

Andrews University

## Digital Commons @ Andrews University

---

Doctor of Nursing Practice Projects

Graduate Research

---

10-2020

# The Effect of an Online Mental Health Promotion Program During COVID-19

Juliana Maldonado

Andrews University, [julianam@andrews.edu](mailto:julianam@andrews.edu)

Follow this and additional works at: <https://digitalcommons.andrews.edu/dnp>



Part of the [Public Health and Community Nursing Commons](#)

---

### Recommended Citation

Maldonado, Juliana, "The Effect of an Online Mental Health Promotion Program During COVID-19" (2020). *Doctor of Nursing Practice Projects*. 10.

<https://dx.doi.org/10.32597/dnp/10/>

<https://digitalcommons.andrews.edu/dnp/10>

This DNP Project is brought to you for free and open access by the Graduate Research at Digital Commons @ Andrews University. It has been accepted for inclusion in Doctor of Nursing Practice Projects by an authorized administrator of Digital Commons @ Andrews University. For more information, please contact [repository@andrews.edu](mailto:repository@andrews.edu).

ABSTRACT

THE EFFECT OF AN ONLINE MENTAL HEALTH PROMOTION PROGRAM DURING  
COVID-19

by

Juliana Maldonado

Chair: Carol Rossman, DNP, APRN-BC

## ABSTRACT OF GRADUATE STUDENT PROJECT

Andrews University

College of Health & Human Services

TITLE: THE EFFECT OF AN ONLINE MENTAL HEALTH PROMOTION  
PROGRAM DURING COVID-19

Name of researcher: Juliana Maldonado

Name and degree of faculty chair: Carol Rossman, DNP, APRN-BC

Date completed: October 2020

### Background

The negative impact of Coronavirus 19 (COVID-19) on mental health has been observed through the pandemic. People have had to adapt to a new norm of social distancing, wearing a mask, and abstaining from big group gatherings. These changes have impacted all levels of society and the rise of mental health care continues to grow as COVID-19 continues at this time. Mental health promotion strategies may be enhanced through the use of telehealth.

## Purpose

To determine if a six-week online mental health promotion intervention would improve the GAD-7 scores of participants.

## Methods

This project utilized a quantitative quasi-experimental pre-test/post-test design from a convenience and snowball sample. Recruitment was done through a primary care medical clinic located in Mission, Texas, Facebook advertising page called Sane Through COVID with WILD-5 Wellness KickStart30 program and word of mouth referrals. The pre-test and post-test were utilized to evaluate the impact of the educational intervention, and the Health Belief Model of the theoretical framework used.

## Results

Eighty (80) persons signed up for the project and forty (40) people finished the intervention. The data was of normal distribution, and it was noted that there was a statistically significant increase from the mean pre-test score to post-test score following the intervention,  $t(38) = 2.025$ , 1 tailed  $p = 0.025$ . The observed mean difference is significant at a 5% level of significance. Since 2.5% is less than 5% we can say that the mean is 1.67 is statistically significant from 0.

## Conclusion

This six-week program implementation appeared to show an educational intervention with personal follow-up and reminders may make a positive difference in mental health status. This study also found that non-college graduates had a greater improvement in mental health scores than college graduates, those who reported a history of anxiety and/or depression had a greater improvement than those who did not have anxiety or depression, but since the sample size is small, a conclusion about the relationship between current reported levels of anxiety and depression and the amount of improvement could not be made. Although this study had positive results and appeared that lifestyle program seemed to make a positive difference on participants, the small sample size means further research is warranted to verify these findings.

*Keywords: pandemic, COVID-19, telehealth, Generalized Anxiety Disorder-7 (GAD) scale*

Andrews University  
College of Health & Human Services

THE EFFECT OF AN ONLINE MENTAL HEALTH PROMOTION PROGRAM DURING  
COVID-19

A Scholarly Project  
Presented in Partial Fulfillment  
of the Requirements for the Degree  
Doctor of Nursing Practice

by  
Juliana Maldonado  
October 2020

© Copyright by Juliana Maldonado

All Rights Reserved

THE EFFECT OF AN ONLINE MENTAL HEALTH PROMOTION PROGRAM  
DURING COVID-19

A Scholarly Project  
Presented in Partial Fulfillment  
of the Requirements for the Degree  
Doctor of Nursing Practice

by

Juliana Maldonado

APPROVAL BY THE COMMITTEE

---

Chair: Carol Rossman

---

Dean, College of Health & Human  
Services Emmanuel Rudatsikira

---

Member: Cynthia Garcia-Millan

---

Date approved



THE EFFECT OF AN ONLINE MENTAL HEALTH PROMOTION PROGRAM  
DURING COVID-19

A Scholarly Project  
Presented in Partial Fulfillment  
of the Requirements for the Degree  
Doctor of Nursing Practice

by

Juliana Maldonado

TABLE OF CONTENTS

LIST OF FIGURES.....vi

LIST OF TABLES.....vii

LIST OF ABBREVIATIONS..... viii

ACKNOWLEDGEMENTS .....ix

1. INTRODUCTION, BACKGROUND AND SIGNIFICANCE ..... 1

    Introduction ..... 1

    Backgrounds ..... 4

    Problem Statement.....7

    Purpose and Objectives .....7

    PICO Question.....8

    Impact and Significance of Project on Healthcare System and Population .....8

    Conclusion ..... 8

2. CONCEPT IDENTIFICATION, THEORETICAL FRAMEOWRK, AND REVIEW OF LITERATURE .....10

    Theoretical Framework .....10

        The Health Belief Model .....12

    Literature Review .....13

        Modifying Factors.....13

        Individual Perception.....15

        Likelihood of Action.....22

        Conclusion ..... 22

3. METHODOLOGY..... 24

    Population and Sample.....24

        Independent and Dependent Variables.....25

        Sample Size.....25

        Definition of Participation.....26

        Inclusion and Exclusion Criteria.....27

        Recruitment.....28

        Following Project Participants.....28

    Measurement/Instrumentation..... 29

        Project Protocol.....31

        Online mental health promotion educational topics/content.....32

# ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

Implementation .....	32
Research Project Timeline.....	34
Data Collection .....	34
Analysis Plan.....	35
Confidentiality.....	35
Internal/External Validity.....	36
Evaluation and Sustainability.....	37
Conclusion .....	37
4. FINDINGS AND RESULTS.....	38
Participant Demographics .....	38
Generalized Anxiety Disorder-7 Scale (GAD-7) Differences Analysis.....	42
GAD-7 Pre-Post Test Result.....	43
Observations.....	44
5. DISCUSSION.....	46
Implications to the Theoretical Framework.....	47
Limitations & Strengths.....	47
Impact of Results to Practice .....	49
Future Implications for Practice.....	49
Significance in Nursing Education.....	49
Telehealth in Nursing Practice.....	50
Diversity in Nursing Practice.....	50
Dissemination Plan.....	51
Project Evaluation.....	51
Mastery of DNP Essentials.....	52
Essential I: Scientific Underpinnings for Practice.....	52
Essential II: Organizational and Systems Leadership .....	53
Essential III: Clinical Scholarship and Analytical Methods.....	54
Essential IV: Information Systems/Technology.....	54
Essential VI: Interprofessional Collaboration .....	55
Essential VII: Clinical Prevention and Population Health .....	56
Essential VIII: Advanced Nursing Practice.....	56
References.....	58
Appendices .....	69

LIST OF FIGURES

Figure 1. The Health Belief Model.....	12
Figure 2. Project Protocol.....	32
Figure 3. Gender of Project Participants.....	39
Figure 4. Age of Project Participants.....	39
Figure 5. Race of Project Participants.....	40
Figure 6. Presence of History of Depression and Anxiety.....	40
Figure 7. Educational Level of Project Participants .....	41
Figure 8. Program Language by Choice of Project Participants .....	41
Figure 9. Generalized Anxiety Disorder-7 Scale (GAD-7) Differences Analysis.....	42

LIST OF TABLES

Table 1. Online Mental Health Promotion Educational Topics/Content.....	32
Table 2. Timeline for project completion.....	35
Table 3. Demographics of Study Participants.....	42
Table 4. Table 4. <i>GAD-7 Pre-Post Test Results</i> .....	43
Table 5. Demographic Comparison.....	44

LIST OF ABBREVIATIONS

AACN – American Association of Colleges of Nursing

ADAA – Anxiety and Depression Association of America

ADL – Activities of Daily Living

APA – American Psychiatric Association

CBT – Cognitive Behavioral therapy

CDC – Centers for Disease Control and Prevention

COVID-19 – Coronavirus Disease 2019

DNP – Doctor of Nursing Practice

DNP Essentials – Essentials of Doctoral Education for Advanced Nursing Practice

FID – Frequency, Intensity, and Duration

GAD – Generalized Anxiety Disorder

HADS-A – Hospital Anxiety and Depression Scale

OASIS – Overall Anxiety Severity and Impairment Scale

PMHNP – Primary Mental Health Nurse Practitioners

PROMIS – Patient-Reported Outcomes Measurement Information System

WHO – World Health Organization

ACKNOWLEDGEMENTS

This project is dedicated to my God and family who have all through the years supported all the crazy ideas and pursuing my goals. To God, who in a miraculous way has drawn a beautiful sketch of my life in spite of the failures experienced. From my humble beginnings in downtown Bogota; living in the midst of poverty with my father who taught me lessons of perseverance, hard work, and risk taking.

To my mother, who has tried to keep me out of trouble many times and who through a lot of sacrifice made it possible for me to come to the United States and gain the education I have received. To my husband, who has sacrificed so much for me to get through this last four years of schooling, his patience and positivism kept me going. To my beautiful daughters, who have patiently waited for me to finish my writing assignments, received me with a hugs and smiles after a long day of clinicals, and put up with my moodiness. To my sister-in-law, who took months away from home to be a part of our busy lives and cared for my precious daughters in my absence. To the rest of my family members, who prayed and supported my journey. Thank you.

My project chair Dr. Carol Rossman who has not only guided me, but supported me through this journey. Thank you for all the hours and hard work. To Cynthia Garcia-Millan who with a welcoming and humble attitude dedicated time to brainstorm ideas, read my drafts and provide thoughtful feedback. Thank you. To Mr. Erik Hedstrom who also took time from his busy schedule to guide the statistical analysis of this project. Thank you.

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

Last, but not least, to the ladies who accompanied on this journey, Dr. April Chew and Kerstin Ferguson (Ashby), your support, patience, guidance, and care would forever be remembered in my heart. I would not been able to get here without you. Thank you.



## CHAPTER 1

### INTRODUCTION, BACKGROUND AND SIGNIFICANCE

#### **Introduction**

The provision of mental health promotion often goes unrecognized in primary care. Health care providers many times describe their primary care mental health focus as activities of screening and pharmacological treatment. Although the nurse practitioner's philosophy is rooted in the holistic approach, which emphasizes attention to psychosocial factors and how these affect the biomedical outcomes of health, nurse practitioners still report an inability to address strategies to decrease mental health issues due to time constraints, and the inability to connect patients to mental health services (Poghosyan, 2019).

It is essential to note that primary promotion activities in mental health may prevent the development of different disorders that are caused by modifiable risk factors. For instance, physical activity is known to improve mood states and overall mental well-being (Vaingankar et al., 2020). The positive outcomes that primary mental health interventions have on individuals' health highlight the importance of incorporating primary promotion activities in mental health promotion in primary care.

Mental health promotion activities that encourage activity-based interventions through telehealth talks have been shown to improve self-reported mental health scores (Tietjen & Breitenstein, 2017). Telehealth is defined as the use of technology in care

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

delivery, health information, and remote health education; it is the use of electronic information, devices, and telecommunication technology to provide direct patient care, remote patient monitoring, and education at a distance (Rutledge et al., 2017).

Corona Virus Disease 2019 (COVID-19) is an emerging infectious disease that was not known to have not previously infected humans until late 2019. It is a virus that has spread throughout the world, causing the COVID-19 pandemic. The main challenges of this virus are that not enough people have developed immunity towards the virus and it is easily spread in an unrecognized manner. COVID-19 causes a range of symptoms from mild cold to acute respiratory distress (Johns Hopkins University of Medicine, 2020). The disease was first recognized as an acute respiratory syndrome in Wuhan City, Hubei province, China. The World Health Organization (WHO) first mobilized its response at the beginning of January 2020, and declared it a pandemic on March 11, 2020 (World Health Organization [WHO], 2020).

The nature of the pandemic transformed the way society works. In order to control the transmission of the virus, the Centers for Disease Control and Prevention (CDC) has set guidelines to limit physical and social distancing. In the state of Texas, schools and work places have started to change their dynamics to avoid big crowds and maintain distance from each other, and the mandatory temporary closure of public places, non-essential business, and shelter-in mandates were in place by the end of March, 2020 (Center for Disease Control and Prevention [CDC], 2020; Texas Department of State Health Services, 2020). Within the span of three months, people have had to adapt to the new norm with many uncertainties that include unemployment, homeschooling, inability to attend church or school, and restrictions on grocery shopping, among many others.

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

These changes add to the normal stressors of life, which results in a negative effect on the mental health of many people.

Anxiety is a normal reaction to stress and at times beneficial as it helps people be aware of danger and pay attention (American Psychiatric Association [APA], 2020). Anxiety may be shown as simple feelings of nervousness or extreme fear. Fear is the emotional response to a threat and it activates the flight or fight response. Anxiety disorders cause people to avoid triggers that worsen their symptoms affecting their performance at school, work, or relationship. Generalized Anxiety Disorder (GAD) becomes when the persistent and excessive worry interferes with activities of daily living (ADLs) and it may be manifested through physical symptoms such as restlessness, feeling on edge, fatigue, difficulty concentrating, muscle tension, or trouble sleeping.

Mental health issues are already of concern. Anxiety disorders are the most common mental illness in the United States, accounting for 40 million adults, ages 18 and older (Anxiety and Depression Association of America [ADAA], 2015). Such was the case among Chinese people as they experienced the pandemic first. According to Wang et al. (2020), anxiety was reported to be one of the main psychological responses among Chinese residents during COVID-19. Wang et al. (2020) noted most people worried about their family members contracting the disease, and participants reported physical symptoms such as myalgia, dizziness, and coryza.

According to Jeong et al. (2016), anxiety and anger are commonly reported among people in isolation. However, with early mental health interventions, anxiety may be prevented from becoming long-term posttraumatic stress disorder (PTSD). In the midst of a pandemic while people are practicing social distancing, online mental health

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

promotion could intervene and help alleviate the mental health burden. Ahmedani Belville-Robertson, Hirsch, & Jurayj (2016) suggest that online wellness interventions, as an adjunct to standard care for depression and anxiety in primary care, are feasible, acceptable, and useful. Wang et al. (2020) suggest that interventions such as cognitive behavioral therapy (CBT) could be delivered online.

Mental health promotion is known as the process of enabling people to increase control and improve their health and wellness; it seeks to promote people's psychosocial well-being and ability to cope with adversity (Min, Lee, & Lee, 2013). Doyle et al. (2017) believes the aim of wellness is to reach a balance and engage in healthy habits like exercise, sleep, nutrition, relationships, social contact, and participation in meaningful activities, as well as avoiding self-destructive behaviors. This requires a person to be aware of the lifestyle choices available to them as well as the knowledge and the will to make the choices to improve mental health.

### **Background**

Shelter-in-place, social distance, and quarantine measures in the United States started to take place in mid-March through the beginning of April 2020 to counteract the spread of COVID-19. According to the CDC (2020a), isolation and quarantine help protect the public by preventing exposure and transmission of this contagious disease. Isolation separates those who are sick, whereas quarantine restricts the movement of people who were exposed to COVID-19. Due to the nature of the virus and its capacity to transmit without warning signs, people have subdued to social distancing measures, and mandated state laws have lengthened the terms of social isolation. These measures come

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

with further adjustments that impose stressors and may lead to the development of anxiety during and after the pandemic.

Generalized Anxiety Disorder (GAD) is characterized by persistent or excessive worry without apparent reason (Anxiety and Depression Association of America, 2015). GAD is often diagnosed when people find it difficult to control their worry over a period of time. In some individuals, GAD may present with somatic symptoms such as headaches and stomach pain. It is estimated that GAD affects 6.8 million adults or 3.1% of the U.S. population every year, with women being twice as likely to be affected by it. The leading cause is unknown, there is evidence that it is related to biological factors, family background, and stressful life experiences.

People with GAD find it difficult to tolerate uncertainty; therefore, they try to plan or control circumstances (Center for Disease Control and Prevention [CDC], 2020). According to the Center for Disease Control and Prevention (CDC), the first COVID-19 infection in the United States was confirmed on January 22, 2020, and by March 13, 2020, a State of Emergency was declared. The Coronavirus (COVID-19) pandemic and social distance measures have drastically affected the United States population, social order, and the economy. Every day the number of new infection and death rates increased, and the economic and social impact posed a real threat for people to develop or experience symptoms of GAD. Anderson (2020) reports that surveys have estimated that 48% of Americans are anxious about contracting COVID-19, 62% are anxious about the possibility for family members contracting COVID-19, and 59% report to have a severe impact in their daily life. This highlights the need for an intervention that promotes mental health well-being during a global pandemic like COVID-19.

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

The Generalized Anxiety Disorder Assessment (GAD-7) is an instrument designed to measure the severity of generalized anxiety disorder. It is commonly used for diagnosis and severity assessment of anxiety primary care clinics (Jordan, Shedden-Mora, & Lowe, 2017). GAD-7 originally had 13 items based on the criteria for GAD in the Diagnostic and Statistical Manual for Mental Disorders, Fourth Edition (DSM-IV) and the seven items with the highest correlation were chosen (Johnson et al., 2019).

