

**Results from a School-based Mental Health Intervention for Adolescents in Lower-Income Schools in Urban India: A Longitudinal Mixed Methods Efficacy Study**

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### **Abstract**

Stress, anxiety, and mental health in adolescent children is a global public health problem that needs urgent transformation, especially in the light of the COVID-19 pandemic. This study reports quantitative and qualitative findings from a school-based mental health intervention designed to help adolescent students develop coping skills and resilience. The curriculum was developed based on formative research conducted by an interdisciplinary team with school-going adolescents in India as part of a non-profit initiative. A sample of 320 adolescent students at six schools in lower-economic neighborhoods on the West Coast of India completed pre and post-test surveys, including validated measures for depression, anxiety, and stress. Results of paired samples t-tests comparing differences before and after the program indicated that students' levels of depression, anxiety, and stress significantly decreased after the program. About seven months after post-test measures were collected, the research team also conducted seven interviews, which provided context to the intervention's success. The first author reports findings with an ethnographic approach in joining the project to elucidate the results and identify connections between the efficacy of the implemented intervention and a predominant need for resiliency building in adolescents at large. Results indicate that school-based mental health interventions for adolescents can have long-term benefits for students and can be implemented in a low-cost and sustainable manner when operating with collaborative efforts from school officials, teachers, and students.

*Keywords:* mental health, school-based interventions, applied communication, resilience

The COVID-19 pandemic has illuminated the necessity of strong coping skills and resilience in adolescents. The pandemic caused substantial changes in routines, a lost sense of security, and separation from social connections with peers, putting adolescents at heightened risk for developing mental health-related problems and illness (Centers for Disease Control and Prevention [CDC], 2021b). Consequently, this is an increasingly critical time to determine effective ways to transform how adolescent mental health is discussed and taught in schools to prompt meaningful change and progress. The World Health Organization (WHO) suggests that mental health interventions focusing on building emotional and social skills have been linked to better mental health (2020b). As such, in 2020, the WHO introduced new guidelines for promoting mental wellness in adolescents and suggested that mental health interventions be implemented in school settings (WHO, 2020b). Although prior research has demonstrated the utility of school-based mental health interventions (Kraag et al., 2006; van Loon et al., 2020), challenges for implementation and sustainability are also evident (Carsley et al., 2018).

Unfortunately, mental health in adolescents is often addressed from a reactive approach rather than early identification or prevention (Levitt et al., 2007). Moreover, schools often lack resources and the capability to focus on mental health (Strein & Koehler, 2007). Instead of waiting to address mental illness, a focus on promoting mental health and coping to build resilience in adolescents is needed. Thus, an interdisciplinary team of professionals with a deep understanding of Indian culture and backgrounds in behavioral health, psychology, and energy healing developed a comprehensive school-based mental health intervention called *Energetix*. This paper provides an overview of program development, implementation, and evaluation of the *Energetix* program's effectiveness in reducing stress, depression, and anxiety among students in six schools in Urban India.

### **Mental Health Among Adolescents**

Several physical, emotional, and social changes occur during adolescence, which can cause heightened stress levels (Kashani & Orvaschel, 1990; Waters, 2011). Prior research found that about one in eight adolescents is at risk for developing mental health-related issues (Nair & Elizabeth, 2016). Moreover, about 50% of all mental health disorders develop by 14 years old, although a diagnosis is typically not made until much later in life (Kessler et al., 2007).

Individuals' ability to cope with stress becomes increasingly essential over their lifetime.

According to a survey conducted by Mind Share Partners, an organization that focuses on mental health in organizations found that nearly 75% of Generation-Z employees at various companies (i.e., born between 1997 and 2015) reported leaving their jobs because of a mental health-related issue (Wong, 2019).

Families often shape adolescents' perspectives and values related to mental health (Flood-Grady & Koeing Kellas, 2019). A lack of support from family or little discussion about mental health can have adverse effects on youth's perspectives (WHO, 2020a). Parents often only address mental health with their children if there is a recognized issue (Logan & King, 2001), further emphasizing the need for adolescents to learn coping skills in school. Notably, about 90% of deaths caused by suicide occur in lower-income countries, such as India (WHO, 2020a). A prominent cause of suicide is feeling unable to cope with cumulative stress (Mayo Clinic, 2018), emphasizing the importance of learning about mental health and coping strategies early on (Undheim & Sund, 2017).

### **A Global Crisis of Suicide in Adolescents**

According to the WHO (2020a), "suicide is the third leading cause of death in 15–19-year-olds" (paragraph 1). In the United States, suicide is the second leading cause of death

among adolescents (CDC, 2021a). In 2013, more than 2,400 adolescent suicides were attributed to exam scores (Mukunth, 2014). Additionally, more than 11 million youth in India annually report a mental health-related issue (Gaur & Ram, 2016), which is likely lower than the actual number given the prevalence of stigma and underreporting (Gaiha et al., 2020; Gururaj et al., 2016; Patel et al., 2012). Yet, no robust policy for youth mental health exists (Dhawan et al., 2017; Hossain & Purohit, 2019), and less than 1% of India's budget for 2020 to 2021 is allocated to mental health (Mitra, 2020). Thus, adolescents need the tools to cope in order to persevere through stressful experiences. School-based interventions allow for access to adolescents in lower-income areas that may be more challenging to reach outside of that setting (Pincus & Friedman, 2004).

