Journal of Positive Psychology & Wellbeing
2024, Vol. 8, No. 2, 50 – 71
http://journalppw.com
ISSN 2587-0130

Classroom Interventions During the COVID Pandemic: Impacts of Intervention Strategies for Students Benefit in Higher Education

William J. Jones[1], Douglas Rhein[1], Alexander Nanni[2], Virot Ali[3]

[1]*Mahidol University International College*
[2]*Roger Williams University*
[3]*Thammasat University*

Abstract

This article summarizes the results of a yearlong study designed to measure the impact of a education intervention course introduced as part of the general education curriculum at a university in Thailand. The study was conceived following the outbreak of the COVID epidemic. 369 total participants, 212 participants in the control group, and 157 participants in the experimental group. A pre-intervention and a post-intervention response were included for each participant; therefore, a total of 738 observations were included. It was hypothesized that the classroom intervention would, when compared to the control group, impact positively. This article argues that higher education and its consumers, students, are best served by an approach to learning that not only focuses on their cognitive capacities but also their mental well-being. Using intervention strategies to assist students cope and adapt to internal and external stressors while, allowing equipping them with tools to predict and thus head off negative stressors allows for better classroom performance and overall mental well-being.

Keywords*:* Education Intervention, Classroom Interventions, Mental Health, Thailand.

Introduction

In late 2019, the Chinese based Wuhan Health Commission reported a group of pneumonia cases of unknown etiology. These cases were subsequently classified as the novel coronavirus. As the novel coronavirus (or COVID-19; hereafter referred to as the pandemic) continued to spread throughout the world, so too did the protective measures and subsequent academic and psychological challenges (Arslan, 2021; Arslan & Yildirim, 2021; Arslan et al., 2021; Castro & George, 2021). The adverse psychological effects of the pandemic are the consequence of several deviations from traditional modes of study, such as from in-class to online (Flynn et al., 2021), increases in academic stress (Horita et al., 2021), reduced motivation (Garbe et al., 2020) and struggles with personal space and responsibilities at home (Wang et al., 2020). In addition, a sudden decrease in exercise further intensified these dramatic transitions, as did decreases in exposure to sunlight and the subsequent development of unhealthy sleeping patterns (Cellini et al., 2020; Ellis et al., 2020). The psychological effects of the virus are worsened by the uncertainty of these challenges and the concomitant threats to one's personal and familial safety (World Health Organization, 2020a). Therefore, it is essential that educational institutions begin to explore which psychological techniques can be implemented to support those students who are besieged with the abovementioned issues. This response is predominantly relevant to the youth

in middle and low-income nations such as Thailand (Banati et al., 2020). Therefore, this study reports on the changes in student well-being both prior to and immediately following the introduction of educational intervention strategies as introduced in a positive psychology course in a Thai university during the pandemic.

It is widely known that students in colleges and universities are particularly susceptible to psychological disorders (Kendler et al., 2015). Higher education can be stressful, but perhaps more importantly, the average age of study for the majority of college students (18-23) is also the age range where the most comment disorders (stress, anxiety, mood and substance abuse) are likely to present (Pedrelli et al., 2015). Furthermore, the transition from adolescence and early adulthood is accompanied by undesirable emotions and self-defeating behaviors (World Health Organization, 2020b). These psychological changes, often caused by maturation, and social and academic concerns were accelerated as a result of the virus whereby the typical routines of the home, the school and job were disrupted resulting in an increase in mental distress and illness (Magson et al., 2021). Students' capacity, or lack thereof, to successfully manage these and other challenges decreases the likelihood that they will experience higher education in a positive manner (Calderon et al., 2021). This inability to have a positive experience is of particular concern in Thailand, where most students began studying online over two years ago when the pandemic caused significant economic, social, and psychological hardships. Given this pandemic's scale, influence, and length, this study aims to present pre- and post-intervention data from three well-being surveys on Thai university students to determine the impact of a positive psychology course.

This study seeks to analyze and evaluate how including intervention strategies into the education curriculum and having a teaching pedagogy anchored in psychological methods of adaptation and resilience can improve well-being and performance of students in higher education.

Mental Well-being Issues in Higher Education

Prior to the pandemic, research on Thai undergraduates indicated that students had lower levels of happiness and higher levels of stress when compared to U.K. and American students (Calderon et al., 2019). These results are similar to those of Peltzer et al. (2017), which collected data on happiness from students from twenty-four nations and reported that students from Southeast Asia, including Thais, had lower happiness levels than those from other nations within the study. A review of academic literature regarding the increasing prevalence of psychopathological symptomatology during the pandemic indicates specific areas of concern. In Thailand, psychological distress is widespread among higher-education students (Pengpid & Peltzer, 2019). The pandemic has worsened this situation among young people (Goodwin et al., 2020). Blizniewska-Kowalski et al. (2021) have argued that lockdowns have increased the prevalence of stress, anxiety, and mood disorders.

Nevertheless, depending on the study, research conducted in Thailand before the pandemic reported the prevalence of depression ranged from 19%-50%, whereas anxiety prevalence ranges from 26%-69% (Boonvisudhi & Kuladee, 2017; Rhein & Sukawatana, 2015). During the pandemic, research by Wang et al. (2021) on adults in Thailand indicated the prevalence of stress was 21.9%, anxiety 18.6%, and depression 19.7%. However, the prevalence of psychopathological symptoms for students, particularly students in higher education during the pandemic, is far more alarming. For example, Jiang et al. (2021) conducted a survey that found Thai HE student prevalence of depression was 46.2%, stress 32.2%, and anxiety 47.6%. A study in 2020 (Pramukti et al.) comparing student anxiety levels from Indonesia, Taiwan, and Thailand found that Thai students had both the highest levels of anxiety and the lowest levels of confidence in handling the pandemic and methods to combat the negative results of the pandemic. Suksatan et al. (2021) also found high student stress levels in Thai universities, as did Choompunuch et al. (2020) study. To

date, there is a paucity of literature on Thais' knowledge of depression, and the existing results are often contradictory (Pumpayung & Taifapoon, 2018; Mingkwanjai et al., 2015; Thadanukoonwattana et al., 2016). Overall, the alarming prevalence of psychological disorders in Thailand is evident. It is, therefore, important to address potential barriers to implementing protective measures.

It is essential to recognize the stigmatization of mental health issues in Thailand as this impacts help-seeking behaviors (Somchai & Charin, 2004). It has been noted that mental health patients are seen as dangerous (Jansongsang, 2007). Kitiratanapaiboon et al. (2016) found that only 8.3% of Thais with mood disorders seek professional treatment. The stigmatization of psychopathology in Thailand is not limited to mood disorders. This is particularly disconcerting given that between 2006 and 2021 the suicide rate in Thailand has increased from 5.77 per 100,00 to 7.37 (Department of Mental Health, 2021). It is evident that the pandemic has increased the prevalence of psychopathology, yet the number of Thais seeking psychological assistance in clinics did not increase during the pandemic (Blizniewska-Kowalski et al., 2021). Research further indicates that this stigmatization in Thailand exists in many forms (Suwanlert, 1976; Burnard et al., 2006; Sanseeha et al., 2009; Kaewprom et al., 2011; Pitakchinnapong & Rhein, 2019) and has an impact on many types of disorders within the DSM. While the stigmatization of mental health sufferers is rife (Kudva et al., 2020), research indicates that mental health stigmas are more prevalent in nations that lack mental health literacy (Loo et al., 2012). Within the Asian context, people with mental health concerns are not only perceived as having a severe character flaw; they are often regarded as dangerous, violent, or as individuals with varying personal weaknesses (Zhang et al., 2019).

However, there is a positive side to this phenomenon as well. Pumpayung and Taifapoon (2018) found that Thai attitudes toward mental health issues become more positive following exposure to mental health problems and potential solutions. Remaining mindful of the stigmatization of mental health in Thailand and the potential to change attitudes with exposure to information on the subject, it is rational to conclude that students may benefit from greater access to information regarding mental health and the availability of various treatments. Given the possibility of attitude change concerning the acceptance of psychology in Thailand, it is apparent that it may also be beneficial for higher education institutions to introduce elective courses which provide content specifically aimed at addressing the aforementioned mental health concerns and offering activities that have been shown to alleviate the presence of negative symptoms and increase well-being.

Educational Intervention

Throughout the 19th and most of the 20th century, psychology was primarily interested in investigating and treating the negative aspects of human existence (Froh, 2004). Prominent psychologists have, with a few exceptions such as William James, Abraham Maslow, and Michael Fordyce, focused on reducing psychopathological symptomatology commonly displayed in cases involving mood disorders, anxiety, stress, and other negative affective states (Seligman et al., 2006). This disease-focused approach began to change in 1998 when Dr. Martin Seligman, president of the APA, called for the psychological community to begin to emphasize character strengths, human excellence, and flourishing (Seligman, 1998). Seligman further called for more academic study of "the best things in life" (1999, p. 560) and asked the psychological community to "understand and build the factors that allow individuals, communities, and societies to flourish" and to "articulate a vision of the good life that is empirically sound (Seligman & Csikszentmihalyi, 2000, p. 5). In the 20 years since this call for a more 'positive psychology' emerged, a term coined by Abraham Maslow (1954), there has been a dramatic increase in the study and promotion of well-being (Maddux, 2020). The work of Lyubomirsky (2008), Diener (2000), Peterson (2006), Fredrickson (2013), and Csikszentmihalyi (2020) have all significantly contributed to the field of positive psychology

and have led to the creation of positive psychology-based-interventions (hereafter PPIs).

