Fall 2022

Transdisciplinary Evaluation of Telehealth Experiences of Diabetic Participants' and Their Coaches' in "Stopping Diabetes in Its Tracks" (Sdit) a Descriptive Mixed- Methods Customer Experience Map Journey

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Approval of the Dissertation Committee

This dissertation has been duly read, reviewed, and critiqued by the Committee listed below, which hereby approves the manuscript of Cindy Delgado as fulfilling the scope and quality requirements for meriting the degree of Doctor of Public Health.

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Abstract

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Introduction: This study captured the experiences of diabetic patients and their coaches during the Covid- 19 transition to virtual delivery. Previous research has focused on the feasibility and effectiveness of in-person versus telehealth delivery of Diabetes Prevention Program (DPP). However, few studies have merged perspectives from the field of ethnic studies, public health, and customer service research during a pandemic to understand the experience of telehealth from end-users.

Methods: A mixed-methods evaluation was conducted using interviews and quantitative surveys to provide insight into personal perspectives to in-person and telehealth experience. A customer-experience journey map (CXJM) was then created of Stopping Diabetes in Its Tracks (SDIT), a transdisciplinary engineered system that delivers holistic diabetes prevention and management to inform equitable telehealth infrastructure development and virtual delivery of future programs.

Results: The CXJM was a useful method to identify and visualize key program touchpoints and critical stages where change can provide the most benefits. In addition, it provided insight into exceptional positive and negative experiences with in-person and telehealth class modality providing implications for future programs that want to transition to telehealth. Although the study had a small sample size (n=10), 70% of participants identified as Hispanic/Latino and were older adults. Their experiences and reflections offer recommendations for future chronic disease management programs that want to provide tailored care to these population groups.

Conclusion: The study of telehealth experience is still in its infancy. Understanding individuals and institutions experiences with acceptance, adoption, and implementation will be critical moving forward. As the aging population grows, tailored approaches will be critical to improve quality of telehealth while also addressing concerns with unsatisfaction.

Dedication

Dedicado a mi mama, papa, hermano, y abuelita. Gracias por su amor, apoyo, y sacrificios para que yo pudiera alcanzar mis metas. Mis logros y éxitos son gracias a todo su trabajo para darnos una mejor vida. Gracias por todo lo que hicieron y agradezco su paciencia para que yo pudiera terminar el nivel más alto académico, algo que yo nunca imagine. Esto trabajo se los dedico a ustedes.

Mama, la abogada, representante, y guía de mis estudios. Gracias por siempre abogar por mí y siempre creer en mí. Su amor y cariño han sido el centro de mis logros.

Papa, el ingeniero, artista, y poeta que influyo mi carrera. Gracias por sus consejos y por inculcar en mi la curiosidad por la lectura y diversas materias. Su curiosidad e interés en el mundo han inspirado mis diversos intereses.

Hermano, gracias por las risas, chistes, y enseñanzas. Te agradezco por siempre recordarme de la importancia de vivir en el momento. Tu valentía y fuerza son mi inspiración.

Abuelita gracias por su amor y cariño.

To all the first-generation womyn who are breaking stereotypes and generational cycles. Your work and perspectives matter do not give up.

Acknowledgments

This dissertation and doctorate would not have been possible without the help of a supportive committee guiding my personal and professional growth. Thank you for being instrumental to my academic achievements and doctorate journey.

Dr. Andy Johnson, I appreciate all the advice, guidance, and mentorship I received from you. Thank you for always encouraging my curiosity and creativity. I have learned so much from you.

Dr. Jessica Dehart, I am fortunate to have gotten the opportunity to work and learn from you. Thank you for always cheering me on to become a better student and professional. Thank you for all that you do for students. I hope to be the amazing and supportive teacher you are one day.

Dr. Bernard Jaworksi, I am grateful for the opportunity I got to be part of your class, little did I know it would become an inspiration for my dissertation. Thank you for all your guidance and advice as I developed this dissertation. I enjoyed learning from your expertise, and I look forward to continue learning from you.

This research was also supported by incredible individuals willing to offer their time, talents, and perspectives. Stephanie, thank you for your willingness to help me with my qualitative research analysis. I am grateful for your help and insightful reflections. Aparna, thank you for all your help with the quantitative analysis, I appreciate your time and willingness to support me. To the SDIT participants and coaches, thank you for your willingness to participate and letting me hear your experiences with the program. A big thank you to the SDIT team for the wonderful work they did to get this project going during a time of crisis.

This dissertation was also guided by the support and mentorship from many friends and colleagues at CGU (Liz, Amy, Devin, Dr. Amanda Mitry, Dr. Brittany Lytle, Dr. Ali Holakoui, Dr. Jovita Murrillo, Dr. Nathan Kamel, Dr. Nirshila Chand, and Dr. Skylar Hanson). Thank you for all the study dates and advice in this doctorate journey. I learned so much from you and I am thankful for the opportunity I got to work with such wonderful Doctor of Public Health Professionals and Leaders, my journey would not have been the same without you.

To my best friend and amazing sister (Susie and Marissa) thank you for listening to my research and offering your help and guidance in each of my milestones. I could not have done this without you both. I am truly fortunate to have such supportive friends in my journey. Thank you for always offering a helping hand, advice, and celebrating my achievements along the way.

A big thank you to my friends and colleagues at the DrPH Coalition. Thank you for your support, guidance, and mentorship. You all made this dissertation process less lonely. I appreciate you all for sharing your experiences, advice, and encouraging words. You have all inspired me in this long journey.

To all my friends (Maria, Efren, Nancy, Cesar, Yaneli, Liam, Maribel, Lucy, Edgar, Steph G.) thank you for always offering to read my work, listen to my research, and offer your advice. I am grateful for your friendship and dedication to help me get through the last stages of my dissertation.

To my friends at Toast Masters, thank you for your friendship and offering a warm environment to learn and grow. Thank you for cheering me on along the way and always offering your feedback.

To all my teachers, mentors, and advisors. I could not have done this without your guidance. I learned so much from your life experiences. You have all encouraged me in this long journey; I hope I can make you all proud.

To my feathered children and four-legged child thank you for reminding me to take breaks and the importance of enjoying the outdoors.

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CHAPTER 1: INTRODUCTION

Overview

This transdisciplinary dissertation explores the experience of participants and coaches involved in a diabetes prevention program (DDP), using a customer experience journey map (CXJM) to visualize the step-by-step process for in-person and online participation. Chapter one will provide an overview of the historical political challenges with telehealth adoption, sharing a glance at the obstacles the pandemic created for individuals with diabetes. Unlike past telehealth research that has focused on effectiveness of telehealth, this dissertation will contribute to the gaps in end-user experience with telehealth to improve future telehealth programs. The last section will provide an overview of the methodology used. This transdisciplinary dissertation seeks to understand the experience of participants and coaches experience with in-person and online delivery of a diabetes prevention program (DPP) using a customer experience journey map (CXJM) as a tool to visualize the step-by-step process. However, first, an understanding of the telehealth landscape will be provided below.

Background

The Health Resources and Service Administration (HRSA) defines telehealth as "electronic information and telecommunication technologies to support long-distance clinical health, education, public health, and health administration" (*HRSA,* 2017). Technologies used in these services can include video conferencing, telephone communication, internet, mobile messaging, exchange of imaging, patient portals, and streaming media (Anaya et al., 2020; *HRSA,* 2017). Not to be confused with telemedicine, telehealth is a two-way interaction where medical information is exchanged between a patient and a provider to receive clinical health care services (*Medicaid.Gov,* 2021).

History of Telehealth

Telehealth dates back to the 1920s when pedal radios, also known as "flying doctors" were used in Austria (Wijesooriya et al., 2020). Over the years, the internet and telecommunications development have provided opportunities to expand access to health care that is "convenient, accessible, and cost-effective" (Wijesooriya et al., 2020). Telehealth and telemedicine create access to health care services otherwise inaccessible due to distance and travel for rural communities by reducing the cost of transportation and wait times for specialty care (Anaya et al., 2020; Dullet et al., 2017; Hayward et al., 2019; Player et al., 2018; Shah et al., 2018; Switzer et al., 2013). According to Player et al., (2018), the practicality of telehealth has been comparable to receiving timely treatment and diagnosis with in-person services, increasing continuity of care for underserved communities (Anaya et al., 2020). Although telehealth facilitates prompt access to resources, structural and political challenges have impeded its full adoption.

The Covid- 19 Pandemic

On March 4, 2020, Governor Newson declared a state of emergency in California, calling for the preparation of further spread of Covid- 19 infection (CA.Gov, 2020). Covid- 19 is a respiratory disease that can cause mild to moderate respiratory illness (WHO, 2021). The infection can be quickly transmitted through coughing and sneezing of infected individuals. Due to its ability to quickly spread, social distancing and prevention measures such as mask mandates were necessary for the safety of individuals. By March 19, 2020, *EXECUTIVE ORDER N-33-20*, a stay-at-home order would halt work industries, schools, and institutions unless they were part of a "list of workers considered essential" (*FAQs Essential Workers*, 2020). The need for social distance forced the quick adoption of telehealth, online classes, remote work, and online shopping. However, with multiple members at home needing to connect for school, work, or care virtually,

the discrepancies in access and connection quickly became apparent. Not everyone could connect with a click to class or work, as some did not have enough tools (computers or digital tablets) to be online at the same time. Even when there was enough computers or digital tablets, not everyone could participate the same way using video conferencing or audio in multi-family households, as doing so could create an interference in the call. As Covid- 19 infection rates quickly rose, schools, businesses, and institutions shut down unless considered essential. Due to the high number of infections, medical and hospital institutions shifted to virtual delivery of services, a movement that had once been very slow to adopt.

Before the Covid- 19 pandemic, telehealth/medicine services were limited to those who lived in rural areas offered through in-person visits at medical facilities. Otherwise, providers would not receive payment for services rendered (*CMS.Gov*, 2020). The adaption and development of telehealth have been slow due multiplicity of issues such as lack of standardized payment structure and reporting, poor federal support and funding, administration challenges with coding and billing, and limited training from medical staff (Anaya et al., 2020; Laing et al., 2018). Telehealth is complex as it intersects components of cultural competency, health care delivery, workforce development, and infrastructure development to be effective. The intersectionality that telehealth has with other fields such as telecommunications, policy, social work, service delivery and marketing, public health, clinical care, and research challenges the ability to integrate multi system needs at the system and individual user level (Anaya et al., 2020). Additionally, inequities in broadband and high-speed internet access place rural and underserved communities at a disadvantage from full participation in the quality and reach of telehealth (Bauerly et al., 2019). This disadvantage became evident during the Covid- 19 pandemic.

Problem Statement

The high rise of Covid- 19 patients globally disrupted diabetes care and management as the priority shifted to support the high number of hospitalizations (Wake et al., 2020). The halt in services puts diabetes patients at risk of death due to complications from Covid- 19 or lack of diabetes care (Wake et al., 2020). When access to timely information was suddenly shifted to virtual, it impacted who can continue to engaging and receiving care (Bauerly et al., 2019). The shift to virtual delivery assumed all individuals have equal access to tools (e.g. headphones, broadband, internet, laptop, phone, tablet), resources (e.g. insurance, income, fast and rapid broadband internet), and living environment to participant (Anaya et al., 2020; Benda & Ancker, 2020). This dissertation seeks to provide a holistic perspective to the experience of shifting a DPP from in-person to online delivery, to provide recommendations to future programs.

Diabetes

Diabetes is a disease that occurs when the pancreas does not use or produce enough insulin (*What Is Diabetes?* 2016). A combination of two primary factors causes type 2 diabetes (T2D): defective insulin secretion by pancreatic β-cells and the inability of insulin-sensitive tissues to respond appropriately to the insulin (Galicia-Garcia et al., 2020). When these metabolic dysfunctions occur, an accumulation of glucose builds up in the body, creating various health problems with one's neuropathy, feet, and bladder while also placing individuals at risk for heart, eye, kidney, and dental diseases (*Preventing Diabetes Problems | NIDDK*, n.d.). Diabetes, therefore, has been categorized as a chronic disease that has been progressively affecting individuals in greater numbers all over the world.

Diabetes Care

When a patient is at risk of developing T2D, a medical provider will want to routinely monitor an individual's sugar levels (hemoglobin A1c, HgbA1c). Those diagnosed as pre-diabetic have a HgbA1c between 5.7% and 6.4% and if diabetic a HgbA1c at 6.5% and above (*Diagnosis | ADA*, 2022). Pre-diabetes requires follow-up to evaluate participants' progress in reducing sugar levels and connection to education resources (ADA, 2014; American Diabetes Association, 2013, p. 2). When an individual has diabetes, a provider will want to regularly monitor the participant every three to six months to check their eyes, feet, blood pressure, weight, cholesterol, triglycerides, and HgbA1c to avoid complications (*Diabetes Self-Care*, 2020). T2D can be prevented through healthy eating, physical activity, regular screening, and stress management. Thus, to support individuals in lifestyle changes, nationally recognized programs such as DPP and Diabetes Self-Management Education (DSME) provide education and guidance for lifestyle change (CDC, 2021; *DSME*, 2022).