### **Evidence-base for School-based Interventions**

Prior research demonstrates that school settings are a viable location for mental health-related interventions for numerous reasons, including accessibility to a large number of students and reaching adolescents who may not have access to treatment or such education elsewhere (Greenberg, 2004; Nebhinani et al., 2019; Pincus & Friedman, 2004). Notably, because adolescents spend a substantial amount of time at school, the environment is a critical place to learn and develop coping skills (Waters, 2011). School-based interventions improve students' knowledge about mental health (Rickwood et al., 2004) and provide adolescents with the strategies needed to cope with stress throughout their adult lives (Durlak & Wells, 1997; Owens & Waters, 2020). Such interventions also help students understand how to navigate stress and emotion, often leading to improved academic performance (MacCann et al., 2012). A meta-analysis on school-based interventions found that stress experienced in adolescence is often linked to a heightened risk for developing ongoing mental health issues, making early

intervention particularly salient (van Loon et al., 2020). Though, it is important to note that students may not understand the value of mental health or mindfulness interventions without frequent explication and routine practice (Kostova et al., 2019).

Thus, communication about mental health in school, an environment that allows for such routine, is especially valuable. Given that a lack of understanding of mental health further enables stigmatization (Gururaj et al., 2016; Thornicroft et al., 2007), school-based mental health interventions can help to mitigate negative perceptions of talking about mental health. Weist et al. (2007) previously noted a significant gap between the pervasiveness of mental health problems in adolescents and the accessibility of services or educational resources for adolescents in India. Further exploration of how to address mental health at school in India is warranted and will allow for a deeper understanding of implementation in areas in which mental health is overlooked. Prior research has demonstrated the utility of mindfulness programs for children and adolescents, particularly in terms of improving overall mental health (Saltzman & Goldin, 2008; Tan & Martin, 2013). Practicing mindfulness is a preventative approach that can help individuals build resilience and be better prepared to cope with stress, positively adapting to adversity (Felver et al., 2013; Luthar, 2003). Training adolescents to practice mindfulness is foundational to mitigating the adverse effects of stress and building resilience (Yuan, 2021). As such, mindfulness interventions have led to improved overall well-being in allowing for decreases in stress and anxiety (Hayes & Greco, 2008; Kabat-Zinn et al., 1992; Saltzman & Goldin, 2008).

### **Mindfulness**

Researchers suggest using self-management routines derived from a mindfulness approach to enhance mental health because it provides children with the ability to participate in

their own growth (Semple et al., 2005). Teaching adolescents about mindfulness can help them understand their emotional responses to stressful experiences, improving their self-awareness so that they can cope with stress more effectively (Saunders & Kober, 2020; Thompson & Gauntlett-Gilbert, 2008). Mindfulness within school contexts has been associated with improved academic performance because of the increased awareness of self and emotions (Ritchhart & Perkins, 2000).

### **Intervention Development**

#### **Culturally Grounded Research-based Intervention for Indian School-Going Adolescents**

Indian culture and tradition were essential in developing the program. Guided by prior literature on mental health communication, positive psychology, and mindfulness, the current study examines the school-based intervention's effectiveness in reducing depression, anxiety, and stress in adolescents. The formative work for the needs of school-based children was conducted through ethnographic interviews and a systematic literature review of school-based interventions in the context of urban Indian adolescents. The theoretical framework of the interventions was derived from adolescent mindfulness research and included mindfulness meditation techniques, breathing exercises, and energy therapy techniques that have specific cultural meaning to the members of the populations. The relaxing breathing and energy therapy techniques were adapted from a system of yoga and healing called Pranic Healing (PH) (Moulya et al., 2020). PH techniques are based on the philosophy of yoga and the belief that the human body has an energetic field that physical and energetic exercises can positively influence. The philosophy also emphasized the interconnectedness of mind, body, and spirit, a widely accepted cultural belief in India.

In India, it is common for people with mental health-related issues to be stigmatized as shameful, unsafe, and reckless (Gaiha et al., 2020). Previous literature on Indian culture and its role in adolescent mental health demonstrate that school is a significant source of stress (Deb et al., 2015). Higher levels of stress in adolescents often translate to a decline in overall academic performance and more long-term mental health problems (van Loon et al., 2020). Academic stress that adolescents experience earlier in life can heighten students' risk for developing more long-term issues (Nair & Elizabeth, 2016). Indian parents often express their expectations for their children to excel academically and as a result, adolescents feel pressured to perform at a high level (Morde, 2020). Such pressure is often related to their parents' desire for their child to have a successful career, particularly in India, given the country's high unemployment rate (Deb et al., 2015). The COVID-19 pandemic has led to a significant increase in India's unemployment rate, with over 100 million Indians who lost their job by April 2020 (Inamdar, 2020), adding to the pressure of limited opportunity.

In India, parents also tend to view mental health-related problems and illnesses as a weakness (Gururaj et al., 2016). Adolescents are often only exposed to the stigma that those with mental illnesses are dangerous and unable to function (Gaiha et al., 2020). Contributing to this reliance on stigma, children and adolescents in India typically do not learn about mental health in school. Thus, they typically do not understand what mental health means and may only know about mental illness (Gaiha et al., 2020).