PPIs are actions that stimulate positive emotions such as savoring, gratitude, well-being, flow states, flourishing and acts of kindness (Moskowitz et al., 2021). PPIs are empirically validated and have proven to increase positive experiences, improve our perception of our satisfaction with life and improve emotional states (Lambert et al., 2021). Consistent engagement with PPIs has many of positive effects from reducing stress to promoting positive coping strategies, and increasing one's ability to focus on positive cognitive and behavioral predispositions (Bassett et al., 2019; Pressman & Cohen, 2005; Pressman et al., 2019). PPIs are also a cost-effective option to assist in preventing mental health issues (Forsman et al., 2015; Hone et al., 2015; Kobau et al., 2011). Further multiple meta-analyses (Dickens, 2017; Moskowitz et al., 2021; Sin & Lyubomirsky, 2009; Zeng et al., 2015) have concluded that PPIs have a small to medium impact on participants' well-being. The variety of PPIs that have been developed is immense (Walsh et al., 2018). Promoting well-being and implementing PPIs has many positive effects, including improved academic performance (Howell, 2009) and stronger relationships (Mehl et al., 2010). Overall, the abovementioned studies represent sufficient support for claims that PPIs positively impact physical and psychological health, improve positive emotion and decrease the frequency or intensity of negative emotion (Bolier et al., 2013; Chakssi et al., 2018; Weiss et al., 2016).

It is imperative to establish at the outset of this research that more is known about the mental health status of western students than students from eastern countries (Calderon et al., 2021). As seen from the preceding paragraphs, most research on positive psychology and the efficacy of PPIs has been conducted in the western context. In Thailand, previous research has concluded that students reported a moderate level of psychological well-being (Thavorn et al., 2018) and that gender was an important aspect of reported well-being. However, the influence of gender has received mixed results, as one study (Gustems-Carnicer et al., 2019) reported that male students had lower well-being than females, and another (Lucktong et al., 2017) concluded that males had higher life satisfaction than female respondents. Finally, the work of Pumpuang et al. (2021) concluded that there were no gender-specific differences in psychological well-being. It is important to note that the majority of research conducted on student well-being in Thailand has taken place among secondary students. An important notable exception is a work of Anantanasuwong and Seenpracharong (2012) which indicated that higher levels of participant education were positively correlated with life satisfaction. The authors concluded that this may be related to higher homeownership rates and income.

Inclusion of Positive Psychology into Teaching Pedagogy

A greater focus on the strengths and applications of positive psychology is crucial given the pandemic facing the global community and students in particular. Positive Psychology courses promote personal growth in relationships, emotional maturity, resilience, and personal efficacy while fostering excellent functioning among people, groups, and institutions (Waters et al., 2021). At the undergraduate level, PPI-based courses may be positioned to significantly impact well-being (Goodmon et al., 2016; Shumer, 2018). An exemplar par excellence of this is the course offered at Harvard University, which demonstrates the growth in student and academic interest in positive psychology (Russo-Netzer & Ben-Shahar, 2011). Building on the success of this course, other positive psychology courses have also reported significant increases in and support of well-being (Lambert et al., 2019; Lefevor et al., 2018). These courses demonstrate the notion that within higher education, PPIs have become increasingly common. Research suggests that the teaching of PPIs is correlated with improved grades (Davidson et al., 2012), decreased student stress (Tang & Ferguson, 2014), a reduction in depression and anxiety (Slavin et al., 2014), a stronger sense of self-

efficacy (Stallman, 2018) and reduced mental illness (Yang et al., 2020). A prominent leader of the PPI movement, Lyubomirsky (2008), further argued that implementing PPIs into the curriculum could prove even more beneficial over the long term. Further work (Owens & Waters, 2020) demonstrated that the impact of these PPIs benefits both large classes and individuals. Conley et al. (2013) and Koydemir and Sun-Selisik (2016) further supported claims that PPIs can positively influence university student well-being. Given the dramatic results of the pandemic on student mental health and self-reported well-being measures, it is imperative that researchers within higher education gain a better understanding of the methods and application of PPIs that can assist in alleviating the symptomatology associated with the pandemic.

This study reports on students' perceptions of the impact of a positive psychology course introduced at the researchers' home university in 2021. The inception of the positive psychology course was in direct response to the pandemic outbreak in 2019, the lockdowns of 2020, and the resulting psychological challenges reported by students and observed by faculty members. This introduction of a positive psychology course was an initial step to determine if teaching PPIs to undergraduates in a Thai university resulted in an increase in participant well-being. Furthermore, the course design and implementation were intended to provide the theoretical background to and development of various positive psychology-based interventions so that students may be introduced to strategies to cope with these changes, buffer against the stressors caused by the pandemic as well as bolster their mental health. The conceptual development of this project stems from the work of Fredrickson et al.'s (2003) study of the role of positive psychology in creating positive emotions following the September 11 attack in the USA. While the author remains mindful that the reactions to the 9-11 attacks in the USA bears little resemblance to the negative impact of the pandemic outbreak and response in Thailand, it is hoped that the implementation of positive psychology interventions within the Thai higher education system will result in the growth of psychological resources among students as was evidenced in Fredrickson's research. Based on the aforementioned discussion of the psychological effects of the pandemic, the current state of psychological issues in Thailand, and the inherent need for ethically minded higher education researchers to seek solutions to current problems, this study is designed to ascertain and report the results of student responses to self-reported measures related to their well-being based on pre and post-intervention data to measure any changes in well-being following enrollment in a positive psychology-based interventions course between April – December 2021.

Intervention Plan – Education and Intervention

The course was an online course that met for 120 minutes twice a week for 12 weeks. Weekly activities and assessments were conducted based on the PPIs. Students were required to complete 80% of these assessments to pass the course. A different PPI was introduced each week and students were required to participate in the intervention and report on their responses to the PPI. Following the course, the well-being instruments were distributed to the participants to compare changes in wellbeing pre and post intervention. The course was initially developed in the spring of 2020 in response to the pandemic and approved by the university council to begin instruction in September 2020. The initial semester offerings of the course provided the instructors with opportunities to fine-tune learning materials, choose various videos and assignments, restructure the order of PPIs presented during the term, and make other small alterations to the syllabus based on student feedback in the fall of 2020 and spring of 2021. This study is based on the most updated version of the course, which was offered during the summer and winter semesters of 2021.

This course aims to help students understand the scientific study and individual practice of optimal human performance and well-being. This course is designed to help students flourish and thrive in their lives by

implementing positive psychology interventions and related principles. This course is intended to introduce students to the tools necessary for critical thinking, greater happiness, fulfillment, and success in their lives through the development of creativity, a greater understanding of personal health, stronger family relationships, effective communication, and more holistic approaches to improved performance and teamwork.

To accomplish these goals, four course learning outcomes (CLOs) are reinforced through assigned readings, brief lectures, discussions, activities, assessments, and presentations. The course learning outcomes are:

CLO1 Demonstrate an understanding of the aim and scope of positive psychology and its implications to a healthy lifestyle of well-being and flourishing;

CLO2 Demonstrate an understanding of the dimensions of suffering, flourishing, and subjective well-being and the application throughout their lives;

CLO3 Establish an understanding and utilization of one's strengths for greater self-expression and overall well-being;

CLO4 Effectively illustrate the core concepts and resiliency factors that students applied throughout the course

Hypothesis

This research aims to identify the impact of integrating a series of PPIs into the classroom.

Hypothesis 1 — The Positive Psychology course will, when compared to the control group, positively impact student well-being as measured by responses to the Subjective Happiness Scale (hereafter SHS), the Satisfaction with Life Scale (SWLS), and the EPOCH.

Methodology

Participants

Given the difficulty in randomizing students to take the positive psychology course and following previous studies on PPIs in education (Lambert et al., 2019; Lefevor et al., 2018), this study could not randomize the control group. Therefore, the control group was chosen from students enrolled in social science-based general education courses (1- Introduction to Sociology and 2- Human Geography) at the college. In the control group, 320 students were surveyed. Of these, 212 completed both the pre- and post-tests, yielding a completion rate of 66.3%. In the experimental group, 200 students were surveyed. Of these, 157 completed both the pre- and post-tests for a completion rate of 78.5%. In accordance with university regulations, all participants were required to attend at least 80% of the class meetings during the academic term. Both the lecturer responsible for the positive psychology course and the lecturers from the general education course agreed to distribute the online measures during week one of the semester and immediately following the cessation of the course (week 13). All participants agreed to participate in the research after being briefed on the study's aims and their rights as participants. Those that opted out or did not complete the well-being measures were excluded from the data analysis and did not experience any negative impact on the grades or assessments. Some participants did not complete both pretest-posttest measures and were thus not included in the data analysis. The students in both the control and the experimental groups registered for the course in either the third trimester of 2021 (April–July) or the first trimester of the 2022 academic year (September–December 2021).