Mental health can change over time and when the demands are greater than a person's coping abilities, mental health may be negatively impacted. There is not a single cause for mental health illness. The CDC (2018) state that it is the combination of early adverse life experiences, ongoing chronic medical conditions, biological factors, alcohol and drug use, having few friends, and feelings of loneliness or isolation, are known to be the cause of mental health illness.

Health promotion is defined as the "actions that support people to adopt and maintain healthy lifestyles which create supportive living conditions or environments for health" (WHO, 2004, p. 6). The World Health Organization defines mental health as "a state of well-being in which the individual realizes his or her own abilities, is able to cope with normal stresses of life, can work productively and fruitfully, and is able to make contributions to his or her community" (WHO, 2004, p. 60) Mental health promotion is considered an integral component of health promotion that focuses on the determinants of mental health and the creation of atmospheres that enhance optimum psychological and psycho-physiological development, which naturally have a positive impact in physical health (Sturgeon, 2006). There is an interdependent connection between mental, physical, and social functioning, but health and illness may coexist (Jhanwar & Avinash, 2017).

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

Therefore, mental health promotion interventions empower individuals to reduce the risk factors for mental illness and improve health. Mental health promotion interventions aim to decrease the risk factors and increase protective factors that at the same time benefit other aspects of health, social, and economic. Consequently, mental health promotion is an effective strategy to reduce the burden of mental disorders.

Cognitive Behavioral Therapy (CBT) is defined as an intervention that seeks to manipulate dysfunctional thinking and patterns of behavior in order improve mental health (Carpenter et al., 2018). Individuals with anxiety tend to mentally exaggerate a threat (i.e. cognitive distortions) and this practice is considered the underlying pathology of anxiety. Cognitive distortions are defined as a self-statement that reflects the misinterpretation of an event (Strohmeier et al., 2016). CBT interventions focus on changing this tendency through cognitive restructuring and behavioral exposure techniques.

### **Problem Statement**

Due to the nature of social distancing during and after a virus pandemic people experience stressors that, if left unchecked lead to generalized anxiety disorder (GAD). Online mental health promotion education empowers and equips participants with tools to combat the stressors in a healthy manner by understanding how simple lifestyle changes and cognitive behavioral therapy result in improved mental health

### **Purpose and Objectives**

The purpose of this project is to examine the effectiveness of an online mental health program during and after practicing social distancing amid the COVID-19

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

pandemic. The objective was to measure the impact of a six-week mental health promotion intervention by comparing pre and post-GAD-7 scores.

### **PICO Question**

During the COVID-19 pandemic, do online mental health promotion education and activities improve Generalized Anxiety Disorder 7-item scale (GAD-7) scores?

### **Impact and Significance of the Project on Healthcare System and Population**

The goal of this project is to educate people about coping mechanisms that may help them improve GAD or other mental health issues due to the nature of the pandemic. According to Kang et al. (2017), anxiety is associated with the incidence of heart disease, depression, and asthma. In addition, comorbid depression and anxiety have been shown to increase the incidence of eyesight problems, cough, asthma, hypertension, heart disease, and gastrointestinal disorders (Kang et al., 2017). Dong & Bouey (2020) argue that public mental health interventions should be integrated into preparedness plans for pandemics. There is a need to mitigate the psychological impact for during and aftermath through the use of telemedicine by taking advantage of smartphones or technologies as described in the defined telehealth strategies for healthcare delivery (Dong & Bouey, 2020). This project is an online nursing intervention that aims to educate participants on mental health promotion during COVID-19, and measure changes in the GAD-7 score from pre-intervention to post-intervention and evaluate any change.

### **Conclusion**

Mental health promotion decreases the negative impact of anxiety such as the development of more complex mental or physical diseases. Online mental health promotion during COVID-19 pandemic was part of the effort to alleviate the mental



## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

health challenges that occurred due to all the social, emotional, psychological, and financial changes taking place.

## CHAPTER 2

### CONCEPT IDENTIFICATION, THEORETICAL FRAMEWORK AND REVIEW OF LITERATURE

The societal impact of COVID-19 pandemic is not completely understood, but one may safely say that the world will never be the same. The thought of being infected without knowing has impacted the way healthcare works. In primary care, the consultation process has dramatically changed. Insurances and hospitals are utilizing telehealth as part of their care delivery model to provide safer care and prevent possible spread of infection. This chapter will identify and discuss the main concepts of this project, the theoretical framework, and how it applied to the project. The main goal of the online mental health promotion during COVID-19 pandemic was to deliver mental health promotion strategies via web-communications, to decrease the impact of COVID-19 on mental health.

#### **Theoretical Framework**

##### **The Health Belief Model (HBM)**

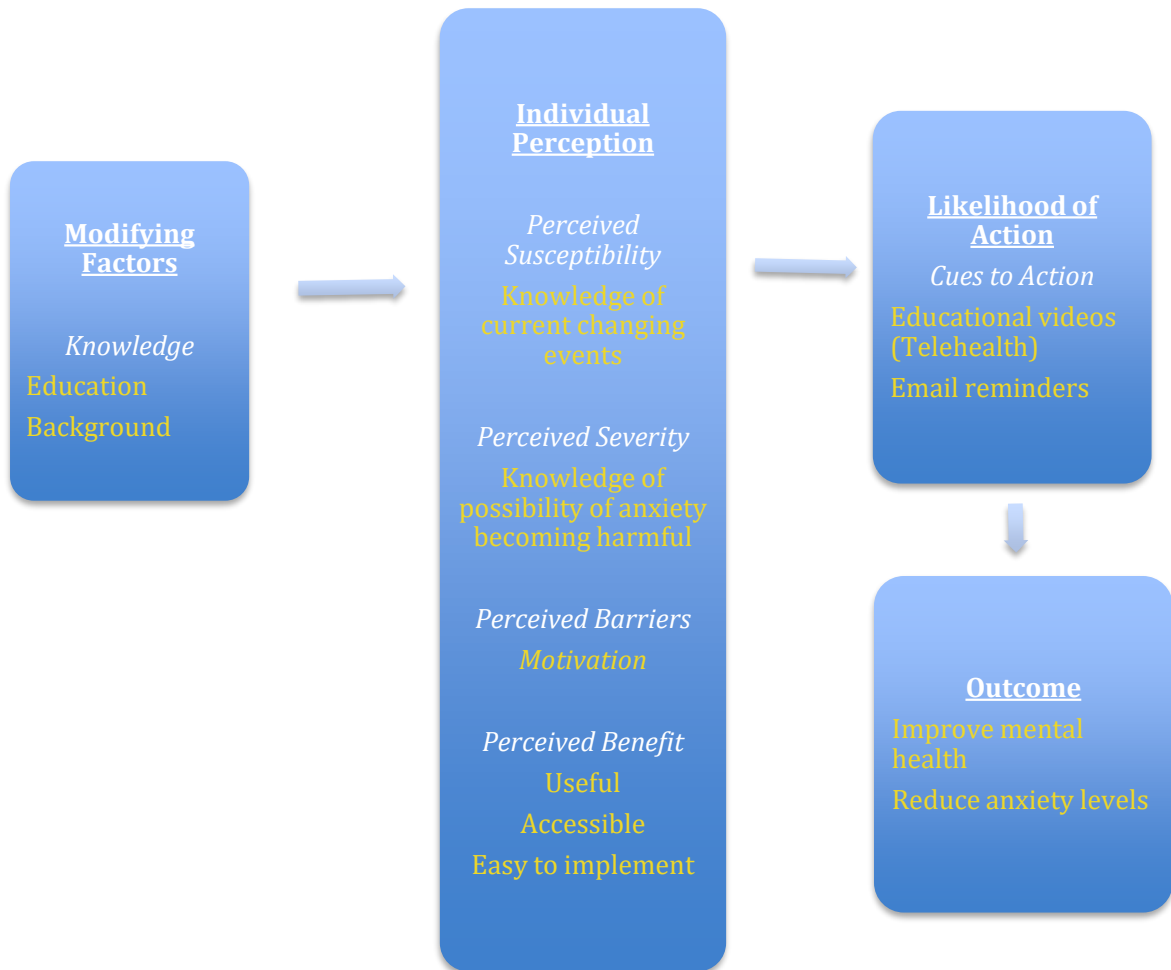
The Health Belief Model (HBM) is a combination of methods and strategies from the social and health sciences. It utilizes different perspectives, research, and practice tools from different disciplines such as psychology, sociology, nursing, economics, and marketing. This theory is one of the most widely used for health promotion educational programs. Motivation is the central focus of HBM, and it has six main constructs; 1. Perceived susceptibility, 2. Perceived severity, 3. Perceived benefits, 4. Perceived

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

barriers, 5. Cue to action, and 6. Self-efficacy. The HBM proposes that a person's belief in a personal threat of an illness or disease along with a person's belief in the effectiveness of the recommended advice, will foretell the probability that the person will adhere to the behavior. The practitioner must understand how susceptible the target population is to the problem as well as the identifiable perceived threat and the willingness to reduce the threat. For example, it is not enough to understand that nutrition may affect mental health, but it is necessary to understand how anxiety may interfere with life, provide information on the benefits of change, and provide tools that motivate the patient (Glanz, Burke, & Rimer, 2015).

The HBM was utilized as the model approach for the online mental health promotion intervention during COVID-19. The goal was to make people aware of the impact that societal changes yielded to, and explain how 5 elements may positively impact mental health, more explicitly in anxiety.

**Health Belief Model**



*Figure 1.* The Health Belief Model. In an online mental health education program aiming towards increase knowledge of mental health promotion strategies that reduce anxiety levels during the COVID-19 pandemic. Adapted from Mukhtar (2020).

## Literature Review

### Modifying Factors

#### *Knowledge.*

Mental health promotion strategies are based on modifying risk exposure and strengthening the coping mechanisms of the individual. Most preventive strategies integrate the strengthening of protective factors, reduce exposure to risk factors, and target accepted mechanisms such as cognitive strategies among others. Mental health promotion interventions are primarily done with the general public or whole population to promote psychological wellbeing and strengthen abilities to adapt to adversity and build resilience (Arango et al., 2018). Lifestyle modifications that seek to improve habits of nutrition, exercise, and mindfulness practices have shown to improve anxiety symptoms (Null & Pennesi, 2017). Cognitive distortions are thought as the main cause of anxiety disorders and cognitive behavioral therapy is known to help people identify and modify thinking patterns (Kaplan et al., 2017). Cognitive therapy teaches to identify, test, and alter distorted thinking. This project will educate participants on the latest evidence-based strategies that have proven to enhance psychological well-being through the practice of physical activity, mindfulness, sleep, social connectedness, and nutrition.

According to the Mental Health America (2020) organization, approximately 42.5 million US adults have an anxiety disorder, and anxiety disorders are among the most common mental illnesses in America. Onset is gradual and may manifest with physiological symptoms in what appears to be a somatic complaint. Anxiety disorders have been associated heart disease, gastrointestinal, and pain disorders (Shelef et al.,

2016). Therefore, GAD is often unrecognized or misdiagnosed as a physical problem due to its various clinical presentations and occurrence with comorbid conditions.

More recently, the American Psychiatric Association (APA) (2020) COVID-19 survey between March 18-19 showed that Americans are struggling with sleeping, there is increase intake of drugs/substances, family conflicts; and the concern is that stress and anxiety caused by the pandemic are affecting people's mental health. Anxiety is already a problem that needs to be addressed, all the more during a pandemic.

Asmundson & Taylor (2020) state that health beliefs influence misinterpretations of bodily sensations and changes about health and disease, and this influences the person's decision on who or when to seek medical help. Some people may opt not to seek medical health in fear of getting infected by exposing themselves to a pathogen. On the other hand, people may opt to seek medical care in various presentations by seeking help through different venues, including both clinics and emergency rooms simultaneously. Any of these two options may determine the response or outcome of a public health decision, whether it is through vaccination, antiviral therapy, hygiene practices, and social distancing. Additionally, people with high anxiety may engage in maladaptive behaviors that include excessive hand washing, social withdrawal, and panic.

In 2013, mental disorders were the leading cause of health care spending in the United States, with an estimated cost of \$201 billion in comparison to heart conditions estimated at \$147 billion. The mental health expenditures were attributed to long stay-institutions and mental health support services (McDaid, Park, & Wahlbeck, 2019). Cost-effectiveness and costs-savings of mental health promotion in Germany through telehealth appeared promising in interventions that target depression (Buntrock et al.,

2017). Nonetheless, allocating funds that may ensure continuity of mental health promotion remains a challenge; Langdon et al. (2016) noted financial sustainability as one of the major challenges in their community-based mental health promotion among Native Americans.

### **Individual Perception**

#### *Perceived Susceptibility & Perceived Severity.*

The current COVID-19 pandemic has placed a great deal of stress among the people around the world. Amid the pandemic, Cao et al. (2020) observed the psychological impact of the COVID-19 among Chinese college students and found that there was an increased association between COVID-19 related stressors and anxiety symptoms among Chinese students.

The news showed people running to grocery stores, fighting for toilet paper, hand sanitizers, face-masks, and other items they considered essential. The annual *Stress in America* reported that Americans stated healthcare as one of the three main reasons for stress. The main two major causes of concern reported were cost and access to care (American Psychological Association, 2019). Common stressors include financial hardship, personal health concerns, and social problems. When these stressors are not addressed, they become chronic and provide the pathway for mental and physical health deterioration. Chronic stress is known to be part of the etiologies of anxiety and depression. Thus, it is important to provide venues of education that address stress reduction decreases the negative impact of anxiety and depression (Steffen, Austin, & DeBarros, 2016).

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

The GAD-7 has been validated in primary care with a published sensitivity of 89% and specificity of 82 % (Rutter & Brown, 2017). It has also been widely utilized in general, psychiatric, and addictions treatments as well as across different language groups, including Hispanics (Munoz-Navarro et al., 2017). In a study with outpatients with anxiety and mood disorders, it was observed that at the cut off scores of 10 the GAD-7's psychometric properties showed good sensitivity (79.5%) but poor specificity (44.7%). Johnson et al., (2019) observed that GAD-7 showed good internal consistency and convergent validity with alphas greater than 0.82 and large correlations which indicated high reliability and validity with cut off scores of 8. On the other hand, Tiirikainen et al. (2019) study of adolescents, GAD-7 showed good internal consistency with Cronbach's (reliability) alpha of 0.91, which supports the known unidimensional factors of the tool. GAD-7 is a valid measure of generalized anxiety symptoms that has demonstrated good internal consistency, convergent validity, and sensitivity to change among males and females (Rutter & Brown, 2017). GAD-7 is short and easy to answer. Marrie et al. (2018) state that anxiety tools such as the Overall Anxiety Severity and Impairment Scale (OASIS), Patient-Reported Outcomes Measurement Information System (PROMIS), and the Hospital Anxiety and Depression Scale (HADS-A) have shown similar performance when compared to other tools, and suggest that factors such as accessibility and feasibility are a proper guide when choosing a measure in clinical practice

### ***Perceived Barriers.***

There appears to be a main barrier to completing online mental health promotion educational programs and activities as these increase in use. The rate of completion in



online mental health promotion programs is reported as low and it is important reinforce participation through face-to-face contact, web-based communication, or phone calls to increase the odds of program completion (Ahmedani, Belville-Robertson, Hirsch, & Jurayj, 2016). Mak et al. (2015) reported the loss of almost half of the participants before their post-test, but observed that those who completed their course, improved their scores. The reported high attrition may be attributed to the lack of motivation and reinforced interventions may be the answer. However, Renfrew et al. (2020) noted that the amount of human support does not influence the outcome with primary prevention strategies. Therefore, one might conclude that, although the direct contact with participants through the telehealth may be effective in reinforcing participation and completion of programs, it may not influence participant's outcomes. Among adults 50 years or older, reported barriers include the lack of mental electronic-health (e-health) awareness, interaction with technology, privacy, and confidentiality commonly known barriers among young people as well (Pywell, Vijaykumar, Dodd & Coventry, 2019; Goman, 2018).

### ***Perceived Benefits.***

Previous studies have attempted to address mental health interventions via telehealth. Telehealth may include the use of technology to communicate with patients and/or providers in regards to health care delivery, monitoring, and or education (Rutledge et al., 2017). It is important to observe the different strategies utilized for mental health care through telehealth. Online educational modules, chats, email communications, are some of the strategies utilized to deliver mental health promotion programs. Online interventions have been utilized with participants of different ages from adolescent to adulthood and have shown to be effective to decrease the severity of

anxiety (Mak et al., 2015; Ahmedani et al., 2016). These interventions incorporated the utilization of cognitive behavior therapy education and practice through gaming, blogging, and lifestyle modification strategies and most of these utilized the GAD-7 as the measuring tool (Clarke et al., 2015). Other perceived reported benefits include, symptom improvement, cost, and easy to use (McCall et al., 2019).

### *Exercise*

Physical activity is the bodily movement produced by the skeletal muscles, which utilizes energy (Mikkelsen et al., 2017). It is described as the planned, structure, and repetitive activities that are meant to improve or maintain physical fitness. Physical fitness is divided into two; the health-related fitness that includes cardiorespiratory, muscular endurance, and flexibility, and the skill related fitness that incorporates agility, balance, co-ordination, speed, power, and reaction time. Both types of physical fitness have shown to improve mental health.

Physical activity is said to bring out the negative thinking (Wang et al., 2019). Evidence shows that physical activity is beneficial for mental health as it influences the physiological and psychological processes in the body (Wang et al., 2019; Schuch et al., 2016). The physical recommendation for physical activities include the incorporation of moderate intensity exercise for 150-300 minutes per week and muscle strengthening exercise two to three times a week (Yang, 2019). The WILD 5-Wellness KickStart30 reinforces the principles of Frequency, Intensity, and Duration (FID) and encourages participants to exercise seven days a week for thirty minutes a day (Jain, Jain, & Burns, 2019, p.14). Therefore, participants were encouraged to exercise daily.

