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Research

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A Multimodal Intervention for Improving the Mental Health and Emotional Well-being of College Students

Abstract: *This study examined the effectiveness of a 10-week multimodal intervention for improving the mental health and emotional well-being of college students when included as a mandatory component of the students' course of study. A total of 67 students (20.9 ± 5.4 years, 30 male/37 female) participated in the intervention that introduced a variety of evidence-based strategies for improving mental health and emotional well-being from the Lifestyle Medicine and Positive Psychology literature. Significant reductions were recorded in symptoms of depression (-28% , $P < .05$), anxiety (-31% , $P < .05$), and stress (-28% , $P < .01$), whereas significant improvements were observed in mental health (18% , $P < .01$), vitality (14% , $P < .01$) and overall life satisfaction (8% , $P < .05$). Effect sizes were larger than those reported by studies that have examined the individual effectiveness of the strategies incorporated into the intervention, suggesting a compounding effect. Stratified analyses indicated that participants with the lowest measures of mental health and emotional well-being at baseline experienced the greatest*

benefits. The findings of the study suggest that meaningful improvements in the mental health and emotional well-being of college students can be achieved, and potentially magnified, by utilizing a multidisciplinary approach involving evidence-based strategies from Lifestyle Medicine and Positive Psychology.

Keywords: mental health; well-being; intervention; lifestyle medicine; positive psychology

professional within the past 12 months for depression, and 17% for anxiety, with trends rising.¹ Furthermore, the percentages of college students indicating that their academic performance had been affected by depression and anxiety were 15% and 23%, respectively. Hence, there is a need for effective strategies for promoting the mental health and emotional well-being of college students.

The frontline treatment for affective disorders is often pharmacological

Other practices such as increasing consumption of fruits and vegetables and gaining adequate sleep have also been shown to significantly improve mood.

Introduction

The latest report of the American College Health Association indicates that 14% of college students have been diagnosed or treated by a health

intervention. Consequentially, in developed countries such as the United States and Australia (the site of the present study), there has been a doubling of antidepressant use over the past decade,^{2,3} to the extent that they are

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now the most commonly used medications.⁴ Approximately 1 in 8 adults in the United States² and 1 in 10 Australians³ now take antidepressant medication. Although recent prevalence data of antidepressant medication use among college students are not available, studies indicate that only about a third of college students with mental health conditions seek professional help.⁵

In recent years, a variety of nonpharmacological approaches for improving mental health and well-being have emerged from the disparate but complementary disciplines of Lifestyle Medicine and Positive Psychology. The discipline of lifestyle medicine, which seeks to treat the causes of lifestyle-related chronic conditions through lifestyle-based therapies and interventions, has contributed lifestyle-based strategies for relieving depression and improving mood. Indeed, some of these strategies, such as increasing physical activity levels⁶ and exposure to bright natural light,⁷ have independently been shown to be as effective for relieving depression as antidepressant medication. Other practices such as increasing consumption of fruits and vegetables⁸ and gaining adequate sleep⁹ have also been shown to significantly improve mood.

Positive psychology emerged in the late 1990s as a reaction to traditional psychology that historically has focused on remedying dysfunctional psychological states.¹⁰ The objective of positive psychology is to foster positive psychological states and the well-being of individuals and people groups.¹⁰ Over the past 2 decades positive psychology interventions (PPIs) have been developed and studied, including expressing gratitude, reflecting on “what went well,” and activating signature strengths, and these have been shown to improve subjective personal well-being.¹¹⁻¹⁴ Intriguingly, despite the positive orientation of PPIs, they have been shown to benefit people at all levels of the mental health continuum.¹²

Given the evidence base for several nonpharmacological strategies for

improving mental health and emotional well-being, it is not surprising that there is a call for multimodal interventions for the management of depression, anxiety, and low mood.⁴ There are several programs that have arisen within the positive psychology space that aim to improve mental health and well-being; however, none, to the authors’ knowledge, also advocate lifestyle-based therapies. Similarly, lifestyle medicine interventions have historically focused on physical conditions such as heart disease and type 2 diabetes and not included elements from positive psychology. To the authors’ knowledge, the only multimodal intervention that has incorporated a variety of both lifestyle and psychological strategies for improving mental health and well-being is the Depression and Anxiety Recovery Program¹⁵; however, outcomes of this intervention among college students has not been reported, and the program targets individuals with a diagnosis of depression and/or anxiety.