Design

All participants were invited to complete three online quantitative survey instruments to determine if there was any impact of the positive psychology course on participant well-being. The dependent variable measures were collected twice; at the start and end of the semester. The independent variable is the completion of the positive psychology course. Participants in the control group and the experimental group completed the three measures at the beginning and end of the semester in order to compare fluctuations in the

scores of the measures in relation to the PPI course. Due to the problematic nature of randomizing the control group, this study followed a quasi-experimental method implementing a pretest-posttest nonequivalent control design.

Instruments

Any approach to the creation of a universally accepted definition of well-being is inherently problematic (Diener, 1998). This research defines well-being as functioning well and feeling good (Huppert & Johnson, 2010). This study implemented three well-being tools as it is intended to include both hedonic and eudemonic conditions (Hone et al., 2014). The focus on well-being measurements is intended to address the claim that well-being is more than the absence of illness, symptoms, and diagnosis (Keyes, 2005). Well-being scholars and proponents of PPIs have indeed developed a plethora of tools to measure this subjective construct. Research has distinguished two major aspects of subjective well-being (SWB): an affective component, which includes pleasant and unpleasant affects, and a cognitive component, which signifies life satisfaction (Diener, 2000; Diener et., 1997; Veenhoven, 2009). While there are many potential tools to measure SWB, this study utilized the Subjective Happiness Scale (hereafter SHS), the Satisfaction with Life Scale (SWLS), and the EPOCH to quantify any change in the participants' self-reported levels of well-being both prior to and following the positive psychology intervention. Each of these instruments, which are commonly implemented to assess well-being, is discussed below.

The Subjective Happiness Scale

While the scientific definition of happiness remains contentious, there is agreement that the subjective nature of affective appraisal is based on an individual's judgment of their own life and experiences in relation to others. It is also recognized that this subjective evaluation varies from person to person as they differ in regards to the identification of sources of happiness (Extremera & Fernández-Berrocal, 2014; Lyubomirsky & Lepper, 1999). As such, self-reporting instruments are often adopted in related research. However, Lyubomirsky and Lepper (1999) argued that the majority of existing instruments of SWB failed to adequately assess subjective happiness because they are either single-item global assessments or evaluations that only measure one of its two components (affective or cognitive). As a result, Lyubomirsky and Lepper (1999) constructed the Subjective Happiness Scale (SHS), a four-item assessment that adopted a subjectivist approach to measuring global subjective happiness in a comprehensive sense. Two of the items from the scale require respondents to describe themselves by using an absolute rating and a rating relative to peers. Whereas the other two items are short descriptions of happy and unhappy individuals, then the respondents are asked to rate the degree to which each characterization represents them. The short structure of SHS is designed to relieve respondents' burden and maintain its unidimensional structure even with several items. Regardless of its brevity, SHS demonstrated excellent psychometric properties that were validated by different studies. Lyubomirsky and Lepper (1999) recruited almost three thousand respondents from 14 separate samples, which consisted of varying age, cultural, and occupational groups. The authors reported that SHS showed good to excellent internal consistency across different study groups using Cronbach's alpha, ranging from 0.79 to 0.94 (Lyubomirsky & Lepper, 1999). Test-retest and self-peer correlations also showed good to excellent reliability, and the convergent and discriminant validity proved the use of SHS to accurately measure happiness based on a subjectivist approach (Lyubomirsky & Lepper, 1999)

The Satisfaction with Life Scale

Judgment of satisfaction with life is a cognitive, evaluative process based on a comparison of one's current life circumstances with his/her ideal life (Diener et al., 1985; Veenhoven, 2020). Thus, the judgment of life satisfaction is inherently subjective and dependent upon one's own unique set of ideals and standards rather than the criterion imposed by the researchers (Diener, 1984; Pavot &

Diener, 1993). Furthermore, students are likely to have different standards of what constitutes "the good life". Thus it is necessary to examine one's overall judgment of his/her life instead of one's satisfaction with particular domains such as health or financial status (Pavot & Diener, 1993). As such, Diener et al. (1985) designed the Satisfaction With Life Scale (SWLS) to measure respondents' global life satisfaction while allowing them to integrate and weigh different domains that they find important when critically evaluating their overall life satisfaction. While the two aspects (affective and cognitive) of SWB are not entirely independent from each other, they are relatively distinct thus, they can provide complementary data when measured individually (Pavot & Diener, 1993). Therefore, the SWLS is structured in such a way as to assess the construct of life satisfaction without tapping the affective component of SWB. The five items of the SWLS are rated on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). A sum score of 20 is indicative of being neutral, where the individual is about equivalently satisfied and dissatisfied with life (Pavot & Diener, 1993). As such, scores from 21 to 25 on the scale indicate slightly satisfied with life, whereas scores from 15 to 19 indicate slightly dissatisfied. Scores from 26 to 30 indicate satisfaction with life, while scores between 5 and 9 represent extreme dissatisfaction. Regardless of its structural brevity, the SWLS showed adequate psychometric properties reported by further research. The normative data obtained from different populations showed that the SWLS has good convergent validity with other scales and other forms of evaluation of SWB (Pavot & Diener, 1993). A growing number of studies have examined the psychometric properties of the SWLS in individualistic cultures, yet there is a scarcity of studies that have assessed the psychometric properties of the SWLS among collectivistic cultures (Areepattamannil & Bano, 2020). Moreover, because the understanding of SWB and its components may differ across cultures (Diener et al., 2017), further research in other cultural settings (e.g., collectivistic cultures) is necessary in order to determine the cross-cultural equivalence of the scale (Areepattamannil & Bano, 2020).

The EPOCH Scale

From the perspective of measuring SWB and the impact of PPIs, Seligman (2012) suggested the use of a well-being theory grounded in the PERMA model as an optimal way to measure critical subjective states such as flourishing, and further argued that the purpose of positive psychology is to increase respondents' sense of personal flourishing. The PERMA model is composed of 5 domains: Positive emotion, Engagement, positive Relationships, Meaning, and Accomplishment (Seligman, 2018). However, the vast majority of existing research on positive psychological functioning has considered only the adult populations thus there is a dearth of comparable information on child and adolescent functioning (Casas, 2011). Given the aforementioned struggles many students and adolescents face, the EPOCH model developed by Kern et al. (2016) is designed as an extension of the PERMA that focuses specifically on adolescents' well-being and strengths. The EPOCH instrument is made up of 20 statements that assess five different components: Engagement, Perseverance, Optimism, Connectedness, and Happiness. Engagement refers to a person's ability to become fully involved and absorbed in what one is doing. Perseverance is characterized by the ability to be persistent in accomplishing goals despite difficulties. Optimism is a sense of hope and confidence about the future, as well as a propensity to look at things from a positive perspective. Connectedness is conceptualized as developing positive interpersonal relationships and a sense that one is cared for, loved, and valued by others. Happiness refers to a long-lasting positive mood/state and satisfaction with life. Given the ages of participants within this study, the EPOCH was chosen, as opposed to the PERMA, as an additional measurement to determine to what extent, if any, the positive psychology course had on pre and post-measures.

Procedure

Through a quantitative comparison of changes in well-being as measured by SHS, SWLS, and EPOCH scores at the beginning and end of each semester, this study reports on the impact of a PPI course at a Thai university. All of the participants were enrolled in an international college at a Thai university in close proximity to the capital, Bangkok. This research was approved by the university institutional review board, and the students were informed of their right to withdrawal, right to confidentiality and right to anonymity, and so on prior to participation. The investigator who collected the data and received consent from participants did not teach this course and was not involved in any assessments, lectures, or presentations. This procedure was intended to reduce any pressure on the participants. To be eligible to participate in this research, students met three criteria: (1) are currently enrolled in the International College program at Mahidol University. (2) are enrolled in either the ICGS 127 Positive Psychology course (experimental group) or enrolled in other G.E. courses (control group) and (3) have completed the consent form via the Google Forms page prior to submitting their responses to the data gathering instruments.

The establishment of a baseline via the distribution of the measurement tools was conducted in week one of each semester with both the control and experimental groups. Following the final week of classes (week 12), the tools were once again distributed via Google Forms to both groups. The investigator discarded data from any participants who did not complete both the pre and posttest measures. Previous studies on positive psychology courses in education have revealed that student well-being may decrease during a semester (Barket et al., 2018).