### *Mindfulness*

Mindfulness is known as a systematic training to develop a sustainable attention and awareness with the aim to gain insight from direct experiences (Mak et al., 2015). It is an inexpensive yet effective method and does not have side effects. It is a self-regulated act that attempts to focus attention in the present moment with curiosity, openness, and acceptance. It helps individuals to calm and develop the mind's ability to experience negative emotions without becoming overly distressed by the experience (Steffen et al., 2017).

Mindfulness may be practiced through exercises such as meditation, body scan, and stretching exercises, or while walking or eating. Mindfulness has shown to improve anxiety disorders among adults in the clinical settings and via internet delivery (Mak et al., 2015; Song & Lingquist, 2015; Steffen et al., 2017; Joyce et al., 2018). The WILD 5-Wellness KickStart30 program encourages participants to practice ten minutes of guided meditation through the practices that encourage deep breathing, gratitude, and happiness meditation among others (Jain et al., 2019, p. 18). Therefore, participants were encouraged to practice 10 minutes of mindfulness daily.

### *Sleep*

Sleep disturbances are one of the common denominators among patients with anxiety-related disorders (Cox et al., 2018). Results from experimental studies have shown that total sleep deprivation and partial sleep restriction result in increased anxiety. The link between decreased total sleep times is a good predictor of subsequent anxiety; particularly if a person gets less sleep in any given night, anxiety increases the next day (Cox et al., 2018).

Sleep hygiene practices refers to the actions that take place prior to sleep. These practices include avoiding all electronic devices 90 minutes prior to sleep, reading upbeat and positive literature, avoid napping during the day, eliminate ambient light, take a warm bath, establish a set regular bedtime every day, and avoid caffeine for at least ten hours prior to sleep (Jain et al., 2019; Briguglio et al., 2020). Research has observed that sleep hygiene may improve sleep patterns and mental health (Mastin, Kennedy, & Peszka, 2018; Peach, Gaultney, & Gray, 2016; Briguglio et al., 2020). The WILD 5-Wellness KickStart30 encourages participants to practice four out the six discussed sleep hygiene practices which include avoiding electronic devices, avoiding napping during the day, eliminating ambient light, enjoying a warm bath, establishing a regular bedtime, and avoiding caffeinated drinks ten hours before bedtime (Jain et al., 2019, p. 23). Therefore, participants were encouraged to implement four out of the six hygiene practices daily.

### ***Social Connectedness***

Social connectedness has shown to protect and promote mental health; people who socialize tend to live longer, have fewer health problems, and are happier (Perkins, Subramanian, & Christakis, 2015; Rolin et al., 2019; Saeri et al., 2018). Jain, Jain, & Burns (2019) explain there is a difference between macro socialization and micro socialization practices and how these may be practiced. Macro socialization relates to the activities that involve large groups and activities through long periods of time even years. Micro socialization refers to more casual and small talk with strangers or acquaintances and are brief. The WILD 5-Wellness KickStart30 encourages participants to call or meet two friends or family members every day for thirty days. Therefore, participants were encouraged to call a minimum of two friends or family members daily.

### *Nutrition*

The connection between healthy-eating or good nutrition and mental health wellness has been established and it is known as a key modifiable intervention target for prevention or incidence of common mental health problems (Raju, 2017; Sarris et al., 2015). Studies have shown how nutrients may impact brain function and mental health. However, there must be a balance in nutrient supply for proper brain function and mental health wellness (Salari-Moghaddam et al. , 2019).

The seven-day food diary is method used for objective analysis of dietary practices, and it is said to provide a more conscious awareness of the nutritional value of what is eaten (Briguglio et al., 2016; Jain et al., 2019). The ideal would be to provide a personalized diet; however, for general interventions among adult population, the Mediterranean diet is recognized as one of the most balanced and healthiest of all. This is due to the variety of vegetables, fruits, whole grains, legumes, dairy, lean meat, and nuts among others (Briguglio et al., 2016). The main known nutritional components found to be beneficial for mental health are omega-3 fatty acids, phospholipids, cholesterol, niacin, folate, vitamin B6, and vitamin B12 (Lim et al., 2016). The WILD 5-Wellness KickStart30 program incorporates the MIND or Mediterranean diet and encourages the daily intake of green leafy vegetables (i.e. cabbage, greens, lettuce), other vegetables (i.e. green/red peppers, raw carrot, potato, peas, lima beans, tomatoes, eggplant, onion, cucumber), berries, walnuts, whole grains, fish, legumes (i.e. lentils, beans), and embrace meat-free meals (Jain et. al., 2019; Salari-Moghaddam et al., 2019). Participants were encouraged to include components of the MIND diet and keep a daily log of their food intake through a written log or myfitnesspal application.

### **Likelihood of Action**

#### *Cues to Action.*

Though online mental health interventions are accessible, cost effective, easy to use, and have shown to improve anxiety among participants, attrition rates in similar studies have been around 50% (Rolin et al., 2019). Cues to action strategies that will stimulate participants to take action include, reminders, experience, and personalized persuasive communication (Langley, Wootton, & Grieve, 2018). In order reduce attrition, and improve participation, the cues to action were delivered daily through survey monkey email notifications for self-reporting participation. Participants were able to answer a very short survey in which they answered if they had nor not practiced the prescribed activities from the five elements.

### **Conclusion**

The WILD 5-Wellness KickStart30 is a wellness intervention for life demands. It is composed of five wellness elements with prescribed activities that are implemented through throughout the course of thirty days. The five elements discussed in the WILD 5-Wellness KickStart 30 are exercise, mindfulness, sleep, social connectedness, and nutrition. The participants learned about each element and how these benefit mental health and the prescribed activities were: exercise every for thirty days at a moderate level, practice mindfulness for ten minutes every day, implement four sleep hygiene practices every day, practice socialization each day for thirty minutes, and keep a written or electronic meal log or dairy that included all meals, snacks, and drinks.

The WILD 5-Wellness KickStart30 provides self-managed interventions that are integrated, prescriptive, trackable, cost-effective, and easy to implement among adults of

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

all ages. It has shown to decrease participant's level of depression, anxiety, emotional eating, and insomnia. The GAD-7 is one of the tools used for this program and has shown to decrease GAD by 32.6% and 45.2% in previous studies (Rolin et al., 2019 & Jain, Jain, & Kumar, 2015).

The Health Belief Model was utilized as the framework for this project. This model allowed the project supervisor to identify the possible perceived susceptibility, severity, barriers and benefits to adopting the mental health promotion interventions. When addressing mental health promotion, this project aimed to promote healthy habits via online video presentations entitled *Sane through COVID with WILD 5-Wellness KickStart30*. The videos educated participants on each of the five elements. Cues to action were delivered daily for a total of 30 days and participants were able to respond by simply answering if they were or not implementing the prescribed activities.

## CHAPTER 3

### METHODOLOGY

This chapter describes the project design, methods used for the project, and the rationale for choosing the population, sample, variables, data collection procedures, ethical considerations and instrument. This project applied a quantitative quasi-experimental pretest/posttest design from a convenience and snowball sample. The pretest and posttest measured the effectiveness of a six-week mental health promotion project entitled *Sane through COVID with WILD 5-Wellness KickStart30*. The GAD-7 was the tool used to assess the effectiveness of the intervention, and was provided through a SurveyMonkey link sent to the email provided by the participant. This program utilized the WILD 5-Wellness KickStart30 program as the intervention. This was a mental wellness program that showed how healthy lifestyle activities such as physical activity, mindfulness, sleep, social connectedness, and nutrition may decrease the impact of anxiety disorder. Each participant were given a gift card certificate in the amount of \$10.00 as a thank you for their participation once the videos were watched, self-reported feedback was provided, and the post-test was completed. The post-test included the same demographic question as in the pretest and the GAD-7 scale.

#### **Population and Sample**

The project manager worked with a Spanish-speaking primary care medical office in Texas and Facebook advertising to recruit participants. Patients who visited the clinic who received and showed interest were given an invitation to participate and to sign up



## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

for the study via facebook link or survey link provided in the advertising posters. This clinic is located in a small rural town in South Texas. The majority of patients at this clinic were uninsured or Medicare/Medicaid covered patients and speak Spanish only.

As of 2018 Mission, Texas had an estimated population of 84,827, where people of Hispanic descent accounted for 89.7% of the population (United States Census Bureau, 2018). From the total population in the city of Mission, Texas, 82.4% speak other language besides English, and 31.6% of the population doesn't have health insurance. For the purposes of this project, it was assumed that most Spanish-speaking participants would come from this clinic and their referrals. Facebook advertising sought to reach other ethnic groups in the population across Houston and Dallas. This project allowed anyone who received the invitation from their Facebook friends that might be interested, to participate, and invite others to join.

### **Independent and Dependent Variables**

Independent variables are the GAD-7 scale scores and the dependent variables are the topics discussed: physical activity, mindfulness, sleep, social connectedness, and nutrition.

### **Sample size**

Sample size was estimated by assuming a moderate effect size (0.5) with the 0.8 power, and 0.05 alpha. Therefore, using the paired t-test as our reference test, a minimum sample size of would be 26. There were different attrition rates that were observed for various longitudinal studies and for the purposes of this study the estimated 50% drop rate required a sample size of 52. There was a total of 80 participants who registered and took the pretest, 40 who took the post-test; daily survey participation was followed by 29

total, and 34 participants watched  $\frac{1}{4}$  or more of the all videos according to panopto.

Videos were sent once a week and a reminder was sent to those who had not watched the videos at the by midweek.

### **Definition of Participation**

Participants were defined by their implied consent provided in the web-link through SurveyMonkey. The first page they had a description of the program and the consent form, after agreeing to participate, the next page requested their demographic information (age, gender, education level, profession, race, antidepressant or anxiety medication use, history of anxiety or depression information and previous participation in lifestyle education), and the last page had the GAD-7 pre-test. Those who declined to consent were not be able to go to the next page. Once participants finished their GAD-7 pre-test. An introductory video was sent to all those who registered by August 16, 2020. The introductory video briefly discussed the five components of the intervention (exercise, mindfulness, sleep, social connectedness, and nutrition) and what the prescribed activities from the WILD-5 Wellness KickStart30 program. For the next five weeks, participants received a weekly video that further discussed each element and the prescribed activity, as well as the daily cue to action self-report survey which ended on September 24, 2020. The next week, participants received the post-test and two remainders were sent within the next week.

In the introductory/consent page, participants learned about the program content (*Sane through COVID with WILD 5-Wellness KickStart30*), length (six-weeks), the cue to actions emails with the daily self-reporting surveys, as well as the need to take the pre-

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

test before being allowed to watch the introductory video and to take the post-test after the last day of the sixth week.

Participants watched the online mental health program *Sane through COVID with WILD 5-Wellness KickStart30* introductory video after completing the pretest.

Participants received a link to the video presentations weekly for the next five weeks via email provided. Video presentations were posted in Panopto, which allowed the project investigator to monitor how long the participant actually viewed the video. Participants were also encouraged to answer the daily self-report feedback sent through SurveyMonkey (i.e. exercised daily, called a friend/relative, practiced mindfulness). Last, participants took the GAD-7 posttest provided via email link. The introductory/consent page, the GAD-7 tool, the *Sane through COVID with WILD 5-Wellness KickStart30* weekly videos, and daily feedback were provided in both English and Spanish languages according the participant's preference. Participants who completed all activities received a \$10.00 amazon gift card as a thank you.

### **Inclusion and Exclusion Criteria**

In order to qualify for participation, participants had to be 18 years old or older, identify as male, female, or other, and have access to the internet via smartphone, tablet, or computer and basic computer skills. Both English and Spanish speaking participants were welcome to participate. Must had been able to read and write English or Spanish. The participant must had agreed to participate in the project by inputted their email address, consented to participate, provided demographic information (age, gender, education level, profession, race, antidepressant or anxiety medication use, history of anxiety or depression, and previous participation in lifestyle education), replied to the

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

daily self-reported feedback, and completed the pre and post-test. Multiple participants within the same household were allowed to participate but had to take tests independently. Exclusion criteria included acutely suicidal or actively psychotic, did not have access to internet-enabled smartphone, tablet, or computer, lack of basic computer skills, pregnant or planned to get pregnant during the next 30 days.

### **Recruitment**

There is a primary care clinic located in city of Mission, Texas that participated in recruitment of patients for this project. The main population in this clinic is Spanish-speaking; therefore, approved advertising posters and fliers were provided to the clinic in both languages English and Spanish. Clinic patients learned about the project through referral by providers through approved paper script. Other participants learned about the project through a Facebook approved advertising page entitled *Sane through COVID with WILD 5-Wellness KickStart30* that provided information about the intervention, and project supervisor paid for advertising through the following zip codes: 77002, 77004, 77005, 78522, 78539, 78572, 75060, and 75214. Participants and anyone interested in the project were given permission to refer others who were interested in participating via Facebook friends and colleagues of the project investigator as a method of convenience snowball sampling.

### **Following Project Participants**

Email addresses were the only personal information that participants provided. This was with the purpose of matching participants to the pre and post-test, deliver reminders, and daily self-report surveys. Each email had an assigned identifier that was used to track the data related to the project. This process was done in order to de-identify

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

participants from their respective email address and the participation tracking record log. The tracking information included the consent and pre-test submission, whether the video was watched and for how long, the self-reported feedback of implemented practices, the posttest submissions, and the electronic delivery of the \$10.00 gift card. The gift card was provided after completing all the steps that included agreeing to consent in the web-link through SurveyMonkey, provision of the demographic information (age, gender, education level, profession, race, antidepressant or anxiety medication use, history of anxiety or depression information, and previous participation in lifestyle education), watched the *Sane through COVID with WILD 5-Wellness KickStart30 videos*, provided self-reported feedback, and took the pre and post GAD-7 test.

### **Measurement/Instrumentation**

The Generalized Anxiety Disorder-7 (GAD-7) assessment tool is composed of seven questions that measure a patient's feelings of worry, relaxation ability, irritation, and fear in the past two weeks. The seven items are:

1. Feeling nervous, anxious, or on edge.
2. Being able to stop or control worrying.
3. Worrying too much about different things.
4. Trouble relaxing.
5. Being restless.
6. Becoming easily annoyed or irritable.
7. Feeling afraid as if something awful happens.

GAD-7 scores ranges from 0-21 according to the responses categories of:

not at all (0),

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

- several days (1),
- more than half the days (2),
- nearly every day (3).

After a total score is computed, the level of anxiety is noted to be 0-4 minimal, 5-9 mild, 10-14 moderate, and 15-21 severe (Spitzer, Kroenke, Williams, Lowe, 2006).

The *Sane through COVID with WILD 5-Wellness KickStart30* online videos were done by the project investigator to present the 5 elements as described in the WILD 5-Wellness KickStart30 program and as highlighted under the perceived benefits section. The WILD 5-Wellness KickStart30 program has shown to improve mental health disorders including anxiety as measured by the GAD-7 in previous studies (Rolin et al., 2019). The WILD 5-Wellness KickStart30 program authors state that the information is not intended to replace consultation with a healthcare provider and that no special permission is required to use their material for research and/or clinical purposes (Jain & Jain, 2019).

Each presentation was approximately 3-7 minutes in length and were posted and shared through Panopto for participants to watch. There was a total of six presentations delivered once a week. Participants received an email notification with the link to the video via panopto. Project investigator was able to monitor if participants watched and for how long. The topics covered included the benefits of exercise, mindfulness, sleep, social connectedness, and nutrition. Each topic provided a prescribed activity for participants to practice daily.

ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

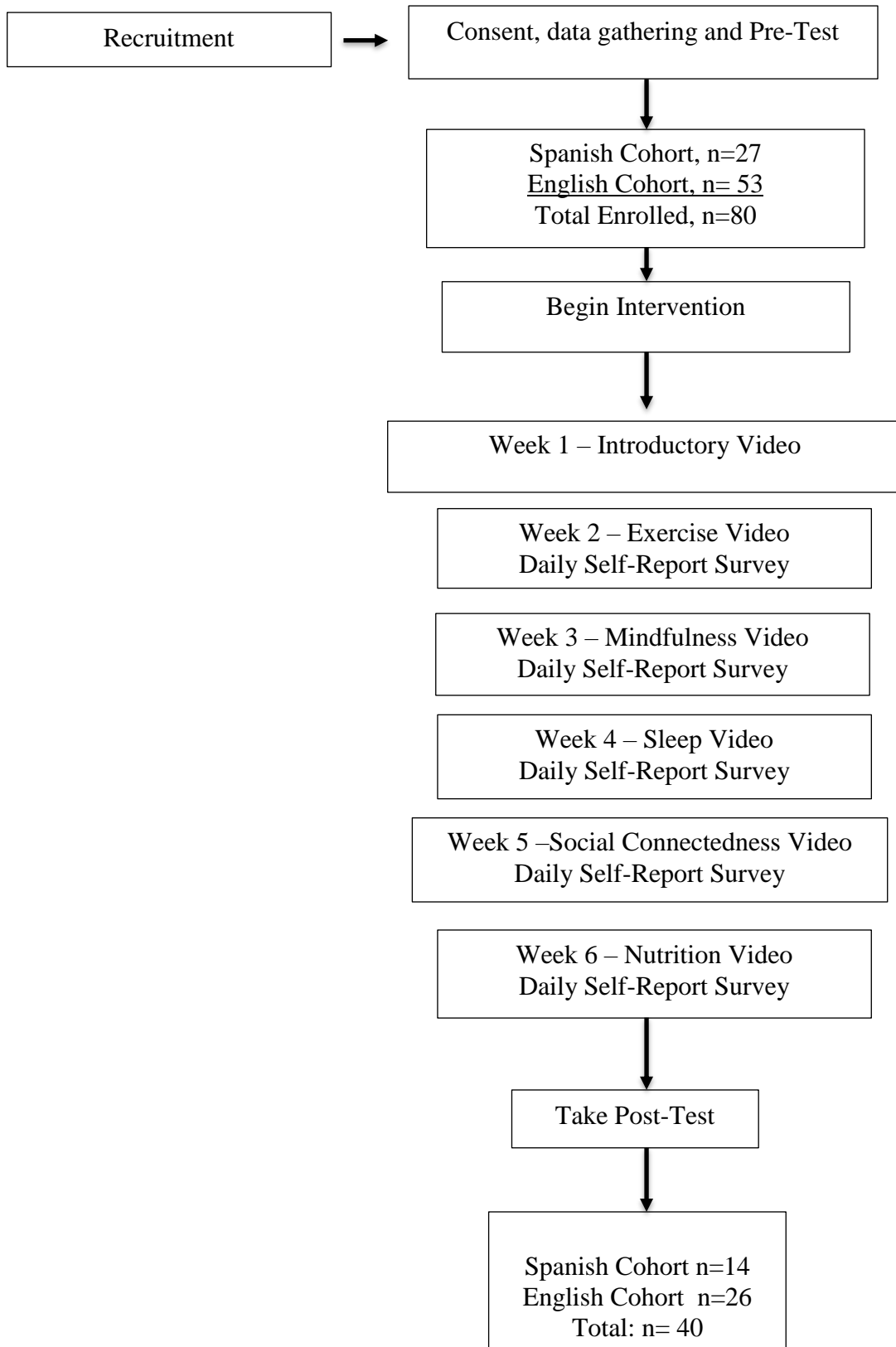


Figure 2. Project Protocol

<i>Sane through COVID with WILD 5-Wellness KickStart30</i>	Prescribed Activities
<b>1. Physical Activity</b>	<ul style="list-style-type: none"> <li>• To practice any physical activity of their preference for 30 minutes daily.</li> </ul>
<b>2. Mindfulness</b>	<ul style="list-style-type: none"> <li>• Participants are to practice 10-minute of mindfulness daily</li> </ul>
<b>3. Sleep</b>	<ul style="list-style-type: none"> <li>• To avoid caffeine 10 hours before bedtime</li> <li>• Stay on a consistent schedule</li> <li>• Avoid exercise right before bedtime</li> <li>• Turn off all electronics ninety minutes before bedtime</li> <li>• Avoid napping during the day</li> <li>• Enjoy a warm relaxing bath</li> </ul>
<b>4. Social Connectedness</b>	<ul style="list-style-type: none"> <li>• To call or text a family member or friend every day on something not related to work</li> </ul>
<b>5. Nutrition</b>	<ul style="list-style-type: none"> <li>• To keep a daily log of all their meals, snack, and alcohol consumption</li> </ul>

Table 1. Online mental health promotion educational topics/content

### Implementation

The project started with a two-week recruitment period through the primary care medical clinic, Facebook advertising, and participant’s referrals. Clinic patients learned about the project through referrals by providers through approved poster. Other participants learned about the project through a Facebook approved advertising page entitled *Sane through COVID with WILD 5-Wellness KickStart30* that provided information about the intervention, and project supervisor paid for advertising through the following zip codes: 77002, 77004, 77005, 78522, 78539, 78572, 75060, and 75214. Participants and anyone interested in the project were given permission to refer others who were interested in participating via Facebook friends and colleagues of the project investigator as a method of convenience snowball sampling.



## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

Participants learned about the project and process. Intention to participate was demonstrated by participants providing email address. After consenting, each participant filled out his demographic information (age, gender, education level, profession, race, antidepressant or anxiety medication use, history of anxiety or depression information, previous participation in lifestyle education). Each participant was assigned an identifier composed of numbers and letters. Each participant got a link via email to the SurveyMonkey. Once participants agreed by checking the consent box, they took the pre-test. All information was kept confidential and not used for any marketing or promotional programs. Last, participants were blinded from seeing other participant emails or participation information.

After the two weeks, the participants got their introductory video which described the prescribed activities. Thereafter, participants received a weekly video that discussed each element (exercise, mindfulness, sleep, social connectedness, and nutrition) more in depth. Each participant received the panopto weekly video link via email. The project investigator was able to monitor participation through Panopto monitoring system. Those participants who had not watched the video a midweek, would received a second email link to the video. Also, participants got a daily email with the SurveyMonkey link for the daily self-report activities. These were short surveys in which participants stated whether they had done any of the prescribed activities or not. At the end of the sixth week, the participants got a link to SurveyMonkey to take the post-test. Participants were given two weeks to take the post-test. After successful completion, each participant received his/her \$10 gift card as a thank you for participating in project.

**Data collection**

Pre and post-test scores were collected using the GAD-7 scale by Spitzer, Kroenke, Williams, and Lowe (2006). The pretest was taken before the participants started watching the *Sane through COVID with WILD 5-Wellness KickStart30* videos, and the post-test was taken within two weeks after watching the last video on the sixth week.

**Project Timeline**

Project investigator received Andrews University Institutional Review Board approval on July 27, 2020 and recruitment started the next week August 3, 2020. The introductory video was sent on August 17, 2020, and thereafter, the following five videos were sent on a weekly basis. Participants were allowed to review videos from previous weeks and not from future weeks. Participants had two weeks after the last day of the sixth week to take the post-test and two reminders were sent to those who had not responded by the end of the week.

<b>Timeline Dates</b>	<b>Events</b>
<b>August 2-August 14, 2020</b>	<i>Recruitment/pre-test data collection/Introductory Video</i>
<b>August 16-August 21, 2020</b>	<i>Sunday Physical activity video Mon-Friday Daily Cues to Action- Self Report</i>
<b>August 23- August 28, 2020</b>	<i>Sunday Mindfulness Video Mon-Friday Daily Cues to Action- Self Report</i>
<b>August 30-September 4, 2020</b>	<i>Sunday Sleep Mon-Friday Daily Cues to Action- Self Report</i>
<b>September 6- September 11, 2020</b>	<i>Sunday Social connectedness Mon-Friday Daily Cues to Action- Self Report</i>
<b>September 13- September 18, 2020</b>	<i>Nutrition Mon-Friday Daily Cues to Action- Self Report</i>
<b>September 20-October 2, 2020</b>	<i>Post-test and data collection</i>
<b>September- October, 2020</b>	<i>Data analysis and write up</i>

Table 2. Timeline for project completion

### **Analysis Plan**

Descriptive statistics including frequency tables will be used to describe characteristics of the sample population. The paired t-test will be used to compare pre and post-tests improvement when data were normally distributed, and the equivalent nonparametric Wilcoxon signed-rank test will be used with data that is not normally distributed.

### **Confidentiality**

All data was de-identified prior to analysis and kept in a spread-sheet as a record that matches email address to provided identifier. It was password protected computer file separate from the data analysis folder. Email addresses were used for project-approved communication with participants and during this project only. Email information was not shared.

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

Data collection was done through SurveyMonkey. IP tracking was disabled to allow a greater confidentiality and greater access to multiple members of a household. SurveyMonkey provided HIPAA-compliant features that reduced the risk for encryption, personal information breach, and it was accredited to reliably collect data for healthcare (SurveyMonkey, 2020).

### **Internal/External Validity**

There are two factors to account for internal validity. First, this project will be utilizing a reliable tool the GAD-7. The GAD-7 has shown good internal consistency and convergent validity in heterogeneous samples. Project investigator is confident that the tool scores provide a good assessment of participants anxiety state, prior and after the implementation. Second, the *Sane through COVID with WILD 5-Wellness KickStart30* program (Independent variable) contains validity in that the content is evidence-based and it adheres to study protocol, which avoids data variation in data collection and implementation. Threats to internal validity may be attrition and this may lead to a biased sample.

External validity will be minimized by a defined inclusion and exclusion criteria to match the samples to be as close as possible to the characteristics of the population. Also, participants will be monitored through Panopto to account for who is actually watching the *Sane through COVID with WILD 5-Wellness KickStart30* videos; and the self-report feedback will assure that participants will be experiencing the educational intervention.

### **Evaluation and Sustainability**

This project findings will be presented to the primary care medical clinic providers and if successful, they will have the option of providing this treatment modality to their patients. Also, the providers will be given a three-question survey for them to provide feedback for the project. 1. On a scale of 1-10, please rate your overall impression of this project, 2. In your opinion, what were the most important strengths of the project? 3. In your opinion, what were the most important weaknesses of the project? Providers will have the option to educate their patients on the benefits of the WILD 5-Wellness KickStart30' elements and give them this as an option for online treatment and follow up.

### **Conclusion**

The aim of this methodology was to design the process that would analyze the impact of *Sane through COVID with WILD 5-Wellness KickStart30* educational intervention. The GAD-7 assessment tool was the assessment tool used to measure this intervention and was provided before the first video and after the last video. Participants had the opportunity to self-report any implementation of practices in reply to daily email notifications, which served as the “cues to action” measure described in the theoretical framework.

## CHAPTER 4

### FINDINGS AND RESULTS

The purpose of this project was to determine if a six-week online mental health promotion intervention would improve the GAD-7 scores of participants. Results will be presented in the text, tables, and graphs. A total of 80 participants filled the pre-test, but only 40 filled the post-test yielding to a 50% attrition rate. For the purpose of this analysis only those who filled both the pre and post-test were used.

#### **Participants Demographics**

A total of 40 people completed this project. seven participants reported to had previously participated in a lifestyle program. There was a total of 33 females and seven males (Figure 3). Participants were categorized by ages between 18-29 (20%), 30-39 (22%), 40-49 (23%), and older than 49 (35%) (Figure 4). The ethnicity breakdown was a follow: 29 Hispanic, seven White, four identified as another race (Figure 5). A total of 15 reported having a history of depression and anxiety, 27 stated not having anxiety and depression, and four stated taking medications for either anxiety or depression (Figure 6). 15 said to have a graduate degree, 14 had an undergraduate degree, eight had some college education, and three had high school or less (Figure 7). There was a total of 26 participants that took the program in English, and 14 in Spanish (Figure 8).

