A Feasibility Study of a Co-adapted Mindfulness-based Intervention for Adolescents aged 13-16 in Guwahati, India.

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Abstract

With mental health problems including suicide for adolescent in India steadily increasing, the need for preventive action is urgent. There are major knowledge gaps about what works, at scale, to prevent poor mental health and improve adolescent wellbeing, in low resource settings. One approach is school-based prevention programmes, built on evidence-based practices such as mindfulness. Mindfulness-based interventions (MBIs) have been introduced in schools globally, including in India, as a promising way to improve adolescent mental health and wellbeing. Most MBIs for adolescents have been developed in Western settings. The World Health Organisation (WHO) recommends that where research and development capacity is limited, evidence-based programmes developed in one context or country could be adapted for delivery in another.

This doctoral work engaged local stakeholders to adapt, and feasibility test an MBI originally developed for adolescents in the UK. The study aimed to discover if the MBI could be adapted into a suitable and acceptable school-based prevention intervention for adolescents (13-16y) in Assam. A partnership was established with MIND India, an Institute of Positive Mental Health & Research. The doctorate delivered three sequential studies, based on the exploration (Study 1), preparation (Study 2), and implementation (Study 3) phases for intervention development and testing.

Study 1 was a consultation with n=14 in-country experts on adolescent mental health needs in India and on the co-adaptation, design and feasibility testing of the intervention. Study 2 co-adapted an MBI and other intervention components with n=19 adolescent end users (aged 13-18y). Study 3 determined the feasibility of the co-adapted MBI (n= 39 adolescents) to inform whether progression to a controlled trial of effectiveness was warranted. The interventions' primary outcome was wellbeing, and a number of secondary outcomes were tested. A theory of change and logic model were produced.

Study 1 findings endorsed a school-based universal prevention approach, the use of mindfulness and engaging with adolescent young people in co-adaptation research.

Study 2 indicated the strong appetite that young people in Guwahati had for school wellbeing programmes and their knowledge on what is needed to support the wellbeing of people their age. Findings indicated an openness to mindfulness, and that solutions to cope with difficult times was a priority. Collecting data about mental health was also acceptable to them and their guardians. Acceptance of all core components of the proposed MBI was established meaning that only surface changes were required to assure culturally appropriate language and activities.

Study 3 demonstrated that the co-adapted MBI met feasibility thresholds with 77% of participants attending at least 5 out of 8 sessions, and 95% of participants who completed the post-intervention evaluation recommending the programme to their peers. The study indicated that progression to an effectiveness trial is warranted and highlights the advantages of continued partnership with adolescents in India to promote acceptable community prevention approaches for wellbeing.

Overall, the thesis has contributed new knowledge to meaningful participation in wellbeing programme development by adolescents in India and has aided the prevention agenda by establishing the feasibility of a community-based approach. Findings extend knowledge about mindfulness approaches with adolescents in India, including via school-based delivery.

Table of Contents

List of Tables

List of Figures

List of abbreviations

Chapter 1: Introduction and Literature Review

1.1 Introduction to the thesis

This research is a feasibility study of a co-adapted mindfulness-based intervention to support the mental health and wellbeing of adolescents aged 13-16 in Assam, India. This chapter sets out the thesis context and structure and introduces key literature informing the doctoral work.

Adolescence is an important developmental stage in which biological and neurological growth occur, as well as significant transitions in social roles (Sawyer, Azzopardi et al. 2018). It is a crucial phase for exploring identity (Becht, Nelemans et al. 2021), and a critical time that can determine health, wealth, and stability in adulthood (Trzesniewski, Donnellan et al. 2006). Investment into supporting the health of adolescents has yielded significant returns economically, in health, and socially (Sheehan, Sweeny et al. 2017). However, many countries globally lack tailored national policies, programmes, and matching investments to support young people as they transition into adulthood (PMNCH 2023).

Mental ill-health is the biggest threat to the function, health, and wellbeing of young people (McGorry, Mei et al. 2022). A total of 50% of lifetime diagnosable mental health disorders start by the age of 14, increasing to 75% by the age of 25 (Kessler, Avenevoli et al. 2012). Adolescence is a vulnerable life phase but has also been categorised by the World Health Organisation (WHO) as an opportunity to intervene to build protective factors in order to prevent the onset or escalation of poor mental health in young people (WHO 2022).

India with a population of 1,429,341,785 is the most populated country in the world (United_Nations Department of Economic and Social Affairs 2023). Over 444 million of the population are under 18 years old (UNICEF 2023). Approximately 373 million people aged between 10 and 24 live in India, which is the largest number of young people of any country worldwide. India also has the highest suicide rate globally in those aged between 15-19 years, with an increase of 7.9% between 2010 and 2017 (Mohan 2020). The treatment gap for overall mental morbidity in the population is 84.5% (Gautham, Gururaj et al. 2020). Policy in India has begun to highlight the need for youth mental health research, intervention and policy implementation (Babu and Fatima 2022).

Assam is the most populous state in the northeast region, and sixth poorest state in India (Health & Family Welfare 2023); and the second poorest state in the Northeastern Region (Time 2021). Assam's public health system struggles to meet demand including the mental health support needs of the population (LGBRIMH 2016). Between 2010-2021 the urbanization rate in India increased by 19.6% to a total of 475 million (GlobalData 2022). This has created an

unstable lifestyle for many and is a main cause of mental health problems. Guwahati is the largest city in Assam and metropolis in the northeast region.

The University of Leeds has established several partnerships in India, a number of which are in Assam and Guwahati in particular working on issues around substance abuse disorder with older adolescents and youth (Duara, Chowdhury et al. 2022, Madill, Duara et al. 2023); and others supporting adolescent depression and anxiety through a school systems intervention in Southern India (Hugh-Jones, Janardhana et al. 2022). This thesis brings attention to the problems of school-going adolescents in urban Guwahati, Assam. With the endemic treatment gap of adolescent mental health in the country this research seeks to understand the role of a preventative approach in India, establishing if such an approach is acceptable in a country where mental health is generally not spoken about, and where there are changing views on the rights, needs and responsibilities of youth in relation to wellbeing and to their place in society.

The central aim of this thesis was to co-adapt and feasibility test a mindfulness-based prevention intervention with young people in Guwahati. A secondary aim was to extend knowledge of the mental health support gap for the population of Children and Young People (CYP) in India, and where possible urban Guwahati. The research consists of three sequential studies embedded within six chapters. Chapter 1 introduces the thesis and relevant literature and aims to show where the research is embedded in current literature.

Chapter 2 explores the context in India both through a rapid desk review and with primary research in the form of Study 1. The aim of Chapter 2 is to establish an understanding of the Indian context for CYP in relation to their mental health and wellbeing, using both existing information and primary data collected from mental health experts.

Chapter 3 shows how a school based, mindfulness-based intervention (MBI) that aims to improve wellbeing for young people was selected, explored, and prepared for later co-adaptation. Chapter 3 aims to explore an intervention that meets the needs for the target population and make any obvious alterations to its model.

Chapter 4 turns the attention to relationships with stakeholders, and the adaptation input of local stakeholders including Study 2. Study 2 was a co-adaptation study with adolescents in which an evidence-informed mindfulness programme developed for adolescents in the UK was adapted to become suitable for adolescents in Guwahati. The aim of Chapter 4 is to fully understand local perspectives of the proposed intervention in relation to suitability of materials for the culture, and design of the delivery model for the context.

Chapter 5 outlines the modifications made to the original intervention and presents Study 3 which feasibility tested the co-adapted intervention with up to 30 school-going adolescents

aged 13-16 in one school in Guwahati city. The aim of Chapter 5 is to critically consider the process and learning from applying adaptations and feasibility testing interventions for youth mental health and reporting the implementation stages of the protocol.

Chapter 6 aims to conclude the doctoral work by reflecting on the studies, themes and protocol used within the thesis. The chapter provides final overall discussion points on key findings and learnings from the doctoral work, evaluates the protocol established for the thesis, and provides recommendations using mindfulness-based approaches in Indian schools within a public mental health prevention strategy, and in particular possible further use of the co-adapted intervention.

1.2 Literature review

This literature review sets out the main themes of the research. The section begins by setting the scene for mental health and wellbeing in low- and middle-income countries (LMICs), taking a particular look at CYP, the gaps and problems faced, and available solutions to these problems. The review continues by presenting prevention approaches and programmes, and how they can form part of a holistic strategy for tackling poor mental health in LMICs. Mindfulness and MBIs are discussed, including the exploration of the cognitive and scientific processes engaged in such practices and programmes; their use in school settings, within the Indian context, and with positive psychology; before discussing their limitations. Lastly, meaningful participation is discussed including the benefits of engaging in participatory processes, and co-adapting mental health and wellbeing interventions with adolescents in LMICs.

1.2.1 Global mental health and wellbeing

It has been claimed that mental health conditions make up at least 18% of the global disease burden, with annual global costs estimated to be US$6 trillion by 2030 (Campion, Javed et al. 2022). Cost-effective and evidence-informed interventions exist to try to prevent mental health disorders from arising or worsening; to treat the impact of mental health disorders; and to promote people's mental wellbeing. However, only a small percentage of those in need globally receive adequate treatment, and even less receive preventative intervention that promotes wellbeing and resilience (Campion, Javed et al. 2022).

The Sustainable Development Goals (SDGs) have recognised the importance of mental health in what has been described as a "shared blueprint for peace and prosperity for people and the planet, now and into the future" (UN 2015). However, even with this, research investment to show what can be done to prevent and treat poor mental health has been slow. Overall, global investment into mental health support services and development of adequate policy continues to be insufficient. The SDGs promote broadening the global mental health agenda from

focusing on reducing the treatment gap for people affected by mental health disorders to improving the mental health and wellbeing of whole populations (UN 2015). Mental health is more than just the absence of mental illness. It is "a state of wellbeing in which the individual realizes their own abilities, can cope with the normal stresses of life, can work productively, and is able to make a contribution to their own community." (World_Health_Organization 2014, Baños, Etchemendy et al. 2017). There have been calls to transform approaches to mental health globally by the WHO and partners. As a part of this strategy, the WHO's World Mental Health Report highlights how promotion and prevention are required to enhance wellbeing and prevent the onset of mental health problems. Increasing evidence shows that this is an effective way to reduce the cost of care (WHO 2022). A focus on wellbeing as an outcome therefore plays a strategic place within the umbrella of research on mental health.

1.2.2 Gaps in mental health and wellbeing support for CYP in LMICs

With mental health conditions being a leading contributor to disease globally, and with CYP in LMICs being disproportionately affected, LMICs are under pressure to improve resources and access to information to improve CYP mental health (Renwick, Pedley et al. 2022). The typical population-wide treatment gap in LMICs is estimated to be as high as 85%, with high-income countries (HICs) estimated at 40% in comparison (Ndetei, Mutiso et al. 2023). Access to robust mental health care services is limited in many LMICs (Wainberg, Scorza et al. 2017), with many countries at the early stages of developing these systems and the associated workforce. Where services do exist, low confidence in professional healthcare services, stigma, and low levels of mental health literacy act as barriers to accessing services (Renwick, Pedley et al. 2022). There is also a lack of help seeking by adolescents in LMICs who are most in need, a phenomenon that needs further research to understand, but may include perceived social consequences of seeking professional help (Aguirre Velasco, Cruz et al. 2020). Lastly, an essential requirement in developing mental health systems for children and adolescents, are child and adolescent mental health (CAMH) policies, which are universally lacking and especially in LMICs (Zhou, Ouyang et al. 2020).

A number of solutions exist in LMICs to overcome these problems. First, engage non-specialists in mental health services in LMICs to increase access to support, using available human resources such as of families, peer counsellors, community health volunteers, general physicians, and traditional healers; second, offer inexpensive therapies by trained lay-persons to reduce costs of expensive treatments and therapies; and third to use existing infrastructure such as schools, community halls and churches, for instance, to overcome structural scarcity (Petagna, Marley et al. 2023). Such solutions can support LMICs in moving away from 'gold standards' offered by Western models that are not possible to implement and will likely result

in targets failing. Solutions in LMICs specifically targeting CYP mental health literacy and wellbeing support including promotional interventions, with school-based interventions indicating strong results, and community-based interventions having a promising impact on youth mental health and wellbeing (Barry, Clarke et al. 2013).

A preventative approach is another solution to overcome gaps in mental health services in LMICs. The next section discusses at a preventive approach to poor mental health in greater detail.

1.2.3 Prevention of poor mental health

Strategies for promotion and prevention have been identified as one of four key objectives for comprehensive action supporting mental health by the WHO and partners (WHO 2022); and yet it has been highlighted as one of four barriers requiring particular attention to reduce the mental health treatment gap and increase access to high-quality services (Wainberg, Scorza et al. 2017).

Although the field is inconsistent in its use of terms, the most commonly referenced 'mental health promotion', 'prevention' and 'early intervention' converge in that their ultimate aim is to mitigate risks for poor mental health, avoid the onset of mental health disorder and safeguard good mental health (Patton, Coffey et al. 2014). Prevention can act to maintain good mental health and wellbeing, as well as intercede between distress and disorder in the spectrum of mental wellness (Purgato, Uphoff et al. 2020). Figure 1 indicates the different levels from mental health to ill health, along with the types of interventions that can be administered, and whether such interventions are to maintain good mental health, address symptoms, or aid recovery from poor mental health. A small number of people within any population will require complex and resource heavy, one-to-one treatment for their mental health (Wille, Bettge et al. 2008). Such individuals would be characterised on the continuum as having an 'acute' or 'chronic' mental health disorder. The other end of the spectrum concerns those with minimal mental distress, for which universal or selective prevention programmes offer a means to maintain good mental health and wellbeing and prevent symptoms from arising or escalating. Such interventions can be delivered to groups rather than just one-to-one. Those with moderate mental distress can also be supported in individual or group interventions designed to address symptoms.

Figure 1: Examples of interventions from prevention to recovery according to the continuum from mental health to ill health (Purgato, Uphoff et al. 2020) adapted from (Patel, 2018).
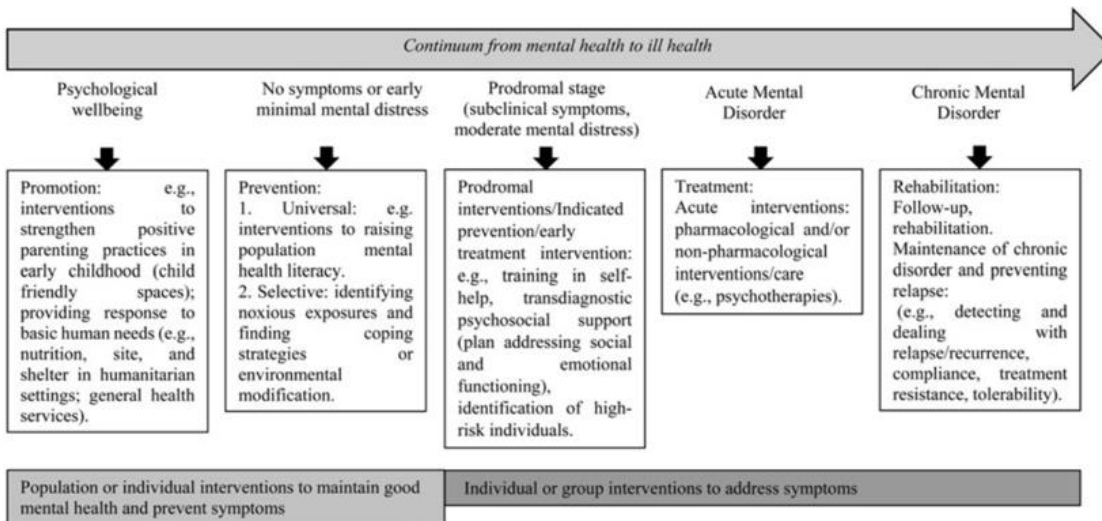
Such prevention aims to reduce the 'probability that individuals will suffer mental disorders' (Patel, Flisher et al. 2008); and build the strength and resilience of individuals for good current and future mental health (WHO 2022).

Primary or universal prevention programs are those that are delivered to groups (e.g., school populations, prison inmates) regardless of the level of risk to their personal mental health. Primary, universal prevention interventions can avoid stigmatising an identifiable person with poor mental health and can avoid the burden of screening for a mental health condition before support is offered. School-based universal programmes have been identified as an entry point for screening mental health problems in India, within a more comprehensive mental health programme for CYP, although such an approach needs to consider the gap of out-of-school adolescents (Mehra, Lakiang et al. 2022). Such a universal approach can constitute early intervention for symptomatic CYP and can often secure additional positive outcomes alongside improved mental health. There is much evidence demonstrating the pressing need to develop or improve prevention and early intervention strategies for youth mental health and wellbeing in both LMICs and HICs (Colizzi, Lasalvia et al. 2020); yet the evidence for affordable and effective prevention approaches in mental health in LMICs, is limited (Patel, Flisher et al. 2008).

Psychologically based prevention approaches require psychological resources and programmes. This doctoral work examines the potential of a mindfulness-based approach as a scalable, universal prevention programme delivered via schools to young people to protect their mental health and promote their wellbeing. The next section sets out the key knowledge to date about mindfulness and mindfulness-based interventions delivered in schools.

1.2.4 Mindfulness

Defining mindfulness

Mindfulness has been described as "bringing one's complete attention to present experience on a moment-to-moment basis" (Marlatt and Kristeller 1999) and as "paying attention in a particular way: on purpose, in the present moment, and non-judgmentally" (Kabat-Zinn 1994). Mindfulness has been categorised as both a state, and a trait or disposition. Dispositional mindfulness refers to a persons' tendency to be mindful every day, a pattern for processing sensory information; whereas state mindfulness occurs during mindfulness meditations or formal practices (Vogel 2022). Practicing mindfulness can occur during any activity, whilst one is remaining aware and in the present moment. Mindfulness meditation however involves specific practices usually for a set time, and often involves formal seated practice with instructions.

Mindfulness processes and brain science

The brain has been described as 'the organ of experience', designed to regulate how one is in relation to every aspect of experience (Paulson, Davidson et al. 2013). There are a number of neurological processes occurring in the brain when mindfulness training is underway. During a simple mindful breathing practice, for instance, sustained attention is applied to maintain focus on the breath whilst cognitive control detects mind wandering (Moore, Gruber et al. 2012). Short and regular mindfulness meditation has shown to have positive effects on the brain, with as little as ten minutes each day for 16 weeks improving neural processing related to attentional core processes (Moore, Gruber et al. 2012). Studies have compared long-term meditators- those who practice mindfulness repeatedly, regularly, and based on the available studies between two and 46 years- with controls, to compare differences in the brain. Long-term meditators presented with larger anatomical measures than controls, with certain exceptions. Changes were shown to occur over large-scale brain networks including the cerebral cortex, subcortical grey and white matter, and brain stem and cerebellum. This indicates that mindfulness meditation might have the potential to change the physical structure of the brain. It is not, however, possible to be absolute that these changes are consequences of mindfulness practice, due to the lack of longitudinal long-term studies available (Luders, 2019); which makes it unclear if observed effects are solely correlation and not causal (Vago, Gupta et al. 2019).

Within this examination of the brain, the body plays a vital role, as it is proposed that the brain takes input from the rest of the body (Lakoff, Johnson et al. 1999). The body, in this perspective, functions as a 'constituent of the mind rather than a perceiver or an actor serving the mind', meaning that it is directly involved in cognition (Khoury, Knäuper et al. 2017). The

body and embodiment play a key role in mindfulness practice, as the practices are very much rooted in the body, with empirical findings showing that bodily processes are relevant in the causation of depression for instance and its treatment (Michalak, Burg et al. 2012).

How information is processed in the brain during negative states is also important to understand. Research with CYP indicates that children experiencing anxiety, for instance, tend to selectively allocate information processing resources toward threat stimuli, missing and/or ignoring other more relevant information (Taghavi, Neshat-Doost et al. 1999). Regulating unwanted emotions can be regulated in two undesirable ways: avoidance (which can involve selective bias of information, distraction, cognitive distortions, or affective disengagement), and over-engagement (which can involve chronic worry, obsessions, strong cravings, or compulsive behaviours) (Hayes and Feldman 2004). Both strategies involve shifting attention from the present to either a sense of the future, which is associated with anxious affects such as obsessive worries and anticipating catastrophic outcomes; or orientating thoughts and attention to the past, which is characteristic of depressive affects such as guilt, remorse, self-blame, and shame. Mindfulness teaches less pathological uses of attention, breaking ruminative attentional patterns and teaching attention that is "reflective, open-minded and experiential" (Baer, 2009). By turning toward experience and sensation within an unwanted emotion, the practitioner is given an opportunity to find acceptance for the emotion and experience occurring there and then, and not defining the self by that emotion and recurring thought. This possibility is supported by neuroscience, in which a direct link between mindfulness and emotional regulation has been shown (Davidson, 2003).

Mindfulness based interventions.

To yield the benefits of these practices and processes, mindfulness in secular settings has most regularly been introduced through an intervention or programme teaching mindfulness practices, skills, and attitudes. Aspects that should be included in MBIs have been proposed by researchers and practitioners. For instance, Crane et al's. (2017) guidelines propose four essential aspects, which are: appropriate theory (such as scientific or contemplative); guidance on shifting experience (such as cultivating positive qualities like compassion and developing present moment awareness); inclusion of core practices (such as bodyscan or sitting meditation); and inclusion of the enquiry process (Crane, Brewer et al. 2017). The enquiry process enables participants to reflect on their experiences in a manner that mindfulness practices encourage (Cavanagh, Strauss et al. 2014). In other words, with compassion, non-judgement, and without getting lost in the story of the mind. It is stipulated by mindfulness experts that the facilitator of the programme must embody these qualities and lead the

enquiry with embodied kindness, curiosity, and a present moment-focused attitude towards participants experiences (Segal, Teasdale et al. 2002).

Beyond the different structures included in an MBI, programmes themselves come in many forms, with varying foci. Mindfulness-based stress reduction (MBSR) for instance is a secular intervention based on Buddhist philosophy, that focuses on reducing stress and Mindfulness-based cognitive therapy (MBCT) uses body-based practices to evoke interactions between bodily, cognitive, and emotional processes (Chiesa and Malinowski 2011). Standard MBCT and MBSR protocols include: 26 hours of in-class training through 8 weekly group classes (1.5–2.5 hours/class) plus one 6 hour class during the 6th week; home practice over 8 weeks; group reflection/sharing about practice experiences in and outside of class; and four core meditation practices mindful body scan, mindfulness of breath, open monitoring and mindful Hatha yoga, and occasionally loving-kindness meditation is added (Vago, Gupta et al. 2019).

For adolescents, it is important to note that unlike with adults where a gold standard of programme has been established- MBCT and MBSR- none yet exist for children and adolescents, as the research for this group is in its' infancy (Kostova, Levin et al. 2019). Many other forms of MBIs with children and adolescents exist, at times merging mindfulness practice with life skills (Huang, Chen et al. 2019); positive psychology (Schonert-Reichl and Lawlor 2010); resilience skills (Chadi, Weisbaum et al. 2018); focusing on physical problems such as inflammatory bowel disease (Ahola Kohut, Stinson et al. 2020); and used in fostering social emotional learning (Lawlor 2016). In these instances, mindfulness can be either the main focus or a complimentary practice to other material. Mindfulness based programmes have been delivered to children and adolescents with significant effects in community settings (Bazzano, Sun et al. 2022), school settings (Lassander, Hintsanen et al. 2021), and digital formats (Zhou, Edirippulige et al. 2021). This variety in how MBIs for children and adolescents have been developed, and success in various non-clinical settings, indicate the potential for such programmes to be used in public health.

Understanding the core components of mindfulness programmes.
Within these interventions and programmes, specific components distinguishing an MBI as a psychological programme needs to be understood before the impact of a programme can be measured. MBIs, however, offer a vast number of potential outcomes making it unclear to determine for some researchers, what exactly mindfulness should be used for (Grossman 2019). This confusion has been exacerbated by the frequent lack of core programme components and theories of change offered in MBIs (Malinowski 2013).

Core components are the "parts, features, attributes, or characteristics of a programme and its implementation that have been empirically shown to influence the programme's outcomes

when implemented effectively" (Baelen, Gould et al. 2023). There has been much debate about what the core components (or core psychological components) and mechanisms of change are in MBIs although there is consensus on first, attention as a practice and process, and second, present centred awareness (Chiesa and Malinowski 2011).

Other descriptions and definitions of core programme components, and the core psychological processes, of mindfulness programmes and practices have been offered. For instance, a systematic review of mindfulness programmes highlighted 'acceptance coupled with awareness and mindfulness meditation training' as two promising active ingredients (Stein and Witkiewitz 2020). Most recently research with experts (mindfulness programmes scientists and instructors) defined nine core programme components in mindfulness programmes specifically for youth: self-awareness, non-judging, focused attention, orienting to present moment, acceptance, compassion, somatic awareness, non-reacting, and decentering (Felver, Cary et al. 2023). Another offering divided the core programme components into core activities (such as practicing breath work) and core processes (such as the facilitator modelling human compassion) (Gould, Mendelson et al. 2014). Understanding these processes assists intervention developers and researchers in thinking about how a programme might influence change and outcomes.

Measuring mindfulness in MBIs

Although different goals exist in the vast number of available MBIs, it could be argued that their ultimate goal is to train participants to deliberately pay attention to thoughts, emotions and / or sensations without judgement, and to foster and apply these skills to support daily life. The majority of research into MBIs measures if practitioners' dispositional mindfulness increases pre-post intervention based on self-reported measures. MBIs usually measure other outcomes in addition to dispositional mindfulness and have shown to increase other positive psychological attributes such as self-compassion, and reduce negative thought patterns associated with psychopathology, including worry, and emotional reactivity (Shapero, Greenberg et al. 2018). Reviews of empirical literature indicate reasonably strong evidence that MBIs, for instance MBSR, have significant psychological benefits for an array of adult populations including patients with chronic diseases, anxiety, depression, stress, and individuals subject to work related stress (Baer, Carmody et al. 2012).

Most research showing the effectiveness of MBIs in improving wellbeing and quality of life in healthy populations (Cavanagh, Strauss et al. 2014), supporting mental health in clinical populations (Khoury, Sharma et al. 2015) and supporting those with physical health problems (Abbott, Whear et al. 2014), has been with adults. However, there is an emerging body of research on the use of MBIs with children and adolescents (Singh and Joy 2020). Evidence

indicates that MBIs for young people are easy to carry out in a variety of settings and are enjoyed by young people (Weare 2012). Additionally, they have been shown to:

- o improve young people's mental, emotional, social, and physical wellbeing when conducted well,
- o directly contribute to cognitive development and executive function, improving attention, reasoning and problem-solving skills (Weare 2012)
- o reduce stress, anxiety and reactivity and improve empathy, self-esteem and relaxation (Semple, Reid et al. 2005)
- o increase social skills (Rich and Stager 2021), significantly improve life satisfaction (Agarwal and Dixit 2017) and improve academic performance of adolescents with learning difficulties (Beauchemin, Hutchins et al. 2008)
- o reduce depression when combined with embodiment (Michalak, Burg et al. 2012)
- o support adolescents with neurodevelopmental and behavioural disorders, mood and anxiety disorders, substance abuse disorders, and heterogeneous disorders, and for both clinical and non-clinical populations (Kostova, Levin et al. 2019).

In a recent meta-analysis, MBIs for children and adolescents using randomised controlled trials (RCT), concluded that MBIs had significant positive effects relative to controls at post-test, with small effect sizes. Significant positive effects were found on mindfulness, executive functioning, attention, depression, anxiety/stress and negative behaviour outcomes for inactive control groups; and for mindfulness, depression, anxiety/stress for active control groups (Dunning, Griffiths et al. 2019). Although most of this research is in HICs, there is emerging research on MBIs with children and adolescents in LMICs, including India. Before delving into how mindfulness has been deployed in India with CYP, it is important to first discuss the use of MBIs in schools.

School-based MBIs
Implementing school-based programmes is one of the four key strategies proposed in the WHO's report for reducing mental health risks and building protective factors for the wellbeing of adolescence (WHO 2022). MBIs in schools have been concluded as acceptable and feasible and do not appear to cause harm, and their success in improving psychosocial wellbeing, cognitive functioning, and academic outcomes, has led to calls for continued research on MBIs in school settings (Schutt 2020). Most MBIs in schools are prevention-based and psychological (Roeser, Greenberg et al. 2023), with the school environment providing a positive space for universal prevention programming with mindfulness; and with at least

one component facilitating mindfulness such as mindfulness of breath in combination with psychoeducational materials and groups discussions (Zenner, Herrnleben-Kurz et al. 2014).

It has been established that mindfulness-based techniques can be taught to children as young as 7 years old (Semple, Reid et al. 2005). The body of research for school based MBIs has steadily been growing in HICs, and several positive results have been found. This includes improving self-regulatory skills, reducing anxiety and depression, improving physical health, and supporting engagements in healthy relationships (Roeser, Galla et al. 2022); benefits to wellbeing, and cognitive and affective functioning (Broderick and Schussler 2021); and a meta-analysis showed significant results in the improvement of cognitive performance and resilience (Singh and Joy 2020). A recent meta-analysis has however indicated that school-based MBIs, in studies that have used RCTs, have not supported depression (Fulambarkar, Seo et al. 2022). The My Resilience in Adolescence (MYRIAD) trial evaluated the effectiveness and cost-effectiveness of a school-based mindfulness programme in the UK, across 84 schools (n=8376 participants) targeting pupils aged 11-14y. After one-year results showed a high probability of cost effectiveness yet no evidence that the programme was superior to teaching as usual (Montero-Marin, 2022). This study shows the important of continuing to research what does, for whom and how, and essentially understanding key contextual and implementation factors. In India, the school setting has been promoted as the best environment to support CYP mental health and wellbeing through a number of policies and strategies. In policy it is the wish for different levels of adolescent mental health needs to be identified and treated in schools, which would be supported through the development of a suite of interventions to target these needs effectively and efficiently (Parikh, 2019).

Mindfulness with adolescents in the Indian context

Most approaches to addressing mental health and wellbeing for youth in India are school-based, focus on life skills and characterised as preventative (Roy, Shinde et al. 2019). A number of these programmes have included mindfulness or have been mindfulness-based. For instance, a feasibility study of an eight-week MBSR programme was conducted with 33 adolescents. The study aimed to reduced stress and improve wellbeing in a non-clinical population of school going adolescents aged 14 to 15y. Pre, post, and +3-month follow-up assessments were conducted. Results indicated that the intervention was feasible, and that stress was reduced from pre-assessment to post-assessment and post-assessment to follow-up assessment. Other results indicated that regular practice was essential to cultivate mindfulness (Anand and Sharma 2011). Mindfulness has been used in a targeted approach for school going adolescents aged 10 to 14y from Uttar Pradesh, through an MBCT programme delivering

twelve sessions (with a 92% retention rate). The intervention administered measures at pre, post, and follow-up. Large effect sizes in mindfulness, resilience, and anxiety were reported at post-intervention for the experimental group, with no significant effect for the treatment waiting list group who had completed the measures and received parental counselling about anxiety (Peter, Srivastava et al. 2022). Additionally, an RCT of an MBI targeting academic stress of 16-19y olds in urban Karnataka, delivered an eight-session group-based stress management programme over a one-month period to the experimental group; and the control group receiving no intervention. The study measured academic stress, depression, anxiety, general stress, and wellbeing, at pre and post intervention, and on a monthly basis for 6-months after the intervention ended. Over the six-month period the experimental group reported statistically significant reduction in academic stress, depression, stress, and anxiety, and significant improvement to wellbeing (Rentala, Thimmajja et al. 2019).

There has been a shift in some research in India in recent years to a preventative approach in mindfulness research, as opposed to targeted and responsive approaches. An RCT delivered mindfulness training over a 10-week period to school-going early adolescents aged 10 to 14y. Data was gathered at pre and post-test on self-esteem, wellbeing, and self-regulation. The study yielded statistically significant improvements in self-regulation, psychological wellbeing, self-esteem, and mindfulness, with significant improvement noted between the experimental group and the control group from baseline to the post-intervention scores (Modi, Joshi et al. 2018). In north India, data was collected from 249 students aged 16 to 19y using multistage sampling technique and cross-sectional research design. The study assessed mindfulness, gratitude and quality of life, and demonstrated a significant positive correlation between gratitude and quality of life in adolescents via mindfulness (Anand, Bakhshi et al. 2021). Another study of 221 adolescents aged 14 to 19y from multiple schools and colleges shows that levels of mindfulness and coping competencies together predicted wellbeing (Padhy, Monteiro et al. 2020).

There is thus already evidence for the use of MBIs in India to enhance CYP wellbeing and mental health, with available data indicating connections between mindfulness and positive mind states in predicting wellbeing for CYP. However, research on mindfulness with adolescents in India is limited. Firstly, it notably lacks co-design or adaptation, and with many mindfulness resources introduced in India originating in Western countries, this step to likely increase the suitability of materials for young Indian people is important. Secondly, there has been poor attention to implementation approaches opening an opportunity for any future research to consider the effectiveness of implementation, overcoming contextual barriers, and sustaining interventions over time. Thirdly, research in India has had a limited focus on

delivering mindfulness in an age-appropriate manner. Absent design components that have been highlighted in the Indian context by researchers, that could contribute to age-appropriateness, include the lack of involvement of parents which if rectified could ensure adolescents are supported at home by their primary caregivers who understand the techniques they are learning (Anand and Sharma 2011); and a developmental specific focus that would ensure mindfulness materials are delivered in a manner that is within the bounds of a groups capabilities and potentially increase the effectiveness of any said intervention (Padhy, Monteiro et al. 2020). There is a strong move within India to test mindfulness interventions in schools, which has been deemed a culturally appropriate environment to engage with young people about their wellbeing. This is often combined with life skills and / or positive psychology.

Positive psychology and mindfulness

To support positive outcomes and processes, positive based theory can support mindfulness practices in MBIs, with some evidence suggesting that combining MBIs with positive psychology could augment effects. This section offers a brief overview of the key dimensions of positive psychology before demonstrating empirical evidence for mindfulness-based positive psychology interventions, and sharing why such an approach within an MBI may be suitable for the Indian context.

Traditionally psychology has aimed to understand and diagnose deficits and negative processes in the human brain and how to 'fix' these (Berman, 2005). Positive psychology shifts the focus to a positive and growth-orientated approach which aims to enhance positive processes in the brain and healthy adaptation, even in recovery of trauma for instance (Al-Krenawi, 2011). More recent approaches recognise that for sustainable wellbeing both the positive and negative side of experience need to be addressed. There is an interplay between them, and good wellbeing involves both being able to flourish and managing the inevitable suffering in life (Wong, 2022). Enhanced positive attributes have also been correlated with lower levels of negative mental states. For instance, an investigative study with 539 adolescents in New Delhi showed that 46.4% of adolescent participants were flourishing, and that those flourishing had lower levels of depression and adjustment difficulties and more prosocial behaviour (Singh, Bassi et al. 2015). Positive psychology studies the processes and conditions that enable humans to flourish and function optimally (Gable, 2005).

There are numerous approaches and theories within the discipline, including the broaden and build theory. This theory proposes certain positive emotions, such as joy and contentment, broaden an individual's momentary thought–action repertoire, expanding awareness and encouraging exploratory thoughts and actions (Fredrickson 2004); this then builds their

personal resources such as physical, intellectual, social and psychological resources (Fredrickson 2001). Positive psychology-based programming can develop qualities that act as buffers against the development of chronic, negative psychological states which may be risk factors for anxiety and depression, and such interventions can be used within a prevention approach for mental health (Seligman 2002).

Such an approach resonates with the aims and processes involved in mindfulness practice and outcomes commonly associated with MBIs such as increased positivity, a greater sense of coherence, better quality of life, increased empathy and satisfying relationships, and greater hope (Vago & Silbersweig, 2012). Like positive psychology, mindfulness encourages acceptance and awareness that emotions are often influenced by, and affected upon, bodily sensations, along with an acknowledgment that even the most painful emotions are transient (Lomas et al., 2014). In a recent systematic review of 21 articles on Mindfulness-Based Positive Psychology Interventions (MPIs), the majority of interventions sought to enhance hedonic qualities in conjunction with the reduction of clinical symptoms, hence targeting both increased pleasure and a reduction in poor mental health as outcomes (Allen, 2021). The review also considered the importance of eudaimonic enhancement within MPIs which focus on authenticity, growth, meaning and purpose as opposed to increasing pleasure. Eudaimonic enhancement has been found to sustain wellbeing, happiness, and contentment for those suffering with pain, social/political unrest, and illness, therefore safeguarding against psychological harm (Keyes, 2009); growing evidence also indicates that having meaning in life, goals, and aspirations, provides protective factors for adolescence to cope and thrive (Russo-Netzer and Shoshani 2020).

Self-compassion offers another positive psychological framework that has been used alongside mindfulness. Self-compassion can be defined through lenses of self-kindness, recognition and connection to our common humanity, and maintaining perspective when circumstances are difficult (Bluth, Blanton et al. 2014). The potential of a mindful self-compassion intervention in decreasing stress and increasing resilience and positive risk-taking has been shown. Findings of this study however require confirmation through rigorous testing, for instance adopting an RCT design (Bluth, 2017). This indicates the possibilities that exist for strengthening the empirical evidence of interventions made up of mindfulness and self-compassion.

Adolescence as a formative stage of life confronts individuals with particular developmental realities, pressure to decide values and long-term goals, create social bonds, and overall form identity and motivation for life. These insights into the developmental stage of adolescence, are in line with many goals found in MPIs and offer a rationale for using a combined approach of positive psychology and mindfulness with this age group.

Limitations of mindfulness.

Mindfulness has undergone various criticisms as across the spectrum of interventions entitled MBIs there is a lack of clarity on philosophy, definitions, practices, outcomes, and degree to which cognitive processes are deliberately altered. Furthermore, under the umbrella of MBIs there are differences in the degree of mindfulness practices are introduced, as opposed to mindfulness skills, with some interventions such as Acceptance and Commitment Therapy (ACT) not introducing any mindfulness practice (Chiesa and Malinowski 2011).

Evidence so far globally indicates that MBIs are both acceptable to adolescents and feasible to deliver in schools. However, the variation of populations and methods in studies has been vast, and therefore precise clinical mental health outcomes are very difficult to judge (Kostova, Levin et al. 2019). It is also difficult to capture the true prevention effect without longitudinal studies and robust tracking data (Luders and Kurth 2019). The lack of rigorous testing and measurement extends to the lack of RCT in comparison with other interventions. In a meta-analysis of school based MBIs for 12- to 18-year-olds, in which RCTs were conducted, only nine studies were found. Results from this meta-analysis were also mixed. Significant effect sizes were reported for stress, depression, and anxiety; however, subgroup analysis indicated that these positive results were only when compared to inactive control groups. Active control group comparisons showed no significant results (Fulambarkar, Seo et al. 2022). Overall, it has been claimed that the largest limitation to existing literature of research in MBIs delivered in schools, is the lack of both a comparison condition and random assignment, and making firm conclusions from any study that does not contain these basic properties is difficult (Felver, Celis-de Hoyos et al. 2016).

Studies containing RCTs showing the positive effects of have mostly been in HICs (Ma, Kraemer et al. 2021). Recently, in India there have been a number of RCTs conducted on MBIs in school settings. However, the evidence base is still growing, and further attention in many studies is needed to determine validity and reliability of outcomes (Gupta 2019). Additionally, there is a scarcity of research into the effectiveness of MBIs as a public mental health, prevention approach in India.

There are a number of potential adverse effects of MBIs that need to be addressed. Qualitative research on mindfulness meditation shows that it may increase the awareness of difficult feelings and exacerbate psychological problems for some. For the potential of mindfulness practice to be fully understood, it is important to understand adverse effects and for whom, and under in what circumstances it works and when it may be contraindicated (Farias and Wikholm 2016).

Researching an MBIs as a universal prevention intervention in India.

Evidence on MBIs with CYP recently generated from India is promising, and MBIs are being used in India as part of life skills programming to support student wellbeing. This is in line with indicators from India's National Education Policy (2022) which is more open to school settings as suitable to promote positive mental health and wellbeing. Moving forward, there are a number of points to keep in mind. First, the fact that there is mixed evidence on MBIs with CYP and in school settings is good grounds for further investigation, with the opportunity to increasingly better research design.

Second, measuring the impact of MBIs in relation to mental health outcomes in a school setting where, for example, anxiety has not been high, will unlikely yield effect sizes as significant as in clinical settings as there is little room for improvement (Kallapiran, Koo et al. 2015). Such programmes could support the management of mild mental health difficulties, prevent their escalation. This does however suggest that it could be difficult to determine if MBIs have an effect when used as a preventative approach in mental health. This warrants the inclusion of qualitative data in any research design.

Third, it has been recommended in studies measuring MBIs in LMICs from programmes developed in HICs, that deep contextual adaptation would likely improve programme outcomes (Alampay, Tan et al. 2020). Deeper contextual changes involve working effectively with stakeholders in the local context. The next section introduces a fundamental approach to research adopted in this doctoral work, namely participatory practices, especially co-production. The focus is on highlighting the importance of this way of working for the success of psychological interventions.

1.2.5 Meaningful participation and co-adaptation of research.

Meaningful participation and community based participatory research.

In research, young people can be involved in the design, development, and adaptations of resources to support their mental health and wellbeing, a process that is often referred to as community-based participatory research (CBPR). CBPR refers to a 'methodological and epistemological approach to applied community projects in which researchers and community members collaborate as equals in the research process' (Duke 2020). Such an approach has been taken increasingly in Western settings, for instance, to define and understand adolescent emotional wellbeing (Fein, Williams et al. 2021). Although not as common in LMICs, CBPR approaches have been delivered in India to investigate the impact of the coronavirus pandemic on youths' lives (Agrawal, Sharma et al. 2020). It is regarded as such an important process, that researchers are even conducting these practices in the most difficult circumstances such as communities impacted by humanitarian crises (Afifi, Abdulrahim et al. 2020).

Approaches to participatory research.

Other terms to describe participatory and collaborative processes within research have emerged. Co-developing projects and co-producing knowledge in scientific research are two such terms. In principle, these processes require shared goals with local stakeholders including research agencies. Co-developing a research agenda requires equitable participation and engagement of all stakeholders whilst coproducing knowledge should be based on meaningful interactions and be context specific (Woodall, Talma et al. 2021). Woodall et al., discuss a third term entitled 'co-dissemination' which in principle involves the sharing of research outputs and products in a manner that is appropriate for the audience. These processes used together result in new knowledge being created by and for all, in which all stakeholders have ownership of the research and are involved in promoting the findings (Norström, Cvitanovic et al. 2020). Participatory or co-design is another term and participatory process that aims to involve end users in decisions and resource creation that will impact them. What differentiates co-design, is that it is based on design terms that are often overlooked in other participatory processes (Blomkamp 2018).

Different approaches to engagement with stakeholders in research, differ in the degree of participation undertaken. Figure 2 illustrates what is called the 'Alternative ladder of participation' that demonstrates how researchers can engage with other stakeholders, based on varying degrees within participation approaches.

Figure 2: Orygen's proposed 'Alternative ladder of participation.'
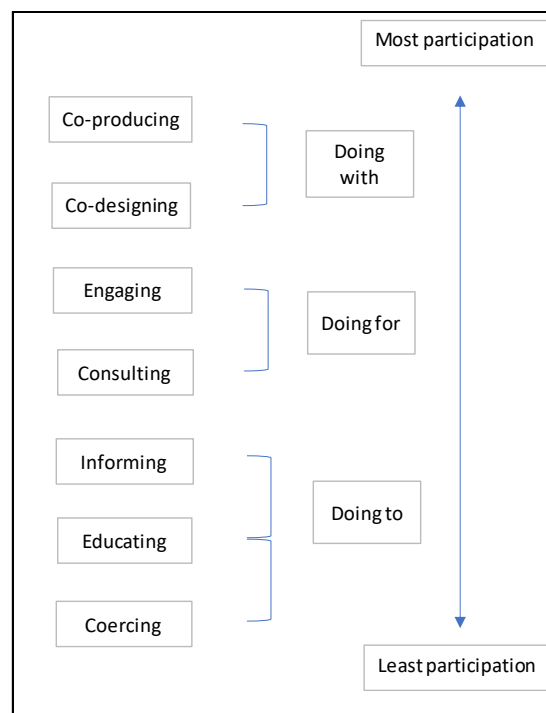
As a researcher one can ask if the research is being done with, for or to, stakeholders. Although 'doing with' stakeholders maximises participation of people in decisions that affect them, it is not always possible due to high costs and time required.

Co-adaptation in LMICs

It cannot be assumed that interventions will be effective in very different contexts, than that for which it was created. With particular regard to LMICs, the WHO has advised that where research and development capacity is limited, evidence-based programmes from similar cultural backgrounds could be adapted, and alliances created with in-country health-related research centres (WHO 2002). This approach can involve adaptation to the context and resources available, as well as the culture in which the intervention is being introduced. Adaptation is 'a process of thoughtful and deliberate alteration to the design or delivery of an intervention, with the goal of improving its fit or effectiveness in a given context' (Stirman, Baumann et al. 2019). When adaptation involves working closely and authentically with in-country stakeholders and end users, to alter existing programme materials together, the term is co-adaptation. The processes of co-adaptation can be used alongside co-production and co-design, and involves revisions to intervention or programme content required to meet stakeholder needs (Cullingham, Rennard et al. 2023).

Genuine co-adaptation is associated with greater acceptability, feasibility and effectiveness of interventions, and is helpful and necessary (Knerr, Gardner et al. 2013). Examples of adapted programmes have shown that extensive adaptation in school-based wellbeing and mental programmes has not been necessary for successful transference, with the fidelity to the theory and model remaining uncompromised (Gardner, Montgomery et al. 2016). Participation of youth end users is in decisions affecting them can augment their sense of value, autonomy, and wellbeing (Dewa, Lawrence-Jones et al. 2020). There are reasons as to why an intervention or programme may be adapted for implementation into a new country or context. For instance, the developmental needs of end users may differ from those to whom the intervention was originally designed (Cullingham, Rennard et al. 2023); contextual changes may exist between the new and original environment for which it was developed (Movsisyan, Arnold et al. 2019); or cultural changes between communities or countries may require changes to be made (Perera, Salamanca-Sanabria et al. 2020). Research design does not have to comprise of co-adaptation alone. Co-design is often synonymous with co-adaptation, in the instances where adaptations require design improvements. Such an example is recently underway in Southern India within CYP mental health interventions (Hugh-Jones, Janardhana et al. 2022).

Within the field of mindfulness and positive psychology, co-adapting has been viewed as essential to ensure that modifications of MBIs are more inclusive of contexts and populations, which will yield better positive outcomes of already existing MBIs (Allen, 2021). Co-producing and co-adapting CYP mental health interventions with in-country stakeholders including adolescents is now an internationally endorsed approach which underpins this doctoral work.

1.3 Outlining the thesis protocol and chapters.

The protocol undertaken for this thesis is heavily influenced by two existing frameworks for intervention adaptation: the overarching phases and steps of Exploration, Preparation, Implementation and Sustainment Framework (EPIS) implementation framework (Movsisyan, Arnold et al. 2019) combined with elements of a four-step process to culturally adapt low-intensity psychological interventions (Perera, Salamanca-Sanabria et al. 2020)

The EPIS framework was developed by amalgamating and refining good practice for intervention adaptation identified through a systematic review of 35 guidance sources. The first eight steps were used shape the thesis protocol to plan, conduct and evaluate the first version of the adapted intervention. Steps nine to eleven could potentially be used in future research if there is reason and funds to progress to an effectiveness trial and larger scale role out. This is reflected upon in Chapter 6. The four phases and 11 steps of the EPIS framework are illustrated in Figure 3.

Figure 3: EPIS Implementation Framework
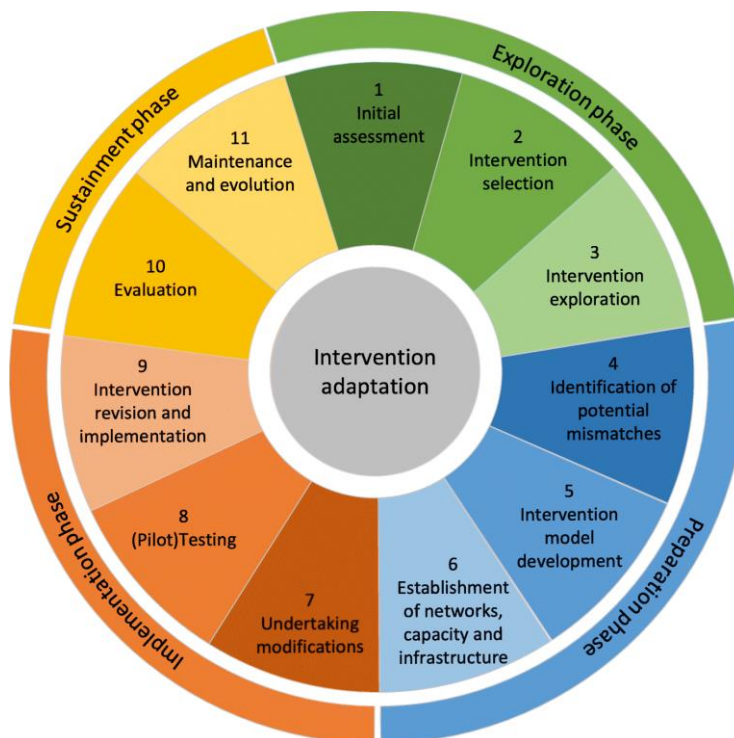
All countries of origin for sources used to shape the EPIS framework were HICs and were being adapted for use within country. For this reason, consideration was given to other factors that could arise whilst adapting an intervention that was designed for a HIC but being introduced to a LMIC. Perera et als., process has been created for LMIC settings, specifically in crisis or protracted crisis contexts. It has been used to complement the EPIS process in both the exploration and preparation phases. The four stages of the model are:

(i) Information gathering- a rapid desk review to gather relevant pre-existing information. WHO and United Nations High Commissioner for Refugees (UNHCR) template for crisis is advised (World_Health_Organization 2012). The review aims to make use of pre-existing information on demographic, socioeconomic, cultural, general health, and mental health contextual components.

(ii) Adaptation hypothesis- screening the original intervention protocols to identify components for adaptation across the eight dimensions of the Ecological Validity Model (EVM) of language, metaphors, content, context, persons, goals, methods, and concepts (Bernal, Bonilla et al. 1995). This involves shaping the sources of 'cultural non-fit' into questions to be explored with local stakeholders.

(iii) Local consultations - local stakeholders review (elaborate and/or validate previous findings) using developed focus group discussion guide.

(iv) External evaluation - newly co-adapted intervention protocols are reviewed by local mental health experts using the Cultural Relevance Questionnaire (CRQ).

The EPIS model and Perera et al's., processes were integrated into one methodological protocol for the thesis, and a new visual was developed to guide the doctoral work. Figure 4 shows the integrated model.

Figure 4: Integrated model for the methodological protocol.

Chapters 2 to Chapter 5 inclusively detail the practical application of the protocol, supporting the co-adaptation and feasibility testing of the intervention. The different stages and their relation to the original EPIS framework and cultural adaptation process, are outlined at the beginning of each chapter.

This doctoral work also responds to calls for better reporting of intervention development processes. It is informed by the GUIDED framework (Guidance for reporting intervention development studies in health research), which sets out 14 items to consider that foster transparency in intervention development (Duncan, 2020). This thesis aimed to meet those items as fully as possible. The 14 items and the degree to how each was met in the doctorate, can be found in appendix A.

Chapter 2: Exploring the Indian context.

The aim of Chapter 2 is to establish an understanding of the Indian context for CYP in relation to their mental health and wellbeing, using both existing information and primary data collected from mental health experts. Chapter 2 represents Stage 1 of the protocol, which is indicated in Figure 5, and is based on step one, phase one of the EPIS framework model and stage one of Perera et al's., cultural adaptation process.

Figure 5: Protocol Stage 1, Contextual assessment and information gathering, Preparation phase.
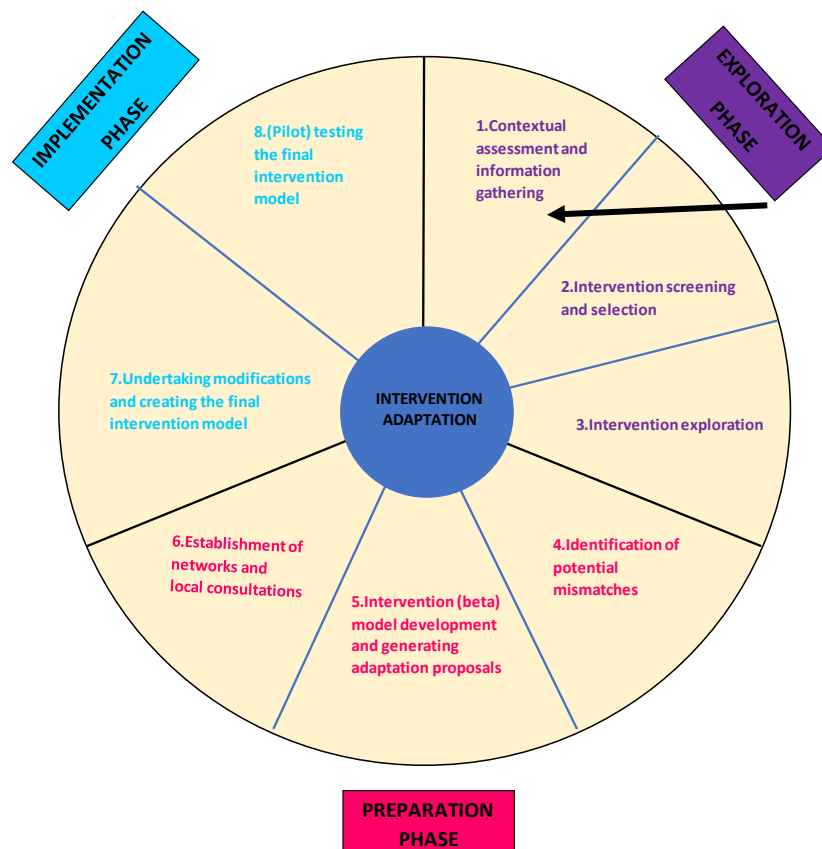
Chapter 2 outlines the initial work to understand the target population characteristics and their mental health and wellbeing needs, which was necessary due to the knowledge gap in CYP mental health in India ad more particularly Assam. The chapter is divided into two sections: the first section comprises a rapid desk review, that appraises available and diverse secondary data sources to understand information that could be relevant to intervention design and acceptability. It does so through data on socio, economic, political, and cultural influences shaping the environment in which children and adolescents develop and experience mental health difficulties. The second section contains primary data from in-country experts

constituting Study 1 of this thesis. Study 1 outlines experts' perspectives on key issues relating to CYP mental health and the design of Studies 2 and 3.

2.1 Rapid desk review

The aim of the rapid desk review was to appraise available and diverse secondary data sources to understand elements of the Indian context, specifically the context in Assam and Guwahati, that might inform the remaining stages of the thesis. Information that could be important to the design, implementation, and feasibility of a mindfulness-based intervention for CYP wellbeing was collected. A comprehensive review was not considered a priority within the research, as time and resources for denser data collection was prioritised for the three studies.

A rapid desk review template designed by the WHO and UNHCR was used to shape the review as it emphasised cultural components and factors that may not be considered relevant in a HIC, such as the role of international non-government organisations (INGOs) or humanitarian activities; and was designed to consolidate information in a holistic overview of data on demographic, socioeconomic, cultural, general health, and mental health aspects of the intervention populations' lives. The template was also used by Perera et al., when applying the cultural adaptation model in a similar study (Perera, Salamanca-Sanabria et al. 2020). The template can be found in appendix B. Data presented has been prioritised based on its' implications for the upcoming studies. For instance, the history and influence of humanitarian activities have been excluded due to the stability in Guwahati at the times of review to ensure the review remained focused.

The rapid desk review was conducted over the course of 10 days, three days in June 2020 and a further seven days in May 2023. Peer-reviewed articles and grey literature, such as news articles, government reports, and mental health policies, were included. Google Scholar and Google were the search engines used. Table 1 indicates the search terms and the source type. Information was synthesised and key details are presented.

Table 1: Rapid desk review search terms and sources

Geographical terms	Context terms	Mental health terms	Source types
India	Topography	Mental health	Ministerial websites
Northeastern India	Political	Psychosocial	Newspaper archives
Assam	Historical	Adolescents	Literature databases
Guwahati	Socio-economic	Children	Census
South Asia	Religion	Mental health policy	United Nations reports
	Caste	CAMH/CAMH policy	Statistics websites
	Humanitarian	CYP	Historical and political books
	Cultural	Suicide	Government surveys
	Economic	Wellbeing	Surveys
	Health	Intervention	Blogs

2.1.1 Population analysis

Assam is the most populous state in the northeastern region of India comprising nearly 70% of the population of the entire region of 7 states. The population in Assam was over 31 million as per the Census 2011 data and predicted to be close to 37 million in 2023. Approximately 41% of the population is under the age of 18 and 86% of the population reside in rural areas (Health & Family Welfare 2023).

In United Nations Development Programme's (UNDP) Multidimensional Poverty Index released in 2022, 16.4% of the Indian population was classified as multidimensionally poor. According to the World Inequality Report (2022), India is one of the most unequal countries for both income and wealth inequality, and it has additionally demonstrated the most rapid increases in inequality (Chancel, Piketty et al. 2022). Furthermore, the inequality is multi-dimensional with the income poor more likely to be women or girls, to live in poorer areas, to belong to socially discriminated castes and communities, and to be informal workers (Ghosh 2022). In India the 10% richest people hold 57% of wealth and the bottom 50% hold 13% of wealth (JC 2022). (Chancel, Piketty et al. 2022).

India has over 434 million children and adolescents, the highest number of any country in the world (Hossain 2019). Those under 15 years of age made up 25.69% of the population in 2021, slightly over the global statistic of 25.5% (Statista 2023). Hindi is the most spoken language with over 587 million speakers, followed by Bengali, the official language of Bangladesh, with 97 million speakers. Officially 12% of Indians speak English, totalling 226,449 in the census, many whom have it as their second language (Chandramouli and General 2011). Assamese, the official language of Assam, is the 15th most popular mother tongue in India with close to 15 million speakers.

Urbanisation in Assam is relatively new and rapidly evolving, with little planning and structures leading to inequality and overwhelm (Rahman 2020). Guwahati as the largest city in Assam and metropolis in the northeastern region. However, the lack of urban planning has caused the influx of people to settle mostly in the 163 informal settlements (slums) growing in the city, where limited access to decent services and forceful evictions are ongoing problems (Rahman 2020).

According to India's 2011 Census, 79.8% of the population are Hindu, 14.2% Muslim, 2.3% Christian, 1.7% Sikh, 0.7% Buddhist and 0.4% Jains. Assam has a different breakdown with 61.47% Hindu, 34.22% Muslims, 3.74% Christian (Chandramouli and General 2011). Islam is the fastest growing religion in India, and India's Muslim population is the second largest globally exceeded only by Indonesia (Kramer 2021). Although the country is experiencing major cultural and social movement toward secularisation and modernisation, trends and influences between religions and castes are still apparent. Amongst the four major religions, Sikhs and Christians are the best educated for instance; and Muslims receive the least formal education, are the most urban and tend to be concentrated in the poorer areas of cities (Tong 2022). When caste and religion are taken together certain disadvantages emerge, most notably the government reservation that supports traditionally disadvantaged caste groups excludes Christians and Muslims from the scheduled caste, or Dalit (Tong 2022).

Implications for Studies 2 and 3.

- o Extreme and multi-dimensional nature of poverty the nature of which may change based on the city's rapidly changing population, prevents a high proportion of the population accessing services. This may influence intervention design decisions to ensure vulnerable groups can access the programme.

2.1.2 Physical geography

Assam is under threat of natural disasters, in particular flooding, erosion and earthquakes. The Northeast region of India is amid the most seismically active and tectonically complex regions of the world, leaving states including Assam particularly fragile and earthquake-prone (Dey, Baruah et al. 2022); with Guwahati particularly vulnerable to major destruction due to the urban build-up (Talukdar 2021). The flat topography and vast network of rivers, making Assam four times more likely to experience floods than the national average (Khureja 2022). Flooding is Assam has created recurring disasters since 2012 with various international actors providing support to the state (Krishnan 2020).

Implications for Studies 2 and 3.

- o Previous natural disasters and the threat of natural disaster may impact adolescents' wellbeing and also have logistical implications for intervention delivery.

2.1.3 Historical and Political Context

Socio-political issues particular to the State of Assam in relation to immigration have been in occurrence since before Indian Independence. Tensions arguably came to a climax during the Assam Movement which ensued between 1979 and 1985, when the Assam Movement pressurised the Indian government to expel illegal immigrants which they felt posed a threat to the identity and rights of the Assamese people. After a period of violence in which thousands of Muslim peasants were killed, the Assam Accords were ratified, specifying a date for which foreigners were to be identified and expelled from the state. The Citizenship (Amendment) Bill 2016 altered the agreement, seemingly making provisions for non-Muslim immigrants to become citizens on humanitarian grounds (Boruah 2018).

There are numerous reasons this bill has caused controversy. the differentiation between religions was argued by many to be non-constitutional, with amendments showing discriminatory tendencies toward Muslim populations and putting the citizenship status of nearly four million people under question (Krishnan 2019). From a different perspective many Assamese and other Indians believe if enacted the Bill would encourage an influx of Bengali Hindu Bangladeshis which they perceive as a threat to their culture (Boruah 2018). In December 2019 the Citizenship (Amendment) Act (CAA) was passed in Parliament causing outcry and leading to protests and violent clashes in Assam and other northeastern States, in which several people were killed. The complexity of the situation increased when far-left communists known as Naxals attempted to use the instability to further their own agenda in the state (Shukla 2019).