Ethics Statement

The principal investigator completed the Collaborative Institutional Training Initiative ethics training course in social, behavioral, and humanities-based research prior to the onset of data collection. In addition, the investigators applied for and received approval from the Institutional Review Board at Mahidol University (MU-CIRB 2021/108.0203) where the intervention was initiated. The data was collected in according with the relevant guidelines and regulations as stipulated in the IRB and informed consent was obtained from all participants in this study. Protecting the confidentiality of data and participants was an integral aspect of this project, and as such, all information was anonymized and stored on an encrypted USB. When addressing the potential benefits versus harm of participation, the literature available on the use of PPIs gives reason to be excited about potential changes in student well-being. It is important at this early stage of development for researchers to consider the impact that cultural differences might have on the effectiveness of the methods they choose to incorporate. A potential benefit to participants is the opportunity to engage in their learning experience in more detail and perhaps, through exposure to many PPIs, develop more thorough introspection, metacognition, and the desire for greater well-being will occur. Providing participants with an opportunity to reflect on their experiences and how they have chosen to live their lives may assist in a lifestyle adjustment process through debiasing. The investigator acknowledges that a conceivable psychological or social risk is inherent in any research involving participants. The PPIs asked students to reflect on their sense of well-being and the impact of the interventions on student well-being. Within any discussion which involves personal well-being and happiness or airing of perceptions, there is a psychological risk. After much consideration and discussion with members of the research committee at the university, the investigator determined that the potential benefits outweighed the potential harms.

Results

The following analysis was completed using R (R Core Team, 2019). The descriptive statistics were calculated for both the control and the experimental group. As seen in table 1, the ratio of male and female participants aligned

well with the overall enrollment at the college and registration for the general education courses.

Differences between courses at baseline and completion of the semester were assessed using independent sample, unpaired t-tests. The normality of the data was visually assessed using Q-Q plots. Differences within participants from baseline (the pretest) to follow-up (posttest) in both courses were assessed using paired t-tests. Effect sizes were derived using means and standard deviations. Analysis indicates there is a statistically significant change in several of the scores of students who completed the positive psychology course. The alpha for testing statistical significance was $p < .05$. This analysis followed guidelines (Cohen, 1992) for interpreting effect size of group differences (small: $d = .20$, medium: $d = .50$, large: $d = .80$) was used for all analysis. This table has broken the EPOCH survey into five separate scores. Table 2 shows the Cronbach's Alpha results which indicate that the measures implemented within this study showed adequate internal consistency.

The unpaired t-test indicates that there is a significant difference between the control and experimental groups before the intervention. Welch's t-test was used; this test does not assume equal variance between the groups. Table 3 shows the results of the comparison of the control and experimental group prior to the intervention. In all seven areas (SHS, SWLS, and the five subscales of EPOCH), the mean of the experimental group is larger than the mean of the control group. In five of these seven cases — SHS, Engagement, Optimism, Connectedness, and Happiness — the difference between the control and experimental groups is statistically significant.

The hypothesis of this study is as follows: The Positive Psychology course will, when compared to the control group, positively impact student well-being as measured by responses to the Subjective Happiness Scale (hereafter SHS), the Satisfaction with Life Scale (SWLS), and the EPOCH. To directly address this hypothesis, paired-sample t-tests were conducted between the pretest and posttest results in each group.

Tables 4 and 5 display the result of the pretest and posttest SHS, SWLS, and EPOCH scores following the positive psychology course. The results indicate that among the experimental group, there are improvements in the SHS, SWLS, and all of the EPOCH scores. A total of four out of seven scores indicate the effect of the positive psychology course was significant. The most considerable changes were found in the EPOCH scores. Within the control group, there were decreases in the SHS, SWLS, and Optimism, while Happiness did not change.

Table 1 Participants

Participants	Female	Male	Prefer Not To Say	Total
Control	122	82	8	212
Experimental	91	60	6	157
Total	213	142	14	369

Table 2 Cronbach's Alpha Results

Scale	Control		Experimental	
	Pretest	Posttest	Pretest	Posttest
SWLS	0.79	0.82	0.72	0.82
SHS	0.78	0.79	0.74	0.79
Engagement	0.69	0.77	0.68	0.73
Perseverance	0.71	0.76	0.72	0.81
Optimism	0.73	0.72	0.70	0.72
Connectedness	0.74	0.79	0.64	0.76
Happiness	0.84	0.84	0.77	0.73

Table 3 Unpaired T-test Comparing Control and Experimental Groups before Intervention

	Control		Experimental			
Scale	*M*	*SD*	*M*	*SD*	*t(df)*	*p*
SHS	4.40	1.12	4.69	1.08	-2.55(342.09)	0.011*
SWLS	4.36	1.11	4.52	0.96	-1.41(358.12)	0.159
Engagement	3.17	0.74	3.33	0.71	-2.17(345.17)	0.031*
Perseverance	3.22	0.74	3.35	0.69	-1.79(348.25)	0.075
Optimism	3.25	0.86	3.48	0.78	-2.74(353.01)	0.007**
Connectedness	3.87	0.81	4.11	0.69	-3.03(359.15)	0.003**
Happiness	3.26	0.89	3.62	0.72	-2.20(352.31)	0.028*

* p < .05 ** p < .01 *** p < .001

Table 4 Paired-sample T-test Comparison of Pretest and Posttest Results for Control group

	Pretest		Posttest				
	M	*SD*	*M*	*SD*	Cohen's *d*	*t*	*p*
SHS	4.40	1.12	4.36	1.17	-0.05	0.77	0.445
SWLS	4.36	1.11	4.29	1.21	-0.08	1.23	0.221
Engagement	3.17	0.74	3.26	0.80	0.12	-1.78	0.077
Perseverance	3.22	0.74	3.27	0.79	0.08	-1.20	0.232
Optimism	3.25	0.86	3.23	0.85	-0.03	0.40	0.688
Connectedness	3.87	0.81	3.94	0.87	0.12	-1.69	0.092
Happiness	3.26	0.89	3.26	0.90	0.00	0.09	0.929

* p < .05 ** p < .01 *** p < .001

Table 5 Paired-sample T-test Comparison of Pretest and Posttest Results for Experimental Group

	Pretest		Posttest				
	M	*SD*	*M*	*SD*	Cohen's *d*	*t*	*p*
SHS	4.69	1.08	4.74	0.97	0.06	-0.71	0.476
SWLS	4.52	0.96	4.62	1.05	0.12	-1.46	0.146
Engagement	3.33	0.71	3.47	0.71	0.19	-2.44	0.016*
Perseverance	3.35	0.69	3.52	0.80	0.29	-3.62	0.000***
Optimism	3.48	0.78	3.61	0.76	0.18	-2.31	0.022*
Connectedness	4.11	0.69	4.12	0.73	0.02	-0.29	0.770
Happiness	3.46	0.80	3.62	0.72	0.22	-2.78	0.006**

* p < .05 ** p < .01 *** p < .001

Discussion

While many medical professionals responded to this global health crisis, academics and psychologists have also grown more conscious of the dramatic deterioration of mental health in the general population (Fiorillo & Gorwood, 2020; Salari et al., 2020). The results of this study suggest that the positive psychology course did increase well-being among students in the experimental group. These findings confirm previous studies' findings that PPIs can create small but reliable improvements in well-being (Sin & Lyubomirsky, 2009; White et al., 2019). The results of this study support the hypothesis and are consistent with previous studies on the implementation of positive psychology courses in higher education. The aim of this project was to introduce a course that could mitigate some of the negative effects of the pandemic. While it is too early to conclusively argue that this positive psychology course has a lasting impact on student well-being, the short-term results are encouraging. The promotion of PPIs in higher education can play an important role in helping students to understand their strengths (Galloway et al., 2020), boost well-being (Au & Kennedy 2018; Waters et al., 2017), and regulate their emotions (Morrish et al., 2018). This research has practical implications for educators and administrators alike. The most important aspect of this research is that while students face stressful situations, such as the pandemic, the data indicate that the positive psychology course increased well-being as measured by the SHS, SWLS, and EPOCH assessments.

The fairly low pre-intervention scores of well-being in this study also confirm results from previous results in Thailand (Pramukti et al., 2020; Wang et al., 2021). An additional noteworthy aspect of this study is that the differences in the control and the experimental groups' scores on all three measures prior to the intervention vary greatly. The participants who enrolled in the positive psychology course started the study with much higher levels of well-being as measured by the three instruments. The fact that the responses to the well-being measures increased significantly in the experimental group is all the more important given that they began the study with higher well-being scores. The control group, which began with lower well-being scores on all three measures, also experienced some interesting changes during the study. The SHS and SWLS and one out of the five measures in the EPOCH decreased among the control group, yet Engagement, Perseverance, and Connectedness all increased slightly during the intervention among the control group. Optimism decreased slightly, and Happiness levels did not change. Although these slight differences in pre and post-measures are not significant, they do indicate that well-being measures fluctuated throughout the semester.