Diabetes Prevention Program

DPP is structured as a year-long program that offers education on healthy eating and physical activity. Health coaches teach the modules and provide motivation throughout the program. Stopping Diabetes in Its Tracks (SDIT) is a DPP program in Pomona, California, that has incorporated elements of the socioecological model and is engineered to be a system of systems. In 2020, the program experienced changes due to a change in partnership and the Covid-19 pandemic. Program adaptations were thus necessary at the system and sub-system levels. Among the changes, the program did include shift in class modality and redesigned staff roles. The adaptations the program did to continue services provided an opportunity to understand experiences with telehealth.

Addressing the Gap

Past research on telehealth has centered on comparing the effectiveness of in-person to virtual delivery of interventions (DeNomie et al., 2018; Hui et al., 2016; Vadheim et al., 2010). However, few studies have captured the experiences of the individuals who use these interventions. Even fewer have focused on populations that might be outliers regarding access. A systematic review conducted in 2014 found that out of 4,600 studies, only 35 focused on Latinos and telehealth, demonstrating that this population is understudied (Rodriquez & Perez-Stable, 2017). Among other studies, there was a need to explore further disinterest, inconvenience, and lack of perceived benefit of telehealth among Latinos. (Tong et al., 2020). An evaluation conducted from May to July of 2020 captured a glimpse of telehealth adaptations for participants in DPP (Delgado et al., 2020). On average, the three cohorts polled found the switch to online to be very easy to easy. When asked about the difficulty of learning to use Zoom, cohorts expressed it was easy to use, with two individuals indicating its moderate difficulty and one stating difficult to use. Regarding concentration and participation online, none of the cohorts expressed challenges. A surprising result, as it was assumed that the transition to telehealth would be challenging and that it would bring difficulties focusing at home. This finding will be explored in further detail to capture participant and coach experiences with the adaptation process and identify differences by culture and ethnic background.

Participant Experience

Limited research has focused on participant experiences. The need to evaluate telehealth experiences is supported by past research such as Laing et al., 2018 and Granja et al., 2018, who both call for a need to assess the use of telehealth, facilitators, and barriers to increase participation among communities. The “first study to access patient experience with DPP” was conducted by Hawkes et al., 2020, who used ethnographic observational methods to capture service delivery and

patient experiences as they went through the program. Findings showed that satisfaction of the program was related to relationship building and behavioral health outcomes. While negative experiences were due to "scheduling, high group numbers, and dissatisfaction with venue." Hawkes et al., (2020), call for replication of this study to further understand ways to improve program uptake, reduce patient dropout, and increase program effectiveness, demonstrating this study's need and replication. As telehealth infrastructure continues to develop, equitable delivery will need the cultural perspectives of community members and their coaches to support education and teaching needs. The following section will explain the rationale for including coaches' experience in the analysis.

Coach Experience – (Social worker and Nurse Navigators)

The Covid- 19 pandemic forced the abrupt change to virtual delivery; however, individuals in the workforce were not trained to deliver virtual care (Knott et al., 2020; Wade et al., 2014). To provide better care and management of diabetes, coaches' perspectives will be included in the telehealth assessment to understand areas of support and training needed for social work and nurse navigator students. Thomas et al., (2020) suggest that moving forward training models will be needed to ensure that team members are prepared and have sufficient training and skills to deliver telehealth services, as telehealth requires additional skills and support (Papanagnou et al., 2015). Identifying new areas to train and prepare social workers and nurse navigators will lead to developing and updating competencies of professional conduct to assess the care provided (Hilty et al., 2017). Besides, Barsky, 2017 would suggest that this will also lead to re-considering the laws of practice and ethics to ensure that care is culturally appropriate and follows the ethical codes per jurisdiction that social workers belong to, where they practice, and where the patient may be at. Therefore, to improve the experience of participants, an understanding of social work coaches

and nurse navigators will also need to be included in the customer experience map to evaluate the telehealth experience and improve care.

Marketing and Service Research

Customer experience journey mapping (CXJM) is a reliable assessment tool frequently used in market and service research to assess customers' experiences with product and service touchpoints from start to finish (Marquez et al., 2015; Stickdorn & Schneider, 2012). The strengths of this tool are in its ability to capture the emotional and physical-in-person journey that customers experience (Samsel, 2013; Zomerdijk & Voss, 2010). In the mapping process, customers' feelings, motivations, and pain points (problems identified by customers) are gathered into the visual map to paint a complete picture of the visual journey (Marquez et al., 2015; Moon et al., 2016). Despite the benefits of this method, it has limited use in public health research and evaluation. This dissertation hopes to build on the limited literature on CXJM in public health research and evaluation, to address gaps in the assessment of telehealth to effectively provide care (Laing et al., 2018).

Purpose of the study

1. Assess and understand participants' and coaches' experiences with the DPP Program.
2. Identify experiences that attract and deter participants from completing and participating in the in-person and telehealth at the system and subsystem level-to improve experience and program effectiveness.
3. Inform the development of telehealth infrastructure for inclusive and equitable health practices and program delivery by formulating a customer experience process map to analyze processes, actions, and steps that attract or deter participation and completion in telehealth.

Research Questions

- Was there a difference between reported program satisfaction versus lived experience with the program? How did these experiences differ for coaches and participants during the telehealth transition? Did the telehealth transition create negative or positive experiences for participants and coaches?
- How did these experiences differ by age and ethnic background?
- How did these experiences differ when compared to in-person delivery?

Significance of the Study

The transdisciplinary approach of this dissertation can provide insight into other diabetes interventions and health education services to be more effective in engaging the target populations most affected by diabetes. **Figure1** demonstrates how different fields, such as evaluation, public health, marketing, and ethnic studies were combined to inform inclusive and sustainable telehealth infrastructure.

The dissertation study was guided by an *evaluation* conducted by the author and colleagues to understand the needs of participants and *social work and nurse navigator students*. The inclusion of their perspectives informs the development of future *interventions* during a state of emergency. When considering *telecommunications*, the future health service use framework was used as a guide to understand telehealth experiences in public health. The key informant interviews provided insight into the *cultural* needs and preferences of the participant and culturally competent education and materials. Lastly, this dissertation adds to the existing literature in *CXJM* as an evaluation tool for public health. At the same time, identify ways to better *market* and target prevention programs to communities most in need. Therefore, the influence of all the varying fields were used to guide the different gaps in telehealth development.

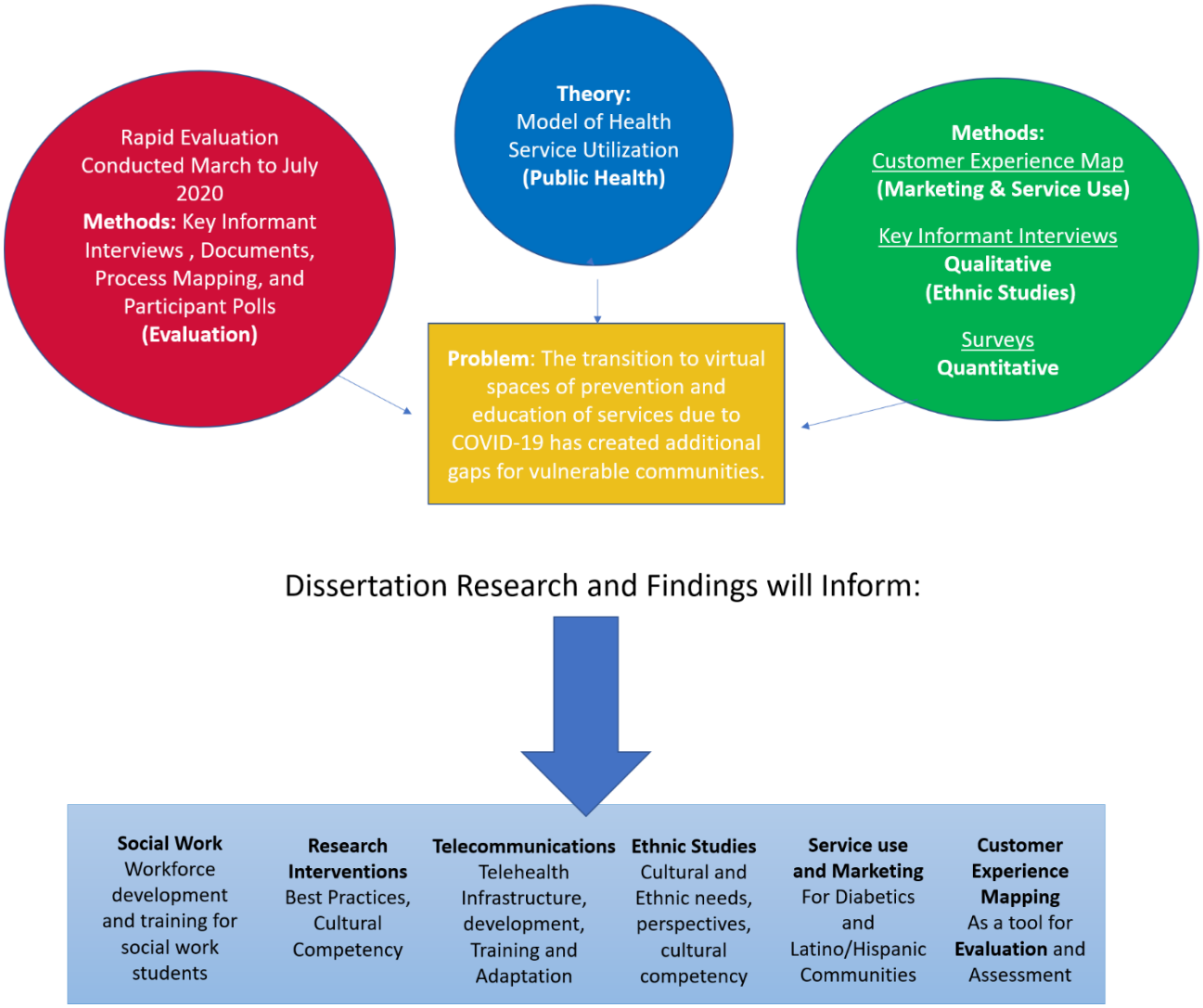
Rationale for Methodology

A mixed-methods explanatory sequential design was used to guide this dissertation. For the quantitative part of the study, secondary-existing data from SDIT was utilized to understand participants' experiences with the program. Satisfaction surveys from months 1, 2, and 5 provided insight into participants' contentment with classes and informed the key informant interviews.

The qualitative portion played a more significant role in this study. The results from satisfaction surveys were used to explore experiences with the telehealth modality of the program to inform "why and how" to the responses provided in the quantitative piece. Additionally, the interviews provided insight into class preferences, the rationale for in-person versus telehealth modality, and recommendations to improve the program.

Lastly, to demonstrate the results from the quantitative and qualitative assessment, a customer experience map was created to provide a picture of the journey. In this visual, the complete experience will be mapped out from start to finish to demonstrate the experience effects at the varying touchpoints in the program. This will assist in visualizing areas of opportunity to improve program adherence and effectiveness of program delivery.

Figure 1- Dissertation Significance



CHAPTER 2: LITERATURE REVIEW

The literature review of this chapter is organized into four key sections. The first part provides an overview of prior research on telehealth experiences. The second part will provide insight into the exploration of telehealth experiences from users and medical staff using Andersons Health Behavior Model to understand pre-disposing, enabling, and disabling factors for its use. The third section will focus on telehealth and the impacts and opportunities of Covid- 19 that must be considered moving forward. Lastly, the chapter will end with a review of diabetes and details about the DPP this dissertation is based on.

This chapter will provide background to the significance of examining experiences in DPP for participants and coaches in the City of Pomona, California. This dissertation project is part of a collaborative engineered system created and designed by the Principal Investigator, Dr. Anderson Johnson. The program is centralized through the Community Translational Research Institute (CTRI), Claremont Graduate University (CGU), Heluna Health, and formerly, Pomona Valley Hospital Medical Center (PVHMC). Together they create Stopping Diabetes in Its Track's (SDIT) system of systems that integrate university, clinical, community, and city partners to provide educational prevention and management of diabetes. The in-person program includes screening, education, and behavioral health for participants. However, with Covid- 19, the safety of participants and staff was critical, and the program had to adapt to become telehealth delivered health management and mental health program.

