promotion programmes to have the greatest impact, the whole school approach is necessary, thereby creating a culture of coping (Weisz, Sandler, Durlak & Anton 2005). Stigma can also be reduced, where pupils together build skills that increase mental wellbeing, decrease susceptibility to anxiety, depression, and suicide (Protecting Life in Schools, 2016).

Phase 2 Qualitative Study

Gaining Hope

This theme explores the participants' understanding of hope, and their development of hope-based qualities on completion (see table 5). Hope was difficult to define with one interviewee (A2) describing hope as *"…believing in yourself mostly and believing in others and say if someone was sick you would hope they get better"*. Snyder et al. (2002) defines hope as the belief that one can find pathways to desired goals and become motivated to use those pathways. While many respondents struggled with a definition, a plethora of examples were provided to demonstrate the hope gained by individuals on completion. The sub-themes explore how participants described their increase in self-efficacy and self-belief, self-confidence, and learned ability to set goals and engage in positive thinking, all key features of a hopeful individual (Gilman Dooley, & Florell, 2006).

Table 5 near here

Members of each focus group emphasised how the programme taught them to believe in themselves and to *"never give up"* on their aims and goals regardless of the barriers they may face. A1 stated that *"You have an aim for yourself, and even if you find it hard you always try to reach your aim"*; such goal-directed thinking is a necessary quality for a hopeful mind (Snyder, 1994, 2000). Establishing techniques such as goal setting and positive thinking contributed to an individual's belief that *"…I could do anything I put my mind too"* (A3). Such examples of self-efficacy are fundamental in the success of a high hope individual (Davidson et al., 2012; Snyder 1994, 2000). Similarly, positive thinking was established by one respondent who stated *"…. there is always a way around thing"* (B8); this example of 'pathway thinking', defined by Snyder (2000) as the perceived ability to find routes to goals, is a key characteristic of a high-hopes individual (Snyder et al., 2002). An improvement in self-confidence was a gain described across all focus groups. Confidence was established by the safe environment within the programme where individuals described feeling "not judged" and felt they could talk openly about their feelings. The "boost in confidence" described by B10 is supported by research by Snyder (2000) who found that having high-hopes is positively associated with increased confidence.

Learning new skills

This theme explores the development of skills such as communication, positive coping strategies, resilience and the ability to identify and regulate emotions (see table 6). Members from each group described how they have developed skills that allow them to manage stressors such as exams, bullying and relationships.

Table 6 near here

Being able to cope with daily life events made some participants feel reduced levels of stress, such findings are supported by O'Connor and O'Connor (2003), and Machmutow, Perren, Sticca, and Alsaker (2012). Participants learned about ER through the 'upstairs and downstairs brain' which was a highlight of the programme for many. Throughout, all focus groups participants described a better ability to overcome stressful situations at home, school and with friends. Many described being more resilient after completing the programme. One participant states, *"There are always going to be obstacles in life, but there are always going to be ways to overcome them" (A2)*. Being confident in your ability to 'bounce back' from

stressful situations may prevent students from slipping into downwards spirals and reduce negative mental health outcomes (Furlong, Gilman & Huebner, 2014).

Several respondents described how they learned to *"understand your feelings"* (C4), and each group provided examples of techniques used to manage emotions, *"I would count back from 10 to 1, but if that didn't work then I would tell my mummy"* (A6) or *"If I was feeling nervous I would learn to cope with it by breathing in through my nose and taking big deep breaths"* (A4). Seeking social support and relaxation techniques are adaptive coping strategies (Sveinbjornsdottir & Thorsteinsson, 2012) and effective ways of regulating emotions (Arch & Craske, 2006).

One respondent discussed the negative effects of internalising situations, an example of a maladaptive 'emotion-focused' coping (Lazarus & Folkman, 1984), *"Now I would tell somebody instead of keeping it inside because then it could do damage"* (A3). Whilst research indicated that emotional stability is low during early adolescent years (Zimmermann & Iwanski, 2014), many participants described learning skills to allow them to control or regulate how they feel in stressful situations (Folk, Zeman, Poon, & Dallaire, 2014). Such skills predict better academic outcomes in youth (Folk et al., 2014). Some respondents remarked that they helped them manage the stress and worry around their examinations, suggesting transferability and relevance to the skills they have learnt. Such examples of enhanced ability to cope have been found to reduce feelings of stress and helplessness (O'Connor & O'Connor, 2003), and are consistent with high-hope individuals (Onwuegbuzie & Snyder, 2000; Snyder, 1999).

