

THE EFFECTIVENESS OF MULTIPLE MINDFULNESS ACTIVITIES FOR GENERATION Z UNIVERSITY STUDENTS IN THAILAND*

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Received 23 February 2026; Revised 21 May 2026; Accepted 23 May 2026

Abstract

This research article aims to (1) reduce excessive mobile phone use among Generation Z university students through multi-modal mindfulness activities; (2) enhance emotional well-being and ease negative feelings by combining progressive seated meditation (5 to 30 minutes) with experiential mindfulness activities — the Japanese tea ceremony, mindful drinking, art therapy, and Kintsugi restoration; and (3) build practical time management skills and self-esteem through achievable short-term goal setting. A quasi-experimental one-group pretest–posttest design was used; data were collected from 16 Generation Z university students in Thailand and analyzed with paired-samples t-tests.

The research results found that:

(1) Daily mobile phone use fell by an average of 2.72 hours per day — a 43.1% drop from baseline ($t = 8.882$, $p < .05$).

(2) Psychological state and emotional well-being improved by 54.5% ($t = -5.797$, $p < .05$); CBT-related coping skills showed the largest gain, rising 74.4% ($t = -6.549$, $p < .05$).

Citation:



* Fumihiko Matsumoto. (2026). The Effectiveness Of Multiple Mindfulness Activities For Generation Z University Students In Thailand. *Journal of Interdisciplinary Social Development*, 4(4), 330-356.;

DOI: <https://doi.org/10.>

Website: <https://so12.tci-thaijo.org/index.php/JISDIADP/>

(3) Time management improved by 53.2% ($t = -8.125$, $p < .05$), and participants rated the mindfulness skills as highly transferable to other academic contexts ($M = 88.12\%$).

Keywords: Mindfulness, Gen-Z, University students, mobile phone usage, well-being.

Introduction

Generation Z (Gen-Z) is defined as the young adults who were born between 1997 and 2012, and as those who grew up with smartphones, social media, and constant connectivity as normal life condition (Twenge, 2017). While technological advancement has provided easy and convenient connectivity, it has also contributed to elevated anxiety, depression, and psychological distress (Twenge et al., 2018). Many reports show inadequacy from constant exposure to addictive social media app by design such as YouTube, Facebook and Instagram and others to maximize engagement contributes to feelings of independency. Addictive here refers to those who use more than six hours per day except for study or work purposes. This tendency created inferiority complexes and lower self-esteem by comparing the best pictures that others uploaded with one's normality in life (Vogel et al., 2014; Przybylski et al., 2013).

Mindfulness-based activities have proved efficacy in reducing anxiety, depression, and stress while improving emotional intelligence and well-being (Kabat-Zinn, 2003; Brown & Ryan, 2003; Hofmann et al., 2010). However, traditional mindfulness programs rely predominantly on seated meditation, which Gen-Z students often find boring and uncomfortable. Students accustomed to the constant stimulation of games and social media often struggle to calm down their minds, close their eyes, and observe experiences as they are. This study presents a multi-modal mindfulness program specifically designed for Gen-Z students, integrating traditional meditation with Japanese

tea ceremony, art therapy, nature immersion, Kintsugi activity, and CBT-based time management strategies. This approach positions students as active protagonists in their learning journey rather than passive recipients of instruction. The present study adopts a specific understanding of mindfulness that departs from conventional single-mode approaches. The “multi-modal mindfulness” is defined as a structured pedagogical approach that integrates traditional seated meditation with diverse experiential modalities. The theoretical rationale for this approach draws on Self-Determination Theory (Deci & Ryan, 2000), which posits that intrinsic motivation and sustained engagement are supported when activities satisfy the basic psychological needs for autonomy, competence, and relatedness. Conventional single-mode meditation programs often fail to fulfill these needs for Gen-Z learners, most of whom are not accustomed to patience, focus, concentration engagement for 60 to 90 minutes. By offering a varied repertoire of contemplative practices, the Mindful Living program is designed to lower the entry barriers to mindfulness and to sustain motivation across the 15-week duration. Furthermore, the researcher, who serves as a professional ethics instructor; he teaches classes of 30 to 90 students. Since the course is mandatory class to take only two classes per semester, the teacher is dealing with 1,600 students each semester, who directly witnessed these challenges. Despite employing interactive lecture styles, more than 30% of students consistently displayed disengagement. Many Gen-Z students are using social applications and games during class. Also, as far as I survey from students by asking what their devices says in time-usage, more than 60% of Gen-Z students use their time on mobile phone except for study purpose, for 6 hours or more per day. These firsthand observations give the teacher impetus to develop this course and to investigate the multi-modal mindfulness skills could transfer to other academic contexts, including ethics courses and students’ major disciplines—making cross-subject applicability a core concern of this research as well as the main objectives as mentioned below.