Literature Review

A narrative literature review was done using PubMed, JSTOR, Academic Search Premier, and Google. Databases were selected for their inclusion of health and transdisciplinary articles. Keywords used were "telehealth AND patient experience," "patient engagement AND telehealth,"

“patient engagement AND telehealth AND diabetes," and “telehealth experience AND diabetes." Articles were included if they were focused on patient experiences and engagement in telehealth or telemedicine to manage chronic diseases. Anderson’s Behavioral Model of health service use theory was used to guide the literature review. This theory will be used to identify predisposing, enabling, and need factors in the adoption of telehealth use. To do this, a review will cover past research that has compared the effectiveness of telehealth versus in-person delivery for health management in chronic diseases.

1. Prior Research on Telehealth Experience

Telehealth vs. In-Person Chronic Disease Management

Various studies have compared the effectiveness of telehealth with in-person chronic disease management. Among those studies, researchers have found the services to be comparable to in-person delivery (Mensa-Wilmot et al., 2017; Schulz et al., 2020) and effective in improving patient outcomes (Andrews et al., 2017; Balabanova et al., 2013; Carlisle & Warren, 2013; Davis & Fry, 2019; Hui et al., 2016; Weinstein et al., 2014). For example, a diabetes program delivered remotely to Veterans found that the program reduced HgbA1c levels, created awareness of blood glucose levels, and developed new self-management routines (Andrews et al., 2017). Similar results were found by Tokuda et al., (2016), a diabetes management pilot study delivered through video conferencing. The program met its goals of peer support, education, medication titration, and self-efficacy, and participants were satisfied with the delivery format.

Additionally, a systematic review conducted in 2018 found that in nineteen randomized controlled trials, telehealth was more effective in controlling glucose levels and was “similar or superior to usual care in cholesterol and quality of life” (Wu et al., 2018). Although the interventions did not demonstrate a change in BMI, the interventions showed potential in reducing

blood pressure levels. Similarly, a systematic review by Polisena et al., (2009), found that home telehealth interventions were effective in controlling HgbA1c as was found in Balas et al., (2004) and Jaana & Paré, (2007). Although Jaana & Paré, (2007)recommended further effectiveness assessments due to inconsistent results, due to variations in population characteristics and methods selected. These examples demonstrate the value and impact telehealth can have on managing diabetes. Therefore, it is essential to identify how telehealth can be a more effective method while considering users experiences (patient and program participants).

Satisfaction with Telehealth

Previous research has shown the feasibility and effectiveness of telehealth. Additionally, when used for the management and prevention of diabetes, studies found that participants expressed overall satisfaction with the service (Carlisle & Warren, 2013; Chau et al., 2012; Damschroder et al., 2017; Orlando et al., 2019; Polisena et al., 2009). A systematic review conducted by Orlando et al., (2019), identified "system experience as the most common measured dimension of satisfaction" among participants. Findings from this systematic review indicated that in fifteen studies, high satisfaction was present across video quality, time, cost, comfort, usability, and technical support. For providers, satisfaction from telehealth use has come from the opportunity to increase reach to the underserved, timely and accurate monitoring through improved data management and the ability to interact with patients from their homes (Sandberg et al., 2009). While dissatisfaction from providers and medical staff has been due to "technology problems and absence of physical contact" (Sandberg et al., 2009). To assess participant and coaches experience with SDIT a literature review was guided by Anderson's behavioral health service use model (Andersen, 1995). This theory was used to to break down and assess experience factors at the

system and subsystem level that have contributed to the success or failure of prior telehealth programs.

2. Experiences of users and medical staff with Telehealth programs

Anderson's Behavioral Health Service Model

Anderson's behavioral health service use model (BHSUM) was created in 1960 by Ronald M. Anderson at the University of Los Angeles to predict and explain the utilization of medical care services (Andersen, 1995). The original model included predisposing, enabling, and need resources to predict and explain use in health services. Predisposing factors are "socio-cultural individual factors present before illness" (UM, n.d.) categorized as demographics, social structure, and health beliefs. Enabling factors are personal and community resources (Chiu & Eysenbach, 2010) and logistics to obtaining care (UM, n.d.). This includes the induvial, family members, and the community. Lastly, need factors are those that cause the "immediate use" of health services (UM, n.d.). This category is differentiated into two categories as perceived and evaluated need. Perceived need is defined by how individuals view their own health (Andersen, 1995), while evaluated need, includes the perspective from medical staff to use health care (Andersen, 1995). There are approximately six different versions of this model, such as the: Systems Model (Babitsch et al., 2012) (Andersen, Smedly, and Anderson 1970), Model for Dental Services 1971, Newson and Anderson 1972, Anderson and Newson 1995, and the Anderson and Newson 2005 (Andersen & Newman, 1973). However, the most comment version used is the 1995 version and thus will be utilized to understand telehealth experience (Babitsch et al., 2012). As a result, predisposing factors will be defined as demographics (age, marital status, gender/sex, education, and ethnicity) (Babitsch et al., 2012)., social structure, and health beliefs (attitudes, values, knowledge). Enabling

will be defined as personal/family and community factors and needs as perceived and evaluated need.

Theory Limitations

A systematic literature review conducted in 2012 found that the BHSUM has been applied widely for "varying diseases in the health care system" (Babitsch et al., 2012). However, one of the limitations to this theory is in the variations in how the three factors of service use (predisposing, enabling, and need) are utilized. Bradley et al., (2002) critiques the limitations of this theory are in how interrelated the three -factors are to each other. For instance, variables placed under specific factors can sometimes play dual roles in influencing service use (Chen et al., 2008). The lack of exclusive categorization of each factor limits the direction and strength of association. Other limitations mentioned are due to how health beliefs are defined (Andersen & Newman, 1973) and variations in experiences when race/ethnicity are considered (Bradley et al., 2002). Despite these challenges, this theory was selected to understand experiences with telehealth among users.

Predisposing factors

Pre-disposing factors disabling use

Pre-disposing factors that can either inhibit or enable individuals in adopting telehealth are ethnicity, age, attitudes, expectations, perceptions, values, and organizational culture. The following examples will provide insight from participants and medical staff perspectives.

Demographics: Ethnicity and Age

Pre-disposing factors that contributed to telehealth usage were Hispanic identity and older age. Having a Hispanic identity and low socioeconomic status have been found to amplify inequities in telehealth (Arcury et al., 2020; Yoon et al., 2020). Among Hispanic older adults, there

was lower usage of internet as a resource, compared to Blacks and Whites thus seeking less health information online (Laz & Berenson, 2013; Livingston, 2010; Raine, 2010). Among older populations themes that contributed to low adoption and acceptance of telehealth were due to: lack of awareness of the availability of telehealth; concerns about confidentiality and security of data, perceptions of cost, unsatisfaction with quality of care, and personal preferences for in-person doctor visits. (Arcury et al., 2020; Kim et al., 2019; Livingston, 2010; M Tourkmani et al., 2021; NIH, 2016; Yoon et al., 2020). While the slow adoption of telehealth among diabetics (Guo et al., 2021) urges training to provide support and management. As a result, there has been a call for internet technology training especially among older adults (Aponte & Nokes, 2017; Sanders et al., 2012; Yoon et al., 2020). In addition to age and ethnicity, the following will cover health beliefs and perceptions that impact usage.

Health Beliefs: Expectations, Perceptions, Attitudes, and Value

Expectations of how telehealth equipment should work impacted satisfaction and use among older adults. In an ethnographic study, older adults expected telehealth systems to be "smart, personalized, and able to provide tailored management to prevent and detect complications" (Glazer et al., 2014). However, when this did not occur, trust in telehealth was lost. According to Glazer et al., (2014) and Sanders et al., (2012), this may be due to participants' "lapse in memory" of how to use technology equipment, identifying a need for tailored approaches that provide continuous learning of telehealth usage.

Negative perceptions of telehealth inhibited the use due of telehealth due to distrust it will work accurately and concerns for biased treatment. A focus group of African Americans and Latinos who had not used telehealth identified concerns over privacy and confidentiality. One participant expressed, "records are supposed to be a personal thing between you and your doctor,

but if it will be on the Internet, then it is for anybody" (George et al., 2009). This perception of distrust can affect confidence in telehealth to work accurately and, as a result, impact trust among participants and staff (Glazer et al., 2014; Radhakrishnan et al., 2012). However, one of the most significant concerns for Latinos was the threat that virtual services might not be accessible for underinsured or undocumented individuals due to historical discriminatory policies that have excluded them from receiving services. Additionally, the physical absence of a provider raised concerns about patients' ability to monitor the provider's qualifications (George et al., 2009). These examples provided a perspective on the role trust can play in individuals adopting telehealth services. The following examples will review staff values that can inhibit use.

Staff Values

Among staff, the lack of trust in telehealth was influential in the acceptance of telehealth in organizations. Resistance to use has been due to concern for the inability to do their job due to poor service delivery of technology, creating a sense of loss of "power and control" of a medical visit (Glazer et al., 2014). Other concerns were around the ability to create human connection and relationship building during visits (Glazer et al., 2014), when nonverbal communication is lost (Sanders et al., 2012).To assist the acceptance and trust of telehealth will require designing systems that consider its users' needs and perceptions.

Organizational Resistance

Cultural resistance from health care organizations and the staff was the most significant barrier to telehealth adoption, impacting the ability to sustain these efforts (Granja et al., 2018; Wade et al., 2014). Resistance for use was due to preferences for in-person delivery among physicians and nurses due to in-person training received to connect with participants (Glazer et al., 2014). Other reasons for resisting were fear telehealth would interfere with clinical duties, fear of

being perceived as incompetent, and lack of understanding of the need for telehealth use (LeTourneau, 2004). This lack of confidence demonstrates the necessity to train more health care professionals to deliver virtual care (Carlisle & Warren, 2013; Radhakrishnan et al., 2012) and understand the "legal and ethical implications involved" when offering care across states (Papanagnou et al., 2015).

Pre-disposing factors enabling the use

Positive attitudes toward telehealth predisposed individuals to use telehealth services. In this category, there were three major themes: convenience, trust, and motivation. The first theme that enabled telehealth use was the convenience of reduced wait time (Dinsmore, 2017; Dullet et al., 2017; Hayward et al., 2019), increased access (Carlisle & Warren, 2013; George et al., 2009), immediate feedback, and added convenience for children and elders when using telehealth (George et al., 2009). These factors also saved travel costs and money as individuals no longer need to lose workdays and pay to attend appointments. The second theme that facilitated telehealth use was due to trust. Although previously mentioned that trust is not a requirement, trust was essential to continuously engage participants in health management (Glazer et al., 2014; Nimmon et al., 2012). A third theme found in the literature was motivation. As participants gained knowledge and built steady habits to self-manage their conditions, they felt a sense of independence and self-empowerment to take care of their health (Glazer et al., 2014). Promoting the benefits of partaking in telehealth could encourage others who may be hesitant. Positive attitudes help the uptake of telehealth when users understand the benefits that telehealth can bring. However, in the same manner, staff values can disadvantage the adoption and uptake of telehealth.

Enabling Factors

Enabling factors are personal and community resources that allow the adoption of telehealth. Based on the literature, personal enabling factors are access to the tools needed, comfort, competence, and training to use telehealth.

Personal Factors: Tools, Competency, Support

Factors that enable participation in telehealth are access to technology equipment and competence (Woo & Dowding, 2018). This was evident in a qualitative study by Sanders et al., (2012), as those with lower competency in telehealth literacy and English language were most likely to drop out of telehealth/telemedicine interventions. Participants in this study described needing reminders and training to assist them with telehealth use. Otherwise, they felt discouraged by the "multiple numbers of steps" making telehealth challenging to use.

Although technology and internet use continue to rise, in 2018, 24% of older adults 65 years and older mentioned had not emailed, texted, or gone online in a month, while 30% said unreadiness and inexperienc**e** with technology (Lam et al., 2020). Other factors that contributed to low utilization of telehealth among the aging population were due to: incompatible equipment and difficulty with internet connection, audio, and video (Arcury et al., 2020; Chin et al., 2012; Kichloo et al., 2020; Kim et al., 2019; Livingston, 2010; NIH, 2016; Tourkmani, M. et al., 2021; Yoon et al., 2020). Therefore, training and confidence are key to adopting telehealth and program adherence. The lack of standardized telehealth training at a national level demonstrates a need to target the interaction between improved glycemic control and telehealth care (Chike-Harris et al., 2021; Xie & Bugg, 2009). Training and competence are not the only factors that can enable individuals to adopt telehealth, in fact research has found providers can play a big role in participant adoption. Prior studies have indicated that adoption of telehealth services is more likely

to be accepted and adopted (Sim & Lee, 2021) when providers advocate for their importance of it in health care management (SMRC, 2021). Therefore, at the individual level, competence and telehealth literacy can enable adoption. While at the community level, organizational infrastructure was found to play a role in the adoption of telehealth.