Limited political investment in children is worth noting. According to the United Nations Children's Funds (UNICEF) latest pre-pandemic report on Assam, key developmental indicators such as sex ratio, infant and under-5 mortality rates, immunisation, and school enrolment rates have improved. However, overall child survival and violence against children were stated as a major concern, worsened by the state governments' declining budget for children. The budget has regressed from 16.19% in 2007 to 6.01% in 2016, whilst 41% of the population is under 18 years of age (UNICEF 2019).

Implications for Studies 2 and 3.

- o Underlying political tensions may impact different groups within Guwahati receiving the intervention. It will be important to target potentially disadvantaged groups to

understand if they have anything to contribute to the co-adaptation that does not apply to other groups. The Muslim population, which is much higher in Assam than the rest of the country, is one such group.

2.1.4 Health

Only 1.5% of GDP is spent on healthcare in India, one of the lowest in the world (Sheth 2022). Government facilities are grossly understaffed and struggle with major supply shortages, causing those who can afford it to seek private care (Gupta 2020); and the Covid-19 pandemic has exacerbated these existing problems. According to survey findings from the National Sample Survey Organization (NSSO), utilization rates of public primary health care is low, with 70% of overall treatment accessed through the private sector (WHO 2022).

The Government of India set the goal of universal health coverage in the National Health Policy of India (2017), introducing schemes to support the 50% poorest in the country. Healthcare is decentralised with responsibility lying at state level. The National Family Health Survey (NFHS-4) conducted in 2015-16 demonstrates through key health indicators that Assam's public health is in a critical state.

The Government of India have made other well-intentioned moves in support of strengthening programmes and systems for adolescent health. The Adolescent Reproductive and Sexual Health Strategy (ARSH) launched in 2005 and the National Adolescent Health Programme (also known as Rashtriya Kishor Swasthya Karyakram (RKSK)) launched in 2014, are two such initiatives. Additionally, the government supported a review of these programs with the aim of creating a document of lessons learnt to support the roll out of any future initiatives (Barua, Watson et al. 2020).

Implications for Studies 2 and 3.

- o Low investment in health in Assam's health indicators in a critical state. It is uncommon for mental health to be placed on an equal footing to physical health. Implications moving forward are that non-specialist programming may be an option to support adolescent mental health to avoid the necessity of mental health treatment.

2.1.5 Mental health problems and systems

The National Mental Health Survey (NMHS 2016) was conducted with adults in 12 Indian states. The survey reported that 10.7% of those over 18 had a mental health condition (excluding tobacco use disorders) with a lifetime prevalence of 13.7%. Nearly 80% of those affected had not received any type of care. This estimates that nearly 150 million need active interventions for mental health conditions. Of the 12 states in which the NMHS was executed, Assam had the lowest levels of overall mental morbidity. However, treatment gaps reveal that

a large proportion of the affected population not receiving adequate or any treatment at all.
Table 2 shows the levels of mental morbidity with accompanying treatment gaps; and Table 3
shows the mental health professionals available in Assam and how many of each role exist per
1,000,000 population.

Table 2: Mental disorders and treatment gaps in Assam (LGBRIMH, 2016).

Mental health disorder	Prevalence in Assam	Treatment gap in Assam
Common mental disorder	5.3%	82.4%
Severe mental disorders	0.6%	87.5%
Alcohol use disorder	3.0%	88.0%
Depressive disorder	1.4%	94.4%
High suicide risk	0.7%	>80%

Table 3: Numbers of mental health trained professionals and their ratio per 1,000,000 civilians,
in the state of Assam (replicated from National Mental Health survey 2016 (NIMHANS 2016)) .

Mental health professionals	Number	Per 1,000,000 population
Psychiatrists	92	0.29
Clinical Psychologists	20	0.06
Nurses with DPN qualification	42	0.13
Psychiatric Social Workers	22	0.07
Rehabilitation workers/Special Education teachers	193	0.62

Most notably in Assam, there is no state specific mental health policy and action plan
(LGBRIMH 2016); nor has there been an adoption of the National Mental Health Policy, in
which an objective for CYP is included (Ministry_of_Health&Family_Welfare 2014). Mental
health financing, monitoring and evaluation are inefficient, and the absence of capacity
building and coordination between agencies further limits service delivery (LGBRIMH 2016).
All respondents of the national mental health survey in Assam were over the age of 18. Data
from the survey denoted that almost 12,000,000 adults in Assam have one or more mental
morbidity that require mental health support and services, with respondents reporting that
the economic impact of managing a mental health condition was sizable. Stigma, ignorance
and neglect by the individuals, family, and community, were factors identified as intensifying
severe mental disorders. Mental morbidity in Assam was relatively more pervasive in rural
areas than urban areas with the exception of substance abuse; and those from lower income
groups showed higher occurrence of mental disorders (LGBRIMH 2016). According to the
National Crime Record Bureau, Assam recorded a suicide rate of 11.1 per 1,000,000
population, higher than the national average of 10.6 (National_Crime_Records_Bureau. 2015).

More recent data shows an increase of suicides during the pandemic, with an increase 36.8 % from 2019 to 2020, over 50% of whom were unemployed or daily wage earners (TNN 2021).

Nationally strides have been made in recent years through, for instance, the development of the Mental Health Care Act (MHCA) (2017), which decriminalised suicide. Rollout of the MHCA is, however, uneven throughout the country. However, the National Suicide Prevention Strategy was launched in late 2022, which aims to reduce suicide by 10% from 2020 to 2030 (Ransing, Arafat et al. 2023).

Implications for Studies 2 and 3.

- Services and policies are adult centred. There is a strong need for youth-friendly and accessible mental health support.

2.1.6 Mental health for CYP in India
Policy and strategies
Areas of child development have been focal topics in national policies (e.g., National Trust for Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disability Act 1999, Charter for Children (2004), and National Plan of Action for Children (2005)). However, none are yet to focus on mental health and wellbeing, and oversight which extends to the National Mental Health Policy (2014) (Hossain 2019). The National Education Policy has included improving wellbeing and support to CYP mental health through counsellors and social workers; and added basic mental health knowledge to the curriculum (Government_of_India 2020). Overall reporting systems for CYPs mental health are insufficient (Malhotra, Patra et al. 2014) and strides to address the service deficit have depended largely on individual institutions such as NIMHANS (Kommu and Jacob 2020). The need for a nationwide policy for CYP mental health is high (Kommu and Jacob 2020).

Preventive initiatives in place prior to the rollout of the National Suicide Prevention Strategy, included the School Health Ambassador Initiative that appointed two teachers in each school to the role of Health and Wellness Ambassadors. This aimed to strengthen the concept of preventive, promotive and positive health in schools (Ministry_of_Health&Family_Welfare 2022). Action within the 2022 strategy included rollout of life skills education in schools through the Ambassador initiative and introducing wellbeing initiatives such as resilience building and life skills through Youth Clubs (Ministry_of_Health&Family_Welfare 2022).

Mental health problems for CYP
A sub-sample of the NMHS conducted with adolescents aged 13-17 in four states to feasibility test the methodology. A small number of countrywide data on mental health and wellbeing

problems experienced by children in India, was made available for this age group. Mental health conditions were found to be prevalent in 7.3% of this population, equalling almost 10 million in need of active interventions. Mental health conditions amongst this age group were almost twice as high in urban metro areas, with rates nearly equal across genders. Depressive episodes and depressive disorders (2.6%), agoraphobia (2.3%), intellectual disability (1.7%), autism spectrum disorder (1.6%), phobic anxiety disorder (1.3%), and psychotic disorder (1.3%), were the most commonly suffered in this age range (NIMHANS 2016). The prevalence of anxiety and depression was observed to increase from 1% of the population under the age of 12, to between 17% and 25% by the end of adolescence, with the greatest increase occurring between 15-18 years (Singh, Junnarkar et al. 2015). Similar to adults, there is a dearth of professionals to support the magnitude of children and adolescents in need of mental health support.

In a survey across nine schools in Tezpur city 1,514 children, aged 5-12, anxiety withdrawal was the most prevalent (16.78%) of behavioural issues, with higher levels in female participants. Girls displayed higher levels of internalising problems, whilst boys demonstrated higher levels of externalising problems, a result found in a similar study (Dutta, Jahan et al. 2014). Psychiatric morbidity in the school-going population in India was found to be low in comparison to Western countries. However, this may be due to use of Western measures that have not been adapted to local socio-cultural contexts, differences in conceptualization and presentation of mental health problems, and social stigma involved in reporting mental illness (Ramalingam and Nath 2012).

Causes and drivers

In a survey of 820 school going adolescents in Puducherry common drivers for mental health problems include academic pressures and limited resources, difficulties coping with pubertal changes and substance abuse (Srinivasan, Premarajan et al. 2022). Another study has indicated academic performance and socio-economic status to be predictors of mental health difficulties (Harikrishnan, Arif et al. 2017). Technology addiction is becoming common among adolescents and was found to be contributing to reduced academic performance as well as depression. (based on preliminary evidence from a study in rural north India) (Jamir, Duggal et al. 2019). "Failure in examinations" was given as the reason for 412 out of 480 suicides of children up to 14 years in West Bengal according the National Crime Records Bureau (2010) (Ecks and Kupfer 2015).

Implications for Studies 2 and 3.

- o Policies and strategies indicate the school environment is a frontrunner in addressing CYP mental health.
- o Wellbeing initiatives and mental health knowledge added to the curriculum have been prioritised in policy.
- o Stigma has been highlighted as a reason why lower levels of mental morbidity may be recorded compared to HICs.
- o There may be different ways of conceptualising mental health compared to HICs.
- o Academic pressure is a leading causing of mental health problems including suicide.

2.1.7 Conclusion

The context in India has vast complexities that denote a need for increased knowledge and action in the arena of CYP mental health. There have, however, been strides taken in the country overall to improve mental health services, decriminalise and reduce instances of suicide, and to understand the problems of the population through various surveys and local studies. Although no policy exists on CYP mental health, other government policy has been introduced to encourage mental health and wellbeing promotion through school curricula, wellbeing interventions, peer support, and professional counsellors in schools. The Assamese context has a number of unique risks and threats to the stability and protection of CYP, in addition to numerous challenges and gaps in the support of their mental health and wellbeing. In addition, the majority of focus and resources in mental health are allocated to the adult population, and there is a lack of data and understanding on CYP mental health in the state. Data collected in the rapid desk review has a number of implications for all three studies of the thesis. Implications for Studies 2 and 3 have been highlighted at the end of each main section of the review. Before progressing to these studies, a deepened understanding of the context was sought. Study 1 addressed questions designed to increase understanding of the landscape of mental health for CYP and on conducting mental health and wellbeing research in India (and where possible Assam). The desk review results have several implications for the parameters and focus on Study 1.

- o Many problems and limitations for CYP mental health have been shown. It would be beneficial for Study 1 experts to prioritise what they believe are the most pressing problems and challenges faced by CYP, and their views on the main priorities for improving mental health for CYP.
- o Many vulnerabilities have been highlighted but what are the main vulnerabilities in CYP and specifically adolescents according to those working in Assam?

- o Due to the lack of investment, available professionals, and services in CYP mental health, and based on the inclusion of wellbeing considerations in the new National Education Policy, prevention programming is implied as a positive step to overcome a number of barriers; as is the need to use lay persons due to extreme lack of professionals. Has this also been concluded by local experts?

- o Working at systems levels is out of scope for this thesis. Therefore, what are the community levels systems and scope? What is the role of community- including schools- in public health? And is delivering mental health and wellbeing support through schools preferred by experts, considering the problems of academic pressures and stress?

2.2 Study 1: Consultations with local experts

Stage 1 of contextual assessment and information gathering within the thesis co-adaptation protocol / framework, continues with Study 1. Study 1 was a broad interview study with mental health professionals who had experience working in the Indian context and with children and adolescents. With limited data on the mental health of CYP in India, Study 1 collected qualitative data to ascertain expert views and experiences of working in, and conducting research on, CYP mental health. Study 1 was a continuation of step one from the co-adaptation framework, to further understand the target population characteristics and the needs for the intervention; and the implications of the desk review shaped a number of the questions asked.

2.2.1 Study aim & objectives

The aim of Study 1 was to understand the current landscape of adolescent mental health in India from the perspective of in-country experts and to consult with them on the design and feasibility testing of the intervention (Studies 2 and 3).

Study 1 had three objectives. They were to:

1) Understand the main needs in adolescent mental health in Assam that a prevention approach should address.

2) Understand experts' views and attitudes toward prevention of adolescent mental health problems in India.

3) Establish experts' opinions to shape the co-adaptation and feasibility testing of a mindfulness intervention to promote adolescent mental health and wellbeing.

2.2.2 Methods

Study design
Exploratory, one-time, online, semi-structured interviews with mental health professionals.

Ethics
The study received ethical approval from University of Leeds Faculty of Medicine & Health (School of Psychology) Ethics Committee on 12/05/2020, ref: PSYC 36. The key ethical safeguards put in place were commitments to informed consent, participant anonymity, data security and rights to data withdrawal. Supportive documents for Study 1 including the study information letter and consent form are shared in appendix C.

Recruitment and Participants
The target sample size was 20 participants. Saturation parameters were established after assessing numerous reviews, including a systematic review in which saturation was typically found between 9-17 interviews (Hennink and Kaiser 2022); and a review from the National

Centre for Research Methods suggesting a sample size of between 12 and 20 participants for a study of this design (Baker and Edwards 2012). Participant recruitment occurred via known professional contacts and snowballing. We sought professionals with relevant expertise, defined as professional knowledge in at least two of the following areas:

1) Mental health and wellbeing of children and adolescents in India, preferably in the State of Assam.
2) Experience of prevention approaches to mental health.
3) Experience of engaging local communities in mental health promotion, prevention and/or response.
4) Teaching or researching mindfulness with young people.
5) Conducting mental health and wellbeing research with communities in LMICs.

Effort was made to recruit both male and female participants, as well as professionals with varied roles, such as variation in seniority and degree of contact at community level. A total of 27 individuals were identified as potential participants, 17 males and 10 females. Of these, 22 were invited via email to participate in an interview. Emails included an information letter detailing the study. The remaining five potential participants, who were suggested through snowballing, only matched one of the criteria and were not contacted.

Of the potential participants 14 of 22 agreed to participate in an interview. Two of the remaining potential participants had conflicting commitments. The remaining six individuals contacted worked in the same institutions as others, and the research team were informed that only one person would participate on behalf of everyone. Consent was obtained through a paper copy scanned and returned to the doctoral researcher or recorded online prior to the interview.

Overall, 14 professionals with relevant expertise participated. Initial efforts to recruit participants mainly from Northeast India, and specifically the State of Assam, had limited success. Nine participants were male (n=9) and five were female (n=5). Priority was given to the first criteria, with only one participant having no experience of working CYP mental health in India. This participant had a high level of knowledge in criterion two, three and four in the United Kingdom and authored the intervention used in Studies 2 and 3. Thirteen participants were Indian, and one was British. Eleven participants were based in India (States of Assam, Karnataka, Andhra Pradesh, and Delhi) and three in the UK. Of the three based in the UK, two worked on research projects in India (States of Kerala and Delhi). Overall, 29% of participants were from Assam. Table 4 displays a breakdown of participants' professional title,

country/region of work, nationality, and gender, in addition to participant ID codes, length of interview and number of transcript pages generated from the interviews.

Interview schedule

The original interview schedule was devised in line with Study 1 objectives. Table 5 provides the questions used to guide the interviews. Several questions were adapted to solicit information about Assam and Guwahati.

Data Collection and Preparation

Interviews were conducted by the doctoral student, recorded on Skype for Business with participants' permission and stored on a secure folder on the University of Leeds One Drive, identified via a unique ID. Transcriptions were completed by the doctoral researcher (DR), and were to play script standard and anonymised. Participants consented to their role / job title being documented so the professional experience represented in the study sample was clear.

Table 4: List of participants by professional title/role, country/region in which they work, nationality and gender.

Professional title/role	Participant code	Country(s)/ Region of work	Nationality	Gender	Recruitment route	Length of interview (minutes)	# of pages transcribed
Psychologist and President of Institute of Mental Health & Research	FI1	India, Assam	Indian	Female	Professional contact of DR Supervisor	77 minutes	6
Psychologist and mindfulness instructor for adolescents	MI1	India, Assam	Indian	Male	Snowballing	50 minutes	4
Clinical Psychologist and Assistant Professor of Clinical Psychology.	MI2	India, Assam	Indian	Male	Professional contact of DR Supervisor	56 minutes (recording damaged)	3
Psychiatric Social Worker	MI3	India, Assam	Indian	Male	Snowballing	55 minutes (recording damaged)	3
Consultant psychologist and adolescent counsellor specialised in children special needs	FI2	India, Delhi	Indian	Female	Snowballing	78 minutes (recording damaged)	5
Psychiatrist and Head of Department in mental health research Institution	MI4	India, Karnataka	Indian	Male	Professional contact of DR Supervisor	67 minutes	6
Associate Professor in Psychiatric Social Work	FI3	India, Karnataka	Indian	Female	Snowballing	40 minutes (recording damaged)	2
Psychiatric Social Worker	FI4	India, Karnataka	Indian	Female	Snowballing	57 minutes	6
Psychologist and researcher in public mental health	MI5	India, Karnataka	Indian	Male	Snowballing	45 minutes (recording damaged)	2
Research fellow and community research team leader	MI6	India, A. Pradesh	Indian	Male	Snowballing	73 minutes	6

Research fellow in adolescent mental health and PhD student	FI5	India, A. Pradesh	Indian	Female	Snowballing	53 minutes	5
Founder and President of Mindfulness education academy	MB1	UK	British	Male	Professional contact of DR	41 minutes	4
Clinical psychiatrist and professor of mental health	MI7	UK and Kerala	Indian	Male	Professional contact of DR Supervisor	66 minutes	6
Psychiatrist and Senior Clinical Lecturer	MI8	UK and India	Indian	Male	Professional contact of DR Supervisor	57 minutes	7

Table 5: Interview schedule

Interview section	Possible questions (not all respondents were asked all questions)
Section one: Mental health, psychosocial support and wellness of children and adolescent in India, in particular Assam and Tezpur	➢ What is your role in children/adolescents' mental health in India/Assam/Guwahati? ➢ What are your views on the current state of mental health and response to mental health issues in India/Assam/Guwahati? ➢ Please share your personal experience of the challenges, limits, and successes in addressing mental health, psychosocial and wellness concerns in the context. ➢ Are there any particular vulnerable groups of children/adolescents in India/Assam/Guwahati that are susceptible to mental health problems? ➢ What do you feel are the: a) 3 most pressing mental health problems experienced by children/adolescents in India/Assam/ Guwahati, b) 3 priorities for improving mental health of children/adolescents in India/Assam/ Guwahati, and, c) biggest challenges in tackling these problems/realising the improvements?
Section two: Prevention	➢ Do you think that prevention plays an important role in tackling mental health issues in India? ➢ What current prevention strategies exist in India? ➢ What challenges/successes/barriers are there in India in prevention?
Section three: Community	➢ What definitions/perceptions exist of 'community' in mental health prevention in India? ➢ What role does the community (including schools) play in responding to and preventing mental health problems for CYP? ➢ How important a role does the community have in prevention in public mental health? ➢ Do existing community mental health structures link with professional structures?
Section four: The research and intervention	➢ How does the local community accept research with children and from those outside the community? Have there been similar interventions to support CYP mental health? What groups of children/adolescents should be targeted, and/or excluded? ➢ How is the concept of mindfulness understood locally? Including local connotations of mindfulness, likelihood of community acceptance and suitable language and similar existing practices. ➢ Can we introduce the concepts of self-compassion to adolescents in India? ➢ Is co-adaptation a positive thing to do? Has it been done before? What are the best approaches to take in co-adaptation with the community including adolescents? ➢ Are you aware of similar interventions being introduced to children/adolescents? What cultural norms and practices should be considered for both the co-adaptation and the intervention? Are there any groups of children/adolescents you think should be targeted or excluded in this intervention? If yes, why?

Data Analysis

Qualitative research is mostly used to answer questions about 'experience, meaning and perspectives' of participants (Hammarberg, Kirkman et al. 2016). There are multiple methods of analysis that can be adopted in qualitative research, such as grounded theory, thematic analysis, and framework analysis. Thematic and framework analysis were considered for Study 1 with the latter being selected. The overall objective of framework analysis is to "identify, describe, and interpret key patterns within and across cases of and themes within the phenomenon of interest" (Goldsmith 2021). Framework Analysis adopts both a top-down and bottom-up approach to analysis. It enables research teams to pre-empt the existence of some content of interest which is indexed with a pre-given code, creating a preliminary framework or codebook, constituted by categories (e.g., 'Views on ethics') and codes (e.g., 'Challenges to parental consent'). This structure is modified as analysis progresses ensuring that the researcher's own world view and opinion does not dominate the data. This likely reduction in researcher bias is particularly useful when the researcher is not familiar with the population and may hold assumptions about the context. The method flexes to capture the data, allowing responses to generate multiple categories or codes that were not in the original framework (Ritchie 1994). NVivo software was used to support data organisation, coding, and analysis.

Framework analysis involves five stages (Ritchie 1994). They are as follows:

1) Familiarization: This stage involved listening to interviews, reading transcripts, and listing issues, key ideas, and recurring themes emerging from the data. The purpose was to achieve a holistic sense of the data.

2) Identifying a framework: This stage involved organising the data into categories (higher order) and codes (lower order levels of categories), which are descriptive or conceptual labels assigned to excerpts of raw data, designed to make data exploration easier (Gale, Heath et al. 2013). Initial categories were issues anticipated via the desk review conclusions and key topics of studies 2 and 3. Once the framework was applied to four transcripts (two male and two females with diverse backgrounds), a number of additional analytical codes emerged.

3) Indexing: At this stage of the process the framework was systematically applied to all transcriptions through NVivo, and refinement in the categories and codes emerged. Full indexed data is available on request.

4) Charting: This involved summarising all indexed data for each category and code and for each participant.

5) Mapping and interpretation: This involved interpreting the now fully organised data to understand, for instance, key meaning, differences, and connections within the categories. At this point, themes were assigned to capture the proposed overarching topic / issue suggestive of grouped categories and codes.

The initial framework had five categories and 17 codes that were entered into a codebook and stored on NVivo. Table 6 displays the initial a priori framework. Developing and assigning categories and codes were credibility checked in supervision (i.e., The doctoral researcher identified and justified the origin of each category and code, using indicative data). Findings below concentrate on the final framework, and display the charted data by categories, and codes. The discussion section offers data interpretation with a focus on the research objectives (mapping and interpretation).

2.2.3 Findings

Data framework

Through indexing, the framework underwent three major iterations. The final iteration is shown in Table 7, (two themes, six categories, and 18 codes). The majority of refinements involved merging codes. For example, the second iteration established 'Main mental health problems experienced by CYP' as a category with 'Depression', 'Anxiety', 'Suicide and suicidal ideation', and 'Behavioural problems' as its' codes. In the final iteration, this was streamlined, with 'Main mental health problems experienced by CYP' becoming the code, and the category encompassing mental health problems, drivers, and predictors, which enabled a broader analysis of the data.

Participant contributions to each theme

Tables 8a and 8b indicate how each participant contributed to each theme by indicating in which codes their data was used and how dominant each code was in the data.

Table 6: A priori framework created by the research team.

Category	Codes
1. Understanding the current landscape of mental health and wellbeing for CYP in India.	- Main mental health problems experienced by CYP - Improving mental health and wellbeing of CYP in India - Challenges and barriers to improving the mental health and wellbeing situation for CYP in India
2. Prevention in adolescent mental health.	- Attitudes and approaches to prevention in adolescent mental health - Current prevention strategies in India - Challenges and barriers to prevention in India
3. The community's role in adolescent mental health and wellbeing.	- Community role in responding to mental health problems - Community's role in prevention - Links between existing community mental health structures and professional structures.
4. Co-adapting research with CYP.	- Community attitudes toward co-adapting research with adolescents - Barriers and challenges to co-adapting research with adolescents in India/Assam - Best approaches for co-adapting with adolescents in India/Assam
5. Mindfulness in CYP mental health and wellbeing.	- Understanding of mindfulness in India - Best ways to use mindfulness with CYP in India - Barriers and challenges in using mindfulness with CYP in India - Potential adaptation content for an MBI in India - Suitability of introducing the concept of self-compassion to adolescents

Table 7: The final framework: main themes, categories, and codes.

Themes	Categories	Codes
Understanding the current landscape of mental health for CYP in India	Context specific problems and their causes for CYP in India	▪ Main mental health problems experienced by CYP ▪ Drivers of mental health problems experienced by CYP ▪ Predictors of mental health problems for CYP
	Challenges and barriers to improving the mental health and wellbeing situation for CYP in India	▪ Lack of resources and funding ▪ Inadequate systems and policies ▪ Lack of knowledge and information sharing ▪ Stigma
	Improving the mental health and wellbeing situation for CYP in India	▪ Current successes in improving CYP mental health and wellbeing ▪ Priorities for improving mental health and wellbeing of CYP
	Understanding 'Prevention' in Indian CYP mental health	▪ Why prevention is necessary for CYP mental health ▪ Ideal preventative action ▪ Existing preventative action ▪ Barriers to prevention
Shaping the research design of future studies	Co-adapting research with adolescents in mental health and wellbeing research in India	▪ Attitudes toward co-adaptation ▪ How to co-adapt research with adolescents ▪ Barriers and challenges to co-adapting research with adolescents
	Using mindfulness to support adolescents' mental health and wellbeing in India	▪ Suitability of using mindfulness and self-compassion with CYP ▪ Barriers and challenges in using mindfulness with CYP

Table 8a: Participant contribution to each code

Participant code	Main mental health problems	Drivers	Predictors	Lack of resources / funds	Inadequate systems / policies	Lack of knowledge and information sharing	Stigma	Success in improving CYP mental health	Priorities for improving mental health
FI1	✓	✓				✓		✓	✓
FI2			✓	✓					✓
FI3									
FI4						✓	✓	✓	
FI5		✓			✓		✓		✓
MB1									✓
MI1		✓	✓						
MI2									
MI3			✓	✓					
MI4	✓	✓							✓
MI5									
MI6					✓		✓	✓	
MI7	✓	✓				✓			
MI8	✓			✓	✓				

Table 8b: Participant contribution to each code

Participant code	Necessity of prevention	Ideal preventative action	Existing preventative action	Barriers to prevention	Attitudes toward co-adaptation	How to co-adapt research with adolescents.	Barriers and challenges to co-adapting research with adolescents	Suitability of using mindfulness and self-compassion with CYP	Barriers and challenges in using mindfulness with CYP.
FI1				✓		✓			
FI2		✓							
FI3					✓				
FI4	✓								
FI5							✓	✓	
MB1		✓				✓	✓		
MI1								✓	
MI2	✓		✓					✓	
MI3								✓	
MI4	✓				✓			✓	
MI5					✓			✓	
MI6									✓
MI7		✓			✓				
MI8				✓		✓		✓	✓

Charted data

Theme 1: The current landscape of mental health for CYP in India

Within this theme, four categories of data were identified. Below are the summaries of data in each category, outlined per code. The theme focuses on understanding the current landscape of mental health for CYP in India, and how prevention is seen within this.

Category 1: Context specific mental health problems, drivers, and predictors.

Code 1 of 3: Main mental health problems experienced by CYP.

Each participant shared what they believed were the three major mental health problems experienced by CYP in India. Adolescents were mainly discussed, with depression, anxiety, stress, and suicidal ideation highlighted as the main mental health problems. One participant stated:

> "[At] 15-18 years a lot of anxiety and depression are there, and suicidal ideations are even very high and attempted suicides have increased now. [They are] compulsive acts due to poor coping mechanisms." (FI1)

Depression was identified as a precursor to many cases of self-harm. One concern was that, in Indian adolescents, depression can be largely unrecognised.

> "What I would say is mainly… a whole range of depressive disorders (severe to mild) across diagnostic levels that psychiatrists would give. [For] many of them the depression is unrecognised and missed, as it can present atypically compared to adult depression. It can be presented as general worriness or irritability." (MI4)

The impact of common mental health conditions on the lives of young people was reported by another participant, underlining the perception of life-long consequences.

> "Mood disorders are the [most] common problems that affect quite a lot of young kids…. with or without treatment they can get better, but [it] will affect their education significantly, achievement, social esteem, self-esteem, which have long term impacts." (MI8)

Behavioural and substance addictions such as social media, drugs, and alcohol were reported: "Addiction if you consider it as part of mental illness it is in the top three." (MI7). Addiction was being recognised as both a problem in itself, and the effect of the substances or behaviour acknowledged as a cause or driver for other problems, such as depression and stress. Although not highlighted as one of the most concerning mental health problems in the study, behavioural problems were discussed by around 60% of participants.

Code 2 of 3: Drivers of mental health problems experienced by CYP in India.

Drivers focused on individual experiences and relationships that were highlighted as sources of mental health problems in young peoples' lives. Academic stress and competition were reported as the most prominent drivers of mental health problems in the adolescent school-

going population: "Anxiety disorders are another large group of disorders which… are very common in adolescents. Anxiety related to performance such as examinations. These are the common things." (MI4). Participants indicated that the pressure came from a range of sources including parents, school staff, peer pressure and economic pressure:

> "That pressure many children have makes them vulnerable as they can't actually achieve what is expected. So, they get more anxious, and their parents get more anxious as their children are unable to perform… then the neighbour gets 99% and the other gets 100%. That attitude toward academic scoring is going to be a major issue for the young generation in India. Not everyone can get places [at university] … they have the aspirations but are not able to achieve it." (MI7)

Relationship problems between adolescents and their parents were also believed to cause a number of issues. This participant highlighted growing distance and secrecy as one example:

> "There is no free dialogue between parents and adolescents as they are facing adulthood. [Adolescents] are afraid to ask and the transparency between them doesn't exist… As a result, there are many things being hidden by the adolescents… and from there the actual problems begin." (FI5)

Parental support for their adolescent was also viewed sceptically by some of the professionals: "They are only getting referred because they are academically lagging behind. It is not because that they are seeing an emotional deficit in that child." (FI1)

Another expert stated:

> "With regards to peer relationships, the combination of peer pressure and the need for escapism was linked to both behavioural and substance addictions, such as addictions to social media and alcohol, which was then highlighted as a cause of stress and suicidal ideation: "Addiction, substance abuse is a key manifestation of stress, and suicide is increasing here because of this." (MI1)

Other causes of stress were also related to economic problems, material differences between peers, and changes during puberty. Younger children were compared to adolescents. It was explained that younger children incline toward forming a homogenous group, and in adolescence differences tend to become more pronounced. Differences were related to trauma and adversity, economic struggles, gender differences due to puberty and academic differences.

Code 3 of 3: Predictors of mental health problems for CYP

Predictors focused on contextual descriptors of young people's lives such as their economic status or where they lived. Overall, rural compared to urban locations were believed to have lower prevalence of mental health problems amongst CYP, although this view came with a caution about less awareness and denial within these populations.

> "The acceptance is very less in the rural area… They simply deny and say this mental illness is for some other village." (MI6)

The observed problems experienced in urban and rural environments differed.

> "[There are] different emotional experiences in the urban and rural areas. In urban areas they have everything but at the same time they have to compete for everything… For rural its different, they don't have the lifestyle stress or the competition. There is the family violence… Father not working and domestic violence…" (MI1)

Experts were split in their views on the role of economic status in predicting mental health difficulties for CYP. Some believed that, in general, low-income families were more resilient. and identified resilience in youth as a 'requirement' for healthy and safe growth in a pressured world.

> "People are more resilient in these situations. Resilience is something we don't look at in terms of mental health here in India and it is more important when it comes to young people." (MI7)

However, others highlighted particular stressors that poorer children experience:

> "Children coming from poor backgrounds, maybe have a difficult lifestyle because of their economic and social background… they will come to school, but they will spend a lot of time caregiving, helping at home, or (on) small economic activities… they have a very different childhood from others." (FI2)

Conditions experienced by those from lower economic strata were believed to drive heightening rates of depression during lockdown in comparison with those from more affluent backgrounds, due to their lack of privacy, space, and tools to access education.

Other respondents believed that the academic pressure rife in middle- and upper-income families, contributed to higher levels of mental health problems. Regardless of how individuals in each group may come to suffer from mental health problems, availability of support is limited to more affluent areas: "It is the rich places in which these services are available" (MI3).

Gender was not offered as a likely predictor by participants, however two male participants referred to the increase in emotional problems experienced by females during adolescence.

Lastly, participants with knowledge of the context emphasised that children and young people from Assam suffering through conflict and natural disasters were more vulnerable to developing mental health problems due to the underlying tensions and potential threat.

> "[In]some geographic areas within Assam organisations are still working on CYP mental health. Places like Kokrajhar [that] is a conflict area… [also] some places where natural disasters are more common." (MI1)

Category 2: Challenges and barriers to improving CYP access to mental health and wellbeing support.

Code 1 of 4: Lack of resources and funding

Availability, accessibility, and affordability of support were reported challenges to CYP mental health. Several differences were reported by experts. First, distribution of support was perceived as unequal geographically throughout the country. Delhi and Bangalore were given as examples of resource heavy cities, with poorer and rural areas having less. Those from rural backgrounds and slums, for instance, were claimed to not be able to reach resources. Second, resources were not accessible equally across class, with wealthier groups being able to pay for services, and hence at an advantage over lower classes.

> "It's for everyone, wellbeing is for everyone, and we work toward accessibility and visibility [but] because we don't have the social services in India… background and class impact the quality of services one receives". (FI2)

Third, all experts referred to the disparity between resources allocated for adults and those for CYP, with the expectation that children will not need them.

> "For adults there are resources throughout the country but for children the expectation is not to have (them). (There is a) need to create awareness throughout the country." (MI3)

Some participants claimed that centres addressing children and adolescent mental health issues are increasing. Fourth, available services compared to needs, are not to scale. One respondent stated.

> "If you look at the model, they have one or two big hospitals per state. This is the equivalent to having two psychiatric hospitals for the whole of the UK. In the UK there is one per every 1000 in population; in India there one per 300,000 population which is a huge disparity there. The numbers are not exact, but the scale is thus." (MI8)

Participants perceived a large disparity between the number of people experiencing mental health conditions and the availability of services. Lack of training and capacity building for professionals and lay persons, resulting in lack of human resources to support the population, was most frequently stated as a resource problem.

Code 2 of 4: Inadequate systems and policy

The lack of social welfare state to support CYP mental health, and a lack of clear mental health policy were stated as creating major barriers. As the national mental health policy mostly pertains to adults, a specific policy or programme for children and adolescents was believed to be needed, and its absence a major shortcoming. Where it has been recognised that progress has been made at policy level for health promotion and training for care providers, translation

from policy to practice is very poor, with no pan-India initiatives rolled out through the country: "When they choose some centres for field testing it works but when they spread it across the whole country it isn't happening." (MI8)

Reflections on systems where both at high level government, and community systems particular to the school environment. Trust in government systems was generally believed to have diminished because of poor treatment experienced by the public: "People do not believe in and have lost trust in the government systems, because of the treatment they receive, and that is the reason they want to go for private set ups." (FI5)

School systems were described as lacking in support, and also the school environment an arena for mental health problems to grow. A number of respondents highlighted the need for systems in schools to support adolescent mental health, and that schools need more governmental support and policy to do so. A number of participants claimed that schools provide a space that can support adolescents but can also have a negative impact on adolescent wellbeing and mental health.

> "If we talk about adolescent supporting structures (they are) absent almost. Even schools don't promote mental health but … are the triggering point… (for) depression and anxiety." (MI6)

Code 3 of 4: Lack of knowledge and information sharing.

> "Awareness of what is mental health and mental illness is low everywhere, and how to seek help. That is the main big issue in India." (MI7)

It was claimed by several respondents that there are myths about mental health in Indian society that hinder clear information sharing and accurate knowledge in the population. Some respondents believed that this meant there was a limit to what an educator could do, and that very few people will accept that a child could experience a mental health condition. Such perceptions include religious or supernatural explanations, a faulty star, or horoscopes: "These faulty explanatory models are one of the biggest challenges that professionals face." (FI4)

Children and adolescents with mental health problems could be described by adults as not making effort, as dull or low or as aggressive. People suffering from mental illnesses are not seen in the same way as people suffering physical illnesses; and only very serious mental disorders will be recognised as a mental health issue. One respondent who works as a Clinical Psychologist for adolescent mental health in Assam communicated that lack of information was a barrier. She stated:

> "There is little research in the region on mental health especially for children and adolescents… The emotional and the psychosocial needs are there but haven't become a priority for anyone… Even the parents will always look at the physical need of the

child… But a lot of investment for cognitive development doesn't happen. That is totally ignored because of lack of awareness." (FI1)

Code 4 of 4: Stigma

Stigma was highlighted by the majority of respondents. Several descriptors of how stigma manifests in India were highlighted. First, stigma is quite variable across communities, and although it is typically worse in rural locations, it also exists in urban settings. Mental health disorders are often considered a punishment for past deeds, resulting in people not seeking help for fear of how it will impact their family.

> "They don't even accept if someone is suffering from mental illness because of the stigma associated with it. For them it is a kind of taboo or punishment for past deeds… Even there are some people who suffer from mental illness they don't want to reveal it as their family will be in trouble or they will be pointed out that this person is mad, and they will be ill-treated." (MI6)

These attitudes hold individuals back from treatment. Parents hold the view that their children are perfect, and thus do not create space for discussion when their child is struggling. One expert claimed that it is easier to bring 10–14-year-olds for support, because as adolescents get older, they become more self-conscious, succumb to peer pressure, and feel they will be able to cope themselves. Stigma and discrimination are observed from carers and within the health system as well, not only at community level.

> "If the neighbourhood … understand(s) that this person is having some kind of issues then the process of discrimination and alienation starts. Also, there is a lot of stigma and discrimination from carers and the health system as well." (FI5)

Although stigma remains a critical challenge in India, several experts noted that sensitivity to these issues has increased in the country since the Covid-19 pandemic.

> "Stigma is there but the realisation in society … of sensitivity to mental health has improved because of covid. (There is) talk about mental health being the next pandemic… in (the) community and the media. Although this is improved, I don't know if the help seeking has improved, because again, location has a large role to play." (FI4)

Barriers to accessing mental health support for CYP in India do not behave in isolation from one another. For instance, this improvement in the stigma around mental health was applauded as a success, however respondents questioned if help seeking had improved in rural areas, due to inability of such communities to access resources. Other ways in which improvement in stigma and increased knowledge helped young people's mental health and wellbeing were not discussed.

Category 3: Improving the mental health and wellbeing situation for CYP in India

Code 1 of 2: Current successes in improving CYP mental health and wellbeing.

The NMHS was perceived positively with a number of participants referring to as a 'first step'. As a result of the national survey, district mental health programmes have now begun, with private and NGO actors involved in supporting planned initiatives. Although there was limited implementation, participants also recognised the positive step of having policies introduced at national level. Participants from Karnataka and Andhra Pradesh recognised an increase of mental health promotional activity. In general, professionals believed that the issue of mental health is no longer being avoided:

> "At school level there are proposals for having mental health professionals in schools. All because society in general are seeing that the mental health of adolescents is deteriorating." (FI4)

Observations made about the improvement of mental health literacy and understanding were made by two participants working directly on mental health promotional activities at community level in Southern India.

> "Evaluations showed high levels of success in the campaign. There were many people who started off thinking mental illness isn't a health issue and realis(ed) that if someone is suffering from mental illness, we can approach a (health) professional." (MI6)

Recognition of mental health as one of the six strategic priorities in the national adolescent health strategy entitled Rashtriya Kishor Swasthya Karyakram was recognised by one participant.

Generally, it was believed that urban locations are succeeding in raising awareness and providing support, in comparison to rural locations. Specific to urban areas in Assam, one participant who owns a business providing direct mental health support to adolescents stated:

> "In the urban sector, yes, they know now where to go if a child is suffering from an emotional issue. And a lot of schools are referring them… maybe when a child is around 11–12-year-old, from that age onward we see them with stress or anxiety issues or anger issues. (Parents) do look out for it and … find out what's happening with (their children) ... So, they do understand there is a need- the urban population." (FI1)

Code 2 of 2: Priorities for improving mental health and wellbeing of CYP.

Numerous priorities were identified for improving the situation for CYP mental health in India. First and foremost is empowering local communities: "There is no mental wellbeing without the community. We are social creatures ". (FI2)

It was recognised that community including family and schools can provide both protective and risk factors to CYP mental health. Enhancing their protective qualities was established as a main priority, which can be done in part through greater knowledge, resources, and creating communication links between informal community structures to formal government structures. The necessity of increasing community knowledge can be understood through the following participant statement.

> "Community can be a protective factor but where there are misconceptions about mental health - it can be a risk factor…Community is where we derive our sense of safeness, sense of meaning, purpose, belonging. It can be powerful for the whole self-concept for young people." (MB1)

In any attempt to improve the mental health and wellbeing situation for CYP in India, participants emphasised that the role of the family must be considered.

> "Families are a major source of strength for these children; the other way around we see children developing mental health problems because of family and adverse factors that maintain and initiate mental health issues in adolescents." (FI1)

Empowerment of local communities also included improved coordination between actors.

> "There should be dialogue, a meeting point… (for the) sharing of information as to what each person is doing already and what each person can do for children and adolescents... Not only institutions, psychiatrists, child psychologists, but everyone. It could be an NGO working with rural adolescents, or a teacher working in a government school, a rural grassroots level worker, a public health nurse, or a community elder… people have to interact more often and work together instead of in isolated groups." (MI4)

Macro improvements focused on introducing legislation and policy; allocating government support to community levels; addressing disparities in services and improving access to resources; and the introduction of a quality control monitoring system country wide. Knowledge based and attitudinal changes prioritised were increasing parental understanding of their children's mental health and wellbeing; teaching the population that mental illness is similar to other illnesses and involve seeking treatment. Adequate training of adults at grass roots level who are in regular contact with CYP such as teachers, parents, and paediatricians, would sensitize adults to CYP issue, and increase early identification: "Mental health issues affect all of us. What's important is how the family and how the school is good at recognising those symptoms and then acting on this." (FI2)

Relying solely on trained professionals was considered a limited strategy, due to the time it takes to train them, lack of resources to hire them, and the tendency of their coverage to concentrate in urban areas. One participant stated:

"We can train the person working at the district, primary health care level. They can manage some of the conditions… not wait for adolescents to develop bad symptoms then go to the urban sectors for treatment. There is a delay, and it will become chronic." (MI4)

Other solutions provided were the utilization of digital platforms for training; inclusion of mental health topics in adolescent school curricula; and investment in mandatory 'counsellors' in schools, which are introduced in the National Education Policy as Social Workers. It was explained that mandatory counsellors in schools were introduced in India; however, it is yet to reach many schools or regions.

Lastly, prevention and promotion were highlighted as essential and will be addressed in the following category.

Category 4: Understanding 'Prevention' in Indian CYP mental health.

Code 1 of 4: Why prevention is necessary.

"Yes, yes, yes! Prevention plays an important role in tackling mental health issues in India." (MI4)

Experts believed that prevention was essential and commented that this brought up the question of 'What is it we are trying to prevent?'. It was agreed that prevention is unlikely to prevent mental health conditions, but they may be identified and addressed at an early stage, and hence avoid escalation to clinical levels. Therefore, the focus on wellbeing and reducing risk for clinical levels of disorder by adding to the resiliency of adolescence is an important part of prevention. Participants believed that the growing stress and the living conditions, modern pressures, and specifically for adolescents feeling misunderstood by adults means prevention programming should offer means of coping and self-managing this stress. One respondent stated:

"When we are delivering programmes with the aim of preventing, then the professional will be able to identify individuals vulnerable to developing mental health issues and get them to access help at an apt time where possible. Equipping them with skills and enhancing their competence." (FI4)

In India, prevention is becoming an important concept as communities at large are asking why there is such a large rise of depression and suicide rates. Taking a holistic approach to mental health and wellbeing will include prevention.

"Yes, it plays a role, especially for young people. We mostly offer treatment in our facility, but it can't reach everyone, and we notice that most people don't need it, but they do need something. Something that will support them and sustain them. This is where prevention comes in." (MI2)

Code 2 of 4: Ideal preventative action

Respondents agreed that there is a large scope for school mental health initiatives, in both preventative and promotion programmes, and that these were the best value for money for this age group. In such programmes adolescents could address and identify common issues and learn coping mechanisms; early identification would increase; and the escalation of manageable mental health problems would be reduced. This can be in part done by information sharing at school level and providing wellbeing interventions for children and adolescents. One respondent stated in relation to negative feedback loops in the mind of an adolescent with mental health issues:

> "My sense is that interventions looking to cultivate wellbeing from an early age, if they're nurtured in a particular way, could actually undermine negative feedback loops and patterns and start to cultivate new possibilities." (MB1)

It was further believed that interventions should be co-created particularly with adolescents.

> "Developing interventions around mental health of adolescents by engaging with them right from the beginning and making them co-design the intervention along with the research teams." (FI5)

The majority of respondents believed that teachers and parents should be targeted in educational interventions so that they can support children during and after such programs. Experts further advised that within research on prevention, effectiveness evidence is essential to show stakeholders how it is benefitting society. The data can then be taken to schools in Assam, for example, to convince school principals that prevention programming is needed. It was also suggested that early adolescence is a good time to start introducing such programmes, from 11 or 12 years old as there are huge leaps between 13-16 years and onwards. However, it would depend on the issues a particular preventative intervention addressed.

Universal prevention was highlighted as more effective than targeted prevention, specifically in India. This is due to targeted interventions being perceived as stigmatising. Regardless of what the evidence base says, experts emphasised that in the context, this is essential. Many believed that adding prevention as part of the curriculum would probably have the best impact. Furthermore, experts encouraged the utilisation of Indian specific cultural components in any prevention initiative and stated there was a need to work primarily on increasing wellbeing for the majority which can encourage awareness of their inner world and equip them with tools to identify when a problem is starting.

> "What should actually happen in the Indian context is that the systems that are already available in the … different self-help modes such as yoga… and how they can together play a role in keeping the wellbeing mode." (MI7)

Several participants looked beyond mental health prevention initiatives and looked at prevention from a systems perspective. It is not enough to act early to prevent mental health issues as the system - particularly the education system - might cause these issues.

> "[The] first step of prevention is to recognise how systematically children are going to be pushed to have mental health issues. There has been a demand for change, but those changes become very bureaucratic and don't really change the structure. It remains the same". (FI2)

Code 3 of 4: Existing preventative action

A number of respondents pointed to the policy introduced in India for school counsellors to be assigned to schools in order to identify children with difficulties and referring cases to doctors. The field testing in select schools showed that this initiative was successful. However, this was not spread across the whole country. It was claimed that India has similar initiatives that aren't being translated into practice. A further example given, is that of an evidence-based life skills teaching manual, which was developed and tried. Again, it was not expanded further, meaning that the evidence and resource exists but are not being utilised effectively. Such programmes include decision making, critical thinking, problem solving, self-awareness, self-esteem building, and creative thinking as typical topics; and aim to improve wellbeing and build resiliency in many instances.

A number of initiatives are delivered through NGOs, with the government involvement a minimum. For instance, NGOs working with schools to help children understand mental health issues; support whole family units; focus on developmental issues; and support those with mental health issues to narrate their stories. A significant component in all of these initiatives is the creation of public awareness about what to expect and how to deal with mental health problems when they arise. Many initiatives and approaches the expert's labelled preventative have been introduced in India in conjunction with promotional programming.

> "We have a [youth space]. It is a place to come and talk and meet with professionals formally and informally. Young people are welcome to be here, and we offer programs for them to learn about their mental health and offer life skills." (MI2)

Code 4 of 4: Barriers to prevention

> "Yes, prevention is important everywhere, but it is unfortunately not a priority in Assam. As of now it has always been treatment not prevention... The focus is on mortality rates instead of holistic development…" (FI1)

Preventative interventions can be perceived as a luxury as they are not a basic necessity. Individuals are expected to 'buckle up' if they are experiencing stress. It was explained that in India that people will look for the return on investment and seek quantifiable benefits from anything they invest in. With scattered attempts, and a large population, it is difficult to align

the evidence base, identify what is still relevant, and discover how to turn it into policy and practice. On respondent stated: "For prevention, you need to translate from evidence to policy to practice and that link is missing." (MI8)

Theme 2: Shaping the research design of future studies.

Within this theme, two categories of data were identified. Below are the summaries of data in each category, outlined per code. The theme focuses on the priorities for research specifically for adolescent young people's mental health in India.

Category 1: Co-adapting mental health and wellbeing research with adolescents in India

Code 1 of 3: Attitudes toward co-adaptation

In general, participants highlighted that meaningful participation of adolescents in mental health or wellbeing interventions designed for them, is a positive and necessary activity. One participant described the process as 'long pending', and another pointing to its' role in increasing acceptability:

> "Most of the time we think that we know everything, develop interventions and say that it is good (for adolescents) and its just being imposed on them… their exposure is different, and their experience is different… to have them on board from the beginning… the acceptability will be better" (FI3)

Another participant shared what adolescents had said when he had co-adapted an intervention for adolescent depression in Southern India:

> "They said that once these kinds of programs are delivered at the community level the stigma will be much less. There is an advantage in the sense that they will develop an ownership of that. They will feel they had a role in this… they can then reach out to other adolescents in the community." (MI4)

It was also noted that any outsider will have blind spots to the culture they work in, and that end users are best placed to provide any missing knowledge: "They may build the intervention more themselves in line within their social context and their religious contexts, which you may be missing." (MI7)

A further reflection was made on adults in general forcing their views on adolescents on issues that concern them.

> "Often, we think we know what is good for adolescents and tell them 'This is good for you!'. So, co-design is good. We take it to them and have them on board. This will improve the result and increase acceptability." (MI5)

Code 2 of 3: How to co-adapt research with adolescents.

Most participants emphasised that the earlier adolescents can be involved in any research

concerning them, the greater the success. In addition, the majority agreed that school staff and parents need to be involved or the support for the intervention will eventually diminish. Several participants had engaged in participatory research with adolescents and other stakeholders before in Indian contexts. Co-design, co-development and co-adaptation were all terms used to describe these processes. In these instances, draft materials were introduced through exercises to parents, students, and experts. From these meetings they ascertained stakeholders' level of understanding of the materials, whether or not they were useful, and their cultural appropriateness. Structure in the sessions was highlighted:

> "You can't do a laissez faire approach. Give structure, give models, and ask what they find to be comfortable/uncomfortable." (FI1)

Opinions were expressed on the length and process of co-adapting with this age group in India. Some advised not to have long gaps between sessions- two to three days maximum- or the participants would disconnect from the process and effectiveness would be reduced; whilst others emphasised that time was needed for adolescents to fully immerse in the process. Videos and design components would work very well online, it was believed, in addition to general group discussions. Additionally, it was recommended to clearly define the role of participants in the process, what they were there to do and what would come after their involvement.

Other participants highlighted the consequences of not involving stakeholders in the earlier phases of the research. One Psychiatrist and Senior Clinical Lecturer shared an example of a well-funded programme introducing a universal prevention intervention to 25 schools in Northern India. After two years of compliance from the schools the research teams asked for feedback and received angry responses from teacher and parents, and confusion from adolescents. None of them understood what the purpose of the intervention was, even though a short induction was given; yet continued complying as school Principals had insisted. The participant stated:

> "One of the reasons interventions don't work is because they are top-down, enforced on them, without thinking about whether teachers have the skills/time/energy to participate in these things... Get parents on board, get teachers on board, then it will really work. What is the mechanism of getting all this in place so that all stakeholders are in agreement?" (MI8)

Lastly, direct advice was given on how to co-adapt the programme that had been selected for the research. The intervention developer stated:

> "Look at how to make it more appropriate for their culture. In the 'What's happiness?' activity for instance all the images we have are for Westerners, so you'd want to shift and change that" (MB1)

Additionally, the programme developer highlighted an exercise discussing attitudes toward money, which is from the perspective of a high-income country. Positively the respondent emphasised the exploratory nature of the materials, and concluded:

> "Understand the deeper intent of the activities and see how to bring them to life in the context." (MB1)

Code 3 of 3: Barriers and challenges to co-adapting research with adolescents.

Ethical issues of recruitment and involving minors in unfamiliar processes were highlighted as two challenges: "I think most of them have not been involved in such activities. (Co-adaptation) is very unfamiliar to them. It's very important to plan for adequate time with them." (FI5)

The most shared barrier was obtaining parental consent. If consent was granted, a few participants warned to expect different views from adolescent and adult participants (including parents) on key issues, and to be prepared to introduce these opposing views to the others in a diplomatic way in order to reach compromise. However, no examples were given on what views they may disagree. Lastly, there was concern that mindfulness was a complex concept and practice to introduce in co-adaption settings, which could influence the time taken explaining during co-adaptation sessions: "How do young people know what to adapt if they don't understand (the content)? You may have to deliver a lot of the stuff before asking what would be changed." (MB1)

Category 2: Using mindfulness to support adolescents' mental health and wellbeing in India.

Code 1 of 2: Suitability of using mindfulness and self-compassion with adolescents.

In general participants believed that this approach to wellbeing and mental health would be accepted: "I think most research using mindfulness is successful and there is quite a bit of this in India with mindfulness and meditation... So, I think it will be acceptable in India." (MI5)

A number of participants from different parts of India had used mindfulness with children from 12 years and over. Due to both the concept originating in India, and the nature of the practice, experts understanding the term felt it would be feasible to use with adolescents: "[Mindfulness] helps them stay grounded and to understand their issues very easily. Mindfulness is very useful in the Indian context and anywhere else." (MI3)

Although most experts advised the use of mindfulness through non-targeted programmes, they reflected that it is also being used in the country with adolescents as a targeted approach to mental health problems.

"Especially with adolescents for anxiety and depression, people have started using this and found it to be quite beneficial actually. In terms of addressing the anxiety symptoms and even improving the function, so I would say mindfulness-based approaches have a very important role to play… We are seeing professionals reporting successes in using these approaches" (MI4)

Attitudes of decision makers in the Indian education system were believed to be encouraging. One participant shared:

"There's an educated Chief Minister for that State (Delhi). 6 years ago… [he] devoted 26% of the budget to Education. It's normally 5-7%. So, they quadrupled their budget for education, did all the infrastructure first, and then developed the 'Happiness' curriculum. Its mindfulness based, but it's enforced in all the schools of that government… They are measuring it to see if it's working… They had the UN ex-Secretary general go there… what they are doing is very good." (MI8)

Although participants were adamant that mindfulness was suitable, several experts who have taught MBIs to adolescents in India gave advice on introducing the concept in the context. Two participants were involved in teaching mindfulness in schools in Guwahati. They shared that the concept is not known well in the area, although once understood the groups they taught were accepting, especially those in early adolescence. One participant claimed that older adolescents need more time and patience to accept sitting still for long, and the organisation successfully introduced a mindfulness programme to older youth (aged 21-25) in a retreat style methodology. The second participant from Guwahati described the mindful activities they introduce:

"We mostly use mindful breathing and follow (the teaching of) Thich Nhat Hanh. Breathing and walking and eating along with role-plays and dramas to create awareness about benefit of mindfulness. Mix of things as you can't introduce right away the meditation. So, introduce mindfulness activities and gradually get them prepared to sit still." (MI1)

With regards to suitable language, he also stated: "Terminology for mindfulness that works… 'Being with yourself' and 'looking into yourself' are better ways to use it. Use the local language. It can be easily translated" (MI1)

A participant from Southern India who has taught mindfulness to adolescents encouraged exercises to draw on participants' lived experiences.

"Talk to them about [mindfulness] in their daily lives, the effects that they have seen after they have started practicing this. As many people would prefer to do other things as a way to distress. Some do physical activities, some watch a film, and some talk to a friend, others something else. So, try to understand that- what are your coping mechanisms? Is a very important thing for going ahead with mindfulness." (FI5)

There was also recognition from this participant that most adolescents do not know what mindfulness is, and introducing it slowly is important.

"Mindfulness is an evolving thing now. When we are actually trying to incorporate such things, we need to be considerate of the fact that people don't know what this is… demonstrations to young people it needs to be very simple." (FI5)

Several participants also expressed positive attitudes about using self-compassion in an MBI, and the important role it can play for adolescents struggling with their mental health.

"Self-compassion is a very good concept especially when it is connected to self-harm and suicides. I feel of late the number of self-harm and suicides are drastically increasing. And it is majorly from the adolescent age group…" (FI5)

However, there was a belief that it would require patience for this concept to be understood.

"In Assam people are compassionate, but the idea of self-compassion they are not aware of it … So how they can create the compassion among themselves is very important. That awareness is not here… It's difficult to tell people this in India to love yourself, it looks like a very selfish thing to do. Why love myself when I should love others?" (MI1)

Another reflection on adolescents in Assam was more positive. There was a reflection that adolescents are looking for support for their mental health and wellbeing already and that they will welcome this concept and intervention:

"Mindfulness should work with adolescents. We have been looking for something new to introduce to adolescents who come to our [organisation] and think that mindfulness is a good fit. They come to speak with us but also want a place to belong and do group wellbeing activities that will support their mental health in the long run. This is where mindfulness can come in for us. First, we must see if they like it!" (MI2)

Code 2 of 2: Barriers and challenges in using mindfulness with adolescents.

The most prominent challenge anticipated was around language describing mindfulness practices and in using the word 'meditation'. There can be ageist and elitist connotations with the word and associated practices. Specific to Guwahati, people are not aware of the term mindfulness, and they associate the word meditation with Hinduism.

"If you link it with yoga and meditation it automatically takes the link to Hindu religion. So, I don't know how many Muslims will be there … or Christians … steer away from [the words] yoga and meditation and get the word that they are comfortable using." (MI8)

To complicate the issue further, it was claimed that there are multiple translation of words describing mindfulness, each with different connotations. Other barriers can originate from the presence of outsiders informing the community about that which is good for them. In relation to the concept of mindfulness, the participant continued to say: "There is a lot of self-pride, they are very touchy about certain things…They may say 'oh, we've been doing this for centuries, this is nothing, go ahead don't teach us'". (MI8)

Furthermore, participants highlighted the issues that may arise when it comes to communicating the benefits of the intervention to stakeholders. School authorities, parents and lastly the adolescents were identified as the core stakeholders. Adults, it was claimed, will respond to associating the intervention with spirituality for instance, whereas adolescents will equate this with religiosity, which they will not accept. Schools were considered the correct environment to introduce mental health and wellbeing interventions. However, with caution to the pressures that school staff are under.

> "Teachers are used for everything from the government in India. They are highly busy, and these activities they have to do in addition to their teaching… Schools have targets, and the teachers will be penalised if they aren't reached. The Principal or Deputy Principal can even be transferred". (MI6)

A final barrier suggested was the limited literature content from India to learn from.

2.2.4 Discussion

The discussion section offers insights and observations about the data provided by local experts. It is divided into three main sections, the first two representing the data themes generated in the framework analyses, within which the study objectives are reflected upon; and the third offering strengths and weakness of the study.

Landscape of CYP mental health in India

This section provides insights into data collected under the first theme, and reflects on the first two objectives, of the study. The first objective of Study 1 was to understand the main needs in adolescent mental health in Assam that a prevention approach should address. The second objective of Study 1 was to understand experts' views and attitudes toward prevention of adolescent mental health problems in India.

Problems, drivers, and predictors of mental health problems in CYP mental health

The identification of mood disorders, in particular anxiety and depression, as the main problems CYP suffer in India, is in line with existing evidence, including the NMHS (NIMHANS 2016). Data has shown the prevalence of anxiety and depression in children and adolescents increasing from 1% in under 12-year-olds to between 17% and 25% by the end of adolescence, with the greatest increase occurring between 15-18 years (Singh, Junnarkar et al. 2015). Agoraphobia, intellectual disabilities, autism spectrum disorder, and psychotic disorders, which have also found to be prevalent in other studies, were not prioritised in the Study 1 responses although many were recognised as problems.

The most commonly reported drivers of mental health in CYP in this study were academic stress, substance abuse, and parental pressures. Economic problems, material differences between peers, and changes during puberty, in particular for girls, were additional sources of

stress identified. Similar results can be observed in other studies. Academic pressure, substance use and problematic internet/social media use, opined as the most common drivers of mental health disorders in young people in Chennai and Delhi (Dhandapani, Chandrasekaran et al. 2020). A habitography conducted with child psychiatrists in Kolkatta, the link between academic pressure and adolescent mental health problems was a main concern, reporting that this pressure starts from a young age, intensifies during adolescents, and can create mental health problems in particular if children are predisposed to such issues (Ecks and Kupfer 2015).

Links were made by Study 1 participants between depression and economic changes / pressures, which were reported to have the potential to impact suicidal ideation; and anxiety brought on by academic pressures. This has been linked in other studies which reviewed the impact of the grade- oriented education system which leads to excessive academic stress; and the high expectation of parents and teachers that many young people feel they cannot live up to (Mohan 2020). In Chennai and New Delhi, difficulties coping with the strains of daily life such as parental pressures and examinations, were linked in increasing suicides in Chennai city (Dhandapani, Chandrasekaran et al. 2020); and in West Bengal the National Crime Records Bureau (2010) reported that 412 out of 480 suicides of children up to 14 years old were due to "failure in examinations" (Ecks and Kupfer 2015). This linking of mood disorders to socio-economic and academic pressures that can be observed as a thread throughout the research is seemingly logical. In a country where even middle-income families struggle to gain additional income, where only the top 10% thrive, the pressure to succeed and stand above others is experienced by the majority of the population.

Experts in the present study similarly emphasised school as a potential risk and protective factor, and it was the community environment highlighted most frequently as the place that needed to change, and in which adults needed to support child and adolescent mental health and wellbeing. It is currently where many government and NGO initiatives to support child and adolescent mental health and wellbeing are delivered. It is worth then considering the school environment itself as a matter for concern. Meta-analysis and systematic review of epidemiological studies on child and adolescent psychiatric disorder from India conducted in 2014 indicated the difference in community and school rates of child and adolescent psychiatric disorders throughout the country, with 6.46% prevalence in the community and 23.33% prevalence in schools (Malhotra, Patra et al. 2014).