Objectives

1. To reduce excessive usage of mobile phone among Gen-Z university students via multiple-mindfulness activities.
2. To enhance emotional well-being and reduce negative feelings through multiple mindfulness activities combined with seated meditation (from 5 to 30 minutes over 15 weeks).
3. To develop practical time management skills and improve self-esteem/confidence by setting short-term goals that they can achieve without much stress and that they can feel sense of accomplishments repeatedly.

Literature Review

Generation Z Mental Health Challenges

Gen-Z university students represent a particularly vulnerable population in terms of mental health, facing disproportionately high rates of psychological distress compared to previous generations (Lipson et al., 2019). The use of smartphones and social media has fundamentally altered behavioral patterns, attention span, and learning capacity among young adults (Twenge, 2017). For example, lack of attention, increased task-switching in relatively short time, reduced deep reading capacity and so forth. Empirical research has consistently documented links between heavy social media engagement and adverse psychological outcomes, including heightened anxiety, depressive symptoms, and social isolation (Hunt et al., 2018; Twenge et al., 2018). The constant exposure to idealized personas creates unrealistic social comparisons, contributing to diminished self-esteem, a lack of confidence in students' body among Gen-Z students (Vogel et al., 2014; Przybylski et al., 2013). Research suggests that the average young adult checks their smartphone approximately 96 times daily, creating patterns of digital dependency or addiction that

negatively impacts academic performance, quality of sleep, social communication skills (Ward et al., 2017).

Mindfulness-Based Interventions for University Students

Mindfulness-based interventions have demonstrated significant efficacy in reducing stress, anxiety, and depression while improving psychological well-being among university students (Hofmann et al., 2010; Khoury et al., 2013). A comprehensive meta-analysis by Khoury et al. (2015) found that mindfulness-based therapy is especially effective to reduce anxiety, depression, and stress. Recent systematic reviews examining mindfulness interventions in university populations consistently report improvements in mental health outcomes, academic performance (Bamber & Schneider, 2016; Dawson et al., 2020).

However, traditional mindfulness programs relied exclusively on seated meditation. It faced challenges with Gen-Z students, who often found lengthy silent meditation sessions boring, uncomfortable, incompatible or ineffective. They are more interested in interactive experiences (Flett et al., 2019). This has prompted researchers to explore multi-modal approaches that maintain mindfulness principles while incorporating activities more aligned with young adults' learning styles and the quality of their daily life.

Multi-Modal Mindfulness Approaches

Emerging research supports integrating multiple mindfulness practices alongside traditional seated meditation. Art-based mindfulness interventions have shown promise in helping students externalize emotions, reduce stress, and develop self-awareness through creative expression (Monti et al., 2006; Coholic et al., 2012). Arts-based mindfulness programs effectively improved self-concept and resilience among vulnerable youth, suggesting creative proactive mindfulness can make students more engaging in class and they do not need to suffer from the pain from sitting for a long time, but start enjoying drawing without overthinking.

Nature-based mindfulness practices have gained substantial empirical support. Nature-based mindfulness demonstrated that natural environments enhance the psychological benefits of mindfulness practice (Howell et al., 2011; Lymeus et al., 2018). Research suggests that combining mindfulness with nature exposure produces synergistic effects, reducing stress more effectively than either intervention alone (Choe et al., 2020). Cultural mindfulness practices, including Japanese traditions such as Maccha tea ceremony and Kintsugi, provide structured contemplative experiences emphasizing aesthetic appreciation, present-moment awareness, and acceptance of imperfection. Kintsugi serves as a powerful metaphor for post-traumatic growth and finding beauty in imperfection (Tedeschi & Calhoun, 2004). The Kintsugi mindful activity allows students to embrace their imperfection and let them know that they can still fix the wounded heart if they have. Lastly, those fixed wounded souls and hearts can be even more beautiful than before by showing that Kintsugi does not hide the potters' or cups' cracks. Instead, it can be charming points by amending with lacquer and gold powder.