Community Factor: System infrastructure in place to support telehealth work

Community factors that can enable use at the organizational level are system infrastructure and processes to assist staff in adopting telehealth. Three themes were found in this category: workflow, workload, and cost. The following paragraphs will explain each one of these themes in more detail.

The workflow will be defined as the "sequence of physical and mental tasks performed by various people within and between work environments" (AHRQ, 2021). For example, this can be the series of task that might occur (from start to finish) when registering a patient in the clinic to create a smooth visit. The first theme, workflow, was found in a systematic review conducted by Granja et al., (2018). They found that the lack of success in telehealth interventions was related to workflow. Among these issues, barriers due to workload were found in twelve studies, while in seven studies, workflow disruption and lack of clear roles became a challenge to using telehealth. Therefore, future implementation must consider the architectural processes and staff's workload to provide clear steps.

Time and Cost

The third theme was workload due to added time and resources to screen and recruit patients (Carlisle & Warren, 2013). In interviews conducted from a randomized controlled trial found implementation cost in addition to poor infrastructure and lack of appropriate equipment (Moffatt & Eley, 2011). Thus, the development of telehealth requires appropriate infrastructure

(Carlisle & Warren, 2013) at the organizational level and at the policy level to support funding and reimbursement costs (Granja et al., 2018). Lastly, in a systematic review conducted by Granja et al., (2018), found that in 42 studies cost was mentioned as the most significant barrier to success in telehealth. For some studies, this was due to costly equipment, while others cited poor technology infrastructure as a barrier to success (Carlisle & Warren, 2013; J. Tracy et al., 2008). Thus, the future development of telehealth will require effective infrastructure design of telehealth to fit the needs of participants and staff. Innovative ways to make the adoption less time-consuming and costly will be necessary. The government's support will be critical in supporting policies that enable the expansion and infrastructure of telehealth. Financial support along with simplified reimbursement techniques can help not only motivate but build preferences for its use.

Need Factors: Training and Infrastructure support

The aforementioned barriers demonstrate the need for effective implementation and training for individuals to accept and adopt telehealth for health management. In addition, both participants and health professionals need the training to feel competent and confident in incorporating telehealth into their daily routines. Moving forward, scholars have suggested tailored approaches to fit the needs of users, improved marketing techniques and implementation efforts (George et al., 2009). A telehealth system that is "friendly, safe to use, time-efficient, cost-effective", while also providing real-time health monitoring can increase motivation in daily routine care (Dinsmore, 2017). If individuals find these systems hard to use however, further adoption will be a challenging task.

Therefore, funding will be necessary to build a straightforward telehealth infrastructure to avoid additional workload on both participants and health professionals. The infrastructure of telehealth will also require policy changes to tackle limited reimbursement challenges (J. Tracy et

al., 2008; Weinstein et al., 2014), legal and regulatory barriers (Tracy et al., 2008), and licensure limitations for practitioners (social workers, doctors, nurses) (Anaya et al., 2020; Weinstein et al., 2014). Continued funding has been limited nationally, restricting the potential growth of telehealth for communities most in need. Moving forward, a sustainable approach (Dinsmore, 2017) towards change will need to consider how to sustain positive experience with telehealh (Barello et al., 2016). Telehealth is complex and will require integrating and expanding policies beyond the medical and public health field to consider the intersecting role of the limited expansion of internet and broadband policies (Bauerly et al., 2019). Despite these needs, one of the most significant factors that participants and staff need to effectively participate in telehealth modalities is fast and reliable internet.

3. Internet Usage in the United States

According to the United States Census, in 2019 approximately 82.7% of individuals had broadband internet (*U.S. Census*, 2019). When these numbers are extrapolated by ethnic groups, access barriers are evident. In 2017, internet use was highest among White (80%), followed by Asian Americans (75%), African Americans (73%), and lowest among Hispanics (72%) (Goldberg et al., 2019). According to NTIA, lower internet use among Hispanics was due to language barriers and immigration patterns; however, in 2017, lower use differences between immigrants and U.S born have been reducing. Additionally, they found that among immigrants of second generation, lower internet adoption rates "disappear" (Goldberg et al., 2019). Similar findings were found by Gonzalez et al., (2019**)** as foreign-born Mexicans and Central and South Americans had lower odds of emailing providers and looking up health information online compared to U.S born non-Hispanic Whites. If individuals do not have access to the internet, this becomes an enabling factor that impedes participation in virtual spaces. Therefore, internet access alone is not enough to

participate and receive health services, education, employment, or access to food delivery. The quality and speed of broadband usage will indicate the quality of a good experience.

Broadband

Broadband can be defined as technologies that connect together through the use of high-speed internet (Bauerly et al., 2019). According to Federal Communications Commission (FCC), broadband is "internet with downloadable speeds of 25 megabits per second (Mbps) and upload speeds of at least 3 Mbps" (FCC, 2018). Broadband usage in February of 2021 was 77% in the United States (*Internet/Broadband Fact Sheet*, 2021). A disparate percentage compared to growing national internet use trends, demonstrating inequities in-service experience and quality in internet usage. Among ethnic groups, Whites have the highest broadband connection at home (80%) compared to lower percentages among Black (71%) and Hispanics (65%) (*Internet/Broadband Fact Sheet*, 2021). Disparities in access are also present among education levels lower than high school (59%) compared to those with at least a college degree (87%). Discrepancies in age are also present with the slowest broadband connection in those older than 65 years of age (64%), compared to individuals between the ages of 30 to 64 years of age (82%) (*Internet/Broadband Fact Sheet*, 2021). Similar to the internet usage trends, those living in rural areas had lower home broadband usage (72%) compared to urban (77%) and suburban (79%). The disparities in access to broadband at home demonstrate the vital role that broadband access plays.

Telehealth requires reliable broadband access or reliable – fast internet (Bauerly et al., 2019). As a result, for rural communities and minorities, telehealth is a challenging barrier. It is preventing them from full access to the additional benefits that telehealth can offer. Recent research has found that broadband's critical role in affecting people's health and quality of life where they work, live, and play-calling this a social determinant of health (Bauerly et al., 2019;

Benda & Ancker, 2020). Broadband access goes hand in hand with access to telehealth, the inability to either becomes a predisposing disabling factor. Solutions will require a holistic transdisciplinary approach due to its complex dynamic role in the health care system, economy, education, food, community, social and physical environment, and policy (Benda & Ancker, 2020). Broadband and internet access have developed new opportunities to access information and essential services every day. However, this advantage is not open to everyone. The inequities in broadband and the internet became apparent during the Covid- 19 pandemic when access to quick essential information for individuals' health and safety was critical.

4. Diabetes and DPP Literature

Diabetes

In 2020, according to the National Diabetes Statistics Report, approximately 21.4% of Americans had undiagnosed diabetes (*National Diabetes Statistics Report, 2020 | CDC*, 2020). In the United States prevalence of diabetes was highest among American Indians/ Alaska Natives (14.7%), followed by Hispanics (12.5%), Blacks (11.7%), Asians (9.2 %), and non-Hispanic White (7.5%) (*National Diabetes Statistics Report, 2020 | CDC*, 2020). Hispanic and Black communities have been found to have higher rates of retinopathy (Nsiah-Kumi et al., 200) due to diabetic complications (Dagogo-Jack, 2003; Lanting et al., 2005). While also facing higher mortality rates due to “diabetes, coronary artery disease, stroke, and congestive heart failure" (Dagogo-Jack, 2003). Additionally, some ethnic groups are more at risk due to toxic environmental exposures (Dendup et al., 2018; Yang et al., 2020) and structural factors (Hill-Briggs et al., 2021). Since Latinos/Hispanics make up the largest growing population in the United States, it is critical to assist in preventing and managing diabetes due to the fatal impacts diabetes can create. In the National Diabetes Statistics Report, the cost of diabetes has increased from $8,417 in 2012 to

$9,601 per person in 2017 (*National Diabetes Statistics Report, 2020 | CDC*, 2020). To prevent delayed care, telehealth has become essential to assist chronic disease management among people with diabetes.

Diabetes and Covid- 19

From January 22 through May 30 of, 2020, a CDC report found that among those hospitalized with COVID- 19, death was 12 times higher than for those with underlying health conditions (Sun, 2020) the most common were: heart disease (32%), diabetes (30%), and lung disease (18%) (Sun, 2020).This was evident in the higher death rates of Covid- 19 among "Native Americans or Alaska Natives (5 times the rate of White), Blacks (4.5), and Hispanics (4 times higher than White" (Sun, 2020). Compared to other minority groups, Hispanics not only had higher risk for diabetes but also COVID- 19 complications (Calo et al., 2020). In 2018, Hispanics and Blacks were 1.6 times more likely than Whites to be diagnosed with diabetes, followed by Asians at a rate of 1.2(CDC, 2018). Furthermore, those who can get care through telehealth delivery face additional challenges due to income, underdevelopment of telehealth, and access (Pruitt et al., 2020). Therefore, Hispanic/Latino, Black, and American Indian communities are populations that should be studied to better to understand how to deliver and implement tailored telehealth delivery. The community studied in SDIT were predominantly Hispanic/Latino. Unfortunately, Hispanic/Latino populations face several layers of structural and system-level barriers to health care and telehealth access, in addition to health vulnerabilities. The impacts of Covid- 19, however, can be examined by looking at diabetes prevention programs that switched to telehealth during the Covid- 19 pandemic, an example program that did this was SDIT.

Stopping Diabetes in its Tracks (SDIT)

SDIT uses a socioecological approach to assist participants in healthy eating and physical activity. It is an engineered system of systems that uses public health, systems engineering,

psychology, medical, nursing, social work, evaluation, and epidemiology to provide holistic prevention to those at risk of developing diabetes. The project was led initially by two Principal Investigators (community/systems/research and clinical, respectively), two Co-PI (exact domains of responsibilities as the PIs), and a Project Manager with grants management assistance from a Grants Program Officer.

In 2020, the impacts of Covid- 19 created a shift for the SDIT program. Many institutions faced ethical dilemmas; as a result, the WHO released a document with ethical standards for research during the public health emergency. In this document, partnerships were suggested to "jointly prioritize challenges faced by the outbreak and determine projects that benefit the participating community" (Emanuel et al., 2020). However, the high demand in health care systems created ethical challenges to "preserve resources such as Personal Protective Equipment (PPE), hospital beds and equipment, and personnel...forcing clinicians to triage access" (McGuire et al., 2020). The demand to quickly attend to the high number of infected individuals from Covid-19 shifted the focus of clinical partners. As a result, the primary clinical partners withdrew from SDIT. Although, SDIT was faced with the predicament of disrupting service until it was safe. The community and Research arms of the program felt an essential ethical commitment to support the community at a critical time to prevent infection and support those most at risk. The severity from increased risk of Covid- 19 was higher among diabetics due to "limited access to healthcare, insulin, medications, blood glucose monitoring equipment" (Katulanda et al., 2020), increased complications (Bornstein et al., 2020), and long term harm.

Since then, the program has been led by a single PI and Co-PI; SDIT was organized into six subsystems: navigation, electronic, community, evaluation and research, leadership, and clinical. Minor subsystem adjustments were made to accommodate COVID and institutional

(parent systems) change demands. For each subsystem, a Systems Engineer Manager (SEM) is responsible for integrating vertical and horizontal communication within their task force and subsystems to maximize efficiency and collaboration within the system and across institutional partners. Each system has a crucial role in the success of the SDIT intervention. For example, the DPP program at SDIT uses social worker students to help participants navigate the program and provide mental health support, motivation, and health management. The program also experienced adaptations to better integrate navigators (social work students) into program participants. The prior model incorporated coaches and navigators at the center of the system to support patients' emotional and mental health needs as they navigated the program. The new model included a coach and navigator combined role to improve connection and relationship building from the start. Additional changes also included expanding community partners with partnerships, including a community health center, Roots of Hope and Seeds of Hope, City of Hope Medical Center, and Cal Poly Pomona to expand population outreach. This dissertation used the experience of participants and their coaches to assess how the transition from in-person to telehealth was for participants and their coaches. This will be done by examining their experiences in detail from start to finish by creating a customer experience map.

CHAPTER 3: METHODS AND RESEARCH DESIGN

The DPP program was established in the City of Pomona to assist residents at risk of diabetes. A customer experience journey map (CXJM) was created to analyze the program experience of participants and coaches. Mixed methods were used to understand how the transition from in-person to telehealth delivery of SDIT was for participants and coaches while also looking at the program experience as a whole. The CXJM will provide a visual explaining what touchpoints enabled participants to continue and which disabled continuation to improve the program experience for future DPP programs.