There is an evident need for early intervention that involves educating students on the importance of emotion and stress management (Gaur & Ram, 2016). Previous research on mental health in Indian adolescents has focused heavily on the prevalence of mental health-related problems and the factors contributing to high rates of depression, anxiety, stress, and

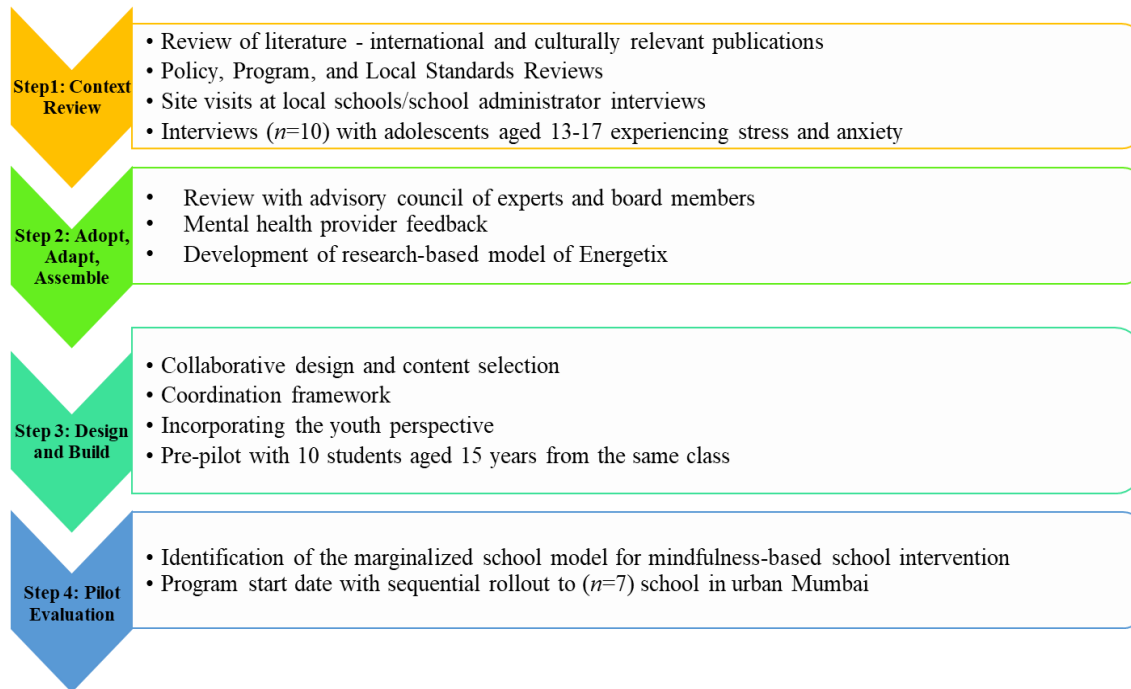


even suicide (Nair & Elizabeth, 2016; Sivagurunathan et al., 2015). Less research has explored how to effectively implement a school-based intervention that empowers students to develop the coping skills needed to manage their mental health.

### **Important Considerations for School-based Mindfulness Interventions**

Given that students are a part of a more extensive school system, teachers' cooperation is essential to the sustainability of school-based interventions (Saltzman & Goldin, 2008). Yet, prior research has identified several challenges to implementing and maintaining school-based programs, such as attitudes and beliefs of the staff and time in their daily routine (Forman et al., 2009). Greenberg (2004) suggests that researchers focus on collaborating with schools to ensure a mutual understanding of how support from all involved parties is key to the intervention's long-term effectiveness. For instance, stress management has been included as part of physical education classes, demonstrating the value of including coping strategies as part of the school curriculum while developing various other skillsets (Lang et al., 2019). Despite some challenges, schools are an especially suitable environment for mental health intervention aimed at addressing stress because they spend a substantial amount of their time there (Hofferth, 2009). School is also the place where youths learn other important skills, such as social skills (Resurreccion et al., 2014). Although, as Rempel (2012) suggests, additional research is needed to further support the inclusion of mindfulness in school curriculums, as concerns exist about having enough time and conflicting views on the necessity.

### **Figure 1. Process for Energetix Intervention Development**



The Energetix program is part of the Adolescent Mental Health project through the Centre for Social and Behavior Change Communication [SBC], a non-profit that develops social and behavior change communication interventions, using evidence-based behavior sciences, to resolve critical issues addressed by the development sector. The intervention aims to empower youth to be mentally healthy and emotionally strong, which helps reduce the suicide rate of the Nation. The Energetix program provides students with a foundational understanding of mental health and emotions needed to develop practical coping skills to manage high-stress levels. Specifically, the intervention applies an integrative approach to educating adolescents about coping with stress and reducing anxiety and depression levels.

The intervention was designed and refined over two years by an interdisciplinary team including individuals with backgrounds in corporate development, stress management, and health communication. The research team applied previous literature on mindfulness and positive psychology to develop an intervention focusing on coping skills, normalizing emotional responses to adverse experiences, and fostering resilience. The program includes various

traditional techniques, such as pranic breathing (Table 2). The primary goal of the intervention was to establish a school-based program with a holistic approach to coping with stress, anxiety, and depression in adolescents. The intervention consists of four modules with both interactive and informative workshops, conducted over 8 or 9 weeks (depending on the group's progression) for a total of seven and a half hours (see Table 1).