The objective of this study was to investigate the impact of a multimodal intervention that incorporates evidence-based strategies from both the Lifestyle Medicine and Positive Psychology literature on the mental health and emotional well-being of college students when undertaken as a mandatory part of their course of study. It was hypothesized that just as Jenkins et al¹⁶ observed a compounding effect by combining several evidence-based strategies for lowering cholesterol, combining evidence-based strategies for improving mental health and emotional well-being may magnify the outcomes achieved.

Methods

Participants

A total of 82 college students undertook a mandatory class titled, “Foundations of Wellbeing” at Avondale College of Higher Education, Australia, in which the intervention was imbedded. Avondale College of Higher Education is a small (approximately 1200 students) private college that offers undergraduate degrees in a variety of areas through to

doctoral degrees. Of the 82 students, 82% consented to their data being made available for the study and supplied valid data ($n = 67$; 30 male/37 female students; age = 20.9 ± 5.4). Importantly, the students’ grades for the class were not linked to the intervention outcomes, so as to avoid reporting bias. The study was approved by the institutional human research ethics committee (Approval Number 2016:07).

Intervention

The intervention, referred to as the Lift and Live More Project, was conducted over 10 weeks and involved 1 weekly 1.5-hour group session. Given that the objective of the program was to facilitate behavior change, the intervention was underpinned by the Theory of Planned Behaviour¹⁷ and aimed to change attitudes toward well-being and its attainment through education; change perceived norms by occurring in a supportive group setting; increase perceived control by empowering the participants with easily achievable weekly challenges.

The program adopted a pedagogical framework summarized as LETS: Learn, Experience, Think, Share. Learn related to the educational component of the program in which the participants were introduced to contemporary findings from the Neuroscience, Positive Psychology, and Lifestyle Medicine literature, with the implications for mental health and emotional well-being being highlighted. This was presented through an interactive lecture that constituted approximately half of the time of each weekly 1.5-hour group session. Experience related to weekly challenges issued to the participants that involved them acting on the topic of the week. As described below, each week, the participants were offered a small daily challenge and 1 larger challenge for the week. Think involved the participants reflecting on how the challenges affected their well-being, and Share involved the participants communicating their experiences with others both in and outside the group. Approximately half of each of the 1.5-hour weekly group sessions was dedicated to group

interaction and activities that promoted thinking and sharing.

An overview of the program, including the key messages and challenges, is outlined below:

Week 1: Speak positively. This session introduced the participants to their “emotional brain”—the Limbic System—and described its basic function and structure. The influence of language on relationships was also explored, highlighting the work of John Gottman¹⁸ and Marcial Losada,¹⁹ and the participants were challenged to “speak positively” by offering a genuine compliment to someone each day for a week. The weekly challenge involved seeking out and memorizing an inspirational quote or saying.

Week 2: Move dynamically. The proprioceptive influence of the body on the brain was presented, and the mood-enhancing influence of good posture²⁰ and physical activity²¹ were highlighted. The challenges for the week included reducing prolonged sit time and engaging in daily physical activity, including resistance exercise. Specifically, the students were challenged to undertake 30 minutes of moderate-intensity physical activity each day or achieve 10 000 steps if they had access to a personal step counter. A video of a guided resistance exercise session that could be completed in their home environment with common household items was provided to the students, and they were encouraged to complete this 2 times during the week.

Week 3: Immerse in an uplifting physical environment. The positive influence of natural environments on emotional well-being,²² especially bright natural light,²³ was presented, and the mechanisms through which it is mediated were discussed. The daily challenge involved the

participants immersing themselves in a brightly lit natural environment for 30 minutes each day (ie, outdoors), and the weekly challenge involved seeing a sunrise in a natural setting.

Week 4: Immerse in an uplifting social environment. This session explored the socially contagious nature of depression and happiness,²⁴ and the participants were asked to reflect on their own relationships and the impact these had on their personal well-being. The participants were challenged to identify the “love language”²⁵ of someone close to them and proactively undertake 1 loving act each day for the week. The love languages, as described by Chapman,²⁵ include offering words of affirmation, acts of service, (appropriate) physical touch, giving of gifts, and spending quality time. The weekly challenge involved “finding or forgiving a friend.” “Finding a friend” was encouraged for those who had a limited social network, and the challenge involved reaching out to inclusive community interest groups. “Forgiving a friend” was the alternate weekly challenge and was encouraged for those who self-identified themselves as caught in cycles of forgiveness that were detrimental to their relationships. Forgiveness was defined as “giving up the right to hurt you for hurting me”²⁶ and was presented as a pathway to restoring relationships. It was acknowledged that forgiveness does not mean forgetting, condoning, or excusing the consequences of a wrong action.