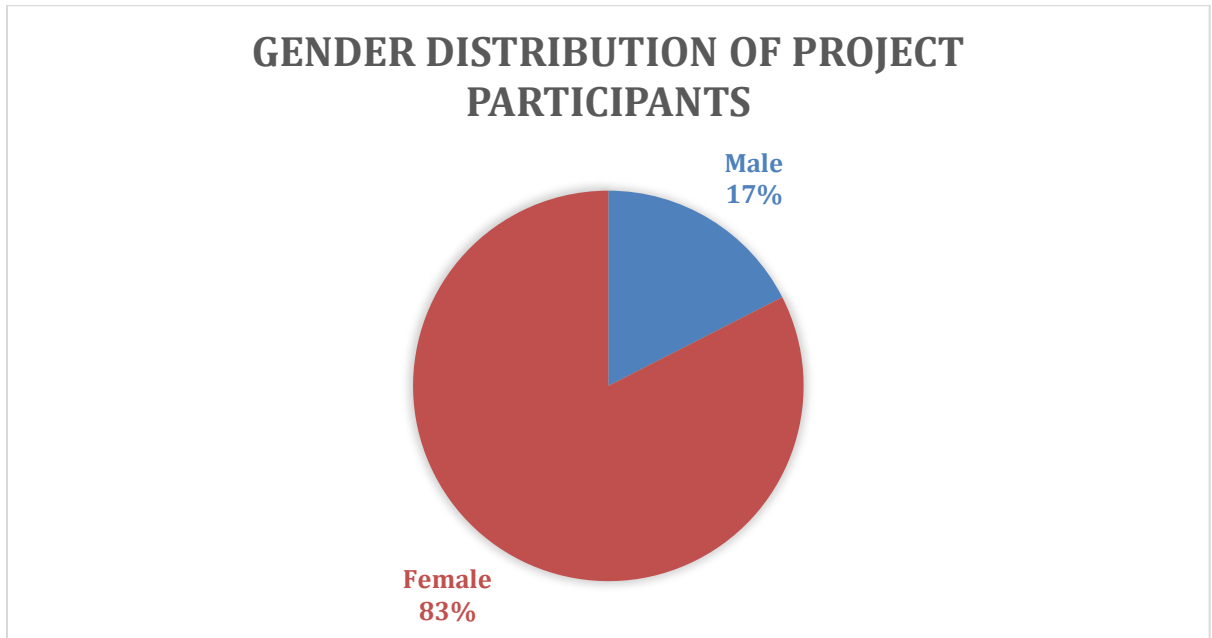


Figure 3. Gender of Project Participants

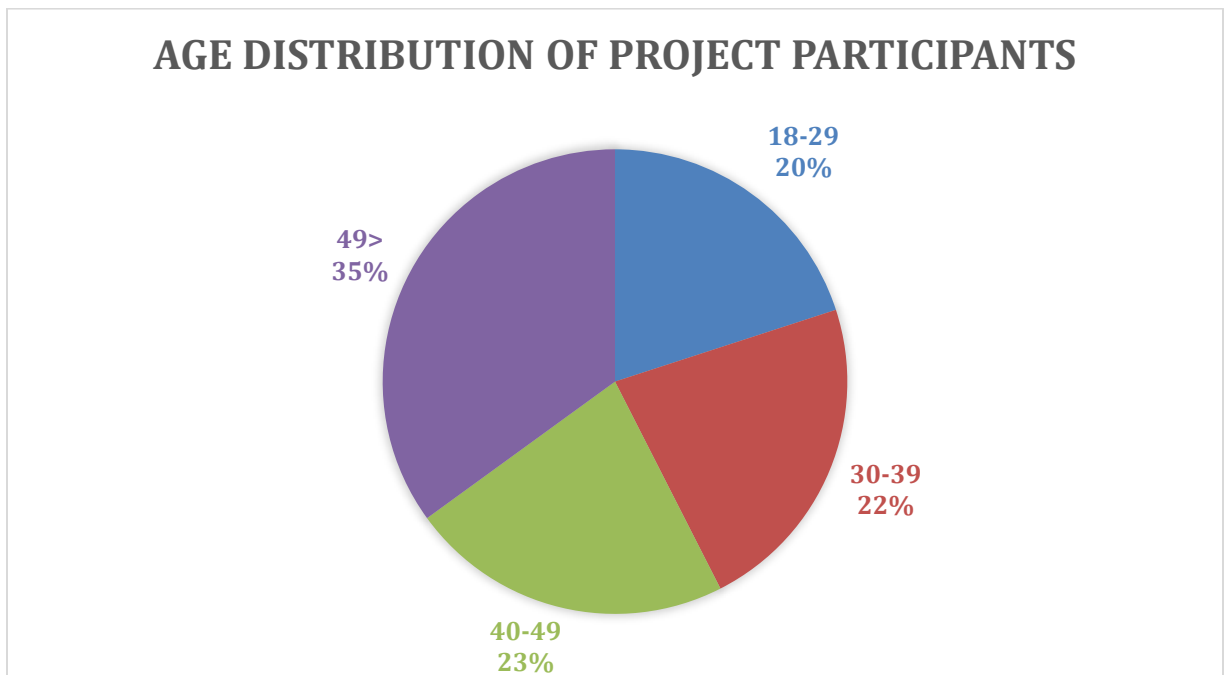


Figure 4. Age of Project Participants

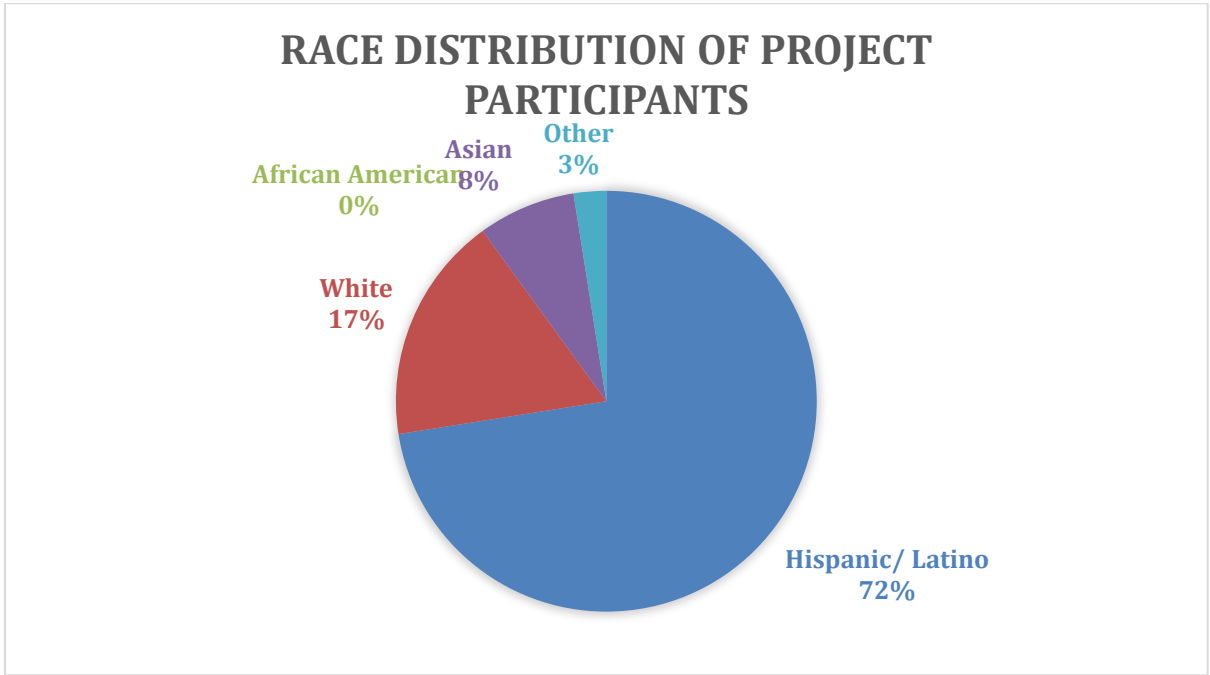


Figure 5. Race of Project Participants

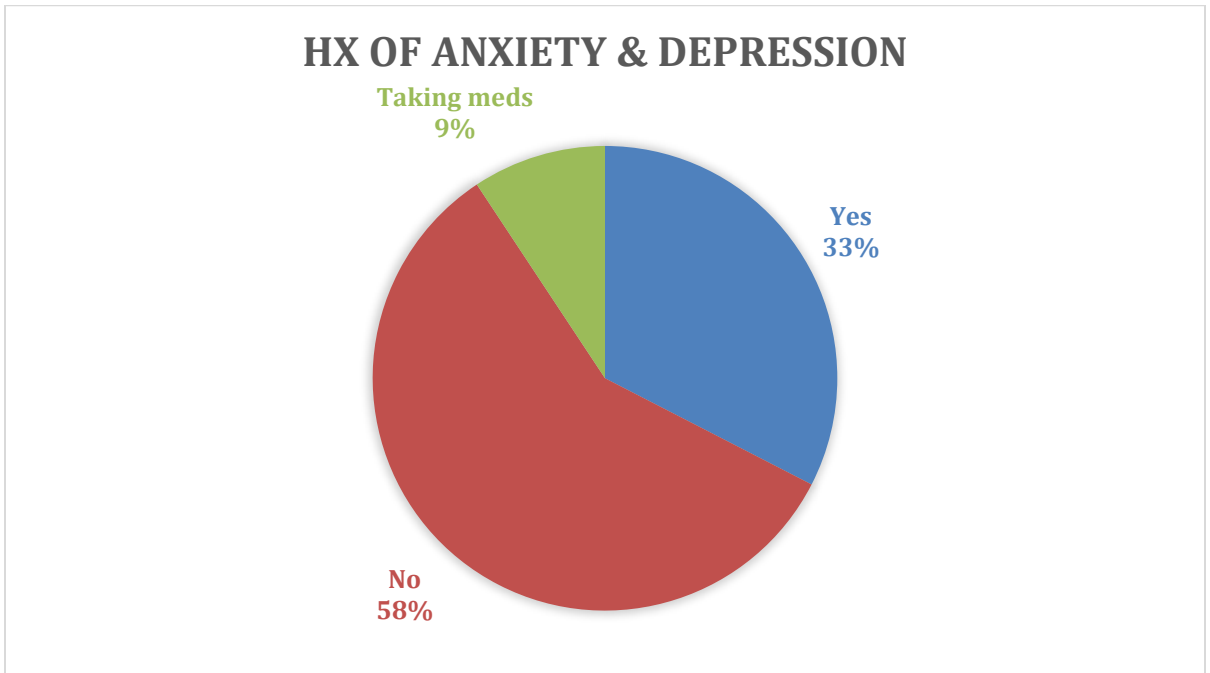


Figure 6. Presence of History of Depression and Anxiety



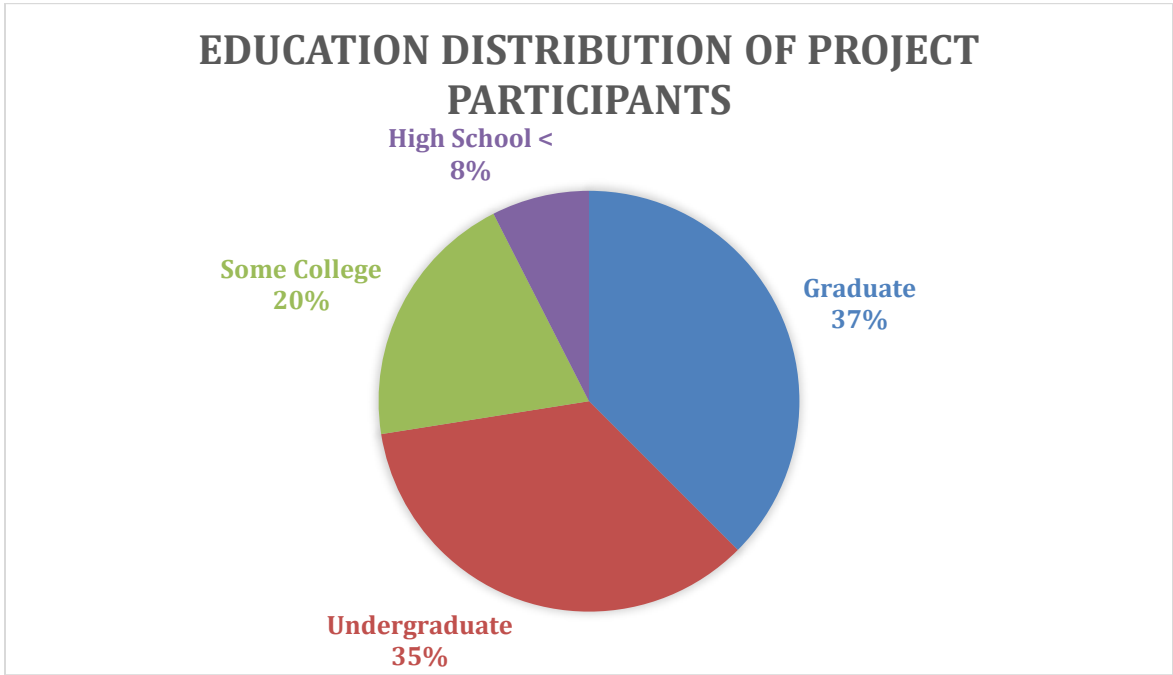


Figure 7. Educational Level of Project Participants

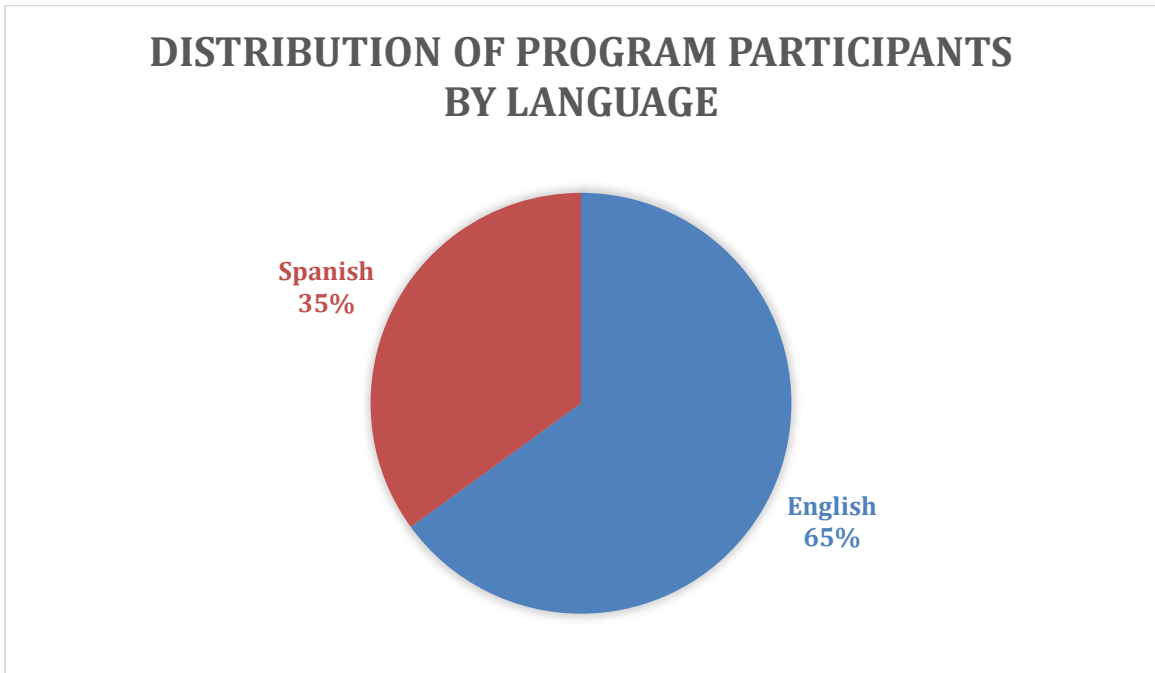


Figure 8. Program Language by Choice of Project Participants

ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

Characteristics		<i>n</i>	(%)	<i>M(SD)</i>
<i>Gender</i>	Male	32	(82.1)	
	Female	7	(17.9)	
	Other	0	(0)	
<i>Race</i>	Hispanic/Latino	28	(71.8)	
	White	7	(17.9)	
	Other	4	(10.3)	
<i>Education</i>	High School <	3	(7.7)	
	Some College	8	(20.5)	
	Undergraduate	14	(35.9)	
	Graduate	15	(38.5)	
<i>Language of Choice</i>	Spanish	14	(35.9)	
	English	25	(64.1)	
<i>Age</i>		39		44.1±13.00

Table 3 Demographics of Study Participants

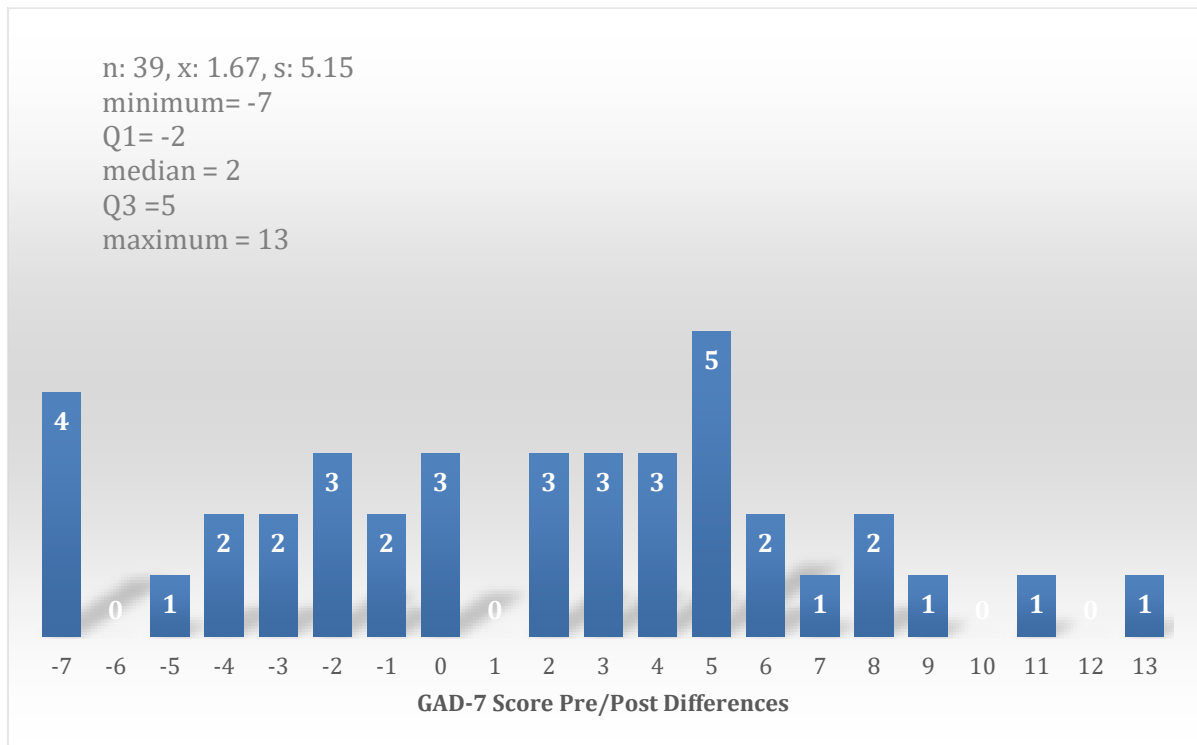


Figure 9. Generalized Anxiety Disorder-7 Scale (GAD-7) Differences Analysis

**Pre/Post Differences**

	M±SD	Statistics	1-tailed <i>p</i> -value
<i>GAD-7</i>	4.15±3.3	t(38)=2.025	0.025

Table 4. *GAD-7 Pre-Post Test Results*

**Observations**

The objective of this project was to determine if a six-week online mental health promotion intervention would improve the GAD-7 scores of participants. The paired sample t-test was used to compare the pre-test and post-test scores from the GAD-7 scale. The data was of normal distribution, and it was noted that there was a statistically significant increase from the mean pre-test score to post-test score following the intervention,  $t(38) = 2.025$ , 1 tailed  $p$  0.025. The observed mean difference is significant at a 5% level of significance (Table 4). Since 2.5% is less than 5% we can say that the mean is 1.67 is statistically significant from 0.

ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

<i>Variable</i>	<i># of Participants</i>	<i>Mean Improvement</i>	<i>SD</i>
<i>Female</i>	32	1.9	5.2
<i>Male</i>	7	0.6	5.0
<i>College Graduate</i>	15	0.33	4.2
<i>Hispanic</i>	28	1.4	5.5
<i>Other</i>	4	-0.25	3.3
<i>White</i>	7	3.7	4.5
<i>Hx Anxiety/Depression</i>	14	4.36	4.22
<i>No Hx Anxiety/Depression</i>	25	0.16	5.1
<i>Prior Life-Style Program Experience</i>	32	1.44	5.0
<i>No Prior Life-Style Program Experience</i>	7	2.71	6.2

Table 5. *Demographic Comparison*

**Observations**

Standard descriptive statistics were used to describe baseline demographic information, including gender, age, race, history of anxiety and/or depression, taking medications for anxiety and or depression, and educational level. Prior experience with a lifestyle program seems to make a difference although the sample size was not large enough to make any definite conclusion about the relationship between prior experience and the amount of improvement. The sample is largely Hispanic and female and there were not enough of the other races or males to make any definite conclusion about the relationship between race and/or gender and the amount of improvement. College graduates had a lower improvement than the non-college graduates but due to the small

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

sample size, a definite conclusion about the relationship between the level of education and the amount of improvement cannot be made.

Those who reported that they have anxiety and/or depression had a greater improvement than those who did not report that they have anxiety or depression. This could be due to the fact that those with anxiety or depression likely had a higher GAD-7 score in the first place and therefore could improve more than those who did not report anxiety and, hence, did not have as much room to improve. Since the sample size is small, though, a definite conclusion about the relationship between current reported levels of anxiety and depression and the amount of improvement cannot be made.

## CHAPTER 5

### DISCUSSION

The purpose of this project was to measure the impact of a six-week mental health wellness intervention by comparing pre and post-GAD-7 scores. This chapter will discuss the relationship of the results to the theoretical framework and objective. It will further address the impact of results to practice, the strengths and limitations of the project, plan for dissemination, future implications for practice, project evaluation, and the *Doctor of Nursing Practice (DNP) Essentials* mastery through the scholarly project as defined by the American Association of Colleges of Nursing (AACN, 2006).

#### **Participants Demographics**

Though the sample size did not provide a great variety in the participants by demographics, there are still some similarities found in the sample demographics that have been reported in the general population. For instance, 83% of participants were female, and according to the National Institute of Mental health (2017), the prevalence of anxiety among females is higher than males. Furthermore, 72% were Hispanic and accounted for most participants, and Hispanic females accounted for 60% of project participants. According to the Anxiety and Depression Association of America [ADAA] (2020), Latinos underutilize anxiety treatments; instead, Latinos usually seek help from friends, family, and spiritual advisers, but not necessarily from health professionals. Common barriers include language, lack of health insurance, legal status, and mistrust from health systems. This intervention was delivered in English/Spanish and was

accessible, most likely attributed to the more significant numbers of Hispanic females in the sample group.

### **Implications to the Theoretical Framework**

This project intervention aimed to promote a healthy lifestyle through educational videos. The intervention utilized the components of the WILD 5 Wellness KickStart30 Program's elements of exercise, mindfulness, sleep, social connectedness, nutrition, and prescribed activities for each element. Mental health promotion strategies are based on modifying the risk of exposure, strengthening the protective factors, reducing exposure to risk factors, and targeting accepted mechanisms; therefore, the goal was to build resilience and reduce the impact of what cannot be changed (Arango et al., 2018).

The Health Belief Model (HBM) was utilized as the guide to develop the educational strategy. The HBM utilizes strategies from social and health sciences for health promotion educational programs. Motivation is the central focus of the HBM, and the six constructs were applied as follows: The 1. Perceived susceptibility, and 2. Perceived severity was assessed through the pre-test, the 3. Perceived benefits, and 4. Perceived barriers were addressed through the videos, and the 5. Cue to action was done through the daily self-reported surveys which prompted the participants to recall the prescribed activities shared in the video, and the 6. self-efficacy was hopefully achieved through the 30-day length which aimed to build the healthy habits from the prescribed activities (Glanz, Burke, & Rimer, 2015).

### **Limitations & Strengths**

Issues with the study were found through the course of the intervention. Identified limitations include sample size, access, and self-reported data. At times, the video link

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

would land in the participant's email's junk box, which was not noted until later. This matter may have attributed to the 50% attrition rate observed, but it is not clear. Some attempts were made to clarify this through email, but no reply from participants was obtained. After the introductory video, some just opted out and notified the project supervisor via email or blocked the notifications from their email server.

According to the results, some participants scored worst in their post-test than in their pre-test. It could have been attributed to the self-reporting nature of the study, but it is not certain. This study relied heavily on the participant's self-reporting ability, which may or may not have been affected by unknown external variables that were not directly addressed in the study and cannot be directly verified. Furthermore, by looking at the results, this study would be considered a preliminary study; though there is some evidence that the intervention can help people who would volunteer for the study, a more extensive study would be needed with more representation from other races and more able to monitor and control.

Identified strengths include access, replicable, and relevance. Generally speaking, online access to the educational videos is simple, and just by clicking on the link, participants had access to the videos, and it was available in two languages (English and Spanish). Therefore, access was simple, free, and able to reach a minority group. This study may be easily replicated to gain more insight into the intervention's effect on participants. Last, this study was done during the COVID-19 pandemic allowing participants to receive their educational videos from their homes or wherever they choose to watch them.