The *Energetix* program is grounded in previous research on both mindfulness and positive psychology. When focusing on positive psychology in adolescents, the emphasis is on the skills those students have to adapt to stress (Owens & Waters, 2020). Focusing on positive psychology highlights the importance of enhancing individual strengths and maintaining a positive lifestyle (Park, 2004). A recent meta-analysis on school-based interventions found that a focus on positive psychology allowed for both short-term and long-term effects on depression and psychological well-being (Tejada-Gallardo et al., 2020). The program focuses on the skills that adolescents need to manage emotions and effectively cope with stress in order to reduce their depression, anxiety, and stress. Understanding how positive psychology allows for the maintenance and sustainability of mental health, the *Energetix* team developed a program that incorporated skill building as a preventive approach. Positive psychology focuses on developing personal strengths over time to maintain happiness and how positive emotion can enhance mental health (Seligman, 2003, 2011; Seligman & Csikszentmihalyi, 2000). Moreover, prior research involving positive psychology has found that individuals are better equipped to adapt to stressful situations as a result of focusing on fostering positive emotions (Duckworth et al., 2005; Cohn et al., 2009). Rather than focusing on recovering from a specific stressful event or to address a mental illness, *Energetix* uses positive psychology as a framework for the program,

which aims to help adolescents build an optimistic outlook that allows them to effectively cope with stressors throughout their lives (Park, 2004). Thus, we predict the following:

H1: The Energetix program will decrease levels of depression, anxiety, and stress.

We were also interested in hearing from the teachers and students about their experiences while receiving the intervention and so we posed the following research question:

RQ1: What were the perceptions of those involved in the Energetix program (i.e., teachers, students, and principals)

**Table 1. An Overview of the Energetix Program**

<b>Energetix Modules</b>			
<b>Sessions</b>	<b>Content</b>	<b>Outcomes/ Learning objectives</b>	<b>School practice instructions</b>
<p><b>1<sup>st</sup> Session- Energy Module</b></p> <p>2.5 - 3 hours</p>	<ol style="list-style-type: none"> <li>1. Assessment using DAS-21 and other self-report outcome measures (15-30 minutes)</li> <li>1. Students introspects the important areas of their life (i.e., personal, academic, social, and family life), identify goals in each area of life with the help of a ‘Buddy’s story’</li> <li>2. Knowledge of Bodies energy and how to manage one’s energy levels.</li> <li>3. Pranic Breathing, a powerful breathing technique which helps energize and calm.</li> <li>4. Super Brain Yoga, technique for energizing brain, improving concentration and focus</li> </ol> <p>[Content of point 2 to 4 has been taken from Institute of Inner Studies and World Pranic healing Foundation]</p>	<p>*Awareness of their current life</p> <p>*Learn effective techniques to instantly energize themselves</p> <p>*Enhance their brain’s capacity, clarity, and sharpness.</p>	<p>5 minutes practice daily</p> <p>Point of contact teacher</p> <p>Follow-up calls with the teachers</p> <p>Review DASS21 scores</p>

<p><b>2<sup>nd</sup> Session- Emotion Module</b></p> <p>(1 week after module 1)</p> <p>2 hours</p>	<ol style="list-style-type: none"> <li>1. Students are introduced to concept of emotions and its importance by showing some video clips.</li> <li>2. Identifying, acknowledging various experiences one has faced in day-to-day situations and experiencing “locating and communicating with emotions”, a guided visualization.</li> <li>3. Students are taken through a mindfulness meditation so that they can declutter their mind.</li> </ol>	<p>*Identify and acknowledge their range of emotions and boost their emotional intelligence</p> <p>*Mindfulness practice helps in inner peace and handling stressful situations.</p>	
<p><b>3<sup>rd</sup> Session- Effective communication</b></p> <p>(1 week after module 2)</p> <p>1 hour</p>	<ol style="list-style-type: none"> <li>1. This module makes students aware of how effective communication skills help us to manage our emotional well-being.</li> <li>2. Learning I-Messages, a communication style which helps us have better relationships.</li> </ol>	<p>*Develops psycho-social skills, helps the child communicate better</p> <p>*Cope with daily challenges.</p>	
<p><b>4<sup>th</sup> Session- Revision</b></p> <p>(1 month after module 3)</p> <p>1.5 hour</p>	<p>This module is revision and assessment module. A recap of all the techniques and their practical application is done. An assessment of the practice of the techniques and the effectiveness of the technique in the adolescent’s life is looked at. A self-qualitative reporting by adolescent, the teachers and the parents is undertaken. A one-month time gap is provided from the III module to the IV Module, to observe sustained behavior change.</p>	<p>*Students get to revise and resolve any difficulties in the personal practice of the technique.</p>	

**Intervention Evaluation: Methods**

**Design**

Initially, all students complete a survey measuring baseline levels of depression, anxiety, and stress. Program facilitators follow-up with their main point of contact at each school to share the results of the preliminary surveys before the first module. As part of the pre-test process, all

students complete a life diagram, which prompts students to recognize the significant stressors involved in four areas of their lives, including family, academic, personal, and social (see Appendix A). Students also set goals aligned with those different areas of their lives that they use as a guide during the program. A summary report of students' perceived stress was provided to the school (e.g., teacher or principal) before the first module.

The *Energetix* program teaches many different coping techniques, allowing students to identify what works best for them. Using storytelling techniques, the program facilitators used a character named Buddy to normalize experiences and various coping skills (see Appendix B). Buddy's story was adapted to be relatable to the specific groups of students. As part of mindfulness and overall self-awareness, students were also taught communication skills to strengthen interpersonal relationships. Students are instructed to practice those skills for five minutes daily after being taught various coping and stress management techniques. Support from teachers is vital for such reminders and dedicating time during the school day for students to practice. Students are also advised to practice coping mechanisms at home on a routine basis.