Week 5: Look to the positive. The interaction between thinking and feeling was explored,²⁷ and the participants were guided toward looking to the positive in the past, present, and future. The daily challenge involved the “three good things in life” exercise described by Seligman et al,¹¹ which

involved journaling each evening 3 things that went well that day. The weekly challenge involved the “Gratitude Visit”²⁸—a commonly used PPI—and involved identifying someone who had had a substantial positive effect on the participant’s life, writing a few paragraphs about that person and their contribution, and then going to read it to the individual.

Week 6: Eat nutritiously. The emerging evidence for gut-brain interaction, especially relating to the gut microbiome and its impact on mood,²⁹ was explored. In light of the connection between the consumption of fruit and vegetables and happiness,³⁰ the daily challenge involved consuming 8 serves of high-fiber, whole foods each day. The weekly challenge involved preparing a plant-based meal and sharing it with someone. Recipes were made available to the participants.

Week 7: Rest (sleep). The connection between sleep deprivation and depression⁹ was examined, and the deleterious effect of exposure to blue light in the evening,³¹ as emitted by screens, on sleep hygiene was presented. The daily challenge involved spending 8 hours in bed each night for a week without screen-based activity. The weekly challenge involved spending 1 evening by fire light, which is red/yellow as compared with blue and may promote sleep.³²

Week 8: Rest (destress). Numerous strategies for reducing stress were examined. The daily challenge involved taking 15 minutes each day to engage in an activity that promoted laughter or that involved being still and mindful.³³ In the case that laughter-promoting activities were chosen, the participant was encouraged to seek out humorous internet-based video content, and links to appropriate content were provided. Mindfulness was

described as “being more present,” and the participants were instructed to choose either an external or internal mindfulness exercise. The external exercise involved sitting quietly in a natural outdoor environment and taking intent notice of their surroundings. The internal exercise involved sitting or lying still and taking notice of sensations in their body, especially with regards to muscle tension and breathing. The weekly challenge involved taking 1 entire day out—a Sabbath—from their usual activities of the week (ie, work or study).

Week 9: Serve. Evidence for the connection between serving and emotional well-being was presented as captured in the statement by Martin Seligman, former President of the American Psychological Association and pioneer of Positive Psychology: “Doing a kindness produces the single most reliable increase in well-being of any exercise we have tested.”^{34(p20)} The daily challenge involved performing 1 random act of kindness each day for a week. The weekly challenge involved completing a signature strengths assessment and reflecting on ways to use these strengths in a new way for the benefit of others.³⁵

Week 10: What does it take to flourish? This concluding session overviewed Seligman’s PERMA model that argues for 5 domains of well-being that according to the field of Positive Psychology contribute to human flourishing: Positive emotions, Engagement, Relationships, Meaning, and Achievement.³⁴ There were no prescribed challenges from the session; however, the participants were encouraged to reflect on what gave their life meaning, where meaning was defined as having a sense that they belonged to and contributed to something bigger than themselves.³⁴

Measurements

The participants completed a well-being questionnaire at baseline and postintervention that measured domains of positive and negative affect as well as overall satisfaction with life.

Positive affect was measured using the mental health and vitality subdomains from the validated 36-item Short Form Survey (SF-36).³⁶ The mental health subdomain involves 5 items and the vitality domain 4 items, each with a 6-point Likert scale ranging from “All of the time” to “Not at all.” The summed scores, transformed so that higher scores indicate better mental health and vitality, are linearly converted to a standardized score between 0 and 100.³⁷

Negative affect was measured using the 21-item Depression, Anxiety, and Stress Scale (DASS-21) that has been validated.³⁸ As implied, this instrument measures 3 domains—depression, anxiety, and stress—through 7 items for each domain. Each item is ranked on a 4-point rating scale (“Never,” “Sometimes,” “Often,” and “Almost always”), and the 7 items for each domain are summed to give a total score between 0 and 21.³⁸

The 5-item Satisfaction With Life Scale³⁹ was included in the questionnaire to assess overall life satisfaction. Each item is ranked on a 7-point Likert scale ranging from “Strongly disagree” to “Strongly agree,” resulting in a culminated score between 5 and 35, with higher scores expressing higher levels of life satisfaction.