Pomona, CA

Pomona belongs to congressional district 35, consisting of three census tracts (4033.21, 4033.17, and 4033.18) in Los Angeles, California. It has a population of 151, 691 with the majority of residents being Hispanic 71.7%, followed by Non-Hispanic White 11%, Asian 10.2%, Black 5.6%, and American Indian and Alaskan Native 2.4%, Native Hawaiian and Pacific Islander 0.2%, and those with two or more races 3.8% (Census Bureau, 2019). Approximately 7.4% of its population are under five years of age, those under 18 years make up 25% of the population, and 10.6% are 65 years and older. Approximately 50.6% of its population are women. In addition, 37% of Pomona residents are foreign-born, and 66% of the population speaks a language other than English at home. Sixty-nine percent have graduated high school. Approximately 98% have a computer at home, but only 85% have broadband internet subscriptions. At the same time, the following health outcomes will demonstrate the importance of doing this project with the city of Pomona.

Health Outcomes and Health Insurance

The Los Angeles County Department of Public Health published a report in 2018 demonstrating the City of Pomona's health outcomes compared with L.A. County and the best performing city. The report uses aggregated data from various sources, including the Los Angeles County Department of Public Health, the Los Angeles County Health Survey of 2015, a random-digit-dial telephone survey of self-reported data, and individual and community level estimates. Los Angeles County Linked Death Data, from 2012 to 2016, uses data from death certificates from The California Department of Public Health's Death Statistical Master File, California Comprehensive Death File for Los Angeles County, and data from the Hedderson Demographic Services Population Estimates (HDSPE) of 2012 and 2016. Data from HDSPE uses data from the 2010 Census and applies mortality and migration rates.

Life expectancy in Pomona is lower (79.8 years) compared to the expectancy of living up to 87.5 years of age in the best performing city and Los Angeles County (82.3 years old) [1] (LAC-DPH, 2018). Tobacco use is higher in Pomona (11%) than in the best-performing city (8%) and lower than in the Los Angeles County (13%) (LAC-DPH, 2015, 2018). The percentage of adults 18 years and older diagnosed with depression in Pomona (7%) was also lower than in Los Angeles County (9%) (LAC-DPH, 2015, 2018). However, suicide rates were higher in Pomona (7.9) compared to the best performing city (2.4) and Los Angeles County (7.4) [2] (LAC-DPH, 2015). In addition, to a higher number of death rates for unintentional drug use in Pomona (6.8) compared to Los Angeles (6.6) and the best performing city (3.2)[3] (LAC-DPH, 2015). The health outcomes

[1] Cited from Los Angeles County Department of Public Health report published in 2018. Data from this report came from Los Angeles County Department of Public Health to create the Los Angeles County Linked Death Data, 2016; Hedderson Demographic Services, and Population Estimates of 2016.
[2] Ibid.
[3] Ibid.

reported show the importance of creating tailored approaches to fit the needs of community members in addition to health insurance access.

Approximately 28% of the Pomona population was uninsured in 2019 (*UDS Mapper*, 2021). Similar findings were found in 2018, when 30% of those aged 18 and 64 were uninsured, compared to 25% in Los Angeles County and 4% in the best-performing city. This number is quite different from its surrounding cities, such as Claremont, where only 17% are uninsured, Diamond Bar (14%), and La Verne (17%) (*UDS Mapper*, 2021). Nineteen percent of the population of Pomona live in poverty, compared to 7%, for Claremont and Le Verne. Compared to surrounding cities, Pomona had higher percentages of Medicaid beneficiaries than its surrounding cities, with an average of 13% and a Medicare average of 80% among those who were found to be insured.

Based on UDS Mapper Data from 2017, approximately 27% were obese, 26% had high blood pressure, and 11% had diabetes in the city of Pomona. However, SDIT physical examination data suggest considerably higher rates (Johnson et al. n.d) than physical exam data extrapolated by population characteristics from the NHANES data. The data demonstrate the significance of doing this project with this community and its importance in developing programs that target their needs.

Addressing the Problem

The Covid- 19 pandemic forced the nation to adopt virtual forms of communication and working conditions abruptly. However, Covid- 19 created a window of opportunity for the medical and public health field to implement telehealth which was once slow to be adopted and accepted as a modality of providing care. This dissertation will analyze the experience of adopting telehealth for participants and coaches during the Covid- 19 pandemic to answer research questions on their experiences with telehealth, identify easy and challenging touchpoints, and identify how these experiences differed to in-person modality for diverse participants.

Customer Experience and Customer Journey Mapping

The customer experience (CX) was defined using Schwager & Meyer's definition as the "internal and *subjective* response participants have to direct or indirect contact with the company." While customer journey mapping (CJM) was defined using Forrester's definitions as a "document that visually illustrates customers' processes, needs, and perceptions throughout their relationships with a company" (2010). This exact definition has been used by Kalbach, 2020 and Temkin, 2010. The combination of Customer Journey Analysis and Mixed Methods provided a visual representation of the journey from start to finish. The benefits of this method are its novelty in being effective in "revealing problematic and incoherent service delivery" in the fields of service delivery and customer experience (Halvorsrud et al., 2016). In addition, CJM is a valuable tool for assessing and designing customer experiences (Buckley, M. et al., 2004; Johnston & Kong, 2011). The CJM looks at the complete experience of customers holistically by dividing the journey into three categories, pre-purchase, purchase, and post-purchase, to "conceptualize the experience and make it more manageable" (Howard & Sheth, 1969; Lemon & Verhoef, 2016; Neslin et al., 2006; Puccinelli et al., 2009). CX has been identified as a priority among executives (Accenture, 2015), and this has been shown with the increase in positions such as Customer Experience Chief Officers, Managers, and Vice Presidents in KMPG, Amazon, and Google" (Lemon & Verhoef, 2016).

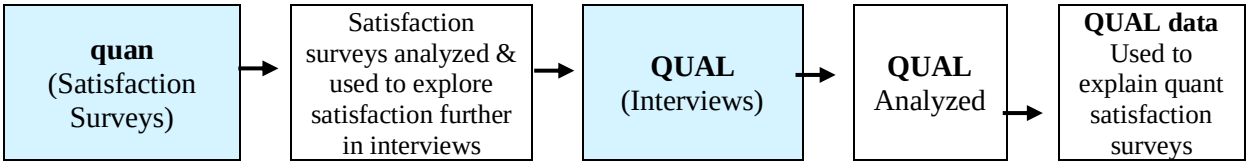
This methodology's benefits are its ability to access the customer experience from the customer's perspective holistically. Although CJM has been growing as a useful approach in Market and Service research, it is still in its early stages of development. In addition, to its even more limited use in Social Science research. Therefore, the CJM will be divided into three categories. The "pre-journey" will refer to the screening and enrollment of the program. During the journey will be the onboarding and welcome into the program, and post-journey will refer to the journey in the course curriculum.

To understand how the transition to telehealth occurred during the Covid- 19 pandemic and how that experience compared to in-person, only participants who were part of the in-person before Covid- 19 occurred will be recruited for an interview, including individuals eligible but might have only attended one class. As a result, only cohorts 1 to 3 of 18 as of 6/31/21 fit the inclusion criteria. Since cohorts four and above experienced the virtual DPP program from the start, a coach and navigator combined role and added journey touchpoints (e.g., website, social media platforms, and new Medical Partner) they were excluded from the research interviews.

Research Design

A mixed-method explanatory sequential design will fill the gap in the telehealth experience for diabetic participants and their coaches. An explanatory sequential design has two phases in the research design, a quantitative followed by a qualitative, See **Figure 3.1** (Creswell, 2013). The benefits of this design are in its incorporation of quantitative and qualitative data to better understand and access the research study (Creswell, 2005; Tashakkori, 1998). This approach is advantageous as it provides more detail and information regarding participant responses in the surveys to offer a holistic understanding of their experience with adapting to a telehealth diabetes program during the Covid- 19 pandemic. Previous scholars have stated that neither qualitative nor quantitative methods can stand alone (Ivankova et al., 2006). However, the methods complement their strengths (Caracelli & Greene, 1993; Greene et al., 1989; Miles et al., 2014; Tashakkori, 1998).

Figure 3.1 Explanatory Sequential Design adapted from Creswell, 2013



Note: Qualitative played a larger role in dissertation and noted as (QUAL)

Quantitative methods use the “deductive approach”, mathematical data collection and analysis to answer research questions (Almathami et al., 2020). While on the other hand, qualitative methods use an inductive approach to “explore and understand individuals or groups" (Almathami et al., 2020). Qualitative data includes individual perspectives, voices, and feelings and finds significant “value in individuality, culture, and social justice" in data collection and analysis (S. J. Tracy, 2013). Additionally, this method helps provide rich holistic information regarding the “why” in experiences, meanings, stories , and meanings (S. J. Tracy, 2013).

This study will use Anderson Health Service Use Theory to identify opportunities and challenges in telehealth service among participants and coaches in the SDIT program. Satisfaction surveys will access overall service satisfaction at Month 1. Month 2 and Month 5 to inform qualitative key informant interviews. At the same time, key informant interviews will explore each interaction touchpoint in-depth with the program and staff. Interviews and surveys will help create a customer experience map of the program's journey. Collecting quantitative and qualitative data will help explain the survey responses and enhance participant and coach needs during telehealth adaptations. The customer experience map will visually represent the complete program journey—see **Figure 3.2**.

Data collection and analysis

Quantitative

Satisfaction surveys available through the electronic tracking system informed the qualitative research methods using RAIs from Classes 1, 6, and 13. Satisfaction surveys contained questions regarding participants' overall experience with the class, whether they felt they were respected, found the class time convenient, and liked or disliked parts of the class. Data was analyzed using the satisfaction averages of participants who attended courses. A total of eleven questions were used regarding satisfaction with the system, coach, location, and recommendation

to a friend or family member. Questions used a five-point Likert scale using highly disagree (1) to highly agree (5). Two open-ended questions asked participants what they liked the most and least about the class. Open-ended questions used aggregated thematic analysis to identify common themes around participants' responses. See below for questions:

Repeated Questions Used:

1. The health coaches are helpful.
2. The health coaches treat me with respect.
3. The guest speakers are helpful.
4. The guest speakers treat me with respect.
5. The classes are offered at convenient times.
6. The classes are offered at convenient location.
7. The information in the classes is useful.
8. The classes are interesting.
9. I would recommend the classes to friends.
10. What do you like about the classes? **
11. Are there things you do not like about the classes? **

*****Question 1 to 9 uses a 5-point scale, 1= Strongly Disagree~2= Disagree ~3 = Neutral~ 4= Agree~ 5= Strongly Agree, Question 10 & 11 are open-ended

Qualitative

Sampling and Recruitment

A sample frame of program participants from cohorts 1 to 3 was used based on the electronic tracking system of all participants eligible for the program. Individuals included those who decided not to participate and those that completed the entire program as including all participants possible provides an overview of the typical experience with the program (Halvorsrud et al., 2016). To recruit participants, personalized e-mails, phone calls, and texts were conducted as Booker et al., (2011) and Brueton et al., (2013) have found these effective recruitment strategies. The e-mails, calls, and google text, were first done by coaches providing a warm handoff that the author would be reaching out about an opportunity to participate in this study. This method was selected as participants have built a connection with their coach and saved contact information on their phones. After the coaches' initial e-mail and call, the author proceeded to outreach and

connected with participants using Google Phone. Most participants said yes to an interview during the initial call invitation. However, after hearing the interview could take up to one hour and a half to two hours, a total of 4 participants declined to participate (no time 1, not interested and does not have time 2, not interested and does not have the attention span 1). Three participants did not respond, and one scheduled and then did not pick up the day of the interview or respond to calls after. Out of 18 participants, a total of 10 participants were interviewed; see **Table 3.1** for a breakdown of responses. Participants for the interviews ranged in ages, with majority in the older adult category 50% (ages 57 to 63 (Petry, 2002)), followed by the youngest adult 20% (64 years old and above(Lee et al., 2018)), lowest in the young adult category 20% (defined as ages 18 to 35 (Petry, 2002)), and lowest in the middle age 10% (defined 35 – 55 (Petry, 2002)). 70% of participants identified as Hispanic/Latino, followed by Black/African American 20%, and White 10%. Most of the participants highest education obtained was at the college level or above (50%), followed by middle school (30%) and high school (20%).

Table 3.1 Participant responses to being interviewed
Out of 18 participants, a total of 10 participants were interviewed.

Responses to participating in an interview	
• Participant said yes	10
Participant said no: • No response 3 • Yes, no time 1 • Initial yes- Not interested and does not have the attention span 1 • Initial yes - Not interested and does not have the time 2 • Yes- Scheduled interview and then did not respond after 1	8
Total Participants 18	18

Before enrolling participants, study consent was obtained using Google Forms. Participants were provided with a calendar invite and the Google Consent Form link (to do before the interview) if they were comfortable using e-mail and online forms. Those who did not have an e-mail or

preferred to do it over the phone the day of the interview were guided with a verbal or visual consent process while on the Zoom video call using screen sharing abilities. Those who wanted a copy of their consent form were provided an e-mail copy or sent a physical copy to their preferred mailing address. Participants were given a $38.00 gift card to compensate them for their time in the interview and retain them in the study.