Available data specifically considering school going adolescents in Assam, shows 31.6% in a sample of 1403 school going adolescents in Tezpur, to have a mental health problem, 7.8% whom were at clinical levels of disorder. Although there was no comparison with non-school

going children in this study, academic performance and socio-economic status were again found to be the key predictors of the overall difficulties faced by the adolescents (Harikrishnan, Arif et al. 2017). The school environment is then a space in which stress in young people is experienced, yet also the space considered most appropriate for young people to address that stress. It is interesting that participants' main caution regarding schools was the pressure that staff are under, and there was no questioning if it is appropriate for CYP to learn to improve mental health and wellbeing in an environment that is reported to in part cause the problem.

The attitudes of parents and the relationship with their children arose as a driver for mental health, a challenge due to their perceived lack of knowledge, and within the issue of stigma. Data from Assam shows a significant relationship between dimensions of parenting styles, perceived stress, loneliness, and psychological wellbeing, with parenting styles and perceived stress significantly predicting psychological wellbeing among school-going adolescents (Baruah 2022). A study in Southern India further adds to this story, with parental neglect being positively and significantly related to social network addiction and negatively related to emotional wellbeing, and social network addiction negatively related to emotional wellbeing (Chidambaram, Shanmugam et al. 2022). With such a large proportion of Indian adults suffering from mental health problems; stress brought on by the economic climate; and evidence from multiple sources stating that parental pressure in academic performance is one of the largest causes or predictors of mental health problems in children and adolescents, it could be ascertained that the stress and pressure experienced by parents is being passed second-hand to their children at an age in which their development should be the biggest priority. This link between parental and offspring stress has been studied, with parents' own anxiety and stress linked to their children's emotional problems, including behaviour issues, aggression, anxiety, and depression (Fields, Harmon et al. 2021). Parents role ideally is to provide a consistent and supportive environment in order for their children's successful brain development (McEwen 2011). As both prohibitor and an enabler in their children's lives, parents are a key stakeholder in any action concerning the wellbeing and mental health of their children.

Although no specific mention was made by participants in the study, problematic internet use, including social media addiction, has presented as a problem for CYP in the literature about India and specifically Assam. In Kamrup district in Assam a study of 440 students reported that 80.7% had an internet addiction that negatively affected their mental health, with significant association observed between internet addiction and stress, depression, and anxiety (Saikia, Das et al. 2019). In another study, preliminary evidence indicates that technology addiction is becoming a problem for adolescents in rural areas of north India, in particular for boys, and

that the addiction possibly contributes to poor academic performance as well as depression (Jamir, Duggal et al. 2019). Such issues have been studied in India for several years, so it is unlikely that the experts were not aware of these problems. It is possible that when asked to prioritise they felt that other issues were more important to address. The study design did not enable participants to provide reasons for this.

With regards to predictors of mental health problems, it was believed by the majority of participants that those in urban areas suffer with mental health problems more than those in rural areas. This perception is reflected in country-wide statistics but was different for Assam in which prevalence of mental morbidity and suicide was higher in rural areas for adults (LGBRIMH 2016), a pattern that has emerged in further research within the state with adolescents (Bhuyan and Deuri 2020). When considered countrywide, it could be that the higher numbers of mental health problems in urban areas could be due to underreporting in rural areas because stigma and lack of information (Hossain 2019). This is yet unclear. What is apparent is that different locations require a different approach. Levels of understanding and attitudes toward mental health differ between urban and rural populations. A rural environment is likely to require greater sensitivity and additional time, working with a greater variety of stakeholders to ensure buy-in and understanding of any external research and work on CYP mental health.

Participant's discussed class in depth but there was no consensus about class and vulnerability to mental morbidity. Several participants believed lower classes were more vulnerable due to lack of resources and stressful lifestyles that at times concerned their own survival. One participant stated:

> "Those from lower socio-economic status … lack (of) protective factors for mental health. As simple as the environment in itself, in which they are living." (FI4)

Others however believed middle classes were more vulnerable due to the academic pressure and competition to excel in an environment designed to allow a small percentage of people to flourish. Similarly, to the discussion on urban and rural locations, the impression left by study findings as a whole, was that the different circumstances endured by those with different economic status will shape the stressors experienced.

In this study, gender was lightly discussed by some participants but not offered as a main predictor, vulnerability, or challenge, with class and settlement type (urban and rural) highlighted as of greater importance. Similarly, in the NMHS, mental health disorders amongst this age group in both genders had nearly equal levels (NIMHANS 2016). However, findings in other studies in Assam have indicated gender as a predictor of the type of mental health problems experienced. For instance, in a study of 1,514 children, aged 5-12 across nine schools

in Tezpur city, Assam, the examining of behavioural problems uncovered girls displaying higher levels of internalising problems, whilst boys demonstrated higher levels of externalising problems, a result found in similar studies (Dutta, Jahan et al. 2014). A study in Tezpur found that females were more likely to suffer from emotional problems, and males conduct disorders (Harikrishnan, Arif et al. 2017). Further research provided a more detailed list of predictors. Gender, education, family type, academic performance, and socio economic status in the family were predictors of overall mental health difficulties within the participating adolescent population in Assam (Harikrishnan, Arif et al. 2017). Gender was not asked about directly in Study 1 interviews, and when discussed, reference to bodily changes only for girls were raised by two of the male participants, and bodily changes in general were referred to by others. It was also highlighted that there was likely no need to separate adolescents by gender in interventions and research.

Implications for Studies 2 and 3:

- Academic stress, parental pressures, and stigma are highlighted as main problems for concern and should be considered in study design.
- School is highlighted as both a protective and risk factor. It will be important in study 2 particularly to understand how young people perceive this space in supporting / causing problems for mental health and wellbeing.
- Mental health problems are higher in rural Assam. This may be a possible priority when selecting where to deliver the next two studies.

Barriers and challenges to improving CYP access to mental health and wellbeing support.

Available evidence from the desk review, Study 1, and broader literature shows that the lack of structured approach to children's mental health and wellbeing is problematic within the country, and although sporadic efforts have been made, overall, there is a lack of strategic thinking. This includes the lack of policy, systems, resources (including human resources), and funding. Currently, mental health policies such as The National Health Policy (2002, 2016) and the National Mental Health Policy (2014) provide little emphasis on the young populations mental health; and other studies have reiterated that reporting systems for children and adolescent psychiatric disorders are insufficient (Malhotra, Patra et al. 2014). Lack of knowledge and information sharing, and stigma are the two other barriers and challenges that were prioritised by participants in the present study and are issues that can reinforce one another. Alternative explanatory models (described as some experts as 'faulty') explaining behaviour and experience, combined with beliefs that such problems are punishments were given as reasons for CYP not seeking help or when they do, feeling judged for doing so. Further

direct parallels can be found in the recent study with stakeholders from Chennai and New Delhi. Stigma and lack of awareness were identified as the most important challenges acting as barriers to seeking mental health help by youth. Participants reported that parent's inability to detect early signs of mental disorders, uninformed teachers, and lack of information sharing on services by student counsellors, added to the long time periods in which help is now sought, and CYP hesitancy in seeking help (Dhandapani, Chandrasekaran et al. 2020).

Although attempts to address the deficit in skilled experts specific to child and adolescent mental health in India have been made, they have been isolated and location specific. With inequitable distribution of resources across class and location, a country-wide approach is needed with particular attention on allocating resources to rural areas. The situation, however, has various complexities, one being that the lack of resources in mental health is not unique to children and adolescents. The discrepancy between need and available experts impacts the entire population. The correct figure of psychiatrists to population is 0.75 to 100,000. The desirable number is anywhere above three meaning there was a 27,000 deficit in 2019 (Garg, Kumar et al. 2019). With funding patterns for children and youth in Assam generally being in decline, it is likely to be an uphill battle to secure the level of support needed.

The barrier of knowledge and information lacking in the community highlighted by participants calls for more mental health promotion in India. In the consultations, participants highlighted traditional beliefs and practice as at times hindering progress (those referred to as faulty views such as horoscopes) and in others a strength and resource that India uniquely holds (such as yogic philosophies and practices). At school level there are signs of that psychological explanations are also accepted. One nationwide option for adolescents to learn about mental health and wellbeing is through the Indian Ministry of Educations' National Council of Educational Research and Training (NCERT) course in Psychology. This is offered as an elective class for higher secondary school pupils in Classes XI an XII, and covers aspects of stress, anxiety, and other related problems in school. Preparation of a new National Curriculum Framework (NCF) which incorporates the National Education Policy's call for mental health in school curriculums is currently underway. Meaning that levels of knowledge should go up at least for portions of the population, and in time the degrees of acceptance of these discussions and frameworks should be evident (Ministry_of_Health&Family_Welfare 2022).

Implications for Studies 2 and 3:
- o   Policies that address CYP mental health and wellbeing all target education and schools.
- o   Funding for adolescents is in decline and professionals are limited, emphasising the importance of prevention and non-specialist support.

- o Perception of both psychology and traditional practices (such as yoga) need to be understood from young people's perspective.

Improving mental health and wellbeing for CYP in India: Successes, priorities, and solutions

Based on available knowledge at the time, participants highlighted the execution of the NMHS and subsequent district mental health programme rollout, as a key success for improving CYP mental health in India. Additionally, the recognition of mental health as one of the six strategic priorities in the national adolescent health strategy entitled Rashtriya Kishor Swasthya Karyakram (Hossain 2019), was mentioned. Although critics believed that the policy effort fell short as a holistic attempt to support child and adolescent mental health, overall, this was considered a positive attempt by the Government of India to improve the health of adolescents. The logical next step provided by participants in this study and others (Dhandapani, Chandrasekaran et al. 2020, Kommu and Jacob 2020), is the development of a comprehensive and specific CAMH policy which establishes training standards, followed by committed provisions for holistic care.

Current available policy briefly discussing wellbeing and mental health of CYP is the National Education Policy (Government_of_India 2020). Although there may be disadvantages to only having CYP mental health as a small component to a larger policy, it is the best current gateway to influencing action and funding allocation to these issues. Interestingly the National Education Policy was not released until July 29th, 2020, at which point at least half of the consultations for Study 1 had taken place. Several participants mentioned the counsellor provision in the Policy, and others made general reference to adding mental health to the school curriculum. Given more time to understand how these policy proposals would rollout, attitudes on the policy and its potential to support mental health for CYP in India may have changed. A recommendation from stakeholders in Chennai and New Delhi, highlighted policy level advocacy and increasing legislation as ways of ensuring student counsellors are present in schools (Dhandapani, Chandrasekaran et al. 2020). Despite the Central Board of Secondary Education guideline making it mandatory for each school to have a counsellor only three percent of private schools have appointment records, according to a report by the Associated Chambers of Commerce and Industry of India (ASSOCHAM), with the situation considered worse in government schools (Gaur 2021). This position within the school is viewed as a means to improve adolescent mental health literacy as well as a method to link them with services. This highlights resource allocation and planning as ways to improve mental health and wellbeing after a policy has been established.

A main priority for improving CYP mental health, beyond higher level strategy and resource allocation, was the need for a perception shift culturally and at local levels from viewing

mental health as a responsibility solely for professionals, to mental health being a responsibility for everyone. Other studies have called for an investment into the training of non-specialists. It was suggested that skilled mental health professionals would be responsible for capacity building and training of both specialists (such as psychiatrists) and non-specialists (such as lay people at community level), which would ensure the 'effective and equitable distribution of the sparse human resources' in India (Kommu and Jacob 2020).

With regards to community space (excluding the family environment) school settings were emphasised again as the biggest cause for concern and hope. Viewed as one of the most important protective and risk factors in children and adolescent's lives, the role of the school in improving and treating the mental health of children and adolescents was poignant. They have been highlighted elsewhere, but training of school staff, inclusion of mental health topics in adolescent school curricula, and the national rollout of school counsellors were three solutions to tackling threats to child and adolescent mental health.

Implications for Studies 2 & 3:

- o This section again highlights the school environment as acceptable in India for mental health information and programme delivery.
- o With the calls for a perspective shift around mental health, it will be important to understand young people's (and other stakeholders) views on mental health and wellbeing.

Prevention as a priority for improving CYP mental health and wellbeing.

Prevention was asserted as a desirable and cost-effective way to tackle the problem of CYP mental health in India; and the school setting- although also highlighted in the problems and challenges- was referred most often as the place in which prevention programmes are, and should be, delivered. Discussion of prevention in Study 1 specifically emphasised life-skills programmes, and it was pointed out that life-skills programmes had been researched in India but not rolled out country-wide, as was initially planned. Other studies reinforce the views that prevention programmes in the form of life-skills should be delivered in schools as part of a strategy to improve CYP mental health. For instance, a recent study has called for action in schools to include reducing academic pressure, investing in health promotion, and introducing life skills programming, as complimentary solutions to improving CYP mental health (Srinivasan, Premarajan et al. 2022). This alignment of views with government policies and strategies investigated in the desk review, is reassuring and indicative that school-based prevention focused wellbeing programmes are not only part of the government strategy to support school-going adolescents, but that this strategy is supported by experts.

Implications for Studies 2 & 3:

- o Preventative measures and addressing mental health (including promotion activities and reducing academic pressures) in the school environment are desirable.

Shaping the research design of future studies.

Objective three of Study 1 aimed to establish experts' opinions to shape the co-adaptation and feasibility testing of a mindfulness intervention to promote adolescent mental health and wellbeing. The purpose of asking questions specifically around participation of end users and the core intervention topic was to support the construction of Studies 2 and 3.

Co-adaptation

Every expert advised that co-adaptation is a positive step to take with adolescents in India. Regardless of which term professionals used, they described a process of community stakeholders, including adolescents, meaningfully participating in the development of the intervention and associated research. Participants spoke of failures of programs with strong materials because the community did not "co-create" and were not fully informed. Furthermore, results from both this and Dhandapani's studies show that a range of stakeholders believe that inviting adolescents to be active stakeholders in designing interventions to support their mental health needs can reduce stigma. This inclusive and collaborate approach involving adolescents indicates that youth perspectives are being valued, perhaps challenging the colonising of mental health by medics. Table 9 provides an overview of all the benefits, challenges, and steps to take when co-adapting with adolescents in India, according to mental health experts from Study 1.

Mindfulness and self-compassion

Every expert felt positively that mindfulness could be accepted by both the adult and adolescent populations in India, and in some cases specifically Assam. A few experts had reflections on using self-compassion, although this was not asked to everyone due to the semi-structured nature of the study. Experts who had delivered mindfulness programmes before stated that it matches well as a universal prevention programme which are suitable in the context. Table 10 highlights the benefits, challenges, and steps to take/insights for when introducing mindfulness in adolescents in India/Assam, according to mental health experts from Study 1.

Implications for Studies 2 & 3:

- o Both co-adaptation and mindfulness were accepted by the experts as a participatory research method, and area of focus with a prevention programme for adolescents.

Further steps and actions relevant to studies 2 and 3 are highlighted in the tables below.

Table 9: Benefits, challenges, and steps to take when co-adapting with adolescents in India.

Benefits of co-adaptation	Challenges in co-adaptation	Steps to take when co-adapting with Indian adolescents.
Acceptability of the final product will increase. Appropriate inputs will be provided as they are the ones it is designed to support. Meaningful participation has a role in possibly reducing stigma in society due to the empowering role adolescents and young people will have in their own wellbeing and mental health, including their role over the narrative. Adult and outsider blind spots will be avoided.	It's a new activity so time is needed to explain the process and purpose. Parental consent may be difficult to obtain. If both parents and children are consulted, it is likely that their priorities will clash, and compromise will be needed. Adapting concepts that they do not understand poses difficulties. Time needs to be taken to introduce them to practices (specifically mindfulness) so they may input meaningfully.	Involve parents and teachers to avoid an eventual loss of interest in the program. Ensure school staff understand what and why they are involved and do so in a way that respects their other duties. They are unlikely to share discontent as the process ensues. Structure the sessions well. Do not take a laissez-faire approach. With the original materials, understand the deeper intent of the activities and strip away components designed for Western audiences. Determine if participants: understand the materials, whether activities/information was found to be useful, and if activities/information was culturally appropriateness. Do not have long gaps between sessions. 2-3 days maximum. Allow time overall for adolescents to immerse in the process. Videos, group discussions, and inputting into design components will work well in online sessions.

Table 10: Benefits, challenges, and steps to take/insights for when introducing mindfulness and self-compassion in India/Assam.

Benefits of introducing mindfulness and self-compassion to adolescents in Assam	Challenges to introducing mindfulness and self-compassion to adolescents in Assam	Steps to take/insights when introducing mindfulness to adolescents in Assam
Mindfulness practices help adolescents to stay grounded. The concept originated in India which makes it familiar to them.	School staff are highly busy. Be sure to respect their boundaries and time.	Thich Nhat Hanh materials have been used in Guwahati by one of the organisations to positive response from adolescents.
Experts in Assam and Karnataka already use mindfulness for adolescent mental health, in particular anxiety and depression, and have observed that it has been useful.	Mindfulness has been introduced in Assam by two participants, and it wasn't well understood.	Use mindfulness activities, don't go straight to meditation; and introduce life skills and other topics to motivate young people.
Schools are a good place to introduce such concepts. In Delhi a state-wide intervention called the 'Happiness program' was introduced. It was mindfulness based and was (at the time of interview, 2019) being researched by the UN across Delhi.	Older adolescents take longer to sit still and benefit from the practices (as observed by a mindfulness instructor in Guwahati). Self-compassion will need to be explained well as culturally it may be perceived as selfish.	Introduced practices included mindful breathing, walking, and eating exercises. Methods to increase understanding included role-plays and dramas.
Young people in Assam have already reached out to seek new methods of looking after their wellbeing, organisations are interested in using mindfulness, and think young people will respond well to this.	Self-pride of stakeholders having an outsider introduce mindfulness to them, which is a concept that originated in India. The word meditation has other connotations. Particularly in Assam it has connotations with Hinduism which will be problematic. Use another word.	Terminology for mindfulness that works [includes] 'Being with yourself' and 'looking into yourself'. Ensure demonstrations and explanations are simple. Use the local language where you can. Draw on participants' lived experiences.
Self-compassion is a positive concept to introduce especially as suicidal tendencies and ideation are such an issue.	Avoid any connection to religion or religious terms.	Ensure the materials are introduced with other reflective activities such as knowing their own coping mechanisms, not only mindfulness.

Study Evaluation

Weaknesses and challenges

The initial target sample size for Study 1 was 20 interviews with plans to consult proportionately more experts from Assam. The heavy burden on the health sector in India due to the Covid-19 pandemic meant that there were slow responses from participants and often multiple postponements of interviews. The pandemic also prohibited the researcher conducting face-to-face interviews with varied experts in Assam, including government officials involved in health policy and individuals from the Education sector. Such diversity in expertise would have provided greater depth, and broader perspectives, to the data collected. It was also advised by colleagues from India that snowball sampling would be more effective in person in the context.

It is difficult to assess if saturation was achieved. This is due to the lack of 'rich' and 'thick' data from a number of interviews, two components in assessing saturation in addition to quantity of participants (Aguboshim 2021). Five recordings were partially damaged, two of which were unusable after the initial transcription, and therefore did not generate data from the complete interview; and one participant had no experience working in the Indian context, contributing mostly to objective three of the study.

Skype for Business was the primary software used as many participants were unable to access Microsoft Teams. It was generally found that Skype for Business software was more volatile with increased cases of damaged or un-downloadable recordings. The highest quality interview recordings were completed in either the UK or large cities in India, with problematic recordings all from rural locations in India. Although digital online recordings are a useful methodology for collecting data in general, it is worth noting the associated risks in areas with poor quality internet connection that could threaten data collection. This is especially important when considering the benefits of obtaining data from diverse contexts.

Richer data may have been generated through the use of varied data collection methods, for instance focus groups. Within the restrictions caused by the pandemic, interviews were prioritised.

Lastly, Study 1 data represents personal and local views which are important for co-adaptation but was not designed to capture a full and factual picture of mental health for adolescents in India.

Strengths

A good sample size was recruited with diverse roles within the mental health field in India. Although it was originally planned to consult proportionately more experts from Assam, the data collected represents five states, and hence shows similar themes arising from different parts of India.

The semi-structured nature of interviews enabled participants to lean into their strengths whilst ensuring a standard set of questions was also asked. Data collected was analysed systematically and rigorously using an established qualitative research method. Complimentary literature sources were used to reflect on, provide support and/or negate, the personal views provided in this study.

2.3 Chapter conclusions

Chapter two sought to understand the Indian context for CYP in relation to their mental health and wellbeing, and in particular understand target population characteristics, ascertain if a new intervention was needed, and how gathered information would impact the approach and design of the remaining research studies in the doctorate. A number of conclusions can be made of the data shared in this chapter in relation to Studies 2 and 3.

First, in relation to co-adaptation this process was perceived to have significant potential to increase acceptability of the final intervention, possibly reduce mental health stigma, and avoid outsider blind spots. The process should be structured, immersive, and use creative activities to engage young people. This is however a new activity for young people and parents may not understand or provide consent.

Second, regarding mindfulness, it was viewed as a suitable subject to use as the basis of the intervention for feasibility testing. However, the intervention should not be based on mindfulness activities alone but address relevant issues for adolescents such as motivation, reflecting on participants own coping mechanisms, and self-compassion. The intervention should draw on lived experiences, provide simplistic explanations and demonstrations, and use an array of mindfulness activities avoiding the immediate use of formal meditations. Co-adapting mindfulness activities may be difficult as it would likely be complicated explaining related concepts and practices in a workshop environment within a short timeframe.

Further conclusions have implications for the co-adaptation and feasibility studies are as follows:

1) A school-based approach is endorsed. A community space outside of school was initially planned for intervention delivery, however experts strongly emphasised the school environment as preferable. Limitations of this approach is that non-school

going children will be excluded; although there is data to indicate that there is a higher rate of mental morbidity in school going children (Malhotra, Patra et al. 2014).

2) Non-specialist delivery of interventions is a likely to be a more sustainable strategy. This would ensure the effective and equitable distribution of scarce human resources in India. However, teaching staff should not be expected to provide this support due to high levels of responsibility.

3) Declining funding patterns for children and youth in Assam, and limited resources overall for mental health, indicates the increasing importance of prevention in the overall strategy to support CYP mental health and wellbeing. (Note that particular preventative options such as fiscal approaches and employment, were not addressed in Study 1).

4) Differences in location (rural and urban) and class will have a number of implications for any approach to supporting and talking about mental health and wellbeing. These factors may affect why mental health difficulties manifest; case study or 'real-world' examples discussed; and the amount of promotional engagement required in the community prior to an intervention or research being delivered.

5) The acceptability of both scientific and traditional knowledge / explanations of wellbeing and mental health, need to be understood from the adolescent perspective. This includes the use of traditional knowledge where it may compliment scientific approaches.

6) The lack of information provided on gender indicates relevant questions should be asked directly of local CYP through the co-adaptation. This may include preferences around who is best to deliver the intervention, and if there should be division between genders when receiving a wellbeing and mental health intervention.

7) Parents play a vital role in ensuring the wellbeing of their children with relationship stress highlighted as a problem for adolescents. The position and role of parents need to be understood from the CYP perspective, especially the degree to which parents should be informed of and involved in any intervention concerning their children's mental health and wellbeing.

8) Any action or intervention designed to address poor mental health must take care not to stigmatise. Therefore, a universal prevention intervention would be better suited.

Moving forward, this information supported the use of available community resources (schools) to provide CYP with tools, practices, and support (peer and non-specialist) at an optimal age in order to support mental health and wellbeing of young people (in particular adolescents) in Assam. Any introduced MBI would aim to be evidence-informed, non-

stigmatising, and flexible enough to be adapted to the context; and aim to prevent an escalation in mental health difficulties. The co-creation processes adopted aimed to foster acceptability of any MBI.

Chapter 3 outlines the process of identifying and selecting an MBI for co-adaptation before exploring the theoretical framework of the intervention and finally preparing the materials for co-adaptation.

Chapter 3: Exploring and preparing the intervention.

The aim of Chapter 3 is to explore an intervention that meets the needs for the target population and make any obviously required alterations to its design or delivery in preparation for fuller co-adaptation with stakeholders. Informed by the learning detailed in Chapter 2, Chapter 3 outlines the exploration and preparation for co-adaptation of a school-based, wellbeing programme based on mindfulness for adolescent young people. This chapter shows how Stages 2 to 5 of the protocol were operationalised whereby an intervention for co-adaptation was screened and selected, explored for adaptability and theoretical basis, analysed for adaptation components and proposals, and, reshaped into a prototype (beta) intervention ready for fuller co-adaptation with young people.

A number of terms are used in Chapter 3. The terms **'intervention'** and **'programme'** are both used to describe the original, beta, and final versions of the mindfulness programme. There are slight differences, however, in how the terms are later used. The feasibility study tested the **'intervention'** which refers to all activities designed to create the changes proposed, including the mindfulness programme, facilitator training, and deployed strategies to include teachers and parents. The word **'programme'** denotes the mindfulness programme content and is used when describing programme elements such as 'core programme components. The term **'session(s)'** defines the time- and topic- defined segments of the programme and **'research session(s)'** defines any meeting that participants attended to provide data in Studies 2 and 3. The term **'project'** has been used between the UoL team and the implementing partner to encapsulate any joint activity under the PhD agreement, including co-facilitated data collection sessions, information sharing sessions with school staff and pupils, and research team meetings.

3.1 Choosing the mental health and wellbeing intervention strategy

After a school-based universal prevention intervention was decided upon, numerous wellbeing interventions were considered. Types of wellbeing and mental health interventions typically delivered in schools include mindfulness, positive psychology, systematic relaxation, life skills, and CBT-based interventions. Three intervention types were considered for this doctoral work due to their common use in school settings in LMICs. They were:

      i. Life skills
     ii. Basic relaxation
   iii. Mindfulness

Life skills programmes have been commonly used in India and are considered a positive solution to dealing with social, emotional, and educational adjustment as well as a way to improve self-esteem and empathy (Yadav and Iqbal 2009). Outcome data from Life Skills training programmes in school settings in India have shown improvement to adolescent wellbeing (Narasimharaju 2020). However, one significant concern with Life Skills programming in India is that it has been defined in many different ways, hence diluting the focus (Murthy 2016). Outcomes tend to focus on creating positive citizens by improving individual competency and employability, as opposed to supporting individuals with their personal wellbeing problems (Saravanakumar 2020), which was a priority for this research. Further, robust evaluation of Life Skills programmes for wellbeing outcomes is limited. Although Life Skills interventions appear to be the most common interventions used for adolescent mental health and wellbeing in India, there have been calls for a more comprehensive mental health programme in the country for adolescents (Mehra, Lakiang et al. 2022). This critique led to Life Skills interventions ultimately being rejected for this research.

Basic relaxation- based interventions have proven to be beneficial due to their cost-effectiveness and non-specialized nature, meaning that lay persons could be easily trained to deliver their content. They have proven to be highly effective in treating anxiety and moderately effective in reducing distress in young people globally (Hamdani, Zafar et al. 2022). It is common for relaxation and mindfulness techniques to be measured together as one form of MBI (Kalmar, Baumann et al. 2022). As wellbeing interventions, they have also been compared. For instance, a randomized control trial comparing mindfulness with relaxation showed that both mindfulness and relaxation lessens distress and improves positive mood states. Results however indicated that mindfulness meditation may be specific in its ability to reduce ruminative thoughts for instance, and provide a unique mechanism that reduces distress (Jain, Shapiro et al. 2007). More recently studies comparing relaxation with mindfulness show moderately better benefits of mindfulness (Volanen 2020). These results plus a greater amount of research conducted in India on mindfulness, highlighted mindfulness as a stronger contender as an intervention strategy.

Other research strengthened this approach. For instance, a recent meta-analysis of psychological interventions aimed at improving mental wellbeing found that mindfulness-based and multi-component positive psychological interventions demonstrated the greatest efficacy in both clinical and non-clinical populations. Singular positive psychology programmes, cognitive and behavioural therapy-based interventions, acceptance and commitment therapy, and reminiscence interventions also improved mental wellbeing but with smaller effect sizes

(van Agteren, Iasiello et al. 2021). A systematic review of school-based mental wellbeing interventions for adolescents reported that more than half of studies included showed positive outcomes and that again most of the interventions were based on positive psychology and mindfulness (Cilar, Štiglic et al. 2020). However, the meta-analysis also showed that the evidence quality was generally low and that improvements in data quality and study design are needed. These findings indicate that generating further evidence about the impact of MBIs with adolescents would be helpful; and with available data from India showing promising results, increasing the research conducted in India on mindfulness was a logical step for the broader picture of adolescent wellbeing research in the country.

3.2 Intervention screening and selection

This section explores the available interventions that would be (a) a potentially suitable solution to address the problems and needs prioritised; and (b) suitable for co-adaptation. This is Stage 2 of the protocol shown in Figure 6, which is based primarily on Step 2 of the EPIS framework.

Figure 6: Protocol Stage 2, Intervention screening and selection, Preparation phase.
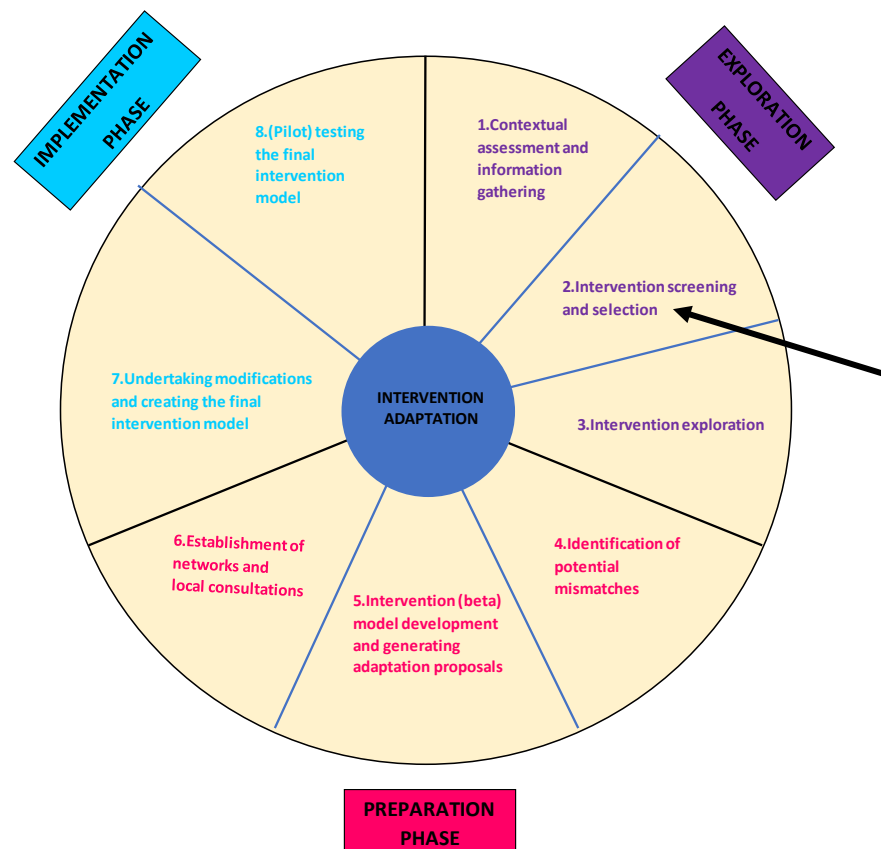
Based on the needs and recommendations identified in Chapter 2, the search for a candidate intervention to co-adapt sought: a universal, school-delivered prevention programme that addressed relevant wellbeing and mental health issues (i.e. stress and anxiety from academic pressure, relationships stressors) through a non-stigmatising approach; and provided tools, practices, and both peer and professional support (with non-specialist delivery), relevant in addressing real life problems experienced by CYP in Assam. With trends in public health aiming to implement evidence-based interventions (Bowen, Kreuter et al. 2009), the search prioritised interventions that either as a whole had been previously researched with positive results or included evidence-based practices. The intervention needed to have some flexibility to permit adjustment to the context.

Additional criteria advised from Movsisyan et al., (2019) included that the intervention should:

1) **Address public health problems of interest, risk behaviours, and environmental factors.** Based on Chapter 2 data this could include increased academic pressures from mid-adolescence, limited resources, and parental pressure.

2) **Contain relevant intervention goals and outcomes for the target population.** Based on Chapter 2 data this could include improving wellbeing, increasing motivation, increasing knowledge on wellbeing and mental health, and preventing depression, anxiety, and suicides and addictive behaviours.

3) **Target the population's social and cultural values through relevant content.** Particular social traits and values that were revealed in Chapter 2 include religious and ethnic values and belonging that divides the population by wealth and status; the importance of achieving academically and monetarily; and the fear of mental health disorders and stigma for the family associated with such problems. With a history of a collectivist approach to society, these traits and values impact the family as a whole.

4) **Match the problem, organisational capacity, and target population.** Based on Chapter 2 data this indicated that mental health and wellbeing problems of school going adolescents would be addressed via a partner expert organisation that support delivery of wellbeing support through non-specialists. More information will be provided in this chapter.

5) **Prevail as the best matching intervention** (Movsisyan, Arnold et al. 2019).

Mindfulness was selected as the intervention approach at the earliest stages of partnership discussions by the UK and Indian research team. Such an approach offered both theoretical and practice elements and were deemed to be a good choice because MBIs:

1) **Had a global evidence base for supporting mental health and wellbeing**. Evidence indicates that MBIs are acceptable and helpful as universal approaches for wellbeing (Carsley, Khoury et al. 2018); and can be effective for at-risk adolescents (Razza, Bergen-Cico et al. 2021) and those with developed mental health conditions such as anxiety and depression (Kallapiran, Koo et al. 2015). This aligns with the need to foster protect against the most common mental health conditions, and to deliver this in a universal rather than targeted way, as identified in Chapter 2.

2) **Matched the population's social and cultural values**. Mindfulness originated in India with meditative practices common across various religious and ethnic groups. Study 1 participants endorsed MBIs as a likely feasible approach.

3) **Could be delivered in programmes to groups** at a relatively low cost, offering potential for scalability in low resource settings like India.

4) **Aligned with other school-based programmes** that were introduced by the government and has demonstrated success with a different age group in India. For instance, the 'Happiness Class' programme, introduced in schools throughout Delhi had components of mindfulness practices.

In addition:

5) **Partner staff possessed expertise in mindfulness and taught mindfulness in schools in Assam.** The partner did not use a fully formed programme and seized this opportunity to align the organisation with one.[1]

6) **The research team at the University of Leeds had knowledge and expertise in teaching and researching mindfulness.**

3.2.1 Selecting an appropriate mindfulness intervention.

The next step was a broad and relatively systematic approach to identify evidence informed MBIs and establish if one was suitable for the context. Included in the search were interventions that had been previously used in India, aiming for continuity. Searches were conducted on Google and Google scholar. Identified programmes were assessed against the criteria set out resulting in the identification of seven MBIs, two of which had been recommended in Study 1 consultations. They are displayed in Table 11. The research team members then generated further criteria, which was divided into essential and desirable.

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[1] An account of the prospective partners process in selecting mindfulness and the relationship development between the UoL team and project partners, is detailed in Chapter 4.1.

Essential criteria:

1) Developers were willing to allow their resource to be adapted and used in the research.

2) The intervention addressed the problems of adolescents as detailed in Chapter 2.

3) The intervention was evidence informed.

4) The intervention matched the partner organisations' focus, which was to find an intervention that promoted positive mental wellbeing and enabled young people to 'choose change' in their life.

5) The intervention was flexible in nature to adapt for different population / contextual needs.

Desirable criteria:

1) The intervention had previously been rigorously tested.

2) Training of the materials was available.

3) The intervention was non-denominational and suitable for any spiritual or faith-based beliefs.

4) The intervention had previously been used in India.

Each of the seven interventions are compared against these criteria in Table 12.

'X' equates to 'no'; '✓' equates to 'yes'; and '?' equates to 'Unknown' or 'Undetermined'. All information in both Tables 11 and 12 were based on available resources / information at the time.

Table 11: Overview of potential mindfulness-based interventions for adaptation.

Programme name	Mindfulness theory used	Other psychological theory and practices used	Programme timing	Targeted age group	Available training and resources	Adaptability	Primary outcome(s)	Key research
Connecting Adolescents to Learning Mindfulness (CALM)	Based on Mindfulness-Based Stress Reduction	Unknown	8-week programme with 1.5-hour sessions; plus, a half day retreat.	14-18-year-olds	No teacher training available.	Unknown	Unknown	None found.
.b (dot b) programme	School-based mindfulness training	Unknown	10-week programme, 40- 60-minute sessions.	11–18-year-olds	Training available but previous training a pre-requisite.	Unknown	Reduced depression, and stress, Improved wellbeing	No significant outcomes when compared to control group (Johnson, Burke et al. 2016); promising results found in acceptability study (Kuyken, Weare et al. 2013)
Mindfulness-based Stress Reduction (MBSR) programme	Mindfulness-based Stress Reduction	-	8-week programme with 60–90-minute sessions; plus 1 full day.	Designed for adults.	Open-sourced materials online; no training	Adaptable version shown to be feasible and potentially effective with adults (Moss,	Reduced stress	Significant improvement in adolescents in clinical settings (Biegel, Brown et al. 2009) Many studies showing

					Reibel et al. 2015)			effectiveness with adults.
Learning to BREATHE programme	Mindfulness-based Stress Reduction	Compassion and trauma-informed practice	6 themes, over 6, 12, or 18 sessions.	Specific age group unclear	Training available in USA but previous training a pre-requisite.	Adaptable over 6, 12, or 18 sessions.	Improved emotion regulation and attention	Promising evidence of the effectiveness of Learning to BREATHE on emotion regulation outcomes (Metz, Frank et al. 2013)
Youth Mindfulness SOMA programme	Influenced by embodied mindfulness approaches	Positive psychology psychoeducation	10 theme programme with 46 activities	12–21-year-olds	Training available; materials provided to trained facilitators.	Designed to be adapted to different groups.	Improved wellbeing	None available.
Holistic Arts-Based Programme (HAP)	Arts-based-mindfulness-based methods	Art therapy Grounding and calming techniques	12-week programme	8-17 years old	Open-sourced materials online; no training.	Unknown	Improved resilience	Preliminary evidence showed lower emotional reactivity in self-reported measures (Coholic, Eys et al. 2012)
Thich Nhat Hanh wake up Schools programme and Planting seeds resource	Zen Buddhism	-	11 theme programme with additional exercises on Planting seeds CD.	Children and youth (age not specified)	Training 1 year; materials for teachers and children available to purchase.	CD and book resources for teachers to apply in school settings. Materials can be used in any format.	Improved wellbeing and compassion	None available

Table 12: Interventions compared against essential and desirable criteria.

Programme	ESSENTIAL CRITERIA					DESIRABLE CRITERIA			
	Permission for resource to be adapted and used. (X, ✓, ?)	Addressed problems of adolescents in the context. (X, ✓, ?)	Evidence informed. (X, ✓, ?)	Matched the partner organisations' focus. (X, ✓, ?)	Flexible in nature to adapt for different population/contextual needs. (X, ✓, ?)	Previous rigorous testing. (X, ✓, ?)	Training available. (X, ✓, ?)	Open for any spiritual or faith-based approach. (X, ✓, ?)	Previously used in India.
CALM	X	X	✓	X	X	X	X	✓	X
.b	X	✓	✓	✓	X	✓	X	✓	X
MBSR	✓	✓	✓	X	✓	✓	X	✓	✓
Learning to BREATHE	X	✓	✓	✓	✓	✓	X	✓	X
Youth Mindfulness SOMA	✓	✓	✓	✓	✓	X	✓	✓	X
HAP	X	X	✓	X	✓	✓	X	✓	X
Wake up Schools (w/ Planting seeds)	✓	✓	✓	✓	✓	✓	X	X	✓

One MBI matched all of the essential criteria, but it had not been tested or previously used in India. For that reason, two other programmes that fell short on one essential criterion were also discussed in greater detail amongst the research team. All three programmes are discussed.

1) Jon Kabat-Zinn's Mindfulness-Based Stress Reduction (MBSR) Programme (Santorelli, 2017)

Kabat-Zinn's programme had a number of positive attributes. The programme had the strongest evidence base of all the programmes, mostly with adult populations showing antidepressant and antianxiety effects and decrease general psychological distress in several adult groups (Marchand 2012, Serpa, Taylor et al. 2014); and also for clinical adolescent populations including use in India (Anand, and Sharma 2011). The resource was openly available, and could have been adapted to the target populations' experiences around academic pressures and other stresses as the programme targeted stress with practical strategies (Marchand 2012, Serpa, Taylor et al. 2014).

However, focusing directly on stress reduction was not the main priority for the partner organisation. As an institute for positive mental health and research, a programme that combined mindfulness with life skills and positive psychology was deemed more suitable and likely to be sustainable. There was also a concern that focusing on stress could be potentially stigmatising; however, it was recognised that co-adaptation of the programme may have been able to address this problem. Thus, because other evidence-informed programmes existed that were in line with the partners' values; and because training in another of these programmes was available with the full cooperation of the developers to co-adapt the resource and partner in the research, MBSR was discounted.

2) Thich Nhat Hanh's materials for teachers and young people

Nhat Hanh's approach was suggested by a Study 1 participant who used the materials with adolescents and young adults in Guwahati. Its' previous use within the community was an encouraging factor. There were numerous topics not found in the other programmes, such as mindful communication, mindful poems, and specific mindful movement sequences. There were two sets of materials; first, a programme to train teachers which aimed to improve the experiences of pupils through more mindful teachers (Hanh and Weare 2017); and second, a CD resource of mindfulness practices that could be used with children (Hanh, Ames et al. 2010). It was only the latter resource that had been utilised in the community previously.

However, on review, the resource as a whole was considered inappropriate as it fell short on training criteria, with the training being one year long, and some content was faith-based, with

Buddhist parables used throughout. A third downfall of this programme was that it was designed to be taught to teachers, and it was evident from the desk review and discussions with the partner that teachers in India were overtaxed with other duties, and an external facilitator was preferred. Lastly, communication with the developers to discuss the practicalities of the training and ability to adapt the resource, was unsuccessful. This programme was rejected.

3) Youth Mindfulness SOMA programme.

Youth Mindfulness' SOMA programme was devised for UK youth aged 12-21. The programme included evidence-based mindfulness practices, and psychoeducational materials similar to topics provided in India through successful Life Skills programmes' and the 'Happiness Class' programme (Government_of_Delhi 2018). In an analysis of 10 schools is Assam, strategies adopted in schools included positive and motivational discussions, and yoga and meditation facilities, which are in line with the content of SOMA (Mohan 2020).

The programme had an adaptable layout, providing 46 activities and 12 key topics, which could be manoeuvred to suit the group's needs (i.e., flexibility was encouraged in the programme). There was an in-person facilitator training course that was available in 2020 that took three months to complete. SOMA was designed to be delivered by non-specialists and to groups within school settings. The primary aims of the programme were increased wellbeing of young people and rebalancing the tendency of being 'in the mind' to achieve an increasingly embodied experience, which is beneficial for wellbeing. Both the Stirling Children's Wellbeing Scale (SCWBS) and the Warwick Edinburgh Mental Wellbeing Scale (WEMWBS) had been used to measure the interventions impact on wellbeing; however, this research was unpublished.

The programme's effectiveness as a whole had not been researched nor was the theory base presented in a testable manner. The programme included evidence-based mindfulness practices and positive psychology; however, it had never been formally researched nor was there an established Theory of Change or identified core programme components. The programme author had an interest in examining, via research, the impact of the programme and upon further examination with the Doctoral Researcher, identified potential core programme components that were in line with other evidence-based mindfulness programmes. Lastly, the developing organisation was prepared to resource share, under conditional terms, with UoL. Overall engagement with this organisation formulated a partnership approach that would enable the research to be conducted easily.

After a thorough review into the processes and accompanying bottle necks required to use each available intervention, the SOMA programme was selected for co-adaption and testing. This option met all essential and most desirable criteria.

3.3 Intervention exploration

This section outlines Stage 3 of the protocol displayed in Figure 7, which exactly mirrors Step 3 of the EPIS framework.

Figure 7: Protocol Stage 3, Intervention exploration, Exploration phase.
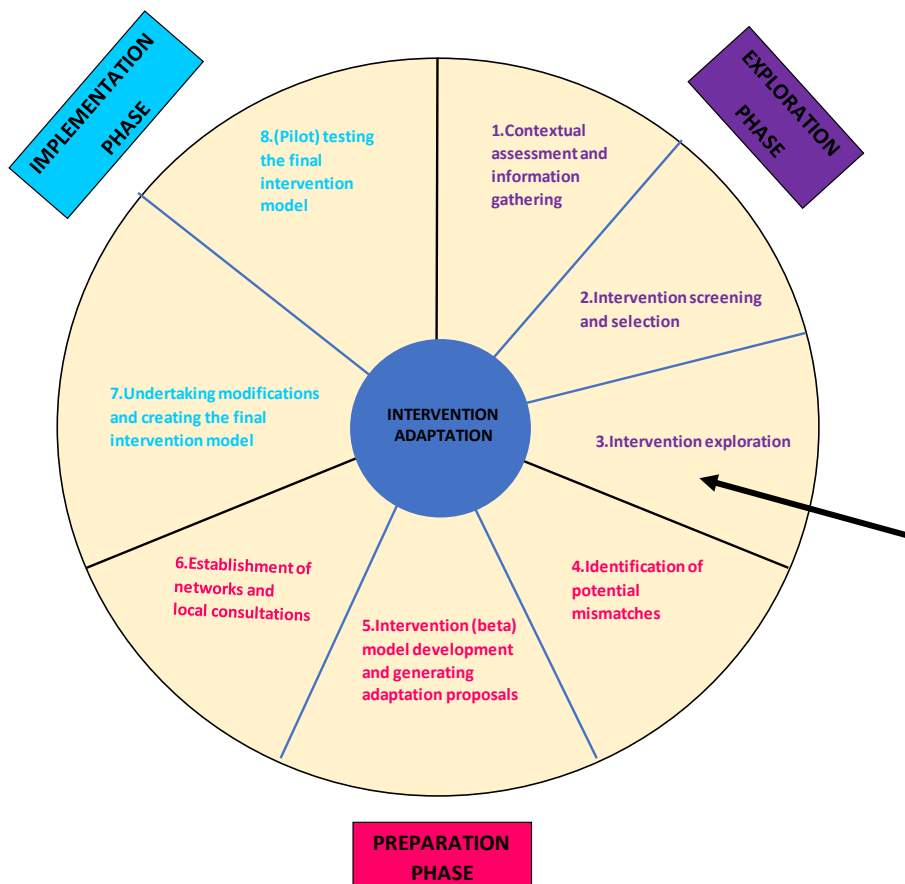
The intervention was thoroughly explored by:

1) Examining the theory underpinning the intervention, including outlining the original intervention such as its' goals, theory of change (including the core programme components), and best-practice characteristics.

2) Outlining the intervention curriculum and determining the intervention's adaptability to the new target population and setting (Movsisyan, Arnold et al. 2019).

3.3.1 SOMA's theory base

Embodied mindfulness and positive psychology.

SOMA's theory base was influenced by mindfulness approaches- particularly embodied mindfulness approaches- and positive psychology. Embodied mindfulness comprises detachment from automatic thinking by centering in the body (a common practice in MBCT (Segal, Williams et al. 2012)); attention and awareness of feelings and bodily sensations; connection with the body; awareness of the mind-body connection (in other words, the connection between emotion and cognition); and acceptance/non-avoidance of feelings and bodily sensations (Khoury, Vergara et al. 2023). Similar to other MBIs, this translated in practice to processes of drawing one's attention to present moment experience (thoughts, sensations, and emotions; internal and external stimuli) in a non-reactive and accepting manner, whilst using the body as an anchor to remain grounded.

SOMA means 'body' in Latin and Ancient Greek, and the programme emphasises a rebalancing of the human tendency to be in the mind and increase a sense of embodiment through varied mindfulness practices and games. For instance, the blindfold game enabled participants to explore bodily control whilst focusing first on the mind, and then being routed in the body, with the common conclusion that body-based awareness increases control and calmness.

SOMA combines mindfulness, embodiment, and positive psychology as a strategy to improve wellbeing and reduce mental health problems, such as stress and anxiety. The programme emphasises training the whole body in a positive direction through mindfulness practice. SOMA programme theory rejects the Cartesian split between mind and body, a common perspective in Western countries; and theorises that to increase wellbeing one must go beyond changing one's thinking to involve the body. Stress and anxiety, for instance, increases inflammation in the body; releases cortisol which causes increased heart rate, weakening the immune system, changing sleep patterns, and is also linked to physical illness such as intestinal problems, and skin conditions such as eczema. increased kindness or compassion can result in higher heart rate variability, a marker of physiological wellbeing, and positive states of mind such as experiencing happiness and love, has also been shown to equate to more energy, better focus, and longevity (Walker 2020).

Positive psychology concepts present within the materials were happiness, kindness, gratitude, self-compassion, agency, personal strengths, and purpose. Positive psychology theory that shaped SOMA's programmatic approach included 'flow' theory, in which motivation is considered a flow state where self-consciousness is lost and one surrenders to the present moment in which time is no longer important (Csikszentmihalyi, Csikszentmihalyi et al. 2014). Components of Fredrickson's broaden-and-build theory were also taught in the teacher

training, stipulating that first, positive emotions broaden people's momentary thought-action repertoires whilst negative emotions narrow them (Fredrickson 2001), and second, experiencing positive emotions can counterbalance negative self-talk and emotions (Fredrickson 2009). The SOMA programme used this theory to rationalise the inclusion of mindfulness practices that aimed to cultivate gratitude and kindness.

Other activities in SOMA united mindfulness and positive psychology. For instance, several games used mindfulness practice to calm the mind and encourage 'flow' in basic and fun tasks. Within the formal practices, mindfulness is combined with kindness (well-wishing) and gratitude. Such combinations with positive psychology are becoming increasingly common in MBIs with children and adolescents, for instance, in mindfulness-based kindness curriculums (Flook, Goldberg et al. 2015) and programmes that combine mindfulness and gratitude to increase children's wellbeing (Giordano and Shuster 2023).

Programme goals

Goals were offered in the form of programme objectives. They were to:

1) **Increase wellbeing:** The SOMA programme encourages participants to appreciate the value of wellbeing; to understand that they can engage in conscious activity to enhance their wellbeing; and to be continually motivated to care for their own wellbeing. This aligns well with a universal prevention agenda, which aims to enhance protective factors.

2) **Increase social connection:** An environment is created that enhances the social connection between participants and leans into our natural state as social creatures; and how humans thrive on the love and care of others to grow and be healthy. Part of the learning demonstrates how stronger social connection affects our whole body, for instance how kindness expressed in social engagements impacts the chemicals released in one's body. This denotes an approach less motivated by self-interest, hence relating well to the collectivist attitudes held in Indian society.

3) **Increase openness to enjoyment:** Enjoying life and the present moment can come alive through one's senses and qualities such as gratitude and appreciation. Increasing an openness to enjoyment can fill one with energy to thrive and flourish. This can also enhance social connection and capacity for action. This appeared important given Chapter 2 learning about the levels of academic stress among young Indian people and the narrowing of their lives towards academic performance.

4) **Increase mindfulness:** Stepping out of the habit of reactivity and mindless doing, mindfulness practice emphasises non-doing, allowing, and letting experience be as it is. This capacity of non-judgmental, non-reactive awareness is a primary goal of the

SOMA programme. It can be considered an antidote to stress, and anxiety driven ways of being, identified as highly prevalent experiences for Indian adolescents.

5) **Develop an attitude toward action**: Mindfulness give participants the capacity to not only observe experience but support one's sense of agency and autonomy. Action systems refer to qualities of courage, dedication, flow, deep engagement in a task, focus, and determination, which all require the attentional control and focus enhanced by mindfulness; and the ability to stay grounded when faced with obstacles. This enables participants to understand where in life one has control, and how to make wise choices. Autonomy is a key component of many theories of wellbeing. Improving a sense of autonomy may be important to Indian adolescents who may have restricted opportunities to experience this. Additionally, many adolescents want immediate strategies and actions to cope with day-to-day life and are critical of interventions which talk about wellbeing in an abstract way (Bennett, 2019).

6) **Understand and be motivated by meaning and purpose:** Connection to something bigger than oneself, and an orientation to life that is deeply ingrained and above the desires and irritations that are normally experienced on a daily basis. In this sense mindfulness is used both to come back to the present moment, but also to remember one's authentic self and live in accordance with deepest values and aspirations. This type of motivation was highlighted in Study 1 as a desirable topic to address in addition to mindfulness. Having purpose in life is an important psychological building block to resilience (Rutten, Hammels et al. 2013) and may offer a helpful balance to the narrative that Indian adolescents receive that academic success is their sole purpose.

The primary outcome of these goals or objectives was increased wellbeing and which had been established within the programme and tested by the organisation with promising results (this testing occurred in a non-rigorous manner and for internal organisational use only). The doctoral researcher also hypothesised that the primary outcomes was increased wellbeing, with improved dispositional mindfulness (i.e., the ability to live life mindfully) as the key mechanism of change.

Theory of Change (ToC)

With regards to health behaviour, theories are required to predict and explain what drives behaviour change, as well as to inform the design and evaluation of interventions (Lippke, 2008). ToCs enable researchers to establish parameters that are important when translating methods into practical intervention programmes (Kok, 2004). This may be particularly useful

when adapting an existing intervention from one cultural setting to another, as the ToC can be used to ensure essential components remain unchanged.

There was no existing, reported ToC for the SOMA programme. SOMA content was therefore mapped against candidate mindfulness theories. The most appropriate model which best represented SOMA was the Liverpool Mindfulness Model (LMM). This is shown in its original form in Figure 8. The LMM was designed as a structuring aid for all mindfulness programmes and research to encapsulate mindfulness core processes and provide a framework for future research (Malinowski 2013). This model was adapted by the doctoral researcher to represent a hypothesised ToC for the original SOMA programme. The term 'original SOMA ToC' is used, as later the thesis offers a revised ToC based on an adapted version of the programme. The LMM was not designed specifically for adolescents, however the new ToC has been shaped specifically for adolescent end users. The hypothesised ToC model for SOMA is shown in Figure 9. The sections of the model are then explained.

Figure 8: Liverpool Mindfulness Model
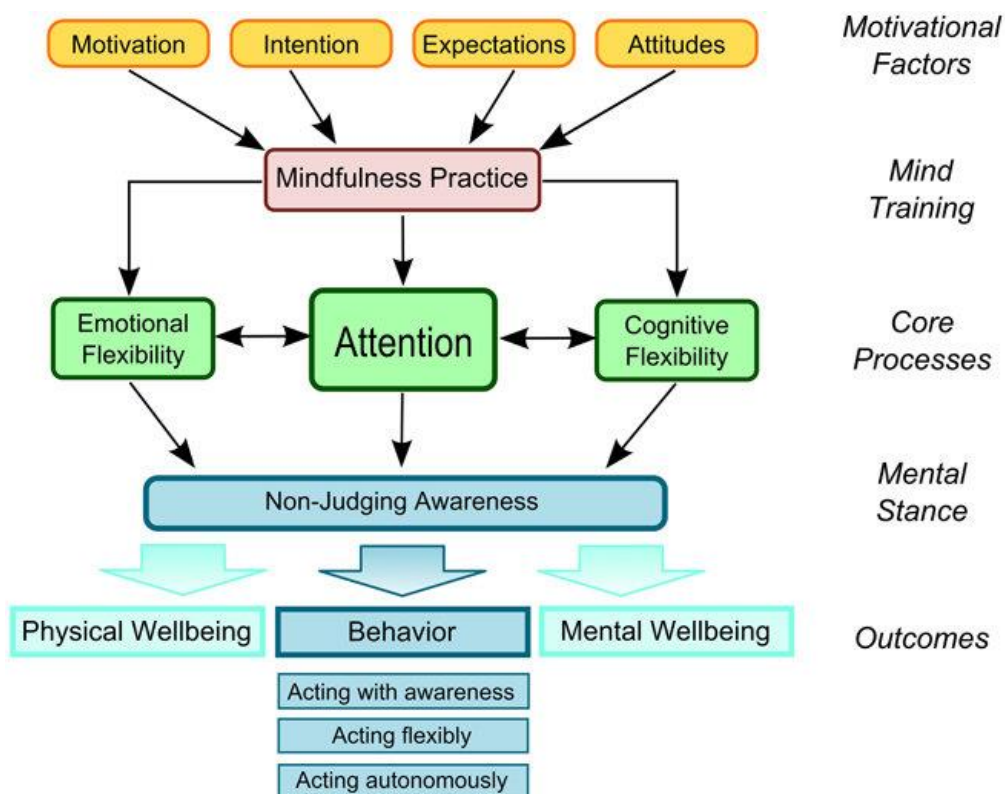
Figure 9: Hypothesised Theory of Change for the original SOMA programme
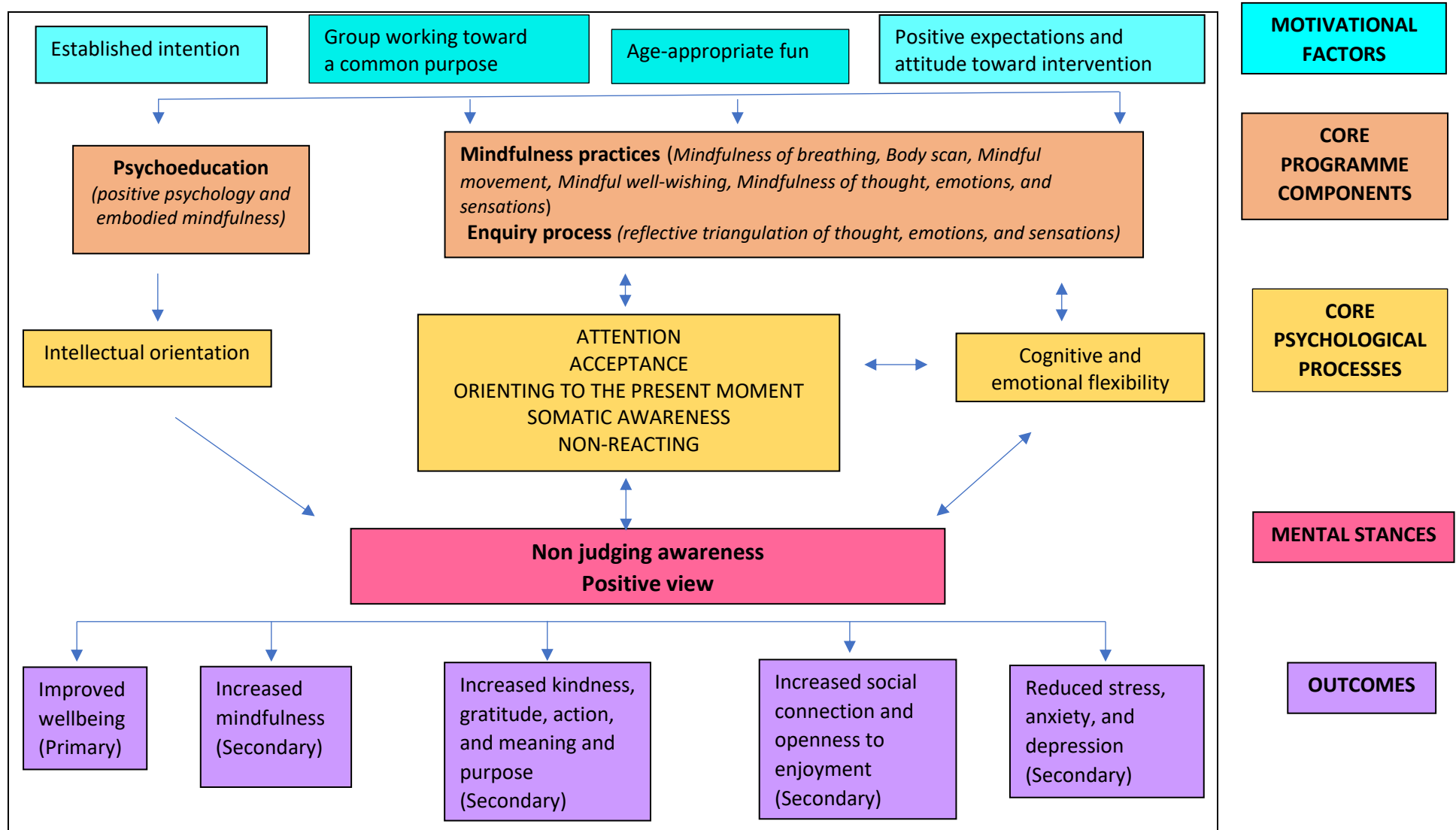
Following the LMM and based on a deep analysis of the SOMA programme manual, the hypothesised (original) SOMA ToC structures the programme's change process into five tiers.

Tier 1: Motivational Factors

The first tier outlines motivational factors. Studies have shown higher baseline motivation to improve one's wellbeing is associated with better wellbeing and/or depression outcomes from mindfulness programmes (Sin and Lyubomirsky 2009). A factor representing 'Intention' ('Established Intention') has been retained from the LMM as the first main topic within the SOMA programme is 'Setting Intention'. 'Expectations' and 'Attitudes' from the original LMM have been combined into 'Positive Expectation and Attitude Towards Intervention' as this is included the first session of SOMA. Two new motivational factors were added- 'Group Working Towards a Common Purpose' and 'Age-Appropriate Fun' - to represent the two SOMA programme objectives: 'Increase social connection' and 'Increase openness to enjoyment'.

Motivation theoretically determines the individual's level of engagement in mindfulness activities in a delivered programme which is set out Tier 2 of the LMM as 'Mind Training'. However, the adapted hypothesised SOMA ToC specifies this as 'Core Programme Components' (Tier 2). Identifying core programme components is an important and expected part of intervention research, where detailed intervention description is necessary to facilitate dissemination, comparisons with other intervention studies and shared learning (Maggin, 2015). This level of specification ultimately improves intervention research and its potential to optimise effectiveness.