At the end of each week, the participants were also asked, “How did last week’s challenges affect your emotional well-being?” with response options that included “large positive effect,” “small positive effect,” “no effect,” “small negative effect,” and “large negative effect.”

Data Analyses

Data were analyzed using IBM SPSS Statistics (version 22) and are expressed descriptively as means and standard deviations.

Changes in the 6 domains of well-being from baseline to postintervention were analyzed using paired *t*-tests. Cohen’s *d*

was also calculated for the baseline to postintervention change in each domain to determine effect size.

The mental health and vitality baseline data were stratified into the following categories, representing absolute scores and not percentiles, for further analysis: low (<60), average (60-80), and high (>80). Similarly, the baseline DASS-21 results were stratified into 3 categories: normal (depression, <5; anxiety, <4; stress, <8), mild to moderate (depression, 5-10; anxiety, 4-7; stress, 8-12), and severe (depression, >10; anxiety, >7; stress, >12). χ^2 Analyses were performed to identify changes from baseline to postintervention in the proportion of participants belonging to the various stratified categories. Paired *t*-tests were also used to analyze changes in the stratified domains from baseline to postintervention, with accompanying effect size calculations.

Repeat-measures general linear modeling with post hoc analyses (least significant difference [LSD]) was used to analyze differences between participants’ ratings of the influence of the weekly challenges on their emotional well-being.

Results

Table 1 displays the mean scores, and changes from baseline to postintervention, of the 6 domains measured in the study. As shown, significant improvements were measured in all domains, with improvements in the mental health domain recording a large effect size. Effect sizes for improvement in vitality and reduction in stress were moderate. Significant improvements were observed in all other domains, but the effect sizes ranged between small to medium.

Table 2 displays preintervention to postintervention changes in the stratified data. Evident in the table is that those participants who had the greatest need gained the greatest benefits. Very large effect size changes were observed among those with low mental health and vitality scores at baseline. Similarly, although there were no participants in the cohort who scored severe

Table 1.

Mean Changes in Measures of Positive Affect, Negative Affect, and Life Satisfaction From Baseline to Postintervention.

Factor	n	Baseline, Mean (SD)	Postintervention, Mean (SD)	Mean Change	Percentage Change	P Value	Cohen's <i>d</i>
Mental health (0-100)	65	68.4 (14.6)	80.9 (11.6)	12.5	18.2%	<.001	0.95
Vitality (0-100)	67	57.8 (15.9)	65.7 (16.3)	7.9	13.7%	<.001	0.49
Depression (0-21)	67	2.9 (2.5)	2.1 (2.2)	−0.8	−27.6%	.003	0.34
Anxiety (0-21)	67	3.1 (2.5)	2.2 (2.1)	−0.97	−31.3%	.002	0.39
Stress (0-21)	66	5.3 (2.9)	3.8 (2.3)	−1.5	−28.3%	<.001	0.57
Life satisfaction (5-35)	67	25.5 (4.9)	27.1 (4.5)	1.6	7.8%	.003	0.33

depression, changes of very large effect sizes were observed among those with mild to moderate scores in the domains of depression, anxiety, and stress.

The influence of the weekly challenges on the participants' emotional well-being, as reported by the participants, is shown in Figure 1. As illustrated, the mean rating for all the weekly challenges fell between small positive effect and large positive effect. Analyses indicated a marginal difference between the influence of the weekly challenges (only just reaching significance at the 0.05 level, $P = .049$). Post hoc analyses indicated that the only significant difference ($P = .002$) was between week 1 (speak positively) and week 5 (look to the positive), with the latter activity being rated as more beneficial.

Discussion

The results of this study suggest that meaningful improvements in the mental health and emotional well-being of college students can be achieved through a multimodal intervention incorporating evidence-based strategies from the disciplines of Lifestyle Medicine and Positive Psychology. Furthermore, these encouraging outcomes can be achieved when the intervention is included as a mandatory part of the course of study for undergraduate students.