There was a significant increase in SHS levels among the experimental group. Overall Thai student SHS scores were similar to those reported by Calderon et al. (2021). The scores of SHS are comparably lower than previous studies conducted with university students in the USA and other nations (Lyubomirsky & Lepper, 1999) and align well with research (Peltzer et al., 2017), indicating that students from South East Asia, and Thais in particular, report lower levels of SHS than students from Africa, South American and the Caribbean. While it is logical to explain that these differences may be the result of differences in culture (individualism versus collectivism, indulgence, or long-term orientation), further study which isolates cultural variables is necessary to come to an informed explanation for the low levels of SHS among Thai students.

A growing number of studies have examined the psychometric properties of the SWLS in individualistic cultures, yet there is a scarcity of studies that have assessed the psychometric properties of the SWLS among collectivistic cultures (Areepattamannil & Bano, 2020). The SWLS scores of Thais in previous research (Phulkerd et al., 2021) conducted on the elderly reported higher levels of satisfaction with life than the current study. The differences in SWLS can be attributed to the pandemic as the previous study collected data from participants prior to the outbreak. While this study recognizes that there is a possibility for awkward interpretation of the SWLS within the

Asian context as two out of the five measures of the SWLS are phrased in such a way that some (Wu & Yao, 2006) have suggested may be correlated to past levels of well-being as opposed to current levels. Nonetheless, the comparably low scores in the pre-intervention data for both the control and the experimental group should serve as a harbinger of the potential for much greater psychopathological concerns on campus. This concern is all the more valid when one considers that the control group responses to the SWLS declined during the study. The SHS and SWLS did not increase significantly in the experimental group. There may be an impact on well-being given that the scores in the control group declined, but this also requires further study. Greater exploration in an experimental design, as opposed to the quasi-experimental design used here, may reveal greater detail on the declines in well-being measures during the study period.

The results from the EPOCH measure indicate that while both the control and the experimental group increased in all of the five measures, levels of self-reported Engagement among the experimental group increased significantly. Previous research indicates self-reported engagement measures are related to greater life satisfaction and educational attainment (Chan et al., 2014). Perseverance is also linked to greater achievement (Dweck et al., 2014). Previous studies indicated that participants with higher levels of reported Perseverance are more likely to graduate, retain employment and maintain their marriage (Eskreis-Winkler et al., 2014). The levels of Optimism among the experimental group increased significantly. This is a positive aspect of this study as optimism levels are associated with greater psychological well-being, less distress, effective coping strategies, and stronger social relationships (Carver et al., 2010).

The experimental groups' slight increase for Connectedness was not expected, but there were statistically significant improvements in well-being scores for the other four areas. Connectedness refers to the degree that participants feel they have satisfying relationships with others, including the notion that they feel cared for and value and care for others. Given the negative impact of the pandemic, the lack of face-to-face interaction during an online course, and the cultural implications for Thais, commonly referred to as collectivists, perhaps the low scores for connectedness are a direct reflection of social distancing and online education. The lack of greater improvement in connectedness measures among the intervention group is all the more worrisome as greater connectedness is also a predictor of greater well-being (Olsson et al., 2013). If the university would like to improve student perceptions of connectedness, activities, even when conducted online, could be created to connect these students with their peers. The experimental group's responses to Happiness also increased significantly, which is an encouraging outcome of the intervention. Previous research (Hoyt et al., 2012) indicates that happiness levels are associated with less risk-taking behavior and more positive opinions of ones' health.

Overall, these findings align with a growing body of empirical studies on the potential for PPIs to exert a small but relatively reliable positive influence on self-report measures of well-being. As previously discussed, there are numerous multiple meta-analyses (Dickens, 2017; Moskowitz et al., 2021; Sin & Lyubomirsky, 2009; Zeng et al., 2015) which have come to a similar conclusion regarding the small to medium impact on participant well-being. While many of the previous studies of PPIs in higher education have been conducted in the west, this study further demonstrates that PPIs can be applied within the Thai context. This is all the more relevant given the devastating effects of the pandemic. The WHO has clearly stated that, during a pandemic, there is an inherent need to protect people from the "psychology impacts of the pandemic" (2017, p. 39). In response to calls to address the negative psychological results of the pandemic (Bavel et al., 2020; Holmes et al., 2020), this study provides evidence and suggestions for the implementation of PPIs in higher education in Thailand. The investigator recognizes that the academic outcomes of higher education are paramount to the mission of the university, yet, for reflective educators and psychologists alike,

greater consideration of mental health is also a responsibility of high education institutions (Hoare et al., 2017). This call for the prioritization of well-being within higher education is not new (Orygen, 2017; Parks, 2011), yet the pandemic has made the need to place a greater emphasis on student well-being apparent to administrators and faculty. This is particularly relevant when one considers the body of research that explores the positive correlation of well-being with academic and professional success (Seligman, 2011).

While the results of the PPI course are encouraging, there are areas for improvement in regard to future assessments of well-being measures and PPIs within Thai higher education. This study was conducted at an international college where English is the primary language of instruction. The instruments distributed to collect data were also in English. It must be noted that many students in Thai higher education learn in Thai and would not have been able to participate in this study. Future studies should consider implementing a Thai-language-based PPI curriculum and using Thai-language well-being measures. An additional method to bolster the outcomes of this study would include longitudinal data on the experimental group to determine if the improvements in well-being were maintained over a year to two years. Longitudinal data, perhaps with interviews from the control group regarding which PPIs were most memorable, practical and which PPIs, if any, the participants continued to use would allow for refinement of the positive psychology course and greater insight into the PPIs, which should be emphasized in future courses.

The results of this study, when taken together with the evidence discussed in the literature review of positive psychology and psychology in Thailand, support the notion that, given the considerable mental health concerns, the increased risks adolescents face, the comparably low levels of well-being in Thailand and the worrisome state of psychology within the Thai context, PPI centered courses have the potential to make a positive impact on student well-being. While these findings apply to the academic context, they do provide higher education institutions in Thailand with a potential tool to ameliorate the increasingly concerning mental health crisis that universities and colleges are facing.

Conclusion

The onset of psychological disorders, coupled with the stressors associated with the pandemic and the potential for additional hardship as a result of maturation, all contribute to the presence of psychopathological symptoms. As education systems continue to experience multiple waves of pandemic-based closures and the traditional university-style lecture or face-to-face learning environment becomes less and less common, the introduction of PPIs in general education curriculums can help bolster student responses to various stressors. The results of this study provide positive and encouraging data on the ability of a positive psychology course to improve student well-being. This is critical in higher education, given data on mental health during the current pandemic. Based on the results of this study, the introduction of PPIs to undergraduate students in Thailand can improve self-reported well-being. Therefore, this study proposes more Thai universities provide PPI-based courses, materials, or training sessions to enhance the psychological well-being of students.

Reference

1. Anantanasuwong, D., & Seenprachawong, U. (2012). Life satisfaction of the older Thai: Findings from the pilot HART. In Aging in Asia: Findings From New and Emerging Data Initiatives. National Academies Press (U.S.).Areepattamannil, S., & Bano, S. (2020). Psychometric properties of the Satisfaction with Life Scale (SWLS) among middle adolescents in a collectivist cultural setting. Psychological Studies, 65(4), 497-503.
2. Arslan, G. (2021). Loneliness, college belongingness, subjective vitality, and psychological well-being during