Sharing Hope

This theme reflected on how the adolescents used their new knowledge and understanding to help and support others, and their recommendations for the future of the programme (see Table 7). They describe feeling greater confidence utilising the hope and skills they acquired to not only help themselves, but others.

Table 7 near here

One participant described how the planting of the sunflower seeds as *"The circle of hope"* (C4), was a symbol of hope to be passed on to future groups starting the programme. Others described how they would encourage other participants to continue using the skills they learnt. Positive social behaviours exhibited may contribute to ability to regulate positive emotions

experienced from partaking in the programme (Langton, 1994). Another reoccurring thread was that participants would use new skills to identify distress in others, encourage them to seek help, and encourage them use coping skills or techniques such as positive thinking.

When asked what age they believe *Hopeful Minds* was most suited, some suggested it would suit a post-primary population, as it helps with examination stress, and *"If you were younger you might not know what they are talking about"* (B13). However, an overwhelming majority of all focus groups suggested it would be beneficial from a younger age. Explanations why offer an insight into difficulties adolescents face. Some said the programme would prepare children for post-primary school, with one participant describing this change as *"scary"* (B8), another suggests it will boost confidence as they transition into their *"world"* (B2).

Limitations, Strengths and Recommendations

Whilst the study had limited funding to resource a controlled trial and had an inadequately powered sample size for the post primary group, compared to the primary school group (36% and 54% respectively), it did have an adequate focus group size (N 39). Reasons suggested are the parental '*opt in*' consent requirements, and the data collection coincided with the post-primary student's exam period. Missing data in participant's questionnaire responses may also have had an impact on statistical power. Future research with a larger sample size would allow firm statistical conclusions. Restricted resources and busy school curriculums meant it was not feasible to include a whole school approach at this time, rather a whole class approach was utilised instead. However, the whole school approach has been recommended throughout the literature, and the findings within this study referring to no changes in school, family, and community resilience would reflect this need.

Conclusion

Whilst the present study has limitations in terms of power and the use of non-controlled methods, it nevertheless provides preliminary evidence of effectiveness for this novel hope-based intervention. By combining the quantitative and qualitative findings, the study can prepare for the wider implementation of *Hopeful Minds* and testing using full RCT methods. Overall findings suggest that this theoretically framed hope-based programme was able to significantly improve anxiety and emotional regulation levels for primary school pupils and improve adaptive coping strategies and resilience (specifically self-care, confidence in self and future, emotional insight and less negative thoughts) in the post primary pupils. Findings from focus-groups complimented the quantitative findings with key themes reporting gaining a

hopeful mind, improved self-belief, confidence, emotional awareness and management, and improved coping skills. Future recommendations would refer to implementing a 'whole school' approach, as the study also found that resilience levels in family, friends, social and school environment, neighbourhood and community connectedness requires more attention, and including additional lessons on dealing with rumination and school stressors. Finally, all the young focus group participants recommended that this programme be provided to all primary school children transitioning to post primary school.

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Table 1. Reported reliabilities of scales for primary and post primary school measures

Scale	Number of items	Cronbach's Alpha
Primary School Measures		
Generalised Anxiety Disorder 6 GAD-6 (Spence)	6	.77
How I Feel scale HIF	30	-
Positive Emotion Subscale		.87
Negative Emotion Subscale		.89
Emotion Control		.84
Post Primary School Measures		
Generalised Anxiety Disorder – 7 GAD-7	7	.89
Difficulties in Emotional Regulation Scale Short Form	18	.79 -. 91
Measure of Adolescent Coping Scale	34	.70 - .81
Adolescent Resilience Questionnaire Revised	88	
Self	40	.61
Family	11	.87
Friends	15	.73
School	16	.77
Community	6	.84

Table 2. Focus groups sample characteristics

Focus Group	Age (years)	Males	Females	Total	Length of Time
School 1 A	11-13	0	9	9	36 mins 21 sec
School 1 B	11-13	0	15	15	28 mins 58 sec
School 2 C	11-13	7	8	15	32 mins 43 sec

Table 3. Comparison descriptive statistics and *t*-test results for primary school participant's outcome measures pre- and post-programme (Listwise N= 46-49 matched over time points).