Tier 2: Core Programme Components

For SOMA, Core Programme Components (CPCs) and Core Psychological Processes (CPPs) were defined and separated into Tiers 2 and 3 of the original SOMA ToC. CPCs replaced 'Mind training' in the LMM, and as a category has been expanded to include three components: (i) mindfulness practice, (ii) enquiry and (iii) psychoeducation. Unlike in the LMM, (i) mindfulness practices in the original SOMA ToC are stipulated namely, mindfulness of breathing and body scanning, two practices commonly used in evidence-based interventions (Thompson and Gauntlett-Gilbert 2008); mindful well-wishing, often referred to as loving kindness meditation, another formal mindfulness meditation practice (Behan 2020); and mindful movement practices which are also commonly used practices in MBIs with an evidence base growing for use with children (Rice, Deronda et al. 2023). Within or supported by these forms, practitioners are also directed to notice arising thought, emotions, or sensations (Nanda 2009). The (ii) process of enquiry is an essential component of programmes such as MBSR and MBCT. Enquiry has been defined as 'disciplined improvisation', which is a process that teaches

mindfulness practitioners to describe their experience in a particular way (Crane, Stanley et al. 2015). (iii) Psychoeducational content in SOMA is based on mindfulness, embodied mindfulness, and positive psychology. Working alongside the experiential mindfulness and enquiry components, psychoeducation is used to understand and examine: (a) positive qualities and their benefits; (b) the science behind mindfulness practice; and (c) the benefits of working with the body as a whole. The psychoeducation material provides an essential framework for the practices to be introduced.

It is theorised that these core programme components trigger CPPs. Specifying theorised CPPs are another critical component of intervention research. By setting out anticipated mechanisms of change, researchers can direct analysis to these. Outcomes of such analysis can feed back into a ToC model to enhance specification of what processes in the intervention appear to be most associated with positive outcomes (Michie, 2010). This can, in turn, help to develop the most parsimonious programme.

Tier 3: Core Psychological Processes

With regards to the LMM, Malinowski proposes that regular engagement in mindfulness practice develops and refines attention, which is considered the central core process in the model. Holding a steady focus of attention over a short or sustained time has been proven to significantly improve attentional control processes (Moore, Gruber et al. 2012). Malinowski states that the process of attention is 'meant to capture something much broader, including for instance attentional control mechanisms, which include an awareness of one's cognitive and emotional states and the resulting ability to respond to them in a flexible way' (Malinowski 2013). 'Attention', 'Emotional flexibility' and 'Cognitive flexibility' are all specified in the original SOMA ToC Tier 3 (Malinowski 2013).

Tier 3 of the original SOMA ToC broadens the CPP category further by considering other processes that may occur during engagement with the SOMA programme. Four components initially proposed by Felver et al.[2] have been outlined within the CPP category. They are:

1) 'Orienting to the present moment'- Moment-to-moment awareness of transient internal/external experience.

2) 'Somatic awareness'- Awareness of bodily sensations and/or movement.

3) 'Non-reacting'- Ability to observe pleasant/unpleasant/neutral internal/external experiences without taking immediate action to alter the experience, allowing for greater space between stimulus and response.

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[2] Felver et al. refer to these process as 'core components' but includes practices, processes, and principles within this one category.

4) 'Acceptance'- Embracing and being open to internal/external experience without need to change; allowing things to be as they are; non-striving; non-attachment; non-avoidance; non-grasping; and "letting go" of wanting to change pleasant/unpleasant/neutral experience. (Felver, Cary et al. 2023).

Lastly, the proposed ToC for SOMA theorises that the impact of the psychoeducational materials provides a supportive intellectual orientation process. 'Intellectual orientation' is therefore a CPP.

The two-way arrows in Tier 3 indicate that these processes are interconnected. As with the LMM there are two-way arrows between attention and flexibility of emotions and cognition. Within the original SOMA ToC, there are also two-way arrows between the processes of orienting to the present moment, somatic awareness, non-reacting, and acceptance, and emotional and cognitive flexibility.

CPPs give rise to a particular perspective or view, which is Tier 4 and entitled 'Mental stance'.

Tier 4: Mental stance

In the original SOMA ToC, the mental stance of non-judgemental awareness remains from the LMM. A non-judging awareness provides the ability to be aware of the various psychological processes unfolding, whilst maintaining an open presence. An additional mental stance has been added which is 'Positive view'. The purpose of the psychoeducation, and mindfulness practices infused with the cultivation of positive emotion, is to change mental habits and perceptions to be increasingly positive. The arrows in the model depict the hypothesised influential relationships between components and tiers. Unlike the original LMM, the arrows between processes in Tier 3 (with the exception of intellectual orientation) and Tier 4 are two-way. That is to say that process relationship between the two tiers is theorised to be dynamic and interdependent. The mental stance is not a permanent achievement but is a result of core processes continually being engaged.

Tier 5: Outcomes

Outcomes from the LMM have changed considerably to accommodate the original SOMA ToC. The original model offers two wellbeing outcomes: physical and mental wellbeing; plus, a number of behaviour changes. 'Acting with awareness', 'Acting flexibly', and 'Acting with autonomy'.

In the revised ToC for SOMA, Tier 5 presents a range of proposed outcomes that can be credibly anticipated from the SOMA programme, with wellbeing as the primary outcome. Previous unpublished research with the SOMA programme measured wellbeing and the

programme offered a number of possible positive psychology-based outcomes although they were never measured. They were social connection, openness to enjoyment, action, and meaning and purpose. Other hypothesised outcomes based on the CPCs were: 'Increased mindfulness'; 'Increased kindness, gratitude, action, and meaning and purpose'; and 'Reduced stress, anxiety, and depression'.

Best practice characteristics

Best practice characteristics illustrate how an intervention should be delivered to optimise programme engagement. Alongside a ToC, aspects of intervention delivery and implementation are as critical to intervention success as the content itself. The following best practice characteristics were introduced in the SOMA programme:

1) It is best practice that the trained facilitator embodies mindfulness qualities as they teach and react to pupil experiences. This includes practicing self-compassionate, embodied, non-judgemental and self-aware stances and qualities; and encourages participants to reach their own discoveries as opposed to dictating answers regarding mindfulness experiences.

2) It is best practice that the programme is delivered in schools with teachers on hand as observers only (non-interference).

3) It is best practice that the psychoeducational materials consolidate learning and help young people to understand the processes of change they undergo when practicing mindfulness.

4) It is best practice that the ratio of psychoeducational materials to formal mindfulness practice changes as the programme progresses, with the degree of formal mindfulness practices gradually increasing per session.

5) It is best practice that sessions emphasise age-appropriate fun and positivity and deliver the core components through activities and games.

6) It is best practice that the ideal of mindfulness practice being cumulative is introduced to participants, ensuring that they know regular and shorter mindfulness practice has been proven as more beneficial than occasional longer practices.

SOMA's curriculum outline and adaptability

SOMA was developed for adolescents and young people in the United Kingdom, aged 12 - 21. Table 13 provides an overview of the original curriculum outlined per section with each section's aim(s), and a list of accompanying activities. SOMA was designed to be delivered by a minimum of one facilitator with one back-up facilitator, or two facilitators. SOMA was intentionally flexible for adaptation for different groups with different time availability e.g.,

over many weeks through 1–2-hour sessions, or in an intensive format, for example for four hours over a five-day period. The programme is divided into 11 topics/sections based on mindfulness theory and themes within positive psychology and includes a section of mindful games. There are 46 activities that can be arranged in whichever way is suitable for the group. The flexible nature of activities, themes, and structures are combined with evidence-based mindfulness practices such as mindfulness of breathing, mindful eating, mindful walking, and mindful movement.

The programme approaches mindfulness in numerous ways to reach different children's needs and ways of learning. Mindfulness concepts are explained through reflective exercises, videos, games, explorative practices, group/pair discussion, and scientific facts. Additionally, there are numerous situations relating to the daily lives of adolescents in which mindful practice is applied in sessions. The flexibility of, and diverse methods used within, SOMA ensures that prioritisation of topics and exercise types is possible. Mindfulness and positive psychology concepts and processes defining sections ensures that relevant goals based on said topics can be presented to and prioritised by end users in co-adaptation workshops.

Table 13: Overview of the original SOMA programmes topics, section aims, and activities.

Section topic/theme	Section aims and overview	Main topics
Setting intention	Brings together around a common purpose, shared intention, and a positive, non-judgmental social environment for learning. Sets the tone and expectations for the programme, encourages positive expectations and attitudes toward the programme. Participants taught to appreciate the value of wellbeing/ develop motivation to care for their own wellbeing. Connects to the SOMA framework- social connection, openness to enjoyment, meaning and purpose, and action.	• Teambuilding • Creating a group agreement • What is 'Happiness'? • Money's role in happiness • What is SOMA? • Role models • How the mind formulates perceptions • Science: Neuroplasticity • Habits of the mind
Mindful attention	Training attention to be in the present moment; the tendency of the mind to wander; and the evidence connecting happiness to orienting in the present moment. Sets up programme's focus to train attention through exercises (e.g., focus on breath, embodied experience etc.). Other themes include 'beginners mind' and allowing and letting be. The importance of the body in mindfulness is introduced. SOME topics explored further.	• Connecting mindfulness with SOMA • Keeping the mind in the present moment (mind wandering) • Mind experiments: try not to think; be aware • Practice: Bodyscan with drawing aid
Character strengths	Character strengths developed in the field of positive psychology are used to reflect upon what 'goes right' in the human mind. To recognise/ appreciate character strengths enables the nurturing of positive qualities.	• 24-character strengths • Reflection: Exploring personal character strengths • Psychological benefits of recognising personal strengths
Attitudinal qualities of mindfulness	Attitudinal qualities of mindfulness- allowing, curiosity and gentleness, embodiment, and non-judgemental present-moment awareness- are explored through various activities.	• Mental resistance and acceptance • Expanded definitions of mindfulness (grasp, resist, future, past) • Practice: awareness of sound • Acknowledging pleasure (like), displeasure (dislike) and neutral experiences • Willpower • Mind experiment: Willpower test

Gratitude	Impact of positive emotions on brain function, body, cognition, physiology, and relationships. Concepts introduced: awareness of negativity bias; mindfulness' impact on attentional control and agency, direct attention; nourishing and uplifting thinking.	• Science: Positive psychology and the science of positive emotions • Gratitude • Practice: cultivating gratitude
Awareness of thought	Provides space to reflect on negative thinking patterns and styles. Concrete strategies to step out of unhelpful thought patterns are provided. The ultimate goal is for adolescents to understand the fluid and changing nature of their mental activity.	• Science: Negativity bias • Managing unhelpful thought patterns • Real life application of negative thoughts leading to emotions, actions, and consequences • Reflection: What thoughts do we consume?
Mindfulness of difficult emotions	Explores the inner strength to be with difficulty and difficult experience. Introduces the element of self-kindness as a condition for mental wellbeing.	• Science: PFC vs amygdala • Mind experiment: pain • Practice: Bringing warmth to a difficult emotion
Kindness	Kindness as a buffer against stress and depression. Looking at humans as social creatures with the deep need for connection and belonging. The cultivation of kindness is explored as a way to nurture social connection.	• Science: Kindness • Reflection: Sharing stories of kindness • Practice: Mindful well-wishing
Agency and action	Mindfulness to support being creative agents as life unfolds; discern what is important; and act in accordance with our values. Qualities of courage, dedication, flow, focus, and determination are emphasised, and enhanced through mindfulness practice. Marsha Lineham's work on wise mind.	• Reflection: How much control do we have? • Circles of concern and influence • Practice: Wise choices • Wise mind
Meaning and purpose	Cultivating a sense of meaning and purpose through mindfulness. Mindfulness as a way to come back not only to the present moment, but to our deepest, authentic self and live in accordance with what we most deeply value and to what we aspire.	• Future best selves • Reflection: What qualities do you want to bring to life? • Reflection: Writing a mission statement
Games	Games used as a simple and fun way to demonstrate the value of mindfulness as a way to stress less, improve performance, and bring the group together in a positive activity to enhance the socio-emotional climate of the groups that will support learning.	• Stacking cups • Drawing on back • Spot the difference • Beer(less) pong • Blindfold trust game

3.4 Identification of potential mismatches

This section outlines Stage 4 of the protocol which moves into the 'preparation phase' shown in Figure 10 and is based on Step 4 of the EPIS model. Levels of required adaptation are assessed by identifying and categorising potential mismatches between the original programme content and the new context. This step enables obvious changes to be made before stakeholders' input is collected, helping to make time with stakeholders as efficient as possible, and are later used in the process to guide adaptation proposals for further data generation.

Figure 10: Protocol Stage 4, Identification of potential mismatches, Preparation phase.
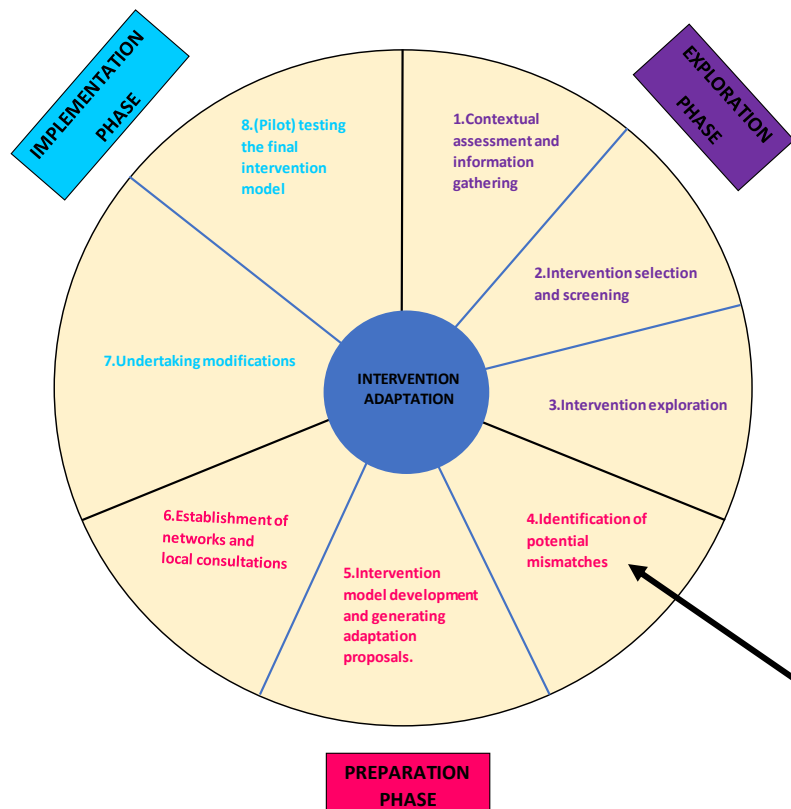
As per (Movsisyan, Arnold et al. 2019), potential mismatches between SOMA and the target delivery were assessed by asking questions of the programme across three different categories - (i) context; (ii) ecological validity and (iii) other aspects of programme content. The three mismatch categories are displayed in Figure 11.

Figure 11: Overarching mismatch categories.

CONTEXT   ECOLOGICAL VALIDITY

                    MISMATCHES

                SOMA CONTENT
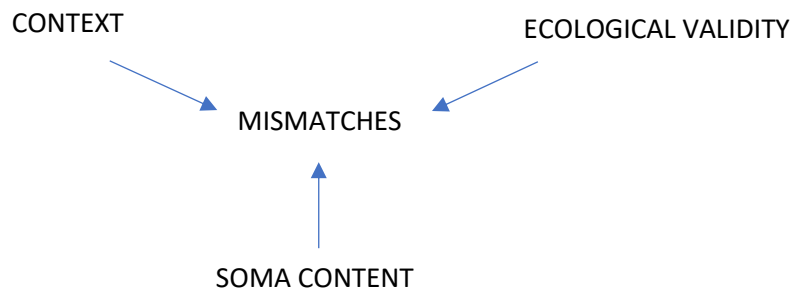
Questions explored under each category are detailed in Tables 14 to 16. Table 14 outlines
broader contextual characteristics pertaining to the environment in which the programme was
introduced, and processes required to deliver a high standard intervention with surrounding
research. Within these broader contextual questions (that would be asked in any adaptation,
regardless of if they were cross-cultural), there were also culturally specific contextual
questions. Questions sought to identify potential barriers to participation and implementation
along with solutions that would ensure the intervention is accepted by, and appealing to,
relevant stakeholders; address fidelity concerns; and understand safeguarding procedures.
Broader relational issues were considered, turning attention to the community at large, and
goals and capacity of the partner organisation (PO) were clarified. The PO is the broad term
given to MIND India, the organisation in Assam who supported the research including
implementation of the intervention in the selected school. Table 14 categories were used to
encapsulate the whole process from project inception with the PO, to final information sharing
of programme findings to stakeholders.

Table 14: Potential mismatch categories and questions for broader contextual characteristics

Categories	Key questions
Partner Organisation	1. Are the POs goals for the project in line with the intervention and UoL? Where values and goals do not match, are there alternative pathways to encapsulate opposing aims? 2. What logistical or financial concerns/considerations impact the programme delivery? 3. What adaptations are needed to the intervention and surrounding research to align with institutional and technical capacities of the PO? 4. Are there qualified personnel to support the project delivery? Are there training gaps? 5. Does the PO have access to/experience working in schools?
Community	1. Does the community, including school staff, have any noteworthy views or practices that could influence how research is conducted with adolescents? 2. Are there any community stakeholders that should be consulted in addition to end users, parents, and school staff? 3. How should results of the research be shared with the community and to whom? 4. Does the community, including school staff, have any noteworthy views on delivering interventions in school? 5. Are schools willing, able, and well-resourced to support the proposed programme?
Implementation barriers	1. Should the intervention be delivered in schools? 2. When is the best time of day/week/term to deliver sessions in schools? 3. How long should sessions last for? 4. Is it acceptable to deliver 8 weekly sessions within the Indian school term? 5. Are there times of the year that the programme should(n't) be delivered? Issues relating to flooding and/or annual school timetable? 6. Is there a space within the school environment to deliver the intervention? 7. Will an online programme be accepted if Covid-19 shuts the schools? 8. Is it possible/strategic to target a rural population? If not, are there any barriers relating to the urban setting of Guwahati? 9. How plausible is it for young people to practice at home between formal sessions?
Participation barriers	1. Is the trained facilitator an acceptable person to deliver the intervention? 2. Are there any concerns related to the political environment and climate concerns that could impact participation of adolescents/certain groups? 3. How do we make sign up appealing to young people aged 13-16? How should promotional materials be designed/worded? Where should they be advertised? 4. How should participation be encouraged if a participant is indifferent/unresponsive in sessions? 5. How should a participant who is disrupting sessions be dealt with and by whom? 6. How should participation be encouraged if participants stop attending sessions? 7. What will parents think of their children receiving a mindfulness-based intervention and participating in the programme at large? 8. What responsibilities do young people (girls and boys) have that may stop them from participating?

	9. Should girls and boys be offered sessions separately?
	10. What methods can be engaged to help participants feel confident to participate in online research sessions?
	11. What different cultural groups need to be accommodated and how?
	12. Is the intervention acceptable to children/families from diverse ethnic and religious backgrounds? Are there particular barriers for some groups and not others?
Fidelity concerns	1. Is the language used to describe the core components and processes understood and accepted in English? If not, what terms and instructions in the local language can be used?
	2. Are activities including CPCs (mindfulness practices and enquiry process in particular) acceptable and understood?
	3. How/who is best/accepted to measure fidelity?
	4. Are there available, suitable personnel who understand concepts within the core components and who will receive training?
Safeguarding	1. Who can children speak to if they are having problems with the project? (Persons in and out of school)
	2. What systems and pathways exist in schools to support children with safeguarding issues?
	3. What is the best way to communicate confidentiality and its' limits to participants?
	4. Are pathways for reporting safeguarding issues understood by all?

Table 15 used dimensions of the EVM to generate questions about cultural adaptation pertaining mainly to the intervention, and surrounding research. The EVM is a commonly used framework for cultural adaptations to provide categories for shaping adaptation proposals and questions. It ensures that interventions are treated with a culturally sensitive perspective, and that they are ecologically valid (Bernal, Bonilla et al. 1995). It does so by applying eight dimensions of the EVM to programme content.

Many of the generated questions were generic to psychological interventions for adolescents; and others were specific to mindfulness interventions. 'Language', 'concepts', 'metaphors', and 'goals' were specific to the SOMA programme. The first dimension presented in Table 15 was 'Language' in which questions aimed to establish necessary language modifications and what words could be used to replace unusable words/phrases. *Language* as the 'carrier of the culture' had to match literacy levels of participants and convey the true meaning of the materials, without which the programme would not be effective (Bernal, Bonilla et al. 1995). Assurance was also needed that key *concepts*, the second dimension, within the theoretical psychological model were interpreted correctly. *Metaphors*- the symbols and figures of speech- introduced in the intervention had to be relatable, and it was possible that metaphors for wellbeing and mental health existed within the population that the UK based research team were not aware. *Content* questions aimed at ensuring the activities, visual resources, and images were relatable to the target population, and that difficult topics were addressed in culturally appropriate ways. Moreover, the design of support materials aimed to be in line with the targeted generation's tastes and values. *Methods*, including data tools and activities, had to convey the content in a format acceptable to the population. Materials, graphics, case studies and examples, had to depict *persons* from the population and reflect common situations for target end users in the context. Interaction between providers and participants also had to be appropriate. Finally, programme *goals* had to be relatable and accepted. *'Context'* the eighth dimension within the ecological validity framework was concerned with addressing barriers and unique issues to the population (participants and providers), delivering in a culturally appropriate location, and identifying culturally appropriate ways to deal with problems (including referral pathways). Contextual issues were provided in detail in Table 14 and so were excluded from Table 15. Table 16 outlines the detailed questions specific to each section within the SOMA curriculum.

Table 15: Potential mismatches specific to the programme based on the ecological validity checklist.

Ecological validity checklist categories	Adaptation questions specific to the intervention
Language	1. Are mindfulness and positive psychology, and scientific concepts and terminology understood and accepted? 2. Is 'mindfulness' associated with Buddhism? 3. Was the instructional language used in the mindfulness practices understood? 4. Would end users prefer local language to be used for a. the intervention in general, and b. mindfulness practice instructions? 5. What words are preferred for describing the act of being mindful? 6. Language and descriptions include: sensations; focused attention; acceptance; attention; mindfulness; focus; awareness; 7. Descriptions include: orienting to the present moment; noticing how/bringing your attention to … . 8. Practice terms are: bodyscan, mindfulness of breathing, mindful well-wishing, mindful movement, mindful gratitude, and enquiry process (triangulation of thoughts, sensations, emotions).
Concepts	1. Are key concepts understood and accepted? 2. Are there alternatives (in English or the local language) where they are not understood and accepted? 3. Do experts' opinions of young people's perception of concepts, align with young people's reported perceptions? 4. Are there any political, religious, or social connotations to key terms such as mindfulness and meditation? 5. Concepts include: Wellbeing; mental health; self-compassion; meditation; positivity; happiness; gratitude; kindness; stress; anxiety; depression; non-reacting;
Metaphors	1. Are typical metaphors explaining mindfulness understood in the context? 2. What other metaphors exist to relay important information on mental health and wellbeing? 3. Metaphors include: Mind wanders; emotional landscape; anchoring attention; rooted attention; centering; let go of thoughts.
Content	1. Are there local materials that could be used in the intervention? 2. What wellbeing strategies would benefit young people? 3. What type of activities and practices are suitable in the context? 4. Do visual resources (videos and photos) reflect common and culturally appropriate content? 5. What culturally appropriate images exist to symbolise key concepts?
Persons	1. Who are good role models for India adolescents? 2. Are case studies/videos/images relatable? Are there better examples available? 3. Who is appropriate to deliver the intervention to end users? 4. Are supportive materials (such as recruitment leaflets) relatable to the population?

Methods	1. How should data be collected?
	2. What measures are culturally validated to measure outcomes? Are the SCWBS and WEMWBS validated in India?
	3. Where, when, how, and by whom should the intervention be delivered?
	4. What are the most acceptable methods for home practice?
	5. How suitable is it to practice certain activity methods in the context?
Goals	1. What is the most important personal goals in the intervention?
	2. What are the most important wellbeing goals in the project?
	3. What other goals are important to participants?
	4. What personal outcomes do participants wish to achieve? What are signs that the programme has worked for participants?
	5. Is a goal on mental health stigmatising in the context?
	6. Are goals related to gratitude and self-compassion acceptable?
	7. Are goals that aim for 'fun' and 'social connection' acceptable to adult stakeholders who may wish to focus on achievement?
	8. Would goals on concentration undermine wellbeing focus by forcing participants to focus on efficiency?
	9. Are there any cultural connotations to embodiment goals due to other common practices in India such as yoga?

Table 16: Detailed adaptation questions for each section of the original intervention content, by topic.

Section topic	Areas/ content/ words that may need adapted	Questions portraying the reason(s) adaptation may be required
Setting intention	Marshmallow tower exercise	Can appropriate materials for the exercise be accessed? Is use of food (marshmallows and pasta) considered wasteful and inappropriate?
	Group agreement	Does this process have any cultural implications regarding power dynamics?
	Happiness images	Are images and themes of happiness relatable in the context and to different groups?
	Money activity	Is it appropriate to discuss money and happiness considering the strained economic environment in India? (A different approach may be needed depending on class)
	Video	Are the Manoj Singh and shining videos relatable? Do young people in India view a slum dweller from Mumbai as a role model? Is the music in the shining videos suitable?
	Neuroplasticity	Is the scientific/academic approach useful? What is the appropriate balance between this and experiential learning? Is the depth and language used appropriate for end users?
	Habits of the mind	Is the metaphor of dialling up and down on a soundboard understood/relevant?
	SOMA programme	Are the four positive psychology-based objectives that theme throughout the programme relevant in the context?
Mindful attention	Audio clip	Is the music recognisable? Is music a good metaphor for mindfulness in the context?
	Mind-wandering study	Is the language around mind wandering and focused in the present understandable?
	Mind experiments	Are the experiments effective in demonstrating the point? Are the instructions for instance 'keep the focus on the breath' easily understood?
	Video	Is the Scottish adolescent in video understandable? Are the reflections on the Scottish context relevant and motivational?
	Bodyscan aid	Is the handout useful in relaying the bodyscan learning?
Character strengths	24-character strengths	Are these strengths useful for the Indian context? Are there other strengths that are missing from the list that are reflective of Indian culture? Is this theme of character strengths a priority for end users?
	Exploring character strengths	Are the images relatable? If not, what/who would be?
Attitudinal qualities of mindfulness	Pushing hands	Will this be easily conveyed? Is the physical touch involved appropriate in the cultural context?
	Videos	Is the Samurai and fly imagery and lesson relatable/acceptable? Is the killing of flies appropriate in the context?
		Is the western nature of the marshmallow video a problem? Is the video considered humorous and enjoyable?

	Expanded definitions	Do the words 'grasp' and 'resist' make sense? Are there other English or local words that are better? Is the visual a helpful aid to explain the concept?
	Audio clip	Are there any sounds within the audio that are inappropriate (such as the baby screaming)?
	Willpower test	Is the 5-minute intensive willpower test an appropriate way to introduce non-reactivity?
Gratitude	Science of positive emotions	Is a positive approach to mindfulness and wellbeing appropriate and desirable within the context?
	Video	Is the imagery in the 'Moving Art' video inspiring to young people? Is the voice clear or are subtitles needed? Does an alternative video exist that conveys the same message?
	Gratitude journal	Are young people in India comfortable with the gratitude journal concept and have available resources to execute it?
	Gratitude letter	Are young people in India comfortable with this activity and the suggested actions that accompany it such as giving the letter to a person in their lives?
		Is the word gratitude understood? Are there other words that relay the meaning better? Is there a local word for gratitude?
	Brain teaser activity	Is the brain teaser activity useful and conveying culturally relatable imagery?
Awareness of thought	John was on his way to school A friend doesn't text back	Are the names/roles/emotions relayed in the story relatable? If not, what alternatives would work?
		Are the categories understood? Is the example relatable? Is referencing a mobile phone text relevant or can it be altered somehow?
	What thoughts do we consume? Ink bowl activity	Is the imagery of thought consumption relatable? Is the use of a cardboard plate possible and acceptable? Are there other local materials that would work better?
		Is it possible to purchase the suitable materials? Is the imagery effective? Is there another metaphor that represent of 'filling up of the mind' more effectively?
Mindfulness of difficult emotions	Video	Are the capuchin monkeys and 'Ballistic Bob' videos entertaining? Are the voices clear or are subtitles needed? Do alternative videos exist that conveys the same message?
	PFC vs amygdala	Is the science appropriate for the age group?
	Ice on the hand	Is the activity on pain acceptable? Is it possible to use ice in the context?
	Poem	Is the 'guest house' poem suitable? Is the figure of Rumi acceptable to all cultural groups?
	Bringing warmth to a difficult emotion	Is the practice too complex? Do the words 'soothe' and 'allow' convey the correct message? Are there other more relatable words?
Kindness	Mindful well-wishing	Is the practice acceptable (particularly with regard to evoking emotions)? Is the language around heart centre understood and relatable?

	Science of kindness video	Are the images and videos relatable? Are there alternatives? Can they follow the progression of the first video and understand the meaning? Are the second videos innuendos inappropriate?
	Sharing stories of kindness	
		Is the activity suitable to conduct in pairs?
Agency and action	Concepts and terms	Are there easier ways to relay the processes/stances of 'non-judgement' and 'non-reactive awareness'? Do concepts of 'flow', 'action system' and 'task engagement' translate well to the context? Does the language around rational/wise/emotional mind: does it translate well in the context?
	Control reflection	Is the circle of concern/influence diagram understandable? Is the concept of 'control' a useful one to address?
	Planning exercise	Does the 'Just plan it!' document and play on 'Nike' work well in the context?
Meaning and purpose	Video	Does the American culture in the motivation video portray the correct message? Is it acceptable and motivating?
	Admiration activity	Is it useful and acceptable to talk about who participants admire within the group?
	Writing a mission statement	Is the mission statement concept appropriate? How many levels if reducing words will be tolerated in the context?
	Closing activities	Do the images and core takeaways line up with all the lessons of the co-adaptation? Are Malala Yousafzai and Is Martin Luther King encouraging figures for Indian adolescents? Is Amnesty International an appropriate example of a respected organisation?
Games	Stacking cups	Is there adequate space and resources (tables and plastic cups) to do this activity?
	Drawing on back	Is the physical contact appropriate? Is there space to do this activity?
	Spot the difference	Is there space to do this activity? Are the children allowed to wear distinguishable clothes in school?
	Beer(less) pong	
	Blindfold trust game	Is the name appropriate? Would the game be enjoyable and convey the mindfulness message?
		Is there space to do this activity? Do young people feel safe being blindfolded in front of classmates and led my one of their friends? Would adolescents follow the safety rules?

3.5 Intervention (Beta) model development and generating adaptation proposals.

This section outlines Stage 5 of the protocol, shown in Figure 12 and is based on Step 5 of the EPIS framework and Stage 2 of Perera et al's., cultural adaptation process.

After potential mismatches were generated, initial and obvious adaptations were made to the original SOMA programme. These initial changes were based on input from PO staff supporting the project, and information gathered in Chapter 2. Chapter 4.2 outlines all adaptations made by the PO prior to co-adaptation with adolescents. These initial adaptations supported the creation of a beta / prototype programme which was designed to take to co-adaptation workshops and interviews with stakeholders. Adaptation proposals were then developed as a way to a) prioritise issues addressed at co-adaptation, and b) clarify if changes made from the original to beta programme aligned with end user preferences.

Figure 12: Protocol Stage 5, Intervention model development and adaptation proposals generation, Preparation phase.
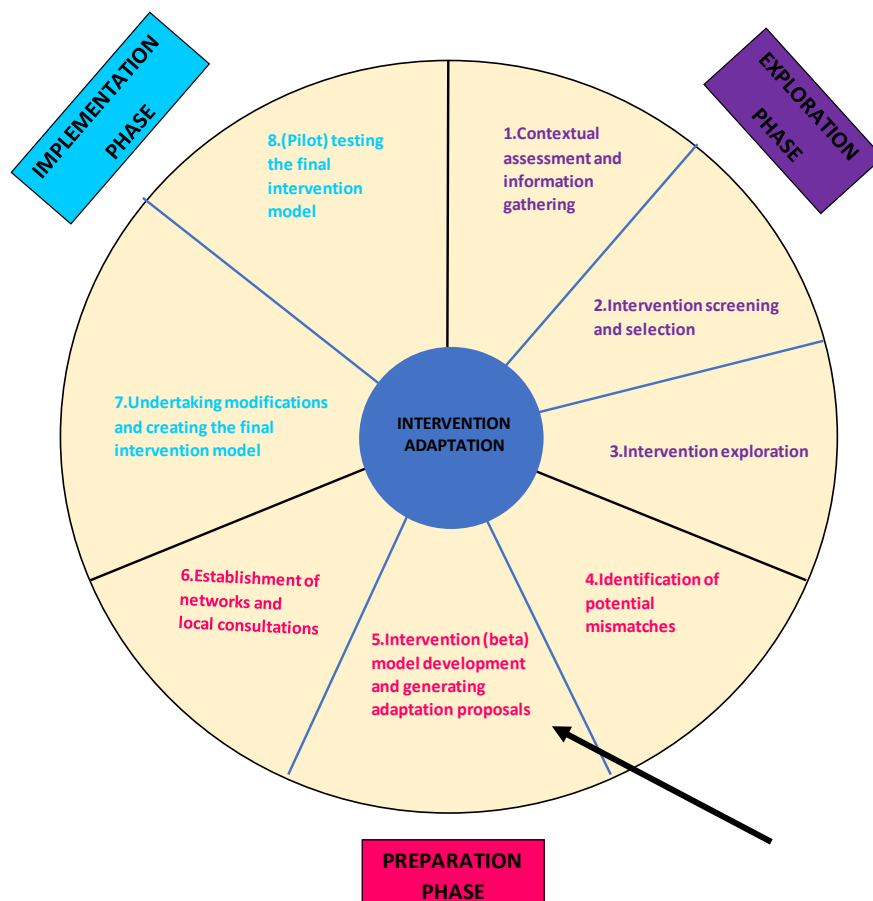
3.5.1 Beta programme

Table 17 indicates the beta programme taken to the co-adaptation stage. All content was taken directly from the SOMA programme with two exceptions. First, self-compassion as a secondary topic which was touched upon in the SOMA programme but not prioritised. Self-compassion has been shown to be a protective factor against chronic academic stress within educational contexts (Zhang, 2016). Based on input from Chapter 2 sources and initial input from PO staff, this was an important actor within the programme to strengthen due to the problem of academic stress in Indian schools.

Second, and the inclusion of set home practices. Practice out of sessions was encouraged in the original SOMA but not a set activity formally introduced through the programme. Evidence has shown better outcomes thought higher degrees of practicing mindfulness skills (Kuyken, Ball et al. 2022); practicing outside of formal sessions occurred (Schussler, Oh et al. 2021); and when practices outside of interventions are sustained (Bergomi, Tschacher et al. 2015). 'Home challenges' were therefore introduced to encourage practice to become part of participant's routine, providing opportunities for participants to investigate mindfulness in their own lives. Both these components were addressed during the adaptations suggested by the PO staff.

As the original SOMA programme does not design specific sessions but rather provides activities that can be arranged in any order suitable as per the decision of the facilitator or researcher, the below programme was devised by the Doctoral Researcher with input provided by the Chief Executive Officer (CEO) of the partner organisation.

Out of a possible 10 main topics from the original SOMA programme, seven were chosen (based on their strong alignment with the original SOMA ToC) and two were merged to formulate an eighth topic. Secondary topics were outlined to provide more detail in the overview of the sessions. It was decided that each session would have a range of activities to accommodate (presumed) adolescent preferences. All sessions with the exception of Session 8 included a mindful game, which was a method to test out mindful theory in an active practice, and to break up theoretical teachings. With changes made, a set of inferred goals were established that would be reviewed in the co-adaptation. They have been divided into personal and wellbeing goals and are provided in Table 18.

Table 17: Overview of sessions in the beta programme

SESSION #	MAIN TOPIC	SECONDARY TOPIC	PRACTICES	GAMES	PSYCHOEDUCATIONAL MATERIALS	CONNECTION TO ToC
1	Setting intentions and introducing mindfulness	Neuroscience: what mindfulness does to the brain?	Mindfulness of breathing Mindful eating	Marshmallow tower	What is the mind? Neuroplasticity 'Dialling up and down' of the mind	Motivation (Tier 1) Psychoeducational content and Mindfulness of breathing (Tier 2)
2	Mindful attention	Happiness	'Not thinking' test Bodyscan	Spot the difference	Happiness= Mind and circumstances Photo board Mind wandering study	Bodyscan and Psychoeducational content (Tier 2) Attention and Somatic Awareness (Tier 3)
3	Attitudinal qualities of mindfulness	Grasping/resisting and allowing experience.	Mindful movement Mindfulness of senses and sensations Willpower test	Stacking cups Pushing hands	Resistance (Samurai) video Awareness of preference clip Willpower video	Mindful movement and sensations (Tier 2) Attention, Orienting to the present moment, Acceptance and Non-reacting (Tier 3) Non-judging awareness (Tier 4)
4	Gratitude	Self-compassion Positive emotions	Meditation on body, breath, senses, and movement Self-compassion anchor Gratitude meditation	Drawing on partners back	What positive emotions do Gratitude video, journal, and letter	Psychoeducation (Tier 2) Positive view (Tier 4)
5	Awareness of thought		Mindfulness of breathing Awareness of thought	Paper ball pong	What thoughts do we consume? Ink bowl John going to school. Thought-actions-consequences	Mindfulness of breathing and thought (Tier 2) Cognitive flexibility, Orienting to the present moment (Tier 3) Non- judging awareness (Tier 4)

6	Mindfulness of difficult emotions	Self-compassion	Compassionate breath Recognise, allow, embrace	Mindful dancing with freezing	Capuchin monkey and the amygdala Ice cube exercise 'The guest house' Rumi poem	Mindfulness of emotions (Tier 2) Emotional flexibility Acceptance and Non-reacting (Tier 3)
7	Kindness	Social connection	Loving kindness (Mindful well-wishing)	Blindfold trust game	Reflection on experience of giving and receiving kindness Videos on kindness	Mindful well-wishing (Tier 2) Emotional flexibility (Tier 3)
8	Meaning and purpose; action and agency.		Mindfulness of breathing with wise decision reflection Admirable qualities meditation	-	Control in our lives 'Just do it' planning activity. Meaning and purpose video Writing our dreams Mission statement Graduation ceremony	Motivation (Tier 1) Mindfulness of breathing and psychoeducation (Tier 2) Positive view and Intellectual orientation (Tier 4)

Table 18: Inferred programme goals

Personal goals	Wellbeing goals
Experience joy and fun	Increase sense of embodiment
Understand personal qualities	Practice self-compassion and kindness in difficult times
To enjoy social connection amongst peers	Feel personal contentment (in self and life)
More motivated to achieve personal lifegoals	Increase concentration
To feel respected within the group	Increase gratitude and appreciation
	Learn coping strategies for stress, anxiety, and/or depression

3.5.2 Adaptation proposals to guide co-adaptation.

Influenced by Perera's cultural adaptation process, adaptation proposals were generated to guide co-adaptation consultations so that the issues most critical to programme success were addressed. Adaptation proposals were driven by input from decisions made when designing the beta programme, the rapid desk review, expert input from Study 1 consultations, and evidence on MBIs effective components. For instance, proposals 1, 2, and 4 in part aim to clarify if changes to the original SOMA programme to the beta programme were in line with end user preferences. Proposals 6 and 7 prioritise gathering knowledge on how to involve parents and teachers due to data generated (from the desk review, Study 1, and discussions with the PO staff) emphasising them as key stakeholders.

An adaptation proposal is phrased as a kind of hypothesis about what will work, or what needs to be changed. Adaptation proposals were established as follows:

o **Adaptation proposal 1:** Programme outcomes and goals from the original SOMA programme should be reduced and/or prioritised to accommodate the needs and timeframes suitable for the context'.

o **Adaptation proposal 2:** The final programme will work best as eight established sessions, lasting 75-90-minute long; reducing the overall content; and shaping existing activities to ensure a varied programme composed of mindfulness practices, reflective exercises, psychoeducational content, and games.

o **Adaptation proposal 3:** Alternative words will be generated for the concepts of 'mindfulness' and 'meditation'; and alternative words, metaphors and phrasing will be tested / requested to reflect culturally appropriate use of English.

o **Adaptation proposal 4:** Home practices should be introduced to the programme framework, and as a core programme component.

o **Adaptation proposal 5:** Controversial topics and practices (such as discussing difficult emotions, physical contact, self-compassion, and gender considerations) will be altered where necessary to match culturally appropriate behaviour and ways of speaking with young people.

o **Adaptation proposal 6:** Parental inductions should be provided to gain full support throughout the programme.

o **Adaptation proposal 7:** Teacher's inductions should be altered to explain the programmes' approach to working with young people as the programme values may differ from values that dictate usual interactions between children and persons of authority in India.

- o **Adaptation proposal 8:** Design components of the programme should be altered from British / Western images to those culturally appropriate to adolescents in Guwahati.
- o **Adaptation proposal 9:** Safety, ethical, and safeguarding processes relating to the programme should be fully aligned with the Indian organisations facilitating the programme including the partner and school, and expectations of the adolescents which may be different than those assumed for children in the UK.

As an extra consideration, adolescents' views on data collection were explored during co-adaptation workshops. A tenth adaptation proposal was generated to include this, as follows.

Adaptation proposal 10: Acceptable design of a) data collection tools (self-report surveys, feasibility/acceptability survey, recordings, and interviews) and b) research time frames (base, post and +3 month) should be determined.

Once the adaptation proposals were established, a number of steps occurred before the co-adaptation process began:

1. A draft manual was composed using the original SOMA manual, with alterations reflecting the beta programme.
2. A programme implementation plan and a research design to evaluate it were drafted collaboratively by the research team to take to co-adaptation with stakeholders.
3. A plan for reporting adaptations to the beta programme was devised. This is detailed in Chapter 5.1.

3.6 Chapter conclusions

Chapter 3 has detailed the process of selecting and preparing the programme for co-adaptation. Similar to findings during development of the EPIS model by Movsisyan et al., the thesis protocol was not a linear process. Engagement with key stakeholders was required in parallel to this preparation, to ensure that the chosen programme was desirable to the partner organisation. Without this, the project would lack the meaningful input of the local partner, an equitable partnership, and co-produced research. The theoretical components of this preparatory process therefore overlapped with the project and partnership development and negotiations, which in essence instigated the process of adaptation.

Overall, however, Chapter 3 has disentangled the theoretical components of the SOMA programme and has simplified the complex adaptation considerations concerned when introducing a wellbeing intervention designed for one context into another.

Chapter 4 outlines the process of partnership development in detail and indicates the requirements for taking the theoretical propositions displayed in Chapter 3 and adapting them for the 'real world' setting. To do this a series of engagements with stakeholders to co-adapt the materials occurred. These are outlined in Chapter 4, and include Study 2, the co-adaptation study with adolescents.

Chapter 4: Co-adaptation with local stakeholders

The aim of Chapter 4 is to fully understand local perspectives of the proposed intervention in relation to suitability of materials for the culture, and design of the delivery model for the context. Assigning time and resources to guide and collect stakeholder input ensures their meaningful involvement; and realistic intervention adaptation, as implementers' capacity to deliver, and available infrastructure, will be understood by the researcher prior to completing the final intervention design (Movsisyan, 2019). Chapter 4 comprises four sections, all of which fall under Stage 6 of the protocol as shown in Figure 13, which is based on Step 6 of the EPIS framework, and Stages 3 and 4 of Perera et al's., cultural adaptation process.

Figure 13: Protocol Stage 6, Establishment of networks and local consultations, Preparation phase

Section 4.1 outlines partnership building successes and failures of the doctoral project, how they impacted research decisions made, and in the case of intervention developers, how they influenced perspectives of PO members in Assam. Sections 4.2 to 4.4 reports the three stages of co-adaptation of the beta programme and accompanying intervention components such as research design and strategies for parental engagement. Section 4.2 outlines the initial co-adaptation with the research team, that occurred both before and after the formulation of the

beta programme. Section 4.3 shares Study 2 of the thesis which is the co-adaptation with adolescents; and section 4.4 outlines the partner organisation's evaluation of the newly adapted intervention after all adaptations were applied to the materials.

4.1 Building partnerships

Building equitable partnerships in research between HICs and LMICs is an important principle in international research. In research collaborations between HICs and LMICs, there has been a long history of inequitable partnerships, and a devaluation of the skills and views of LMIC colleagues, which has led to, for example, to lack of consultation or denial of co-authorship (Urassa, Lawson et al. 2021). Co-production of research between HIC and LMIC research institutions can be an enabling strategy (Mounier-Jack, 2017) that benefits all parties when idea sharing and decision-making is bidirectional and co-constituted (Dean, Njelesani et al. 2015, Sors, O'Brien et al. 2022). These were values underpinning the research partnerships for this doctoral work.

Within this doctorate, three partnerships were developed, two of which were with organisations from India and one from the UK. The first partnership (detailed in 4.1.1) is demonstrative of a situation where two research institutes have the same desired outcomes yet due to government level red tape and underdeveloped institutional processes in LMICs, a fruitful partnership was not possible. The second partnership (outlined in 4.1.2) demonstrates the processes involved in creating a functioning partnership between LMICs and HICs, and the various challenges, compromises, and successes that can occur within such relationships. The third partnership (outlined in 4.1.3), details the partnership between the University of Leeds and the developer of the SOMA programme in the UK, plus the complications involved when priorities of all three organisations involved in the project come together. This work is reported here to document the learning about international research partnerships within this doctorate.

4.1.1 Challenges in forging an international partnership between a HIC and LMIC research institute: a case study.

A research team comprising four psychologists from a Northeast Indian research institute, and two research psychologists and a PhD student from University of Leeds, was formed at the study outset with a view to collaborate on the co-adaptation and feasibility study within the doctorate. Several meetings were conducted over a three-month period to establish an official partnership, align research goals, and design the research project. The project aimed to support the PhD whilst inputting productively into the work of the Indian research institute and its sister organisation that provided direct mental health and wellbeing support to adolescents.

It was to be the first feasibility study that the institute had conducted with adolescents and the topic of mindfulness was new to the Indian researchers. New methods for addressing adolescent wellbeing and the capacity building involved, and advancing the research methods, were already priorities for the institute. The priorities of the research team members from the UK were to develop an effective partnership with a key Indian research institute whose mission and scope aligned well with theirs and to enable the research of the PhD. Following collaborative project design, and after lengthy co-writing, an ethics application was submitted to the Indian partner's institutional ethics committee (IEC) in January 2020, and within six months conditional approval was granted. The IEC's conditional approval required a revision of the principles within the project to ensure that standards of equality and data rights were in line with the organisation's expectations. With action to decolonise the global health movement being a global agenda, it was imperative to find the correct power balance within the research team. The research team agreed by full consensus that increasing the project's emphasis on equitable collaboration would create the standard of partnership to which both institutions aspired.

After a further nine months of cycles of revisions being submitted to the IEC, it became clear that the original changes to the project design requested from the IEC were inadequate. The IEC's standard operating procedures (SOPs) were in part based on the Indian Council of Medical Research (ICMR) Ethical Guidelines for Biomedical research on Human Participants (Ananthakrishnan and Shanthi 2012). Application of the ICMR guidelines meant that any research conducted on mental health and wellbeing within the institution had to be treated as clinical. The research team was therefore required to submit to the Clinical Trial Registry India (CTRI). Within the CTRI framework it was essential for an Indian researcher to be the lead researcher on the study, and for the Indian research institution to own the research. After this step, it was essential to obtain Health Ministry's Screening Committee (HMSC) approval, as Indian investigators are required to obtain HMSC clearance for projects involving international collaboration/funding in health research. The final step outlined was to gain approval by the Ministry of Health and Family Welfare, in New Delhi.

These guidelines and procedures conflicted with the small scope of the project and the University of Leeds protocols for PhD research. First, there was not enough time to engage in this process due to the three-year time limit of the PhD. Second, it was not possible for the University of Leeds to share intellectual property (IP) for materials arising from a doctorate. The proposed partnership agreement instead ensured maximum usership of the arising property rights for the Indian research institute, co-production of the research and co-

authorship of any arising papers. Third, it had become impossible to complete a clinical trials application due to the non-clinical design of the research.

Procedures within the Indian research institute did not accommodate the compromises the University of Leeds could offer, and at this point it became necessary for the institute to seek legal guidance. What was originally a realignment of the co-produced research design and principles, became an exercise in overcoming red tape and engaging with bureaucracy that was unmanageable for a PhD. After 15 months of investigating all avenues for creating a mutually beneficial partnership, it was realised that there was no method by which the Indian research institute could engage in partnership with a small, non-clinical PhD. In February 2021, 14 months after first submitting the joint research proposal, the partnership was dissolved by mutual decision and regret.

Reflections made after this experience were mainly around the concern held by many professionals in India over international collaboration, and their insistence that research conducted in India should belong to an India organisation. This philosophy was easy to understand and respect, especially considering the trends of inequitable collaborations in which researchers in LMICs had been historically disadvantaged.

4.1.2 Building effective partnerships and co-producing research between a HIC and LMIC: working with a private Institute for Mental Health & Research

It had been an original priority to work with an Indian government funded mental health research institute to promote sustainability of the project and the programme. As the bureaucratic realities made this impossible within the timeframes of the PhD, it was necessary to consider working with a private organisation. A number of limitations were recognised in doing so, the biggest being upscale and reach. In theory, had the tested intervention indicated feasibility, a government partnership could lead to investment into an effectiveness trial, and eventually widespread use of an effective wellbeing intervention throughout state schools. This outcome was less likely with a private institute that had limited reach within the schooling system. However, in practice, the red tape that crippled the partnership with the government partner did not affect the private institute, and it was therefore possible to research a non-clinical intervention and attain ethics within the timeframes of the PhD.

During Study 1, it was identified that an existing University of Leeds partner in Northeast India taught mindfulness to adolescents; and mental health experts within the organisation were already searching for an evidence-informed mindfulness intervention to use in its programming. The organisations' mission was to ensure "Positive Mental Health for All", and their core philosophy was that positive wellbeing is a state of positivity in the physical,

emotional, social, mental, and spiritual spheres of living and not only the absence of disease. Its strategy was to (i) prevent detrimental influences which may hamper positive mental wellbeing, (ii) prepare people by equipping them with psychosocial skills to increase resilience, to face life challenges, and (iii) pursue wellbeing by exploring new opportunities and activities within communities. Services they offered included psychiatric evaluation, counselling, and therapeutic interventions, and what they termed 'alternative healing' including mindfulness training, yoga, and Ayurveda. The partner relied on both private funding and competing for government funding against similar organisations.

It was decided that a new project agreement would be established with this partner. Within five months of the initial partnership dissolving, ethics had been approved, a new partnership agreement formed, and MIND India had become the partner organisation for the doctoral project. Significant dialogue during the initial co-production stages of the research concerned publications, research outcomes, and ownership of any derivative work resulting from co-adapting the intervention. There was harmony in discussions on publications and research outcomes. Establishing an agreement on ownership of any derivative work was complicated due to the third party who owned the original materials. Details pertaining to this situation are detailed in section 4.1.3.

Another potential hurdle that arose for the newly formed research team was that an intervention to co-adapt had been selected in the previous partnership agreement, and investment into a partnership agreement with the UK-based developer, and training in the materials for the doctoral researcher, were underway. However, the flexible attitude of the PO CEO, and the intervention's emphasis on positive mental health, which was in line with the POs values, resulted in an agreement to continue using the selected intervention.

The biggest issue that affected the partnership was the limited timeframe to organise the intervention, especially when the UK research team was not permitted to travel to India due to Covid-19. Initially, as the PO had never partaken in co-adaptation research or a feasibility study, it was preferred that the doctoral researcher in particular would spend time in country, enabling joint engagement with key stakeholders. This was not possible at any point during the project and would have a number of consequences as the project progressed. Another equally important consequence of this was that the doctoral researcher had a limited learning curve in her contextual understanding of Guwahati and Assam and relied heavily on the two staff members involved in the project to communicate all nuanced information relevant to the setting during online discussions.

The most essential action to ensure that the partnership was a success, was regular and open communication, with all team members understanding their role and value in the team. A

number of structures were put in place to ensure this. Firstly, there was formal recognition of the research team, which was comprised of the doctoral researcher, one Supervisor from the University of Leeds, the PO CEO, and the PO facilitator (who regularly worked for MIND India as a consultant and who was hired to deliver the intervention and support the surrounding research). Regular meetings occurred at the beginning of the project between all team members. Eventually the day-to-day work involved the doctoral researcher and PO facilitator only, who met weekly and during busier project times, daily. The doctoral researcher met with all members of the team individually on a regular basis, and summaries of key discussions were shared with the whole team when appropriate to ensure that everyone was fully informed on decision making at various levels.

The partnership, overall, was a huge success for three main reasons. First, the existing relationship between the University of Leeds and the partner organisation was strong and previous research projects had been co-produced and mutually beneficial. Second, working with adolescent wellbeing with mindfulness was already an interest for the partner and they wanted to possess a unique programme from others in Assam. Third, similar to the approach of the research, the partner valued prevention and embedding positive wellbeing in everyday life, which are mentioned in its mission statement, strategies, and communication materials. In addition, there is potential for further research with the newly adapted programme. The realisation of any further collaboration will depend on funding.

One reflection made during and after this experience was how simple matters became when working with a partner whose values and vision aligned exactly with that of the content. Although the first partnership organisation was interested in the content, their priorities were not as directly congruent with that of the intervention developers. Because of this match, the new partnership naturally had a degree of creativity as no joint values and plans felt forced. Additionally, this partnership demonstrated how best theorised plans and visions for a research project will likely face barriers, and that compromises are both necessary and can result in a stronger project.

4.1.3 Partnerships with intervention developers

Developing an agreement with the original developers of the SOMA programme was largely straight forward. The intervention was developed by a small charitable organisation in the UK that delivered mindfulness programmes in the UK only. This partner from hereon will be referred to as the intervention developer (ID) or author.

The Founder and CEO of the charity that developed the SOMA programme had a great interest in the programme being researched. His main concern was if the IP was shared widely and

online it could greatly de-value the programmes worth. Within one year of initial engagement between the ID and the University of Leeds, a licensing agreement was put in place between both parties for the duration of the project. The agreement stipulated that the University of Leeds did not have permission to share the original materials, and the co-adapted derivative work could only be shared with the PO in India and used only during the doctoral project. Any further use of the materials by the PO, in particular where they would benefit commercially, would have to be negotiated at a later date between the PO and ID.

Although this was necessary for the ID to protect their IP and resources, it was a risk for the PO. They would invest in the programme with no guarantee of having a mindfulness intervention readily available to use by the end of the project, which was one of their main objectives in entering into the agreement. The partnership with the ID was fruitful for the co-adaptation. As authors of the programme, their advice on how the materials could be reshaped was invaluable. This partnership also demonstrated how IP can create challenges in co-adapting programmes. Developers may on one hand be protective of their materials, and on the other may want to be involved in generating data and evidence about the programmes they have produced.

Reflections on this partnership mainly concern the complexities around IP. For any researcher attempting a similar project it is advised that it is an ethical responsibility of a researcher to help protect people's work, especially if it concerns a small organisation in which a number of peoples' livelihoods rely on the IP. In the future to avoid such complications, it is an option to use only open-sourced materials. Overall, however, these complicated dynamics was a great teaching moment for the doctoral researcher on the processes and responsibilities required when establishing a licensing agreement; and in managing multiple, and at times conflicting, partner needs.

4.2 Co- production and co-adaptation with the PO.

The overall objectives of co-adapting with local stakeholders were to:

1. Align the intervention to local understandings, agendas, and ways of talking about mental health.
2. Ensure the final intervention put forward for implementation was accountable to in-country ethical and child protection standards.
3. Ensure the final intervention put forward for implementation accommodated local service capacities.

It was initially planned to engage school staff, parents, and external local experts to evaluate the adapted intervention. However, due to time restraints resulting from the partnership

changing, it was only possible to engage adults from the PO; prioritization of stakeholders resulted in most co-adaptation time and resources being targeted toward end users and older adolescents. Before co-adaptation with the adolescents occurred, members of the research team local to Guwahati contributed to the co-adaptation in two ways: first, through discussions concerning MIND India's capacity; and second, in a series of discussions that involved reviewing the SOMA programme content.

In reality, engaging the PO in adapting the original programme happened both prior to the beta programme being fully formulated, and between beta programme formulation and co-adaptation with adolescents. This was not unexpected as the steps in the EPIS framework in which the protocol is based, were not designed to be rigorously linear. The systematic review that resulted in the EPIS framework formulation, indicated that overlap and pendulation between steps appeared to be common (Movsisyan, Arnold et al. 2019). The process of creating a partnership agreement between the University of Leeds and MIND India, for instance, required project design elements to be stipulated, with both organisations stating their available resources for, and expectations of, the research. Initial input from the PO CEO occurred in parallel to Study 1 write up and the evaluation of SOMA's theoretical make-up. This engagement was the beginning stages of co-producing the research; initially understanding what was possible for the project design at field level; understanding the capacities and priorities of the agency; and determining available funding for the project which would impact the projects' design and scale. Elements of the beta programme design, such as its' length, was informed by this input. In a later series of discussions, after the partnership agreement was in place, and Study 1 was complete, the PO team members reviewed the beta programme content informing more detailed adaptations. These discussions were directly shaped by the adaptation proposals, with specific questions originating from the potential mismatches in Chapter 3.

The objectives of adaptations with the PO were threefold:

1. Reduce the overall number of questions brought to end users in co-adaptation workshops.
2. Understand the culture and context, including available infrastructure, from the point of view of experts invested in the project.
3. Understand the partner's capacity and the implications that would have on the intervention design.

All contextual and partner information gathered during the development of the partnership agreement is shared in Table 19. It is interesting to note that many of the theoretical priorities

outlined in Chapter 2 conclusions aligned with the partner's capacities and priorities. For instance:

- o A school-based approach was endorsed, with online and community-level delivery (at the MIND India premises) considered 'back-up' options. As the partnership was established during the pandemic, draft designs for all three options were created.
- o Available facilitators were experienced in teaching mindfulness, but were not trained mental health experts, which was in line with using non-specialist human resources to deliver the programme.
- o A prevention programme composed of mindfulness merged with positive psychology was in line with organizational goals, all of which was aligned with the country-wide strategy on how adolescent mental health was being addressed.

Unlike the priorities highlighted in the Chapter 2, the partner organisation preferred to deliver the intervention in an urban setting, due to its reach within the urban community. Working within the rural setting required additional steps to be taken which were constrained due to the pandemic restricting movement of both local and international team members.

Another interesting decision was that the SOMA framework (Social Connection- Openness to Enjoyment- Meaning and purpose- Action) was considered inappropriate if the content was to be shortened, so there was room to reframe the programme in a manner that matched the POs priorities.

An initial review of the SOMA programme content by research team members from the PO is displayed in Table 20. This input was collected during team meetings assigned to content review. A first observation is that most changes are concerned with language and metaphor. PO team members were very clear on what terms and phrases depicting elements of mindfulness and mental health, would and would not work. Additionally, the discouraged the translation of materials at this stage believing that the adolescents would expect the materials in English. A second observation from the data is that within the content change, there were no changes that suggested theory of change core programme components were unacceptable. The PO believed the practices themselves and their messages were acceptable.

Table 19: Initial co-design of project based on PO CEO input during the development of the partnership agreement.

Categories	Project design decisions and relevant context information.
Intervention target group	o The programme would target 13–16-year-olds (Class standards 9 and 10). The PO already worked with this age group and were interested in the statistics from the NMHS indicating that suicide increased from age 14 and the role that prevention programming could play. o The project would take place with adolescents from a rural location.
Partner organisation capacities	o Two (2) facilitators were preferred to support project activities. Due to financial restrictions one (1) facilitator was planned for. Consequences of this was that no other staff members would be able to attend the training; and eventual outreach may be limited. o Available financial resources allowed for a face-to-face pilot to be conducted in one (1) school with two (2) groups. o One (1) male who was commonly hired as a consultant to deliver mindfulness interventions with adolescents would be the intervention facilitator, and support with data collection for the co-adaptation and feasibility study. He was trained in Zen-based mindfulness and had years' experience teaching mindfulness to adolescents in school in Guwahati. o Facilitator training was required for the full intervention. o POs CEO would act as a technical advisor. o The chosen school for the pilot should be one with a positive working relationship with the PO. There were three (3) options.
Programme decisions	o Goals did not fully harmonise with the PO. The concept of SOMA that provides a framework for the content was believed to be too complicated; and took a lot of time from any available intervention time to explain. The PO did not want a 20-hour programme but for topics to be prioritised and the content tailored to those priorities. A general focus on wellbeing with other concepts that dealt with academic pressures were preferred. o Sessions should be no longer than 90 minutes, preferably 75 minutes; and the full intervention should not exceed 8 weeks, due to term times and examinations. o Mindfulness merged with positive psychology were deemed highly suitable for the organisation which desired a mindfulness-based intervention for children and was a positive mental health and research institute.
Implementation in the context and community	o Adolescent wellbeing interventions should be delivered in schools. o An online programme should be feasible and accepted if Covid-19 prevented face-to-face participation, as other learning was taking place online. o There should be no barriers relating to the urban metropolis setting of Guwahati. In the urban setting it was enough to prioritise end users, parents, and school staff in the co-adaptation. o Delivery should be avoided the monsoon season where possible, especially late June to August.

	o Delivery should be avoided during exam times in end of February/ March, July, and December (school to confirm exact dates). o Schools now have a wellbeing indicator so are generally supportive when such an intervention is proposed. o Information sharing sessions for parents and teachers which would introduce basic mindfulness practices and games; an overview of the intervention goals; and purpose/proposed use of the accompanying research. o Results of the research should be shared face-to-face with mental health experts in the community in addition to the school's staff and end users. o Generally, schools were willing to support wellbeing interventions. o There was political stability at the time in Guwahati and generally different groups interact and attend school together.
Participation	o Girls and boys should accept receiving sessions together but should be consulted to confirm. o Different religious groups attend the same schools. It should be possible for a variety of groups to participate together. o School work was a responsibility of young people; however, they must be asked to understand other responsibilities. o Parents are generally supportive of these activities. They need a brief explanation of what the children are doing; and it may be more difficult to gain informed consent from Muslim parents.
Fidelity concerns	o Observation as a fidelity method will not work in the context. Sessions can be recorded if consent/assent is obtained. o It is possible but not confirmed that the proposed facilitator will understand CPCs.
Safeguarding	o The PO had an existing safeguarding system under which misconduct, and mental health concerns could be reported. o Confidentiality and its' limits to participants can be addressed during the group agreement. o Adolescents must be asked about referred ways of reporting and dealing with safeguarding issues.
Language and concepts	o Usually, wellbeing programme will be in English with some local language used when the English is unclear. o Best not to use the word meditation as it is associated with old people and religion. o Mindfulness may be associated with Buddhism, but this is unclear. o Mental health is likely to be a 'no go' term due to stigma, but it should be asked of the adolescents. o Self-compassion will be a very positive concept to explain, but it may not be accepted as it could be perceived as selfish.
Content	o There are many local life skills programmes that can be used to support the materials if needed; Thich Nhat Hanh is used to teach mindfulness via the facilitator.