coronavirus pandemic: Preliminary development of the College Belongingness Questionnaire. Journal of Positive School Psychology, 5(1), 17-31.
3. Arslan, G. & Yıldırım, M. (2021). Perceived risk, positive youth-parent relationships, and internalizing problems in adolescents: Initial development of the Meaningful School Questionnaire. Child Indicators Research.
4. Arslan, G., Yıldırım, M., & Zangeneh, M. (2022). Coronavirus anxiety and psychological adjustment in college students: Exploring the role of college belongingness and social media addiction. International Journal of Mental Health and Addiction, 20(3), 1546-1559.
5. Au, W. C. C., & Kennedy, K. J. (2018). A positive education program to promote well-being in schools: A case study from a Hong Kong school. Higher Education Studies, 8(4), 9–22.
6. Banati, P., Jones, N., & Youssef, S. (2020). Intersecting vulnerabilities: The impacts of COVID-19 on the psycho-emotional lives of young people in low- and middle-income countries. The European Journal of Development Research, 32(5), 1613–1638.
7. Bassett, S. M., Cohn, M., Cotten, P., Kwok, I., & Moskowitz, J. T. (2019). Feasibility and acceptability of an online positive affect intervention for those living with comorbid HIV depression. AIDS and Behavior, 23(3), 753-764.
8. Bavel, J. J. V., Baicker, K., Boggio, P. S., Capraro, V., Cichocka, A., Cikara, M., ... & Willer, R. (2020). Using social and behavioural science to support COVID-19 pandemic response. Nature human behaviour, 4(5), 460-471.
9. Bolier, L., Haverman, M., Westerhof, G. J., Riper, H., Smit, F., & Bohlmeijer, E. (2013). Positive psychology interventions: a meta-analysis of randomized controlled studies. BMC public health, 13(1), 1-20.
10. Bliźniewska-Kowalska, K. M., Halaris, A., Wang, S. C., Su, K. P., Maes, M., Berk, M., & Gałecki, P. (2021). A review of the global impact of the COVID-19 pandemic on public mental health, with a comparison between the USA, Australia, and Poland with Taiwan and Thailand. Medical science monitor: international medical journal of experimental and clinical research, 27, e932220-1.
11. Boonvisudhi, T., & Kuladee, S. (2017). Association between Internet addiction and depression in Thai medical students at Faculty of Medicine, Ramathibodi Hospital. PloS one, 12(3), e0174209.
12. Burnard, P., Naiyapatana, W., & Lloyd, G. (2006). Views of mental illness and mental health care in Thailand: A report of an ethnographic study. Journal of Psychiatric and Mental Health Nursing, 13(6), 742–49.
13. Calderon Jr, R., Pupanead, S., Prachakul, W., & Kim, G. (2021). Happiness, perceived stress, psychological well-being, and health behaviors of Thai university students: Preliminary results from a multinational study on well-being. Journal of American College Health, 69(2), 176-184.
14. Carver, C. S., Scheier, M. F., & Segerstrom, S. C. (2010). Optimism. Clinical Psychology Review, 30(7), 879-889.
15. Casas, F. (2011, 2011/10/01). Subjective Social Indicators and Child and Adolescent Well-being. Child Indicators Research, 4(4), 555-575.
16. Castro, E., & George, J. (2021). The Impact of COVID-19 on Student Perceptions of Education and Engagement. e-Journal of Business Education and Scholarship of Teaching, 15(1), 28-39.
17. Cellini, N., Canale, N., Mioni, G., & Costa, S. (2020). Changes in sleep pattern, sense of time and digital media use during COVID-19 lockdown in Italy. Journal of sleep research, 29(4), e13074.
18. Chakhssi, F., Kraiss, J. T., Sommers-Spijkerman, M., & Bohlmeijer, E. T. (2018). The effect of positive psychology interventions on well-being and distress in clinical samples with psychiatric or somatic disorders: A systematic review and meta-analysis. BMC psychiatry, 18(1), 1-17.

19. Chan, W. Y., Ou, S.-R., & Reynolds, A. J. (2014). Adolescent civic engagement and adult outcomes: An examination among urban racial minorities. Journal of Youth and Adolescents, 43, 1829-1843.
20. Choompunuch, B., Suksatan, W., Sonsroem, J., Kutawan, S., & In-udom, A. (2021). Stress, adversity quotient, and health behaviors of undergraduate students in a Thai university during COVID-19 outbreak. Belitung Nursing Journal, 7(1), 1-7.
21. Cohen, J. (1992). A power primer. Psychological bulletin, 112(1), 155.
22. Conley, C. S., Travers, L. V., & Bryant, F. B. (2013). Promoting psychosocial adjustment and stress management in first-year college students: The benefits of engagement in a psychosocial wellness seminar. Journal of American College Health, 61(2), 75–86.
23. Csikszentmihalhi, M. (2020). Finding flow: The psychology of engagement with everyday life. Hachette UK.
24. Davidson, O. B., Feldman, D. B., & Margalit, M. (2012). A focused intervention for 1st-year college students: Promoting hope, sense of coherence, and self-efficacy. The Journal of psychology, 146(3), 333-352.
25. Department of Mental Health. (2021). 2020 Annual Report. Retrieved from
26. https://www.dmh.go.th/ebook/files/รายงานประจำปีกรมสุขภาพจิต%20ปีงบประมาณ%202563.PDF
27. Dickens, L. R. (2017). Using gratitude to promote positive change: A series of meta-analyses investigating the effectiveness of gratitude interventions. Basic and Applied Social Psychology, 39(4), 193-208.
28. Diener, E. (1984). Subjective well-being. Psychological Bulletin, 95(3), 542–575.
29. Diener, E. (1998). Subjective well-being and personality. In Advanced personality (pp. 311-334). Springer, Boston, MA.
30. Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. Am Psychol, 55(1), 34-43.
31. Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. Journal of Personality Assessment, 49(1), 71-75.
32. Diener, E., Pressman, S. D., Hunter, J., & Delgadillo-Chase, D. (2017). If, why, and when subjective well-being influences health, and future needed research. Applied Psychology: Health and Well-Being, 9(2), 133-167.
33. Diener, E., Suh, E., & Oishi, S. (1997). Recent findings on subjective well-being. Indian Journal of Clinical Psychology, 24(1), 25–41.
34. Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: Perseverance and passion for long-term goals. Journal of Personality and Social Psychology, 9, 1087-1101
35. Dweck, C. S., Walton, G. M., & Cohen, G. L. (2014). Academic tenacity: Mindsets and skills that promote long-term learning. Bill and Melinda Gates Foundation. Retrieved from http://collegeready.gatesfoundation.org/article/academic-tenacity-mindsets-and-skillspromote-long-term-learning
36. Eskreis-Winkler, L., Shulman, E. P., Beal, S. A., & Duckworth, A. L. (2014). The grit effect: Predicting retention in the military, the workplace, school and marriage. Frontiers in Psychology, 5(36).
37. Extremera, N., & Fernández-Berrocal, P. (2014). The Subjective Happiness Scale: Translation and preliminary psychometric evaluation of a Spanish version. Social Indicators Research, 119(1), 473-481.
38. Fiorillo, A., & Gorwood, P. (2020). The consequences of the COVID-19 pandemic on mental health and implications for clinical practice. European Psychiatry, 63(1).
39. Flynn, N., Keane, E., Davitt, E., McCauley, V., Heinz, M., & Mac Ruairc, G. (2021). “Schooling at Home” in Ireland during COVID-19’: Parents’ and students’ perspectives on overall impact, continuity of interest, and impact on learning. Irish Educational Studies, 40(2), 217–226.
40. Forsman, A. K., Wahlbeck, K., Aarø, L. E., Alonso, J., Barry, M. M., Brunn, M., ... & Värnik, A. (2015). Research priorities for public mental health in Europe:

recommendations of the ROAMER project. The European Journal of Public Health, 25(2), 249-254.
41. Fredrickson, B. L. (2013). Positive emotions broaden and build. Advances in Experimental Social Psychology, 47, 1–53.
42. Fredrickson, B. L., Tugade, M. M., Waugh, C. E., & Larkin, G. R. (2003). What good are positive emotions in crisis? A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11, 2001. Journal of personality and social psychology, 84(2), 365.
43. Froh, J. J. (2004). The history of positive psychology: Truth be told. NYS psychologist, 16(3), 18-20.
44. Galloway, R., Reynolds, B., & Williamson, J. (2020). Strengths-Based teaching and learning approaches for children: perceptions and practices. Journal of Pedagogical Research, 4(1), 31–45.
45. Garbe, A., Ogurlu, U., Logan, N., & Cook, P. (2020). COVID-19 and remote learning: Experiences of parents with children during the pandemic. American Journal of Qualitative Research, 4(3), 45–65.
46. Goodmon, L. B., Middleditch, A. M., Childs, B., & Pietrasiuk, S. E. (2016). Positive psychology course and its relationship to well-being, depression, and stress. Teaching of Psychology, 43(3), 232-237.
47. Goodwin, R., Wiwattanapantuwong, J., Tuicomepee, A., Suttiwan, P., & Watakakosol, R. (2020). Anxiety and public responses to covid-19: Early data from Thailand. Journal of psychiatric research, 129, 118-121.
48. Gustems-Carnicer, J., Calderón, C., & Calderón-Garrido, D. (2019). Stress, coping strategies and academic achievement in teacher education students. European Journal of Teacher Education, 42(3), 375-390.
49. Hoare, E., Bott, D., & Robinson, J. (2017). Learn it, Live it, Teach it, Embed it: Implementing a whole school approach to foster positive mental health and well-being through Positive Education. International Journal of Wellbeing, 7(3).
50. Holmes, E. A., O'Connor, R. C., Perry, V. H., Tracey, I., Wessely, S., Arseneault, L., ... & Bullmore, E. (2020). Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science. The Lancet Psychiatry, 7(6), 547-560.
51. Hone, L. C., Jarden, A., Schofield, G. M., & Duncan, S. (2014). Measuring flourishing: The impact of operational definitions on the prevalence of high levels of well-being. International Journal of Wellbeing, 4(1).
52. Hone, L. C., Jarden, A., & Schofield, G. M. (2015). An evaluation of positive psychology intervention effectiveness trials using the re-aim framework: A practice-friendly review. The Journal of Positive Psychology, 10(4), 303-322.
53. Horita, R., Nishio, A., & Yamamoto, M. (2021). The effect of remote learning on the mental health of first year university students in Japan. Psychiatry research, 295, 113561.
54. Howell, A. J. (2009). Flourishing: Achievement-related correlates of students' well-being. The Journal of Positive Psychology, 4(1), 1-13.
55. Hoyt, L. T., Chase-Lansdale, P. L., McDade, T. W., & Adam, E. K. (2012). Positive youth, healthy adults: Does positive well-being in adolescence predict better perceived health and fewer risky behaviors in young adulthood? Journal of Adolescent Health, 50, 66-73.
56. Huppert, F. A., & Johnson, D. M. (2010). A controlled trial of mindfulness training in schools: The importance of practice for an impact on well-being. The Journal of Positive Psychology, 5(4), 264-274.
57. Jansongsang, W. [จันทร์ส่งแสง, ว]. (2007). ฝ่าข้าม ความบ้า [Overcoming madness]. Sirindhorn National Medical Rehabilitation Institute.
58. Jiang, N., Yan-Li, S., Pamanee, K., & Sriyanto, J. (2021). Depression, Anxiety, and Stress During the COVID-19 Pandemic: Comparison Among Higher