Outcome	Pre		Post		95% CI for Mean Difference	r	t	df	Cohen's D
	M	SD	M	SD					
Anxiety	8.20	3.78	6.28	3.02	.74, 3.08	.35	**3.30****	45	0.48
Negative Emotions	29.00	8.33	26.37	7.94	.22, 5.05	.47	**2.19***	48	0.31
Positive Emotions	31.04	5.88	29.03	6.55	-.50, 2.71	.61	1.39	47	0.20
Emotional Control (arousal)	31.65	7.75	28.56	7.28	1.06, 5.10	.57	**3.07****	47	0.44

Note: * *p* <.05; ** *p* <.01; M=Mean. SD=Standard Deviation.

Cohen's D Effect Size conventions: Small=.2 Medium=.5 Large=.8

Table 4. Comparison descriptive statistics and t-test results of post-primary school participant's outcome measures pre- and post-programme (Listwise N= 6-21 matched over time points).

Outcome	Pre		Post		95% CI for Mean Difference	r	t	df	Cohen's D
	M	SD	M	SD					
Anxiety	5.25	6.27	6.60	6.29	-3.64, .94	.70	-1.23	19	0.26
Emotional Regulation	44.85	20.74	46.92	16.38	-11.61, 7.45	.62	-.48	12	0.13
Coping	50.67	7.50	57.00	7.62	-11.83, -.83	.76	**-2.96***	5	1.20
Resilience	129.24	22.26	138.38	20.06	-18.42, .13	.54	**-2.06***	20	0.44

Note: * *p* <.05; **p* <.01; M=Mean. SD=Standard Deviation

Cohen's D Effect Size conventions: Small=.2 Medium=.5 Large=.8

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Table 5. Supporting quotes of basic themes from organising theme 'Gaining hope'

	1	**Gaining Hope**
a)		*Self-Efficacy / Self-Belief*
C1:		"I believe I can do anything if I put my mind to it and never give up"
A2:		"It helped me believe in myself too, like I could get good grades in exams, that I could do anything I put my mind to"
A4:		"After the programme, I feel like I can have more confidence to reach my goals and like to really well in school"
B9:		"…but you can keep on going, because it doesn't matter what other people say"
A4:		"…just listening to that story would help you feel confident and you could reach your goals and make you feel happy"
A6:		"Before when we started our tests, we were all worried about the test coming up, and [facilitator] said don't worry and if you believe in yourself then you can achieve it and do good"
A2:		"Hope is believing in yourself mostly, and having hope in others…"
b)		*Confidence*
A4:		"Before the Hope Programme, I wouldn't be able to speak in front of people, and cause you're recording me now, I wouldn't be able to do that, but now it has taught me to breath and just get on with it and I that I can do it"
A3:		"Since [the facilitator] came in I have felt more confident"
B2:		"It helps people boost their confidence"
A3:		"It has helped me become more confident, I used to struggle with a lot of things, but now after I have more confidence, having this wee group has really helped"
C6:		"To speak up a bit more"
c)		*Goal Setting*
C9:		" I liked when we were setting out our goals"
A1:		"You have an aim for yourself, and even if you find it hard you always try to reach your aim"
B3:		"You should always set goals for yourself"
d)		*Positive Thinking*
A5:		"I liked the part where we write down all the hopeful things we had, we are [grateful] for in our lives"
C2:		"That you should never stop, you should try and you will get there in the end"
B9:		"To think about it is gonna get better"

Table 6. Supporting quotes of basic themes from organising theme 'Learning new skills'

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2.	**Learning new skills**

a)	*Breaking down communication barriers*

C10:	"To open up"
B3:	"To tell somebody instead of keeping it inside [because] then it could do damage"
A2:	"It's important to talk to someone about it or it will just get worse"
A2:	"Before the programme came… I couldn't say what was on my mind …I'd be scared to ask for help…[now] I feel like I am better at telling teachers"
B2:	"You're not always alone, there's always people you can talk to"
A3:	"I think it has given me confidence to like talk to my mammy and like, if I was emotional I would tell my mammy and I would talk to her"