### **Participants**

Participants were 320 adolescent students at six schools in lower-economic neighborhoods on the West Coast of India, including 142 females and 178 males. Students were aged 13 to 17 years old ( $M = 14.57$ ,  $SD = 0.901$ ). The teacher to student ratio within these schools was 40:1. These schools were deliberately chosen as they served the lower socio-economic strata of Mumbai's urban population. These neighborhoods are characterized as having a lack of opportunity for appropriate leisure activities, high rates of substance abuse, and violence. Additionally, these areas typically have improper sanitation, unsafe drinking water, and issues with waste collection. The average GPA was 89.4% (equivalent to 4-point average GPA in

the United States). The program was implemented in six schools with low annual fees in lower-income neighborhoods.

### **Procedures**

Program evaluation involved quantitative and qualitative data, including perspectives from students, teachers, and principals regarding the program's success. Understanding the views and experiences of various stakeholders is essential to determine critical aspects of success. Given that a key goal of the program is to help students build sustainable coping skills, following up weeks later was important. In addition to the quantitative post-test measures, four students, two teachers, and two principals participated in follow-up interviews via Zoom to discuss their experiences during and after the program.

After obtaining consent from school administrators, the program was initially piloted at four different schools with a total of 21 enrolled students. Following the pilot program, the team met to revise necessary aspects of the program before implementing the program at the six schools examined in the present study. After introducing the program to faculty and training students to use new stress reduction and mindfulness techniques, program facilitators worked with teachers to ensure that the techniques were implemented into daily routines at school. Pre-test measures of stress, anxiety, and depression levels were collected through surveys distributed to students via paper and pencil prior to the start of the first session (see Appendix C). Using the same format and survey, post-test measures were collected four weeks after the program's final session to evaluate the program's effectiveness in improving coping skills to help reduce stress, anxiety, and depression levels. The choice of a prospective cohort study design without a control group was influenced by the novelty of the intervention which warranted a pilot trial approach. The first reason was that the intervention, albeit was based on evidence-based principles and

components, was new and being tested for the first time in Indian school-going adolescents. Thus, initial data collection warranted establishing preliminary evidence for the efficacy of the intervention. Following quantitative post-test measures, virtual interviews were held with four students, one teacher, and two administrators. All interviews were video, and audio recorded through Zoom.

### Measures

**Depression, anxiety, and stress.** Students' levels of depression, anxiety, and stress were evaluated using Lovibond and Lovibond's (1995) 21-item Likert type DASS-21 scale, consisting of three subscales for depression and anxiety and stress. Students were asked to indicate how often they experienced various emotional difficulties before and after the program (e.g., "I felt I had nothing to look forward to", "I felt scared without any good reason", "I felt I was using a lot of nervous energy"; 0 = *did not apply to me at all*, 4 = *applies to me most of the time*). The DASS was provided to students were provided with a Hindi version of the scale, which was previously validated with an Indian population (e.g., Singh et al., 2015).

## Results

### Hypothesis One

Paired samples t-tests were utilized to compare pre and post-test measures of stress, anxiety, and depression before and after the intervention. Hypothesis one forwarded that the *Energetix* program would significantly decrease students' levels of stress, anxiety, and depression. The hypothesis was fully supported. Results of a paired-sample t-test of depression demonstrated a significant difference ( $t(319) = 4.25, p < .001$ ). A closer examination of the means indicated that depression levels decreased significantly from pre-test ( $M = 15.83, SD = 7.80$ ) to post-test ( $M = 13.55, SD = 8.63$ ) with a small effect size, Cohen's  $d = 0.237$ . Results of a paired-



sample t-test comparing pre and post-test measures of anxiety also indicated a significant difference ( $t(319) = 7.61, p < .001$ ). More specifically, a closer examination of the means indicated a significant decrease in students' anxiety levels ( $M = 16.54, SD = 7.77$ ) to post-test measures ( $M = 12.46, SD = 8.23$ ) with a medium effect size, Cohen's  $d = 0.425$ . Additionally, results of a paired-samples t-test demonstrate a significant difference in stress levels ( $t(319) = 6.64, p < .001$ ). A closer examination of the means indicated that there was a significant decrease in students' stress levels from pre-test measures ( $M = 19.67, SD = 7.05$ ) to post-test measures ( $M = 16.54, SD = 7.10$ ), with a medium effect size, Cohen's  $d = 0.37$ .

A sample size estimation was done based on very conservative effect sizes (Cohen's  $d = 0.2$ ) for single sample t-tests for pre-post differences. A total sample size of 326 was decided at a priori sample size estimation, which included 20% oversampling for anticipated attrition, to detect small differences ( $d = 0.2$ ) within sample for the DASS outcome measure, with power  $(1 - \beta) = .95$  and level of significance  $\alpha = 0.05$ . The quantitative methodology was supported by qualitative methods which involved obtaining informative interviews with participants of the program, which included students, teachers, and school administrators.

### **Research Question One**

The primary researcher conducted and transcribed all interviews (all names are pseudonyms) (see Table 3). First, in vivo coding was employed, prioritizing participants' voices and their accounts of experiences (Saldana, 2016). Then, secondary cycle coding was utilized to organize and establish connections between initial codes (Saldana, 2016). Throughout the coding process, memos were used to maintain an audit trail of initial interpretations and self-reflexive thoughts. Three themes emerged from conversations with participants about their perspectives of the program, which included (1) the importance of skill-building, (2) student engagement in

intervention activities, (3) and collaboration and involvement. These themes help to contextualize our quantitative findings and further explain the effectiveness of the intervention, specifically, how the *Energetix* program successfully reduced depression, anxiety, and stress among the students in this study over time.