Integration of Mindfulness with Cognitive Behavioral Therapy

The integration of mindfulness with Cognitive Behavioral Therapy (CBT) has produced significantly productive therapeutic approaches, most notably Mindfulness-Based Cognitive Therapy (MBCT) (Segal et al., 2018; Hayes et al., 2011). Meta-analyses demonstrate that these combined approaches are particularly effective to prevent depression relapse and treating anxiety disorders (Piet & Hougaard, 2011; Hofmann & Gómez, 2017).

For university students struggling with time management and procrastination—common challenges exacerbated by smartphone use, CBT-based strategy offers practical, skills-focused interventions (Rozental et al., 2018). Research shows that structured self-monitoring, goal-setting, and behavioral activation techniques significantly improve time management skills

and reduce procrastination-behaviors among students (van Eerde & Klingsieck, 2018). When combined with mindfulness awareness, CBT techniques enable students to recognize automatic behavioral patterns, identify cognitive distortions, and make intentional choices aligned with their values and goals (Gu et al., 2015). The metacognitive awareness cultivated through mindfulness enhances CBT effectiveness by helping individuals notice students' urges without automatically acting on them—a crucial skill for managing smartphone addiction (Querstret & Cropley, 2013).

The literature strongly supports multiple mindfulness activities for university students, particularly when combined with CBT techniques and adapted them to Gen-Z preferences. While individual components such as sitting meditation, art therapy, nature immersion, and CBT strategies, have showcased efficacy independently, research examining comprehensive programs integrating all these elements remains limited. The current study addresses this gap by implementing and evaluating a holistic 15-week mindfulness program specifically designed for Gen-Z university students in Thailand, incorporating several evidence-based mindfulness practices to maximize students' engagement in activities and to bear fruit of effectiveness of mindfulness to apply to their daily life and academic life. Critically, prior mindfulness programs for university students have encountered several documented shortcomings that inform the design of the present study. Short-duration interventions of four to eight weeks have consistently demonstrated limited sustainability of behavioral change (Dawson et al., 2020), while single-modality programs relying exclusively on seated meditation have reported high attrition among Gen-Z cohorts due to discomfort and perceived irrelevance (Flett et al., 2019). Programs that lacked a structured skill-transfer component also failed to produce measurable improvements in academic performance beyond self-reported well-being (Bamber & Schneider, 2016). These limitations directly informed the selection of a 15-week duration in the present study, intended to

allow sufficient time for both the consolidation of mindfulness habits and the progressive development of CBT-based self-regulation skills. The inclusion of culturally grounded and arts-based activities was similarly motivated by evidence that embodied and creative practices increase engagement and reduce resistance among digitally saturated youth populations (Coholic et al., 2012).

Methodology

Population and sample

The target population was Generation Z undergraduate students enrolled in the researcher's mandatory ethics course at a university in Thailand. From this population, a purposive sample of 16 students took part in the 15-week Mindful Living program. Because the sample is small ($N = 16$) and no randomized control group was available, the present work is best read as a pilot study — one intended to establish proof of concept, generate preliminary effect-size estimates, and inform the design of larger trials. Participation was voluntary, and students were briefed on the study's purpose and procedures before enrolment.

Research instruments

All outcomes were captured through researcher-developed self-report rating scales on a 1–100 continuum. (1) Daily mobile phone use was reported in hours per day, excluding time spent on study or work. (2) Time management was rated by each participant on perceived planning effectiveness and follow-through. (3) CBT skills were assessed through a structured self-evaluation covering scheduling, behavioral activation, and the cognitive-reflection tasks completed during the program. (4) Psychological state and well-being were rated on a composite scale whose items were adapted from established frameworks of emotional stability, life satisfaction, and stress reactivity (Diener

et al., 1985; Tennant et al., 2007). (5) At the end of the program, participants also rated, on a 0–100% scale, the extent to which they perceived the mindfulness skills as transferable to other academic contexts. These short scales were chosen to keep response burden low while remaining sensitive to within-person change across the 15 weeks. Future replications would benefit from including externally validated instruments — for example, the Five Facet Mindfulness Questionnaire (FFMQ), the GAD-7, or the Warwick-Edinburgh Mental Well-Being Scale — to strengthen comparability across studies.

Data collection

The study used a one-group pretest–posttest design. Pretest data were collected during the first week of the program, before any intervention activities began, and posttest data were collected at the end of Week 15. Throughout the 15 weeks, participants also submitted daily reflections, CBT-based time-management worksheets (initially in 30-minute and later in 15-minute brackets), and brief video presentations via the Microsoft Teams assignment platform, to which the instructor returned individualized written feedback by the following morning. Because the design lacks a randomized control group, the gains reported below cannot be attributed solely to the intervention: the natural progression of an academic semester and the Hawthorne effect — participants behaving differently because they know they are being observed — remain plausible contributors.