Education Students in Four Countries in the Asia-Pacific Region. Journal of Population and Social Studies [JPSS], 29, 370-383.
59. Kaewprom, C., Curtis, J., & Deane, F. (2011). Factors involved in recovery from schizophrenia: A qualitative study of Thai mental health nurses. Nursing & Health Sciences, 13(3), 323–327.
60. Kendler, K. S., Edwards, A., Myers, J., Cho, S. B., Adkins, A., & Dick, D. (2015). The predictive power of family history measures of alcohol and drug problems and internalizing disorders in a college population. American Journal of Medical Genetics Part B: Neuropsychiatric Genetics, 168(5), 337-346.
61. Kern, M. L., Benson, L., Steinberg, E. A., & Steinberg, L. (2016). The EPOCH measure of adolescent well-being. Psychol Assess, 28(5), 586-597.
62. Keyes, C. L. (2005). Mental illness and/or mental health? Investigating axioms of the complete state model of health. Journal of consulting and clinical psychology, 73(3), 539.
63. Kitiratanapaiboon, P., Tanrangsee, N., Chutha, W., Tan-aaree, A., Kwansanid, P., Adsanangkornchai, S., Supanya, S., et al. [กิติรัตนไพบูลย์, พ., ตันติรังสี, น., จุฑา, ว., ตันอารีย์, อ., ขวัญสนิท, ป., อัษณางค์กรชัย, ส., สุปัญญา, ส.]. (2016). รายงานการศึกษาเรื่องความชุกของโรคจิตเวชและปัญหาสุขภาพจิต: การสำรวจระบาดวิทยาสุขภาพจิตของคนไทยระดับชาติ ปี พ.ศ. 2556 [Prevalence of mental disorders and mental health problems: Results from Thai national mental health survey 2013]. Department of Mental Health.
64. Kobau, R., Seligman, M. E., Peterson, C., Diener, E., Zack, M. M., Chapman, D., & Thompson, W. (2011). Mental health promotion in public health: Perspectives and strategies from positive psychology. American journal of public health, 101(8), e1-e9.
65. Koydemir, S., & Sun-Selışık, Z. E. (2016). Well-being on campus: Testing the effectiveness of an online strengths-based intervention for first year college students. British Journal of Guidance & Counselling, 44(4), 434–446.
66. Kudva, K. G., El Hayek, S., Gupta, A. K., Kurokawa, S., Bangshan, L., Armas-Villavicencio, M. V. C., ... & Sartorius, N. (2020). Stigma in mental illness: Perspective from eight Asian nations. Asia-Pacific Psychiatry, 12(2), e12380.
67. Lambert, L., Passmore, H. A., & Joshanloo, M. (2019). A positive psychology intervention program in a culturally-diverse university: Boosting happiness and reducing fear. Journal of Happiness Studies, 20, 1141–1162.
68. Lambert, L., Warren, M. A., Schwam, A., & Warren, M. T. (2021). Positive psychology interventions in the United Arab Emirates: boosting well-being–and changing culture?. Current psychology, 1-14.
69. Lefevor, G. T., Jensen, D. R., Jones, P. J., Janis, R. A., & Hsieh, C. H. (2018). An undergraduate positive psychology course as prevention and outreach.
70. Loo, P. W., Wong, S., & Furnham, A. (2012). Mental health literacy: A cross-cultural study from Britain, Hong Kong and Malaysia. Asia-Pacific Psychiatry, 4(2), 113-125.
71. Lucktong, A., Salisbury, T. T. & Chamratrithirong, A. (2017). The impact of parental, peer, and school attachment on the psychological well-being of early adolescents in Thailand. International Journal of Adolescence and Youth, 23(2), 235-249.
72. Lyubomirsky, S. (2008). The How of Happiness: A New Approach to Getting the life you want. Penguin.
73. Lyubomirsky, S., & Lepper, H. S. (1999). A measure of subjective happiness: Preliminary reliability and construct validation. Social Indicators Research, 46(2), 137-155.
74. Maddux, J. E. (2020). Stopping the "Madness" 7. The Oxford Handbook of Positive Psychology, 73.
75. Magson, N. R., Freeman, J. Y. A., Rapee, R. M., Richardson, C. E., Oar, E. L., & Fardouly, J.
76. (2021). Risk and protective factors for prospective changes in adolescent mental

77. health during the COVID-19 pandemic. Journal of Youth and Adolescence, 50(1), 44–
78. 57.
79. Maslow, A. H. (1954). Motivation and personality. New York: Harper & Row, Publishers.
80. Mehl, M. R., Vazire, S., Holleran, S. E., & Clark, C. S. (2010). Eavesdropping on happiness: Well-being is related to having less small talk and more substantive conversations. Psychological science, 21(4), 539-541.
81. Mingkwanjai, C., Prasertsong, C., & Kasipul, T. (2015). ผลของการใช้โปรแกรมการให้ความรู้ทางสุขภาพของพยาบาลเวชปฏิบัติชุมชน ต่อความรู้ ทัศนคติ และการปฏิบัติของครอบครัวผู้ดูแลผู้ป่วยโรคซึมเศร้า [The Effects of Community Nurse Practitioner's Health Educational Program on The Knowledge, Attitude and Practice in FamilyCaregivers of Patients With Depression]. Journal of the Royal Thai Army Nurses, 16(3), 60-67. Retrieved from https://www.tci-thaijo.org/index.php/JRTAN /article/view/47665/39537
82. Morrish, L., Rickard, N., Chin, T. C., & Vella-Brodrick, D. A. (2018). Emotion regulation in adolescent well-being and positive education. Journal of Happiness Studies, 19(5), 1543–1564.
83. Moskowitz, J. T., Cheung, E. O., Freedman, M., Fernando, C., Zhang, M. W., Huffman, J. C., & Addington, E. L. (2021). Measuring positive emotion outcomes in positive psychology interventions: a literature review. Emotion Review, 13(1), 60-73.
84. Olsson, C. A., McGee, R., Nada-Raja, S., & Williams, S. M. (2013). A 32-year longitudinal study of child and adolescent pathways to well-being in adulthood. Journal of Happiness Studies, 14, 1069-1083.
85. Orygen. (2017). Under the radar: The mental health of Australian university students. Orygen. The National Centre of Excellence in Youth Mental Health.
86. Owens, R. L., & Waters, L. (2020). What does positive psychology tell us about early intervention and prevention with children and adolescents? A review of positive psychological interventions with young people. The Journal of Positive Psychology, 15(5), 588-597.
87. Parks, A. C. (2011). The state of positive psychology in higher education: Introduction to the special issue. The Journal of Positive Psychology, 6(6), 429-431.
88. Pavot, W., & Diener, E. (1993). Review of the Satisfaction with Life Scale. Psychological Assessment, 5, 164-172.
89. Pedrelli, P., Nyer, M., Yeung, A., Zulauf, C., & Wilens, T. (2015). College students: mental health problems and treatment considerations. Academic psychiatry, 39(5), 503-511.
90. Peltzer, K., Pengpid, S., Sodi, T., & Mantilla Toloza, S. C. (2017). Happiness and health behaviours among university students from 24 low, middle and high income countries. Journal of Psychology in Africa, 27(1), 61-68.
91. Pengpid, S., & Peltzer, K. (2019). Alcohol use and misuse among school-going adolescents in Thailand: results of a national survey in 2015. International journal of environmental research and public health, 16(11), 1898.
92. Peterson, C. (2006). A primer in positive psychology. New York: Oxford University Press.
93. Phulkerd, S., Thapsuwan, S., Chamratrithirong, A., & Gray, R. S. (2021). Influence of healthy lifestyle behaviors on life satisfaction in the aging population of Thailand: a national population-based survey. BMC Public Health, 21(1), 1-10.
94. Pitakchinnapong, N., & Rhein, D. (2019). Exploration of the Causation of Stigmatization of Mental Illness in Thailand. Human Behavior, Development and Society, 20(2), 7-19.
95. Pramukti, I., Strong, C., Sitthimongkol, Y., Setiawan, A., Pandin, M. G. R., Yen, C. F., ... & Ko, N. Y. (2020). Anxiety and suicidal thoughts during the COVID-19