The mean baseline scores for the various domains measured in this study were in general comparable to those obtained in studies of other nonclinical populations. For example, in a study of nonclinical adults who utilized the DASS-21, Henry and Crawford³⁸ recorded mean scores for the depression, anxiety, and stress domains of 2.8 (SD = 3.9), 1.9 (SD = 2.9), and 4.7 (SD = 4.2), respectively. Using the same instrument, Szabo⁴⁰ recorded scores of 4.2 (SD = 4.5), 3.4 (SD = 3.9), and 5.1 (SD = 5.4) for the respective domains among an adolescent population (mean age = 14.5 years). These mean scores are comparable to those recorded in the present study: depression, 2.9 (SD = 2.5); anxiety, 3.1 (SD = 2.5); stress, 5.3 (SD = 2.9). The mean scores for vitality recorded in this study, as measured by the SF-36, were almost identical—59.6 (SD = 21.4) versus 57.8 (SD = 15.9)—to those in a large Australian-based study of people older than 15 years who used the same instrument.⁴¹ The only apparent difference between the mean baseline scores recorded in the present study and normative data was in the mental health domain (measured by the SF-36). Compared with the larger, more representative Australian-based study⁴¹ that reported a mean mental health score of 78.9 (SD = 17.7), the mean score recorded in the present study—68.4 (SD = 14.6)—is considerably lower.

Notwithstanding, the mean baseline life satisfaction score of the study cohort—25.5 (SD = 4.9)—placed it between the classification of “slightly satisfied” (scores from 21 to 25) and “satisfied” (scores of 26 to 30).⁴² The fact that the study cohort seems representative of the general population suggests that the results of the present study might have some generalizability to a wider audience.

A clear limitation of the present study is the lack of a control group to account for factors such as the Hawthorne effect, regression to the mean and placebo effect. Notwithstanding, the significant improvement in all the domains of well-being measured in this study, especially in the high-risk stratifications in which some effect sizes exceeded 1.0, is noteworthy. Bolier et al⁴³ conducted a meta-analysis of 39 randomized controlled trials that examined the effectiveness of a variety of PPIs and reported effect sizes of 0.20 and 0.23 for changes in psychological well-being and depression, respectively. Similarly, Blumenthal et al⁶ reported an effect size of 0.20 for the effect of an exercise intervention on depressive symptoms. The substantially larger effect sizes observed in the present study suggest a compounding of the benefits of the various strategies incorporated into the intervention. This is an important finding of the study and indicates that when

Table 2.

Changes in Measured Domains Stratified for Initial Risk Factor Classification.

Measure	n, Baseline	n, Postintervention	χ^2 (P Value) ^a	Baseline, Mean (SD)	Postintervention, Mean (SD)	Mean Change	Percentage Mean Change	P Value	Cohen's <i>d</i>
Mental health									
<60	19	3	10.3 (.036)	49.7 (5.4)	73.5 (10.8)	23.7	47.6%	<.001	2.78
60-79	30	23		70.0 (5.1)	80.7 (11.2)	10.7	15.2%	<.001	1.23
>80	18	39		85.8 (3.4)	89.1 (7.1)	3.3	3.8%	.105	0.59
Vitality									
<60	33	21	16.1 (.003)	44.2 (9.6)	60.9 (16.4)	16.7	37.7%	<.001	1.24
60-79	27	26		67.9 (4.9)	67.4 (15.3)	-0.6	-0.8%	.856	0.04
>80	7	20		82.1 (3.9)	81.4 (6.3)	-0.7	-0.9%	.818	0.13
Depression									
<5	51	56	17.3 (<.001)	1.73 (1.20)	1.45 (1.55)	-0.27	-15.6%	.290	0.20
5-10	16	11		6.75 (1.61)	4.25 (2.70)	-2.5	-37.0%	<.001	1.13
>10	0	0							
Anxiety									
<4	42	53	10.9 (.028)	1.55 (1.19)	1.45 (1.31)	-0.09	-5.8%	.685	0.08
4-7	21	12		5.29 (1.10)	3.52 (2.73)	-1.76	-33.3%	.008	0.85
>7	4	2		8.75 (0.96)	2.75 (1.26)	-6.00	-68.6%	.007	5.36
Stress									
<8	53	61	5.6 (.062)	4.21 (2.06)	3.51 (2.23)	-0.69	-16.4%	.041	0.186
8-12	13	5		9.23 (1.36)	4.92 (2.18)	-4.31	-46.7%	<.001	2.37
>12	1	0							

^aMcNemar χ^2 test.

Figure 1.

The influence of the weekly challenges on emotional well-being, as rated by the study participants.

designing interventions for improving mental health and well-being, a multimodal approach is warranted.

Although it is perhaps expected that participants with the lowest ratings of emotional well-being would benefit most from the intervention, because there is more room for improvement when starting from a lower baseline, it is noteworthy nonetheless, given that the intervention adopted a positive orientation and targeted a nonclinical audience. Indeed, it would be interesting to examine the impact of the program on a population with a diagnosed affective disorder.