Data analysis

Pretest and posttest scores for daily mobile phone use, time management, CBT skills, and psychological state and well-being were compared with paired-samples t-tests; the alpha level was set at .05. For each outcome, means, standard deviations, and percentage change from baseline are reported, and the change in standard deviation from pretest to posttest was inspected as an informal indicator of convergence among participants. To probe the relationship between gains in CBT skills and reductions in mobile phone use, a

Pearson correlation was computed. Ratings of the perceived applicability of the mindfulness skills to other academic contexts are summarized with means, medians, and standard deviations.

Intervention: the Mindful Living program

The Mindful Living program is a 15-week course designed for Generation Z university students. It brings together three components: progressive seated meditation that lengthens from 5 to 30 minutes over the semester; CBT-based time-management exercises in which students plan and reflect on their daily schedules using 30-minute and, later, 15-minute time-bracket worksheets; and experiential, culturally grounded activities — the Japanese tea ceremony (framed by the concept of *Ichigo Ichie*), *Kintsugi* restoration, mindful drinking in nature, and art therapy. The 15 weeks unfold across three phases — Healing (Weeks 1–6), Transforming (Weeks 7–12), and Expressing the Positive Change (Weeks 13–15) — with two 90-minute classes per week. The week-by-week curriculum follows.

Progressive Duration: Meditation sessions began with 5 minutes and increased by 5-minute increments, culminating in 30-minute sessions by week 13, 14 and 15.

Practical CBT-based time management exercises complemented meditation practices to improve their virtues such as patience and resilience to achieve their goals, which resulted in boosting self-esteem/confidence.

Cultural Enrichment: Japanese mindfulness practices added aesthetic and philosophical depth. For tea ceremony, students learned Japanese concept of *Ichigo Ichie*, usually translated as “one time one meeting” or “once in a lifetime encounter,” which emphasize the importance of being present moment with the person that you are encountering here and now. For *Kintsugi*, which originally means to mend broken potteries and cups with lacquer and gold powder, students learned that even if their heart was broken into pieces, they

can still fix it, and it could be even more beautiful than before if they look it backwards after they fixed the damages and overcame difficulties in life.

The program of 15 week of Mindful Living and its detailed activities is separated into three parts as follows: Every week has two 90-minute classes.

Week 1 (Healing Period; from week 1 to week6)

5-minute meditation. Introduction of mindfulness. Explain what mindfulness is and what kind of benefits mindfulness can provide students' actual life. Students will see some video clips which are explained by professionals and long-time mindfulness practitioners. The teacher instructs students to save 3 THB for yourself and 1 baht for others or other animals five days a week. Towards the end of the class, we will save 225 THB for themselves and 75 THB for others in 15 weeks. This is the practice for achieving easy goals and succeed a consistent task, which can elevate their self-esteem and restore their confidence by achieving the goal repeatedly.

Week 2

20-minute body scan. Feel the sensation of your entire body and experience the deep relaxation. Students write reflection paper of the class towards the end.

Week 3

10-minute meditation. The teacher explains the concept of “Ichigo Ichie” and students experience participating in Japanese Tea Ceremony and make Maccha to the other and vice versa as mindfulness activity.

Week 4

15-minute meditation. Mindful Drawing (art therapy); drawing students' feeling and discover the unconscious part of themselves. Usually, they started to draw their dreams and hopes or their wounded hearts and traumas or both.

Week 5

Mindful Drinking. Drinking a cup of tea or coffee alone in the garden at the university. Students are separated from one another and they are not allowed to use mobile phone or talk during the mindfulness. Teacher encourages students to become their best friend and to be happy by being alone without feeling fear or anxiety.

Week 6

15-minutes meditation. Kintsugi. activity was provided. Students fix the broken potteries or cups with special glue and gold powder. The concept of Kintsugi was explained again. and students experienced Kintsugi restoration as mindfulness activity.

Week 7 (Transforming Period from week7 to week12)

(Hard week). 15-minute meditation. Students need to submit their time schedule and their reflection every evening from Monday to Friday except for weekend via MS TEAMS assignment section. Students will receive the teacher's feedback every day by the next morning.