pandemic: cross-country comparative study among Indonesian, Taiwanese, and Thai university students. Journal of medical Internet research, 22(12), e24487.
96. Pressman, S. D., & Cohen, S. (2005). Does positive affect influence health? Psychological bulletin, 131(6), 925.
97. Pressman, S. D., Jenkins, B. N., & Moskowitz, J. T. (2019). Positive affect and health: what do we know and where next should we go? Annual Review of Psychology, 70, 627-650.
98. Pumpayung, P., & Taifapoon, T. [พุ่มพยุง, พ., & ใต้ฟ้าพูล, ธ.]. (2018). อิทธิพลของผู้นำความคิดในเครือข่ายสังคมออนไลน์ต่อการรับรู้ทัศนคติ และการตัดสินใจใช้บริการด้านสุขภาพจิต [Influence of opinion leaders in online social network on stigma, attitude and decision making towards mental healthcare service]. Journal of Public Relations and Advertising, 11(1), 21-42.
99. Pumpuang, W., Vongsirimas, N., & Klainin-Yobas, P. (2021). Do gender differences affect the psychological well-being of high schoolers in Thailand? Journal of Population and Social Studies [JPSS], 29, 207-222.
100. Rainville, J. R., & Hodes, G. E. (2019). Inflaming sex differences in mood disorders. Neuropsychopharmacology, 44(1), 184-199.
101. Rhein, D., & Sukawatana, P. (2015). Thai university student schemas and anxiety symptomatology. International Education Studies, 8(7), 108-126.
102. Russo-Netzer, P., & Ben-Shahar, T. (2014). 'Learning from success': A close look at a popular positive psychology course. In Positive Psychology in Higher Education (pp. 57-65). Routledge.
103. Salari, N., Hosseinian-Far, A., Jalali, R., Vaisi-Raygani, A., Rasoulpoor, S., Mohammadi, M., ... & Khaledi-Paveh, B. (2020). Prevalence of stress, anxiety, depression among the general population during the COVID-19 pandemic: a systematic review and meta-analysis. Globalization and health, 16(1), 1-11.
104. Sanseeha, L., Chontawan, R., Sethabouppha, H., Disayavanish, C., & Turale, S. (2009). Illness perspectives of Thais diagnosed with schzophrenia. Nursing and Health Sciences, 11, 306–311.
105. Seligman, M. E. (1998). Building human strength: Psychology's forgotten mission.
106. Seligman, M. E. (1999). The president's address. American psychologist, 54(8), 559-562.
107. Seligman, M. E. (2018). PERMA and the building blocks of well-being. The Journal of Positive Psychology, 13(4), 333-335.
108. Seligman, M. E. (2011). Flourish. New York, NY: Simon & Schuster.
109. Seligman, M. E. (2012). Flourish: A visionary new understanding of happiness and well-being. Simon and Schuster.
110. Seligman, M. E., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. American Psychologist, 55, 5–14
111. Seligman, M. E., Rashid, T., & Parks, A. C. (2006). Positive psychotherapy. American Psychologist, 61(8), 774.
112. Schumer, M. C., Lindsay, E. K., & Creswell, J. D. (2018). Brief mindfulness training for negative affectivity: A systematic review and meta-analysis. Journal of Consulting and Clinical Psychology, 86(7), 569.
113. Sin, N. L., & Lyubomirsky, S. (2009). Enhancing well-being and alleviating depressive symptoms with positive psychology interventions: A practice-friendly meta-analysis. Journal of Clinical Psychology, 65, 467–487.
114. Slavin, S. J., Schindler, D. L., & Chibnall, J. T. (2014). Medical student mental health 3.0: improving student wellness through curricular changes. Academic Medicine, 89(4), 573.
115. Somchai, P., & Charin, L. (2004). A survey of population's attitude in mental health, stigma, and mental health service to decision of mentalhealth service use. Journal of Mental Health of Thailand, 12(2).
116. Stallman, H. M. (2018). Coping planning: A patient- and strengths-focused approach to suicide prevention training. Australasian Psychiatry, 26(2), 141–144.

117. Suksatan, W., Choompunuch, B., Koontalay, A., Posai, V., & Abusafia, A. H. (2021). Predictors of health behaviors among undergraduate students during the COVID-19 pandemic: a cross-sectional predictive study. Journal of multidisciplinary healthcare, 14, 727.
118. Suwanlert, S. (1976). Neurotic and psychotic states attributed to Thai "Phii Pob" spirit possession. Australian and New Zealand Journal of Psychiatry, 10, 119–123.
119. Tang, S., & Ferguson, A. (2014). The possibility of well-being: Preliminary results from surveys of Australian professional legal education students. QUT Law Review, 14(1), 27-51.
120. Thadanukoonwattana, C., Sitthirerk, T., & Chanthapratheep, T. (2016). เจตคติตราบาปต่อโรคซึมเศร้า: ระยะห่างทางสังคมและพฤติกรรมการช่วยเหลือ [Stigma attitudes toward depression : social distance and prosocial behaviors] (Thesis). Retrieved from https://cuir.car.chula.ac.th/handle/123456789/57868
121. Thanoi, W., Kasornsri, S., Thavorn, T., & Vongsirimas, N. (2018). Factors influencing mindfulness among undergraduate students. The Journal of Psychiatric Nursing and Mental Health, 32(2), 130- 144.
122. Thavorn, T., Pimroon, S., & Thanoi, W. (2018). Correlated factors of psychological well-being among high school students. Nursing Science Journal of Thailand, 36(3), 59-70.
123. Veenhoven, R. (2009). How do we assess how happy we are? Tenets, Implications and Tenability of Three Theories. In A. K. Dutt, & B. Radcliff (Eds.), Happiness, Economics and Politics. Edward Elgar Publishing.
124. Veenhoven, R. (2020). World database of happiness. In H. Welsch, D. Maddison, & K. Rehdanz (Eds.), Handbook of well-being, happiness and the environment. (pp. 25-45): Edward Elgar Publishing.
125. Walsh, S., Szymczynska, P., Taylor, S. J., & Priebe, S. (2018). The acceptability of an online intervention using positive psychology for depression: A qualitative study. Internet interventions, 13, 60-66.
126. Wang, C., Tee, M., Roy, A. E., Fardin, M. A., Srichokchatchawan, W., Habib, H. A., ... & Kuruchittham, V. (2021). The impact of COVID-19 pandemic on physical and mental health of Asians: A study of seven middle-income countries in Asia. PloS one, 16(2), e0246824.
127. Waters, L., Sun, J., Rusk, R., Cotton, A., & Arch, A. (2017). Positive education: Visible well-being and positive functioning in students. In M. Slade, L. Oades, & A. Jarden (Eds.), Wellbeing, recovery and mental health. (pp. 245–264). Cambridge University Press.
128. Waters, L., Cameron, K., Nelson-Coffey, S. K., Crone, D. L., Kern, M. L., Lomas, T., ... & Williams, P. (2021). Collective well-being and posttraumatic growth during covid-19: How positive psychology can help families, schools, workplaces and marginalized communities. The Journal of Positive Psychology, 1-29.
129. Weiss, L. A., & Westerhof, G. J. Bahlmeijer. (2016).“Can We Increase Psychological Well Being? The Effect Of Interventions On Psychological PWB: A Meta-Analysis of Randomized Controlled Trial”. Journal Pone, 11(6), 1-16.
130. White, C. A., Uttl, B., & Holder, M. D. (2019). Meta-analyses of positive psychology interventions: The effects are much smaller than previously reported. PloS one, 14(5), e0216588.
131. World Health Organization. (2017). Pandemic influenza risk management: a WHO guide to inform and harmonize national and international pandemic preparedness and response (No. WHO/WHE/IHM/GIP/2017.1). World Health Organization.
132. World Health Organization. (2020). Mental health and psychosocial considerations during the COVID-19 outbreak. (No. WHO/2019-nCoV/MentalHealth/2020.1). Retrieved from https://apps.who.int/iris/bitstream/handle/10665/331490/WHO-2019-

nCoVMentalHealth2020.1-eng.pdf?sequence=1&isAllowed=y
133. World Health Organization. (2020). Adolescent mental health. Retrieved from
134. https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health
135. Yang, D., Tu, C. C., & Dai, X. (2020). The effect of the 2019 novel coronavirus pandemic on college students in Wuhan. Psychological Trauma: Theory, Research, Practice, and Policy, 12(S1), S6–S14.
136. Zeng, X., Chiu, C. P., Wang, R., Oei, T. P., & Leung, F. Y. (2015). The effect of loving-kindness meditation on positive emotions: a meta-analytic review. Frontiers in psychology, 6, 1693.
137. Zhang, Z., Sun, K., Jatchavala, C., Koh, J., Chia, Y., Bose, J., ... & Ho, R. (2020). Overview of stigma against psychiatric illnesses and advancements of anti-stigma activities in six Asian societies. International journal of environmental research and public health, 17(1), 280.