### ***The Importance of Skill Building***

In describing the program's most effective aspects, students talked about utilizing the strategies taught during guided sessions in their everyday lives. Students described practicing coping and mindfulness strategies regularly and noted that it eventually became part of their routine. Diya said, "It has become a habit, like how we eat breakfast every morning. Breakfast is only for my body, but without my brain, I can't work, so pranic breathing is a must in my life." Notably, students and teachers mentioned how the emphasis on skill-building in the program provided them with the tools to practice on their own and the ability to utilize those skills in different instances, including the COVID-19 pandemic. Teachers explained that students had not been taught about mental health previously, making these skills even more important. Ahana, a student, said, "This was the first time we had done these things. We had never done these types of activities."

### ***Student Engagement in Intervention Activities***

In discussing aspects of the program that were particularly effective, students and teachers explained how engaging students in activities was particularly helpful, rather than just focusing on information dissemination. A student named Triveni said:

When you came and started, I felt definitely this is going to be study-related session only, and then you started introducing the program and talking about feelings and emotions giving us the idea, so from then onwards, whenever there is an announcement that next

day Energetix team will come I used to get overly excited to meet you guys, thinking they will teach us something new and interesting again.

Teachers and administrators emphasized the ability of the program to connect with students in a way that made them excited to learn more. A teacher, Khushi said,

The most convincing part was the Energetix workshops that they did. I always sit with the children during sessions, and they were excellent at connecting with them. Seeing the team coming back, my children's faces lit up, something new with Energetix we are going to learn.

### ***The Importance of Collaboration and Involvement***

Given their role in the implementation and sustainability of the program, teachers participated in a focus group following the end of the program. Teachers emphasized the benefit of the Energetix program in being able to reach marginalized student populations who likely have never learned about mental health or had ever been introduced to the activities involved in each module. Khushi said:

Children were coming from very poor homes, with almost no support at all at home. But our administration was not ready to keep a counsellor they said no, the cost is too high and so I was looking for something.

A principal noted how the focus was not on prevention, but survival. Ahana said, "they are just barely surviving." Another principal explained that time is often a barrier to implementing this type of program. Khushi said:

There was so much hesitation from the teachers, they were not ready to accept the idea.

They would ask along with parents and students, is it required? Why do we have to do

this? The teachers used to tell me, ‘Mam, this is something that will not make any difference, it is just a waste of our time when we can put in more time to study.’

In reflection of their experiences implementing the program, teachers explained how mutually beneficial for themselves. Ahana said:

Not even just students, I tried doing it daily with them because I am so frustrated nowadays with the standards. So, there were things that even I started to apply in my own life. I tried those activities and it helped me a lot. It has really made my stress level less. And I am doing these things regularly now.

Hema also noted, “Not only for the students, even as a teacher I have also experienced the same, after doing the techniques I used to feel very light, like all my stress was released. We used to make the students practice the techniques during prayers (i.e., Morning Assembly).

### **Discussion**

The current study assessed the efficacy of the *Energetix* program in reducing adolescent students' levels of depression, anxiety, and stress. The results of our study demonstrated that the *Energetix* program successfully reduced those mental health-related problems. Our results support the importance of focusing on addressing stress in adolescents to minimize the risk of developing mental illness (WHO, 2020b), as pre-test measures demonstrated high levels of stress. In addition to improving mental health in adolescents who participated in the program, the current study demonstrated the value of skill-building to enhance coping long-term. The qualitative findings of the current study provide context and reasoning for the success of the *Energetix* intervention. Prior research found that the sustainability of programs is a common concern with school-based interventions (Greenberg, 2004), mainly because addressing psychological aspects of students' well-being typically involves addressing immediate concerns

(Paulus et al., 2016). The *Energetix* program focused on adapting mindfulness practices and empowering students to cultivate their own ways of coping with adversity with the skills built in the modules. Nearly seven months later, students discussed their continuous practice and development of coping skills they learned through the *Energetix* program, highlighting the sustainability of this intervention.

Post-intervention discussions with teachers demonstrated that communication about the program was essential to gaining access, effectively collaborating with teachers, and promoting sustainability. Students and teachers were uncertain about the program initially, in fact, the *Energetix* team received several rejections before connecting with the six schools included in this study. Our findings suggest that the explanation of the program and the value of skill-building, mindfulness, and positive psychology in normalizing mental health in schools was critical to adaption. This finding aligns with previous research that found work together with teachers to implement school-based mental health interventions makes implementation more effective (Galgali & Brooks, 2020).

As prior research suggests, although some teachers view mental health as a school's responsibility, many do not feel as though they have been trained adequately to teach the topic to their students (Reinke et al., 2011). In fact, a previous study found that teachers who did feel efficacious about promoting mental health in school emphasized the value in curriculum and resources to help them develop the knowledge needed to teach students (Askill-Williams et al., 2012). Similarly, our discussions with teachers and principals aligned with this prior research, revealing that initial hesitation from faculty was related to feeling incapable of teaching mental health. This finding was also apparent in a study on college instructors' views of their role in talking to students about mental health in and outside of the classroom, which found that

professors felt unqualified to discuss mental health (White & LaBelle, 2019). Generally, the present study provides insight into the effectiveness of discussing the value of a program in which teachers educate students on the importance of mental health and resilience while teaching them how to develop effective coping skills.