Students will plan and reflect their daily schedule by every 30-minute brackets and their evaluation of the day including their feeling. Being mindful of their time by using CBT sheet, it expected that students would realize how much time they had been wasting. Gradually, students started to realize which activity they really want to do in their free time instead of browsing internet or using social app with no serious intention or necessity.

Week 8

(Hard week). 15-minute meditation. Students need to submit again their time schedule every evening from Monday to Friday before going to bed. We also created students' presentation time to share the improvement or mistake of their time management in the class. Students receive the teacher's feedback every day by the next morning via MS TEAMS assignment section.

Week 9.1

15-minute meditation. No class due to the requests from students. But students must instead submit the assignment to the teacher via MS TEAMS. The assignment was sending 2 minutes video clip by showing their schedule paper including meditation practice. The main purpose of making a short video and let students present their own activity in the video clip instead of submitting the pictures of CBT sheet is to create "Can DO" mindset in their brain by digesting their reflection and articulating it with confidence.

Week 9.2

20-minute meditation. Students will present their scheduling and their comment. Students will explain the difference between their initial plan and their actual behavior and their analysis and reflection about the difference. This activity encourages students to act more closer to their initial plan. Some students indicate their changes in behavior patterns.

Week 10

20-minute meditation. Teacher will guide students to fill the CBT schedule sheet for next week by every 15 min bracket after the meditation practice.

Week 11

(Hard week) 25-minute meditation. Students need to submit their excel file from Monday to Friday. The deadline is the midnight of each day. Students will receive the teacher's feedback every day by the next morning.

Teacher asks students about their time management in CBT sheet especially in their reflection part to see if they have improved students' self-esteem and if they have become calmer and if they experienced happy life each day. Teacher started to notice many students' behavior changes around this time. Students show improvement in time management, i.e., the gap between initial plan and actual behavior becomes small or some performed exactly the same as they planned. Students also show their consistency to meditate from 5 to 15 minutes each evening or night.

Week 12

(Hard week) 2-minute meditation. Students need to submit their minimum 2 minutes video clip talking about their time management by looking their excel file whose time bracket is 15minutes. The deadline is the midnight of each day. Students will receive the teacher's feedback every day by the next morning.

Students experience Kintsugi for the second time. Again, we also learn the philosophy of Kintsugi to help students establish a coping mechanism when dealing with difficulties in real life.

Week13 (Expressing the Positive Change Period from week13 to week15)

30-minutes body scan (once in Week13) and 30-minutes meditation (once in Week 13). Students present Individual reflection including all the previous activities materials. It is the individual capstone-project-portfolio. Students submit their portfolio to the teacher.

Week 14

30-minute meditation. Students discuss their previous activities that they experienced together and they will present, as a group project, share their reflections about various mindfulness activities. Students and the teacher will decide to donate to unfortunate people or animals from the money they have

saved every day from Monday to Friday. This activity encourages students to realize how much they had been consistent and making progress during this course. Some say that they are happy to save money for themselves and to be able to donate money to unfortunate people or animals.

Week 15

30-minute meditation. After the last 30 minutes seated meditation, students share the final individual presentation. Every student is expected to say positive self-affirmation sentences in their final class; their self-improvement and self-confidence in achieving things they plan and the fact that they can do sitting meditation for 30-minute. Lastly, the teacher encourages students to continue and maintain healthier lifestyle for body and mind by doing mindfulness as they acknowledged its efficacy and by doing CBT planning and reflections.

Results

The results of the study are presented to examine the effectiveness of the Mindful Living program among Generation Z university students. Data were analyzed to compare pretest and posttest scores across the targeted outcomes, including daily mobile phone usage, time management, Cognitive Behavioral Therapy (CBT) skills, and psychological well-being. Paired-samples *t*-tests were conducted to determine the significance of changes after the 15-week intervention. The detailed results are presented in the following tables.

Table 1 Comparison of Phone Usage and Time Management Scores Before and After Participation in the Activities.