Table 20: Adaptation inputs from PO research team members during initial discussions reviewing the SOMA materials.

Categories	Adaptation input
Language	o The word 'tension' is the English word used to describe 'stress'. o 'Mental health' is stigmatising, speaking of it should be approached with care or avoided. Terms 'good' or 'bad' mental health to be avoided. Most believe that bad mental health means a person is insane. Positive wellbeing mental health can be used instead. o 'Love yourself' and 'Be kind to yourself' can be used to express self-compassion. o 'Meditation' will be seen by adolescents as religious/something that old people do. 'Practices' can be used instead. o The programme activities and resources should initially be designed in English and possibly translated into Assamese if the adolescents prefer. Generally, resources were designed in English including other mindfulness materials the IA had introduced to adolescents in the community. The PO CEO stated: "Structured wellbeing materials which are talked about in workshops are usually English or adapted from vernacular language, but the materials are usually tailor made as per the group that you are interacting with… Wellbeing is talked about through folklore, religious dialogues and homilies and other art forms."
Metaphors	o 'Calming the mind' would work better in the context than 'Quietening the mind.' o 'Letting go' or 'Loosen your body' can be used when communicating 'Letting go', 'surrendering' or 'releasing' (in reference to the body and mind in a practice). o 'Anchoring' is used in the context but it was questioned whether it would be suitable for the age group and their level of understanding. 'To be in one place'; 'Focus on the breathing'; and 'Centering' should be acceptable. 'Dialling' qualities of the mind up and down would have to be explained and preferably an alternative found as it is not a term used in the context by adults or children.
Content	o 'Self-compassion' could be very beneficial to this age group. o Several activities and videos were not suitable for the cultural context. E.g., marshmallow tower (which wasted food resources), Ballistic Bob video, pushing hands exercise, science of kindness videos and the 'Just plan it' Nike inspired exercise. o Within '24 Character strengths' 3 words need simplified (in case activity was used): 'zest', 'prudence' and 'perseverance'. o 'Control' activity should be revised. It was believed that early teens would reply negatively to topic. o One photo featuring an athlete with disability was deemed unsuitable for the context and was described as 'disturbing'. o Home practice could be very positive for this programme but could be thwarted by chores and responsibilities. o Character strengths was the one topic not considered as important from the remaining content. All mindfulness related sessions, gratitude, kindness, difficult emotions, and self-compassion were particularly preferred out of all the topics.
Goals	o One staff member believed a 'concentration' goal would be prioritised; the other believed the adolescents would want something different due to adults always speaking to them about improving their concentration. o One staff member shared that gratitude was important but that young people may interpret the term as a way of older people preaching for them to 'be grateful'.

4.3 Study 2: Co-adaptation with adolescents

4.3.1 Study aim and objectives

The aim of Study 2 was to co-adapt the beta programme and other intervention components with adolescent end users to promote its' feasibility.

Study 2 had three objectives. They were to:

1. Co-adapt the beta programme through a series of online workshops with young Indian people, to reflect the needs and preferences of targeted end users.

2. Ensure the final intervention put forward for implementation was accountable to social, cultural, and ethical standards of young Indian people in Guwahati.

3. Evaluate collected data with reference to generated adaptation proposals.

4.3.2 Methods

Study design

This was a co-adaptation study which involved a series of structured, online workshops with groups of adolescents in Guwahati.

Ethics

The study received ethical approval from the University of Leeds Faculty of Medicine & Health (School of Psychology) Ethics Committee on 13/07/2021, ref: PSYC-284. An amended version was submitted 20/10/2021, ref PSYC-340, to include a survey designed for participants from Muslim backgrounds whose parents initially had not responded regarding their participation in online workshops.

Key ethical considerations in the study design included anonymity, right to withdraw, safeguarding (esp. if someone disclosed something during the workshops), consent and assent procedures, and data security. Supportive documents including Study information letter for school Principals detailing Studies 2 and 3, and consent and assent forms can be found in appendix D.

Recruitment

Young people were eligible to take part if they were: school-going adolescents aged between 13-18 years, from the region of Guwahati; confident in speaking English; willing and able to attend co-adaptation workshops online (i.e., had access to a stable internet connection). There were no exclusion criteria established for the study given the intention for this to be a universal approach. Recruitment of 13–18-year-olds took place as it was anticipated that older adolescents could reflect on their previous experiences of early and mid-adolescence, and hence provide a different and potentially invaluable perspective.

It was difficult to find a typical sample size recommendation for this type of study due to approaches varying considerably in depth, breadth, and scope. Discovered sample sizes in studies with adolescents meaningfully participating in shaping mental health research and interventions ranged from 7 (Dewa, Lawrence-Jones et al. 2020) to 126 (Rose-Clarke, Pradhan et al. 2020), with the latter extending participants to include diverse adult stakeholders. The target sample of this study was between 15 and 20. This was decided based on time available to conduct multiple sessions with groups of up to five participants.

The PO recruited adolescent participants with the support of five local schools with whom it had professional connections. An invitation letter explaining the study purpose and parameters, and a recruitment poster with study details for potential participants, were sent to school Principals four weeks prior to the study starting. The PO's facilitator conducted school visits to explain the study's purpose, and information letters and consent forms were sent to parents of adolescents who wished to participate. Assent forms were later shared with adolescents whose parents provided consent.

There was initial difficulty recruiting participants from a Muslim background due to parents' hesitancy with the unfamiliar activity. As over 12% of Guwahati's population was Muslim, as the desk review pointed to a number of problems specific to this community, and as it was predicted this would be a difficult group to recruit in initial discussions with the PO, efforts were made to re-design the workshops to a format that was considered acceptable, in order to increase recruitment of this group. Four months after the other workshops had completed, one 17-year-old female and two 16-year-old males from a Muslim background participated in workshops with a slightly altered format.

Participants

A total of 19 adolescents participated in Study 2 (8 females, 11 males). The demographic breakdown is presented in Table 21, as reported by participants at the point of consent / assent. The mean age was 15 years old. No ethnically Bengali adolescents signed up to participate. All Muslim participants identified as Assamese, and all Christian participants identified as Tangkhul and Mizo.

Table 21: Demographic details of Study 2 participants.

Age	Gender	Class standard	Religion	Ethnicity
12 years old: n= 1 13 years old: n= 5 14 years old: n= 2 15 years old: n= 5 16 years old: n= 2 17 years old: n= 3 18 years old: n= 1	Female: n= 8 Male: n= 11 Non-binary: n= 0	Class standard 7: n= 5 Class standard 8: n= 1 Class standard 9: n= 6 Class standard 10: n= 4 Class standard 11: n= 0 Class standard 12: n= 3	Hindu: n= 14 Muslim: n= 3 Christian: n= 2	Assamese: n= 14 Tangkhul: n= 1 Mizo (Mizoram): n= 1 Bihari: n= 1 Maithili: n= 2

The 19 participants were divided into five groups for the co-adaptation workshops. Participants in groups 1-3 and 4 were aged 12-15y; and group 4 participants were aged 16-18y. Although the target was young people aged 13-18y, one participant had not yet turned 13 but was in the same class standard as others so was included. Participants attended sessions during the week allocated to them with the exception of one person from week three who missed one session. In addition, four participants- one from groups 2 and 5, and two from group 3- had ongoing problems with their internet connection and were unable to participate in certain activities.

Participants were informed on the exact weeks in which the research would take place. Although they were matched with others of a similar age, participants were given the opportunity to change the group they were assigned if dates were unsuitable.

Safeguarding

With regards to safeguarding, participants were informed that examples given during workshops were hypothetical; that they should not share sensitive information in group sessions; and if they did that the PO may have to act on a disclosure. Participants were able to remain anonymously to protect their identity from other participants. The informed consent and assent forms explained this to participants and prior to workshops beginning they were given instructions on how to hide their name on MS Teams. The consent / assent forms also explained to parents and participants that they had the right to withdraw before or during the research, but that any information they had shared to the point of withdrawal would be included as it was merged collectively with the whole groups' information.

Workshop design and data collection

Workshop activities and questions using the adaptation proposals were designed. A five-participant limit was set on workshops due to the online method that was considered to create participation barriers with bigger numbers, than if conducted face-to-face, as was originally planned prior to travel restrictions.

Five groups comprising between three to five adolescents participated in a series of online workshops between August 2021 and January 2022. The doctoral researcher and PO facilitator co-facilitated sessions lasting between 60 and 90 minutes. Each group participated in three workshops over a one-week period, delivered on the Monday, Wednesday, and Friday of said week, with the exception of Group 5 that only attended two sessions. There was at least a one-week break between each group to provide time for the research team to compile and analyse results and make necessary adjustments to the workshop structure/questions for the next group. A WhatsApp broadcasting group was established for each of the five groups to communicate session details and links.

During sessions the doctoral researcher and PO facilitator had their camera and microphone turned on. To both test the MS Teams 'poll' function and introduce group members to one another, two ice breaker questions were posed to the group at the beginning of session one. Due to the choice to stay anonymous participants did not share any personal information in the group.

Scripts were prepared for each workshop (an example workshop script can be found in appendix E); each meeting link had poll questions inserted and tested; PowerPoint slides were created to support activities where necessary; and Qualtrics surveys were created in advance to be shared and answered during the workshops. Questions were determined by adaptation proposals generated in chapter 3.4.3. Question types included multiple choice, ranking/prioritising preferences, open ended survey questions, and agreeing/disagreeing to statements. Other activities included open discussions gathering adolescents' input on design, recruitment, and intervention materials; case studies which aimed to problem solve barriers to uptake and retention; and reacting to visual aids such as photographs and videos to determine their acceptability as intervention content. Case studies enabled participants to reflect on difficult scenarios they may find themselves in without speaking in the first person, hence applying their knowledge and experience safely in a hypothetical format. Lastly, several mindfulness practices and challenges were introduced to each group either live on Microsoft Team meetings or via MP3 recordings. Participants provided feedback on the acceptability and enjoyment of both the practice types and language and metaphors used to convey concepts and processes.

Each group built on the previous groups' responses, with questions not strictly replicated across all groups. Group 4 were specifically asked questions that involved reflecting back to when they were the age of end users; and group 5 were asked about topics whose acceptability was believed to be most influenced by culture to determine any cultural

differences based on religion. Where group 5 has very different answers from the others, it is stated in the finding's tables.

Workshop output data was collected using Microsoft Teams recordings, Microsoft Teams Polls, and Qualtrics surveys. Qualtrics surveys were used within the sessions to gather larger amounts of data that the research team decided did not warrant any discussion; was potentially sensitive meaning participants may prefer to answer privately; or where the activity warranted a more complicated input such as ranking preferences. During times of Qualtrics survey completion the group remained on the Microsoft Teams meeting and were able to have queries answered by the research team. Microsoft Teams Polls enabled participants to answer anonymously but also have the overall group responses shared instantly. This enabled discussion and reflection on answers were participants felt comfortable sharing.

Data management and analysis

Data was automatically stored on the doctoral researchers Qualtrics and MS Teams accounts. This included recordings of sessions on MS Teams. All data was downloaded from MS Teams and Qualtrics and transcribed onto a Microsoft Word document. Both raw and transcribed data were stored securely on OneDrive. Content analysis was used to analyse the data. Content categories were established using both the EVM dimensions plus categories encapsulating other key areas of interests that arose from the adaptation proposals. Within each category codes were assigned to the data, to arrange the data into digestible segments. Trends were observed and assessed across groups, and percentages of participants who 'Agreed' or 'Disagreed' to statements for instance were compiled and displayed in tables. The primary purpose of data analysis was to determine the most dominant responses to the adaptation proposals and a secondary purpose was to understand any other factors which may have influenced intervention design, implementation, or evaluation that had not been prioritised in the adaptation proposal but were important to the young people.

4.3.3 Findings

Questions and participant responses have been collated within each category and accompanying codes and reported in tables 22-31. Responses are a combination of focused analysis on adaptation proposals and a broader observation of the data. Ten data categories and 44 codes were assigned to the data.

Table 22 reports the young people's views on how to optimise intervention delivery and safe participation in school.

Category: Implementation and participation barriers and solutions.

Table 22: Implementation and participation barriers and solutions.

Codes	Question	Response
Time of year	Which months are suitable to deliver the intervention? (Groups 1 & 2)	April and January were most highly chosen. Some who chose January also advised that February was suitable.
Length of sessions	How long should sessions be? (Groups 1-3)	Majority stated between 60 and 90 minutes. 60 minutes was also chosen by a large number as suitable. Only 1 person thought that less than 1 hour was suitable.
Regularity of session	Which is the best way to design the project? (Group 1) Is it suitable to have an 8-week programme? (Groups 2, 4, & 5)	Once in a week, for 8 weeks: 0% Twice in a week, for 4 weeks: 100% Yes: 100% No: 0%
Intervention location	Should wellbeing projects be held in school? (Groups 1-3)	Yes: 100%
School environment	What issues are there in school that we should be aware of? (Groups 3 & 4)	1. Noise in school will be a problem: 50% 2. During the day is too busy to hold wellbeing sessions in schools: 25% 3. Not much room for us to move around in school: 0%
Recruitment	How would you improve the displayed recruitment poster to make it appealing for people your age? (Group 1 & 2)	"The information given in this poster is okay … but it is very simple. It must have some more animation stickers or photos so that it looks attractive." "The green colour used in the poster is very pleasing." "Maam, just like some cartoon characters or some doodle arts." "I think you should keep an anime type character upon which there will be a layer where it should be written a few about this project and above it there should a lot of stress material showing like weapons." "Make in more colourful and add a slogan."
Motivation	What do people need to know that would encourage them to attend the intervention? (Case study: Priya) (Group 4)	"The benefits of this project in brief and also provide her with the audios and videos she may find interesting and exciting." "I think it would be helpful to share the benefits we would get from attending the project. Also, if the problem is held offline then some activities would be nice." "About the orientation and the discussion on the core aspects of the project. Informing them about the pros/benefits of the project."

Session interference	How should we deal with people interfering and not taking intervention sessions seriously? This can be within existing school systems or within the group resources. (Case study: Ravi) (Group 4)	"Maybe this means that Ravi is not interested in the project, and we couldn't force but we can try to understand him the project in fun way from the others so that he gets interested. Maybe interesting games related to the project etc." "I think people like Ravi are the most who need to attend the project. He should be provided with the benefits and list of activities so that it would pique his interest. Also guide videos is an attractive way to get interest from him." "Yes, I have experienced this type of problem before during an online class where a student tried to disturb everyone. My class teacher asked him to leave the meeting and reflect on his actions. In my opinion we should politely ask them to not interfere with the class."

Notable here is the harmony with certain components of the adaptation proposals such as participant preference for the intervention to be delivered in school. In other codes, harmony was lacking such as the preference to have the programme delivered over four weeks, which was not in line with what the PO preferred. In some responses there was harmony between the adolescents in their perceptions and proposed strategies, whilst in questions, such as the case study on interference in the sessions, participants had different views on what was happening and how to handle it. Table 23 outlines the young people's views on what the purpose, goal or aim of an intervention on wellbeing should be.

Category: Intervention goals

Table 23: Intervention goals

Codes	Question	Response
Wellbeing goals	Which outcome goals were most important to young people? (In rank order) (Group 1-5)	1. Feels greater thanks and appreciate for things in life (gratitude) 2. Happy about myself and life (wellbeing) 2. Can cope with fears and worries (mental health) 3. I understand how my body responds to things (embodiment) 3. Concentration (focus) 4. Kindness (self-compassion)
Personal goals	Which personal goals were most important to young people? (In rank order) (Groups 1-5)	1. Motivated to reach personal goals in life 1. Felt respected as a member of the group 2. Understanding personal positive qualities 3. I have had fun in sessions. 4. I feel connected to my classmates as well as myself.
Newly identified goals	What goals are missing from the list for a good wellbeing project? (Groups 1-3)	Nothing 100%
	Anything else for goals or focus? (Group 4)	'I was thinking it is also important to focus on mental health. And since we are living in a technologically advanced era, everybody has social media and especially us teens we tend to get very influenced by others and celebrities in general. So, I think it is really important to focus on mental health as well as body positivity. There are so many disorders right now… and there is not enough awareness about it so I think these are some of the things we should be focusing on as well.' 'I would like how to add with social anxiety. Many children nowadays they are addicted to mobile phones. When they upload something they always within seconds see how many people have seen it. Its why they are bound to this social anxiety… they can talk to people in WhatsApp freely, but they can't talk face-to-face'
Goals representing all social groups	Do these answers on values and goals reflect all social groups in Guwahati? (Group 4)	'Personally, I feel it's not really based on religion grounds. It's more the personality. The person needs skills to tackle it social anxiety or if they are confident, it is giving them the right tools to tackle things.'

Young people's ranking of programme goals showed that wellbeing, mental health, and positive psychology influenced goals such as gratitude and motivation, were the most important; with mental health reiterated in the open questions. Lastly, goals were believed not to isolate any social group, and it was believed that individual preferences would dictate whether or not the programme's goals would suit a person.

Table 24 outlines wellbeing strategies that participants generated. These were in response to questions. Moving away from programme theory this data was based on questions about practical wellbeing support needed in day-to-day life; aimed to determine if adolescents needs and preferences matched with the planned programme; and was presented without reference to the programme content so that participants were not forced to potentially contradict the programme.

Category: Strategies to support wellbeing in daily life.

Table 24: Strategies to support wellbeing in daily life.

Codes	Questions	Response
Strategies	What wellbeing strategies would you benefit from learning? (Groups 1,2,3,4,5)	Cope with strong emotions/stay calm when I am upset/angry: 14 Let go of extra thoughts when I'm trying to focus: 10 Relax when I'm tense: 9 Let go of/learn to cope with stress/tension: 7 Help with sleeping: 6 How to meditate: 5 Feel more awake when I feel tired: 4 Avoid jealousy: 3 Avoid teasing other/being kind: 3
Post-intervention	What will help participants continuing with the lessons learned after the intervention ends? (Group 2) What are the signs that the project has worked after the intervention is finished? (Group 2)	"We can practice those steps and we can recommend others such as, our friends, relatives, etc. This may bring some change in their life e.g., Getting more confidence than before, increasing concentration, etc." "Tell teachers to follow the practices for children." "Tell friends about the practices." "Maybe my fear and worries will be lessened." "(It) has increased my concentration power."

The most requested strategies were (a) 'cope with strong emotions/stay calm when I am upset/angry' and (b) 'let go of extra thoughts when I'm trying to focus', both of which align with two session topics addressing 'Mindfulness of difficult emotions' and 'Awareness of thought'. Answers also reflect the strategy to involve others in programme learning, such as friends and teachers, to ensure longevity of learnings.

Questions in Table 25 relate to practices that were trialled in the online workshops. Each group were introduced to at least two practices and were asked if they enjoyed the practice and found it useful. In a number of instances participants were also asked about the suitability of the practice for their age group, and their motivation to try the practice (or similar practices) again. The concept of 'home practice' was also introduced.

Category: Mindfulness practices

Table 25: Mindfulness practices

Codes	Question	Response
Mindfulness of breathing	Did you enjoy the breath practice?	Yes: 86% Unsure: 14%
	Did you understand all of the instructions?	Agree: 93% Unsure: 7%
		I partly agree. I would like both English and our local language to be used:
	Will this exercise be acceptable for people your age?	60%
	Are you excited to try out similar practices?	Agree: 75% Unsure: 25%
	(Groups 1-5)	Agree: 100%
Bodyscan	Did you enjoy the bodyscan practice?	Yes. I enjoyed it and would like to try it again: 100%
	Did you understand all of the instruction?	Yes: 80% Unsure: 20%
	Was the exercise relaxing?	Yes: 80% Felt neither relaxed or unrelaxed: 20%
	Is the exercise acceptable for people your age?	Yes: 60% Unsure: 40%
	Are you excited to try out similar practices?	Yes: 40% Unsure: 60%
	(Group 1)	
Mindful eating	Did you enjoy the mindful eating practice? And is it good to do with people your age?	Agree: 100%
	Would it be better in your local language?	Agree: 0%
	(Group 2)	
Gratitude	Did you enjoy the gratitude practice?	Yes: 80% Unsure: 20%
	I understood all of the instructions.	Agree: 50% Neither agree nor disagree: 50%
	The exercise was relaxing.	Agree: 50% Partly agree: 50%
	The exercise will be acceptable to people my age.	Agree: 75% Felt neither relaxed or unrelaxed: 25%

	I am excited to try out similar practices. (Groups 1,3,5)	Agree: 75%　　　Unsure: 25%
Bodily sensations and sounds	What statements do you agree about the sensations and sounds practice? (Group 4)	1. I enjoyed the awareness of bodily sensations/ sound practice: 75% 2. I found it relaxing: 100% 3. I feel motivated to practice this and similar practices again: 75% 4. I would prefer it in our local language: 0% 5. I would prefer a combination of our local language and English: 0% 6. Did not enjoy the practice: 0%
Home practice	Did you complete the home practice/challenge? (Groups 1-3)	Yes: 18%　　　　No: 40% Yes, but with distractions: 42%
	What makes it difficult for young people to practice at home? (Group 4)	'Examinations coming up. Also, my siblings keep coming into my room without notice and distracting me.' 'I think our phones can be really distracting as wells. And sometimes our mothers call us for chores.'
	What are the best and most enjoyable ways for people your age to practice at home? (Groups 1-5)	Set a fun challenge or game for us that is challenging and stimulating: 93% Fun videos. Many people our age watch videos on their phone so this would be easy to do: 93% Make audio recordings for us to play at home: 44% Our teacher can play a short recording or lead us in a practice at school: 33% We have no time for practicing at home: 0%
	Home practice 2 was ways to deal with negative emotions. What made you use the techniques? (Group 4)	"Nervousness." "It was a good technique. I used it to centre myself from unnecessary thoughts and emotions. It was a great help." "I wanted to do the practice to stay calm and relaxed."
Mindful well wishing	Mindful well-wishing practice (Group 4)	1) I enjoyed the practice: 100% 2) I found it relaxing: 100% 3) I feel motivated to try this and similar practices again: 33% 4) Prefer it in our local language: 33% 5) Combine local language and English: 0% 6) Did not enjoy the practice: 0%
Preferred practices	Which practices did you prefer this week? Mindful breathing or gratitude?　(Groups 1 &5)	Gratitude: 70%　　　Mindful breathing: 10% Both equally: 20%

Key takeaways from this data are that mindfulness practices were accepted and enjoyed by large majorities in all groups. Additionally, home practice was accepted with preferred methods focusing on making it fun and enjoyable.

The next step was to determine what instructions in the practices were understood. Table 26 below delves into the language and metaphor used to communicate instructions within the mindfulness practices.

Category: Preferred language and metaphors to use within the intervention sessions.

Table 26: Preferred language and metaphors to use within the intervention sessions.

Codes	Question	Response
Instructional language	Which are the best words/preferred instructions in English, to describe mindfulness? (Groups 1,2,3,5)	'Focus' and 'Bring your focus to [your breath]': 70% 'Mindfulness' and 'Being mindful of [your thoughts]': 60% 'Attention' and 'Bring your attention to…': 56% 'Awareness' and 'Bring your awareness to [your breath]': 44%
	Is it better for instructions to be in the local language for the bodyscan? (Group 1)	Partly agree. Use both English and our local language: 60% Agree: 20% Unsure: 20%
	Is it better for instructions to be in the local language for the gratitude practice? (Group 1)	Agree: 50% Partly agree. Use both English and our local language: 25% Unsure: 25%
Local words/phrases	Are there any local words or phrases that can be used to describe mindfulness or other key words/terms? (Groups 3 and 4)	There were no suggestions offered on language relating to mindfulness or mental health. They stated that some will need local translations, however nothing was offered by way of translation. They implied that it is up to the facilitator to do this. Participants confirmed that the word 'tension' is more acceptable than stress.
Mindfulness metaphors	Which metaphor is useful when describing experiences during practices? (Groups 4 and 5)	'Follow the path of your breath' was the most accepted across the two groups. 'If the mind wanders' and 'let go of thoughts' were of medium popularity across both groups. 'Centering yourself/centering breaths' and 'Calming the mind' were popular with the older group but not the younger. 'Weather of the mind/stormy thoughts' and 'Anchoring into the belly' were popular with the younger group and not the older.

Metaphors and phrases instructing mindfulness practices were ranked, but no suggestions for alternatives were provided. Responses from one group indicated that 'gratitude' instructions may be more complex than the bodyscan.

Table 27 displays responses to questions on key concepts within the programme. This was to ascertain if concepts were acceptable and understood and if there were any negative perceptions of the concepts within the age group.

Category: Key concepts within the intervention.
Table 27: Key concepts within the intervention.

Codes	Question	Response
Wellbeing	Opinion: Wellbeing (Groups 1,2,3,5)	'I like the word wellbeing. It is important for young people to think about and discuss their wellbeing': 75% 'Wellbeing is good. We should also talk directly about mental health': 45% 'Wellbeing is too serious. Use words that inspire young people to make the project as fun as possible': 13% 'I don't understand the word wellbeing': 6%
Mental health	Opinion: mental health: Is it ok for an outsider to speak about mental health in a classroom setting? Adult experts say its taboo, but young people so far say it's a good thing. What do you think? (Group 4)	'I think it's not a taboo and we should talk about it more. It's something that everyone is aware of, but they are too scared to open up about it. Some people think that good MH is being happy and satisfied, but I don't think that it is just that. I think that mental health is also how we handle our stress or how we communicate with people and how we make healthy choices.' 'Talking about MH is important because everyone goes through something. And we shouldn't keep it to ourselves we should talk about it to our family or our friends or anyone else we're comfortable with.' 'I also agree that we should talk about mental health, and we should talk about it very freely. Because people don't think it's a big thing, mental health, or mental disease, but we should talk about it. For all age groups actually.' 'I think that many people think mental health is not a concern for young children but that it not my view actually. Because children also pass-through tough times and it affects them, their emotions, their psychological levels, so for this we need to maintain a healthy lifestyle and we have to socialise with people, to help us deal with these tough times.'
Meditation	Opinion: word meditation (Groups 1-3)	'I like the word meditation.': 80% 'The word meditation is OK but is not inspiring for young people.': 30%

	Are there differences between different social or religious groups? (Group 4)	'Only for religious or old people.': 0% 'It is ok for all groups to use the word meditation.': 100% 'I don't know how other groups see the word meditation.': 25%
	Views on 'meditation' (Group 5)	'I like the word meditation.': 25% 'The word meditation is OK but is not inspiring for young people.': 75% 'Only for religious or old people.': 0%
Mindfulness	Have you heard of the term mindfulness? (Groups 1-5)	Participants have either heard of mindfulness or heard a bit about it. Some knew in detail what it was, and others did not. Two participants in the older group (group 4) shared the following: 'I feel that mindfulness is a state of consciousness. Conscious and awareness about what you feel and think.' 'I attended nearby mindfulness meditation camp… they taught us lots of things to be aware of ourselves…. Deep breathing and relaxation (also).' 'I heard but, I don't know exactly what it is.'
Self-compassion	Opinion: self-compassion (Groups 1,2,3,5) Is self-compassion an important value for people your age? (Gr 4)	'I like the word self-compassion': 70% 'When you look after yourself first, you can then look after others better. This is what self-compassion is about': 80% Yes: 100%

Wellbeing, self-compassion, meditation, mental health, and mindfulness were the five key concepts whose acceptability had either been queried by adults in Study 1 or were deemed important by the research team. No concept was outright rejected, and they were accepted in varying degrees. Most interestingly, in contrast to adult views, adolescents believed that mental health should be discussed openly.

Table 28 provides data regarding selected content participants reviewed. Content was selected if for any reason it was thought to be controversial, not matching literacy or education levels of the population, or not in line with cultural images or values. It was attempted to understand if gender played a role in the acceptance of a controversial activity type.

Category: Reviews of specific candidate intervention content.

Table 28: Reviews of specific candidate intervention content.

Codes	Question	Response
Videos	Did you enjoy the capuchin monkey video? Did you understand what the man was saying? Is it a good example of fairness? (Group 1) Did you enjoy the capuchin monkey video? Did you understand the video? (This time with subtitles) (Group 2)	Yes: 33% It was OK: 67% Some of it. It would be better with subtitles: 100% Maybe: 33% Yes: 67% Yes: 100% Yes: 100%
	Did you enjoy the two baby videos? (Groups 1 & 2)	Yes: 100%
	Samurai video? Enjoyable and understandable? (Groups 2,4, & 5)	Yes, the video was enjoyable: 89% The video is a good way of explaining how our thoughts work. The more we try to control our thoughts, the more they grow and overpower us. Just like the flies did to the Samurai!: 100%
	Did you enjoy the moving art /gratitude video? Did it need subtitles? (Groups 4 & 5)	Yes: 100% No: 0%
	Did you find the Manoj Singh video enjoyable? Is he a good role model for people your age? (Group 3)	Yes: 100% Yes: 100%
	Did you like the video on motivation? Did you find it inspiring? (Groups 3 & 5)	Yes: 100% Yes: 100%
Photographic images	What do you see when you look at the photo of the two athletes? (One with disability) (Groups 1,2,3)	An act of kindness. This is inspiring to me and people my age: 89% An act of kindness but it is not inspirational. Use an uplifting image: 11% I find this image disturbing: 0%
Happiness	What makes you happy? Are these images on 'Happiness' relatable? (Group 1)	Family, friends, success, art, music. All images were deemed relatable and culturally appropriate.
Intervention activities	Are these acceptable and beneficial methods to use with young people? (Groups 1,3 & 5)	Games in pairs that involve light physical contact: 78% Light competitive team games: 78% Movement exercises (such as yoga, dancing, and qi gong): 78% Reflective exercises (thinking/writing about feelings): 67% Discussions about difficult feelings, in pairs: 11%

Gender and suitable methods	Do they feel comfortable participating in activities that involves speaking about difficult feelings? (Group 4)	1. I am uncomfortable talking about difficult feelings in pairs and I am a boy: 25% 2. I am comfortable talking about difficult feelings in pairs and I am a boy: 25% 3. I am uncomfortable talking about difficult feelings in pairs and I am a girl: 0% 4. I am comfortable talking about difficult feelings in pairs and I am a girl: 50%

Videos portraying mindful attitudes and positive psychology concepts such as gratitude and kindness were all accepted by a large majority. One video required subtitles due to a difficult to understand accent. Although it was attempted to understand if gender influenced level of acceptance of a controversial activity type, not enough participants were asked to generate any real insight into the topic.

Table 29 provides data on the next category examining issues relating to stakeholders. Such issues included the role of parents and teachers, gender of the intervention facilitator, and participants role models.

Category: People involved as stakeholders and within programme content.

Table 29: People involved as stakeholders and within programme content.

Codes	Question	Response
Gender issues	Which of the following statements do you agree with about gender? (Groups 3, 4 & 5)	1. You should be aware of non-binary persons in the population: 36% 2. There are certain topics I would only feel comfortable speaking to people of my gender: 48% 3. There may be topics and activities that would be better to separate girls and boys for. It is best to check this before starting: 28% 4. I agree with none of these statements: 0% "Maam, I feel that we should talk to the older generations about nonbinary genders if they are open minded and supportive. I am comfortable talking about this with others." Regarding statement two: 2/3rds of Muslim pupils agreed with this. Regarding statement three: 'It's ok (there are) no barriers.'
	Who is best to facilitate the wellbeing sessions? (Groups 3, 4 & 5)	1. I prefer a woman 11% 2. I prefer a man 0% 3. I have no preference as long as the person is good at supporting our wellbeing 89%
Role models	Who are good role models for young people in the following (or any other) categories? Sport, History, Culture Politics, Art, Academia, Business. (Groups 2,3,5)	Neeraj Chopra Akbar Indian cricket team Siddharth Nigam Abhishek Nigam Shusant Singh Sourabh Raj Jain Jubin Nautilya Scout (Tanmay Singh) Ankiti Bose Dr Soumya Swaminathan Messi Ranveer Allahbadian Zlatan Ibrahimovich BLACKPINK Rabindranath Tagore Mahatma Gandhi Leonardo Di Caprio Cristiano Ronaldo
Role of teachers	What is role of teachers in the intervention? (Groups 3,4&5)	1. Teach them mindfulness practices and principles before session start so they know what to expect (72%) 2. Make sure the teacher is only there to support the facilitator and doesn't interrupt (60%) 3. Train the teacher of councillor to lead mindfulness practices when the project is over (50%) 4. Young people may find it hard to open up in front of their teacher. It is better if the school councillor attends sessions instead (40%) 5. Involve the teacher as a co-leader in session with the facilitator (20%) 'Make them understand the mindset of the children of that age and how their thoughts differ.'

Parental involvement	What is the best way for us to involve parents in the intervention? (Groups 3&4)	1. Show parents how to support their children at home during the project: 75% 2. Keep it simple. Share the basics only: 50% 3. Show parents how to support their children at home during the project: 33% 4. Introduce mindfulness practices and project topics to parents before the project starts, so they understand what their children are learning and can relate to it: 25% 5. Ask parents to come to the final session and share with them details on how to support their child further: 17% 6. Ask parents to do the practices with their children at home: 0% 7. Involve parents in some group activities during sessions: 0% 'Children of age 14-15 are mostly shy in front of people so I don't think so it's a good idea to make them do activities in front on their parents. It's not the case with all the children.' 'I think that parent involvement should be there but only to a certain extent. Because there are some things that teens don't like to talk about in front of our parents, but we are still dependant on them so they should be involved. At the same time, it should be limited, not to a deep level.' (Agreed by all in group) 'Parents should also fully support their child in this mental health. They will know they child problem, so they should be fully involved.'

Key takeaways from this table were that participants reiterate the importance of involving parents and teachers in the intervention, and that there needs to be a limit to this involvement. Participants were able to provide many culturally appropriate role models within multiple categories (sport, politics, entertainment etc.).

Table 30 below displays data on ethical concerns such as methods of data collection, preferred channels of support if a safeguarding issue was to arise, and participants willingness to consent to providing personal data and trust in how that data would be managed.

Category: Ethics: data management, safeguarding and consent.

Table 30: Ethics: data management, safeguarding and consent.

Codes	Question	Response
Data collection methods	How should data on wellbeing and mental health measures, and personal data be collected? (Groups 1, 2,3)	Online form that is sent straight to the researcher in the UK: 78% Face-to-face discussion with PO staff member. 33% Paper copies collected from PO staff member: 11%
	What are the best methods to use to collect evaluation information? This is information in which you share your experiences of the intervention. (Groups 1&2)	Face-to-face discussion 1-to-1: 86% Face-to-face group discussion: 86% A paper form handed into PO staff member: 71% Online with answers going straight to the researcher: 43% Online discussions either with 1 or more person: 14%
	It is suitable to collect data on mental health and wellbeing at three different stages during the project (baseline, post-intervention and +3 months) (Groups 2,3 &5)	Yes: 100%
Safeguarding	After 4 wellbeing sessions a participant starts to remember bad things in their life. How should this be dealt with it? Who is available to support? (Case study: Diptarup) (Group 2)	"Diptarup should share with his close friends, parents, brother/sister, etc. And whom he told those things that happened to him his friends, parents, etc. should support him." "Remember what he learned in the wellbeing sessions." "He should meditate to relax." "He can share with his loved ones, someone who cares about him. And maybe he can practice yoga." "He should think about the problem again and he should remind all the teachings which he learned from the sessions." "He should share with his close friends and parents."
	Who in school would make a good support system for anyone struggling? (Groups 3, 4 &5)	Older pupil: 44% School councillors: 39% Teacher: 39% Teachers and school councillors scored higher with older children and group 3. Older pupils scored higher with children from group 5.

Gaining consent	What information would be helpful to a person who feels unsafe sharing data? In this case data is going to a person in the UK who has signed a confidentiality agreement. (Case study: Abhishek) (Group 1)	"Maybe he did not know it before, that except (for) one person no one can see his answers. So, in order to tackle this, you should say about it that how safe it is." "Maam, I think there is nothing to feel unsafe if the person in the UK has signed the contract."

Broadly, young people advised online methods for collecting data on measures and personal information, but face-to-face was preferred for evaluation and feedback. When it came to who should provide support when given the chance to respond openly participants chose people from their personal life; and when asked to choose from people within the school environment, no offered choice had a large majority.

Table 31 provides input from open questions asked of the older group of participants in relation to their younger selves (and hence younger adolescents within the population). Open questions were asked to enable participants to speak or write with freedom and did not restrict answered to assigned choices.

Category: Older participants reflections

Table 31: Older participants reflections

Codes	Question	Response
Wellbeing advice for mid-adolescents	What advice would you give yourself about wellbeing to your 12–14-year-old self? (Group 4)	"I would advise myself to be open with everyone and deal with the tough situations." "Focus on one thing at a time and follow your passion. Also, it's important to invest in friendships." "I would tell myself not to stress over studies too much. And not to worry about how I could cope with everything around. I would also tell myself that it is normal too anxious about certain things that I experienced as an early teenager and that my loved ones would always be there to support me." "Failure is not shameful and not everyone's opinion matters; don't be afraid to let go; pick up a musical instrument; physical appearance has caused me the most stress. I wish I could tell me younger self that changes in the body are normal and that I don't need to look like anyone as long as I am being myself, which is pretty cool; you don't have to be the popular person at school. Having a few genuine people who understand you is enough."
Changes between mid and upper adolescence	What has changed from when you were 12-14 years-old to now? What should be done differently if the project was to target 15–18-year-olds? (Group 4)	"It has changed a bit, like I still sometimes hesitate to talk to some people but mostly I'm open with everyone. I think there's no need to do differently for the 15-18 years old as there is not a huge age gap, but we can do something that's common to their age and they find interesting doing this project." "As a 12–14-year-old child I had different goals sets/bucket lists on mind to which I was not able to do some of them to this date. So, I think we need to take one specific goal and be consistent about it. Also, different age groups have different mindsets so it would be better to take advice from each one of them." "My opinions, like and dislikes are very different than before. People have told me that I've many new habits now both good and bad. If the project targeted 15-18 years olds there would be more sensitive issues/topics covered."

A key takeaway from the table is advice older participants would give younger adolescents about dealing with stress and advising them not to let academic stress dominate their lives, with friendships and focused interests being prioritised instead. Additionally, older participants would want their younger selves to understand that circumstances and preferences change, and that what seems important at 14 will be different at 18, for instance.

4.3.4 Discussion

The aim of Study 2 was to work closely with young people to optimise the intervention feasibility. This section examines the main adaptations advised by the adolescents in reference to the adaptation proposals.

Adaptation proposal 1

Adaptation proposal 1 stated: 'Programme outcomes and goals from the original SOMA programme should be reduced and/or prioritised to accommodate the needs and timeframes suitable for the context'.

Programme outcomes and goals from the original SOMA programme should be reduced and/or altered to accommodate prioritised needs and timeframes suitable for the context'. The three highest ranked wellbeing goals were gratitude, wellbeing, and mental health. The high ranking of 'gratitude' was surprising due to adult input stating that young people may respond defensively against this term and believe that adults are 'preaching' at them. Incidentally, gratitude practice was also ranked as the most popular practice, although it was indicated as the practice with the most potential for misunderstanding of the instructions. Self-compassion was ranked last in goals concerning wellbeing. Contrastingly, as a concept and value it was highly accepted. Additionally, much of the open questions pointed to self-compassion through self-acceptance as a value older adolescents would share with their young selves.

> "Failure is not shameful … don't be afraid to let go… (also) I wish I could tell my younger self that changes in the body are normal and that I don't need to look like anyone as long as I am being myself… you don't have to be the popular person at school."

End users were asked indirectly to prioritise wellbeing outcomes by suggesting strategies they would benefit from learning. Sixteen strategies were proposed, the most popular being 'Cope with strong emotions/stay calm when I am upset/angry'. The second, third, and fourth most popular participant generated strategies were: 'Letting go of extra thoughts', 'Learning to relax', and 'Letting go of/learn to cope with stress/tension'. With the exception of 'Learning to relax' the top four strategies aligned with the beta programme content and secured the prioritisation of two intervention foci: mindfulness of thought and the mindfulness of difficult emotions. Overall, the prioritisation of goals and generation of strategies indicated that there were a number of key needs within the group of end users, and that it was correct to prioritise goals; and that these goals could mostly be addressed through the SOMA programme in its beta format. Regarding 'Learning to relax', the SOMA programme had a simple relaxation technique used to calm the body before mindfulness practice, and used lying down practices, making it plausible to support this desired strategy. However, as the research was not planning

to evaluate the impact of systematic relaxation directly, caution would be needed not to mix systematic relaxation with relaxing mindfulness methods. Systematic relaxation (which trains the body and nervous system to relax in a deeper way, through for instance, progressive muscle relaxation) has different cardiovascular and autonomic effects from mindfulness (Jain, 2007), and it is the distinct psychological mechanisms of mindfulness that the research and intervention was focused upon.

Interestingly, improved concentration was not prioritised as a goal or topic participants wanted addressed, yet in discussion it was prioritised as an outcome. In Study 1, increased concentration was highlighted as a pressure that often came from parents and teachers; and within the co-adaptation, adults had contradictory views about whether adolescents would want to address this within the programme. The goals that were prioritised indicated the need for more nurturing wellbeing intervention, that still improved concentration as an outcome. Adolescents may be indicating that failing concentration would be better addressed not by focusing on it directly, but through a nurturing approach to wellbeing. Wellbeing and academic performance may be closely linked conceptually and experientially among stakeholders. Personal goals of having fun and feeling connected to group were least important personal goals, yet they are an important component of the original SOMA approach and outcomes. Achieving personal goals and feeling respected by the group, were the most highly ranked personal goals, with understanding personal positive qualities ranking second. There was a high degree of clarity in goal preferences from all the groups in both wellbeing and personal goals. SOMA could be easily adapted to reflect contextual priorities.

Adaptation proposal 2

Adaptation proposal 2 stated: 'The final programme will work best as eight established sessions, lasting 75-90-minute long; reducing the overall content; and shaping existing activities to ensure a varied programme composed of mindfulness practices, reflective exercises, psychoeducational content, and games.'

It was confirmed that the number of topics would need to be reduced to accommodate timeframes suitable for the parameters of the implementation context. The school term time was endorsed as the most suitable time for implementation, which is typically 10 weeks with exams toward the end. As the original SOMA materials had over 20 hours of activities to select from; and only 12 hours of materials maximum could be accommodated. Therefore, the original programme would have to be reduced by 40%.

The format of an eight-session programme with each session lasting between 75–90-minutes, as outlined in the beta model, was acceptable to young people. The regularity of delivery caused a small concern when the first group stated unanimously that the intervention should

be delivered twice per week for four weeks. After this session it was expressed by the PO facilitator, that this would not be a possible format as schools preferred delivery on Saturdays only. This had not been highlighted in other discussions with the PO staff. It happened a number of times that only after the young people had given their opinions did the PO express that something was or was not possible. This indicated that the process of reflecting on the context was not straightforward, and that there was benefit in having the same personnel involved in both co-adaptation input and co-facilitating workshops with the adolescents. Similarly, to participants in Study 1, there was an endorsement of using certain traditional practices such as yoga to enhance and compliment scientific and 'western' content. In general, the main topics/content were reiterated as acceptable in many forms throughout the co-adaptation. All video and picture content were accepted and enjoyed. Only one of two videos the team believed needed subtitles, did; and the mindfulness practices overall were accepted and enjoyed.

Adaptation proposal 3

Adaptation proposal 3 stated: 'Alternative words will be generated for the concepts of 'mindfulness' and 'meditation'; and alternative words, metaphors and phrasing will be tested / requested to reflect culturally appropriate use of English'.

Language, metaphors, and concepts used to describe core programme components were acceptable to young people. 'Meditation', 'Mindfulness', and 'Mental health' were accepted contradicting the input of several adults from Study 1 and co-adaptation. For instance, adults assumed that adolescents would perceive the word meditation as 'for old people' or 'religious and unappealing' and results from adolescents did not confirm this assumption. 'Self-compassion' was also both understood and accepted which contradicted the view shared in Study 1 that this term was solely considered with selfishness. There were mixed messages on using local language combined with English. Only in some groups, was the local language or a mix with English desired. When local language was requested a more nuanced practice had been delivered, such as the gratitude practice. Overall, delivery in English was preferred.

Adaptation proposal 4

Adaptation proposal 4 stated: 'Home practices should be introduced to the programme framework, and as a core programme component.'

The view shared in adults' co-adaptation input, that home practices or challenges would be thwarted by pressures and responsibilities in adolescents' lives was confirmed. Disturbances at home from siblings was another reason identified as interfering with home practice. However, similarly to the adult view that this could be a positive core programme component,

participants encouraged the research team to introduce this as part of the intervention, especially if introduced in enjoyable formats such as "Fun challenges" or "Videos".

Adaptation proposal 5

Adaptation proposal 5 stated: 'Controversial topics and practices (such as discussing difficult emotions, physical contact, self-compassion, and gender considerations) will be altered where necessary to match culturally appropriate behaviour and ways of speaking with young people.' There were no major gender concerns. The majority prioritised a facilitator who was equipped to lead and teach. A little less than half however believed that there could be some topics they would be more comfortable only speaking with their own gender about, but less than this believed that the genders should be separated completely. Although the original programme design discouraged people speaking to the same person in every activity, our co-adaptation indicated that participants should choose their own partners, especially when it came to potentially sensitive topics. Regarding awareness of non-binary persons, over a third believed awareness was needed from the older generation. There was nothing within the original SOMA programme about gender issues, and nothing of substance was indicated as necessary to be included in the adapted intervention. Although more nuanced information on issues pertaining to gender could have been beneficial.

Only 11% of participants responded that it was acceptable to introduce 'Discussions about difficult feelings, in pairs". This was at odds with participants' strong desire to learn strategies to 'Cope with strong emotions/stay calm when I am upset/angry', the highest chosen strategy across all five groups. In addition to this, participants ranked a goal on mental health within the top three goals for the project, which, based on SOMA materials, would require direct discussion on difficult feelings. Although the proposed discussion activity was not accepted, the topic was of high importance to the adolescents. This posed a challenge for intervention design moving forward. This topic would need a creative and sensitive approach.

Adaptation proposal 6

Adaptation proposal 6 stated: 'Parental inductions should be provided to gain full support throughout the programme'.

The majority thought parents should know how to support their children at home during the project, but not be involved in performing the practices with them. Both these sentiments were reinforced in open discussion where support on mental health from parents was emphasised but involvement in activities their children were involved in, was discouraged. Parents were also suggested as someone to go to in the case of a safeguarding incident, indicating the trust and expectations adolescent respondents had within these relationships. In

the original SOMA materials, there is no instruction on how to involve parents. Any inclusion in the final intervention will be new and based on contextual needs.

Adaptation proposal 7

Adaptation proposal 7 stated: 'Teacher's inductions should be altered to explain the programmes' approach to working with young people as the programme values may differ from values that dictate usual interactions between children and persons of authority in India'. The majority agreed that teachers needed to understand what the class was learning, yet an even greater majority disagreed that they should play a role in delivering the materials. These findings were in line with the original design of SOMA, and findings from Study 1.

Adaptation proposal 8

Adaptation proposal 8 stated: 'Design components of the programme should be altered from British / Western images to those culturally appropriate to adolescents in Guwahati.' There were mixed results in this data. Participants were generally accepting of videos with images and persons from a variety of cultural backgrounds. The messages of the videos were enjoyed, and no video shown to young people were not accepted. However, when it came to people that inspired participants mostly Indian people were identified, with the exception of K-Pop groups, international sports persons such as Cristiano Ronaldo, and international actors such as Leonardo di Caprio.

Adaptation proposal 9

Adaptation proposal 9 stated: 'Safety, ethical, and safeguarding processes relating to the programme should be fully aligned with the Indian organisations facilitating the programme including the partner and school, and expectations of the adolescents which may be different than those assumed for children in the UK.' Participants indicated trust in those close to them out of school as those they would turn to if an incident occurred during the programme. No one mentioned school safeguarding procedures, not offered school staff as a resource that could be used for support. This indicated a strong need for safeguarding procedures to be reinforced at the beginning of the programme. It was also necessary to investigate if the PO safeguarding procedures needed to be used in the case of schools not having official procedures. When asked about support persons within the school there was trust from Christian and Hindu participants in teachers and school counsellors, whereas Muslim participants preferred relying on older children. This raised the question of whether or not there were different degrees of trust with school authority between religious groups, but there was not enough data for this generalisation to be made and no information on which school each participant attended. Regarding confidentiality of information and providing consent, participants reinforced the need for

potential participants to be fully informed, in which case they did not believe there would be a problem. The preferred manner in which safety, ethical, and safeguarding concerns relating to the programme should be dealt with, was not fully clarified. However, these insights would be recorded and used to inform planning and information sharing sessions with the school when the pilot was being designed. Any reference to safeguarding procedures within the original SOMA programme was based on the UK system. Therefore, new guidelines would be established for the co-adapted intervention, highlighting both the school reporting system and support available from the PO.

Adaptation proposal 10

Adaptation proposal 10 stated: 'Acceptable design of a) data collection tools (self-report surveys, feasibility/acceptability survey, recordings, and interviews) and b) research time frames (base, post and +3 month) should be determined.'

The tenth proposal was confirmed with 100% of participants claiming it was acceptable to ask adolescent participants to collect data on mental health and wellbeing at three times over the course of the programme. The two options for assessing fidelity were observation by a PO colleague or recording the sessions. It was decided not to ask participants about this, as recording sessions was the only option available to the PO team due to limited resources. Participants provided preferences and knowledge that would be invaluable for the final design. Online data collection was acceptable which ensured an easier method but there were potential issues with unstable internet connections. Online formats were preferred when it came to sharing data on mental health and wellbeing; when it came to evaluations and giving feedback, however, participants preferred face-to-face. This indicated a desire for privacy when sharing personal information, and an interest in conversation when it came to expressing their views on what was offered to them. Case study data confirmed the teams' planning and assumptions about what was needed to be shared with participants prior to signing up.

Overall observations

Overall adaptation proposals were supported with the data provided. With many of the views especially on programme content being clear, it would be straightforward to make any necessary adjustments. In general, core programme components identified in Chapter 3 were accepted. Numerous outcomes were also reinforced as important, however with the need to reduce content, outcomes would also need to be reduced. Based on the information provided it was believed by the research team that this would be a straightforward process. The removal of the SOMA framing of the programme would reduce most of the additional content that was not required which could enable the reductions of outcomes related to this.

A number of findings from young people in co-adaptation harmonised with adult views expressed during co-adaptation and Study 1. Where views differed, it was mainly because adults had made assumptions on how young people perceive certain concepts. For instance, adults assumed that young people would find an image of a disabled athlete disturbing; that they would not be open to a discussion on mental health because it is a taboo subject; and that certain words and practices would be perceived negatively. These results highlighted the importance of consultation with young people about their mental health and wellbeing; although adults showed a large degree of understanding, there were views and perceptions that were only illuminated by speaking to adolescents and young people directly.

Study evaluation
Strengths

Study two engaged a range of young people in addressing all key aspects of co-adaptation. The study was thorough and systematic in its data analysis. Study 2 engaged a diverse range of methods, ensuring views from people with different communication styles were accommodated. Each group successfully built on the data generated from the previous groups. Participants also expressed the view that the study had been beneficial and inspirational. In the study evaluation an open question asking participants what they most enjoyed about the sessions, one participant from group five stated:

> "The workshop was very inspirational. I loved the thing that everyone was equally respected."

All methods and activities within the workshops were assessed as 'Very enjoyable' or 'Enjoyable'. The exception to this was in group two who struggled using Qualtrics due to problems with the internet. The majority of participants were comfortable with the online methods and had a positive experience with one participant stating:

> "Usually, it's very difficult for me to communicate with people but here I felt quite comfortable."

With the extra steps taken to flex the methodology, the two largest religious groups were proportionally represented in the sample, according to population statistics of Guwahati (Population_Census 2023).

The co-adaptation study enabled adolescents to influence a programme and research that was designed for them and their peers. That they held different views to adults on some issues, underscored the importance of working closely with intended beneficiaries of interventions. At the end of the study evaluation, participants were given the opportunity to share if and why they thought it was important for young people to be involved in these processes. Two respondents shared the following thoughts.

"(Co-adapting) will help us to be more open with (adults). It will be easier for us to share our problems with them."

"Adults should understand the situation of the young ones and be friendly with them. They should make them feel that (they) too passed from a particular situation and there is always a way to come out of the situation."

Limitations

Internet stability caused problems especially for group two; and several participants who were using their phone to participate had problems using Qualtrics. In general data collection tools had limitations. For instance, for some questions it would have been beneficial to know which response belonged to whom for a more in-depth analysis of the data.

Originally the co-adaptation workshops were designed to be in person, but due to the Covid-19 pandemic, collecting data face-to-face in India was not permitted. In the original study design prior to the pandemic, methods used a fusion of online surveys and to face-to-face workshops, broadening the creative methods available, and possibly adding depth to discussions. Initially more activities and questions involved open discussion, however most participants did not feel comfortable speaking online. These methods were minimised as the workshops developed, as answers only represented the few individuals who were comfortable speaking.

Some of the questions were not tailored enough to the group. For instance, questions were asked about the noise and space in the school environment without specifying to which school participants were referring. The data collected in such cases lacked depth that could have enhanced the findings.

4.4 Cultural Relevance Questionnaire

After applying adaptations that emerged from co-adaptation engagement, predominantly from Study 2, the programme was evaluated using the CRQ. The evaluation at this stage aimed to evaluate the degree of ecological validity following cultural adaptation (Helms, 2015). The CRQ was devised to do this and is grounded in cultural sensitivity and ecological validity theories and principles (Perera, Salamanca-Sanabria et al. 2020) In Perera et al's., process, external, expert evaluators independently evaluated the adapted programme. This was not possible in the thesis research as a) time was restricted due to Covid-19 related delays, and b) no permission was granted by the intervention developers to share the SOMA programme, in any format, outside the PO. The evaluation was therefore conducted by one respondent internal to MIND India, who had not taken part in the co-adaptation workshops.

The CRQ evaluates intervention content and design to determine its level of functional, conceptual and linguistic equivalence (Perera, Salamanca-Sanabria et al. 2020). 'Functional

equivalence' refers to items describing behaviour and how it was interpreted within a culture. Within this category the respondent was asked to review activities within the co-adapted programme and decide to what degree they would be interpreted similarly in Guwahati. Such behaviours may include the blindfolding game or the mindful dancing. 'Conceptual equivalence' refers to the use of analogy describing behaviour and if it was interpreted the same way across cultures. Within this category, the respondent was asked to gauge how well the symbols, metaphors, behaviours, and concepts in the co-adapted programme translated to the Guwahati context. Lastly, 'linguistic equivalence' refers to the oral and written language within the intervention, including region language and slang. Within this category the respondent was asked to assess if linguistic meaning of written materials were the same for the context of Guwahati as originally intended in the co-adapted programme.

The respondent applied the CRQ to all intervention sessions. In each module functional, conceptual, and linguistic components were ranked between one to five: one meant that 'The components are not reflected within the module'; and five meant that 'All of the components are reflected within the module.' Overall, both functional and conceptual categories scored 4, indicating that 'Most of the components are reflected within the module; however, others are not.' Linguistic components received 3.5, meaning that 'some to most of the components are reflected within the module; however, others are not.' The respondent stated:

> 'The language used to describe neuroscience and the mind need to be simplified… In general, language may be simplified further while explaining the content. This can be tested during the pilot sessions.'

Overall, the majority of the language, concepts and behaviours were accepted, and seven specific changes were advised. Changes are outlined in Table 32 according to the session they were part of and the EVF dimension under which they fell.

Table 32: Specific changes provided through the CRQ evaluation.

Session	EVM dimension	Material	CRQ response (proposed change and why)
Session 1	Concepts	Grid to explain grasp / resist.	Simplify to meet the school students' thought processes.
	Content	Qigong	Students will not be able to do qigong. Start with something like loosening exercises or mindfulness walking.
Session 4	Content and language	Moving art (gratitude) video	Intervention video can be more tuned to Indian pictures and the girl talking can be an Indian girl. They may find it difficult to understand the accent of the child
	Content	Mindful dancing	Use Bollywood instrumental music too which may be more familiar.
Session 5	Language	Words for wellbeing	In case they don't understand wellbeing, can we use the happiness, contentment, emotionally healthy, as these words have been used earlier and explained to them.
Session 6	Content	Scientific video on kindness	Not appropriate. Needs to be replaced.
Session 8	Content	Motivation video	Video can be changed, not very relevant.

It is argued that the people's subjectivity and their culture are important aspects of addressing poor mental health. Dimensions of the EVM and their application to programmes that address poor mental health aim to promote the congruence between a person's experience of their ethnocultural world and the content of the programme they receive (Bernal, 2009). The CRQ tool in practice enabled the evaluation to remain focused on cultural aspects that may have seemed too obvious to local team members to verbalise. This being said, the evaluation yielded minimal results. A step to strengthen the protocol, evidence of co-adaptation, and the effectiveness of the CRQ tool to evaluate, would have been to apply the CRQ to the programme before and after the co-adaptation. Time restrictions would not allow for this additional step.

4.5 Chapter conclusions

Chapter 4 has taken the theoretical models and adaptation proposals from Chapter 3 and worked with key stakeholders to understand how they could be adapted and applied to optimise intervention feasibility in the target context. Co-adaptation with young people in particular gave the research team the reassurance about feasibility to progress to the next stage of the process. Study 2 also showed the strong appetite that young people in Guwahati had for school wellbeing programmes; that they are open to mindfulness; that they know what they need; and lastly, how immediate solutions to coping with difficult times is a priority.

Another important discovery in the co-adaptation process with young people, was that it was acceptable to collect data about mental health in a school-based mental health and wellbeing intervention. This was of particular importance given that school based mental health research in India is in its infancy (Parikh, 2019).

Mostly reassuringly there was acceptance of all elements that aligned with the core programme components relayed in Chapter 3, and indication that the core psychological process of 'attention', and outcomes including increased wellbeing, mindfulness, gratitude, kindness and meaning and purpose; plus, reduced stress, would benefit participant's needs. Deep structure adaptations, which involve aligning an intervention with core values, norms, and beliefs, were unnecessary, in part because care was taken to ensure that the original intervention aligned with core values and goals of the target population. The degree of adaptation required was minimal, with only surface adaptations needed, although home practice was added as a core component based on literature and co-adaptation feedback to test if it was accepted. Surface changes required would assure culturally appropriate language was used, for instance, and that the intervention was outwardly appealing and acceptable (Resnicow, Soler et al. 2000).

The degree of youth participation in research does not appear to be overly common in India. In other studies, the lack of youth engagement in research has been highlighted, in the case of policy research, as a major flaw that puts the potential impact of the policy instruments in question on CYP mental health into question (Roy, 2019). There have been a few similar studies to this co-adaptation conducted that have generated insightful findings and indicate similar acceptance of the process such as the co-design of online programmes (Gonsalves, Hodgson et al. 2019), and a multi-stakeholder qualitative study on preferences and priorities for school-based mental health services (SBMHS) (Parikh, 2019). Parikh et al's., study included data from 191 adolescents from two urban settings in India. Findings highlighted the differences in views between parents and teachers, and adolescents, with the latter favouring limited involvement of parents and teachers in matters concerning their mental health. This reinforces the findings from Study 2. Another finding from this study was that parents and teacher stakeholders also prioritised functioning especially academic function. This finding is in line with findings from Study 1 and the desk review, highlighting that adult stakeholders may equate wellbeing directly with productivity, which is something that adolescents have made clear in Study 2 they do not agree with. A final observation from this study's findings was that a "suite of interventions is needed to target [mental health] needs effectively and efficiently" was advised. This is promising for the work of this thesis, whereby one such intervention is being tested that could potentially contribute toward this need. It is not only school-based

interventions that have adopted participatory research methodologies with adolescents in India.

Relating back to the alternative ladder of participation, it is clear that when executed in reality, that participation processes can go between doing for, and doing with, in the same research with stakeholders. Within the co-adaptation adolescents were asked to consult, co-adapt, and co-design depending on the subject or material in question. Additionally, the PO who co-produced the research design, were invited to co-design elements of the adapted intervention; yet were arguably 'Informed' (doing to) about which intervention would be used, due to the complications involving decisions made in the previous partnership that could not be overturned. This fluidity between levels of participation and the impact that had on power dynamics in decision making was an interesting process for the doctoral researcher and wider research team to reflect upon.

Chapter 5 will detail how co-adaptation data collected in Chapter 4 was used to adapt the beta intervention, and how the final version of the intervention was tested for feasibility within one school in Guwahati.

Chapter 5: Feasibility testing the co-adapted intervention

The aim of Chapter 5 is to critically consider the process and learning from applying adaptations and feasibility testing interventions for youth mental health and reporting the implementation stages of the protocol. This chapter moves into the implementation phase of the protocol.

Together chapters 5.1 and 5.2 outline Stage 7 of the protocol, as indicated in Figure 14, and is partially based on Step 7 of the EPIS framework.

