

Study Protocol

Evaluation of an Online Physical and Mental Wellbeing Program for UST CRS Students: A Feasibility Study Protocol

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Article Received: May 25, 2022

Article Accepted: October 29, 2022

Article Published: February 15, 2023

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Abstract

Background: With the COVID-19 pandemic and sudden transition to online learning, students experience academic difficulties, which are correlated to physical and mental health. The need for implementation of an online wellbeing intervention program for students may lead to better health and improved academic performance. **Objectives:** This study aims to evaluate the feasibility and effectiveness of a six-week online educational wellbeing program for University of Santo Tomas College of Rehabilitation Sciences (UST-CRS) students on their physical and mental health. **Method:** This will utilize a quasi-experimental one-group pretest-posttest design, with purposive sampling of at least 40 participants with no physical and/or mental condition. Participants' eligibility will be screened using the Physical Activity Readiness Questionnaire and Counseling Center Assessment of Psychological Symptoms. Wix platform will be used to assess participants' well-being, which encompasses psychological and physical activities including physical activity tracking, virtual group exercises, Positive Psychological Intervention, walking, motivational interviewing, mindfulness exercises, Acceptance and Commitment Therapy, and Internet-based cognitive behavioral therapy. The International Physical Activity Questionnaire and World Health Organization-Five WellBeing Index will be used as pre and post-tests. Descriptive statistics will be used to summarize data and inferential statistics for Paired t-tests or Wilcoxon. **Expected Results:** The findings will include the participants' responses on the feasibility of the physical and mental wellbeing components of the proposed online program. Results are expected to be beneficial to students and university personnel for promoting a conducive learning environment and may be recommended for college-wide online program.

Key Words: online, wellbeing, physical, mental, feasibility

INTRODUCTION

The COVID-19 pandemic has caused disturbances in the whole world, affecting daily living, businesses, and even the global economy.¹ During the pandemic, students experience difficulties coping with their academic routine attributable to a lack of social interaction with their academic peers, financial constraints, and limited internet availability.² These affect their wellbeing, making it one of the students' primary concerns during the pandemic.³

According to the Centers for Disease Control and Prevention, wellbeing is a human condition, which pertains to a healthy and positive-driven state of life. Physical and mental health are commonly correlated factors in measuring a person's state of life, wherein a more holistic approach to dealing with both factors may aid in preventing sickness and promoting better health.⁴ Students, specifically, may be affected in terms of their academic performance in an online learning setup.^{2,5} Changes in the learning environment, work-life balance, and personal factors, like stressors and pressures, negatively affected the mental wellbeing of the students.^{5,6}

A preliminary review revealed that, to date, only two published studies have evaluated the

effectiveness of an online wellbeing program for healthcare students' physical and mental wellbeing.⁶ A majority of the studies were found to be implemented abroad, mainly focusing on mental interventions, and a few articles integrated physical interventions.⁶ Like any other health and behavioral programs, the local implementation of an online wellbeing program may not be similar to all countries, including the Philippines. Local contextual factors such as poor internet connectivity, lack of study spaces at home, power interruptions, weak infrastructures, high internet costs, different adjustments in learning styles, domestic responsibilities and financial concerns, and possible poor communication with people due to technological use and availability constraints may serve as barriers in the implementation.⁷ Despite these barriers, the Philippines has been seen to be one of the most active countries to use social media and the internet and is still shifting daily transactions and practices from traditional in-person interaction to a digitalized way of living which is a big factor for the researchers to push through with the use of online delivery for this study.8,9

This preliminary feasibility study will focus on the local setting to address any significant differences that may not be present in studies from developed countries. It primarily aims to evaluate a six-week educational online wellbeing program with materials created by healthcare professionals for rehabilitation sciences students.^{6,10} Furthermore, this will evaluate the program by determining the effectiveness and feasibility of conducting the online wellbeing program on the physical and mental health of University of Santo Tomas College of Rehabilitation Sciences (UST-CRS) students. This research study aims to address the gap in the existing literature by targeting and evaluating both physical and mental wellbeing, since these aspects are found to be correlated with each other in terms of student wellbeing.

METHODS

Ethical Considerations. The study protocol was reviewed and approved by the UST-CRS Ethical Review Committee (UST-CRS-ERC) [Protocol Number: SI-2021-035-R2]. This will comply with the ethical principles and guidelines of the Declaration of Helsinki, the Belmont Report, and the Philippine Health Research Ethics. The entire research team will also allow the UST-CRS-ERC access to the website to ensure that no protocol violation will occur. Any deviation or violation of the approved protocol will be reported immediately to UST-CRSERC following their Standard Operating Procedure.