### **Impact of Results to Practice**

The GAD-7 scoring allows providers to classify participants according to their scores, where 0-4 is minimal, 5-9 is mild, 10-14 is moderate, and 15-21 is severe. This project intervention yielded a 1.67 mean difference from zero, which means that scores may improve scores by close to 2 points. Though the improvement may not necessarily yield a big difference, providers may recommend it to patients in the minimal-mild scores as primary or as adjunctive therapy along with medication therapy and counseling services.

### **Future Implications for Practice**

#### **Significance in Nursing Education**

This project is significant as it addresses the need to improve nurse practitioner education and training with curriculums that integrate telehealth to provide care that is easy to access, cost-effective, and excellent quality. Despite the evidence, telehealth education integration continues to be a challenge. Telehealth within the psychiatric domain has been utilized, and some studies report this practice to be an effective and with high patient satisfaction scores as face-to-face care when treating with medications and specific psychotherapies (Tyson, Brammer, & McIntosh, 2019).

According to Rutledge et al. (2017) & Tyson, Brammer, & McIntosh (2019) report, very few nurse practitioner schools provide telehealth training; and though a great majority of faculty members expressed their need for telehealth education integration, the literature is scant. Barriers identified include the cost of telehealth programs, the inability to transfer human factors of empathy, and telehealth etiquette (Rutledge et al., 2017).

Among the most common challenges include the availability of experienced preceptors,

telehealth laws and reimbursement policies, the state-based licensure system that does not allow a clinician to practice in all states, malpractice insurance coverage, software cost, and overall funding costs (Tyson, Brammer, & McIntosh, 2019).

### **Telehealth in Nursing Practice**

As leaders in the clinical field, nurse practitioners continue to innovate and create the necessary bridges to increase access and decrease cost as they continue to provide evidence-based quality care. However, the obstacles to the educational settings translate to the practice settings as well. Many nurse practitioners are unable to direct care or have full practice status at the national level. In the area of mental health, primary mental health nurse practitioners (PMHNP) report not having a clear job description, inadequate employee benefits, and the inability to get the required physician supervision to provide psychiatric care; which significantly impact the attraction of nurse practitioners who want to specialize in primary psychiatric care (Chapman et al., 2018).

Nurse practitioners are central to delivering and coordinating mental health care in primary care (Poghosyan et al., 2019). This project incorporates an online approach to prescribed wellness practices that are self-managing. These wellness practices are scientifically based and have shown to improve mental well-being. Therefore, implementing this approach to assist patients with their mental health may be easily incorporated into the primary clinical setting through technology and be integrated and monitored as a treatment approach to anxiety in primary care.

### **Diversity in Nursing Practice**

This project was provided in Spanish and English and was limited to the delivery of the information as indicated in the WILD-5 Wellness KickStart30 Program. However,

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

it was noted that the deliverance of information to a multicultural group must include the variances and inclusion of diversity aspects so that the information may become meaningful. The U.S. Census Bureau predicts that by 2044, the United States will become a majority minority nation (Beauliu, Addington, & Almeida, 2018).

Consequently, the deliverance of health care to a population from diverse backgrounds may become more challenging. Beauliu, Addington, & Almeida (2018) reported that professionals felt that diversity care is very important, but most of them reported having little or no training in diversity care. The challenge is to not just to translate the care in a given language but to take a step further and include the cultural content. This is new challenge to nursing education and nursing practice to build systems which include diversity training for nurses to incorporate in healthcare deliverance.

### **Dissemination Plan**

This project's results were presented to the primary care medical clinic providers on October 15, 2020. The video links were shared with the providers in order for them to be more familiar with the intervention. A poster presentation will be created and submitted for a proposal to the American Association of Nurse Practitioners to consider poster presentations in their 2021 American Association of Nurse Practitioners National Conference.

### **Project Evaluation**

This project was evaluated by the primary care medical clinic providers. Three questions were asked to rate the project's overall impression on a scale of 0-10, where 0 meant very inadequate, and 10 meant excellent. Both responses were rated at 10. They were also asked to choose what they found more valuable the videos, the daily reminders,

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

or both (video and daily reminders), and they answered both videos and daily reminders were found to be equally important. Last, they were asked to state what they found as a weakness of the project, to which they would have preferred the daily reminders and video links to be sent consistently on the same day and time every week.

As a nurse and project supervisor, I believe that these educational videos may be utilized in the clinical setting to promote wellness activities and a healthy lifestyle. This program can help patients develop healthy habits that may improve even slightly the patient's general anxiety level and overall mental health.

### **Mastery of DNP Essentials**

This project proposed to use evidence and theory-based intervention and implement it in the general population through an online setting. Through the planning, execution, evaluation, and dissemination of the results, the project supervisor registered nurse had the opportunity to utilize seven of the eight DNP Essentials (I, II, III, IV, VI, VII, VIII) (AACN, 2006).

#### **Essential I: Scientific Underpinnings for Practice**

*Essential I: Scientific Underpinnings for Practice* addresses the need to integrate nursing science with knowledge from ethics, biophysical, psychosocial, analytical, and organizational sciences as the basis for the highest level of nursing practice (American Association of Colleges of Nursing [AACN], 2006). This project aimed to alleviate the burden of mental health in primary care by utilizing prescribed wellness activities as highlighted in the WILD-5 Wellness KickStart30 program. An evidence-based implementation that has shown improvement in previous studies as addressed in the review of literature.

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

This project utilized the ethics concepts to develop a project that would protect its participants and obtained proper approval from ethical committee. The psychosocial and analytical sciences were integrated in the development of the project's theoretical framework (the Health Belief Model [HBM]), methodology, and data analysis. The aim of the project was to utilize the internet as the basis of communication with participants through email and for the delivery of the intervention through video links that were planned and produced by project manager and her personal production group and resources. This process enabled participants to obtain access to a scientific-based education from their homes in the midst of COVID-19 pandemic. Last, this project identified the need to improve nursing education curriculum that would include the incorporation of telehealth education curricula.

### **Essential II: Organizational and Systems Leadership for Quality Improvement and Systems Thinking**

*Essential II: Organizational and Systems Leadership for Quality Improvement and Systems Thinking* consists of DNPs identifying, developing, and evaluating the needs in the patient population, the community, and or the organizations (AACN, 2006). Furthermore, DNPs are to conceptualize new care delivery models based on contemporary nursing science that is feasible within the political, cultural, and economic context (AACN, 2006).

This project was developed, planned, and executed during the COVID-19 pandemic. Primary care delivery was going through a transformation as it sought to provide safe patient care and diminish the spread of infection both in the clinical and community setting. The increase in mental health care needs arose in the United States

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

due to all the social, economic, and political changes and by the nature of the COVID-19 pandemic. Reports included that stress and anxiety were the foremost mental health issues reported, and the FDA added Zoloft to the shortage list in June 2020 (Dong & Bouey, 2020). This project sought to improve the quality of care and utilized available feasible resources. The wellness education used a feasible delivery method for the intervention and aimed to decrease the pandemic's mental health impact.

### **Essential III: Clinical Scholarly and Analytical Methods**

*Essential III: Clinical Scholarly and Analytical Methods for Evidence-Based Practice (EBP)* highlights the DNP's role in translating evidence into practice. DNPs should design, direct, and evaluate quality improvement methods that are safe, timely, effective, efficient, equitable, and patient-centered (AACN, 2006).

The project supervisor was able to identify the gap in evidence for practice before COVID-19. During the clinical rotations in the family care practice, she was able to observe that most patients had an anxiety and or depression diagnosis for which some took medication or refused medication, and two-thirds of primary care providers are unable to connect their patients to mental health services (American Academy of Family Physicians, 2020). To decrease the burden, this nurse sought to investigate a wellness program that incorporates a healthy lifestyle that was evidence-based, accessible, and patient-centered.

### **Essential IV: Information Systems/Technology**

The mastery of *Essential IV: Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care* was achieved through technology throughout the entire project. The AACN (2006) states that DNPs

should be able to provide leadership in evaluating ethical issues related to the use of information technology, communication networks, and patient care technology, as well as to evaluate consumer health information sources for accuracy, timeliness, and appropriateness.

Technology facilitated recruitment through social media and advertising, with data collection through SurveyMonkey and email services. Intervention delivery took place through video production, evaluation through SurveyMonkey and data analysis, and Microsoft Word and Excel reporting.

The use of emailed survey services through SurveyMonkey provided a platform to collect the data to evaluate the intervention's impact on participants. The technology was used for the video production material and to respond to the self-reported feedback survey. However, though technology has its perks, it does come with its drawbacks. As the project supervisor evaluated the daily responses to the surveys and the videos watched, the project supervisor was able to identify communication challenges. Participants who appeared not actively watching nor replying to daily self-report emails received an extra email in which an attempt to gather data was made. Some participants would reply to others who would not and opt-out of the project.

### **Essential VI: Inter-Professional Collaboration for Improving Patient and Population Health Outcomes**

*Essential VI: Inter-Professional Collaboration for Improving Patient and Population Health Outcomes* states that the DNPs have the preparation for effective leadership and play a central role in establishing interprofessional teams (AACN, 2006). The project supervisor was able to work along with two members of the committee, a

DNP educator as the project chair, and a Master's in Social Sciences (MSW) as the project advisor. Other advisors included the statisticians who clarified concepts and helped mold the methodology and data analysis and interpretation.

**Essential VII: Clinical Prevention and Population Health for Improving the Nation's Health**

*Essential VII: Clinical Prevention and Population Health for Improving the Nation's Health* states that DNPs are to identify gaps in healthcare as well as to synthesize concepts from psychosocial and cultural dimensions to implement programs for disease prevention and health promotion across the cultural and socioeconomic dimensions of health (AACN, 2006).

The project supervisor utilized an intervention that promoted wellness activities and built healthy habits among participants. Though the project aimed to recruit participants from all ethnicities, most participants were Hispanic, some of whom chose Spanish as the intervention deliverance language. The project supervisor made an effort to provide the program in both English and Spanish to allow the Hispanic population to participate.

**Essential VIII: Advanced Nursing Practice**

*Essential VIII: Advanced Nursing Practice* states that DNP education intends to prepare nurses for their highest level of education in their area of practice (AACN, 2006). The DNP must assess, plan, implement, and evaluate their interventions by utilizing the best evidence-based to improve and promote health (AACN, 2006). The project supervisor was able to implement an intervention based on her assessment of a known gap in the case of anxiety, which was further exacerbated by the pandemic, as reported in



## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

the literature review. In mental health and the delivery of services, the online modality of intervention deliverance has and will continue to evolve. The DNP must continue to evaluate this approach to better the intervention and promote wellness interventions that improve mental health in primary care.

References

- Ahmedani, B. K., Belville-Robertson, T., Hirsch, A., & Jurayj, A. (2016). An online mental health and wellness intervention supplementing standard care of depression and anxiety. *Archives of Psychiatric Nursing*, 30, p. 666-670.
- American Academy of Family Physicians (2020). Mental health care services by family physicians. Retrieved from <https://www.aafp.org/about/policies/all/mental-services.html>
- American Association of Colleges of Nursing [AACN]. (2006). *The essentials of doctoral education for advanced nurse practice*.  
<http://www.aacnnursing.org/Portals/42/Publication/DNPEssentials.pdf>
- American Psychiatric Association [APA] (2020). New poll: COVID-19 impacting mental well-being: Americans feeling anxious, especially for loved ones; older adults are less anxious. Retrieved from <https://www.psychiatry.org/newsroom/news-releases/new-poll-covid-19-impacting-mental-well-being-americans-feeling-anxious-especially-for-loved-ones-older-adults-are-less-anxious>
- American Psychological Association (2019). Stress in America 2019. *Stress and Current Events*. Retrieved from  
<https://www.apa.org/news/press/releases/stress/2019/stress-america-2019.pdf>
- Anderson, P. (2020). High anxiety in America over COVID-19. *MedScape*. Retrieved from <https://www.medscape.com/viewarticle/927711>
- Anxiety and Depression Association of America [ADAA] (2015). Clinical practice review for GAD. Retrieved from  
<https://adaa.org/resources-professionals/practice-guidelines-gad>

- Anxiety and Depression Association of America [ADAA] (2020). Latinx/Hispanic Communities. Retrieved from <https://adaa.org/finding-help/hispanic-latinos>
- Arango, C., Diaz-Caneja, C., McGorry, P. D., Rapoport, J., Sommer, I., Vorstman, J., McDaid, D., Marin, O., Serrano-Drozdzowskyj, E., Freedman, R., & Carpenter, W. (2018). Preventive strategies for mental health. *The Lancet Psychiatry*, *5*(7), p. 591-604. doi: [https://doi.org/10.1016/S2215-0366\(18\)30057-9](https://doi.org/10.1016/S2215-0366(18)30057-9)
- Asmundson, G. J. & Taylor, S. (2020). How health anxiety influences responses to viral outbreaks like COVID-19: What all decision-makers, health authorities, and health care professionals need to know. *Journal of Anxiety Disorders*, *71*, doi: <https://doi.org/10.1016/j.janxdis.2020.102211>
- Beaulieu, L., Addington, J., & Almeida, D. (2018). Behavior analysts' training and practices regarding cultural diversity: The case for culturally competent care. *Behavior Analysis in Practice*, *12*, p. 557-575. doi: <https://doi.org/10.1007/s40617-018-00313-6>
- Briguglio, M., Vitale, J., Galentino, R., Banfi, G., Dina, C., Bona, A., Panzica, G., Porta, M., Dell'Osso, B., & Glick, I. (2020). Healthy eating, physical activity, and sleep hygiene (HEPAS) as the winning triad for sustaining physical and mental health in patients at risk for or with neuropsychiatric disorders: Considerations for clinical Practice. (PERSPECTIVES). *Neuropsychiatric Disease and Treatment*, *16*, 55–70. <https://doi.org/10.2147/NDT.S229206>

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

- Buntrock, C., Berking, M., Smit, F., Lehr, D., Nobis, S., Riper, H., Cuijpers, P., & Ebert, D. (2017). Preventing depression in adults with subthreshold depression: Health-economic evaluation alongside a pragmatic randomized controlled trial of a web-based intervention. *Journal of Medical Internet Research, 19*(1), p. 1-16. Doi: 10.2196/jmir.6587
- Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J, Zheng, J. (2020). The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry Research, 287*, doi: <https://doi.org/10.1016/j.psychres.2020.112934>
- Carpenter, J., Andrews, L., Witcraft, S., Powers, M. B., Smits, J., & Hofmann, S. (2018). Cognitive behavioral therapy for anxiety and related disorders: A meta-analysis of randomized placebo-controlled trials. *Depression and Anxiety, 35*(6), 502-514. doi: <https://doi.org/10.1002/da.22728>
- Center for Disease Control and Prevention [CDC] (2018). Learn about mental health. Retrieved from <https://www.cdc.gov/mentalhealth/learn/index.htm>
- Center for Disease Control and Prevention [CDC] (2020). Coronavirus Disease 2019 (COVID-19). Cases in U.S. Retrieved from <https://www.cdc.gov/coronavirus/2019-ncov/cases- updates/cases-in-us.html>
- Center for Disease Control and Prevention [CDC] (2020a). Quarantine and isolation. Retrieved from <https://www.cdc.gov/quarantine/index.html>
- Chapman, S., Phoenix, B., Hahn, T., & Strod, D. (2018). Utilization and economic contribution of psychiatric mental health practitioners in public health services. *American Journal of Preventive Medicine, 54*(6S3): S243-S249

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

Clarke, A., Kuosmanen, T., & Barry, M. (2015). A systematic review of online youth mental health promotion and prevention interventions. *Journal of Youth Adolescence*, 44, p. 90-113. doi: 10.1007/s10964-014-0165-0

Cox, R., Sterba, S., Cole, D., Upender, R., & Olatunji, B. (2018). Time of day effects on the relationship between daily sleep and anxiety: An ecological momentary assessment approach. *Behaviour Research and Therapy*, 111, 44–51.