Various studies support that providing monetary incentives is the best recruitment and retention method (Booker et al., 2011; Brueton et al., 2013; Pit et al., 2014). Goldenberg et al., demonstrated in 2009 that offering monetary incentives provided better results, reduced the number of blank questions, and refused to answer, providing the study with better quality measures. Additionally, recruitment and retention incorporated communication styles such as reminder e-mails and calls, which have been known to increase response rates (Brueton et al., 2013).

Interviews were conducted virtually and done using the Zoom platform; one was done using Google phone. All sessions were recorded on Zoom. Interviews were transcribed using Otter.I for English transcriptions and Sonix was used to transcribe Spanish transcripts. After transcriptions were done, the author reviewed the transcripts for any errors and removed identifying information. Interviews done in Spanish were not translated into English to keep the fidelity and meaning of the interviews. After removing all identifiable information, a research assistant was brought on to review the transcript's grammar. The research assistant was a Master of Public Health Student who had conducted their Collaborative Institutional Training Initiative (CITI training) and is a native Spanish speaker and writer, bilingual in both Spanish and English. Their experience translating Medical Spanish had been through being a Teaching Assistant and translator for Medical Spanish at the college level. After the research assistant had reviewed the

transcriptions and corrected any grammar and misspellings, the author met with the research assistant to go over the coding and analysis plan. The author provided the research questions, aims of the study, and general concepts about customer experience mapping with the research assistant. Additionally, the author reviewed the coding and thematic analysis approach that the project would take to give the research assistant a clear guide of the coding approach.

Representativeness of Sample

A Mann-Whitney U test and independent t-test was done to identify whether the interview sample represented the three cohorts. To protect participants, the author did not access any identifiable information. Two research assistants were blinded to assist with the t-test. First, a program research assistant was contacted and asked to link the program identification number of participants with a list of names provided. They were asked for research purposes to not ask or mention to anyone else on the team the task they were given. If they were to have any questions, they could ask the author directly. Once the list of identifiable numbers was gathered, a second research assistant was reached out. They were also asked not to talk or mention to anyone else of their task.

The second research assistant was tasked with conducting an independent t-test of the two groups (those that were interviewed and those that did not participate in the interviews) to identify if there was a significant statistical difference between the groups. Secondary data from the SDIT program was used (screening and baseline data). Participants were compared on seven scales (depression, anxiety, and stress scale (DASS), self-regulation, impulsiveness and self-control, psychological reactive, motivation for treatment, diabetes prevention scale, and whole person health score).

Independent sample t-test results

To address the question if the sample interviewed was representative of the three cohorts,

the Mann-Whitney U test and independent sample t-test was done. A total of seven scales were used to identify if there were significant differences between group 1 (participants interviewed) and group 2 (participants who were not interviewed). It is important to note the DASS scale did not have enough participants to conduct an independent sample t-test and thus the Mann-Whitney U test was done. An alpha level of 0.05 was used and divided by the number of scales used (seven) to adjust for the number of tests done. Therefore, the p-value used for analysis was $p < 0.007$. After adjusting for the number of tests done, nothing reached the significance level of $p < 0.007$. Since both groups were very similar to each other based on the measures used, it was concluded that the participants interviewed were thus representative of the three cohorts. See **table 3.3** for summary of results.

Depression, Anxiety, and Stress (DASS)

Overall, none of the scores were significantly different for group 1, and group 2 see **table 3.2.**

Depression

A Mann-Whitney U test revealed that depression did not score significantly different from group 1 (Md= 12, n= 2) compared to group 2 (Md= 3, n= 2) U = .00, z= -1.54, p= 0.12, with a negative large effect size of r = -0.77.

Anxiety

A Mann-Whitney U test revealed that anxiety did not score significantly different from group 1 (Md= 2.0, n= 2) compared to group 2 (Md= .50, n= 2) U = 1.50, z= -.40, p=0.68, with a negative small effect size of r = -0.20.

Stress

A Mann-Whitney U test revealed that stress did not score significantly different from group 1 (Md= 5, n= 2) compared to group 2 (Md= 0.00, n= 3) U = 1.00, z= -1.18, p= 0.23, with a negative median effect size of r = -0.52.

Table 3.2 Mann Whitney U-test of DASS Scale Results

Depression, Stress, and Anxiety (DASS)					
Group	**Median**	**n**	**Sig. (2-tailed)**	**r**	**z- score**
Depression					
1	12	3			
2	3	2	0.12	-0.77	-1.54
Anxiety					
1	2	2			
2	0.5	2	0.68	-0.20	-0.4
Stress					
1	5	2			
2	0	3	0.23	-0.52	-1.18

Self-Regulation

Autonomous Motivation

The results of Levene's test, F (16) = 0.03, p= 0.86, indicated the variances of the two groups were assumed to be approximately equal. Thus, the standard t test results were used. The results of the independence sample t test were not significant for autonomous motivation t (16) = 0 value, p = 1, indicating there is no significant difference between the means scores of group 1 (M=4.87, SD=0.27, n= 10) and the score of group 2 (M= 4.87, SD= 0.23, n= 8). The 95% confidence interval for the difference between the mean scores was (-0.25 - 0.25).

External Motivation

The results of Levene's test, F (13) = 0.01, p = 0.98, indicated the variances of the two groups were approximately equal. Thus, the standard t test results were used. The results of the independence sample t test were not significant for external motivation t (13) = 1.84 value, p =

0.09, indicating there is no significant difference between the means scores of group 1 (M=3.63, SD= 1.28, n= 9) and the score of group 2 (M= 2.41, SD= 1.22, n = 6). The 95% confidence interval for the difference between the mean scores was (-0.21 - 2.65).

Motivation to Prevent Diabetes

The results of Levene's test, F (13) = 0.15, p= 0.70, indicating the variances of the two groups are assumed to be approximately equal. Thus, the standard t test results were used. The results of the independence sample t test were not significant for motivation to prevent diabetes t(13) = -1.12 value, p = 0.27 , CI (-8.48 - 2.59), indicating there is no significant difference between the means scores of group 1 (M= 21.55, SD= 4.69, n=9) and the score of group 2 (M= 24.50, SD= 5.12, n= 6).

Impulsiveness and Self control

The results of Levene's test, were not significant, F (16) = 1.19, p= 0.29, indicating the variances of the two groups are assumed to be approximately equal. The results of the independence sample t test were not significant impulsiveness and self-control, t (16) = 0.17 value, with a 95% confidence interval (CI) of -0.627 to 0.73, p = 0.87, indicating there is no significant difference between the means scores of group 1, interviewed participants (M= 2.75, SD= .80 , n=10) and the score of group 2 , participants not interviewed, (M= 2.69, SD= 0.48 , n= 8).

Psychological reactive

The standard t test results were used for psychological reactive, as Levene's test, F (16) = 0.56, p= 0.46 was not significant. The results of the independence sample t test were not significant for psychological reactive, t (16) = -0.33, with a 95% CI (-0.63 - 0.46), value, p = 0.73, indicating there is no significant difference between the means scores of group 1 (M= 1.85, SD= 0.58, n= 10) and the score of group 2 (M=1.93, SD=0.50, n= 8).

Treatment Motivation

Autonomous Motivation for Treatment

The results from Levene's test were significant, F (7) = 43.74, p= 0 indicating the variances of the two groups are not equal. The results of the independence sample t test, however, were not significant for autonomous motivation, t (7) = 1.93 value, p = 0.09, indicating there is no significant difference between the means scores of group 1 (M= 5, SD= 0, n= 10) and the score of group 2 (M= 4.69, SD= 0.46, n= 8). The 95% confidence interval for the difference between the mean scores was (-0.07 - 0.69).

External Motivation for Treatment

The results of Levene's test, F (13) = 0.11, p= 0.73, indicated the variances of the two groups are not significant and assumed to be approximately equal. The independence sample t test results for external motivation for treatment were not significant, t (13) = 0.50 value, CI (-1.21 - 1.96), p = 0.62, indicating there is no significant difference between the means scores of group 1 (M=3.48, SD= 1.37, n= 9) and the score of group 2 (M= 3.11, SD= 1.42, n= 6).

Motivation for Treatment

Levene's test, for motivation for treatment were not significant, F (13) = 3.72, p= 0.07. Thus, the standard t test results were used. The results of the independence sample t test showed there was significant difference, t (13) = 2.63, CI (0.77 - 7.78), p = 0.02, between the means scores of group 1 (M=18.44, SD= 1.37, n= 9) and the score of group 2 (M= 14.16, SD= 1.42, n= 6). However, since the p value was adjusted to p <0.007 the results of the independence test were not significant.

Diabetes Prevention Scale

Response Efficacy

The standard t test was used, as Levene's test was not significant, F (14) = 0.15, p= 0.70. The results of the independence sample t test were not significant for response efficacy, t (14) = 0.22 value, 95% CI (-0.36 - 0.45), p = 0.82, indicating there is no significant difference between the means scores of group 1 (M= 4.35, SD= 0.39, n=9) and the score of group 2 (M= 4.30 , SD= 0.35 , n= 7).

Self-Efficacy

Levene's test for self-efficacy was significant, with an F value of 4.63, p= 0.04, indicating the variances of the two groups are not assumed to be approximately equal. The results of the independence sample t-test were not significant for self-efficacy t (9.24) = 0.56, 95% CI (-0.39 - 0.65), p = 0.58, indicating there is no significant difference between the means scores of group 1 (M=4.75, SD= 0.26, n= 9) and the score of group 2 (M= 4.62, SD= 0.60, n= 8).

Whole Person Health Score

Physical Health

The results of Levene's test were not significant for physical health, F (16) = 0.42, p= 0.52, indicating the variances of the two groups are assumed to be approximately equal. The results of the independence sample t-test were also not significant, t (16) = 1.62 value, with a 95% confidence interval (-0.76 - 6.46), p = 011, indicating there is no significant difference between the means scores of those interviewed (group 1), (M= 8.1, SD= 3.47, n= 10) and the score of those not interviewed (group 2), (M= 5.25, SD= 3.73, n= 8).

Emotional Health

The results of Levene's test for emotional health were not significant, F (16) = 3.27, p= 0.08. The standard t-test results were used, and the groups were assumed to be equal. There was no significant difference for emotional health, t (16) = -0.51 value, CI (-5.59 -3.39), p =0.61

between the means scores of group 1 (M= 5.9, SD= 3.10, n=10) and the score of group 2 (M= 5.7, SD= 5.75, n= 8).

Resource Utilization

The variances of the two groups were assumed to be approximately equal, based on non-significant results from Levene's test, F (16) = 0.26, CI (-4.00 - 2.50), p= 0.61. The results of the independence sample t test were not significant for resources utilization, t (16) = -0.49 value, p = 0.63, indicating there is no significant difference between the means scores of group 1 (M= 4, SD= 3.12, n= 10) and the score of group 2 (M= 4.75, SD= 3.37, n= 8).

Socioeconomics

The standard t-test results were used for socioeconomics, as Levene's test was not significant, F (16) = 0.15, p= 0.69. The results of the independence sample t-test were not significant, t (16) = 1.7, with a 95% CI (-0.64 - 5.99, p = 0.10 , indicating there is no significant difference between the means scores of group 1 (M=8.3 SD= 3.12 , n= 10) and the score of group 2 (M=5.6 , SD=3.50 , n=8).

Ownership

The results from Levene's test for ownership were not significant and assumed to be approximately equal, F (16) = 0.67, p= 0.42.The independence sample t-test demonstrated that there was a significant difference for ownership, t (16) = 2.3, CI (0.30 - 7.49), p = 0.03, between the means scores of group 1 (M=10.4, SD= 3.13, n= 10) and the score of group 2 (M= 6.5, SD= 4.07 , n= 8). However, since the p-value was adjusted between the scale to $p < 0.07$, the results were not significant.

Nutrition lifestyle

The results of Levene's test, were not significant for nutrition lifestyle, F (16) = 1.54, p=

0.23. The standard t test results were used for the independence sample t test. There was no significant difference, t (16) = 1.24 value, CI (-1.30 - 5.00), p = 0.23, between the means scores of group 1 (M=11.3, SD= 2.54, n= 10) and the score of group 2 (M= 9.75, SD= 3.77, n= 8).

The Mann-Whitney U test and independent-sample t test showed that both group1 and group 2 were not significantly different. Although the motivation for treatment and ownership were quite different between individuals interviewed and those not interviewed, they were no longer significant after adjusting the significance level to p<0.007. Since both groups were very similar to each other based on the scale used, it was concluded that the participants interviewed were thus representative of the three cohorts.