Study Design. A quasi-experimental one-group pretest-posttest design, which requires testing with only one group and only looks after the program feasibility, will be used in the study.¹¹ It is part exploratory and part experimental research. This will assess the feasibility of the proposed online wellbeing program, which is not a characteristic of a pure experimental design. The CONSORT extension for Pilot and Feasibility Trials was used as a guideline in writing the research protocol. The research study has been registered in the Philippine Health Research Registry [Registry ID: PHRR220301-004341].

Study Participants and Setting. The recruitment criteria, which include the inclusion and exclusion criteria, were adapted from the previous online wellbeing education studies.^{5,12-15}

The pilot study will utilize a purposive sampling method. A total of 40 for the sample size was computed to be needed using the Stata 17 software to reach 80% power of the study, with a 0.05 level of significance while considering the possible 20% attrition rate.¹³ As this is a feasibility study, the recruitment of as many participants as possible with varied characteristics will be conducted through social media.

The study will be conducted online using the Wix platform that allows the creation of Members Only pages, which will only be accessed by the researchers and the participants. The site also allows the researchers to view the site members and manage the permissions and information of the participants. Website access will only be given to those included in the study, verified by the researchers.¹⁶ The study will be implemented at the University of Santo Tomas

Table 1. Recruitment Criteria

Inclusion Criteria			Exclusion Criteria			
•	Bona fide students of the UST College of Rehabilitation Sciences (CRS) who will be enrolling for both the 2nd Semester of Academic Year 2021- 2022 and the 1st Semester of Academic Year 2022- 2023.	•	Participants with psychological conditions such as depression, anxiety disorders, bipolar disorders, and schizophrenia, unless given clearance by their psychiatrists or guidance counselors. ¹² Participants with concerns in performing physical			
٠	CRS students who are 18 years old and above		activities as checked by the Physical Activity			
•	Participants who are cleared by psychiatrists, physicians, and counselors		Readiness Questionnaire (PAR-Q), as well as physical comorbidities like cardiovascular diseases,			
٠	With a stable internet connection (at least 5 Mbps)		respiratory diseases, and type 2 diabetes mellitus,			
٠	With a PC, Laptop, smartphone, tablet, or any		unless cleared by their physicians. ¹¹			
	device capable of accessing the website for the program	•	Participants at risk of suicide, who y obtained a high score on the Counseling Center Assessment of			
•	With a device capable of downloading the pacer pedometer and step tracker mobile application		Psychological Symptoms-Screen test. ^{14, 15}			

Intervention. The online wellbeing intervention encompassing mental and physical activities will be prepared by qualified Physical Therapy, Occupational Therapy, Psychology, and Sports Science professionals, and will be delivered using an educational and modular format. It is reported that the online educational approach is well-received by Asian students and may benefit their skills, behaviors, attitudes, and values related to their wellbeing. A similar study by Lattie et al.¹⁷ utilized an online health program with an educational and modular approach, respectively, to be accomplished asynchronously by the participants.¹⁷ This educational and modular approach was found to be the most feasible for the pilot study as it will allow students to have ample time to participate despite their other tasks.

For each session, the professionals who will develop the module will be informed about the intervention's mode of implementation and will be provided with specific guidelines for the participants. Thus, activities will be selected to ensure that participants can understand and perform them as university health allied students. Should they encounter difficulty in handling the modules, they will be instructed, as indicated in the guidelines, to coordinate with the technical coordinator through their email and contact number. There will be a total of six modules, which should be taken per week, totaling the six weeks of the intervention proper. Aside from Module 1, all modules will focus on the participants' physical and mental wellbeing weekly. Module 1 will tackle the introduction of wellbeing to the participants and the instructions to be followed for the overall implementation. Module 2 will focus on allowing the participants to reflect on themselves in terms of how they want to improve and achieve their goals in both aspects of wellbeing. Module 3 will focus on promotion of awareness of how their physical and mental wellbeing affects their lives through relaxation, meditation, and emotion expression. Module 4 encourages the participants to have a good support system by incorporating group exercises and having support from their peers by seeking help and active listening. Module 5 promotes a foundation of having a healthy environment through brisk walking and creating healthy decisions. Module 6 focuses on maintaining the good practices learned from the previous modules by engaging in hobbies and reflecting on the gratitude and motivation from other people.