### **Implications**

The present study offers several practical implications. Rapport building with faculty early on was essential, especially in effectively communicating the importance of skill-building related to mental health. In addition to demonstrating the importance of communication in gaining support from faculty, the current study emphasizes the significance of how mental health information is disseminated to students. As demonstrated in this study, utilizing a variety of activities and introducing techniques to choose from and practice on their own was effective in engaging students in the program. Although the present study looked specifically at Indian adolescents, the *Energetix* program is applicable to schools in the U.S., given its general focus on building coping skills and empowering students to strengthen their self-awareness.

This study was conducted at an opportune time as the COVID-19 pandemic has demonstrated the importance of mental health in adolescents (CDC, 2021b) and the need to focus on this aspect of student wellbeing more closely. Building coping skills and fostering resilience is increasingly crucial as suicide remains a prominent public health issue in adolescents (CDC, 2021a) and will remain a vital focus well beyond the pandemic (Yuan, 2021). Principals and teachers can utilize our research findings to effectively introduce the intervention to those who may be less knowledgeable or even hesitant of such mental health programs. In future intervention development or modification, program facilitators should consider the value in skill-

building for adolescents and how the focus on positive discussions surrounding mental health contribute to stronger self-awareness as outlined by previous literature.

### **Limitations and Future Directions**

The results of the current study should be considered in conjunction with the following limitations. Given that qualitative data were collected during the COVID-19 pandemic and technology is limited in the areas of India where our participants were residing, our interviews were limited. Further, including a control group, which would have strengthened the cause-effect relationship between pre and post-test measures. The program was only implemented at schools considered low-income strata. The inclusion of various school types would have been helpful in understanding the applicability of this program in broader contexts. Future research should look at the program's relevance and sustainability across different school environments in suburban, rural, and urban settings. Moving forward, researchers should also look at the role of parents as part of the program to determine how their interaction with students influences whether and how often students practice coping skills and mindfulness at home.

### **Conclusion**

The current study demonstrated the efficacy of the *Energetix* program, which focuses on empowering adolescents to learn coping skills and build resilience. As a result of the COVID-19 pandemic, adolescents' mental health has been highlighted as a major concern for adolescents (Octavius et al., 2020), revealing an immediate need to focus on implementing interventions such as *Energetix* in schools. Given that there is a high likelihood of long-term mental health effects of the COVID-19 pandemic (Estes & Thompson, 2020; Yuan, 2021), it is more important now than ever to identify effective ways to support and equip students with necessary coping skills. Moreover, the present study highlighted the notion that mental health should not only be a central

focus during or immediately following a crisis such as a pandemic. Instead, school interventions should also work to normalize mental health education and coping skill-building moving forward. The intensity of adverse mental health effects caused by the pandemic has accentuated the consequences of not focusing on mental health well before the crisis (Mitra, 2020). Students' coping skills are particularly important for teachers and policymakers to consider when seeking to improve performance and resilience, as student success is positively related to their ability to cope with adversity (MacCann et al., 2012).



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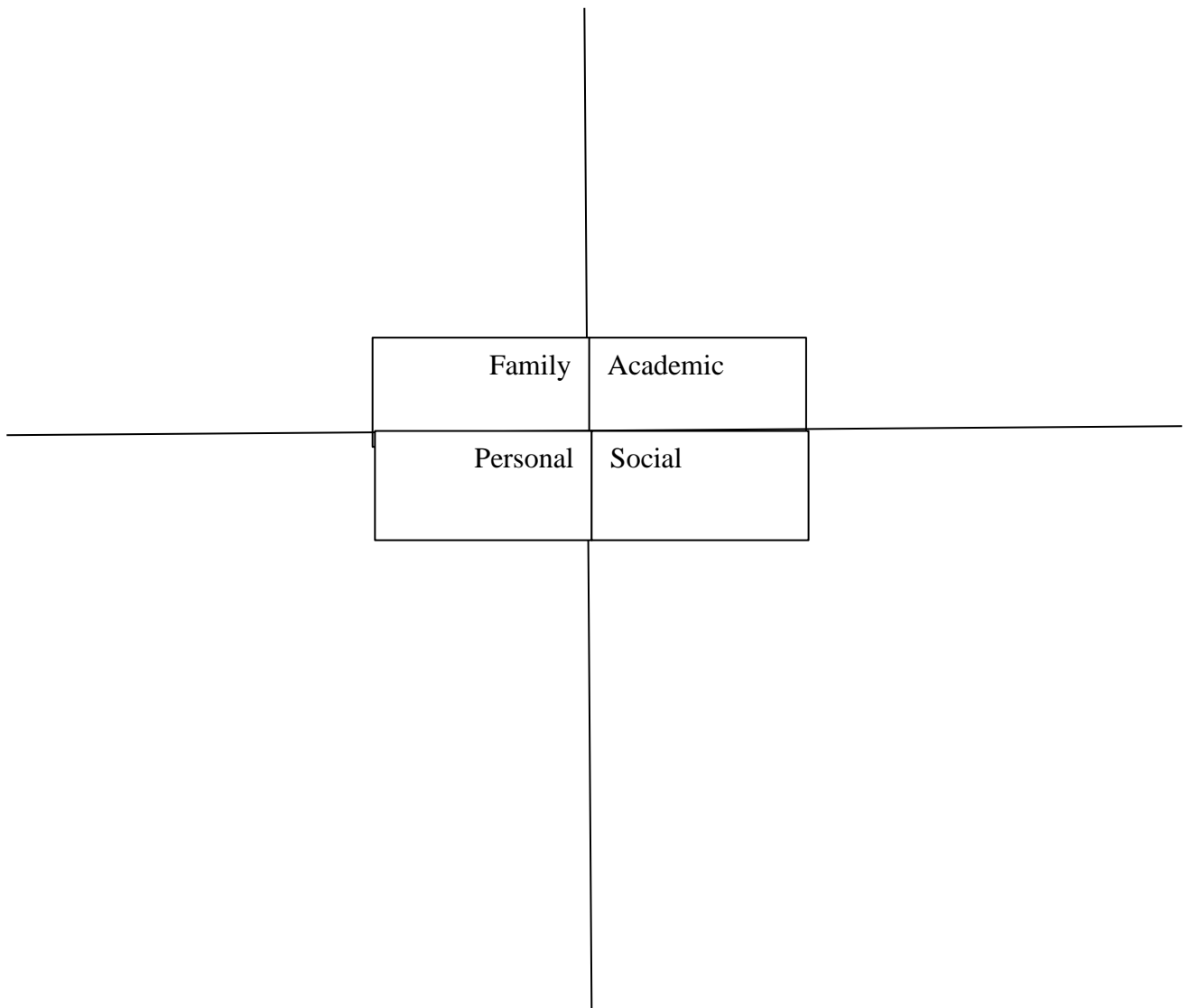
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**Appendix A**