Participant	Phone Usage (hrs/day)				Time Management (1-100)			
	Pre	Post	Δ	% Change	Pre	Post	Δ	% Change
1	3.5	1.5	2.0	-57.1%	40.00	82.00	42.00	105.0%
2	7.5	3.5	4.0	-53.3%	40.00	70.00	30.00	75.0%
3	5.5	2.5	3.0	-54.5%	40.00	90.00	50.00	125.0%
4	8.5	5.0	3.5	-41.2%	25.00	78.00	53.00	212.0%
5	7.5	6.5	1.0	-13.3%	47.00	77.50	30.50	64.9%
6	6.0	4.0	2.0	-33.3%	60.00	80.00	20.00	33.3%
7	9.0	5.0	4.0	-44.4%	45.00	72.00	27.00	60.0%
8	6.5	2.5	4.0	-61.5%	40.00	75.00	35.00	87.5%
9	5.0	4.5	0.5	-10.0%	70.00	80.00	10.00	14.3%
10	5.0	1.0	4.0	-80.0%	45.00	85.00	40.00	88.9%
11	8.5	5.5	3.0	-35.3%	42.50	67.50	25.00	58.8%
12	5.5	4.5	1.0	-18.2%	62.50	75.00	12.50	20.0%
13	7.0	4.0	3.0	-42.9%	50.00	80.00	30.00	60.0%
14	7.5	4.5	3.0	-40.0%	70.00	80.00	10.00	14.3%
15	2.5	1.0	1.5	-60.0%	80.00	95.00	15.00	18.8%
16	6.0	2.0	4.0	-66.7%	80.00	95.00	15.00	18.8%
Mean	6.31	3.59	2.72	-43.1%	52.31	80.13	27.81	53.2%
SD	1.81	1.67	1.22	-	16.15	8.00	13.69	-
	t-test		8.882		t-test		-8.125	
	p-value		0.000		p-value		0.000	

Mobile Phone Usage Reduction

The intervention achieved substantial reductions in daily mobile phone usage, with participants decreasing screen time by an average of 2.72 hours ($SD = 1.22$) 43.1% reduction from baseline ($M = 6.31$ hrs, $SD = 1.81$). This exceeds usual digital detox outcomes of 15-25%. The modest standard deviation in change scores indicates consistent effectiveness across participants with varying baseline patterns. Individual responses ranged from 10.0% to 80.0% reduction, with 75% of participants achieving reductions exceeding 2 hours daily. From a

theoretical perspective, these reductions refer to successful cultivation of metacognitive awareness, a core mindfulness competency, enabling participants to notice automatic phone-checking behaviors, interrupt habitual patterns, and exercise behavioral choice. The results of the paired samples *t*-test suggested a significant decrease in students' mobile phone usage after participation in the 15-week program ($t = 8.882, p < .05$).

Time Management Skills

Time management improved by an average of 27.81 points ($SD = 13.69$), representing a 53.2% enhancement from baseline ($M = 52.31, SD = 16.15$). These gains reflective development of metacognitive planning, prioritization, and self-regulation capacities linked to mindfulness and, as a result, it enhanced present-moment awareness and reduced mind-wandering during mindful activities. Notably, post-intervention standard deviation decreased by 50% ($M = 80.12, SD = 8.00$), indicating participants with initially poor skills achieved disproportionate gains. This aligns with compensatory intervention models where those with greatest deficits show most improvement. Individual gains ranged from 14.3% to 212.0%, suggesting the intervention successfully transmitted concrete strategies, not merely abstract principles. This time management skills and CBT skills complement each other, which will be explained next.

Table 2 Comparison of CBT Skills and Psychological State Scores Before and After Participation in the Activities.

Participant	CBT Skills (1-100)				Psychological State (1-100)				Applicability (%)
	Pre	Post	Δ	% Change	Pre	Post	Δ	% Change	
1	40.00	80.00	40.00	100.00	30.00	75.00	45.00	150.0%	100.00
2	50.00	80.00	30.00	60.00	50.00	80.00	30.00	60.0%	100.00
3	30.00	90.00	60.00	200.00	50.00	90.00	40.00	80.0%	95.00
4	1.00	70.00	69.00	6900.00	55.00	80.00	25.00	45.5%	100.00
5	65.00	65.00	0.00	0	60.00	50.00	-10.00	-16.7%	50.00
6	72.50	82.50	10.00	13.79	50.00	70.00	20.00	40.0%	80.00