Overall, the participants in the study rated all the weekly challenges to be beneficial for their emotional well-being. As presented in the results section and shown in Figure 1, there was a trend for the participants to rate the week 5 (“look to the positive”) challenges, which involved the “three good things in my life” exercise¹¹ and “gratitude visit,”²⁸ as

more beneficial than the week 1 (“speak positively”) challenge that involved offering compliments and memorizing an uplifting text or saying. There were no other significant differences observed between the challenges with regard to the participant’s perception of their influence on their emotional well-being. It would be interesting to further elucidate these trends with more statistical power through a larger study cohort, although there are 2 potentially confounding factors that need to be considered: lag time and baseline behaviors.

A potential confounder when comparing the benefit of the various strategies, as reported by the participants, relates to lag time. It is possible that some of the weekly challenges may have had more immediate influences on the participant’s subjective personal well-being than others. For example, the gratitude visit might result in a rapid boost to well-being, whereas consuming

more high-fiber whole foods or increasing physical activity levels may have a delayed effect before increases in well-being are realized. Albeit, only 10 minutes of physical activity has been demonstrated to improve mood,⁴⁴ and increasing the number of servings of fruit and vegetables 1 day has been causally linked to happiness the day thereafter.⁸

With regard to baseline behaviors, when the participants entered the program, they likely differed in the degree to which they already performed the strategies and activities advocated by the weekly challenges. These differences may be reflected in their baseline physical activity levels, eating patterns, sleep hygiene, engagement with natural environments, involvement in service activities, and attention to nurturing relationships. These baseline variations should be accounted for in further studies.

Lyubomirsky et al⁴⁵ concluded that interventions designed to increase

happiness—mediated through increases in life satisfaction and positive affect and decreases in negative affect—require both a “will and a proper way.” Assuming the intervention adopted in the present study constituted a “proper way,” being based on sound pedagogical and behavioral frameworks and incorporating evidence-based well-being enhancing strategies, attention must be given to leveraging the will of participants in order to optimize outcomes. It is pertinent to note that participants in this study underwent the intervention as a mandatory part of a college class, even though their grades for the class were not connected to their intervention outcomes, so as to not bias their reporting. It can be assumed, therefore, that the study sample constituted individuals with varying levels of will. It would be beneficial for future studies to measure readiness for change, as a potential surrogate for the baseline will, to explore its impact on both level of engagement with the intervention and the outcomes achieved. It is also a limitation of this study that measures of engagement with the weekly challenges were not captured, and this should be done in future studies. Other considerations for increasing the participants’ will and level of engagement may include the following: offering frequent feedback, follow-up reminders and encouragement to participants in the form of text messages or other media, boosting social connectedness and interaction through a dedicated social media portal in which the participants document and share their experiences, and incorporating gamification strategies and rewards through the awarding of points for the successful completion of challenges. Clearly, strategies that increase participant’s engagement with programs that aim to improve personal well-being are imperative to optimize the program’s outcomes and effectiveness.⁴⁵

The intervention used in the present study was conducted over 10 weeks; however, the ultimate goal is clearly to facilitate long-lasting improvements in the participants’ well-being. Although

encouraging outcomes were observed over the 10 weeks of the intervention, further study is needed to determine whether the intervention resulted in long-term behavior change and associated improvements in well-being. Indeed, whereas some of the challenges in the program do not lend themselves to being performed with regularity, such as the gratitude visit, other behaviors, such as increasing exercise levels, eating more plant-based foods, and focusing on what went well, are to be encouraged ongoing. Attenuating research is, therefore, also required to further understand how to facilitate the retention of these behaviors introduced in the intervention and to mitigate recidivism.

Conclusions

The findings of this study suggest that meaningful improvements in the mental health and emotional well-being of college students can be achieved through a multimodal intervention that incorporates a range of strategies and exercises derived from the disciplines of Lifestyle Medicine and Positive Psychology, even when imbedded as a mandatory component of the students’ course of study. Furthermore, exposing college students to a variety of evidence-based strategies for improving mental health and emotional well-being may compound the individual benefits gained from the strategies when used in isolation. This highlights the potential benefits of utilizing a multidisciplinary approach for addressing current concerns about the mental health and emotional well-being of college students and, by extension, to other demographics as well.

Declaration of Conflicting Interests

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