**My Life Diagram**

**Directions:** Identify specific goals for improving the following areas of your life. What specifically causes you to feel depressed, anxious or stressed?



## **Appendix B**

### **The Buddy Story Model**

As part of a student-centered approach, we use visualization, storytelling and focus on engaging students with materials, and active participation in the class.

The Energetix module begins with students introspecting the important areas of their life (i.e., personal, academic, social, and family life) and identifies goals in each area of life with the help of a 'Buddy's story'.

Buddy's character has been developed in such a way so that the students can relate to him. He is an adolescent studying in 9th or 10th std based on the class where the session is being conducted. Buddy's story is also being used as a prelude to the life diagram. Trainer narrates the buddy's story with the help of an animated slideshow, which has four major segments such as Personal life, Academic life, Social life and Family life. Each segment talks about certain components of buddy's life, Personal life covers dating, body image issues, self-esteem etc. Academic life focuses on the pressure of getting good marks, stream choice, performance in class, tuitions, concentration issues. Social life talks about maintaining a friendship, bullying/teasing, social media pressure, peer pressure. Fights between siblings, strict parents, loneliness, quarrel/tension among parents, wanting freedom and to be treated as equal are discussed in family life.

The story is narrated to students, considering both positive and negative aspects of life. There are certain segments where things are going well and buddy is very happy about it, but in certain segments, in which things are not going the way Buddy wants it to be, we demonstrate those challenges. While creating their life diagram, students are encouraged to look through both perspectives, what are the things which they feel are going on track and they are happy or satisfied about and what are some experiences that bother them (e.g., cause them to feel upset, anxious, sad).

Buddy is brought again in the second session to talk about the different emotions he goes through in his life. A day in the life of Buddy is narrated, where he is happy for getting his favorite breakfast and then he gets upset when the teacher scolds him in front of the class. He feels different emotions related to diverse experiences.

Buddy's Story helps the students become aware of their current life situations and how they feel about different aspects of their life as well as determining what they would like to change. They then identify coping skills to practice as part of that self-awareness.

**Appendix C**

Please read each statement and indicate how much the statement applied to you over the past week.

Did not apply to me at all	Applied to me to some degree, or some of the time	Applied to me to a considerable degree or a good part of the time	Applied to me very much or most of the time
0	1	2	3

1. I found it hard to wind down.
2. I was aware of dryness of my mouth.
3. I couldn't seem to experience any positive feeling at all.
4. I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion).
5. I found it difficult to work up the initiative to do things.
6. I tended to over-react to situations.
7. I experienced trembling (e.g., in the hands).
8. I felt that I was using a lot of nervous energy.
9. I was worried about situations in which I might panic and make a fool of myself.
10. I felt that I had nothing to look forward to.
11. I found myself getting agitated.
12. I found it difficult to relax.
13. I felt down-hearted and blue.
14. I was tolerant of anything that kept me from getting on with that I was doing.
15. I felt I was close to panic.
16. I was unable to become enthusiastic about anything.
17. I felt I wasn't worth much as a person.
18. I felt rather touchy.
19. I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat).
20. I felt scared without any good reason.
21. I felt that life was meaningless.

## Appendix D

### Interview Guide

#### Students

1. Tell me about your experience with the Energetix program.
  - a. How would you describe the program?
2. How was Energetix introduced to you?
3. What are some things that make you feel stressed?
  - a. How does the Energetix program help you with stress?
4. What are some things that make you feel sad?
  - a. How does the Energetix program help you with your sadness?
5. What is your favorite part of the Energetix program?

#### Teachers/Principals

1. Can you please tell me about your experience as a teacher at your current school?
2. What were your perspectives of student mental health prior to the implementation of the Energetix program?
  - a. How did those perspectives change following the program?
3. How do you introduce the program to students?
4. How would you describe your role in implementing the Energetix intervention in your classroom?
5. What are some barriers to implementing the program with students?
  - a. What factors might affect your ability to implement the program in your classroom?
  - b. What factors might affect students' ability to continue the program at home?