7	5.00	90.00	85.00	1700.00	50.00	90.00	40.00	80.0%	100.00
8	45.00	85.00	40.00	88.89	60.00	75.00	15.00	25.0%	70.00
9	50.00	80.00	30.00	60.00	1.00	65.00	64.00	6400.0%	100.00
10	45.00	80.00	35.00	77.78	40.00	90.00	50.00	125.0%	70.00
11	60.00	90.00	30.00	50.00	80.00	85.00	5.00	6.3%	100.00
12	55.00	85.00	30.00	54.55	40.00	70.00	30.00	75.0%	85.00
13	60.00	90.00	30.00	50.00	30.00	70.00	40.00	133.3%	90.00
14	40.00	70.00	30.00	75.00	60.00	80.00	20.00	33.3%	85.00
15	80.00	95.00	15.00	18.75	65.00	85.00	20.00	30.8%	100.00
16	55.00	80.00	25.00	45.45	85.00	90.00	5.00	5.9%	85.00
Mean	47.09	82.03	34.94	74.19	50.38	77.81	27.44	54.5%	88.13
SD	21.33	8.33	21.34	-	20.12	11.10	18.93	-	-
t-test		-6.549		t-test		-5.797			
p-value		0.000		p-value		0.000			

Cognitive Behavioral Therapy (CBT) Skills

CBT skills showed the largest improvement ($M = 34.94$ points, $SD = 21.34$), representing a 74.19% increase from baseline ($M = 47.09$, $SD = 21.33$). This substantial effect is notable given CBT's complexity as a multi-faceted therapeutic approach. Post-intervention scores ($M = 82.03$, $SD = 8.33$) demonstrate remarkable convergence, with standard deviation decreasing by 61%.

Participants with minimal baseline knowledge achieved dramatic improvements, some exceeding 70 points, suggesting the curriculum effectively presented CBT concepts in accessible formats. The correlation between CBT skill improvement and phone usage reduction ($r = .508$) was the strongest relationship observed, suggesting CBT competency may provide a cognitive foundation enabling behavioral change through identification of cognitive distortions and enhanced distress tolerance. Although it was a hard task, the constant report and feedback everyday between the teacher and students bore fruit. Therefore, writing time schedule in CBT sheet enhanced students' time management skills as well. They were co-relating to each other, which resulted in significant

improvement in both categories. The results of the paired samples *t*-test suggested a significant improvement in students' CBT skills after participation in the 15-week program ($t = -6.549, p < .05$).

Psychological State and Wellbeing

Psychological wellbeing improved by an average of 27.44 points ($SD = 18.93$), representing a 54.5% increase from baseline ($M = 50.38, SD = 20.12$). Individual variability ranged from a 10-point decline to a 64-point improvement. One participant improved from minimal functioning (1 point) to moderate wellbeing (65 points). This dramatic improvement suggests the participant initially experienced low self-esteem, lack of confidence, and diminished life satisfaction. Thus, it indicates that mindfulness' potential effectiveness for individuals experiencing mental distress related to digital exposure and social comparison which caused many Gen-Z students' inferiority complex.

One participant showed psychological decline (-16.7%) with minimal improvement across other domains, underscoring that interventions do not benefit all recipients equally. The post-intervention reduction in standard deviation (20.12 to 11.10) suggests convergence toward better functioning, positioning the intervention as a mental health equalizer. The results of the paired samples *t*-test showed a significant improvement in students' Psychological State and Wellbeing after participation in the 15-week program ($t = -5.797, p < .05$).

Applicability to Other Academic Subjects

Applicability ratings averaged 88.12% ($SD = 14.71\%$), with median 92.50%, indicating strong consensus that mindfulness principles transfer to other academic contexts. Nearly half (43.8%) assigned maximum ratings (100%), while 56.2% rated applicability at 90% or above, suggesting participants recognized mindfulness as a meta-skill rather than domain-specific knowledge. Students' qualitative feedback indicated that improvements in calmness, concentration,

and time management. It also includes class preparation and study habit strengthened their conviction that mindfulness skills transfer to other academic contexts.

This aligns with theoretical conceptualizations of mindfulness as a foundational cognitive capacity, including attention regulation, emotional awareness, that enhances learning across diverse academic spheres. Strong perceived applicability, combined with documented skill improvements, positions mindfulness trainings as a valuable meta-skill with benefits extending beyond Mindful Living course per se.

Discussion

The significant reduction in mobile phone except for study purpose is noticeable, since it had been extremely difficult to reduce time for addictive smartphone user (Ward et al., 2017; Przybylski et al., 2013). Also, alternative activities provided eye-opening and rewarding awareness of precious time; i.e., 24 hours per day for everyone.

Students developed greater psychological flexibility and reduced stress reactivity. In other words, many students succeeded to establish the coping mechanism towards stress. (Hayes et al., 2011). Kintsugi reinforced to embrace their imperfections and helped heal psychological wounds, which nurtured resilience as their virtue (Tedeschi & Calhoun, 2004).