Figure 14: Protocol Stage 7, Undertaking modifications and establishing the final intervention model, Implementation phase.
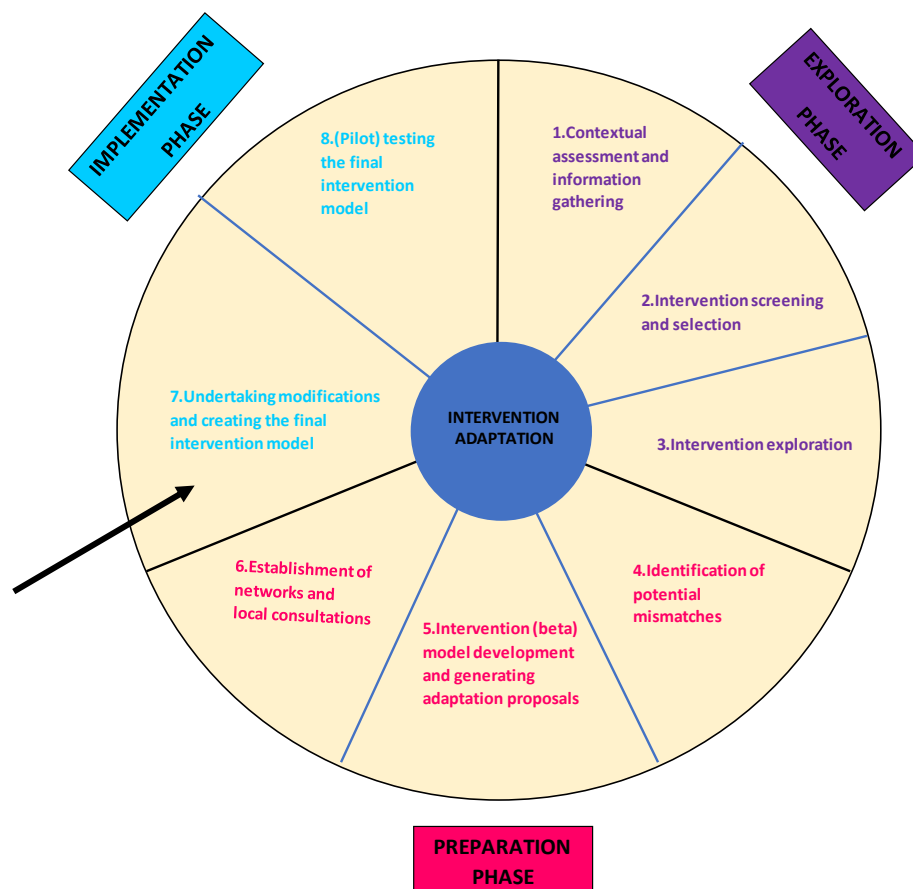
5.1 Modifications of the SOMA intervention.

The purpose of this section is to provide an overview of all modifications made to the original and beta versions of the intervention, compiling all data sources from Chapter 4. This enables a clearer understanding of the type of changes made, who influenced the changes, and why they were made. The Framework for Reporting Adaptations and Modifications-Expanded (FRAME) which is displayed as Figure 15 was used to monitor and record modifications to the beta

programmes as a result of the co-adaptation process. Under the FRAME model, modifications can fall under the following headings: content, contextual, training and evaluation, and implementation and scale-up activities. They can be proactive and planned pre-intervention delivery or unplanned and reactive during intervention delivery.

Figure 15: Framework for Reporting Adaptations and Modifications-Expanded (FRAME) model.
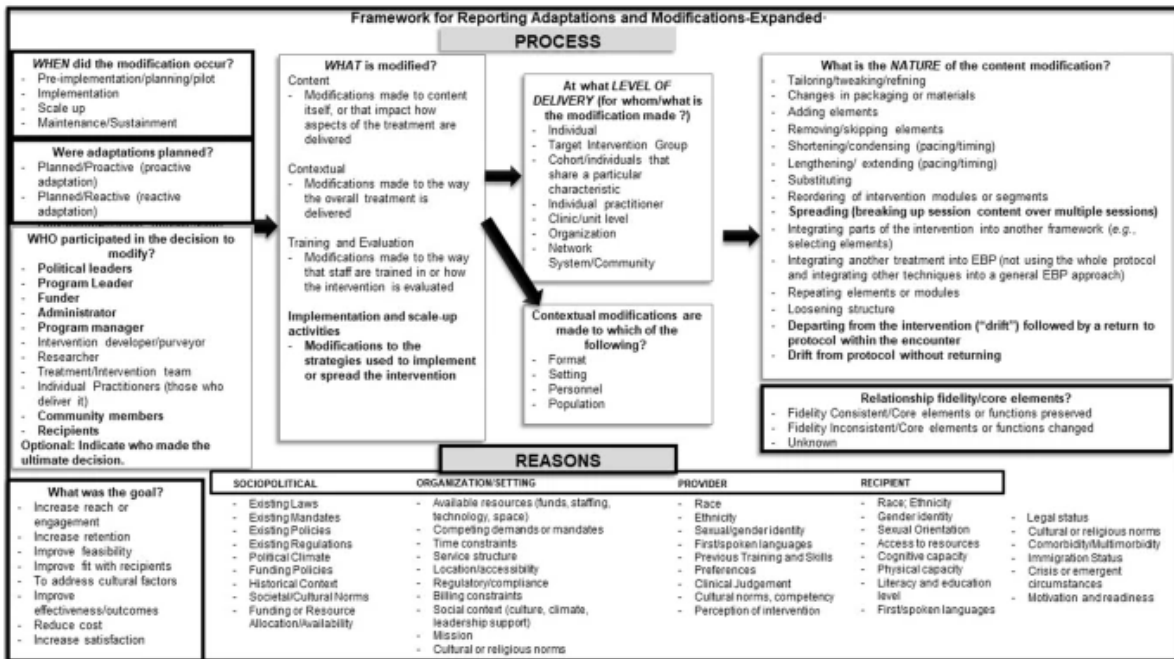
All changes occurred during the pre-implementation and feasibility stage l. Most changes were planned and pro-active with the exception of those discussed in section 5.1.4 that reports unplanned/reactive modifications made to programme content during the feasibility implementation.

5.1.1 Planned and proactive programme content adaptations

There were 51 planned/proactive content adaptations to SOMA in order to create the new "Happy Minds" programme and are displayed in Table 33. With the exception of adding home practice as a core programme component, no other changes were made to CPCs. Young people (or the target intervention group as they are referred to in FRAME) contributed to 23 of these changes. Aligning programme content to their preferences, literacy levels, and cultural norms were the main reasons for adaptations made by adolescents.

A total of 19 planned adaptations were the result of the planning meetings between the doctoral researcher and engagement with the PO facilitator, the majority (11) of which involved the removal of elements from the programme in a bid to reach the 40% content reduction that was required. This large undertaking fell to the doctoral researcher and PO facilitator due to the impracticalities of making so many micro decisions in consultation with

young people or with the wider research team. Two changes involved substituting activities with content from other mindfulness materials that the PO facilitator had delivered in the context. These changes were driven by local knowledge of what had worked previously and were judged to be in line with, and compliment, the SOMA programme goals.

Fourteen adaptations involved the direct input of the PO CEO, some of which were influenced by young people and the PO facilitator also. The CEO's involvement was necessary for structural changes to the programme such as the length of the intervention and sessions, the addition of important programme components such as the 'home challenges', and considerations of language, metaphor, and culture. These changes were offered through discussion, initial adaptation suggestions and the final material review through the CRQ. Of the seven content recommendations made in the CRQ four were used. Two of the videos that had been considered unsuitable and in one case 'not relevant' were some of the most highly appreciated content by the adolescents, and in line with the prioritised project goals, so this content remained. The lead PhD Supervisor was involved in two adaptation decisions, the first concerning the removal the SOMA acronym and framework from the intervention, a decision made together with the Po CEO and influenced by the intervention developer. The second was the addition of 'home challenges', which can be common in other mindfulness-based interventions and considered important to goal setting and behaviour change (Borek, Abraham et al. 2019).

5.1.2 Planned and proactive contextual adaptations

Nine contextual adaptations were made (displayed in Table 34), six of which were spearheaded by or involved the PO CEO. All six modifications aimed to increase feasibility. Young people requested modifications around gender, inclusion of adult stakeholders (parents and teachers), communication methods and recruitment materials. In addition to improving feasibility, youth modification aimed to increase engagement, satisfaction, and retention. They directly inputted into changes necessary to increase the appeal of sign up for young people. The original and changed recruitment posters can be found in appendix F.

5.1.3 Planned and proactive training and evaluation adaptations

Four adaptations were made to training and evaluation, three of which concerned training. It is acknowledged in intervention work, that effective training of non-specialist staff is an essential element of building mental health programmes in LMICs (Murray, 2011). Within mindfulness specifically it is advised that facilitators have prior meditation practice, and that trainings involve on-going support and supervision, examination the mindfulness intervention in detail, and teach the full course of what is to be delivered (Gibbons, 2014). Training was therefore considered incredibly important for intervention success by the full research team. The

doctoral researcher was trained in SOMA and tasked with training the PO facilitator. Due to financial constraints only one facilitator could be hired and trained, yet had increased resources been available, two facilitators would have been hired in line with SOMA guidelines and preferences of the PO CEO. The initial training design of the PO facilitator was a fusion of face-to-face training and online methods. Due to Covid-19 related travel restrictions the training was reformulated into an online version with an accompanying Facilitator Handbook.

Intervention evaluation was also added as it was not included in the original intervention. All changes are displayed in Table 35.

Table 33: Planned / proactive content modifications to SOMA made during the pre-implementation and planning phase.

WHAT WAS MODIFIED?	WHO PARTICIPATED IN THE DECISION TO MODIFY?	WHAT IS THE NATURE OF THE CHANGES?	REASON FOR THE MODIFICATION?	WHAT WAS THE GOAL?	FOR WHOM/WHAT WAS THE MODIFICATION MADE?
SOMA framework and outcomes based on the acronym of SOMA was removed from the programme.	PO CEO and Doctoral Researcher (DR)	Removing elements Shortening/ condensing	Time constraints Simplifying	Improve feasibility. Improve fit with recipients. Increase retention	Target intervention group and PO
Number of subjects reduced from ten to eight, removing 'Character Strengths' and merging 'Action and agency' and 'Meaning and Purpose'.	PO CEO and DR	Reordering the intervention sections Removing elements Shortening/ condensing	Time constraints of school timetable	Increase engagement, retention, and improve feasibility	Target intervention group and school
Addition of mindful movement break halfway through each session.	DR and PO Facilitator	Adding elements	Balance physical and sedentary mindfulness practice	Improve fit with recipients	Target intervention group
Activity categories created and assigned; each session given balance and formula: challenge review; core theory; insight activity; game; mindful movement break; main practice; and challenge introduction.	Target intervention group, DR, and PO Facilitator	Changing in packaging of materials	Created balance in the programme and recipient preferences	Increase engagement Improve effectiveness of outcomes Increase retention	Target intervention group
Thich Nhat Hanh's activities added to	PO CEO, DR, and PO Facilitator	Substituting material	Diversity	Improve feasibility	Target intervention group and PO

movement repertoire instead of qigong.			Using local strengths		
Addition of home practice as 'Home Challenges'	Target intervention group, DR, and PO Facilitator	Adding elements	Providers' professional judgement and recipient preferences	Improve outcomes	Target intervention group
Metaphor changes to 'blooming as a person' from 'flourishing'.	DR and PO Facilitator	Tweaking	Cultural norms of recipients	Improve feasibility Improve fit with recipients	Target intervention group
Metaphor and accompanying activity removal 'dial the mind'.	DR and PO Facilitator	Removing elements	Cultural norms of recipients	Improve feasibility Improve fit with recipients	Target intervention group
Happiness images changed to ones depicting Indians.	Target intervention group, DR, and PO Facilitator	Substituting	Cultural norms of recipients and recipient preferences	Improve feasibility Improve fit with recipients	Target intervention group
Income and happiness input removed.	DR and PO Facilitator	Removing elements	Cultural norms of recipients	Improve feasibility Improve fit with recipients	Target intervention group
Neuroplasticity language simplified to literacy levels of end users.	DR and PO Facilitator	Simplifying language	Literacy levels of end users	Improve fit with recipients	Target intervention group
Full removal of SOMA referencing and activities.	DR, PhD Supervisor, and intervention developer.	Removing elements	Time constraints Recipient priorities	Improve fit with recipients	Target intervention group and PO
Removal of 'Marshmallow tower' activity.	DR and PO Facilitator	Removing elements	Culturally unacceptable	Address cultural factors	Target intervention group and PO
Removal of reflections on what music is.	DR and PO Facilitator	Removing elements	Time constraints	Improve fit with recipients	Target intervention group

Sessions open and end with activities about the 'Challenges'.	DR, PhD Supervisor, Target intervention group and PO CEO	Adding elements	Providers' professional judgement and recipient preferences	Improve outcomes	Target intervention group and PO
Merger and shortening of meaning/purpose and agency/action topics/activities.	Target intervention group, DR, and Po Facilitator	Removing and tweaking elements	Time constraints	Improve feasibility Improve outcomes	Target intervention group
Ted Talk on happiness removed.	DR and PO Facilitator	Removing elements	Time constraints	Improve outcomes	Target intervention group
'Introduction' and 'learning guidelines' changed to accommodation realities for adolescents in Guwahati.	DR, PO CEO, and PO Facilitator	Refining materials	Cultural norms	Improve feasibility	Target intervention group and PO
Body aid drawing removed from bodyscan.	DR and PO Facilitator	Removing elements	Time constraints	Improve feasibility	Target intervention group and PO
Character strengths session reduced from full session to 20 minutes and made optional.	DR and PO CEO	Removing elements	Time constraints	Improve outcomes	Target intervention group and PO
'Mental puzzle' activity in session 4 changed to one used by PO in other interventions.	DR and PO Facilitator	Substituting materials	PO provider preference	Increase PO satisfaction	PO
Mindful dancing session added to gratitude session, and local music used.	PO CEO, DR, and PO Facilitator	Adding elements	Created balance in the programme	Improve outcomes	Target intervention group

Gratitude brainstorm added before main gratitude practice.	DR and target intervention group	Adding elements	Providers' professional judgement and recipient preferences	Improve outcomes	Target intervention group
Names and context of 'Awareness of thought' activities changed to Indian.	Target intervention group, DR, and PO Facilitator	Tweaking materials	Cultural norms	Improve feasibility	Target intervention group
Two 'Insight' activities ('What thoughts do we consume?' and 'Gratitude letter') became optional; and then first was removed, and second used for a different session.	DR, PO CEO, and PO Facilitator	Tweaking and removing elements	Time constraints	Improve feasibility and outcomes	Target intervention group
Kindness session altered to focus more on self-compassion, with 'compassionate breath' added as a core practice.	Target intervention group, DR, PO CEO, and PO Facilitator	Tailoring materials	Providers' professional judgement	Improve outcomes	Target intervention group
Term 'self-kindness' used instead of 'self-compassion'.	Target intervention group, DR, PO CEO, and PO Facilitator	Tailoring materials	Literacy level	Improve fit with recipients	Target intervention group
Scientific kindness videos removed	PO CEO, DR, and PO Facilitator	Removing elements	Cultural norms	Improve fit with recipients	Target intervention group
Kindness/self-compassion session moved before 'Mindfulness of difficult emotions' sessions.	Target intervention group, DR, and PO Facilitator	Reordering of intervention modules	Providers' professional judgement and recipient preferences	Improved outcomes and feasibility	Target intervention group

Short opening mindfulness practices with reflection or visualisation added to 3 sessions.	DR and PO Facilitator	Adding elements	Providers' professional judgement	Improve fit with recipients	Target intervention group
Superpowers practice added to session 6.	Target intervention group, DR, and PO Facilitator	Adding elements	Providers' professional judgement and recipient preferences	Improve fit with recipients	Target intervention group
'Mindfulness of eating' practice added to session 6.	Target intervention group, DR, and PO Facilitator	Adding elements	Providers' professional judgement and recipient preferences	Improve fit with recipients	Target intervention group
7th session renamed from 'Mindfulness of difficult emotions' to 'Facing difficulty with mindfulness and self-kindness'.	Target intervention group, DR, and PO Facilitator	Tailoring language	Cultural norms	Improve fit with recipients	Target intervention group
Focus given to 'self-kindness' in 'facing difficulty' session.	Target intervention group, DR, and PO Facilitator	Tailoring materials	Providers' professional judgement	Improve outcomes	Target intervention group
Theory session about triangulation of thoughts, sensations and emotions added to session 7.	Target intervention group, DR, and PO Facilitator	Changes in materials and adding elements	Providers' professional judgement	Improve outcomes	Target intervention group
Lying down practice added to session 7.	Target intervention group, DR, and PO Facilitator	Tweaking materials	Recipient preferences	Improve outcomes	Target intervention group

Rumi poem removed from session 7.	DR and PO Facilitator	Removing elements	Time constraints	Improve fit with recipients	Target intervention group
'Wise, rational and emotional mind' activity removed.	DR and PO Facilitator	Removing elements	Time constraints	Improve outcomes	Target intervention group
'Just plan it' exercise removed.	DR and PO Facilitator	Removing elements	Time constraints and cultural norms	Improve feasibility	Target intervention group
Contextually inappropriate mission statement input removed and replaced with local examples.	DR and PO Facilitator	Tweaking materials	Cultural norms	Improve feasibility	Target intervention group
'Beer-less pong' and 'Writing on back' games, removed.	Target intervention group, DR, and PO Facilitator	Removing elements	Cultural norms	Improve feasibility	Target intervention group
Audio recordings shared with participants for weekly challenges.	Target intervention group, DR, and PO Facilitator	Adding elements	Available resources	Improve outcomes	Target intervention group
The word 'tension' replaced the word 'stressed'.	Target intervention group, DR, and PO Facilitator	Tweaking language	Literacy level	Improve feasibility and fit with recipients	Target intervention group
The word 'meditation' was removed and changed to 'practice'.	Target intervention group, DR, and PO Facilitator	Tweaking language	Historical context Societal norms	Improve feasibility and fit with recipients	Target intervention group
Removal of Ballistic Bob and baby videos.	DR, and PO Facilitator	Removing elements	Cultural norms	Improve feasibility and fit with recipients	Target intervention group

Removal of pushing hands exercise.	Target intervention group, DR, and PO Facilitator	Removing elements	Cultural norms	Improve feasibility and fit with recipients	Target intervention group
Language for practices reviewed to incorporate preferred descriptions and metaphors.	Target intervention group, DR, and PO Facilitator	Tweaking language	Literacy level	Improve feasibility and fit with recipients	Target intervention group
Language in complex practices was simplified to match end user literacy levels.	Target intervention group, DR, and PO Facilitator	Tweaking language	Literacy level	Improve feasibility and fit with recipients	Target intervention group
Local instructions were checked for meaning and used in conjunction with English instructions for the practices.	DR, PO CEO, and PO Facilitator	Tweaking language	Literacy level	Improve feasibility and fit with recipients	Target intervention group
Language around wellbeing was expanded to include known terms: happiness, contentment, emotionally healthy.	PO CEO	Tweaking language	Literacy level	Improve feasibility and fit with recipients	Target intervention group
General simplification of instructions.	DR, PO CEO, and PO Facilitator	Tweaking language	Literacy level	Improve feasibility and fit with recipients	Target intervention group

Table 34: Planned / proactive contextual adaptations of the programme made during pre-implementation/planning.

WHAT WAS MODIFIED?	TYPE OF CONTEXTUAL MODIFICATION	WHO PARTICIPATED IN THE DECISION TO MODIFY?	WHAT IS THE NATURE OF THE CHANGES?	REASON FOR THE MODIFICATION?	WHAT WAS THE GOAL?	FOR WHOM/WHAT WAS THE MODIFICATION MADE?
Age group focused on 13–16-year-olds.	Population	PO CEO	Focusing target group	Existing mental health climate	Improve feasibility Improve outcomes.	Target intervention group and PO.
Participants recruited based on motivation to attend; the programme would not be delivered to full classes (at least in the pilot model)	Format	PO CEO, PhD Supervisor, DR	Adding elements	Motivation and readiness	Increase retention	Target intervention group
Length reduced and devised as an 8-week programme with 75–90-minute sessions.	Format	PO CEO, PhD Supervisor, DR	Condensing Reordering Loosening structure	Existing regulations Competing demands Time constraints Cultural norms	Improve feasibility Improve fit with recipients and PO.	Target intervention group and PO.
WhatsApp broadcasts used as core means of communication.	Format	Target intervention group, PO CEO, PO facilitator, and DR.	Adding elements	Cultural norms	Increase engagement and retention Improve feasibility	Target intervention group
Recruitment poster changed.	Population	Target intervention group, DR, and PO Facilitator.	Refining	Increase reach Cultural norms	Increase engagement Improve fit	Target intervention group

					with recipients.	
PO's safeguarding pathways were used for the project if mental health concerns arose from data. School and PO safeguarding pathways both available during intervention.	Setting and format	PO CEO and DR.	Tailoring	Service structure	Improve feasibility	Target intervention group
Gender issues including managing issues around non-binary gender identification was discussed during facilitator training.	Personnel and population	Target intervention group, DR, and PO Facilitator.	Adding elements	Gender identity	Increase satisfaction and retention	Target intervention group and PO facilitator
Plans to share practices and an overview of the programme with teachers and parents was made.	Population and setting	Target intervention group, PO CEO, DR, PhD Supervisor, and PO Facilitator.	Changes in packaging Adding elements	Cultural norms	Improve feasibility	Target intervention group
All activities provided with information on their timing, materials needed, activity objectives, and activity approach.	Format	DR and PO CEO.	Changes in packaging Adding elements	Provider perception of the intervention	Increased satisfaction Improve feasibility	Target intervention group

Table 35: Planned / proactive training and evaluation modifications made during pre-implementation.

WHAT WAS MODIFIED?	WHO PARTICIPATED IN THE DECISION TO MODIFY?	WHAT IS THE NATURE OF THE CHANGES?	REASON FOR THE MODIFICATION?	WHAT WAS THE GOAL?	FOR WHOM/WHAT WAS THE MODIFICATION MADE?
A facilitator guide including a course roadmap, and information on challenges and facilitating the enquiry process was developed.	PO CEO and DR.	Changes in packaging and materials	Perception of intervention Preferences	Increase satisfaction Improve outcomes	PO PO facilitator
Facilitator training was changed to an online format and tailored to one participant.	PO CEO, PhD Supervisor, and DR.	Changes in packaging and materials	Perception of intervention Preferences	Increase satisfaction Improve outcomes	PO PO facilitator
One facilitator trained for the programme.	PO CEO, PhD Supervisor, and DR.	Changes in packaging Removal of elements	Available resources (funds)	Reduce cost	PO
Intervention's final evaluation devised on Qualtrics, and weekly evaluation devised using paper and sticker system.	Target intervention group, PO CEO and DR.	Changes in packaging Adding of elements	Available resources Preferences	Increase satisfaction Increase retention	Target intervention group, PO, and DR.

5.1.4 Unplanned and reactive content and contextual modifications during feasibility study.

FRAME's pre-implementation phase provides an opportunity to anticipate and discover adaptations needed through a pilot – referred to here as our feasibility study (Stirman, Baumann et al. 2019). Unplanned content modifications during the feasibility delivery were therefore expected. Reactive modifications often occur as a result of 'unanticipated obstacles' (Moore, Bumbarger et al. 2013), . However, such reactive modifications may appear critical to the feasibility of delivery 'in the moment' but may change the programme's CPP or CPCs, and may fundamentally change the processes or outcomes of an intervention (Cooper, Shrestha et al. 2016). As such, they are essential to record and understand. Although a number of contingency plans were discussed between the PO facilitator and doctoral researcher in anticipation of timing issues or unforeseen problems, the majority of unplanned content modifications were made by the PO facilitator during sessions.

One unplanned contextual change was made. Although plans to engage parents and teachers were made as a proactive contextual adaptation, due to Covid-19 related movement restrictions and timing issues, this had to be minimised. This raises an interesting point about recommended adaptations that were not realised because they could not be accommodated (for instance, due to limited resources it was not possible to provide engaging videos to lead the home challenges); and those that were planned for yet unable to be executed in practice. Four of the six unplanned content changes were directly linked to programme fidelity, three of which were due to mistiming or unforeseen circumstances. In these cases, simple tweaks would be needed in any future changes to the content. The most concerning change was to the enquiry process as the reasons involved lack of confidence of the facilitator and understanding of participants.

Unplanned changes are displayed in Table 36. The implications of all these changes are discussed in detail in Chapter 5.3.3.

Table 36: Unplanned / reactive content and contextual adaptations made during pilot.

WHAT WAS MODIFIED?	WHO PARTICIPATED IN THE DECISION TO MODIFY?	WHAT IS THE NATURE OF THE CHANGES?	REASON FOR THE MODIFICATION?	IMPACT ON FIDELITY/CORE ELEMENTS?
Reduction in 'Gratitude' content	PO facilitator	Shortening/condensing of core practices.	Mistimed substituted activity.	Yes.
Increase in home challenge in week 6	DR and PO facilitator	Adding elements	Unforeseen school closure	No.
Ice cube activity removed from session 7	DR and PO facilitator	Removing elements	Lack of resources within school to support.	Yes.
Increase in theory provided in session 7 including adding Rumi poem back to content.	DR and PO facilitator	Adding elements	Forced removal of another element.	No.
Enquiry process	DR and PO facilitator	Reducing/tweaking activities	Lack of confidence by the facilitator and understanding of participants	Yes.
Core theory reduced in session 3.	PO facilitator	Reduced activities	Timing issues.	Yes.
Parental and teacher engagement	PO CEO and facilitator; DR.	Reduced activities	Covid related restrictions and timing issues	No.

5.2 Final intervention model

A final intervention model was formulated by applying all planned modifications. This section outlines changes made to the content, introduces the training and accompanying Facilitator Handbook, shares the newly adapted ToC, and provides a logic model of the new intervention.

5.2.1 Outline of final intervention, training, and Facilitator Handbook

The final Happy Minds programme is displayed in Table 37. Full scripts for the eight sessions and a Facilitator Handbook were created, and a 10-week, weekly, online training was delivered to the PO facilitator. The original training model of SOMA involved delivering the intervention in full to all training participants face-to-face, as if they were end users hence creating the group learning environment, with time allocated for them to lead mindfulness practices and the enquiry process. In the adapted format, the trainee was not able to fully experience all of the programme activities as there were no other trainees to complete activities with, and the training was delivered online. However, the Happy Minds programme was delivered in full, during which the PO facilitator led the mindfulness practices and enquiry process.

A Facilitator Handbook was created for the training which:

- o Provided a roadmap of the intervention offering a simplified logic model, demonstrated connections between sessions and provided a content overview.
- o Explained how mindfulness practice was built up over the course of the programme.
- o Detailed the 'Home Challenges'.
- o Outlined guidance of the enquiry process.

The basic roadmap as follows:

Week 1: **Happiness= Mind + Circumstances.**

Week 2: **Staying in the present moment** supports our mind in building positive habits and capacities.

Week 3: **Accepting the present moment**- not grasping or resisting, not dreaming of the future or past- makes us happier and more productive.

Week 4: **Positive emotions** (which help us be creative and stay healthy) **need attention** as our minds have a bias for negativity.

Week 5: Understanding that **our mind is a storyteller** and how we can use mindfulness to help us understand our mind better.

Week 6: **Self-compassion and kindness** can enhance our experiences and deepen our mindfulness practice.

Week 7: When combined with mindfulness, self-compassion can help us **cope with difficult experience.**

Week 8: Everyone has **purpose in life** and can become **active agents in our lives**.

A section of the Facilitator Handbook displaying guidance on the enquiry process can be found in Appendix G. The full script of session three can be found in Appendix H.

Table 37: Final intervention model- Happy Minds Programme.

SESSION TITLE	PSYCHOEDUCATIONAL CONTENT	CORE PRACTICES	HOME CHALLENGE
Setting Intention	Introducing the X programme Learning guidelines Insight activity: What is happiness? Mindful movement break Core theory: Happiness= Mind + Circumstances, plus videos Challenge: 3 centering breaths	3 centering breaths Mindful movement break	3 centering breaths practice. Explore why and how many times you used the practice.
Mindful Attention	Challenge review Opening practice: who we admire? Core theory: Neuroplasticity and Mindfulness Main practice: Keeping attention in one place Mindful movement break Game: Cup stacking Challenge: Discover your favourite place and time to practice with 3-minute mindfulness of breathing audio	Mindfulness of breathing Keeping the mind in one place Enquiry	3 minutes breath practice: Mindfulness of breathing for 3 minutes per day. Discover where and when you enjoy/are able to practice.
Attitudinal qualities of mindfulness	Challenge review Core theory: Mind wandering study Insight activity: Thoughts awareness and not thinking Game: Spot the difference (and mindful movement break) Core theory: Different dimensions of mindfulness Main practice: Willpower test (with video and stretching) Challenge: Willpower test for 5 minutes	Bodyscan Enquiry Willpower test Not thinking practices	5-minute willpower test. How many days were you able to do the test and did you manage to reach 5 minutes.
Gratitude	Challenge reflection Insight activity: Mindfulness of sound Core theory: Positive emotions and problem solving activity Video: Moving art Movement: Mindful dancing Main practice: Gratitude brainstorm and practice Challenge: Gratitude journal	Mindfulness of sound Mindful gratitude practice Enquiry	Gratitude journal and 3 centering breaths. At the same time and place, write down at least 3 things you feel grateful for daily.
Mindfulness of thought	Challenge review: Gratitude diary Insight activity: Mind as the storyteller	Awareness of thought Bodyscan and awareness of sensations	Notice when your mind is a storyteller and write out each day

	Core theory: How the minds' storytelling can influence our life and 'texting your friend' activity Game: Blindfold game (and mindful movement break) Insight activity: What thoughts do we consume? (Optional) Main practice: Ink bowl activity and practice Challenge: Noticing our mind as a storyteller	Mindfulness of breathing Open awareness practice Enquiry	to 2- 3 things about which the mind was story telling.
Kindness and self-kindness (compassion)	Challenge reflection Opening practice: Superpowers Core theory: Kindness as a social connector Main practice: Cultivating kindness and self-kindness Mindful movement break Practice: Mindfulness of eating Insight activity: Gratitude letter (optional activity) Challenge: (i) Random act of kindness (ii) Mindful eating	Mindful well-wishing Compassionate breath Mindful eating Enquiry	Mindfully eating a snack (with 3-minute audio) Random act of kindness (This was over a two-week break)
Facing difficulty with mindfulness and self-kindness	Challenge reflection Opening practice: Emotions Core theory: Handling emotions Insight activity: Response to uncomfortable emotions Main practice: Bringing warmth to difficulty through mindfulness and self-kindness (lying down practice) Challenge: Bringing warmth to difficulty	Bringing warmth to difficult experiences. Compassionate breath Belly anchoring practice Pleasant, unpleasant, and neutral	Follow the 6-step practice. 1) STOP: notice you are experiencing difficulty and turn toward the difficulty 2) LABEL the difficulty 3) ACCEPT with kindness 4) EXPLORE body, mind and emotions 5) RECOGNISE that it will pass 6) LET GO! Choose how to respond to the experience (non-reactive)
Agency and meaning	Challenge reflection Opening practice: Mixed mindfulness techniques Core theory: How much control do I have? (Pie chart and circles of influence/concern) Main practice: Wisest Decision practice Insight activities: Meaning and purpose Closing circle	Mindful well-wishing Mindfulness of breathing Bodyscan	None given.

5.2.2 Final theory of change

In the field of intervention development, the refinements of ToC following co-adaptation are seen as crucial to intervention evaluation and identification of mechanisms, which in turn improve understanding and future intervention effectiveness (Meyer, 2022). The modifications made to the original SOMA programme led to a number of changes to the first phase modified ToC. The theory of change for Happy Minds pre-feasibility study is displayed as Figure 16.

Tier1: Motivational factors

One motivational factor was added to the ToC which was 'Motivation to sign up'. This was both established as important in the new contextual setting and has been shown to improve effects in other MBI studies (Canby, 2015).

Tier 2: Core programme components

CPCs were largely unchanged from the original intervention. Studies 1 and 2 emphasised that a) self-compassion was an important value and b) dealing with difficult experience was an important but complicated topic. It was therefore decided to add 'compassionate breath', a combination of mindfulness of breathing and self-compassion, as a practice and strategy to manage difficult experience for. 'Home practice' was also added as a core programme component.

Tier 3: Core psychological processes

CPPs largely remained unaltered with the exception of adding 'Compassion' to reflect the changes in the CPCs. Compassion was defined as 'concern for, and interest in, the alleviation of suffering for self and others' (Felver, Cary et al. 2023).

Tier 4: Mental stance

Tier four of the ToC remained unchanged.

Tier 5: Outcomes

'Improved wellbeing' remained as the primary outcome of the intervention, with mindfulness as the mediator. Secondary outcomes were reduced to accommodate content change. Outcomes of increased social connection, kindness, openness to enjoyment, and meaning and purpose, were removed, as much of the original psychoeducation that would have theoretically contributed to this was removed. The positive psychology and associated mindfulness practices primarily focused on gratitude and self-compassion implying potential mechanisms that could impact wellbeing. Therefore, increased self-compassion was added.

Figure 16: Theory of change for Happy Minds pre-feasibility study
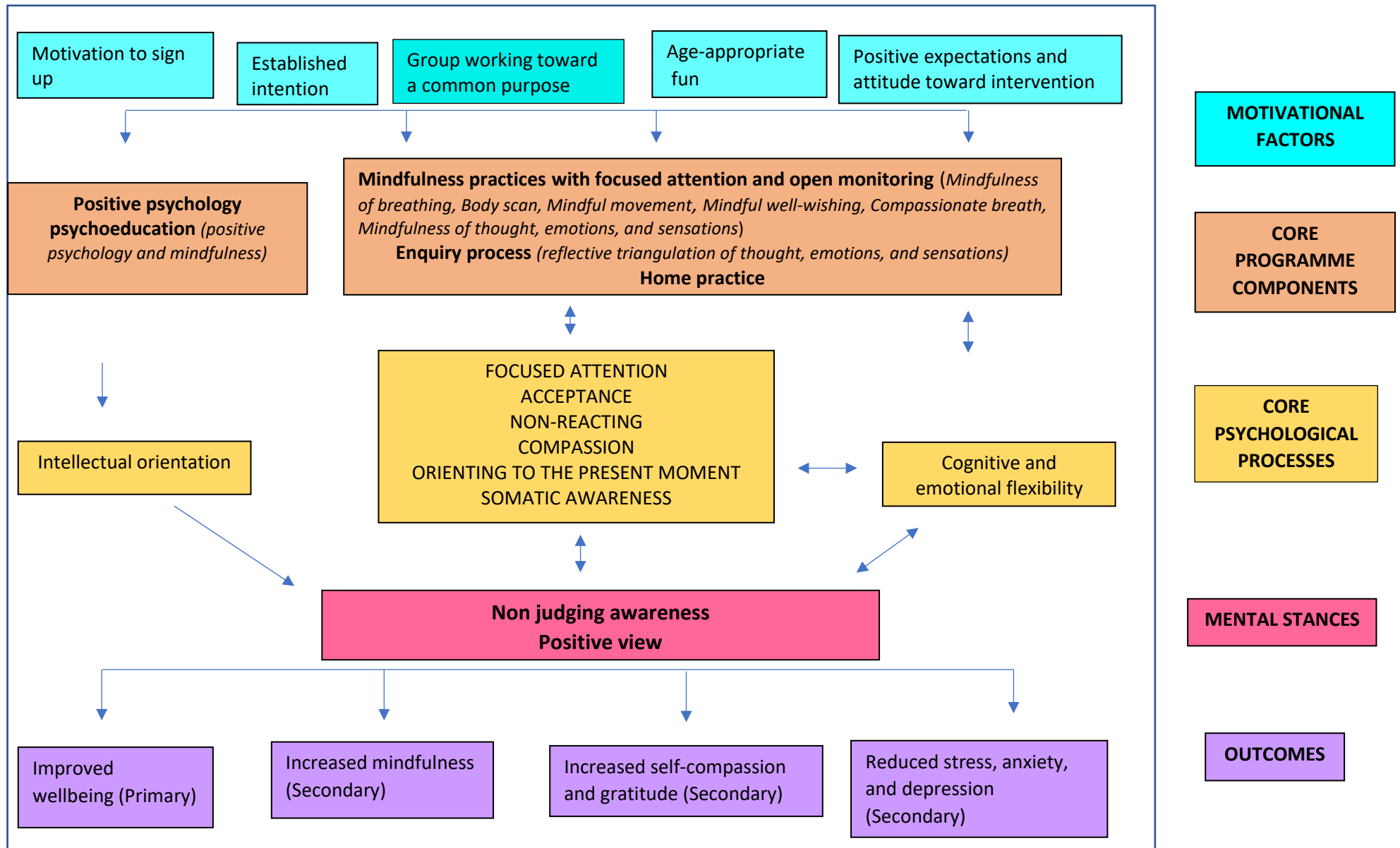
5.2.3 Logic model

Logic models involve developing a diagrammatic model displaying how the intervention activities and outcomes are connected, i.e. the logic of how the programme works (Lando, Williams et al. 2006). Logic models are useful in planning programmes, monitoring implementation of activities and in evaluation of impact, especially when they are conceived with local populations (Afifi, Makhoul et al. 2011). Using the ToC in conjunction with a logic model may enable the identification of important aspects on how the intervention worked or not. The logic model provides a practical and conceptual input to this process, whilst the ToC drives hypotheses about how inputs drive mechanistic psychological processes.

The Evidence Based Practice Unit (EBPU) Logic Model was used as a template to create a Happy Minds programme logic model (Wolpert 2016) (Figure 17) . The development of the logic model was the result of inputs from Studies 1 and 2 in addition to ongoing discussion within the research team, and highlights a simplified explanation of multiple inputs, to ensure the whole research team understood what was trying to be achieved, and that it aligned with the team's goals. There are five sections of the logic model. The first section ('Target') highlights attributes of who the intervention targets, including age and location of those targeted, plus any exclusion criteria. The second section ('Intervention') stipulates what the intervention is, both in terms of practices and content. Materials and procedures involved, how, where, when it is provided and by whom, are included here. The third section ('Change mechanisms') considers how and why the intervention might work. The fourth section ('Outcomes') highlights the differences the intervention will make, including measurable outcomes. All outcomes are reflected on in measures and/or evaluation questions introduced in Study 3. The final section ('Moderators') proposes what may moderate the change process or outcomes. All moderators were highlighted by Study 1 and 2 participants as necessary factors for a successful intervention.

The logic model will be used in Study 3 when assessing the success of the pilot and may be used in the future to understand and alter the intervention if necessary.

Figure 17: Intervention logic model

TARGET (Who is the intervention for?)	INTERVENTION (What is the intervention?)	CHANGE MECHANISM (How and why does the intervention work?)	OUTCOMES (What difference will it make?)
Adolescent girls and boys, aged 13-16, living in Guwahati	Co-adapted 8 week 90-minute wellbeing programme	Repeated use of mindfulness practice fosters cognitive and emotional flexibility	Reduces levels of stress, anxiety, and depression
Motivated to learn self-help skills and knowledge	Face-to-face delivery in school by a trained, external facilitator	Provides discrete, non-stigmatising and easy access to support in school	Greater self-awareness, positivity and focused attention in daily life and goal accomplishing behaviours
	Mindfulness practices and enquiry process		
Without a known diagnosed mental health condition	Psychoeducation based on mindfulness and positive psychology	Fosters self-compassion and gratitude	Feeling calmer, supported, and reacting to difficulty with self-compassion and awareness
	Strategies to manage difficult emotions and thoughts	Builds awareness and understanding of personal experience through personal and group enquiry	
Attending public school	Mindfulness combined with gratitude & self-compassion		Improved capacity to cope with academic stress and pressure
	Supported by a local Institute of positive Mental Health		

MODERATORS
(What factors will influence the change process?)

Target group engagement and motivation	Parental/guardian buy-in	Effective training model	Existing interest of PO in research and topic	Resource capacity of PO and University
Extracurricular activities already supported in school	School leadership buy-in		Allocation of funding	Wellbeing supported in schools

5.3 Study 3: Feasibility Study

The final and eighth stage of the protocol (as indicated in Figure 18), is based on Step 8 of the EPIS framework. The aim of this stage was to feasibility test the co-adapted intervention.

Figure 18: Protocol Stage 8, (Pilot) testing, Implementation phase.

The main purpose of the feasibility study was to determine if the intervention could work in the context and in the way it was intended. Intervention effectiveness research can be accelerated if careful feasibility studies are conducted (Orsmond and Cohn 2015). Feasibility testing can be an iterative and adaptive process, in which the research team can learn and adapt along the way (Bowen, Kreuter et al. 2009). Study 3 therefore focused on assessing the research and intervention process as the study progressed and evaluating how key stakeholders responded to the intervention.

Orsmond and Cohn (2015) outline five key objectives of feasibility studies which have been used to guide the design of Study 3. They are as follows:

1) evaluation of recruitment capability and resulting sample characteristics

2) evaluation and refinement of data collection procedures and outcome measures

3) evaluation of the acceptability and suitability of the intervention and study procedures

4) evaluation of the resources and ability to manage and implement the study and intervention, and

5) preliminary evaluation of participant responses to intervention.

The feasibility study is outlined in three main sections: methods, findings, and discussion.

5.3.1 Study aim and objectives

The aim of Study 3 was to ascertain the feasibility of the co-adapted mindfulness-based intervention to inform whether progression to a controlled trial of effectiveness was warranted.

Study 3 had three objectives. They were to:

1) To determine if the Happy Minds programme was feasible. This included acceptability of intervention materials, suitability for target population needs, participant engagement, recruitment and training of delivery agent, consent and safeguarding procedures, and logistics.

2) To determine if the study's research processes were accepted and identify any measures completion challenges.

3) To describe what changes, if any, were observed on measures of wellbeing, mindfulness, gratitude, self-compassion, stress, anxiety, and depression, in adolescent participants aged 13-16.

4) To develop recommendations for a future trial based on stakeholder evaluation, in the instance that the intervention was deemed feasible.

5.3.2 Methods

Study design

A pre-post-test feasibility study with 3m follow up and process evaluations.

Ethics and safeguarding

Study 3 was deemed to have a medium level of risk with regards to safeguarding and ethical issues. Numerous steps were taken to ensure that any potential risks were mitigated and that processes were put in place in the event that an incident occurred, or matter of concern arose. The project was approved by The University of Leeds Faculty of Medicine & Health Research Ethics Committee (School of Psychology) on 31/03/2022, ref: PSYC-499.

Policies followed for child safeguarding concerns were the PO's zero tolerance policy for sexual misconduct, the national government's Protection from Sexual Exploitation and Abuse (PSEA) policy, and the schools' protocol for managing safeguarding incidents. Staff from the PO were

not permitted to be alone with any child, and training on safeguarding was provided to the PO facilitator prior to engagement with the children[3]. Protocols were also in place in the instance that the PO was obliged to report safeguarding disclosures to official authorities. A small committee was established to guide the internal process if this became necessary.

Local experts provided input regarding the suitability of research methods through Study 1 consultations and design meetings with PO staff. In session one of the programme, participants co-created a 'group agreement' with the PO facilitator in which a code of conduct for the intervention was agreed upon. Included in these, adolescents understood that they are under no obligation to participate in any intervention activity; personal experiences participants wished to keep confidential should not be shared; and information shared should be kept within the group. The times and venue of sessions were the same as other extracurricular school activities, and a recommended company provided transportation.

Consent and assent were established on an opt-in basis. Beforehand participants and parents were informed about the purpose of the study, how data collected would be used, and about confidentiality and anonymity. It was also made clear that confidentiality would be limited. As parental permission is required in India for those under the age of 18 to be involved in research, both consent and assent was sought.

Participants were advised that they had the right to withdraw from the study in advance of and at any time during the process of the study. Confidentiality and data protection procedures for the partnering organisation and the UoL Research team were outlined in the PhD Agreement. Additionally, the CEO and the PO facilitator signed confidentiality and data management agreements. Relevant components of the data security protocol, adhering to the standards set out by the project team in the PhD Agreement, were shared in advance with participants, parents, and school staff. All data was anonymised, and all personal details of participants were kept confidential. Participants generated a unique identifier used in all data collection. The assigned safeguarding focal point for the PO was the only person to have access to a list indicating which child was linked to which self-generated unique ID number. This person had no role in data collection or intervention delivery and had no access to other data unless a matter of concern arose. This individual was a trained safeguarding focal point, and the role was agreed with the school staff. This was to be used only in the instance that the data showed cause for concern over a participant's safety and mental health. It was protocol to report to the focal point if any participants shared through the measures that they had

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[3] The PO facilitator is the delivery agent. He will be referred to as the PO facilitator throughout.

thoughts of suicide or self-harm. Schools, parents, and participants were given information on safeguarding and ethics procedures prior to the intervention starting, in suitable language. Supportive documents including the data management and confidentiality agreements, and the study's consent and assent forms can be found in appendix I)

Intervention delivery

The Happy Minds programme was delivered in weekly 90-minute face-to-face sessions, composed of mindfulness practice and psychoeducational materials. Two groups of up to 20 participants received the programme over an 8-week period. One group attended a morning session from 9.30 am to 11am, and the second group attended an afternoon session from 12pm to 1.30 pm. Sessions were delivered in an allocated room on the school premises on Saturdays by one trained delivery agent (referred to as the PO facilitator).

Recruitment

The partnering organisation identified three schools (two private and one public) with which they had previously collaborated, to potentially host the intervention. Studies have shown that children in private Indian schools experience "more positive emotion, accomplishment and engagement", whilst those in public (government) school experience greater levels of anxiety and depression in addition to having worse amenities, higher teacher to pupil ratios, and reduced access to co-curricular activities (Singh and Raina 2020). Due to this- and data on poverty and access to resources shared in Chapter 2- the decision was made to approach the public school to test the feasibility of the Happy Minds programme. Additionally, if further research was conducted in the future, it was considered a sustainable approach to work with government schools.

A formal meeting was set up between the school and the PO during which an information letter was provided to the school Principal explaining the study. The school Principal gave consent for pupil recruitment in her school. Eligible Pupils in Class Standards 9 and 10 and their parents were then informed about the study. Pupils were informed about the project requirements and general content before being invited to sign up. In this instance no pupils were excluded due to eligibility criteria. Recruitment of participants for the study was conducted by the PO and the schooling staff in April 2022.

The key exclusion criteria were severe mental health conditions. Although there is very low risk of adverse effects of intervention activities, adolescents with known severe mental ill health (either self-reported, adult reported or diagnosed) such as psychosis or major depression, were not eligible as the intervention was tested as wellbeing support for healthy stressed groups. Those experiencing mild symptoms of low mood, stress, or anxiety were eligible as mindfulness approaches have established safety with these groups when delivered in the

planned format. The project was clearly defined as a self-help and self-directed intervention and not a pathway to therapy.

Participants

Study 3 aimed to retain 30 adolescents to intervention end (approximately 15 boys and 15 girls) aged 13-16. This number was based on similar school based, feasibility studies of MBIs for adolescents (Beauchemin, Hutchins et al. 2008). Forty adolescents were recruited to account for attrition, 39 of whom proceeded beyond assent/consent procedures. Of the 39 participants, 59% were male (n= 23) and 41% were female (n=16). 55% of participants were aged 15, 18% were 16 or 17, 21% were 14 years and 5% were 13 years.

Data collection and analysis

Multiple forms of data were collected.

1) Feasibility thresholds were established.
2) Fidelity checks were put in place to check feasibility.
3) Outcome measures were tested for acceptability.
4) Process evaluation data from multiple key stakeholders at different time points were collected.

The full range of data collected and how it was managed is displayed in Table 38.

Table 38: Data collection and management for Study 3

Data source	Collection method	When it is collected	Storage and sharing	Identifiable information	Who has access to this information
Personal information	Qualtrics survey	Baseline	Online form is saved online and sent directly to Doctoral Researcher (DR) via Qualtrics App. DR will store all files securely on UoL OneDrive.	Age Class standard Gender Religion Ethnic group	DR
Self-reported questionnaires on wellbeing, mindfulness, gratitude, self-compassion, and mental health (anxiety, depression, stress)	Qualtrics survey	Baseline Post-intervention and 3+m	Online form is saved online and sent directly to DR via Qualtrics App. DR will store all files securely on UoL OneDrive.	None (includes unique identification number)	DR
Audio recordings of intervention sessions	Two audio recording devices (Dictaphones)	During each intervention session	Audio files will be uploaded to shared folder on OneDrive. Consultant will destroy other copies.	Voices of participants will be audible on recordings	DR IA Facilitator
Attendance register	Paper register with unique identifier. Participants to place a tick beside ID.	At the beginning of each intervention session	Paper forms are scanned and shared on research teams OneDrive folder by Facilitator; hard copies stored in lockable filing cabinet in PO office for 3 years.	Unique identification number	DR PO Facilitator
Weekly evaluations	On flipchart paper using emoticon sticker system	At the end of each intervention session	Paper forms are scanned and shared on research teams OneDrive folder by Facilitator; hard copies stored in lockable filing cabinet in PO office for 3 years.	None	DR PO Facilitator
End of intervention evaluation	Qualtrics	Post-intervention and 3+m	Online form is saved online and sent directly to DR via Qualtrics App. DR will store all files securely on UoL OneDrive.	None (includes unique identification number)	DR

Feasibility thresholds

Reached or exceeded feasibility thresholds aimed to indicate if the intervention and surrounding research was feasible and would hence determine if progression to an effectiveness trial was warranted. This data related to objectives one and two of Study 3. Where possible thresholds were based on the parameters of similar studies, including MBI feasibility studies. Feasibility data was collected using an enrolment logbook (attrition), consent and assent forms (recruitment capability and consent), online surveys for evaluation materials (satisfaction) and self-report measures (acceptability of data procedures and outcome measures). Feasibility thresholds and other studies that supported the parameters set can be found in Table 39.

Table 39: Feasibility outcomes and thresholds, with accompanying information.

	Outcome area	Target outcome / threshold	Accompanying information
1	Organisational willingness and expertise	**One (1)** partnership agreement established with a qualified organisation motivated to participate in the research.	A 'relevant organisation' is one which has professionally trained psychologists and mental health professionals and ha experience working directly with CYP on wellbeing and mental health interventions.
2	School willingness and motivation to host the CYP wellbeing intervention	**One (1)** school, with established interest in investing in pupil wellbeing, agreed to host the research and intervention.	A school with interest in pupil wellbeing was one that had planned to or had taken steps to improve student wellbeing, a priori to the intervention.
3	Available local experts	**One (1)** qualified mental health professional with experience teaching mindfulness to adolescents successfully recruited and trained as delivery agent.	A qualified mental health professional was preferably trained in psychology.
4	Parental consent	**40** parents' consent to their children participating in the intervention and surrounding research.	Both consent and assent figures are based on similar studies including studies with Indian adolescents (Sarwate and Vaidya 2018).
5	Participant assent	**40** children, both boys and girls, with parental consent, assent to participate in the intervention and surrounding research.	
6	Retention	**75%** of participants attend at least 5 out of 8 sessions.	This completion rate is based on similar MBI studies with adolescents (Alampay, Tan et al. 2020) and retention rate is based on similarly designed feasibility indicators (Hugh-Jones, Janardhana et al. 2022).
7	Measure completion	**65%** of participants complete post-intervention evaluation and self-report measures. **65%** of participants completed +3m evaluation and self-report measures.	Based on feasibility studies with similar age group and number of participants (Hugh-Jones, Pert et al. 2022).
8	Satisfaction	**80%** of participants would recommend the programme to their peers to improve their wellbeing.	This acceptability rate is based on other MBI studies with adolescents (Zhang, O'Connor et al. 2022).

Intervention fidelity

Fidelity measures are more often associated with pilot and effectiveness trials due to the adaptive nature of feasibility studies (Orsmond and Cohn 2015). However, structures were put in place to:

(a) check the feasibility of fidelity structures.

(b) assess if the intervention needed any further adaptation, particularly with regards to timing.

(c) check the PO facilitator's level of understanding and teaching of core programme components.

This data related to objectives one, two, and four of Study 3.

Fidelity was based on a best guess approach, not empirically informed thresholds. The two structures put in place were weekly debrief discussions with the PO facilitator and recording the weekly sessions on two recording devices. Recording for fidelity had occurred in similar studies (Bluth, Campo et al. 2016). Data from the debrief discussions outlined any unplanned changes made to the programme. Data extracted from the recordings focused on the delivery of CPPs which is a similar approach to other mindfulness studies with adolescents (Gould, Mendelson et al. 2014). Each session (except for session one) had a set number of minutes of formal mindfulness practices and at least one practice of enquiry. Language used by the facilitator in the delivery of these components, and the timing of the practices and the enquiry process, were checked against the script and prompts detailed in the Facilitator Handbook. The timing of, and language used in, psychoeducational activities was also observed. Questions to support fidelity checks can be found in Table 40.

Another discussed option for fidelity checks was observations during programme sessions. This was deemed inappropriate as the DR could not travel due to the Covid-19 pandemic; it was believed an international member of the team would potentially distract participants; and PO staff that could have been trained to do this were unavailable to carry out this activity. A last option for fidelity checks was to create an inventory form for facilitators. Similar questions were used during the debrief sessions in a bid to keep additional responsibilities of the facilitator at a minimum.

Table 40: Fidelity questions

Reflective questions for the facilitator	Questions asked during assessment of recordings
1. What went well in today's session? 2. What was changed from the script? 3. Did the timing allocated to activities reflect the needs of the group? 4. Did participants understand the practices? 5. Did participants understand the surrounding psychoeducational materials? 6. Did participants participate in the enquiry process? 7. Did participants complete the previous week's home practice? 8. What could we have focused more on in the training sessions to support you today?	1. Did the timing allocated to activities reflect the needs of the group? 2. Was the timing of the mindfulness practices and inquiry process in line with the prescribed timing of the intervention as highlighted in the scripts and Facilitators Handbook? 3. Was the language used in mindfulness practices and enquiry process in line with scripts and relaying appropriate meaning? 4. Did the delivery agent conduct the session in line with best practice characteristics? 5. Were challenges introduced and reflected on currently? (based on the script and Facilitators Handbook)

Outcome measures

This study was not powered to determine effectiveness and primarily focused on participant completion rates of the measures to inform their future use in a full effectiveness trial. However, outcome trends were assessed. Standardised, self-report measures were tested at baseline and retested at post-intervention and +3m follow up. The interventions' outcomes are similar to other mindfulness intervention studies (Kuyken, Weare et al. 2013, Bluth, Blanton et al. 2014, Chi, Bo et al. 2018, Alampay, Tan et al. 2020). This data related to objectives two, three and four of Study 3.

Measures were selected based on their validation or use in the context (i.e., Indian youth); and their suitability for measuring the outcomes presented in the ToC. Where a measure had not been validated for this age group in the context, and was considered unsuitable by local experts, a tool was created by the research team.

Descriptive data and baseline measures were collected through two surveys one week prior to the intervention starting (baseline). Age, class standard, gender, religion, ethnic group were gathered, and all participants were guided through creating a unique ID. The Qualtrics platform was used to collect all data. Data was collected during online Microsoft Team meetings, during which collection processes were explained and participants had the opportunity to ask questions if they did not understand questions as they completed the measures. Post-intervention and +3-month measures were also collected in this way. All measures were in English. SPSS version 28 was used to analyse quantitative data from self-report measures and personal information.

Wellbeing Measure

Wellbeing was the primary outcome of the MBI and was assessed via the WEMWBS. The scale has 14-items all answered on a 5-point scale from 'None of the time' (1) to 'All of the time' (5). Scores are added to provide a wellbeing score between 14-70 with higher scores indicating greater mental wellbeing. WEMWBS has moderate test-retest reliability for adolescents aged 13-16 and has been validated in both English and Hindi in Indian adolescent populations (Singh and Raina 2020). WEMWBS had not been developed to measure mental health and was therefore not used as a diagnostic tool, however some studies suggest that a score of <41 may indicate risk of depression (Stewart-Brown and Janmohamed 2008); and scores of 41-to-44 indicated possible mild depression, with top range scores being between 60 and 70, and low range scores between 14 and 42 (Warwick_Medical_School 2021).

Mindfulness Measure

The Child and Adolescent Mindfulness Measure (CAMM) was used to measure levels of dispositional mindfulness. CAMM assesses present-moment awareness as well as non-

judgmental, nonavoidant responses to thoughts and feelings, which were in line with mindfulness processes hypothesized in the ToC for this particular MBI. The English version of CAMM has not been fully validating for Indian youth populations. It had been validated in Kannada, the local language of Karnataka (Koya, Deepa et al. 2019) and the English version had been used with Indian adolescents in several studies (Sharma, Sinha et al. 2016, Peter, Srivastava et al. 2022) with validity of the research using CAMM indicating that the measure shows good concurrent validity (Shambhu, Rajesh et al. 2018). A cut-off point for high levels of mindfulness has been suggested as 22 and above (Chen, Liang et al. 2022).

Mental health measure

Three measures were used to measure mental health outcomes: the Perceived Stress Scale 10 (PSS-10), the Generalised Anxiety Disorder Assessment (GAD 7) and the Patient Health Questionnaire (PHQ-9).

PSS-10 is a 10-item measure in which respondents' rate how life in the past month has been stressful, unpredictable, and uncontrollable. It is marked on a 5-point scale that ranges between 'Never' (0) to 'Very often' (4). Scores ranging from 0-13 are considered low; 14-26 are considered moderate; and 27-40 are considered high perceived stress. PSS-10 had been used in many studies with adolescents in India (Pramanik, Saha et al. 2019, Agarwal, Harikar et al. 2020, Gajula, Bant et al. 2021, Srinivasan, Premarajan et al. 2022). The English version of PSS-10 had been validated as a global measure of perceived stress (Cohen, Kamarck et al. 1983), and later validated for adolescents (Liu, Zhao et al. 2020). It has had good test-retest reliability for two and four weeks for adults (Lee 2012). A Hindi version had also been validated in India (Jaiswal, Meshram et al. 2021) and other versions translated into local languages, for example Tamil (Srinivasan, Premarajan et al. 2022). The Punjabi version was found to have good internal consistency and reliability; the overall Cronbach's alpha value of the Punjabi version was 0.984 and was comparable with that of the English tool (Chawla, Shweta et al. 2014).

The GAD-7 shows good test-retest reliability (Spitzer et al., 2006), and had been validated for adolescent populations (Mossman, Luft et al. 2017). Although it has not been validated in India it is widely used with Indian adolescent populations, having been translated into multiple local languages. Furthermore the GAD-7 had been commonly used together with PHQ-9 to measure mental health in Indian adolescents, including in Northern India (Jamir, Duggal et al. 2019). The GAD-7 asks seven questions about how often over the past two weeks the respondent had been bothered by a problem, such as 'trouble relaxing'. Responses are on a four-point scale, with zero (0) meaning 'Not at all' and three (3) meaning 'All of the days'. Scores between 5-9

indicate mild anxiety, scores between 10 and 14 indicate moderate anxiety and scores between 15 to 21 indicate severe anxiety.

The PHQ-9 had been validated for use with Indian adolescents (Ganguly, Samanta et al. 2013), and is commonly used in India. A psychometric analysis of both the GAD-7 and PHQ-9 was conducted in India with both scales showing psychometric properties comparable to studies in Western settings (De Man, Absetz et al. 2021). The PHQ-9 asks respondents to assess how often they have been bothered by problems over the last two weeks. Nine problems are presented. Response options are from zero (0) 'Not at all' to three (3) 'Nearly every day'. Scores added with 1-4 indicating minimal depression, 5-9 indicating mild depression 10 -15 indicating moderate depression; 15 -19 indicating moderately severe depression and 20 - 27 indicating severe depression. Scores were designed to indicate severity of a depressive problem over time. In addition, some scores are presented in a shaded section, and if a respondent chose five or more in the shaded section, they reconsidered to have a major depressive disorder, and between one to four another depressive disorder. In clinical settings the tool can be used to diagnose depression; however, it was not used as a diagnostic tool in the present feasibility study[4].

Gratitude Measure

The Gratitude Questionnaire-Six Item Form (GQ-6) was used to measure gratitude. The tool has been validated in India with college students (Garg and Katiyar 2021), and used in India with both adolescents and youth (Kumar and Dixit 2014, Mary and Patra 2015). Validation only tested internal consistency with test-retest reliability remaining untested in India. The tool has also been translated into a Hindi version and validated with adult populations in India (Dixit and Sinha 2021). Respondents answer six items on a scale ranging from one (1) 'Strongly disagree' to seven (7) 'Strongly agree'. Two items are reverse scored. The GQ-6 has shown good internal reliability, and evidence has shown it is positively related to optimism, life satisfaction, hope, spirituality forgiveness, empathy and prosocial behaviour, and negatively related to depression and anxiety (McCullough, Emmons et al. 2002).

Self-compassion measure

Additionally, five questions on self-compassion were asked. Validated tools exist for self-compassion, such as the Self-Compassion Scale- Youth version (SCS-Y) which is validated for adolescents in the USA (Neff, Bluth et al. 2021). However, no tool is validated for adolescents in India. Due to the timing of the SCS-Y development, the Self-Compassion Scale- Short Form

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[4] However, if any participant indicated that they self-harmed or had suicidal ideation, their details were shared with the safeguarding focal point, with their informed consent.

(SCS-SF) was considered. However, it was unclear to experts in the PO if the language was suitable. As a result, questions were created using the categories provided and checked by mental health experts in the PO Categories used to create the questions were: self-kindness, self-judgement, isolation, and common humanity. Five questions were asked each with a scale ranging from one (1) 'Almost never' to five (5) 'Almost always'. Respondent scores could range from 5 to 25 with higher scores indicating higher levels of self-compassion. No upper or lower cut-off points were established.