<https://doi.org/10.1016/j.brat.2018.09.008>

Dong, L. & Bouey, J. (2020). Public mental health crisis during COVID-19 pandemic, China. *Emerging Infectious Diseases*, 26(7). Retrieved (April, 30, 2020) from

[https://wwwnc.cdc.gov/eid/article/26/7/20-0407\\_article#suggestedcitation](https://wwwnc.cdc.gov/eid/article/26/7/20-0407_article#suggestedcitation)

Doyle, L., Ellila, H., Jormfeldt, H., Lahti, M., Higgins, A., Keogh, B., Meade, O., Sitvast, J., Skarsater, I., Stickley, T., & Kilkku, N. (2017). Preparing master-level mental health nurses to work within a wellness paradigm: Findings from the eMenthe project. *International Journal of Mental Health Nursing*, 27(2). doi:

<https://doi.org/10.1111/inm.12370>

Glanz, K., Burke, L., & Rimmer, B. (2015). Health Behavior Theories. In Butts, J. B., & Rich, K. L. (2015). *Philosophies and theories for advanced nursing practice (2nd ed.)*. p. 241-248. Sudbury, MA: Jones & Bartlett Learning

Goman, R. (2018). Treatment barriers in mental health: Perspectives of using mobile technology. Retrieved from Sophia, the St. Catherine University repository website: [https://sophia.stkate.edu/msw\\_papers/819](https://sophia.stkate.edu/msw_papers/819)

Jain, S. & Jain R. (2019). WILD 5-Wellness. Retrieved from <https://www.wild5wellness.com>

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

- Jain, S., Jain, R., Kumar, L. M. (2015). WILD 5 Wellness: Impact of a five-pronged (exercise, mindfulness, sleep, social connectedness & nutrition) 30-day wellness program on mood, mindfulness, sleep behavior, social connectedness, emotional eating, and mental wellness. *Poster session presented at US Psych Congress Annual Meeting*, San Diego, CA. Retrieved from:  
[https://www.wild5wellness.com/uploads/3/3/6/9/3369689/wild\\_5\\_215\\_research\\_poster\\_5-pronged\\_30-day\\_wellness\\_program.pdf](https://www.wild5wellness.com/uploads/3/3/6/9/3369689/wild_5_215_research_poster_5-pronged_30-day_wellness_program.pdf)
- Jain, S., Jain, R., & Burns, B. (2019). *Wild5Wellness: Wellness interventions for life's demands kickstart30: A proven 30-day mental wellness program*. Independently published.
- Jeong, H., Yim, H. W., Song, Y., Ki, M., Min, J., Cho, J., & Chae, J. (2016). Mental health status of people isolated due to Middle East Respiratory Syndrome. *Epidemiology and Health*, 38, p. 1-7. doi: <https://doi.org/10.4178/epih.e2016048>
- Jhanwar, V. & Avinash, P. (2017). In Mental Health Promotion-Overview. In Bährer-Kohler, S., & Carod-Artal, F. *Global Mental Health Prevention and Promotion* (1st ed. 2017.) (p. 89-101. <https://doi.org/10.1007/978-3-319-59123-0>
- Johns Hopkins University of Medicine (2020). *Coronavirus Resource Center: Module 1: Virology, Coronaviruses, and COVID-19*. Retrieved from  
<https://coronavirus.jhu.edu/covid-19-basics/understanding-covid-19/module-1-virology-coronaviruses-and-covid-19#/>

Johnson, S. U., Ulvenes, P. G., Oktedalem & Hoffart, A. (2019). Psychometric properties of the General Anxiety Disorder 7-Item (GAD-7) scale in a heterogeneous psychiatric sample. *Frontiers of Psychology, 10*, p. 1-8.  
doi:10.3389/fpsyg.2019.01713

Jordan, P., Shedden-Mora, M., & Lowe, B. (2017). Psychometric analysis of the Generalized Anxiety Disorder Scale (GAD-7) in primary care using modern item response theory. *PlosOne 12*(8), p.1-14. doi:<https://doi.org/10.1371/journal.pone.0182162>

Joyce, S., Shand, F., Bryant, R., Lal, T., & Harvey, S. (2018). Mindfulness-Based resilience training in the workplace: Pilot study of the internet-based resilience@work (RAW) mindfulness program. *Journal of Medical Internet Research, 20*(9) e10326, p. 1-13. doi: 10.2196/10326

Kaplan, S., Morrison, A., Goldin, P., Olino, T., Heimberg, R. & Gross, J. (2017). The cognitive distortions questionnaire (CD-Quest): Validation in a sample of adults with social anxiety disorder. *Cognitive Therapy and Research, 41*(4), 576–587.  
<https://doi.org/10.1007/s10608-017-9838-9>

Kang, H., Bae, K., Kim, S., Shin, H., Shin, I., Yoon, J., & Kim, J. (2017). Impact of anxiety and depression on physical health condition and disability in an elderly Korean population. *Korean Neuropsychiatric Association, 14*(3), p. 240-248. doi: 10.4306/pi.2017.14.3.240

Langdon, S., Golden, S., Arnold, E., Maynor, R., Bryant, A, Freeman, V., & Bell, R. (2016). Lessons learned from a community-based participatory research mental

health promotion program for American Indian Youth. *Health Promotion Practice*, 17(3), p. 457-463. doi: 10.1177/1524839916636568

Langley, E. L., Wootton, B. M., & Grieve, R. (2018). The utility of the health belief model variables in predicting help seeking intention for anxiety disorders. *Australian Psychologist*, 53(4), p. 291-301. doi: 10.1111/ap.12334.

Lim, S., Kim, E., Kim, A., Lee, H., Choi, H. & Yang, S. (2016). Nutritional factors affecting mental health. *Clinical Nutrition Research*, 5(3), p. 143-152. doi: <https://doi.org/10.7762/cnr.2016.5.3.143>

Mak, W., Chan, A., Cheung, E., Lin, C. & Ngai, K. (2015). Enhancing web-based mindfulness training for mental health promotion with the health action process approach: Randomized controlled trial. *Journal of Medical Internet Research*, 17(1), e8. doi: 10.2196/jmir.3746

Marrie, R. A., Zhang, L., Lix, L. M. Graff, L.A., Walker, J. R., Fisk, J., Patten, S. B., Hitchon, C. A., Bolton, J. M. Sareen, J., El-Gabalawy, Marriott, J. J., & Bernstein, C. N. (2018). The validity and reliability of screening measures for depression and anxiety disorders in multiple sclerosis. *Multiple Sclerosis and Related Disorders*, 20, p. 9-15. doi: <https://doi.org/10.1016/j.msard.2017.12.007>

Mastin, D., Kennedy, L., & Peszka, J. (2018). 0209 The relationship between sleep hygiene and positive and negative facets of mental health. *SLEEP*, 41(suppl1), A81–A81. <https://doi.org/10.1093/sleep/zsy061.208>



McCall, H. C., Helgadottir, F. D., Menzies, R., Hadjistavropoulos, H. D., & Chen, F. S.

(2019). Evaluating a web-based social anxiety intervention among community users: Analysis of real-world data. *Journal of Medical Internet Research, 21*(1). doi: 10.2196/11566

McDaid, D., Park, A., & Wahlbeck, K. (2019). The economic case for prevention of mental illness. *Annual Review of Public Health, 40*, p. 373-389. doi:

<https://doi.org/10.1146/annurev-publhealth-040617-013629>

Mental Health America (2020). Anxiety. Retrieved from

<https://mhanational.org/conditions/anxiety>

Mikkelsen, K., Stojanovska, L., Polenakovic, M., Bosevski, M., & Apostolopoulos, V.

(2017). Exercise and mental health. *Maturitas, 106*, p. 48-56. doi:

<http://dx.doi.org/10.1016/j.maturitas.2017.09.003>

Min, J., Lee, C., & Lee, C. (2013). Mental health promotion and illness prevention: A

challenge for psychiatrists. *Korean Neuropsychiatric Association, 10*, p. 307-316.

doi: <http://dx.doi.org/10.4306/pi.2013.10.4.307>

Mukhtar S. (2020). Mental health and emotional impact of COVID-19: Applying Health

Belief Model for medical staff to general public of Pakistan. *Brain, Behavior, and Immunity, S0889-1591(20)30463-3*. Advance online publication.

<https://doi.org/10.1016/j.bbi.2020.04.012>

Munoz-Navarro, R., Cano-Vindel, A., Moriana, J., Medrano, L., Ruiz-Rodriguez, P., Agüero-Gento, L., Rodríguez-Enriquez, M., Piza, M., & Ramirez-Manent, J. (2017). Screening for generalized anxiety disorder in Spanish primary care centers with the GAD-7. *Psychiatry Research*, 256, 312-317. doi: <http://dx.doi.org/10.1016/j.psychres.2017.06.023>

National Institute of Mental Health (2017). Any anxiety disorder. Retrieved from <https://www.nimh.nih.gov/health/statistics/any-anxiety-disorder.shtml>

Null, G. & Pennesi, L. (2017). Diet and lifestyle intervention on chronic moderate to severe depression and anxiety and other chronic conditions. *Complementary Therapies in Clinical Practice*, 29, 189-193. doi: <https://doi.org/10.1016/j.ctcp.2017.09.007>

Peach, H., Gaultney, J., & Gray, D. (2016). Sleep hygiene and sleep quality as predictors of positive and negative dimensions of mental health in college students. *Cogent Psychology*, 3(1). <https://doi.org/10.1080/23311908.2016.1168768>

Perkins, J., Subramanian, S., & Christakis, N. (2015). Social networks and health: A systematic review of sociocentric network studies in low- and middle-income countries. *Social Science Medicine*, 125, p. 60-78. doi: <http://dx.doi.org/10.1016/j.socscimed.2014.08.019>

Poghosyan, L., Norful, A., Ghaffari, A., George, M., Chhabra, S., & Olfson, M. (2019). Mental health delivery in primary care: The perspectives of primary care providers. *Archives of Psychiatric Nursing*, 33(5), p. 63-67. doi: <https://doi.org/10.1016/j.apnu.2019.08.001>

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

- Pywell, J., Vijaykumar, S., Dodd, A., & Coventry, L. (2019). Barriers to older adults' uptake of mobile-based mental health interventions. *Digital Health, 6*, p. 1-15. doi: 10.1177/2055207620905422 journals.sagepub.com/home/dhj
- Raju, M. (2017). Medical nutrition in mental health and disorders. *Indian Journal of Psychiatry, 59*(2), p. 143-148. doi: [https://doi.org/10.4103/psychiatry.IndianJPsychiatry\\_193\\_17](https://doi.org/10.4103/psychiatry.IndianJPsychiatry_193_17)
- Renfrew, M., Morton, D., Morton, J., Hinze, J., Beamish, P., Przybylko, G., & Craig, B. (2020). A web and mobile app based mental health promotion intervention comparing email, short message service, and videoconferencing support for a healthy cohort: Randomized comparative study. *Journal of Medical Internet Research, 22*(1), p.1-16. doi: 10.2196/15592
- Rolin, C., Fox, I., Jain, R., Cole, S., Tran, C., & Jain, S. (2019). Wellness interventions in psychiatrically ill patients: Impact of WILD 5 Wellness a five-domain mental health wellness intervention of depression, anxiety, and wellness. *Journal of American Psychiatric Nurses Association*, p. 1-10. doi:10.1177/1078390319886883
- Rutledge, C., Kott, K., Schweickert, P. A., Poston, R., Fowler, C., & Haney, T. S. (2017). Telehealth and ehealth in nurse practitioners training: Current perspectives. *Advances in Medical Education and Practice, 8*, p. 399-409. doi:[10.2147/AMEP.S116071](https://doi.org/10.2147/AMEP.S116071)

- Rutter, L. & Brown, T. (2017). Psychometric properties of the Generalized Anxiety Disorder Scale-7 (GAD-7) in outpatients with anxiety and mood disorders. *Journal of Psychopathology and Behavioral Assessment*, 39, p. 140-146. doi: <https://doi.org/10.1007/s10862-016-9571-9>
- Salari-Moghaddam, A., Keshteli, A., Mousavi, S., Afshar, H., Esmailzadeh, A., & Adibi, P. (2019). Adherence to the MIND diet and prevalence of psychological disorders in adults. *Journal of Affective Disorders*, 256, 96–102. <https://doi.org/10.1016/j.jad.2019.05.056>
- Saeri, A., Cruwys, T., Barlow, F., Stronge, S., & Sibley, C. (2018). Social connectedness improves public mental health: Investigating bidirectional relationships in the New Zealand attitudes and values survey. *Australian & New Zealand Journal of Psychiatry*, 52(4), 365–374. <https://doi.org/10.1177/0004867417723990>
- Sarris, J., Logan, A., Akbaraly, T., Amminger, G., Balanzá-Martínez, V., Freeman, M., Hibbeln, J., Matsuoka, Y., Mischoulon, D., Mizoue, T., Nanri, A., Nishi, D., Ramsey, D., Rucklidge, J., Sanchez-Villegas, A., Scholey, A., Su, K., Jacka, F., & on behalf of The International Society for Nutritional Psychiatry Research. (2015). Nutritional medicine as mainstream in psychiatry. *The Lancet Psychiatry*, 2(3), 271–274. [https://doi.org/10.1016/S2215-0366\(14\)00051-0](https://doi.org/10.1016/S2215-0366(14)00051-0)
- Schuch, F., Vancamfort, D., Richards, J., Rosenbaum, S., Ward, P., & Stubbs, B. (2016). Exercise as a treatment for depression: A meta-analysis adjusting for publication bias. *Journal of Psychiatric Research*, 77, p. 42-51. doi: <https://doi.org/10.1016/j.jpsychires.2016.02.023>

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

- Shelef, L., Dotan, S., Kaminsky, D., Kedem, R., Margulis, A., & Hassidim, A. (2016). Relationship between anxiety and medical disorders among compulsory military service candidates between the years of 1998-2013. *Psychiatry Research*, 244, p. 339-344. doi: 10.1016/j.psychres.2016.07.042
- Song, Y. & Lindquist, R. (2015). Effects of mindfulness-based stress reductions on depression, anxiety, stress and mindfulness in Korean nursing students. *Nurse Education Today*, 35(1), p. 86-90. doi: <http://dx.doi.org/10.1016/j.nedt.2014.06.010>
- Spitzer, R., Kroenke, K., Williams, J., Lowe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. *Archives of internal medicine*. May 22 2006;166(10):1092- 1097. PMID: 16717171
- Steffen, P. R., Austin, T., & DeBarros, A. (2016). Treating chronic stress to address the growing problem of depression and anxiety: Biofeedback and mindfulness as simple, effective preventive measures. *Policy Insights from the Behavioral and Brain Sciences*, 4(1), p. 64-70. doi: : 10.1177/2372732216685333
- Strohmeier, C., Rosenfield, B., DiTomasso, R., & Ramsay, R. (2016). Assessment of the relationship between self-reported cognitive distortions and adults ADHS, anxiety, depression, and hopelessness. *Psychiatry Research*, 238(30), p. 153-158. doi: <https://doi.org/10.1016/j.psychres.2016.02.034>
- Sturgeon, S. (2006). Promoting mental health as an essential aspect of health promotion. *Health Promotion International*, 21 (1), p. 36-41. doi: 10.1093/heapro/dal049
- SurveyMonkey (2020).HIPPA compliance at SurveyMonkey. Retrieved from <https://www.surveymonkey.com/mp/hipaa-compliance/>

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

Texas Department of State Health Services (2020). COVID-19 *Home: TX COVID-19*

*Shelter in Place*. Retrieved from

<https://txdps.maps.arcgis.com/apps/opsdashboard/index.html#/7f8f7d13bcc942d9>

8c1ceb93b4697c36

Tietjen, K. M. & Breitenstein, S. (2017). A nurse-led telehealth program to improve emotional health in individuals with multiple sclerosis. *Journal of Psychosocial Nursing*, 55(3), p. 31-37. doi: <https://doi->

[org.ezhost.utrgv.edu/10.3928/02793695-20170301-04](https://doi.org/10.3928/02793695-20170301-04)

Tiirikainen, K., Haravuori, H., Ranta, K., Kaltiala-Heino, R., & Marttunen, M. (2019).

Psychometric properties of the 7-item Generalized Anxiety Disorder Scale (GAD-7) in a large representative sample of Finnish adolescents. *Psychiatry Research*, 272, 30-35. doi: <https://doi.org/10.1016/j.psychres.2018.12.004>

Tyson, R., Brammer, S., & McIntosh, D. (2018). Telehealth in psychiatric nursing education: Lessons from the field. *Journal of the American Psychiatric Nurses Association*, 25(4), p. 266-271. doi: 10.1177/1078390318807967

United States Census Bureau (2018). QuickFacts Mission City, Texas. Retrieved from <https://www.census.gov/quickfacts/missioncitytexas>

Vaingankar, J. A., Chong, S. A., Abdin, E., Siva Kumar, F., Chua, Y., Sambasivam, R., Shafie, S., Jeyagurunathan, A., Seow, E. & Subramaniam, M. (2020).

Understanding the relationships between mental disorders, self-reported health outcomes and positive mental health: Findings from a national survey. *Health and Quality of Life Outcomes*, 18(1), p. 1-10. doi:

<http://dx.doi.org.ezproxy.andrews.edu/10.1186/s12955-020-01308-0>

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

- Wang, R., Liu, Y., Xue, D., Yao, Y., Liu, P., & Helbich, M. (2019). Cross-sectional associations between long-term exposure to particulate matter and depression in China: The mediating effects of sunlight, physical activity, and neighborly reciprocity. *Journal of Affective Disorders, 249*, 8–0327. doi: <https://doi.org/10.1016/j.jad.2019.02.007>
- Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate psychological responses and associated factors during the initial stage of the 2019 Coronavirus Disease (COVID-19) epidemic among the general population in China. *International Journal of Environmental Research and Public Health, 17*(5), p. 1-25. doi: 10.3390/ijerph17051729
- World Health Organization [WHO]. (2004) Promoting mental health. Concepts, emerging evidence, practice. Summary report. *World Health Organization, Department of Mental Health and Substance Abuse in collaboration with the Victorian Health Promotion Foundation and the University of Melbourne, Geneva*. Retrieved from [https://webcache.googleusercontent.com/search?q=cache:KNWYb3wQ3YwJ:https://www.who.int/mental\\_health/evidence/en/promoting\\_mhh.pdf+&cd=1&hl=en&ct=clnk&gl=us&client=safari](https://webcache.googleusercontent.com/search?q=cache:KNWYb3wQ3YwJ:https://www.who.int/mental_health/evidence/en/promoting_mhh.pdf+&cd=1&hl=en&ct=clnk&gl=us&client=safari)
- World Health Organization [WHO]. (2020). *Coronavirus (COVID-19) disease outbreak*. Retrieved from <https://www.who.int/westernpacific/emergencies/covid-19>
- Yang, Y. (2019). An overview of current physical activity recommendations in primary care. *Korean Journal of Family Medicine, 40*(3), p. 135-142. doi: [10.4082/kjfm.19.0038](https://doi.org/10.4082/kjfm.19.0038)

**Appendix A**



# ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

## Generalized Anxiety Disorder 7-item (GAD-7) scale

Over the last 2 weeks, how often have you been bothered by the following problems?	Not at all sure	Several days	Over half the days	Nearly every day
1. Feeling nervous, anxious, or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it's hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3
<i>Add the score for each column</i>	+	+	+	
Total Score ( <i>add your column scores</i> ) =				

If you checked off any problems, how difficult have these made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all \_\_\_\_\_  
 Somewhat difficult \_\_\_\_\_  
 Very difficult \_\_\_\_\_  
 Extremely difficult \_\_\_\_\_

Source: Spitzer RL, Kroenke K, Williams JBW, Lowe B. A brief measure for assessing generalized anxiety disorder. *Arch Intern Med.* 2006;166:1092-1097.