b)	*Identifying and regulating emotions*

A6:	"I would count back from 10 to 1, but if that didn't work then I would tell my mummy"
B13:	"You learn how to cope with your feelings"
A5:	"Things that work for me is to go outside, just to go outside even if it's raining and just think to myself"
A4:	"If I was feeling nervous I have learned to cope with it by breathing in through my nose and taking big deep breaths"
B6:	"Before [the programme] if something happened … you felt really sad, you felt angry and then you'd just keep doing stuff to make you more sad… it helped you overcome that"
C6:	"We talked about the upstairs and downstairs, and how to get around things when you don't feel good at times

c)	*Coping Strategies*

A8:	"You became more aware of your problems and how to deal with them"
A5:	"Before… I never knew what to do, I would go to a teacher if I was being bullied, but once we started talking about the upstairs and downstairs brain, I became more confident after that"
A4:	"Before, I didn't feel quite very confident as I was going through a bit of a hard time… I didn't know what to do, but when [facilitators] came in to show us how to deal with it, it really helped"
B2:	"It taught me how to deal with [stresses], and what I have to do to overcome them"
B9:	"It's like a great support if you feel like there is something [wrong] you always know what to do after the programme"
A7:	"I feel like before the programme I wasn't able to overcome problems but I feel more able now"
A4:	"…before I was worried about exams, how I was gonna do and how I was gonna revise, now it's just got all better"

d)	*Resilience*

B15:	"If you tried to do something, and something might stop you or get in the way just try your best to overcome it or work around it"
A2:	"There are always going to be obstacles in life, but there are always going to be ways to overcome them"
B2:	"People are going to say things, that are going to try to prevent you from doing the things you want to do, so you should just ignore them, you should not listen".

Table 7. Supporting quotes of basic themes from second organising theme 'Sharing Hope'.

4	**Sharing Hope**
a)	*Helping Others*
B9:	" If it was someone who done the programme with us, you can sorta say to them, remember what [the facilitator] said, remember about all the stuff we learnt"
B6:	"Because maybe they didn't learn about hope and maybe we could tell them what to do if they feel down or they feel sad"
A2:	"And it doesn't only work on yourself, it works on other people too, say like they are stressed, the stress advice you were given, to think positive, and you are passing on your stress advice to your friend that is stressed"
A4:	"…Cause like say, [a friend] is thinking negative and you are thinking positive and you know it's gonna get better, you tell her it's gonna get better to help cheer her up."
C2:	"… you'd be there to say, there is no need to get stressed cause you're gonna get through it!"
b)	*Teaching hope to younger people*
C13:	"Younger age because when they go to secondary school they will be able to cope with stuff"
C5:	"So maybe they can have it in their heads when they are younger so it'll stay with them"
B6:	"Because P7's are going into big school so it could help them"
B14:	"Because they'll be coming into a school where they don't really know anyone, it will help them cope and to make new friends and what not"
B2:	"Especially when they're growing up, as well as going into our world, it will boost their confidence and [they will] know not to give up"
B2:	"I think it should be P6 you should get it, because you're gonna go through … your transfer test in P6, you're gonna be going through stress and then in P7 you're gonna be going through stress for going to secondary school. I think it should start from the age of 10"
B8:	"Because it's scary going into big school, it would help them prepare"
A1:	"A lot of things happen in secondary school, and the programme will help you get through them"

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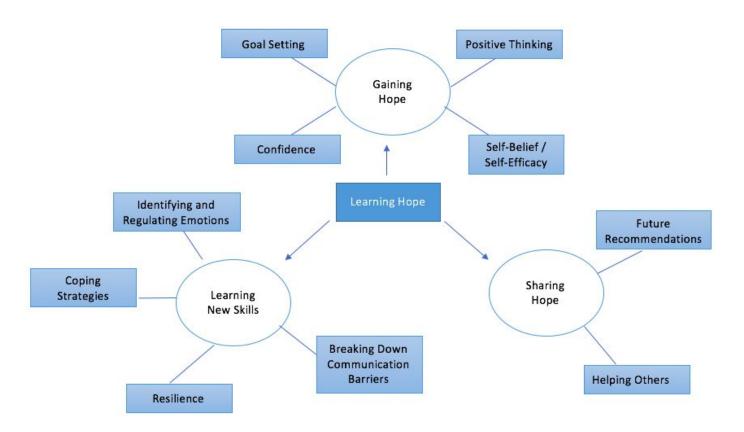41
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Figure 1. Thematic network of themes derived from focus group interviews