Process Evaluations

The aim of the process evaluation (PE) was to understand from key stakeholders if the overall programme was acceptable, if end users were satisfied and felt their wellbeing had improved, and what components should be redesigned for any future trial. This data related to objectives one, two, and four of Study 3. The PE comprised questions on feasibility, ToC, and intervention components. Questions sought feedback on stakeholders' experiences as well as recommendations for improving the intervention and surrounding research. Three stakeholder groups participated in the PE: young people (end users), school staff, and PO staff.

End users provided end of programme evaluations, mid-way check-in, and weekly evaluation data. End of programme data was collected at post-intervention, and +3m time points. Completing the +3m evaluation was designed to assess if participants still practiced after three months and what they practiced. This has been done in similar studies (Kuyken, Ball et al. 2022). This followed up directly on questions asked during the co-adaptation and sought to understand end user experiences of the intervention as a whole. The mid-way check in established what strategies around wellbeing participants would like to see addressed in the programme in the last four weeks. Weekly evaluation data asked end users about their preferred session components, such as activities and mindfulness practices. Using a traffic light sticker system, participants allocated different coloured stickers to indicate session components they enjoyed, felt neutral about, and disliked. This provided an overall group ranking of all session components.

School staff were asked questions on issues relating to the school's motivation and satisfaction with the intervention, knowledge shared between the PO and school throughout the research process, and recommendations for future delivery of the intervention and/or research. One PO staff member (CEO) was interviewed at the 3+m time point to gather insights about the programme's suitability for the PO; plans to continue using the programme materials in the future, and if so, what they would alter about the programme; and satisfaction with the co-production process with the University of Leeds. Another staff member (facilitator) was led through reflection after each week's sessions were delivered. Both the PO CEO and facilitator

were asked about levels of satisfaction with training, and communication with the school and parents.

PE Participants

End of programme evaluation data was secured from 25 adolescent participants at both post-intervention and +3m. The breakdown of adolescent participants who completed the end of programme evaluations by gender can be viewed in Table 41. All participants who had full attendance or who attended seven out of eight intervention sessions, participated in the evaluation. Of those who did not participate in the evaluation four attended five or six sessions, one attended four sessions and two attended two sessions. For weekly evaluations, all those present per session participated.

Table 41: Gender breakdown of adolescent participants.

Time points of participation	Female	Male
Post-intervention	12	13
+3m	13	12
Absent from evaluations	1	6

Two school staff members, the school Principal and Vice Principal participated in a one-hour long interview at the 3+m time point. Due to examinations and holidays, it was not possible to conduct the interview before this time. The PO CEO participated in a one-hour long interview at +3m. Although originally planned, it was not possible to conduct a focus group with parents due to time restrictions.

Data management and analysis

End of programme evaluation data was collected for adolescents via Qualtrics; and weekly evaluation was collected on paper. Data from adult participants was collected via MS Teams through recorded semi-structured interviews. All data was collected confidentially and by the doctoral researcher with the support of the PO facilitator collecting weekly paper evaluations. Content analysis was conducted on the PE data.

5.3.3 Findings

Feasibility

All achieved outcomes in relation to feasibility thresholds are displayed in Table 42.

Table 42: Feasibility achieved outcomes.

	Outcome area	Outcome target	Achieved outcome
1	Organisational willingness and expertise	One (1)	One (1) partnership agreement was established with a qualified organisation motivated to participate in the research.
2	School willingness and motivation to host the CYP wellbeing intervention	One (1)	One (1) public school established interest in investing in pupil wellbeing, agreed to host the research and intervention.
3	Available local experts	One (1)	One (1) qualified mental health professional with experience teaching mindfulness to adolescents was successfully recruited and trained.
4	Parental consent	40	40 parents' provided consent for their child(ren) to participate in the intervention and surrounding research
5	Participant assent	40	40 children, both boys and girls, with parental consent, assented to participate in the intervention and surrounding research.
6	Retention	75%	77% of participants attended at least 5 out of 8 sessions.
7	Measure completion	65%	66% of participants completed the post-intervention evaluation and self-report measures. 68% of participants completed the +3m evaluation and self-report measures. (82% of participants completed one of the two evaluations.)
8	Satisfaction	80%	95% of participants would recommend the programme to their peers to improve their wellbeing.

Organisational willingness and expertise

This feasibility threshold was met. Pre-existing relationships that the University of Leeds had with both governmental and private mental health research organisations India were assessed. A total of four organisations were discovered with expertise in psychological research and mental health, three of whom had a previous or current partnership agreement with University of Leeds already in place for other research, and two of whom had in-house expertise in mindfulness. A partnership was established with a private mental health research institute with an existing partnership with the University of Leeds and in-house expertise in mindfulness.

School willingness and motivation to host intervention.

This feasibility threshold was met. Three schools expressed provisional interest in hosting the intervention. One public/government school was approached and agreed to participate. As pupil wellbeing was a goal within the school, staff agreed to provide transportation for both groups each Saturday, allow PO staff to speak with students and distribute recruitment posters in the school, instigate initial communication with parents about their child participating, and provide a space for the programme to be delivered. School staff also agreed to participate in the end of programme evaluation.

Available local experts

This threshold was met. One local mental health professional with experience teaching mindfulness to adolescents was recruited to support the co-adaptation, receive training, and deliver the intervention. The individual was trained in mindfulness and working as a consultant for the partner organisation.

Parental consent and participant assent

This threshold was met. A total of 40 parents consented to their child participating in the Study.

All 40 children with parental consent, assented to participate in the intervention and surrounding research. Once 40 participants with parental consent had signed up to the study, it was announced to the classes that the study was full. It is therefore unclear how many participants would have signed up and recruitment been allowed to continue.

Retention

This threshold was met. The feasibility target aimed for 75% of participants to complete the programme, which was defined as attending at least 5 out of 8 sessions; and to retain 30 participants to intervention end. Of 39 participants a total of 30 (77%) completed the programme. The average attendance rate over the eight sessions was 74%. Weekly attendance ranged from 56% to 92%. Table 43 indicates the percentage of participants that collectively attended each possible number of sessions.

Table 43: Total percentage of participants attending number of sessions.

Number of sessions attended	% of participants attending indicated number of sessions
8	28%
7	46%
6	59%
5	77%
4	87%
3	92%
2	100%
1	100%

Measure completion

This threshold was met. A total of 39 baseline responses were recorded, with one excluded due to spoiled data. A total of 26 of the 38 respondents completed post-intervention measures, with one response excluded due to technological errors with the Qualtrics system totally a 66% completion rate (25 respondents). A total of 68% of respondents (26) completed +3m measures.

Tables 44a and 44b show participant involvement in both intervention sessions and measure completion.

Satisfaction

This threshold was met. The majority (95%) answered 'Yes' to the question "Would you recommend this programme to other people your age to improve their wellbeing?". The remaining 5% answered 'I don't know'. Possible answers were 'Yes', 'No' and 'I don't' know'. When asked in the post-intervention evaluation "Did you feel your wellbeing improved because of the programme?" 73% of respondents answered 'Yes'; 23% answered 'Maybe'; and 4% answered 'I don't know'.

Fidelity markers

Only observations from audio recordings are shared. For the discussions with the Facilitator, it was simply checked that their reflection matched the audio findings, which they did. Tables 45 and 46 indicates results from fidelity questions based on review of the audio recordings of intervention sessions. For each week only one of the two groups was checked, with the group chosen differing each week. Table 45 shares the fidelity review from audio recordings, which assessed of whether practices, enquiry process and psychoeducational activities, which made up the CPCs were timed and communicated as indicated in the scripts and Facilitators Handbook; and Table 46 outlines brief observations made from discussions on the 'Home Challenges', the final CPC.

205

Table 44a: Participant involvement (morning group) at all stages of Study 3 including session attendance and data completion.

Unique participant ID	Gender	Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	Session 7	Session 8	Baseline data	Post-intervention data	3+ month data	Mid-way eval.
07DAS	F	X	X	X	X	X	X	X	X	X	X	-	X
07NAT	M	X	X	X	X	X	X	X	X	X	X	X	X
08DEV	M	X	-	-	-	-	-	-	X	X	X	X	-
14PAU	F	X	X	-	X	X	X	X	X	X	X	X	X
15JIL	M	X	-	X	X	X	X	-	-	X	X	-	X
18KAU	F	X	X	X	X	X	X	X	X	X	X	X	X
20NATH	M	X	X	X	X	X	X	X	X	X	X	X	X
BOR02	F	X	X	X	X	X	X	-	X	X	X	X	X
13DEKA	M	X	X	X	-	-	-	-	-	-	X	-	-
P03970561	F	-	X	X	X	X	X	X	X	X	X	X	X
RAJ07	F	X	X	X	X	-	X	-	-	X	X	-	X
SHA07	F	X	X	X	X	-	X	-	-	X	X	X	X
23GOG	F	X	X	X	X	X	X	X	X	X	-	X	X
BORO7APRIL	M	X	X	X	X	-	X	-	-	X	-	-	X
21KHA	M	X	X	-	-	-	-	-	-	X	-	-	-
CHA12	F	X	X	X	-	-	-	-	-	X	-	X	-
11DEV	M	X	-	X	-	-	-	X	X	X	-	X	-
10KOU	M	X	-	X	-	-	-	X	X	X	-	-	-
22GUP	M	X	X	X	X	X	X	-	-	X	-	-	X
24MUL	M	-	X	X	X	-	X	-	-	X	-	X	X

Table 44b: Participant involvement (afternoon group) at all stages of Study 3 including session attendance and data completion.

Unique participant ID	Gender	Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	Session 7	Session 8	Baseline data	Post-intervention data	3+ month data	Mid-way eval.
01TIW	M	X	X	-	-	-	X	X	-	X	X	X	-
04CUM	M	X	X	X	X	X	X	X	-	X	X	-	X
AHM23	M	X	-	X	X		X	X	X	X	X	X	X
BAS06	F	X	X	X	X	X	X	-	X	X	X	X	X
BOR26	F	X	X	X	-	-	X	X	X	X	X	X	-
CHE19	M	X	X	X	X	X	X	X	X	X	X	X	X
DAS18	F	X	X	X	X	X	X	X	X	X	X	X	X
DAS30	M	X	X	X	X	X	-	X	-	X	X	X	X
LAL1101	M	X	X	X	X	X	X	X	X	X	X	X	X
MAH09	M	X	X	X	X	-	X	X	X	X	X	-	X
MT07	M	X	X	-	X	X	X	X	X	X	X	X	X
NAT18	F	X	X	X	X	X	X	X	X	X	X	X	X
BHA04	F	X	X	-	X	-	X	-	X	X	X	X	X
SHA17	F	X	X	X	X	X	X	X	X	X	X	X	X
DEV21	M	X	X	X	X	X	X	X	X	X	-	X	X
22DEB	M	X	-	X	-	X	X	X	-	X	-	X	-
27DEV	M	X	X	X	X	-	-	X	-	X	-	-	X
03DEV	M	X	-	X	-	-	-	-	-	X	-	-	-
SAI18	F	-	X	X	X	X	X	X	-	X	-	-	X

Table 45: Fidelity review from audio recordings.

Session number	Did practices match scripts timing? (Y, N, Unclear)	Did practices match scripts instructional language?	Was the enquiry process timed correctly?	Was facilitation of enquiry delivered using principles of the Facilitator's Handbook?	Were the timing and content of psychoeducational activities observed correctly?
One	Yes	Yes	N/A	N/A	Yes
Two	Yes	Yes	Yes	Yes	Yes
Three	Yes	Yes	Yes	Partially. Explaining what experience 'should be' and lecture based due to limited response. Participants had difficulty verbalising experience. Process was not explained. There was a lack of confidence in the facilitator in leading this process.	Partially.
Four	No, Shortened.	Yes	No, shortened.		Partially.
Five	Yes	Yes	No, shortened.		Yes.
Six	Yes	Yes	Yes		Yes
Seven	Yes	Yes	Yes		Partially.
Eight	Yes	Yes, for main practice. Partially for others, which included striving language. Description of anchoring metaphor not strong.	Yes.		Yes

Table 46: Brief observations made from discussions on the 'Home Challenges'

Session number	Observations from challenge discussion
One	N/A
Two	Several people reported to have completed the challenge and explained what they did. Used it when stressed about studying and helped them feel calm; or when frustrated.
Three	Most reported to have completed the challenge and explained what they did. Easier to do at home, not in school. Participants uncomfortable discussing why they didn't do it, although facilitator made it clear he only wanted to know the experience.
Four	Several people reported to have completed the challenge and explained what they did. Challenge completed during different times of the day and participants able to discuss experience easily. Could not do full 5 minutes. Some tried recording once but did it themselves at other times. Possibly confusing as suggesting they should practice all of the challenges so far.
Five	Gratitude journal. Only one person shared they had completed the challenge. Possibly confusing as suggesting they should practice all of the challenges so far.
Six	Yes, many did the challenge.
Seven	Group very engaged in challenge of kindness, but for mindful eating.
Eight	Some reported to have completed the challenge and explained what they did.

The following discussion is aligned with the three aims of assessing fidelity methods and content.

   a) Check the feasibility of fidelity structures.

Recording the sessions was accepted by all stakeholders. Recordings had a medium to high quality of the PO facilitators voice throughout. However, participant responses were mostly unclear. Session debriefs were received positively by the Facilitator. The majority of responses provided by the PO facilitator matched the audio recordings.

   b) Enable the doctoral researcher to assess if the intervention needed any further adaptation, particularly with regards to timing.

Multiple timing issues were highlighted during the fidelity checks, mainly impacting three of the eight sessions. They have been recorded in Chapter 5.1.4 in Table 36. Both debrief discussions and recordings illuminated the tweaks required to resolve the timing issues.

   c) Check the PO facilitators' level of understanding and teaching of core programme components.

Audio recordings highlighted the need for additional training and support on leading the enquiry process. Explanation of the process and its' purpose was not given, and participants

did not participate well in this process. This was a concern when training was reduced to online only with one trainee facilitator, as it was difficult to practice leading enquiry in a genuine way. It may also be that the youth study sample in Guwahati felt that the delivered process was unacceptable. As it is a difficult process to teach and understand quickly, the enquiry process was not assessed in the co-adaptation. Overall, more information is required to understand this.

It was unclear from the recordings and discussions how many participants completed or knew to complete the home practices. Data was not collected on this as the team decided not to introduce any more data collection processes to the intervention. It was clear from the discussions with the PO facilitator and the recordings that challenges were taught well; and that simple and inspiring challenges were more successful (such as three centering breaths, random act of kindness or gratitude diary).

Outcome measures
Two sets of results are shared on outcome measures:

1) Baseline data for all measures.
2) One way, within-subject analysis of variance (ANOVAs) for all time points across all measures.

Baseline scores
Baseline measures provides a wellbeing profile of the adolescents choosing to sign up to the intervention. Table 47 displays the mean, range, and standard deviation of all baseline measure along with indicators of how scores should be interpreted as low, moderate, and high score ranges (based on guidance if provided for each measure, and lowest and highest possible scores indicated if not provided). The profile of those choosing to sign-up to the MBI had moderate levels of wellbeing, stress, and anxiety; mild levels of depression; and low levels of mindfulness.

Table 47: Baseline scores across all measures (n=38 participants)

Measure	Baseline Mean	Baseline standard deviation	Baseline range	Typical low score (or lowest score) for measure	Typical moderate or middle range score for measure	Typical high score (or highest score) for measure
Wellbeing	49.53	7.989	35-60	44 <41 clinical depression 41-44 possible mild depression	45-59.9	60-70
Mindfulness	20.00	7.853	8-33	<22	-	22+
Stress	19.63	6.559	7-37	0-13	14-26	27-40
Anxiety	8.21	4.084	0-18	>4 mild	>9 moderate	>14 severe
Depression	8.63	4.645	0-23	0-9 no, minimal or mild	10-19 moderate or moderately severe	20-27 severe
Gratitude	28.84	5.640	20-41	5 (lowest score)	-	25 (highest score)
Self-compassion	14.00	4.447	5-22	7 (lowest score)	-	42 (highest score)

Means for all time points across all measures.

A series of one way, within-subject ANOVAs was conducted to compare the effect of each outcome measure over the three timepoints. Mean, standard deviation, F-statistic, degrees of freedom, p-value, and effect sizes have been reported in Table 48.

Effect sizes were calculated using partial eta squared which can be interpreted as follows (Fritz, Morris et al. 2012):

$\eta2 = 0.01$ indicates a small effect
$\eta2 = 0.06$ indicates a medium effect
$\eta2 = 0.14$ indicates a large effect

The effect sizes indicate the magnitude of the relationship between the outcomes between pre- and post-intervention time points. Results revealed medium effect sizes for self-compassion, mindfulness and gratitude measures over time, and small effect sizes for wellbeing, stress, and anxiety measures over time. Results for depression indicate no effect over time.

Results indicate no significant effects of the programme on any measure over the timepoints as *p*-values do not reach threshold of p<.05. The medium effect sizes in gratitude and mindfulness without a significant *p*-value is due to the sample size being too small for the effect observed to reach statistical significance.

Table 48: Measure means and standard deviation across three timepoints plus F, df, *p*-value and effect sizes.

Measure	Timepoint	Mean scores	Standard deviation	F	Df	*p*-value	*Partial eta squared (η²)*
Wellbeing	Baseline	49.53	7.989	.739	(2, 36)	.465	.039
	Post-intervention	49.74	10.429				
	+3m	47.42	8.559				
Mindfulness	Baseline	20.00	7.853	1.650	(2, 36)	.206	.084
	Post-intervention	22.95	7.583				
	+3m	22.00	6.325				
Stress	Baseline	19.63	6.559	.196	(2, 36)	.777	.011
	Post-intervention	18.58	4.476				
	+3m	19.11	4.725				
Anxiety	Baseline	8.21	5.084	.324	(2, 36)	.708	.018
	Post-intervention	8.00	5.270				
	+3m	9.11	4.875				
Depression	Baseline	8.63	4.645	.171	(2, 36)	.772	.009
	Post-intervention	9.47	7.321				
	+3m	8.84	5.881				
Gratitude	Baseline	28.84	5.640	1.352	(2, 36)	.270	.070
	Post-intervention	30.37	6.148				
	+3m	31.21	5.513				
Self-compassion	Baseline	14.00	4.447	2.190	(2, 36)	.141	.108
	Post-intervention	15.32	3.667				
	+3m	15.68	2.849				

Process Evaluation findings

Whole intervention evaluations

Evaluation results were analysed under three categories:

1) Evaluation relating to feasibility markers.

2) Recommendations for future design of the intervention.

3) End user acceptance of theory of change components.

This was to ensure data provided understanding on whether the programme was feasible, if the core theory was accepted, and what the future use of the intervention looked like. Under the three categories a total of 19 codes were generated.

Table 49-51 display all of the data. Table 49 outlines responses relevant to feasibility thresholds and future use of the intervention. Where percentages do not equal 100%, participants were either able to choose more than one response or only the main responses are provided.

Tables 50 and 51 provide data from adolescent evaluations only and relate to theory of change and design components of the intervention.

Questions asked in the adolescent evaluations differed from post-intervention to +3m. The +3m evaluation was taken as an opportunity to ask any follow-on questions that arose from the post-intervention evaluation, and also questions on what practices and theory were still used from the programme after +3m. The results only indicate the time point in which the question was asked if it related to the time passed.

Category: Evaluation relating to feasibility markers.

Table 49: Codes and responses relating to feasibility markers.

Code #	Code and *respondents*	Responses
1	Partner organisation satisfaction *PO CEO*	The PO was satisfied with the project and would participate in future research for this intervention. Future use of the co-adapted MBI is a concrete plan for the PO. Currently they await the revised adaptations to the materials based on the feasibility study and evaluation.
2	Informed consent *Principle and Deputy Principle and PO CEO*	All adult respondents agreed that parents were informed but that communication with parents after consent was attained was not as direct and lengthy as it should be. An observed consequence of this from the Deputy Principal was less parental support for children attending as the intervention was extended.
3	Informed assent *Intervention participants*	**90%** felt that they had the choice to take part in the programme and could drop out if they wished. **80%** of participants felt that the Facilitator communicated clearly that it was OK to sit out of an activity if a participant felt uncomfortable.
4	Retention *Intervention participants*	**37%** of respondents reported that 'Illness' was the cause of their absence. This was the main cause chosen. **10%** reported that the timing did not always suit. **0%** chose programme length or content as reasons for absence. **30%** reported zero absences.
5	Measure completion *Intervention participants*	**94%** felt it was clear that they would be supporting the research for up to 3 months when the programme ended. **68%** felt it was good to be involved in the research and contribute to the project. **36%** felt It was good to be involved but were busy. **8%** of participants felt there were too many questionnaires and meetings for their already busy schedule.
6	Participant satisfaction *Intervention participants*	**95%** of participants would recommend the intervention to others their age to improve their wellbeing. **5%** didn't know. **73%** answered that their wellbeing improved because of the programme. **23%** responded that maybe it improved.

Category: Recommendations for future design of the intervention.

Table 50: Codes and responses relating to recommendations for future design of the intervention.

Code #	Code and *respondents*	Responses
7	Partner organisation view on future delivery model. *IA CEO*	Preferred future delivery models: 1) Weekend residential retreat model. 2) In schools for 6 weeks.
8	School staff view on future delivery model. *Principle and Deputy Principle*	The school Principal and Vice Principal would recommend the programme to other schools and would deliver a reduced version of the intervention in their school to other pupils for their wellbeing. **"Yes. We want it to happen again in our school, but it should be shorter."**
9	Training of local experts *PO facilitator and PO CEO*	The PO CEO and Facilitator were satisfied with the training and support (material and expertise) given during the intervention, given the limitations of the project. Suggestions for future design included face-to-face group training and Training of Trainers format with a stronger emphasis on facilitation skills.
10	End users view on future delivery model *Intervention participants*	Options for future delivery of the programme were ranked. The following shows the ranking order: 1. The same way as our program. 8 weeks delivered on the weekend at school. 2. A retreat for a full weekend in nature without any disturbances. 3. Outside of school at the weekend in the MIND India office for 4 weeks 4. In school delivered by a teacher or the school counsellor 5. Keep the same design but provide only 6 sessions.
11	Gender issues *Intervention participants*	**92%** believed it was better for girls and boys to have wellbeing sessions delivered together. **84%** believed that it did not matter what gender the intervention Facilitator was, as long as they are skilled in the subject.
12	Language *Intervention participants*	**88%** believed that the intervention should remain in English. **12%** believed that the intervention should be in their local language.
13	Encouraging regular practice *Intervention participants*	When asked in an open-ended question how respondents would make it more interesting for young people to practice mindfulness outside the programme the main responses were: Videos, team games and a reward system for completing challenges.

Category: End user acceptance of theory of change components.

Table 51: Codes and responses relating to end user input into theory of change components.

Code #	Code and *respondents*	Responses
14	Mindfulness practices *Intervention participants*	**85%*** found the 'Mindful movement' practices very useful and enjoyable. (This was the highest scoring practice). **75%*** found the 'Mindful well-wishing' practices very useful and enjoyable. **70%*** found the '3 centering breaths' practices very useful and enjoyable. **65%*** found 'Gratitude' practice to be very useful and enjoyable. **55%*** found 'Mindfulness of breathing' practice to be very useful and enjoyable. **50%*** found the 'Difficult feelings and sensations' practices both very useful and enjoyable. **45%*** found the 'Body scanning' practice to be very useful and enjoyable. *indicates % of participants who chose the top answer on the Likert scale 'Very enjoyable and useful' only. When the top two answers on the Likert scale were merged, no practice scored below 70% acceptability and enjoyability.
		At post-intervention '3 centering breaths', 'Mindful well-wishing' and 'Mindful breathing' practices were chosen as most practiced after the intervention ended; and '3 centering breaths' was the most popular practice at +3m.
15	Enquiry process *Intervention participants*	**85%** felt that discussing their experience of the mindfulness practice through the inquiry process was easy and useful. **10%** could not remember these **enquiries.** **5%** felt that discussing their experience of the mindfulness practice was difficult and did not understand its' purpose.
16	Psychoeducational content *Intervention participants*	The following were favoured weekly themes. %'s indicate those choosing the Likert scales highest ranking answer. 'Kindness and self-compassion' **(80%)** 'Happiness' **(70%)** 'Understanding how the mind tells stories' **(70%)**
17	Intervention outcomes	**%** is of answering participants that choose each response.

	Intervention participants	**100%** of respondents believed that the intervention 'Reminded me to be kind to others and myself, and to see the good in the world.' **100%** of respondents believed that the intervention 'Helped with my concentration and focusing my mind.' **94%** of respondents believed that they 'Learned valuable, practical skills that I can use when I need them.' **78%** of respondents believed that during the intervention 'I had time to think about my own wellbeing'. **50%** of respondents believed that 'I feel I am less stressed, depressed or anxious/tense because of the sessions.'
18	Home practice *Intervention participants*	**100%** of participants stated they liked the challenges. **44%** stated that they were too busy during the week for extra practices. **6%** (equated to 1 person) did not understand that they had to complete the challenges.
19	Continuing practice *Intervention participants*	At both post-intervention and +3m evaluations the most continued mindfulness practices were: 1. 3 centering breaths 2. Mindful breathing.

Code three in Table 48 indicated that intervention participants felt that they had choice to participate in the overall intervention and individual practices. When asked in an open question 'Young people having choice in their own wellbeing is important because...' respondents articulated the importance of choice for adolescents. One respondent wrote:

> "Young people are going to be grow up into adults someday, where they'll have to take their own decisions. So, I think it is important for young people to have choice in their own wellbeing... so that they can understand themselves more". (female)

There was a view that when it came to wellbeing, adolescents should have the power to make choices and that adults should not do this for them. One respondent reflected on how this may enable those suffering with anxiety to participate more fully:

> "If we are not comfortable in doing the practices there is no use of doing it... and then people who become anxious can also comfortably (take part)". (female)

Table 50 displays participants' views on the ToC. Most reported positive experiences of the enquiry process, a number of key mindfulness practices and psychoeducational content. With regard to enquiry this is an interesting finding as fidelity checks indicated that participants did not easily participate in this.

In an open question in the 3+m evaluation, participants were able to name practices that they reported to still practice. They were also asked what they 'still use' or 'think about'. Most responses referred to positive behaviours, such as kind self-talk, focusing on personal life goals and increased confidence. One respondent wrote:

> "It helped me to focus on my goals in my life and it really helped me for my wellbeing... I learned to be positive about myself, and I came to know about various things like oxytocin." (male)

Kindness and self-compassion were often mentioned throughout the adolescent evaluations, both in the mindfulness practices they are associated with and as the highest favoured weekly topic. One respondent wrote: "I learned to use kind words to myself." (male)

Other respondents talked about their awareness of negative self-talk and replacing it with kinder words. Respondents were less satisfied with the intervention's approach to managing difficult emotions and challenging situations. 'Dealing with difficult emotions' was the most highly requested topic to cover, yet the associated mindfulness practice was one of the least enjoyed. When asked what was missing from the programme, this topic was suggested by several respondents. One respondent requested that instead of too much lecturing, they should be asked more about their own self [strategies] for dealing with problems such as depression or anxiety. The request for less lecturing was echoed through other responses, with

respondents highlighting that earlier sessions in the programme were more playful with mindful games, which was lacking as the programme progressed.

Adults' recommended improvement for future use of the intervention and surrounding research emphasised the need to improve communication with the school and parents. School staff shared that their first induction was too informal and that parents required a face-to-face induction of mindfulness in the presence of the PO CEO. School staff believed that several dropouts were due to inadequate parental and school staff induction. All adults believed that this did not mean that the wellbeing intervention was not important to the adolescents, but an easy activity to cease attending. All adult stakeholders agreed that the increased length of intervention due to unforeseen interruptions was the most significant problem faced during the intervention, and the one that must be prioritised when re-designing any future version. It was suggested to reduce the programme to a 4–6-week programme to be delivered in schools on Saturdays; and to develop a residential weekend retreat format. The PO felt strongly that the weekend retreat format should be explored; however, the school staff insisted that parents would not allow their children to participate in a residential wellbeing retreat due to concerns over their children's safety.

Mid-way check-in

One question was asked to intervention participants at the mid-way check in: 'What strategies would you like to learn during the rest of the programme to support your wellbeing?'. The dominant answer was: 'Strategies to cope with difficulty such as anger'.

The PO CEO was also asked at mid-way check in (and again at the end) if any safeguarding issues had arisen. There were no safeguarding incidents reported at any point throughout programme delivery or after.

Weekly evaluations

Weekly evaluations indicated that videos and games were popular activities in the programme, as were practices that instructed participants to lie down. In addition, gratitude practice was enjoyed. Reflective practices such as the 'Happiness' and 'Control' activities in which participants were able to reflect on their own lives were also highly valued. The only group discussion that was ranked within the top two activities of a particular session was 'How the minds' storytelling can influence our life (texting friend)'; other favoured discussions were accompanied by a video. The full list of marked activities can be found in appendix J.

5.3.4 Discussion

Feasibility

The ultimate aim of Study 3 was to ascertain the feasibility of the co-adapted mindfulness-based intervention to inform whether progression to a controlled trial of effectiveness was warranted. Testing the feasibility of interventions is a critical step in the development of complex interventions, preceding effectiveness studies, impactful dissemination and/or upscaling (Skivington, Matthews et al. 2021). Evaluating recruitment capability, refining data collection procedures and outcome measures, understanding if content and research procedures are acceptable and suitable in the context, all need to be understood in addition to knowing if an intervention can achieve its intended outcomes (Orsmond and Cohn 2015). Study findings from this feasibility trial indicate that the intervention was feasible in the context, acceptable to stakeholders, and has highlighted further adaptations needed before an effectiveness trial can be delivered.

Feasibility targets set to meet objectives one and two of Study 3 were reached or exceeded. It can be concluded that:

1) The majority of intervention materials were acceptable. This is based on weekly, post-intervention and +3m evaluations.

2) Participants engaged with the materials. This is based on retention levels, completion rates, PO facilitator observations, audio recording examinations, and evaluation data.

3) One experienced partner entered into the project, co-producing the research design, and supporting with logistics.

4) It was possible to recruit and train one experienced delivery agent.

5) Consent and safeguarding procedures were permitted.

6) Research processes were accepted. All measures were completed, and evaluations confirmed that participants understood data collection processes in advance of completion.

7) Practically and logistically the planned intervention could be delivered. With the exceptions leading to the exclusion of certain activities within the programme, and limitations of engagement with parents and teachers, all other practicalities were achievable.

8) The school was invested in the programme and would deliver it again. This is not only clear in their willingness to support the recruitment and provide a space for sessions, but also their investment into transportation for both groups to attend the weekly programme.

Problems encountered.

Although the feasibility targets were met, several practical and contextual factors inhibited higher levels of success. For instance, the research team was informed on the first week of intervention delivery that the school would be closed every second Saturday of the month. Due to the late notice, the research team was unable to plan an alternative venue for the affected weeks. After the first gap in delivery four participants dropped out of the intervention. After the second gap, which was two-weeks long due to flooding, a further 6 participants (all from the morning group) dropped out the intervention. These gaps in delivery also caused the intervention to run into exam periods and heavy monsoon weather. Participants in Studies 1 and 2 warned that a programme longer than six weeks in the Indian school system was ill advised, and to avoid the monsoon season in particular high flooding areas such as Guwahati. In Study 3's evaluation school staff also reported that limited engagement with parents was likely a cause in attrition, as without parents continued enthusiasm for the programme, participants could easily stop attending as exams approached. An unforeseen practical problem- the school not having a freezer- meant that a central activity could not be executed in one session. This resulted the session being completely changed only a few days before.

A minor problem occurred with the online data collection system which meant that some data was lost. One participant chose not to repeat measure completion, due to tiredness and frustration, when the online system failed to capture her responses. Participants completed the post-intervention and +3m measures between 8 and 10 pm at night after school and tutoring, and they reported tiredness and a lack of energy during discussions prior to survey distribution. However, these times were requested by the participants. The research team members supporting the process were aware of participants' tiredness and noted that it was preferable in future to avoid late night sessions. Baseline data was collected earlier in the day during the first week back to school after holidays, and during a period of no examinations.

Successes

The project and agreement with the school was set up with great ease. The school got on board with no hesitation and were supportive throughout, which is critical in demonstrating that school-based interventions are acceptable in the Indian context. Furthermore, the recruitment of young people to a programme that disrupted their weekend, occurred with ease. Parents also provided consent with no delay, which may indicate that they are supportive of their children receiving wellbeing support. Data presented earlier in the thesis indicated that parents only interest was academic attainment. Consenting parties were also not put off by mindfulness. Parental consent, participant assent and school approval and

support, shows that there is a clear appetite and acceptance of community-based wellbeing programmes for youth.

After sign-up there were good retention rates. Only two participants failed to reach completion rates in the afternoon group. During recruitment it was indicated that the morning time was more suitable to participants with many in the afternoon group trying to change. However, delivery to the morning group was the first time the facilitator had delivered the materials in a group setting and the facilitator declared that he felt more confident delivering the materials the second time to the afternoon group. It is therefore possible that his increased confidence in the afternoon positively impacted retention and completion rates. Participants also confirmed in the evaluation that they knew they did not have to participate, yet the majority continued to attend, provide weekly feedback, and actively participate.

Outcome measures

The primary aim in administering standardised measures was to determine completion feasibility. This was confirmed through the completion rates that exceeded targets. However, the third objective of Study 3 was to describe what changes, if any, were observed on measures of wellbeing, mindfulness, gratitude, self-compassion, stress, anxiety, and depression, in adolescent participants. There were no main effects of the intervention on any measured outcome. Self-compassion and gratitude increased across the three timepoints, but not significantly. Levels of mindfulness also increased from baseline to post-intervention, moving from low scores to high scores of mindfulness based on the CAMM guidelines, and remained in the high score range at +3m. This was interesting as the MBI primarily aimed to teach participants mindfulness skills and psychoeducational materials to cultivate and improve wellbeing, but the change was not significant. Small and medium effect sizes with non-significant results may indicate that the sample size is too small to determine significance. Both Type I and Type II errors are possible with a sample this size. Any further research would require a power calculation to determine the required sample size to detect a significant effect. Results from other measures showed no trends. It was queried whether the circumstances at post-intervention impacted the lack of improvement in most measures. Post-intervention data collection occurred at exam times, a time when normative stressors like academic workload and balancing school/leisure/work activities intensify (Byrne et al. 2007). Although this has the potential to be a detriment, other researchers claim that such timing can test whether the theorised protection of the programme works (Kuyken, Ball et al. 2022).

The data on outcome measures revealed other interesting insights about respondents. Most significantly, the profile of those choosing to sign-up to the MBI had moderate levels of wellbeing, stress, and anxiety; mild levels of depression; and low levels of mindfulness.

Although no data is available to compare this group with those who did not choose to sign up, it is nonetheless interesting to understand that the population attracted to this prevention/early intervention community programme was a healthy, moderately stressed group. Other interesting observations can be made when examining both PE and outcome data together. Despite no improvement in the outcome data 73% of participants said in the PE that their wellbeing had improved as a result of the programme. This disparity across data forms has been found in other studies (Schussler, Oh et al. 2021). For instance a systematic review of the research literature on MBIs for adolescents with mental health conditions, have shown high acceptability but low or debatable efficacy (Kostova, Levin et al. 2019). There are some potential explanations for the disparity across data forms in this study. First, is social desirability bias; although the PE were conducted by the DR, who did not directly deliver the intervention, participants may have felt unable to say the programme was unhelpful. Indian culture encourages respectful dialogue from adolescents to seniors. Second, it is possible that participants did experience improvements in wellbeing but that the measure was not entirely suitable to capture the kinds of changes to wellbeing that the Happy Minds programme produced, namely more intrapersonal change in how one relates to and experiences oneself, one's thoughts and one's emotions. Some WEMWBS items may capture this (e g I've been thinking clearly) but others less so (e.g. 'I've been feeling useful'; I've been feeling loved'). Changes to wellbeing therefore may be conceptually differently to those assessed by WEMWBS, and there is little guidance on wellbeing measures to use and in what context (VanderWeele, 2020). Further work is needed to understand how to conceptualise and therefore measure youth wellbeing in India (and from MBIs). It may also be worthwhile turning a critical eye to the CAMM measure. Although used in India, no evidence was found that CAMM has shown test-retest reliability, nor did it specifically measure components of embodied mindfulness that are of particular relevance to the programme. Recently an embodied mindfulness measure was validated in Canada (Khoury, Vergara et al. 2023)), which may align more closely with content and outcomes in the Happy Minds Programme, if used and validated in the Indian context.

Fidelity issues

Generated evidence showed that the facilitator was good, but not entirely faithful to the CPCs. Explanations and delivery of psychoeducational material and mindfulness practices, and communication around home practices, were very clear and in line with programme scripts. However, the enquiry process was not explained to participants and based on audio clip examination, they did not understand or wish to participate in the process. This led to unplanned changes where enquiry turned into a lecture-based activity in most sessions. It was

unclear if this occurred due to lack of experience of the facilitator, inadequate training on the process and practice, discomfort and/or unfamiliarity of the participants in speaking about experiences in this way, or a mixture of these reasons. For any future delivery of the programme this component needs to be addressed as enquiry is a CPC and theorised to support the core psychological processes within the intervention. There were difficulties in exploring this further because although the enquiry process has been included in many MBIs with CYP (Burke 2010), no evaluative content was found on how this process was received or experienced; and within literature searches of MBI studies with CYP in India, this process was not mentioned.

The primary concern regarding fidelity in this study, was the feasibility of methods used, which proved mostly successful in assessing basic information on fidelity concerns relating to the programme CPCs during the pilot. There is a degree of flexibility that must be afforded for unplanned changes in feasibility studies, which are designed to be adaptive (Orsmond and Cohn, 2015). Delivery agents often need to respond in the moment to secure good engagement, and it was difficult to measure through the fidelity methods used if all changes were necessary to the context in the moment, or if there was a lack of confidence in the facilitator. This is a challenge in all intervention work, including creating an environment in debriefing meetings and training, in which delivery agents can be honestly verbalise what happened and their concerns about content, without fear of disappointing the rest of the research team. This demonstrates a) that methods to assess fidelity need to be coherent and acceptable, and b) the importance of changes being carefully documented through FRAME. These steps are essential to understanding exactly what was delivered and if that worked.

Another fidelity method originally discussed, was observations conducted by a lead trainer as part of a coaching model within the training. This was not possible due to Covid-19 restricting travel. Where resources allow, sessions can be video recorded and assessed using an observational coding scheme. This has been used in other studies (Gould, Mendelson et al. 2014), but resources would not allow for this during the pilot. For in person observations, ideally a qualified local coach would be trained so that any natural use of the local language would not hinder support provided.

Fidelity for the pilot was based on a best guess approach, not empirically informed thresholds. In future research, thresholds could be empirically informed, based on similar studies (Callands, 2023, Felver, 2019).

Changes to home practice.

Fidelity audio checks uncovered that several participants did not participate in discussions about the 'home challenges', with many reporting not to have completed them. Reasons for

this lack of participation were unclear, however, other MBI pilot trials may illuminate this issue. For instance, in a pilot RCT of a mindfulness programme in the Philippines, participants expressed misgivings about the home practices and the time and energy needed to complete this activity. One reason given for this in this study was difficult carrying out the programme activities along with school work (Alampay, Tan et al. 2020). There are four possible ways of progressing with home challenges:

1) Exclude them from the programme and provide advice in the final intervention session about continuing mindfulness practice after the programme ends. The need for data to be collected as late as 10 pm suggests that young people have little spare time.

2) Invest into video-based resources as they were preferred in the co-adaptation but were too resource heavy for the pilot.

3) Simplify the challenges, making them short and easy to complete at any time during the day. Many reported in the +3m evaluation to still practice the 3 centering breaths, hence simplicity may increase the longevity and sustainability of mindfulness practice beyond the intervention. Similar studies may support not only the simplicity but the focus on the breath. In one study 80% of participants reported that they still engaged in breath practice with less reporting they completed bodyscan, mindful eating and mindful walking for instance (Kuyken, Ball et al. 2022).

4) Introduce a reward based, team challenge system.

Recommendations for a future trial.

The fourth objective of Study 3 was to develop recommendations for a future trial based in the instance that the intervention was deemed feasible. As the intervention was deemed feasible considerations for a future trial were generated from the feasibility study learning and guided by theory. Addressing the initial stages of the ninth step of the EPIS model, 'Intervention revision and implementation'- which refines the intervention based on outcomes of the previous steps- the following initial guidance was generated and aims to support the PO if they move forward delivering the intervention to adolescents in Guwahati, and any future research team who continues to research this intervention.

Research design elements

MBIs with non-clinical groups have yielded mixed results, and it is therefore important to move forward with caution. However, now that feasibility has been achieved, progression to a controlled trial of effectiveness is warranted. It is recommended that an RCT design with active control group (which gives methodological rigour to research (Kinser and Robins 2013)) should be adopted in an effectiveness trial; plus the complimentary use of qualitative data collection

to understand participants' beliefs about the intervention and the impact the context and intervention process (Verhoef, Casebeer et al. 2002). One drawback of this approach is that universal prevention programmes are open to all participants (with the exception in the Happy Minds programme of those suffering with severe mental health conditions), many of whom are already 'healthy' on all measures. In such cases there is not much room for improvement. A longitudinal study, tracking those who seemed at risk at baseline (because of elevated scores or because they were indicated by life circumstances) over time after the intervention, may be another approach in future research.

ToC and logic model

The ToC and logic model have been used as guiding tools in the feasibility study. These tools were essential in conceptualizing CPCs and CPPs. Most of the intervention was delivered as set out in the logic model. However, from the data collected in Studies 2 and 3, several logic model intervention components need improvement. Figure 19 provides a revised logic model. Two types of changes are displayed in the new version: changes based on learning from the pilot, and adjustments needed to support the partner in possible scale-up of the intervention. To indicate what worked and where there were problems during the pilot, boxes have been colour coded in the revised logic model. Elements that worked well are displayed in boxes highlighted in green; to indicate minor problems boxes have been highlighted in amber; and to indicate significant problems boxes have been highlighted in red. Where changes in the programme were decided based on the next phase of research, altering the logic model text, writing has been presented in blue. Changes that were known to the team are the following:

- The intervention may be delivered in both schools and community spaces in future iterations. This has changed where the intervention may be delivered.
- The resource capacity in future iterations will be dependent on the local partner (and potentially other investors) as the University may not continue the research into the next phase.
- For mental health markers, only stress will be measured in future research as per the priorities of the partner organisation.

The pilot highlighted no problems with the intervention target, hence all the boxes are highlighted in green. Regarding the intervention itself, several issues arose. Firstly, the length of the programme is under question and the lack of successful strategies to manage difficult emotions and thought. Only offering a face-to-face approach without significant digital resources to support the intervention, may also need revision; and the lack of fidelity of the enquiry process needs further investigation. In the logic models 'change mechanisms' two

theorized components of change were not realised. Firstly, lack of repeated use of mindfulness (outside sessions) and secondly the lack of fidelity regarding enquiry process. The necessity and the approach to these intervention components could benefit with further research into cultural and age appropriateness of the design. Regarding moderators the most significant failure of the pilot was lack of parental buy-in. This requirement has been reiterated in both the thesis data and available literature. Moving forward the partnering organisation will need to strategise a sustainable training model for the interventions and resources to secure its longevity.

With regards to the ToC, further evidence is needed to understand particularly how the cycle between evidence and theory needs to continue, especially as more is discovered about wellbeing in Indian youth and about prevention; and home practices, the enquiry process, and potentially certain tools, are reviewed. Reiterating changes analysed from the logic model, Figure 20 displays changes made to the mental health outcomes in which it was decided to reduce outcomes from stress, depression, and anxiety to stress alone. This decision was influenced the fact that academic stress was highlighted as a priority in the data, and that the intervention was not specifically targeting depression or anxiety. Additionally, the unanswered questions remaining with regards to 'Home practice' and the 'Enquiry process' impacted the core programme components which highlights the need to understand further what essential intervention properties are to ensure the intervention creates the theorized change.

Figure 19: Revised Logic Model

TARGET (Who is the intervention for?)	INTERVENTION (What is the intervention?)	CHANGE MECHANISM (How and why does the intervention work?)	OUTCOMES (What difference will it make?)
Adolescent girls and boys, aged 13-16, living in Guwahati	Co-adapted 8 week 90-minute wellbeing programme	Repeated use of mindfulness practice fosters cognitive and emotional flexibility	Reduces levels of stress
Motivated to learn self-help skills and knowledge	Face-to-face delivery in school by a trained, external	Provides discrete, non-stigmatising and easy access to support in	Greater self-awareness, positivity and focused attention in daily life and goal accomplishing behaviours
Without a known diagnosed mental health condition	Mindfulness practices and enquiry process	Fosters self-compassion and gratitude	Feeling calmer, supported, and reacting to difficulty with self-compassion and awareness
Access to community spaces including school or PO intervention spaces	Psychoeducation based on mindfulness and positive psychology	Builds awareness and understanding of personal experience, through personal and group enquiry.	Improved capacity to cope with academic stress and pressure
	Strategies to manage difficult emotions and thoughts		
	Mindfulness combined with gratitude & self-compassion		
	Supported by a local Institute of positive Mental Health		

MODERATORS

- Target group engagement and motivation
- Parental/guardian buy-in
- Effective training model
- Existing interest of PO in research and topic
- Resource capacity of PO
- Extracurricular activities already supported in school
- School leadership buy-in
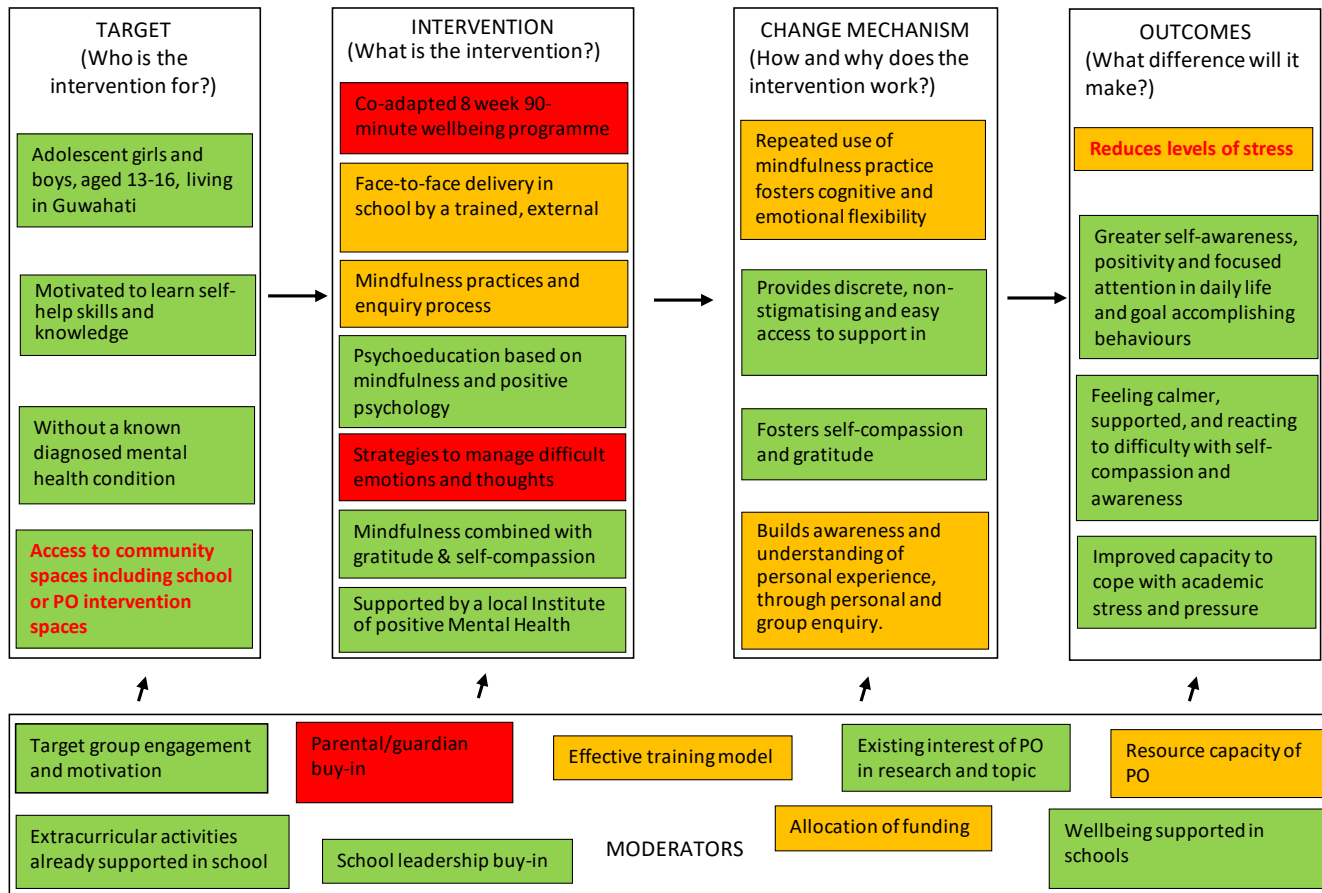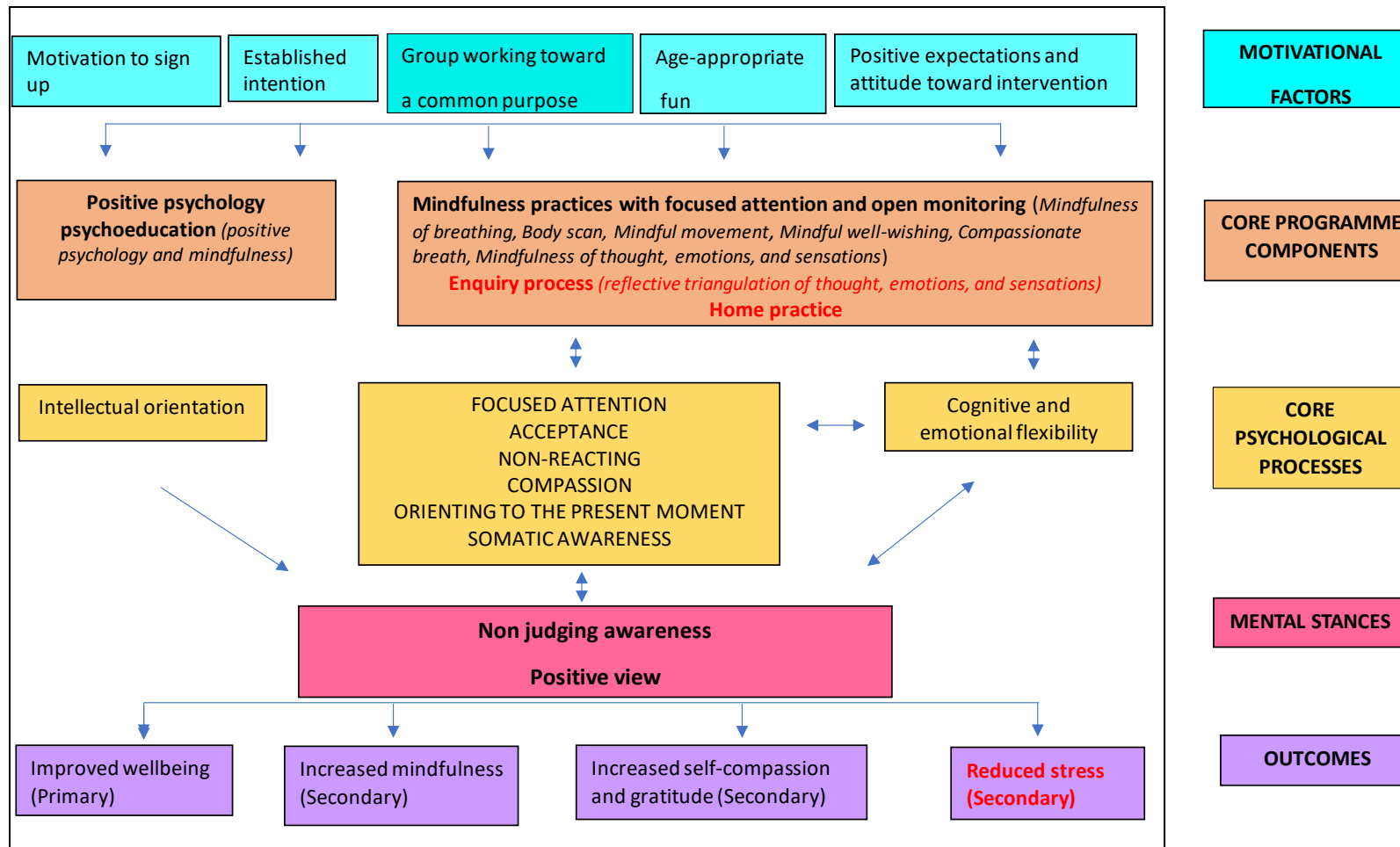- Allocation of funding
- Wellbeing supported in schools

Figure 20: Revised Theory of Change

Optimal delivery design for the programme.

The group based nature of the programme was important, especially in regard to how groups can influence behaviour change, through such mechanisms such as accountability to the group, establishment of group norms, and social support and validation (Borek, Abraham et al. 2019). Specifically to MBIs, the enquiry process is always better in groups due to the mechanism of getting direct, face-to-face feedback (Lunsky, Albaum et al. 2021). Choosing the optimal number of programme sessions was difficult due to the opposing data between local sources (Study 1 consultancies) proposing six sessions, and typical evidence informed MBIs that support at least eight sessions. Similar issues have been observed in other cultural adaptations where ideal dosage and 'real-world' realities clash (Rose-Clarke, Pradhan et al. 2020).

There were differences in stakeholder views as to how the intervention should be shaped in the future. The PO CEO's preference was to offer young people a residential retreat programme, and idea that and adolescents' respondents also thought was positive. School staff were adamant that parents would not provide consent for this and that it should not be explored. A six-week programme although not supported by end users was a popular model for school staff and a possibility for the PO. An option not discussed was a mixed method, such as a residential followed by a small number of follow up sessions in school. Identifying an optimal delivery format is integral to successful outcomes. Implementation of community-based interventions face many complex challenges, and optimal intervention content will fail to have an effect if implementation does not meet acceptability / preference targets of end users, and in this case, their parents, and schools. The present study shows that, even with extensive consultation and co-adaptation, there remain challenges in identifying the optimal delivery.

Strategies for managing difficult emotions.

It had been clear from the co-adaptation and the feasibility study mid-way check in data, that learning strategies to cope with difficult experiences and emotions was a priority for end users, but that discussing difficult emotions was not acceptable. To address these conflicting needs the original materials were adapted to first align with self-compassionate practices ensuring a positive and self-soothing approach to the materials, and second, tailored to be experiential (i.e., in the moment experience of emotion rather than requiring disclosure or discussion of personal circumstances). The experiential practice (the "ice cube activity") was tested with PO staff and was deemed suitable to increase participants' awareness of painful experience and handling difficult emotions in a safe manner. However, one week prior to the session the research team were informed that there were no facilities within the school to support this

activity. The session was re-designed within a short time frame to be largely lecture-based and was the session of which participants were most critical.

Changes to how this topic was addressed, were unplanned and reactive modifications. Any future activity on difficult experiences and emotions will need to be reshaped preferably engaging young people in co-design to ensure the materials directly relate to situations that young people face in their daily lives. Furthermore, during the fidelity checks it was clear that the facilitator struggled with this topic, highlighting the need to provide content that is in line with local capacities. Targeting difficulties in interventions for youth wellbeing is repeatedly called for by young people in all forms of interventions, where they want help to address daily problems that directly challenge their wellbeing, such as bullying (Holmes, 2018).

Training

Research has shown that it is common for MBIs to have differences in content, delivery, and training requirements (Emerson, De Diaz et al. 2020). Optimal preparation time for the Happy Minds programme facilitation needs further examination. Delivery agents' technical competence, personal experience of mindfulness, and embodiment of mindfulness attitudes are all necessary aspects in need of nurturing in any future training programme. The PO CEO has suggested a face-to-face group training and Training of Trainers format with a stronger emphasis on facilitation skills, in any future training model for the programme. This is in line with the original SOMA training method. Any face-to-face training would revert to the original model and include practice sessions for all trainees leading practices and enquiries to groups of other trainees.

Researchers and practitioners agree that mindfulness instructors should embody mindfulness in order to teach it. Facilitators should be trained in a number of mindfulness skills and attitudes. These include:

- o Adopting a personal practice of mindfulness.
- o Embodying mindfulness
- o Interacting with students in a non-reactive and non-judgemental way.
- o Adopting a facilitation approach which allows participants to experience the curriculum instead of feeling pressurised to learn it (Schussler, 2022).

It is crucial to the success of an intervention to have the correct delivery agent deliver the materials, and the current model of training facilitators external to school settings, will remain in any future model. A meta-analysis of mindfulness interventions in schools suggests that interventions delivered by teachers showed more consistent effects than when they are delivered by other instructors (Waters, Barsky, Ridd, & Allen, 2015); and outside experts have

been less desirable due to their lack of relationship with the children and the added expense for the school (Klusmann, Sanderman et al. 2023). However, all data collected confirms that in India external facilitators are the best solution.

Engaging parents.

Data from the desk review, and Studies 1 and 2 emphasised that engaging parents was imperative for the success of the intervention, a conclusion that has been highlighted as particularly important for adolescents in the subject of mental health (Wang and Sheikh-Khalil 2014). Future iterations of the intervention need to significantly boost the way parents are reached and engaged, with innovation in how they can be brought in as supporters for their child's wellbeing during the programme. This is complex and requires careful planning given young people's need for autonomy and privacy.

Study Evaluation

Strengths

Study 3 robustly tested and established the feasibility of the intervention. Where possible adaptations were made in accordance with stakeholders from Chapter 4; and although unplanned adaptations can lead to intervention drift (Movsisyan, Arnold et al. 2019), all unplanned changes were tracked, understood, and accommodated in any plans for future use of the intervention.

Limitations

The study had a number of limitations. First, there were limits in the project design due to resource restrictions, which mainly impacted the training. Only school-going adolescents were eligible for the intervention. School based interventions in India have been criticised for lack of representativeness as many pupils drop out by middle or high school (Grover, Raju V et al. 2019). Furthermore, it was not always possible to align feasibility indicators due similar studies reporting results but not setting thresholds. It was not possible to interview participants about their mental due to time and resource restrictions. However, self-report measures- as opposed to interviews- measuring depression have been known to overstate depressive symptoms in Indian adolescent populations (Grover, Raju V et al. 2019). Lastly, although discussion around social issues and groups, such as non-binary persons and gender concerns, occurred with young people, they were not prioritised in training or discussions with adult stakeholders.

5.4 Chapter conclusion

The aim of Chapter 5 was to critically consider the process and learning from applying adaptations and feasibility testing interventions for youth mental health and reporting the implementation stages of the protocol. The process of outlining adaptation modifications provided an overview of changes that had been made to intervention, why they had been

made, and who had influenced the changes. Whereas there were more adaptations to content, changes to training and unplanned changes had bigger consequences for the feasibility study. This was because content changes were mostly minor whereas for instance the whole training methodology had to be changed. The majority of unplanned changes can be easily rectified by revisiting the pacing of sessions. The biggest change was to the enquiry process which impacted the programmes fidelity but did not hinder feasibility. Although several situations were unforeseen- such as the monthly school closure- most bottle necks encountered in the pilot study were easily understood with reference to Study 1, Study 2, and the desk review findings. For instance, the impact of the monsoon season, the necessity for parents' induction to be thorough, and the discomfort with issues concerning difficult emotions. It was interesting in hindsight to observe that the answers were there from the beginning, yet in practice it was not difficult to ensure that every important factor had the attention it required.

Chapter 5 provided the final data of the thesis with the last two stages of the protocol. Chapter 6 will take a broader look at the thesis as a whole, granting last observations of key topics within the research, and considering the implications for the doctoral work within broader research.

Chapter 6: Final discussion and conclusions.

With mental health problems including suicide for youth in India steadily increasing, the need for solutions to curtail these issues has never been higher. There are major knowledge gaps about what works to prevent poor mental health and improve wellbeing, and on what may be scalable in low resource settings. The overall aim of this doctoral work was to co-adapt and feasibility test a mindfulness-based prevention intervention with young people in Guwahati. The secondary thesis aim was to extend knowledge of the mental health support gaps for the CYP population of India, and where possible urban Guwahati. Chapter 6 sets out final discussions and conclusions on the three studies completed in the thesis, including a review of their aims and key findings. The chapter will finish by making recommendations for applying the findings and future research.

6.1 Reflections on Study 1

Preventative approaches to CYP mental health in India were endorsed by experts in Study 1. Such endorsement of prevention as a key area of investment parallels global shifts in LMICs from treatment to community and public mental health approaches. It may be of value considering what prevention means in India from a broader perspective. It has been argued that the use of a 'recovery' concept for mental distress in India, has applied ideas and knowledge from the global north and created distance between the experts who support patients' mental health, diminished the centrality of the local social context, and undermined local healing systems that is out of line with its discourse (Bayetti, 2016). A shift to focus on the role in promoting mental wellbeing rather than focusing on the 'cure' of mental illnesses has been encouraged in India so that positive dimensions of wellbeing can be explored (White, 2010). Bayetti et al., go further to encourage reviewing the role of poverty, the caste system, natural disasters, and conflict on the wellbeing of communities, which are all issues shown to be of threat to CYP in Assam. This is to say, that urge to take a preventative outlook to mental health and wellbeing arises from more than the need to overcome limited resources to respond to mental health disorders.

Co-adaptation was viewed as a means of increasing the acceptability of interventions for CYP, suggesting a shift from expert-driven mental health approaches, and an openness to hear from young people about what they need. This is encouraging given the global endorsement of participatory work for community mental health approaches. Experts also endorsed meaningful participation of young people in intervention development intended for them as it could possibly reduce stigma. It was further advised that issues in which the experts did not have total clarity, should be clarified with the adolescents in any participatory processes and

discussion. Issues in which more clarity may be needed included gender (I.e., how being a boy or a girl shapes mental health as well as any gendered preferences in intervention approaches), and the role of parents. What was clear is that the role of parents is vital in ensuring the wellbeing of their children, yet due to high expectations for their child to excel in education, parents can be a main cause of problems for their children's mental health. The necessity for parents to play a role in any solution to support their children's mental health and wellbeing was certain, the extent of their involvement is still uncertain, with research showing that parent and adolescent perspectives on this in India differ (Parikh, 2019).