Table 3.3 Summary of independent sample t-test

Self-Regulation						
Group	Mean	SD	Mean Diff	T Value	Sig. (2 tailed)	95% Confidence Interval
Autonomous Motivation						
1	4.85	0.27				
2	4.85	0.23	1	0	1	(-0.25 - 0.25)
External Motivation						
1	3.63	1.28				
2	2.41	1.22	1.22	1.84	0.09	(-0.21 - 2.65)
Motivation to Prevent Diabetes						
1	21.55	4.69				
2	24.5	5.12	0.27	-1.148	0.272	(-8.48 - 2.59)

Impulsiveness and self -control						
Group	Mean	SD	Mean Diff	T Value	Sig. (2 tailed)	95% Confidence Interval
1	2.75	0.80				
2	2.69	0.48	0.05	0.17	0.87	(-0.627 - 0.73)

Psychological reactive						
Group	Mean	SD	Mean Diff	T Value	Sig. (2 tailed)	95% Confidence Interval
1	1.85	0.58				
2	1.93	0.50	-0.08	-0.33	0.73	(-0.63 - 0.46)

Treatment Motivation						
Group	Mean	SD	Mean Diff	T Value	Sig. (2 tailed)	95% Confidence Interval
Autonomous Motivation for Treatment						
1	5	0				
2	4.69	0.46	0.31	1.93	0.09	(-0.07 - 0.69)
External Motivation for Treatment						
1	3.48	1.37				
2	3.11	1.42	0.37	0.50	0.623	(-1.21 - 1.96)
Motivation for Treatment*						
1	18.44	1.37				
2	14.16	1.42	4.27	2.63	0.02*	(0.77 - 7.78)

Diabetes Prevention Scale						
Group	Mean	SD	Mean Diff	T Value	Sig. (2 tailed)	95% Confidence Interval
Response Efficacy						
1	4.35	0.39				
2	4.3	0.35	0.04	0.22	0.82	(-0.36 - 0.45)
Self-Efficacy						
1	4.75	0.26				
2	4.62	0.6	0.13	0.56	0.58	(-0.39 - 0.65)

Whole Person Health Score						
Physical Health						
Group	Mean	SD	Mean Diff	T Value	Sig. (2 tailed)	95% Confidence Interval
1	8.1	3.47				
2	5.25	3.73	2.85	1.67	0.11	(-0.76 - 6.46)
Emotional Health						
1	5.9	3.10				
2	7	5.76	-1.1	-0.51	0.611	(-5.59 -3.39)

Resource Utilization						
1	4	3.12				
2	4.75	3.37	-0.75	-0.49	0.63	(-4.00 - 2.50)
Socioeconomics						
1	8.3	3.12				
2	5.62	3.5	2.67	1.71	0.1	(-0.64 - 5.99)
Ownership *						
1	10.4	3.13				
2	6.5	4.07	3.9	2.3	0.03*	(0.30 - 7.49)
Nutrition Lifestyle						
1	11.6	2.54				
2	9.75	3.77	1.85	1.24	0.23	(-1.30 - 5.00)

Note: *p value was adjusted to p <0.007 the results of the independence test were not significant.

Analysis and coding approach

Pragmatism- Philosophical Assumptions:

The philosophical groundings of pragmatism were selected due to the practice-based setting in which this project took place and the purpose of the project. The intention of using a pragmatism approach is to understand "how" things work to find solutions (Creswell & Poth, 2017), fitting the dissertations' aim of exploring experiences, touchpoints, actions, and processes with the DPP program to recommend improvements for future developments. This philosophical framework has the benefits of not being restricted to one set philosophy or set research methods, often used when multiple data collection methods are used to best address the problem of focus and address the applicability of research findings to practice settings (Creswell & Poth, 2017). The findings from this research aim to bring awareness to the needs of participants in telehealth infrastructure and education programs.

Coding and Analysis

To start the analysis, four interviews were randomly sampled, picking numbers out of a cup (2 in Spanish and 2 in English) to create the code book. The first two interviews were coded independently by the author and the research assistant to allow for the exploration of emerging

codes and themes. This also allowed the coding interpretation of Spanish interviews to be verified and interpreted correctly. After coding independently, the author combined the transcripts using Atlas.Ti (version 22.1.3.0), and scheduled time frames to discuss patterns and observations.

An inductive thematic analysis was used to explore themes and codes from the interviews. The study used a mix of coding strategies such as exploratory, summative, and NVIVO coding. Exploratory coding is used when creating initial codes before refining and finalizing codes. Saldaña describes this process as the "first cycle and the second cycle of coding" as codes are being re-formatted and renamed as different codes and themes emerge from the data (Saldaña, 2016). Holistic coding uses one code to encapsulate the overall idea of large amounts of data to create possible categories. The other method used was middle order coding – this is defined as the middle point between being holistic (one code to summarize extensive data) and applying one code per line, aka "line by line coding" (Saldaña, 2016). This method is used when the researcher is familiar with the topic or in the preliminary coding rounds during exploration as it has the benefit of capturing large amounts of data, identifying the bigger picture, and saving time, allowing the research to prepare for more detailed coding later.

A total of two rounds of codes were done to generate the code book. To obtain reliable qualitative analysis, the author and research assistant both independently coded the transcripts to identify intercoder reliability (Given, 2008). Having two coders, improves the validity and reliability of results by creating transparency in the coding procedure and opportunity to discuss interpretations and reflections in the data (O'Connor & Joffe, 2020). The first coding round had an exploratory purpose of identifying themes and patterns. The second round of coding was used to determine if the original themes and codes remained; since most of the codes remained and minor edits were made to the themes, the coding process stopped after the second round, and the

codebook was finalized.

Round 1

In the first coding round, 177 codes were identified, and three major themes were found using two interviews. First, there were no significant changes or suggestions to improve the program as participants seemed to have enjoyed their experience. The second theme was that participants' connection with their coach was apparent in their reflections about their class experience. Third, participants felt their instructor was a good teacher, and the program team was attentive to them and their needs. Overall, in the first round, we found that the teacher was vital in making a difference in the participant's experience. At the same time, participants valued the information and opportunity to receive information regarding health and lifestyle change. After merging codes and removing duplicate codes, 80 codes remained.

Round 2

In round 2 of codes, 55 codes were added (135 codes total). The program's themes were sustained, and the new codes focused on language and cultural competency. For participants, the importance of language came up as it was important for participants to explain information in their preferred language. While for the cultural competency code, participants felt it was important to apply their visual and language needs to examples, course content, and education material. Three observations were found in terms of the differing experience of participants and coaches. The first observation was concerning mental health. For one of the coaches, it was essential to apply mental health exercises to improve participants' mental health and guide them into a positive mindset toward health and lifestyle change. In contrast, one of the participants seemed interested in a guest who could talk about myths, traumas, and legends they have heard about diabetes. While others seemed to be interested in having a psychologist as a guest speaker. The second observation was

the consent process. One of the coaches felt it was challenging due to issues with coordination and having to re-do the process later in the program, while for the participants, the consent process felt organized and well done.

Most of the prior codes were sustained, with some codes being merged or changed to fit the context participants expressed. After discussing observations and reviewing codes with the research assistant, the author finalized the code book and was left with 124 codes. A total of 13 code groups were created (pre-journey, during (enrollment and introduction), post-journey (classes), in-person cons, in-person pros, motivation, better (how participant and coach suggestions to improve the program), other (codes that do not fit the purpose of the research), telehealth pros, telehealth cons, and themes. The rest of the interview transcripts were coded and analyzed by the author. Minor revisions to the code book and overall codes and themes were sustained through the research.

Interview Limitations

The interviews were conducted between November 2021 to February 2022. One of the most significant limitations was the holiday season, as most were busy or traveling for the holidays. Another limitation that raised recruitment challenges was the second wave of Covid- 19 infections hitting the country. That could have presented financial challenges due to being in essential working areas and health and well-being challenges for individuals. Additionally, for many participants having to recollect their experience with the class was difficult as it had been a year since they finished the program, and specifics about the classes were tough to remember. Additionally, this was the author's first time doing semi-structured interviews. Thus, each interview participant was a learning process to identify and uncover unique nuances to their program experience.

There were also technology limitations that the author was presented with. Some limitations were due to technology, such as internet interruptions, audio occasionally going out, or sound being inaudible. For some participants, interviewing Zoom was challenging as they were not familiar with or comfortable doing it through the video platform. Thus, participants were given instructions, a Zoom call number, and a participant code. The author also conducted an interview using Google voice. One challenge is that the Google Voice platform does not allow recording of the conversation if one initiated the call. Otherwise, calls that come to one can be recorded. Thus, for that reason, the Zoom platform was used to record while on the Google voice call. When transcribing interviews, it was found that some parts of the interview were inaudible or skipped over in both the Google Voice interview and some Zoom interviews. Notes from the interview were used to piece together missing parts, while the research assistant served as a second ear to identify inaudible quotes in transcripts. Quotes and words that were inaudible were marked as so.

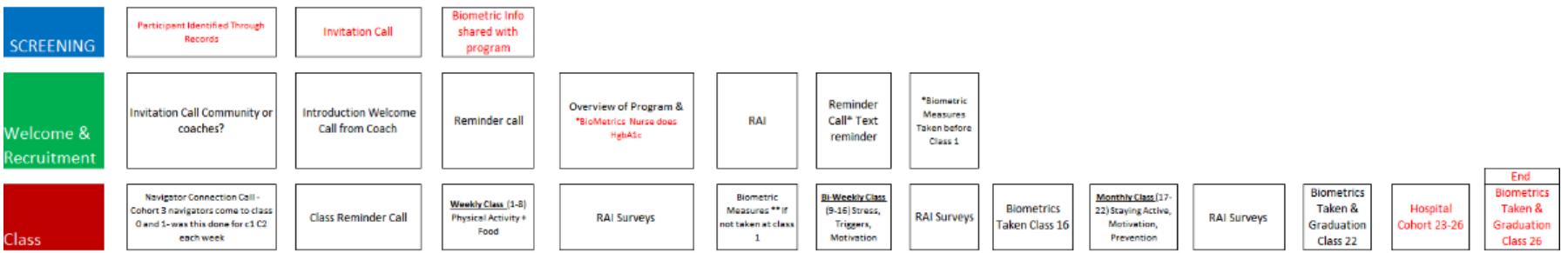
Customer Experience Map

After codes and themes were finalized, the customer journey map creation began. Based on the type of data gathered, a customer journey map that highlights steps where an organization might have the most control versus least control was created to provide feasible feedback that would make the most impact for participant experience. This style of journey map has been used by Keyster et al. (2020). The benefits of this journey map are that touchpoints are identified and labeled into three categories, high, medium, and low control, to identify critical stages where the most change can provide the most benefits. Second, the mapping journey was divided into stages corresponding to traditional stages in marketing research, i.e., pre-purchase, purchase, and post-purchase. Here the journey point stages were defined as screening, welcome and recruitment, and classes. This allowed for a more straightforward conceptualization of the journey stages. The map

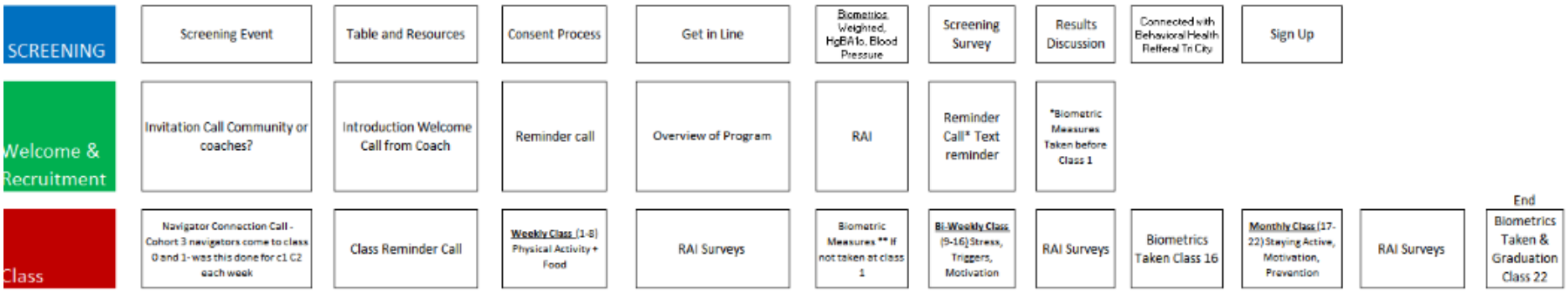
also highlighted “ordinariness”, defined as journey points that were extraordinary and stood out to participants. The map used a participant user-centered approach by highlighting recommendations and areas of improvement from the participants reflections and the author to improve the program experience.