## Appendix B

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

### GAD-7

Durante las <u>últimas 2 semanas</u> , ¿qué tan seguido ha tenido molestias debido a los siguientes problemas? <i>(Marque con un “ ” para indicar su respuesta)</i>	Ningún día	Varios días	Más de la mitad de los días	Casi todos los días
1. Se ha sentido nervioso(a), ansioso(a) o con los nervios de punta	0	1	2	3
2. No ha sido capaz de parar o controlar su preocupación	0	1	2	3
3. Se ha preocupado demasiado por motivos diferentes	0	1	2	3
4. Ha tenido dificultad para relajarse	0	1	2	3
5. Se ha sentido tan inquieto(a) que no ha podido quedarse quieto(a)	0	1	2	3
6. Se ha molestado o irritado fácilmente	0	1	2	3
7. Ha tenido miedo de que algo terrible fuera a pasar	0	1	2	3

*(For office coding: Total Score T\_\_\_\_\_ = \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ )*

Elaborado por los doctores Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke y colegas, mediante una subvención educativa otorgada por Pfizer Inc. No se requiere permiso para reproducir, traducir, presentar o distribuir.

## Appendix C: Project Committee

## ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

### Chairperson

Carol Rossman, DNP, APRN-BC

Professor of Nursing/ Family & Pediatric Nurse Practitioner

Director of DNP Program, School of Nursing

Andrews University, Berrien Springs, MI

Email: [rossman@andrews.edu](mailto:rossman@andrews.edu)

Phone: 269-471-3614

### Practice Mentor

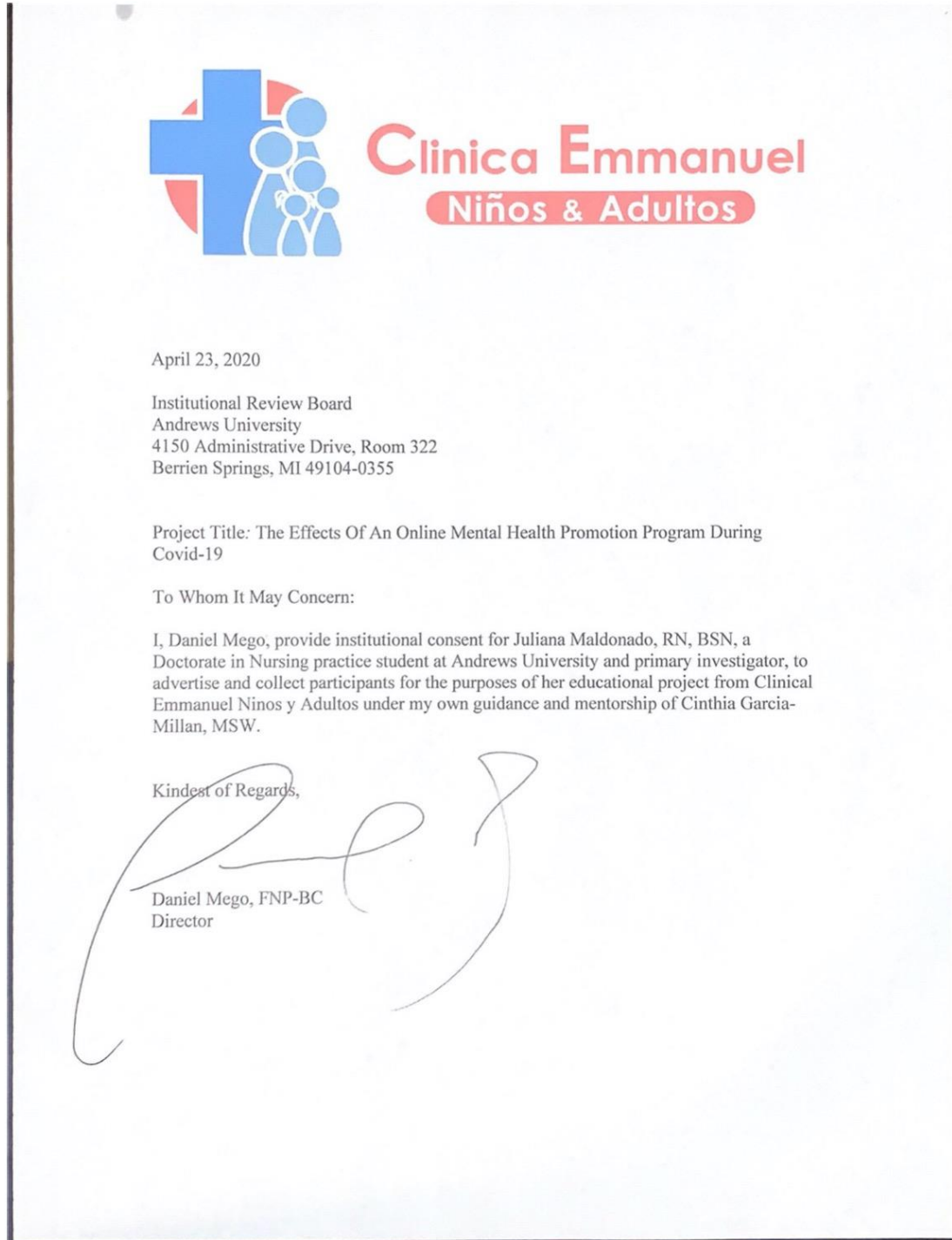
Cynthia Garcia-Millan, MSW

Information & Referral Specialist 2-1-1 Texas/United Way

Email: [garcia@andrews.edu](mailto:garcia@andrews.edu)

Phone: 503-754-6651

Appendix D: Institutional Consent Letter



# ONLINE MENTAL HEALTH PROMOTION DURING COVID-19

## Appendix E: IRB Approval



July 27, 2020

Juliana Maldonado  
Tel. 580-461-9843  
Email: [julianam@andrews.edu](mailto:julianam@andrews.edu)

**RE: APPLICATION FOR APPROVAL OF RESEARCH INVOLVING HUMAN SUBJECTS**  
**IRB Protocol #:**20-043 **Application Type:** Original **Dept.:** Nursing- DNP  
**Review Category:** Exempt **Action Taken:** Approved **Advisor:** Carol Rossman  
**Title:** The effects of an online mental health promotion program during COVID-19.

Your IRB application for approval of research involving human subjects entitled: *“The effects of an online mental health promotion program during COVID-19”* IRB protocol # 20-043 has been evaluated and determined Exempt from IRB review under regulation CFR 46.104 (3)(i)(A): Research involving benign behavioral interventions in conjunction with the collection of information from an adult subject through written responses (including data entry) and information collection and the information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subject. You may now proceed with your research.

Please note that any future changes made to the study design and/or informed consent form require prior approval from the IRB before such changes can be implemented. In case you need to make changes please use the attached report form.

While there appears to be no more than minimum risks with your study, should an incidence occur that results in a research-related adverse reaction and/or physical injury, this must be reported immediately in writing to the IRB. Any research-related physical injury must also be reported immediately to the University Physician, Dr. Katherine, by calling (269) 473-2222.

We ask that you reference the protocol number in any future correspondence regarding this study for easy retrieval of information.

Best wishes in your research.

Sincerely,

Mordekai Ongo, PhD.  
Research Integrity and Compliance Officer

Institutional Review Board – 8488 E Campus Circle Dr Room 234 - Berrien Springs, MI 49104-0355  
Tel: (269) 471-6361 E-mail: [irb@andrews.edu](mailto:irb@andrews.edu)

## Appendix F: Grant Approval

Dear Juliana,

Due to the timeliness of your research, and the challenging pandemic situation we find ourselves in, we have considered your postdeadline application. I am pleased to inform you that your application for the Graduate Grant in Aid of Research has been approved for the requested amount of \$750. This aid is valid for expenses incurred between May 1, 2020 and April 30, 2021.

Please note that Andrews University and state governments have implemented travel restrictions based upon the COVID-19 pandemic. No reimbursable travel may be undertaken until those travel restrictions are lifted.

There are two ways that we can cover your expenses:

1. If you pay for your expenses directly, you may submit your receipts together with a Check Request form signed by your research advisor, to the Office of Research. Once we receive the documents, we will authorize the scholarship of up to \$750 to be paid to your account.
2. If the department pays for your expenses, your research advisor may submit the receipts, and we will reimburse the department directly for the expenses up to \$750.

Thank you for enhancing the research reputation of Andrews University,

Gary W. Burdick  
Dean of Research

Appendix G: Informed Consent and Enrollment Forms (English/Spanish)

**Andrews University, Department of Nursing**  
**THE EFFECTS OF AN ONLINE MENTAL HEALTH PROMOTION PROGRAM**  
**DURING COVID-19**  
*Sane through COVID with WILD-5-Wellness KickStart30 program.*  
**Informed Consent**

**Project Manager:** Juliana M. Maldonado RN, BSN

**Faculty Advisor:** Carol Rossman, DNP, APRN-BC

**Project Goal:** To measure the impact of a six-week online mental health promotion intervention by comparing pre and post-GAD-7 scores.

**Consent to Participate in Research**

**Participation is completely voluntary**

- I voluntarily agree to participate in this research study.
- I understand that even if I agree to participate now, I can withdraw at any time without any consequences.

**Definition of Participation**

- I understand that participation in this research project involves the following:
  - Providing an email address
  - Providing demographics (date of birth, gender, education level, profession, race, antidepressant or anxiety medication use, history of anxiety or depression information and previous participation in lifestyle education)
  - Taking a pretest
  - Watching introductory video
  - Watching the five online videos that are approximately 5-10 minutes each weekly
  - Answer daily self-reporting feedback survey
  - Taking a posttest

**Risks of participating in this project are minimal.** There are no significant risks associated with this research project outside of normal day to day risks.

**Benefits**

- Potential to improve anxiety level

**Protecting the privacy of participants is a priority**

- All data will be deidentified prior to analysis
- The only identifier that you are required to disclose is your email address.
- Your email address will only be used to email links to health lectures, posttest, and program evaluation, and will not be shared
- Email addresses will be stored on the project manager's password protected computer separate from survey results.
- Electronic consents/surveys will be stored in separate folders on project manager's password protected computer.
- You can access the SurveyMonkey privacy policy at <https://www.surveymonkey.com/mp/legal/privacy-policy/>
- If you have any questions regarding this project, please contact Juliana M. Maldonado, RN, BSN, Andrews University Student at (580) 461-9843 or at [julianam@andrews.edu](mailto:julianam@andrews.edu).

For any other concerns or questions about your rights as a project participant, please contact Dr. Carol Rossman, Direction of DNP Program of Andrews University Department of Nursing at (269) 471-3614 or [rossman@andrews.edu](mailto:rossman@andrews.edu) or Andrews University Institutional Review Board at (269) 471-6361 or [irb@andrews.edu](mailto:irb@andrews.edu).

Conflicts of Interest – Juliana M. Maldonado, the project manager, declares no conflicts of interest.



**Andrews University, Department of Nursing  
Los Effects De un Program De Promotion de Salud mental por internet Durante  
COVID-19**

**Salud Mental Durante COVID con el Programa WILD-5-Wellness KickStart30**

**Información de Consentimiento**

**Gerente de Proyecto:** Juliana M. Maldonado RN, BSN  
**Asesora de la Facultad:** Carol Rossman, DNP, APRN-BC

**Objetivo del Proyecto:** Medir el impacto de promoción de salud mental en línea, comparando los resultados de antes y después con el GAD-7 (versión en español).

**Consentimiento para Participar en la Investigación**

**Participación es completamente voluntaria**

- Voluntariamente estoy de acuerdo a participar en esta investigación.
- Entiendo que aunque estoy de acuerdo en participar ahora, me puedo retirar en cualquier momento y sin ninguna consecuencia.

**Definición de Participación**

- Entiendo que la participación en este proyecto de investigación requiere lo siguiente:
  - Proveer mi dirección de correo electrónico
  - Proveer mi demografía (fecha de nacimiento, género, nivel de educación, profesión, raza, historial de ansiedad o depresión, uso de medicamentos para la ansiedad o depresión, participación previa de un programa de estilo de vida).
  - Responder las preguntas de asesoramiento del GAD-7 al comienzo
  - Ver los seis videos de aproximadamente 5-10 minutos
  - Responder la encuesta diaria
  - Responder las preguntas de asesoramiento del GAD-7 al final

**Los riesgos por participar en este proyecto son mínimos.** No hay riesgos significativos asociados con este proyecto de investigación, fuera de los riesgos del diario vivir.

**Beneficios**

- Potencial de mejorar el nivel de ansiedad

**Proteger la privacidad de los participantes es una prioridad**

- Todos los datos sera desidentificados antes del analisis
- El unico identificador requerido es la direccion de correo electronico
- El correct electronico provisto, se usara solo para envier los enlaces para los videos, el asesoramiento GAD-7, la evaluacion del programa, y no sera compartido.
- La direccion de core electronico sera guarded en una computadora protegida con una contrasena que solo la conoce el gerente del proyecto.
- Los consentimientos y encuestas seran guardados en un folder separado bajo la protecci3n de una contrase1a conocida solo por el gerente el proyecto.
- Tu puedes acceder la encuesta por SurveyMonkey poliza de privacidad en <https://www.surveymonkey.com/mp/legal/privacy-policy/>
- Si usted tiene una pregunta acerca de este proyecto, por favor contactar a Juliana M. Maldonado, RN, BSN, Andrews University Student at (580) 461-9843 or at [julianam@andrews.edu](mailto:julianam@andrews.edu).

Cualquier preocupacion o pregunta acerca de sus derechos como participante del proyecto, por favor contactar a Dr Carol Rossman, dotada de la Universidad de Andrews University, Departamento de Enfermeria at (269) 471-3363 or [rossman@andrews.edu](mailto:rossman@andrews.edu) or Andrews University Institutional Review Board at (269) 471-6361 or [irb@andrews.edu](mailto:irb@andrews.edu).

Conflicts of Interest – Juliana M. Maldonado, the project manager, declares no conflicts of interest.

Appendix H: Recruitment Posters (English/Spanish)

## Andrews University School of Nursing SANE through COVID with the WILD-5-Wellness KickStart30 Program

### THE EFFECTS OF AN ONLINE MENTAL HEALTH PROMOTION PROGRAM DURING COVID-19



#### Who Can Participate?

- 18 year and older
- Access to the internet
- Able to read and write

#### What is Required of me?

- Complete a pretest survey
- Provide an email address to use for communication purposes
- Watch the video presentation (5-10 minutes)
- Practice the wellness activities for 30 days
- Provide daily feedback survey for 30 days
- Complete posttest survey

#### How Do I Sign up?

<https://www.surveymonkey.com/r/sanethroughCOVIDenglish> or

Facebook Page titled: Sane through COVID with the WILD 5-Wellness and click on the SurveyMonkey Link

#### Risks/ Benefits?

- There are no significant risks associated with this research project outside of normal day to day risks.
- Potential to improve anxiety levels
- Each participant who completes all the requirements will receive a \$10 amazon e-gift card as a thank you.

#### What if I Have Questions

If you have any questions regarding this project, please contact

Juliana M. Maldonado, RN, BSN,  
Andrews University Student at

(580) 461-9843 or at [julianam@andrews.edu](mailto:julianam@andrews.edu).

For any other concerns or questions about your rights as a project participant, please contact Andrews University Institutional Review Board at (269) 471-6361 or [irb@andrews.edu](mailto:irb@andrews.edu)

# Andrews University Escuela de Enfermería Salud Mental Durante COVID con el Programa WILD-5-Wellness KickStart30

## LOS EFECTOS DE UN PROGRAMA DE PROMOCIÓN DE SALUD MENTAL POR INTERNET DURANTE COVID-19



### ¿Quién puede participar?

- 18 años o mayor
- Tener acceso al internet
- Saber leer y escribir

### ¿Qué se requiere de mí?

- Completar la encuesta preliminar
- Proveer una dirección de correo electrónico para recibir las comunicaciones
- Ver los videos (5-10 minutos)
- Practicar las actividades recomendadas por 30 días
- Responder a la encuesta diaria por 30 días
- Completar la encuesta final

### ¿Como me inscribo?

<https://es.surveymonkey.com/r/saludmentalduranteCOVIDSpanish>

**Facebook: Sane through COVID with the WILD 5-Wellness y haz click en el enlace**

### Riesgos/Beneficios

- No hay riesgos significativos asociados con este proyecto por fuera de los normales del diario vivir.
- Potencial de mejorar su nivel de ansiedad
- Cada participante que complete todos los requerimientos, recibirá una tarjeta de amazon electronica por la cantidad de \$10


### Si tengo preguntas ¿Qué debo hacer?











Si tienes preguntas acerca de este proyecto, por favor comunícate con Juliana M. Maldonado, RN, BSN, estudiante de Andrews University at (580) 461-9843 or at [julianam@andrews.edu](mailto:julianam@andrews.edu).


Para preguntas acerca de sus derechos como participante del proyecto, por favor contactar al departamento de ética de Andrews University al (269) 471-6361 o [irb@andrews.edu](mailto:irb@andrews.edu)

Appendix I: Project Evaluation by Primary Care Clinic on SurveyMonkey

**Sane Through COVID Project Evaluation**

\* 1. On a scale of 1 to 10, please rate your overall impression of this project: 

\* 2. In your opinion, what were the most important strengths of the project? 

- The videos
- The daily reminders
- Both videos & daily reminders

\* 3. In your opinion, what were the most important weaknesses of the project? 