Experts were positive about the proposal to base the intervention on mindfulness, as mindfulness was a strong match with Indian values and culture. However, it was also expressed that the subject alone was not enough, and that relevant issues for the mid-adolescent age group should be addressed such as motivation, personal coping mechanisms, and self-compassion. This suggests that experts view adolescent wellbeing as caught up with issues of self-motivation and care, and that they believe adolescents in India will already have strategies in place to deal with mental health difficulties. It is important to also discuss that although accepted by experts in Study 1, there have been queries as to whether mindfulness, which originated in India, is actually in line with Indian culture. This is because of the recent trend of introducing programme formats and practices that were designed for Western settings. Such practices can prioritize intense self-focus and elaboration of internal experiences, which contrast with the collectivist values in Indian society (Alampay, Tan et al. 2020). An advanced understanding of values in India society was not prioritized in the desk review or consequent research. This would be useful for a deeper analysis and may be recommended for future research. However, it is important to note that within the final Happy Minds Programme, multiple practices emphasize collectivist values, such as the well-wishing and gratitude practices, and that motivation was built on the group working toward a common purpose.

Study 1 was designed to enhance the exploratory phase of the protocol. This study increased the doctoral researcher's knowledge of the context and confidence in future research design. However, there are similarities in the findings with other recently delivered studies (Dhandapani, Chandrasekaran et al. 2020); and one of the biggest lessons to take away was that adolescents' views and experiences needed to be heard. In other co-adaptation studies, prior to adaptations being made, young people have been interviewed to understand their individual experience of poor mental health, wellbeing issues and coping mechanisms (Rose-Clarke, Pradhan et al. 2020). In hindsight, another option for primary research collection in the

exploratory phase could have been to interview young people to acquire a more direct and deepened understanding of adolescent experiences relating to mental health, wellbeing, and in particular their coping mechanisms, through interviews. This is however a costly and burdensome option, and the co-adaptation workshops were considered the most efficient use of time in the research process. In addition, attitudes of school-going adolescents about school-based mental health services in India have also been recently studied (Parikh, 2019).

6.2 Reflections on Study 2

The central aim of this thesis was to co-adapt and feasibility test a mindfulness-based prevention intervention with youth in Guwahati. Undertaking the co-adaptation and collecting CYP input on the programme prior to delivery extended the emerging knowledge about mindfulness approaches with CYP in LMICs. From literature searches on Web of Science and Google Scholar this appeared not to have been done elsewhere in India, or at least it had not yet been reported. Co-adaptation in India was both a smooth and welcome process. Although an uncommon activity for mid-adolescents, there was no resistance to them participating from parents, schools, the partner organisation, or the adolescents themselves. Study 2 showed not only the strong appetite that young people in Guwahati had for participating in research and shaping an intervention designed to support their wellbeing, but also for school wellbeing programmes. Moreover, they were aware of what was needed to support their wellbeing, even if at times they were unsure of the right ways to achieve this. Several findings exhibited how young peoples' priorities were at times different than adult participants speaking about their wellbeing, demonstrating the importance of asking young people directly about matters concerning them. It was this co-adaptation with young people in particular that gave the research team confidence to feasibility-test the programme.

The integrated model that provided the overall protocol for the thesis was designed specifically for co-adaptation, in that it supported the preparation of the intervention for co-adaptation, guided co-adaptation with stakeholders, and tested the co-adapted intervention. The model merged an existing framework and process devised by two other research teams (Movsisyan, 2019, Perera, Salamanca-Sanabria et al. 2020). The protocol was effective in shaping the entire research process; was clear in its goals and processes aiding clarity in planning; and the phases enabled the research team to keep track of activities and ensure the thesis studies enhanced each of the three phases. The steps enabled a systematic approach to the doctoral work, as they were for the most part sequential, with reflections on pendulation between stages adding a higher degree of insight and reflection into the nature of applying processes in practice. Although the EPIS framework provided the majority of structure and guidance it was not sufficient to guide the adaptation of interventions introduced from a HIC

to a LMIC, as it was originally generated from systematically reviewing studies describing intervention adaptations between different groups in HICs. It was for this reason that Perera et als., cultural adaptation process was added to enrich the exploration and preparation phases of the protocol, ensuring that cultural differences were not overlooked by members of the team from the UK, or taken for granted by local team members. The establishment of adaptation proposals for instance served a particular purpose in ensuring that the doctoral researcher reflected on her own correct and incorrect assumptions made prior to co-adaptation workshops with adolescents; whilst the CRQ promoted open discussion of cultural differences amongst the cross-cultural research team and enabled the local team to critique the programme through a cultural lense.

One reflective critique of the protocol was that it did not fully capture the level of stakeholder engagement necessary for a cross-cultural research project built on a partnership. The values of participatory engagement and co-production were prioritised in this research, and they require a high degree of attention to partner relationships. It was necessary for stakeholder engagement- i.e., partnership development- to occur at the beginning of the process and in tandem to more generic contextual information being gathered. In practice, this meant that adaptations and decisions concerning intervention selection occurred out of the order provided by the methodological protocol. Any future version of the integrated model used for the similar research will need to readjust protocol Stage 1 to incorporate partnership development and co-production.

6.3 Reflections on Study 3

Study 3 supported the thesis' central aim to feasibility test a mindfulness-based prevention intervention with youth in Guwahati. It is imperative to understand if an intervention is both acceptable and possible to deliver in a context, before it can be tested for efficacy (Pearson, Naylor et al. 2020). Although there were a number of setbacks in delivering the intervention and a few targets were not reached, feasibility of the programme based on the set thresholds was achieved. Steps to prepare the intervention for testing were solidly planned to ensure that the feasibility study tested the intervention as robustly as possible, and in line with advised standards. Feasibility indicators at times were difficult to find in other mindfulness studies, with researchers reporting their results without setting targets from the beginning. In these instances, standards established in other wellbeing and mental health programmes were used. Attempts were made to overcome other criticisms common to MBIs. For instance, many mindfulness programmes have been criticised for a lack of robust theory including core programme components, and a theory of change. These were established for the Happy Minds programme, and data collection was designed in accordance with ToC outcomes.

Overall, the doctoral work has added to the research in LMICs, and particularly in India, on using mindfulness in wellbeing and mental health interventions (Anand and Sharma 2011, Rentala, Thimmajja et al. 2019, Peter, Srivastava et al. 2022). It has particularly shown that even after the process of co-adaptation, that the core programme components of mindfulness have been accepted and considered useful, enjoyable, with young people motivated to repeat the practices and learn similar practices. Further research regarding this is necessary, however this is a positive step toward understanding the acceptability of evidence-based mindfulness practices for young people in LMICs.

One critique may be with regard to the programme selected for testing. Theoretically, extending the emerging knowledge on mindfulness in India with CYP may have been better served if an intervention already introduced to the population, was used. Building on existing knowledge could have deepened the contribution to mindfulness research for CYP in India. However, in practice although existing programmes had been introduced and researched in schools with this age group, it was not possible to use these programmes as no open-source materials were discovered. This problem may also occur with the Happy Minds Programme resource. Due to the current licensing agreement, it is not possible for this programme to be used by other organisations other than MIND India. This is advantageous for MIND India, as it matches their requirements to gain a unique mindfulness programme for their sole use. From a wider research point of view however this could be considered a limitation.

Looking beyond the feasibility study to consider how mindfulness and its benefits can be sustained, there are a few cautionary signs that must be addressed. First, sustained focus and attentional stability increase with greater practice which is why mindfulness practice can be most effective when repeated over a period of time. What MBIs currently lack are effective strategies to sustain this for young people. This may lead us to question the value of MBIs if benefits are not sustained beyond the intervention. The MYRIAD study is one such example of a school-based mindfulness programme having no effect after one year of participants receiving the project, compared to teaching as usual received in the control group (Montero-Marin, Allwood et al. 2022). As this was set in a UK setting, it must not be assumed that 'teaching as usual' would have the same effect on CYP in India, however this does bring the concept of MBIs effectiveness under scrutiny. Further to this, a number of researchers have asked if an MBI itself may be considered evidenced based if there is a need to continue practicing mindfulness beyond the intervention being received for continual effect (McKeering and Hwang, 2019).

6.4 Looking to the future

From a broader perspective, although the research made strides in understanding the mental health needs and support gaps for the mid-adolescent population of urban Assam, the work only went so far in designing a suitable intervention. A comprehensive approach to school-based mental health programming includes supporting both pupils and teachers to prevent behavioural, emotional, and social problems, increase resiliency and promote social and emotional learning (Cavioni, Grazzani et al. 2020). Family community and policymakers should be included with the view of "building a comprehensive care system in which mental health promotion and prevention strategies are integrated with one another and delivered as a key component of the school curriculum" (Cefai et al., 2018a). The research team did not expect that one exposure to the MBI would improve youth mental health but if offered within a suite of sustained community approaches, that are embedded in schools, this intervention could play a role to closing the support gap for CYP mental health in Assam.

From a practical perspective, the next step for the research project is to 'co-disseminate' findings from the studies (Woodall, Talma et al. 2021). This is not specific to the research protocol but was included in the project plan to ensure that local stakeholders are informed of the successes, challenges, and plans for the intervention and possible further research. Traditionally research findings have been disseminated and knowledge shared in a "top-down" approach without local partners' perspectives being prioritised (Racine, 2022). Co-dissemination of findings is a strong strategy that may help to mitigate such power dynamics (Campano, 2015). The doctoral researcher and PO CEO will speak together in two conferences in India in September 2023, one of which has been organised by MIND India in Guwahati for mental health experts and researchers in the State of Assam.

With regards to possible further research, if the appetite and resources are there, rigorous testing and upscale of the intervention can be planned with possible RCT design promoted to test intervention efficacy. At this stage fidelity will become increasingly important. However, the process of adaptation is not a one-off occurrence but can continue after interventions are taken to scale. It is advised in the ADAPT guidance for adapting interventions to new contexts, that mechanisms for capturing ongoing adaptation should be established (Moore, 2021). Within the ninth stage of the EPIS framework ('Intervention revision and implementation'), they refer to this as a continual loop of feedback and refinement. This attitude of continual learning and adapting could ensure increased success of the intervention in the long-term. This process would be supported by the updated ToC and logic model introduced in Chapter 5. The revised ToC indicates the main gaps and unanswered questions in the proposed theory of how the intervention effects change and offers an opportunity post feasibility study to further

adapt the theoretical components that either were not accepted or not delivered in an adequate manner. Review of the revised logic model could offer practical insight into a. who is prioritised for the intervention, b. exactly how the intervention should be constructed and delivered, c. how and why the intervention works with particular focus on the elements that did not work in the pilot, d. what difference the intervention should and would make, and e. practical conditions that are necessary to ensure that intervention works as planned.

Overall, the thesis responds to calls for better reporting of how interventions were developed. The doctoral work, in fully describing the intervention development process, has met the majority of the GUIDED items for reporting intervention development. Another process to consider for any future learning within the intervention is looking at how the intervention is reporting. Available frameworks exist for this such as the Active Implementation Framework (AIF) which has been used successfully for prevention programmes with adolescents (Husabo, Haugland et al. 2020); and more recently introduced is the School-Based Mindfulness Programme Implementation Framework (SBMP-IF) which aligns well with the intervention. The SBMP-IF was designed to set benchmarks for reporting on the implementation design and delivery of school-based mindfulness programmes, in addition to factors that impact delivery. The framework marries implementation and mindfulness, which is ideal for the Happy Minds programme, although components influenced by the LMIC setting and cultural components need to be considered if designing reporting channels based on this framework (Baelen, Gould et al. 2023).

The last phase of the EPIS framework is the sustainment phase which outlines how to set up a system of 'evaluation' and 'maintenance and evolution', the latter of which includes wide-scale dissemination, developing training systems, and a system of ongoing re-assessment to build up the evidence base. The capacity for the partner organisation to do this is unknown and will depend on donor interest.

From a broader perspective, it is also essential that policies are created in parallel to generating evidence on intervention effectiveness, so that barriers to scale-up may be addressed (Roy, Shinde et al. 2019). In India it seems that the Indian National Education Policy is the channel through which adolescents' mental health and wellbeing will be tackled (Aithal and Aithal 2019). The education policy plans that mental health of children will be addressed, through the introduction of well-trained social workers, counsellors, and community involvement into the schooling system (Government_of_India 2020). It is not yet clear how policy will roll out to support potential upscale and the gathering of evidence on prevention programmes such as the Happy Minds Programme, but it should be a factor to monitor if research progresses.

6.5 Conclusion

This thesis contributes new knowledge to successful approaches in meaningful participation with CYP in LMIC settings, specifically India, and has contributed to the prevention agenda, via community-based approaches. The research has extended the emerging knowledge about mindfulness approaches with CYP in LMICs, including the pivotal role of schools in supporting CYP wellbeing and mental health in India. The research has made strides in understanding the mental health needs and support gaps for the mid-adolescent population of urban Assam and has developed and tested a thorough framework to co-adapt with CYP that can be replicated in other LMICs. Lastly, it has found that the co-adapted school-based mindfulness intervention was feasible in the context. The effectiveness of this intervention is still unknown and future research is needed to further understand the possibilities of support it can provide to mid-adolescents in Northeast India.

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Appendices

Appendix A: Thesis reported through the GUIDED framework for reporting intervention development.

This table shows how well the thesis met the 14 items of the GUIDED template for reporting of intervention development from: Duncan E, O'Cathain A, Rousseau N, et al (2020) Guidance for reporting intervention development studies in health research (GUIDED): an evidence-based consensus study. BMJ Open 2020;10:e033516. doi: 10.1136/bmjopen-2019-033516

GUIDED Item	Met / Partially Met / Not Met	Comments
1. Report the context for which the intervention was developed.	Met	Chapter 1 and 2; Study 1
2. Report the purpose of the intervention development process.	Met	Addressed in Chapters 1 and 2
3. Report the target population for the intervention development process.	Met	From thesis start and in-depth in Study 1 and 2
4. Report how any published intervention development approach contributed to the development process.	Met	Addressed in Chapter 3
5. Report how evidence from different sources informed the intervention development process	Met	Addressed in Chapters 2-5
6. Report how/if existing published theory informed the intervention development process	Met	Addressed in Chapters 3-4 and 6
7. Report any use of components from an existing intervention in the current intervention development process.	Met	Addressed in Chapter 3
8. Report any guiding principles, people or factors that were prioritised when making decisions during the intervention development process	Met	Addressed in Studies 1 and 2, and chapters 2-4
9. Report how stakeholders contributed to the intervention development process.	Met	Addressed in Studies 1-2
10. Report how the intervention changed in content and format from the start of the intervention development process.	Met	Addressed in Chapter 4-6
11. Description: Report any changes to interventions	Met	Addressed in Chapters 5 and 6

required or likely to be required for subgroups.		
12. Report important uncertainties at the end of the intervention development process.	Met	Addressed in Chapter 6
13. Follow TIDieR guidance when describing the developed intervention.	Partially Met	The requirements of the TIDierR guidance have been broadly met in the thesis but they will be fully followed when publishing the study in a peer reviewed journal
14. Report the intervention development process in an open access format	Not Met	This study will be published in an open access format post viva.

Appendix B: Rapid desk review template

1) Introduction

    I.   Rationale for the desk review (description of current/recent emergency)

    II.   Description of methodology used to collect existing information (including any library search terms you used)

2) General context

    I.   Geographical aspects (for example, climate, neighbouring countries)

    II.   Demographic aspects (for example, population size, age distribution, languages, education/ literacy, religious groups, ethnic groups, migration patterns, groups especially at risk to suffer in humanitarian crises)

    III.   Historical aspects (for example, early history, colonisation, recent political history)

    IV.   Political aspects (for example, organization of state/ government, distribution of power, contesting sub-groups or parties)

    V.   Religious aspects (for example, religious groups, important religious beliefs and practices, relationships between different groups)

    VI.   Economic aspects (for example Human Development Index, main livelihoods and sources of income, unemployment rate, poverty, resources)

    VII.   Gender and family aspects (for example, organisation of family life, traditional gender roles)

    VIII.   Cultural aspects (traditions, taboos, rituals)

    IX.   General health aspects

    X.   Mortality, threats to mortality, and common diseases

    XI.   Overview of structure of formal, general health system

3) Mental health and psychosocial context

    3.1 Mental health and psychosocial problems and resources

    I.   Epidemiological studies of mental disorders and risk/protective factors conducted in the country, suicide rates.

    II.   Local expressions (idioms) for distress and folk diagnoses, local concepts of trauma and loss

    III.   Explanatory models for mental and psychosocial problems

    IV.   Concepts of the self/ person (for example relations between body, soul, spirit)

    V.   Major sources of distress (for example, poverty, child abuse, infertility)

    VI.   Role of the formal and informal educational sector in psychosocial support

VII.   Role of the formal social sector (for example, social services) in psychosocial support

VIII.   Role of the informal social sector (for example, community protection systems, neighbourhood systems, other community resources) in psychosocial support

IX.   Role of the non-allopathic health system (including traditional health system) in mental health and psychosocial support

X.   Help-seeking patterns (where people go for help and for what problems)

3.2. Mental Health system

I.   Mental health policy and legislative framework and leadership.

II.   Description of the formal mental health services (primary, secondary, and tertiary care). Consider the relevant Mental Health Atlas and WHO-AIMS reports among other sources to find out availability of mental health services, mental health human resources, how mental health services are used, how accessible mental health services are (for example distance, fee for service), and the quality of mental health services.

III.   Relative roles of government, private sector, INGOs, and traditional healers in providing mental health care.

4) Humanitarian context

I.   History of humanitarian emergencies in the country.

II.   Experiences with past humanitarian aid in general.

III.   Experiences with past humanitarian aid involving mental health and psychosocial support.

5) Conclusion

I.   Expected challenges and gaps in mental health and psychosocial support.

II.   Expected opportunities in mental health and psychosocial support.

5)   References

Appendix C: Supportive documents: Study 1
Appendix C.1 Study information letter for experts (Study 1)

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Date:

To: Study participant

Re: Study letter for mental health research

Project overview

10-20% of children and adolescents experience mental health disorders globally, a situation that is typically worse in low-middle income countries where mental health services are scarce. Early intervention can alter trajectories towards mental health disorders and can equip young people with coping strategies to manage life's challenges. Programs teaching mindfulness practice to children and young adolescents, is one solution for reaching large numbers with practical coping skills prior to mental health issues developing. In several countries, mindfulness is now being taught in schools as both a prevention and response mechanism for mental health issues. To date, evidence has shown positive results, indicating that mindfulness-based approaches have the potential to be acceptable and effective ways to intervene to reduce mental health risk in young people. However, the evidence is limited.

This research project conducted by the University of Leeds, UK, aims to establish the feasibility and acceptability of a co-adapted mindfulness-based programme to promote the mental health of young people in Tezpur. The research team is comprised of [original PO staff]; and Dr Siobhan Hugh-Jones, Professor Anna Madill, and Ms Una Higgins from the University of Leeds.
The research is composed of three connected, sequential studies. You have been invited to participate in study one.

Study one

Determining the mental health agenda in Assam: consultations with mental health professionals to understand child and adolescent mental health needs in Assam.

Study one consultations have a dual purpose. Firstly, they will directly inform the co-design and pilot components of the project (Studies 2 and 3); and secondly, they will inform a co-written publication between The University of Leeds and [PO] on the potential and direction of community mental health in Assam.

The main concepts and areas of interest that the consultations will cover are as follows:

1. The current situation and perceptions of young people's mental health and wellness in India, and specifically Assam.
2. Attitudes toward mindfulness in the local community.
3. Local attitudes towards, and practices with, children and adolescents in research.
4. Attitudes and involvement of non-specialised stakeholders in young people's mental health and wellness.
5. Perceptions of prevention in mental health.

Information for participants

Interviews will be conducted in English. At the beginning of each interview, participants will have the opportunity to ask any questions they have about the study and will be asked to consent to their information being used for the research. Below is an overview of key information participants should know before the interview.

Confidentiality: Names will not be published or referred to in any report. Gender, age, job title, institute of employment and educational qualifications, will be used with participant permission.

Data storage: All data collected in this study will be stored and used in relevant future research and publications in an anonymised format. Only the lead researcher (Una Higgins) will have access to interview scripts; names will only be shared with the projects' supervisors at the University of Leeds, when considered necessary.

Withdrawal: As a participant you can withdraw from the research at any point prior to or during the interview. You don't have to answer any question you don't wish to during the interview, and may withdraw your contribution in full or part, up to two (2) weeks from the date of interview.

Disclosure: This research is not designed to discuss individuals. However, in the event that a disclosure is made about an individual or family, the researcher may be obligated to share this information. The obligation to share disclosures is in line with local law.

We would like to thank you again for agreeing to participate in this study!

Appendix C.2: Consent form (Study 1)

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	Add initials next to the statements agreed with (written consent only)
I confirm that I have read and understand the information sheet/ letter [delete as applicable] dated [insert date] explaining the above research project and I have had the opportunity to ask questions about the project.	
I agree for the data collected from me will be stored and used in relevant future research and publications in an anonymised format. I agree to my gender, age, job title, institute of employment and educational qualifications (relevant to the research), being used/published (OR) I agree to the following information being shared (tick relevant boxes): Gender ☐ Age ☐ Job title ☐ Institute of employment ☐ Educational qualifications (relevant to the research) ☐	
I agree that my raw data will be stored securely in the UoL OneDrive and accessible only to the lead researcher (Una Higgins). I agree that this includes a recording of this interview and my consent agreement on Skype for Business.	
I understand that when necessary personal information may be shared with the research Supervisor at the University of Leeds (Siobhan Hugh-Jones).	
I understand that anonymised data will be shared with the full research team which will include three colleagues from the [original partner]	
I understand that I have the right to withdraw from the research at any point prior to or during the research. I understand that I don't have to answer questions asked during the interview if I wish, and may withdraw specific information or my full contributions, up to two (2) weeks after my interview, at which stage the data will start to be analysed.	
I understand that relevant sections of the data collected during the study, may be looked at by auditors from the University of Leeds or from regulatory authorities where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records.	

Signature: _____   Date: _____

Information letter for Principals

Project overview

10-20% of children and adolescents experience mental health disorders globally, a situation that is typically worse in low-middle income countries such as India where mental health services are scarce. Introducing wellbeing interventions at an early stage can alter a child's path towards poor mental health and equip him or her with coping strategies to manage life's challenges. Programmes teaching mindfulness practice to adolescents are increasingly popular as they are known to improve adolescents' focus and attention, as well as decrease stress.

This research project conducted by MIND India and the University of Leeds, UK, aims to co-adapt a mindfulness-based programme to promote the wellbeing of young people in Guwahati. The research team is comprised of [colleagues] from MIND India, and, Dr Siobhan Hugh-Jones, Professor Anna Madill and Ms Una Higgins from the University of Leeds.

Study One: Engaging with adolescents to co-adapt mindfulness programme for young people in Guwahati.

Co-adaptation is an important process when introducing wellbeing materials from one culture to another. It involves collecting opinions, views and experiences from the programme's target group and using that information to shape the final programme.

In this study we will run a number of 1-hour long workshops with adolescents aged 13-18. In the workshops adolescents will provide input for the wellbeing programme that we will later introduce in Guwahati in 2022.

In each workshop a Consultant from MIND India and a Researcher from the UK will guide participants through a number of activities relating to the proposed project. Materials will be taken from a UK Mindfulness programme for adolescents.

Adolescents will be asked to join between one and three sessions in total between July and September 2021. They will meet in small groups of four people either online or at MIND India depending on government guidelines on covid-19.

Our team are experienced in this method and making workshops easy and fun for adolescents.

Study Two: Deliver a mindfulness-based intervention to 30 adolescents aged 13-15.

In January 2022, Study 2 will be launched in Guwahati. In this study, we will deliver 8 weekly 60–90-minute sessions to a group of 30 adolescents aged 13-15. The trial will be overseen by mental health experts from Guwahati and the UK. A trained mindfulness facilitator will deliver the materials and collect baseline, post intervention and 3 month follow up data from the participants on stress and attention levels. Once data is analysed, an overview of how useful the programme was in supporting the adolescent's wellbeing will be shared with the participating school.

General information

Names of participants will not be published or referred to in any report and all data stored and used in relevant future research. Participants can withdraw from the research at any point prior to or during the session they are participating in and will not be obliged to answer any question or participate in any activity they are uncomfortable with.

Our research is not designed to discuss sensitive personal information. In the unlikely event that a disclosure is made, the researcher may be obligated to share this information. The obligation to share disclosures is in line with local law.

Children's parents/caregivers will be asked to provide consent for their child's participation in our study. If parents/caregivers are interested in their child participating, and their child also agrees, we ask that they inform [colleague] directly (contact details below) by X.

Thank you for taking the time to read this information on our study. For any further queries or information please contact our team.

Una Higgins, Doctoral Researcher (xxxxx@leeds.ac.uk)
[colleague] MIND India (xxxxx@gmail.com)
Dr Siobhan Hugh-Jones, Research Supervisor (xxxxx@leeds.ac.uk)

Appendix D2: Parental / guardian consent form (Study 2)

STUDY: Co-adapting an evidence-based programme for adolescents, aged 13-15

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	Add initials next to the statements agreed with (written consent only)
I have read and understand the information letter dated xx/xx/xxxx explaining the research project and I have had the opportunity to ask questions.	
I understand the study and agree for my child to take part.	
I agree that the information my child shares will be stored securely in the University of Leeds OneDrive and only to the research team can see this. The information may be used in future research and publications. My child will never be identified.	
I agree that the workshop(s) my child takes part in will be recorded and stored securely on University of Leeds OneDrive. Recordings will only be used by the lead researcher.	
I understand that I can stop my child taking part at any time, and s/he can stop taking part, at any point before or during the research. I know that once my child shares ideas they are part of the research and cannot be removed.	
I understand that if any concerns are raised about my child's wellbeing or that of others, that the MIND India follow appropriate steps and may discuss this with me.	
I allow staff from the University of Leeds (or from other authorities) to inspect my child's records if needed during an audit.	
I understand that my consent form will be stored securely and privately at University of Leeds.	
I agree for my child to take part in the above research project and: - will let the research team know if my contact details change, and - allow the team to share the research results with me.	

PRINTED NAME _____

CHILD'S NAME: _____

PARENT SIGNATURE   _____

DATE _____

Appendix D3: Adolescent assent form (Study 2)

UNIVERSITY OF LEEDS

STUDY: Co-adapting an evidence-based programme for adolescents, aged 13-15

	Add initials next to the statements agreed with
I have read and understand the information about the project. I had a chance to ask questions. I agree to take part.	
I understand that the researchers will publish their findings once the project is finished. I understand that my name will not be mentioned when the researchers report the project results.	
If the study team have concerns about my safety or wellbeing, then they will follow safeguarding advice. They may discuss it with me if this happens.	
The information I share will be saved without my name online at the University of Leeds (UK). Only the research team will be able to see this information.	
Workshop recordings will be made and stored at the University of Leeds in the UK. Only the lead researcher will see this.	
I can stop taking part in workshops at any time before or during. I don't have to explain why to the team or my teachers if I don't wish to. I do not have to answer any question if I don't wish to. I know that once I share my ideas they are part of the research and I cannot remove them.	
I understand that my consent form will be stored securely and privately at University of Leeds.	
I allow staff from the University of Leeds (or from other authorities) to inspect my records if needed during an audit.	

PRINTED NAME   _____

SIGNATURE   _____

DATE   _____

Appendix E: Example workshop script

SCRIPT DAY 2 (Group 1)

Stage 1: Videos

[share screen]

Q1

UH: We want to start today showing you 2 videos that we may include in our project. The first video is showing how humans are naturally connected to one another. Let's watch it together now.

[put up **poll**]

What did you think of the video?

It liked it

I didn't like it

Q2

The second video is about fairness. Capuchin monkeys:

https://qfreeaccountssjc1.az1.qualtrics.com/jfe/form/SV_5zsO0kvlmsNrZe6

Stage 2: Methods

Q3

UG: in wellbeing projects we use a number of different activities. We want to understand from you if they are acceptable or not.

There are 5 types of activities that we want your feedback on. Una has shared her screen.

[Una go through and explain them]

It is really important to us that you all feel safe/comfortable in the sessions, and only do things that you feel comfortable doing with your classmates in the classroom setting.

https://qfreeaccountssjc1.az1.qualtrics.com/jfe/form/SV_4UYLKCKEvtQVk90

I have shared a link to a Qualtrics survey in the chat box. Can you each click on or copy the link. (allow time for them to link onto the question)

We'd like you to think about each. If you were attending the wellbeing project at school, which of these activities would feel OK to do?

[Compile results and ask the following about negative responses]

- What might stop young people from participating in such activities?
- What can be done to increase participation? Is there anything that can be done that …

Stage 3: Collecting data

UG: We are going to spend some time today thinking about collecting information in our project. To understand if young people **liked** our project and if it **worked** in making them feel good, we have to collect some information (or data).
 For the project, we will collect information 3 times:

- before the project starts,
- as soon as the project is finished;
- and 3 months after the project ends.

UH: so we are seeing if they liked it and if it worked. We will give participants forms asking them questions about their **wellbeing and attention** levels. We will do this 3 times. It should take around 15-20 minutes each time. We will do this to see if our project has actually helped people.
We have a number of questions on how to do this well.

UG: We want you to think of how you would feel at the beginning and end of the project answering questions about wellbeing and your attention levels. UH will put up a poll on how you think we should do this.

Q4 POLL

Data should be collected:

- Online
- On paper

UH: Also straight after the project has finished, we want to ask participants about what they thought of the project- get their feedback, what they would change, what they would like.

What is the best way to do this?

Q5 POLL

- An online survey
- An one-to-one conversation with a researcher in the UK over Zoom;
- A group discussion with classmates over Zoom.

 [share case study onscreen]

Q6: case study [share screen]

UH: Now we are going to think of a case study of Abhishek.

I want you to imagine. The 8-session project has ended. He has enjoyed the project; participated in every session and provided answers to the research questions at the beginning of the project. S/he had been told that the facilitator would come back and for the group to fill out the forms again and take part in (fill in blank from most given answer), explaining that this would be important for their research and future projects.

X doesn't want to do this and has avoided coming to the final data collection session.

Thinking from X's point of view, **what do you think could be happening that makes him not want to fill out the information? What could be done that would make X feel motivated to attend?**

[Group discussion]

Stage 4: Home practice

UG: in our last session we shared with you a recording. We want to ask if you had a chance to practice it over the past 2 days? UH will put up a poll so that it is anonymous. Please answer honestly as it is important for us to know.

Q7: POLL

UH: for mindfulness practice to be most beneficial to us, the research so far has shown that it is best if we practice regularly. During the project that will likely mean young people practicing at home.

Q8: case study (group discussion)
I want you to think about Priya.

Priya has come to all of the sessions in school, and she really enjoys the practices. Each week she promises herself to practice at home. However, she has never been able to practice at home.

What might be happening with Priya? What obstacles do you think she is facing that stops her from practising at home?

[addressing identified obstacles]

What might be happening if it was Abhishek having these difficulties? What might be done to overcome these issues?

Stage 5: Live practice

UH: UG will lead us through another 5-minute live practice.

Body sensations: hands/arms and face; then open awareness of body with sensations and breath.

Q9

UH TO SEND:

https://qfreeaccountssjc1.az1.qualtrics.com/jfe/form/SV_73D5e4R0IVzkKge

Stage 6: Language

UG: On Monday we talked about the word mindfulness. Today we are going to talk about another word- meditation.

We have heard that the word 'meditation' may not be good to use with young people; that young people may think it is for old people or as something that is a little boring.

UH has put a poll on the screen.

Q10 POLL UH: We want to know what you and people your age thinks of this word. You can choose as many options as you like. It's anonymous so please be as honest as possible.

What do you think of the word meditation?
'I like the word meditation'
'Only old people meditate'
'Meditation is only for Religion'
'It is OK but doesn't inspire me. It would be better to use a different word.'
'I don't know the word'

Stage 7: Role models

Q 11

UG: we are going to change our topic now to think about role models/people who inspire you and people your age. UH is going to share her screen with you.

UH: In the **chat box** we want you to **type as many role models as possible that you can think of for people your age. What men, women and children are inspiring to you and people your age?** They can be sports personalities, religious leaders, politicians, activists, actors, musicians, artists, or any other thing that is important to people your age.

Q 12

We have 2 videos of people who may or may not be seen as role models or inspiring to people your age.

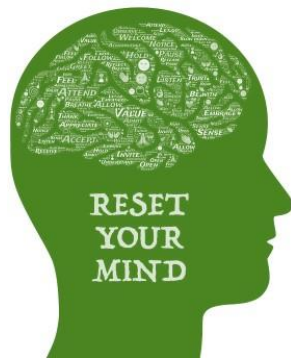[show both videos and then ask the questions on Qualtrics]

Greta Thunberg

Manoj Singh

https://qfreeaccountssjc1.az1.qualtrics.com/jfe/form/SV_4YJwbN0Wowrmvn8

Appendix F: Recruitment posters

Original recruitment poster design

Adolescent recruitment poster design

FACILITATOR GUIDE FOR MIND INDIA'S ADOLESCENT MINDFULNESS PROGRAMME

Introduction

This facilitator guide aims to support facilitators to deliver the core components of the mindfulness intervention. In our programme there are two core components: **mindfulness practices** (*Mindfulness of breathing, Body scan, Mindful movement and Mindful well wishing*) and the **enquiry process.**

The guide first outlines how the mindfulness practices build up over the 8-week program, provides notes on potential 'scripts', and how facilitators can guide practices through their own experience of the present moment. There is also a programme road map included that can be used at the beginning of certain sessions to briefly outline where the programme is leading.

The guide secondly provides support on the enquiry process: how it should be approached, what should be answered and typical questions that can be asked.

Enquiry process

PURPOSE

The enquiry process (EP) provides participants with a chance to informally 'debrief' with the group and facilitator about their experiences, following a mindfulness practice.
There are a number of purposes to this process:

i. **Bring awareness to experiences happening in participants' practice.** They will be asked directly what they noticed and learn to state/label their experiences. For instance, I felt sleepy, I was bored, I noticed my shoulders were tight, I had a lot of memories and then I thought about work.

ii. **Clarify that experience is normal.** Beginners can spend time during practice wondering if they are doing it correctly. EP can allow them to see that their experience is normal. Participants will tend to hear their own experiences, concerns and insights mirrored in the words of others.

iii. **Facilitate participants' understanding of the relationship between sensations, feelings and thoughts.** See 'enquiry structure' for more details.

TYPES OF ENQUIRY

Youth Mindfulness outline three modes of enquiry:
1) Pair enquiry:
2) **'Light' enquiry (horizontal):** the facilitator moves lightly across various participants to identify a range of different experiences. You want your opening question to be clear that you're asking for information about what participants experienced or noticed ('what did you notice about your experience during that practice?') rather than for general feedback (i.e. 'how was that?' or 'was that good?').
3) **'In-depth' enquiry (vertical):** the facilitator stays in a more in-depth process with one person who has shared something that feels fruitful to explore further. You may wish to use the below triangle as guidance (thoughts- emotions- sensations). Vertical enquiry may

happen later in the course when participants are more familiar and curious about this process.

CORRECT AND PRODUCTIVE ENQUIRY

Enquiry is an unfamiliar process for participants, and they can fall into two incorrect patterns.

The first incorrect pattern is seeing enquiry as a time to problem solve. It can be common for people to dwell on things in their lives causing stress during mindfulness practice. It may be tempting for participants to ask for or offer insights into 'fixing' the problem. This is not what enquiry is for. In this instance, it is the facilitator's job to ask, if they were able to bring their attention away from their thoughts and back to the practice or ask if they notice how it felt in their body when they were overwhelmed by thought. If this happens and it is difficult to get participants out of that habit, the facilitator may feel it is appropriate to say: *'It is good to think through problems we are having and sort out our thoughts. Mindfulness practice can often make us very aware of what we need to think about in our lives. If you have a problem you wish to do this for, I suggest you find a time to sit with someone you trust to discuss and ask for help. Enquiry is different from that. We are trying to notice our thoughts and then come back to our practice. The more we do this the more we will be able to look at our thoughts more clearly when we do sit down to think them through'.*

The second incorrect pattern is thinking that there is a 'right thing' to say, like in a classroom setting. Having participants enquire through pairs before a whole-group enquiry can take this pressure off and allow for participants to share freely without feeling they are performing. Enquiry will become easier as the weeks progress. Once they see that the facilitator is open to all experience without bias, they should also become more comfortable.

ENQUIRY STRUCTURE

Enquiry shows how different parts of our experiences are linked. Speaking about experiences in a group can help with these realisations. For example, certain body states produce particular feelings, or particular kinds of thoughts can be linked to specific emotions.
We can use this 'triadic' structure to lead our EP:

Physical sensations - (are connected with) - feelings - (are connected with) - thoughts - (are connected with) - physical sensations etc.

Physical sensations

Feelings   **Thoughts**
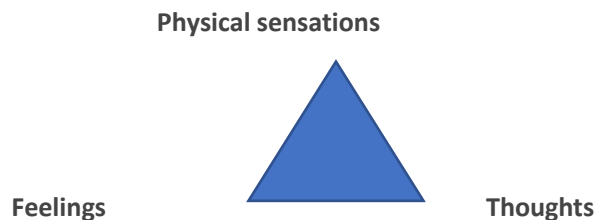
If someone mentions a **physical sensation** e.g.:
Participant: *"I felt my shoulders get really sore but they weren't sore before I came in"*
Facilitator: *"And were there any thoughts that came with that?"*
Participant: *"Yes I started wondering why I hadn't noticed this before"*
Facilitator: *"And how did it make you feel?"*
Participant: *"It made me worried"*

If someone mentions a **feeling** e.g.:
Participant: *"I felt really restless and a bit irritated with the noises outside"*
Facilitator: *"Interesting. And where did you feel that in your body?"*
Participant: *"My legs and arms wanted to move and I felt pressure in my chest like I wanted to shout out loud"*
Facilitator: *"What thoughts came up?"*
Participant: *"I thought I don't want to do this anymore and that it is pointless. Then I started to think I was failing at the exercise"*
Facilitator*: "And did that bring up any other feelings or thoughts?"*
Participant: "I felt a bit angry, but wasn't sure why."
Facilitator: *"And were you able to stay with the practice?"*
Participant: *"For a little while no, I tried to think about other things, but for the last minute I came back to the practice"*
Facilitator: *"Well done. That's what we are trying to do. We will have times when we get distracted or find our experience difficult. If we find a way back to the practice that is great"*

And similarly, if a **thought** is offered… e.g.:
Participant: *"I kept thinking what if someone comes into this room - we'd all look really stupid"*
Facilitator: *"Oh that's interesting, so what feeling is that?"*
Participant: *"I felt self-conscious and embarrassed"*
Facilitator: *"And where did you feel that in the body?"*
Participant: *"My cheeks felt warm and my breathing was a bit short. Then I started wondering if anyone else in the room was thinking the same thing"*
Facilitator: *"And were you able to come back to the practice?"*
Participant: *"Eventually, yes."*

As participants build their experience you may move to ask further questions beyond thoughts, sensations and feelings. Such questions are below:

1) How long did the (sensations/feeling) last?
2) Did it stay all the way through or did it change into anything else?
3) That's interesting, can you tell me more about that?
4) Did you notice anything else?

SESSION THREE: ATTITUDINAL QUALITIES OF MINDFULNESS

Session overview and objectives

The main aim of Session Three is to **understand certain attitudinal qualities of mindfulness** (allowing, intention, curiosity and gentleness) and to **discover aspects of the minds nature** (grasping, resisting, constant presence of thoughts, ease of awareness), **through explorative practices and enquiry**. This session introduces **the body scan** and goes through the **enquiry process** a number of times.

Session three introduces two sessions of core theory followed by explorative practices. In between the two sets of core theory there is a game to break the session up.

The first section of theory looks at how the wandering mind impacts happiness. This is followed by an exploration into the nature of the thinking mind and awareness. In these explorations participants discover that the mind is designed to think, and that mindfulness isn't about stopping ourselves from thinking. In the second exploration participants learn that awareness is natural and easy, and that it requires little effort.

The second section of theory looks at two thinking traits- grasping and resisting. This is followed by the willpower challenge (based on the body scan) which then sets up the challenge for the week ahead. The willpower challenge is the longest practice so far in the programme but tends to excite participants as they are set a personal challenge alongside their peers.

Each explorative practice is followed by the enquiry process. Each session has been granted more time than it may seem is needed to make space for adequate enquiry. As a core component of the program, this process is important.

Session contents

1) Challenge reflection

2) Core theory: Mind wandering study

3) Insight activity: Thoughts and awareness

4) Game: Spot the difference

5) Core theory: Different dimensions of mindfulness

6) Willpower test

7) Challenge: Setting our third challenge

1) <u>CHALLENGE REFLECTION</u>

Activity objective: Understand the success/challenges of the challenge

Activity approach: This is a light discussion on the challenge and a chance for young people to discuss how easy/difficult it is to complete the challenge outside of the session, and how useful and appealing it was/wasn't. It is important that participants have the opportunity to share the truth in this session as it is part of the research to discover if the Challenge system works. For that reason it is important to ask people who didn't do the challenge to give their views too.

Time: 5 minutes

Activity instructions
1) **We are going to start off today's session by quickly discussing the Challenge that I set you last week.** *(Lead a discussion with the following questions to guide).*
- **Did everyone have a chance to do the challenge?**
- **Who can remember what it was?**
- **Did it get easier to complete the 3 minutes of focusing on your breathing the more you did it?**
- **Who would like to share WHERE and WHEN they found it easiest to do the challenge?**
- **For anyone who didn't manage to complete the challenge, was there any reason why it was difficult for you this week?** *(Emphasise that you are asking so you can understand not that they must defend themselves).*
- **Is there anything else about the challenge that you'd like to share?**
2) **You can reflect that if they discovered a good time and place that this can be their time and place to regularly practice over the coming weeks; and encourage the others to notice when and where is the best place to practice outside of session in this week's challenge.**
3) **Thank them all for their contributions.**

2) <u>CORE THEORY: MIND WANDERING STUDY</u>

Activity objectives: Provide evidence that mind wandering affects happiness, thereby providing potential motivation for practicing mindfulness.

Activity approach: This is a simple information sharing activity that gives participants the chance to guess how often people's mind wanders mindlessly. It is designed to peak interest. It is important to note the difference between creative mind wandering and mindless mind wandering.

Time: 10 minutes

Materials: Slides 1-5.

It is important to give a quick programme recap.

Programme recap:
1) **Say: So far in our programme we have looked at what makes us happy and how training our mind to stay in the present moment, through mindfulness, could help develop positively.**
2) **Say: Today we are going to continue looking at the benefits of mindfulness and how to approach keeping our mind in the present moment.**

Activity instructions:

1) Say: I want to start by telling you about a study conducted a few years ago in the USA. In this study, people signed up to an app called track your happiness. The app would ping them several times a day and ask three questions (show slide 1):

   1. What are you doing right now?
   2. How happy are you?
   3. Are you thinking about something other than what you're doing right now?

The last question was used to measure whether they were present or their mind was wandering aimlessly. Do you know what this is? For the mind to wander aimlessly? (change to slide 2 before saying) In this study, they got 650,000 responses from over 15,000 people.

2) Let me ask you, what percentage of the time do you think people's minds were wandering aimlessly? (allow participants to guess). The answer is 47% (show slide 3). This means people were not present in their life for almost half of the time! They're lost in a worry, or a daydream or in thoughts about something that they needed to do. That's a lot of time!

3) *What's also interesting is that the researchers looked at the impact this had on people's happiness. What they found was that aimlessly mind-wandering caused people to be dramatically less happy.* (show slide 4).

4) *This was true for lots of different activities. When people's minds were wandering during both pleasant and unpleasant activities they were dramatically less happy. It didn't matter if they were thinking about pleasant, neutral or unpleasant things. ANY time spent not in the present moment was less happy, even if they were thinking of happy things!*

5) *Can you think of times when your mind wanders aimlessly? What types of activities you may do where your mind wanders aimlessly?* (ask for examples, such as teeth brushing, on transport etc. note that creative mind wandering is different and can be positive)

6) (Show slide 5) *The conclusions from this study were that no matter what activity we are engaged in and no matter what it is we are thinking about, we are happier when our mind is in the present moment and not wandering aimlessly.*

7) *So we can really see from this that encouraging our mind to stay in the present moment is really important for our happiness in life.*

*(Note to facilitator: extra facts that may be relevant in the discussion- researchers also found that mind-wandering and unhappiness weren't just associated with each other - it was the mind-wandering that **caused people** to be less happy. They could track this, and found that if your mind was wandering a lot in the morning, 'you were going to be unhappier in the afternoon.)*

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3) INSIGHT ACTIVITY: THOUGHTS AND AWARENESS

Activity objective: To demonstrate the nature of thoughts and awareness in order for participants to approach mindfulness practices with ease and correct attitude.

Activity approach: This activity addresses two common mistakes beginners make when practicing mindfulness. By asking participants to attempt the reverse of what the practices aim for, participants realise that what is commonly attempted are impossible tasks. They do so in a safe group setting where they have the chance to experience this for themselves and

discuss with their peers. The first experiment is designed for young people to realise that it is normal to have thoughts and that mindfulness is not about stopping thoughts but becoming aware of them. The second experiment is designed to show that awareness doesn't take great effort and is a natural state of mind. These insights are to be shared after the participants experience it for themselves. An enquiry can be led for 5 minutes after each experiment.

Time: 15 minutes
Materials: Slide 6.
Activity instructions

1) *Say: So HOW do we stay in the present moment? We are going to explore this.*
2) *Let's start by doing a little experiment. We're going to sit for 45 seconds and do our best to not think of anything at all. We're going to try to not let any thoughts come into our head. Let's do this now. Go! (do not give guidance during the 45 seconds)*
3) After 45 seconds, enquire about what happened in that experience in the wider group. (The important point to make is that we can't do anything about thoughts coming into our mind).
4) Concluding remarks *(if not already made)*: We don't choose to have thoughts. They jump into our mind, because that is the nature of our mind. To become mindful or present by pushing thoughts away is not going to work. What we can do is choose our response to our thoughts. We just let them be and not fight them. Otherwise we are simply adding even more thoughts into our mind. We might say to ourselves 'Stop thinking… go away thoughts….' And this won't help us. Practicing mindfulness requires a gentle approach to our thoughts.
5) Say: We are going to do a second experiment. *I want us to try and not notice anything! Try to notice nothing about the present moment. And again just see what happens. We'll do this for 30 seconds. Go!*
6) Ask: What did you notice about that practice? (They may mention sounds or body sensations or thoughts. After they have shared you can observe that they are naming these things).
7) After the enquiry say: the important thing to see here is that it's impossible to not be aware. Awareness is effortless, we're noticing things all the time. So to practice mindfulness we don't need to try hard or make a lot of effort trying to be aware. (show slide 6) What we are doing is having the gentle INTENTION TO BE PRESENT, and when the mind wanders we notice and bring our attention back to the present moment.

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4) GAME: SPOT THE DIFFERENCE

Activity objective: Practice awareness in a fun team game.
Activity approach: This is a light-hearted game with no focus on competition between the groups. If you think the game will be drawn out, you may wish to give a time limit and if they haven't guessed all of the differences then the team has to reveal what they haven't noticed.
Time: 15 minutes
Activity instructions:
1) Split the group into two teams of up to 8 participants. Assign one team 'A' and one 'B'.
2) Both teams stand in a line in front of each other.

3) Ask Team A to look closely at what Team B are wearing, how their hair is and any other detail about the line.

4) Team A then turns around while Team B alters 3 things each about their appearance. They may change their hair, remove their tie/piece of clothing, swap positions in the line. Whatever small changes that may be tricky to notice but that can be seen face on.

5) Once each person has changed three things the teams face each other and Team A has to spot the differences! Allow each person in Team A to guess at least one difference each.

6) When all of the differences have been revealed the teams swap places and it is the other team's turn to spot the difference.

BREAK POINT: Lead 2-3 minutes of light stretching, yoga or qi gong.

5) CORE THEORY- DIFFERENT DIMENSIONS OF MINDFULNESS

Activity objective: Understand the minds' traits of resisting and grasping, and that mindfulness offers acceptance as a different way.

Activity approach: This session looks at grasping and resisting. Participants are given the chance to reflect on their own habits of grasping and resisting in a group discussion, and then reflect further on resistance through the Samurai video which demonstrates this concept very well. The session concludes with suggesting mindfulness and acceptance as a different way to respond.

Time: 15 minutes

Materials: Samurai video link on 'Pilot videos' doc slide 8; Slides 7&8

Activity instructions

1) *Say: Last week we started to look at what mindfulness is: Staying in the present moment. And if you remember, the second part of the definition is ACCEPTING THE PRESENT MOMENT AS IT IS WITHOUT TRYING TO CHANGE IT (show slide 7).*

2) *Sometimes we want the present moment to be different than it is. I'm going to show you a video now of someone who is struggling to accept the present moment as it is.*

3) *Show the samurai video*

4) *What did you think of the video? What do you think the message of this short video is? (allow them to discuss in pairs for a few minutes and then ask the whole group)*

5) *In the video he doesn't like what is happening and tries to push it away. He is resisting the present moment. Can you think of a time when you didn't want to experience something so you tried to push it away? (examples you can give once they answer include boredom, impatience, something that is difficult emotionally and physical pain)*

6) *We can also have experiences that are really enjoyable, and when those feelings of excitement or happiness end, we can feel disappointed and try to hold on to them.*

7) *Ask: Does that sound familiar? Can you think of a feeling or experience you've had that you wanted to hold on to? (allow the children to respond and provide examples once they do. Examples include, wanting a holiday to continue, having fun times with friends, feeling of achievement in a hobby or exam, lovely food).*

8) *So the mind has these two habits - to hold onto the stuff we like and to push away the stuff we dislike. (show slide 8) It isn't very helpful to respond like this as it can cause frustration and even sadness.*

9) *Concluding points:*

o *With mindfulness, we can learn a different way of responding. Rather than fighting what's happening, we can just allow it.*
o *We aren't saying to accept things that aren't good in the world. We can always take action to improve situations for ourselves and others, but in our own mind, we can learn to allow whatever thoughts and emotions are happening.*
o *This is not necessarily easy to do - we have to train ourselves to respond in this way.*
o *But when we can respond with more calm, and acceptance of what's happening in our mind, it can be very powerful.*

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6) MAIN PRACTICE: WILLPOWER TEST

Activity objective: Strengthen participant's practice of setting intention in their mindfulness practice.

Activity approach: Highlight that this is an experiment/test designed for participants to set an intention and test themselves on it. It is not designed as a competition between participants, nor are we saying that all our mindfulness practices should be rigidly still.

Time: 25 minutes

Materials: Marshmallow video link on 'Pilot videos' doc slide 9.

Activity instructions:
1) **Say: I am going to show you another video. It's a video on something called the marshmallow test. Experiments were done back in the 1960's looking at the self-control of young children. They told the children they can have 1 marshmallow now, but if they wait for a short time they would be able to get two marshmallow.**
2) **Show the video.**
3) **What did you think of the video?** (give participants time to respond)
4) **Explain: This experiment looked to see if the participants chose to use their self-control to wait for a better reward in the future, or to follow their impulses and grab what they wanted straight away.**
   What was interesting is that the researchers followed up on the children years later and found that the children who controlled their impulses with the marshmallow were more successful in their school work, in their relationships, and eventually even earned more money.
   This basic ability of self-control predicted they would do well at so many things in life.

5) **It also turns out that self-control - our willpower - is something we can build. We're going to do this now with something called the Willpower test. It involves sitting perfectly still for 5 minutes. Do you think you can do this?** (allow them to respond)
6) **This means we will not move, look around, scratch an itch, and change our posture. We are going to simply notice it all, but not be overpowered by it.**

Practice
1) **Allow participants to move and stretch for up to 3 minutes before starting.**
2) **Encourage participants to set an intention that they will stay still for 5 minutes.**
3) **Say: Now get into a comfortable position, one that you can stay in for 5 minutes. Feel free to move to a different space in the room.**
4) **I am going to start the 5 minute timer and I will guide you with some suggestions that may help you stay still. We are starting the 5 minutes now.**
5) **Guide a practice for exactly 5 minutes, starting with breath instructions and moving to a body scan of lower body.**

6) **Give the following cues spaced out during the 5 minutes:**
   o **'If you notice you wish to move, see if taking a few centering breaths will help you to stay still';**
   o **'If you have many thoughts about moving, remember that it is normal to have thoughts. Bring your focus back down into your body, noticing if there a place where it feels good to keep your attention such as your stomach or your feet'.**
   o **'If there is discomfort in the body, you may wish to focus on the path of your breath going in and out'.**
7) **Announce when there are 2 minutes left; then 1 minute left.**
8) **Stop the practice on the 5 minute mark exactly.**
9) **Congratulate the group on their achievement.**

Go into a full group enquiry asking:
How was it? Was it difficult? What did you notice? Thoughts? Sensations? Emotions? Did you find a place that helped you stay still such as the feet or belly?

Point out that:
   o **Mindfulness is also about awareness of the body as well as the mind and that our body can help us stay in the present moment.**
   o **Participants can use their anchor during any practice when they need it to feel grounded.**

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7) CHALLENGE: SETTING OUR THIRD CHALLENGE!

Activity objective: Introduce the third challenge of the program.

Activity approach: Challenges are personal and not competitive with other participants. Participants should be encouraged to try their best and challenge themselves.

Time: <5 minutes.

Materials: Audio recording and written instructions (to be sent via WhatsApp Broadcasting)

Challenge instructions:
1. **Our challenge this week is to sit for up to 5 minutes without moving!**
2. **I will share a recording with you to help out. But you can do this anywhere on your own, just by following your breath or scanning through the body.**
3. **On your first try you might want to set the timer for 3 minutes, then build it up to 5.**
4. **The challenge is to sit still for 5 minutes at least once.**
5. **Remember to keep the breath relaxed. We aren't tensing up our body, we are trying not to give in to the impulses to move.** *(It may be good to demonstrate a tense, uptight body and then a relaxed, at ease body to show the difference).*
6. **Try your best and we will discuss it next week.**

Appendix I: Supportive documents: Study 3

Appendix I1: Data management agreement

This agreement is between: [colleagues name] and University of Leeds and MIND India for the project entitled 'Improving the mental health of adolescents in Assam: a co-adaptation and feasibility study of a mindfulness-based community programme", undertaken by the Ms. Una Higgins, PhD student with UOL

I, [colleagues name] agree to work in accordance with the Licensing Agreement between the University of Leeds and Youth Mindfulness when managing all draft intervention materials. In doing so I recognise that:

(i)   All copyright of materials is vested in Youth Mindfulness.

(ii)   The *final intervention materials* (created after the pilot Study) can be used for wider use through MIND India only.

(iii)   No *draft intervention materials* shared can be taught, distributed, transferred, or used for any commercial purpose to anyone within or outside of MIND India.

(iv)   When storing any copy of *draft intervention materials,* they must be stored in a secure, password protected file.

(v)   *Draft intervention materials* must be deleted once my inputs are shared with the University of Leeds.

_____   _____

Signature   Date:

Appendix I2: Confidentiality agreement

This agreement is between: _____ [University] and _____
[researcher and affiliation] for [research project title]
I, _____ (consultant/researcher) will lead the research project in accordance with the approved research plan between the University of Leeds and MIND India in Assam. In carrying out these activities I undertake to:

(i) Present shared information fully and faithfully, to the best of my abilities.

(ii) Keep all information provided by participants confidential and not use or disclose this information except as required in the course of the project.

(iii) Comply with the licensing agreement regarding how I use SOMA materials.

(iv) Comply with data management protocol, including how I store and share any data I collect.

(v) Destroy all copies of raw data, including recordings and forms, after I have shared them with colleagues at UoL and they confirm I can do so.

(vi) Declare any conflict of interest that may arise through my involvement in the research.

_____   _____

Consultant signature   Date:

Appendix I3: Parental / Guardian consent form (Study 3)

UNIVERSITY OF LEEDS

	Add initials next to the statements agreed with (written consent only)
I have read and understand the information letter dated xx/xx/xxxx explaining the research project and I have had the opportunity to ask questions.	
I understand the study and agree for my child to take part in study activities. This includes attending 8 wellbeing session that include mindfulness practices on school grounds on Saturday's, participating in an online focus group at the end of the intervention (June 2022) and filling out forms about their wellbeing online on a secure form.	
I agree for my child to share the following personal information: - Class standard - Age - Gender - Religion - Ethnic group - Phone number I understand my child will be contacted via WhatsApp (broadcasts) about research activities. Only members of the research team will have the number and it will be deleted at the end of the research.	
I agree that the information my child shares will be stored securely in the University of Leeds OneDrive and only to the research team can see this. The information may be used in future research and publications in which my child will never be identified.	
I agree that the wellbeing sessions my child takes part in will be audio recorded and stored securely on University of Leeds OneDrive. Recordings will only be used by the lead researcher in the UK.	
I understand that I can stop my child taking part at any time, and s/he can stop taking part, at any point before or during the research. I know that once my child shares ideas they are part of the research and cannot be removed.	
I understand that if any concerns are raised about my child's wellbeing or that of others, that the MIND India follow appropriate steps and may discuss this with me.	
I allow staff from the University of Leeds (or from other authorities) to inspect my child's records if needed during an audit.	
I understand that my consent form will be stored securely and privately on University of Leeds OneDrive.	
I agree for my child to take part in the above research project and: - will let the research team know if my contact details change, and - allow the team to share the research results with me.	

PRINTED NAME   _____

CHILD'S NAME: _____

PARENT SIGNATURE   _____

DATE   _____

Appendix I4: Adolescent assent form (Study 3)

UNIVERSITY OF LEEDS

	Add initials next to the statements agreed with
I have read and understand the information about the project. I had a chance to ask questions. I agree to take part.	
I understand that the researchers will publish their findings once the project is finished. I understand that my name will not be mentioned when the researchers report the project results.	
If the study team have concerns about my safety or wellbeing then they will follow safeguarding advice. They may discuss it with me if this happens.	
I understand that the project involves taking part in wellbeing sessions at school on Saturday's for 8 weeks, participate in an online focus group at the end of the intervention (June 2022) and fill out forms about my wellbeing online at the beginning and end of the project, and 3 months after the project is over.	

I agree to share my:
 	
  - Class standard
  - Age
  - Gender
  - Religion
  - Ethnic group
  - Phone number
I understand I will be contacted by WhatsApp broadcasts about research activities. Only members of the research team will have the number and they will delete it at the end of the project.	

I understand that sessions I attend will be audio recorded and that my name will not be written when the UK Researcher makes notes on the recordings.	
The information I share will be saved without my name online at the University of Leeds (UK). Only the research team will be able to see this information.	
Workshop recordings will be made and stored at the University of Leeds in the UK. Only the UK researcher will see this.	
I can stop taking part in workshops at any time and I don't have to explain why to the teachers if I don't wish to. I do not have to answer any question if I don't wish to. I know that once I share my ideas they are part of the research and I cannot remove them.	
I understand that my consent form will be stored securely and privately at University of Leeds.	
I allow staff from the University of Leeds (or from other authorities) to inspect my records if needed during an audit.	

PRINTED NAME   _____

SIGNATURE   _____

DATE   _____

Appendix J: Weekly evaluation of both groups

Top two most popular activities per session are in bold.

Session #	Activity	# positive stickers (Gr 1)	# positive stickers (Gr 2)	Combined #	Total # of participants and (answers/max # stickers)
One	**Happiness activity**	**23**	**19**	**42**	36 (158/180)
	3 centering breaths	17	12	29	
	Happiness= circumstances + mind	16	16	32	
	Manoj Singh Video and discussion	16	18	24	
	Shining videos and discussion	**15**	**16**	**31**	
Two	'Mindfulness' and keeping attention in one place practice	16	17	33	32 (146/160)
	Stacking cups game	**23**	**21**	**44**	
	Neuroplasticity video and discussion on the mind	19	12	31	
	Break dancing video and challenge	**16**	**22**	**38**	
Three	**Samurai video and discussion on grasping and resisting**	**27**	**28**	**55**	33 (151/165)
	Spot the difference game	**19**	**20**	**39**	
	45 second practices on not thinking	14	22	36	
	Discussion on mind wandering study	10	11	21	
	Willpower challenge with video	18	18	36	
Four	**Gratitude practice and brainstorm practice**	**21**	**19**	**40**	29 (140/145)
	Video on gratitude and discussion	**23**	**17**	**40**	
	Positive emotions discussion and dot problem solving activity	16	15	31	
	Mindfulness of sound	18	11	29	
	Mindful movement and dancing	9	16	25	
Five	**How the minds' storytelling can influence our life (texting friend)**	**13**	**20**	**33**	22 (132/132)
	Mind as a storyteller (Story about Abhishek)	14	14	28	
	Ink bowl and main practice	6	19	25	

	Blindfold game	**26**	**19**	**45**	
Six	**Superpower practice**	**19**	**15**	**34**	30 (150/150)
	Kindness as a social connector plus video	**18**	**17**	**34**	
	Mindful well-wishing practice	15	14	29	
	Gratitude letter	12	17	29	
	Mindful eating	7	17	24	
Seven	**Bringing warmth to difficulty through mindfulness and self-kindness (lying down)**	**13**	**21**	**34**	25 (125/125)
	Theory: 6 steps to dealing with difficult emotion	11	13	24	
	Rumi poem	6	10	16	
	Opening practice 'What emotion are you feeling?'	9	12	21	
	Capuchin monkey video and discussion on the brain	**13**	**17**	**30**	
Eight	**Mixed mindfulness techniques practice (lying down)**	**15**	**14**	**19**	32 (111/160)
	Motivation video and looking into the future	**16**	**13**	**19**	
	Wisest decision practice	13	14	17	
	What I can influence pie chart and circles of influence/concern	**13**	**26**	**39**	
	Writing mission statement	14	13	17	