Mindful drinking in nature showcased that peace and contentment are possible in the present moment and in the simple setting (Brown & Ryan, 2003). All they needed was one drink and quiet space where they can be alone for twenty minutes without phone. Multi-faced mindfulness practices successfully cultivated internal rather than external fulfilment of life. Continuous time-tracking provided detailed data on actual time usage, revealing procrastination and distraction patterns. Achievable goal-setting framework emphasizing short-

term period enabled repeated small successes-built confidence among Gen-Z as opposed to feeling inferiority by comparing themselves with others in social media platform.

Through multi-mindfulness practices, students began to detach themselves from social media platforms, which research shows are associated with lower psychological well-being, reduced self-control, and increased anxiety and depression (Twenge & Campbell, 2018).

Progressive meditation duration extension, from 5 to 30 minutes, served as structured resilience-building. By program conclusion, students' 30-minute meditation capability increased students' patience and resilience (Goleman & Davidson, 2017). Many started to incorporate daily mindfulness practice daily around 10-15 minutes before going to bed almost every day. This suggests that mindfulness was valued by students voluntarily and they became mindful for their self-care including good sleeping, good eating habit and enough moderate exercise. Students acknowledged using meditation to reset and cleanse minds is a simple and yet a powerful tool to internalize self-regulation and to acquire a new perspective. (Kabat-Zinn, 2003).

Limitations

Several limitations of this study should be acknowledged. First, the reliance on self-reported outcome measures introduces the possibility of social desirability bias. Given that participants received daily personalized feedback from the instructor throughout the program, they may have reported more favorable outcomes to align with perceived expectations, potentially inflating observed improvements. Second, the absence of a control group means that confounding variables—including the Hawthorne effect, the motivational effects of instructor attention, and natural developmental changes across the semester—cannot be fully excluded as alternative explanations for the observed gains. Third, the small sample of 16 participants limits the statistical power of the analyses and constrains the generalizability of findings to broader

Gen-Z university populations. Fourth, one participant showed a decline in psychological state (-16.7%), underscoring that not all students respond equally to mindfulness-based interventions. Students with different psychological profiles, or those experiencing acute psychological distress, may require differentiated or clinically supervised support rather than a general wellness program. This finding highlights the importance of screening procedures and pastoral referral pathways in future implementations. Fifth, the sustainability of behavioral changes beyond the program period remains unknown. Without longitudinal follow-up data at like six months post-intervention, it is unclear whether the reductions in phone usage and improvements in time management reflect durable habit formation or are artifacts of the structured intensity of the program's "Hard Weeks." Future research should incorporate follow-up assessments every day to retrieve students' planning and actual behavior and their reflections about them.

Recommendations

For Educational Institutions

1. Implement Multi-Modal Mindfulness Programs: Universities should integrate comprehensive mindfulness programs into curricula, moving beyond traditional seated meditation to include varied activities (art therapy, nature immersion, cultural practices which contains profound philosophy behind the activity) that engage diverse learning styles and sustain student who cannot focus on the lectures or cannot submit their homework on time.

2. Combine Contemplative and Practical Skills: Mindfulness programs should integrate CBT-based time management, goal-setting, and mental strength training. This dual approach addresses both immediate psychological distress and underlying behavioral patterns contributing to academic and personal difficulties.

3. Train Faculty and Staff: Educators should receive training in mindfulness principles and teaching methods to facilitate programs and model mindful practices in other universities if Gen-Z students have difficulties in academic life. Faculty engagement enhances program credibility and encourages student participation.

4. Start with Achievable Goals: When establishing mindfulness or self-improvement practice program, begin with easily achievable short-term goals such as saving 3 THB per day, 5-minute daily meditation by oneself, 5 minutes journaling, moderate exercise, or having healthy diet before advancing to more ambitious objectives. This principle of behavioral activation through graduated success corresponds directly to the Healing Phase of the Mindful Living program (Weeks 1–6), in which low-threshold, achievable tasks were intentionally sequenced before the more demanding Transforming Phase (Weeks 7–12). Future research should prioritize: (a) longitudinal follow-up studies tracking the durability of mindfulness habits and academic outcomes at about six months post-intervention; (b) randomized controlled trials comparing the Mindful Living model against standard university wellness programs or single-modality meditation courses; (c) adaptation studies examining how the program performs across diverse cultural and institutional contexts, including implementation in ethics courses and discipline-specific classes where student disengagement has been similarly documented; and (d) qualitative investigations exploring the lived experience of participants to complement the quantitative outcome data reported here.

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