Tools

Data Gathering Procedures. The following screening tools will be utilized to assess the eligibility of all students to participate in the study:

Table 2. Proposed Online	e Wellbeing Timeline
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	Module 1 ²⁰	Module 2 ^{19, 20}	Module 3 ⁵	Module 4 ^{15, 18}	Module 5 ^{17, 21}	Module 6 ^{6, 21}
	Introduction	Reflection	Awareness	Support System	Creating a Healthy Physical and Mental Environment	Staying Active & Motivated
Physical Wellbeing	General introduction of wellbeing	Physical wellbeing self- reflection	Exercise program focusing on relaxation and meditation	Group aerobic exercise	30 minutes of brisk walking	Engaging oneself in a sport/hobby
Mental Wellbeing		Identifying goals and resources (PPI)	Emotion expression (ACT)	Social support and positive relationships	Creating healthy decisions (iCBT)	Interview regarding motivation, flow and gratitude

- The Physical Activity Readiness Questionnaire (PAR-Q) is a self-assessment questionnaire that has been widely utilized as a stand-alone screening instrument prior to physical activity, exercise programs, and fitness surveys. This is used to determine an individual's eligibility for increased physical activity or a fitness appraisal to assess exclusion criteria 1.²²
- The Counseling Center Assessment of Psychological Symptoms (CCAPS) is a 34item self-administered questionnaire that can be accomplished by paper and pencil or by means of a Titanium Schedule software system.¹⁴ This assesses a variety of mental health concerns pertinent to college students such as depression, general and social anxiety, academic distress, and hostility.

Pre-Test and Post-Test. The International Physical Activity Questionnaire (IPAQ-SF) is a seven-item questionnaire that assesses the physical activity intensity types and the sitting time people do in their everyday lives. This has consistently shown to have high reliability (*ICC* = 0.66 to 0.88).²³ The correlation between the IPAQ-SF and accelerometer measurements is moderate, presented with the following values, *rs* = 0.30, *p* = 0.008, 95%*CI* = 0.07, 0.49.

The World Health Organization-Five WellBeing Index (WHO-5) is a short five-item, self-reported measure of current mental wellbeing. High reliability (α = 0.91) and good construct validity, which negatively correlated with Patient Health Questionnaire (PHQ) presented as PHQ-9 (-0.358), PHQ15 (-0.328), and BDI-13 (-0.475), is demonstrated by the WHO-5.²⁴

Other Tools. The Website Grader Tool by HubSpot measures the effectiveness of a website by examining different factors such as the website performance (page loading time, page size, page requests), website security, and website search engine optimization. The tool will provide recommendations on how to improve the website. This will be utilized to evaluate the website where the program will be implemented.²⁵ In terms of website statistics, the Wix Visitor Analytics will be utilized to measure the number of visits to the website.

To assess the acceptability and usability of the program, the researchers will adapt the modified measure used in the study conducted by Ruijgrok-Lupton et al.²⁶ to fit the online program. The second self-report survey specifically used for this study measured course satisfaction and consisted of 15 questions evaluated on a five-point Likert scale. The reliability for this measure in this study was $\alpha = 0.912$ (excellent reliability).²⁶

Both asynchronous and synchronous monitoring modalities will be conducted to confirm the participants' compliance. For asynchronous activities, the participants will be requested to upload a photo after finishing each module and will be tracked every week for the participants'

progress verification. Specific types of photos will be indicated per activity such as but not limited to screenshots of watching the video material with timestamps. Moreover, all possible website-generated data will be taken into account, to ensure that participants are accessing the intervention materials. The Wix automatically records and tracks how much time the app members spend engaging with the app. It can also monitor the total number of active members over time and discover trends for new and returning members.^{5, 16}

For synchronous activities, Zoom will be utilized for live sharing and significant analyses about the viewing time and other relevant statistical data of the participants' technical engagement. An online wellbeing program has made use of the features of their chosen online platform in terms of recording information, activities, and other data analytics of the participants.⁵ The researchers will use Google Sheets to track the participants' attendance.

Data Gathering Procedures. After receiving clearance from technical and ethical review committees, the researchers will coordinate with the Dean's office for permission to conduct the study. A poster will be publicized for the recruitment of participants, including the form where participants can express their intent to join the study. Participants will complete the PAR-Q and the CCAPS-34 item questionnaire based on inclusion and exclusion criteria to determine their eligibility.

A pre-test will be sent to the participants, wherein the results will be the baseline for the interventions. This includes a profile sheet and two outcome measure tools. The profile sheet contains the participant's name, age, sex, year level, and college program. Outcome measure tools include the IPAQ-SF and the WHO-5 Wellbeing Index targeting the participant's physical and psychological wellbeing. These will be distributed to the participants via email with an attached Google Form link to the profile sheet and a Google Drive link to the questionnaires. They will be given one week to accomplish the requirements.

The program will be pilot tested through this study wherein the researchers will invite qualified professionals to develop and finalize modules according to their expertise and the chosen topics. These professionals should be holders of a Bachelor's or Master's degree related to health or education with a valid Professional Regulation Commission (PRC) license. They should have prior experience of at least one year in delivering programs that cater to students' wellbeing. After receiving approval from the UST-CRS ERC, the authors will send invitations to professionals who meet the given criteria. To ensure rigor in the module contents, the researchers, specifically the faculty coauthors who are both educators and licensed health professionals, will review the module content through proofreading and crosschecking references. After conducting the study, the researchers will contact the hired professionals again to check the final content and to ensure a comprehensive feedback mechanism. They will also revise if warranted upon reviewing. In cases where immediate assistance is needed, the guidance counselor of UST-CRS will be notified as the on-call contact during the synchronous implementation of psychological modules. If an unforeseen situation occurs during asynchronous sessions, the participants can contact the authors, who will coordinate with the appropriate professionals to help them. The researchers will handle the development of interventions for physical wellbeing, implement all modules on the website, monitor participant attendance, and coordinate with other professionals if needed.

After finishing the pre-test, the intervention program will commence and will last for six weeks with one module per week, as this experimental period was inferred to have significant improvement in the wellbeing of participants from other studies with similar interventions.²⁷ Interventions will be done online on the Wix website.¹⁶

The researchers will send the link to the customized Wix website, and the participants will need to enroll. Modules will be released weekly, and participants will be given one to three hours per week, which will be followed by an email notification as a reminder.¹⁵ The intervention program will be held synchronously and asynchronously with equal amounts of activities per week. Each participant is required

to accomplish and complete each module to proceed to the next activity.

The participants will answer the IPAQ-SF and the WHO-5 Wellbeing Index to reassess their psychological and physical wellbeing after the interventions. A program evaluation adapted from the study conducted by Ruijgrok-Lupton et al.²⁶ will be sent after the post-test. This will be accomplished via Google Forms containing 15 questions with a five-point Likert scale evaluation, which will measure their program satisfaction. Comments and suggestions will also be collected using the same form.²⁶

Data Analysis. Google Sheets will be used for data encoding, and Stata17 will be used for data analysis. Descriptive statistics will be used for the socio-demographic status of the participants. particularly their age, gender, and course. For hypothesis testing, the researchers will utilize the paired t-test or Wilcoxon depending on the number of samples with a significant *p*-value of less than 0.05. The feasibility component of the study will be reported based on the total attendance, completion of the program, the participants' feedback on their program experience, and the program cost.²⁸ Moreover, the feasibility of proposed recruitment methods, data collection procedures, and tools will also be reported.²⁸ In addition, an intention-to-treat (ITT) strategy will be conducted for participants who will drop out of the study, particularly the ITT strategy 2 or performing a plausible main analysis of all observed data that are valid under a plausible assumption about the missing data following the guidelines of White, Horton, Carpenter, and Pocock.29

EXPECTED RESULTS

The study will focus on determining the feasibility of the initial design of the online wellbeing program for rehabilitation sciences undergraduate students. The study will also produce records of the participants' responses about the program's components and their participation. The study findings will include the participants' responses on the feasibility of the physical and mental wellbeing components of the proposed online program. Findings may be beneficial to students and university personnel for promoting a conducive learning environment and a well-balanced lifestyle. The results of the study can be a basis for the sample size calculation for future replications of the experiment. It can also be used in determining the appropriate content for other online wellbeing programs for health science students. In summary, the methodology of the study may be used as a guide for future experimental studies.

Individual Author's Contributions

C.E., J.N., and A.M. led the design and conceptualization of the protocol. All individual authors (C.E., J.N., A.M., N.Z., B.B., L.D., M.F., K.J., D.L., J.R., J.V., J.W.) contributed to writing, editing, and reviewing the protocol. All individual authors approved the final version of the protocol.

Disclosure Statement

This is a self-funded paper. C.E. is a managing editor of PJAHS.

Conflicts of interest

One of the authors is part of the editorial board of PJAHS. Authors do not have conflict of interest for the study.

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