Figure 3.2 CXJM of Community and hospital recruited

Community Recruited Customer Journey Map



Hospital Recruited Customer Journey Map



*Note: Red highlights the difference in journey experience

CHAPTER 4: RESULTS

A mixed-methods approach was used to understand the experience of participants. The chapter will first review results from the quantitative surveys, review attendance, and provide some themes that came across in the open-ended questions of the survey that asked what participants liked most and least about the classes. The qualitative results will do an overview of the whole journey map. The second part will review journey time points that were exceptionally positive or negative while also highlighting areas to be improved with recommendations from participants and the author.

The results from the quantitative and qualitative methods both showed satisfaction with the program and class content. Questions that asked about negative experiences with the classes were marked as “none” or “nothing” in the surveys, while in the interviews participants responded with “nothing, all good classes” or “nothing to improve, all well done” at different stages of the program. A second theme was that *guest satisfaction* in surveys showed the lowest satisfaction rating of 3.9 out of 5 compared to the other sections, while in interviews participants expressed an interest for guest speakers in nutrition and past DPP participants. The third component was the role that the coach played in the program experience. Satisfaction surveys at all three time points had an average of 4.81 out of 5, and participants described the coach as “caring and supportive” standing out in their class experience. Additional components that came up were how motivated participants were and thus enjoying motivation they received in the program see **table 4.1** for highlight of themes found in both methods.

Table 4.1 Mixed methods highlights of results

Topics	Quantitative (Satisfaction Surveys)	Qualitative (Interviews)
Classes interesting and useful	**4.75/5**	No changes/all good classes
Guest respectful	***3.9/5***	More Guest
Coach	**4.81/5** "Patience, approachability, energy"	"Cared about teaching", "supportive"

Additional Themes	• Motivation
	• Accountability/monitoring
		• Self-Motivation
		• Accountability
		• Interactive Components:
		  • Videos
		  • Discussions
		  • Activities

**Satisfaction averages based on the three time points. 1= Strongly Disagree~2= Disagree ~3 = Neutral~ 4= Agree~ 5= Strongly Agree*

Quantitative Results

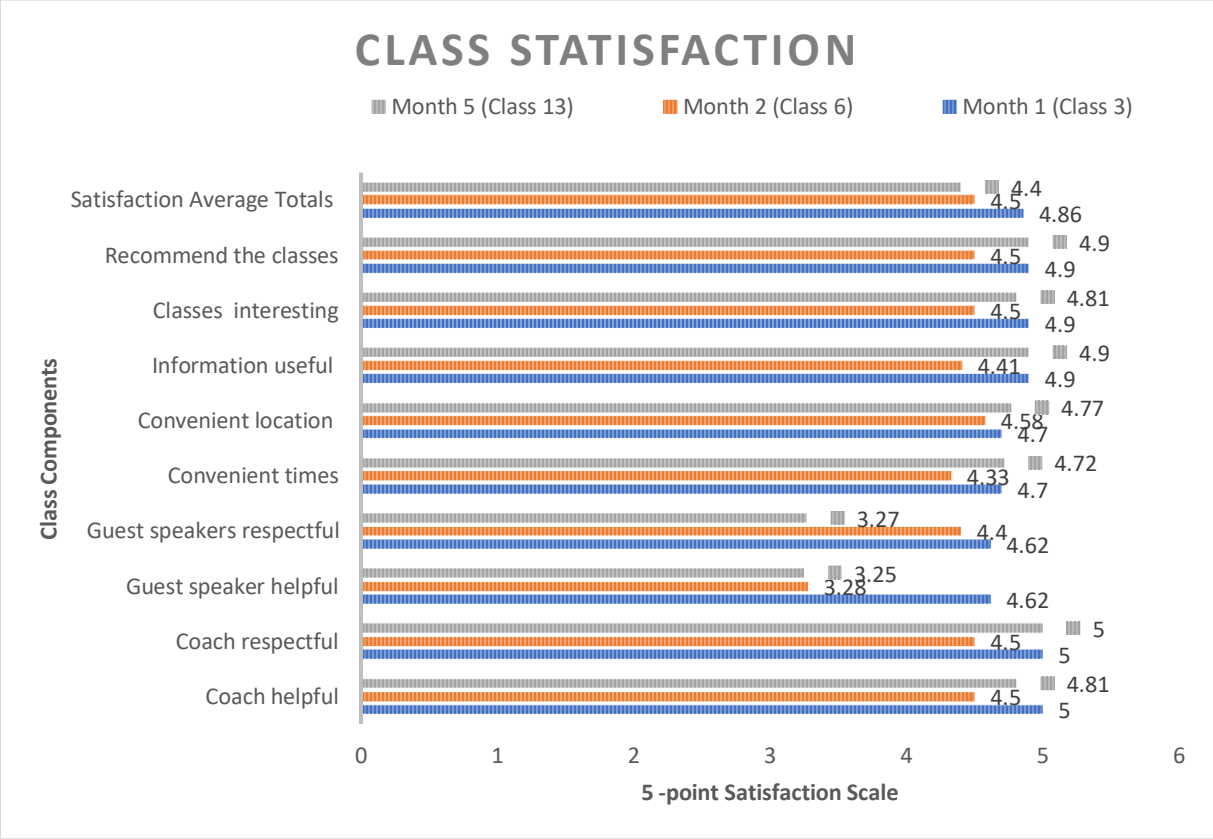
To inform qualitative interviews, quantitative satisfaction surveys used secondary data from SDIT. Participants from the project were recruited from community outreach and screening events in the City of Pomona. Participants were recruited purposively based on the following criteria: at least 18 years of age or older, not pregnant, or previously diagnosed with gestational diabetes, Body Mass Index (BMI) = 25 or higher, and HgA1c = 5.7 - 6.4%.

Based on the satisfaction surveys, participants were overall satisfied with the program and the class topics. Out of a total of 18 participants, 7 participants withdrew from the program, two withdrew after follow-up, while others withdrew in the following class sessions: session 6 (1), session 7 (1), session 13 (1), and session 16 (2). A limitation of this analysis is the small sample size. Thus, results cannot be generalized to the larger population.

Satisfaction

On average, participants were satisfied with the classes, satisfaction average had a score of 4.61 at all three points. The average class attendance was eleven participants for all three cohorts. See **Figure 4.1**.

Figure 4.1 Class Satisfaction



Month 1 (Class 3)

For class 3, participants indicated they liked: the ability to meet new people, "interact with new people," and support. The average response was "none" or "nothing, all is good" for parts of the class they did not like. While the second theme found was satisfaction with the information n= 2. Other themes found were enjoying the accountability, monitoring, and motivation they received.

Month 2 (Class 6)

Themes found in class 6 were the satisfaction with information received n=3. Other participants indicated that what they liked the most was the "good ideas" to exercise and eat healthy. While one participant suggested they liked the motivation received, another said they liked their coach's caring personality. Like class 3, not much was mentioned for components

disliked with the class, with the exception of one participant who said they would like more "unique meal plans" and more guest speakers.

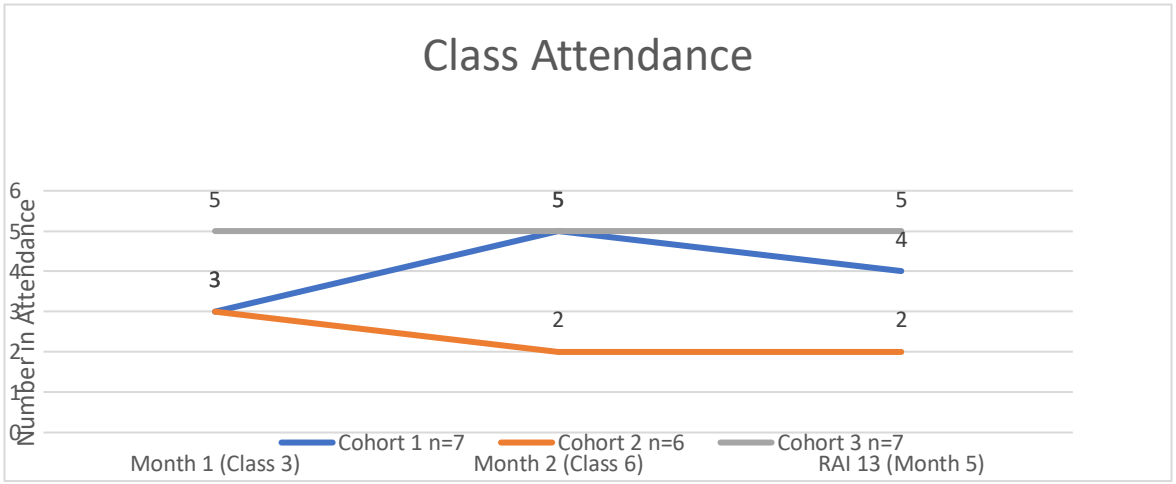
Month 5 (Class 13)

In class 13, what participants liked the most was their coach. For example, two participants mentioned they liked their coach was respectful. Others said patience, approachability, energy, and knowledge as parts they liked about their coach. Participants' third theme about the classes was the support aspect and the ability to make friends. The last theme mentioned by two people was that they liked that the class was short and that they could help others with what they learned in class.

Class Attendance

Overall, class attendance did not change drastically across cohorts. Remarkable, considering the impact the pandemic had on lifestyle change. See **Figure 4.2**.

Figure 4.2 Class Attendance



Qualitative Results

Overview of Journey Map (Map 1)

The CXJM was broken down into three-time points screening, welcome and recruitment, and classes. A total of 32 approximated touchpoints were identified from start to finish. Of these

contact points, only ten of these experiences were recollected from participants and coaches. Each category was filled according to how participants responded and what part of that journey they remembered. Touchpoints were then categorized and labeled according to the organization's ability to control the environment, change, and improve participant experience. Not all touchpoints had things that stood out, could be improved, or had recommendations from participants or the author. Organizations control to change was categorized as the following: red = no control to change participant experiences, yellow = some control, and green = where an organization has authority to change the experience. Lastly, those in white are activities in the journey map that are part of the journey map but were not discussed by participants. See **Figure 4.3** for **CXJM journey map touchpoints mentioned by participants.**

Results from Participant Journey Map (Map 2)

Information from the interviews was used to create a detailed map of participants' journey touchpoints. Participants were asked about the three-different time points and asked something that stood out to them and anything that could be improved in that time point. The following chapter will be organized as follows:

- Journey time point
- Process observations
- Exceptional Positive or Negative Observations by Participants and Coaches
- Neutral observations
- Improvement and Recommendations by Participants and Coaches
- Recommendations by the Author

The following summary will review each journey time point using quotes from participants and the coach's experience. The screening process has a total of twelve touchpoints. Of these, only five were recalled by participants. The enrollment and introduction time point had a total of nine touchpoints, and three were mentioned. The last journey point was class, out of twelve touchpoints, seven were mentioned.

Journey Time Point Results

Phase 1: Screening from Community Recruited

1. *Community Recruited participants from Screening Event*

Process Observations

Participants recruited from the screening event expressed different reasons for getting screened that day. For some, the well-being of their family and self was paramount. For others, a family history of diabetes was why they wanted to get screened.

> *"Yes, I was interested because, in my family there are people who have died from diabetes number 2, the class sounded interesting, and I wanted to listen and finished it because for me it is very important." Participant 2*

> *"I have a brother-in-law, he's done dialysis. And he's on the liver transplant because his two livers don't work. So, I don't want to go through that, you know." Participant 3*

For other participants, the reason to get screened was out of interest in the material and information from the classes.

> *"I decided to participate in the class. I thought it would be interested to learn more about diabetes" Participant 7*

Lastly, the third common reason to get screened was curiosity and interest in their health status.

> "*Oh, because I had already, like, my doctor had told me I was pre-diabetic...So I was just like, "Okay, I need to find out more, and maybe, you know, start doing something*." *Participant 4*

> *"I mean, I just try to keep up with my health as much as possible. Well, yeah, I mean, you know. If someone says, "Hey, we'll take your blood pressure." I was like, "go ahead." Yeah. I mean, you know. You want to keep an eye on it, make sure everything's okay." Participant 5*

Exceptional Positive or Negative Observations

At this journey time point, three things stood out for participants. The first was the guidance they would receive on health and lifestyle changes. Second, was the youth helping at the screening

events was something that stood out to participants and encouraged them to get screened. Third, an attentive team was something that stood out to a participant.

For one participant, not only were they interested in getting tested but also found it interesting that they could also get psychological help and guidance on healthy eating.

> *"Well, the first thing that stood out to me was that they were doing the tests. Later, what caught my attention was the help I could get, psychologically and morally. And also, guidance to like eating healthy." Participant 1*

Seeing youth volunteering at the screening event motivated participants to get screened. Some participants liked how they were working together. For another participant seeing a young person working with the community brought a lot of satisfaction. They felt valued and treated with respect by educated youth.

> *"Oh, I liked it because, like, they were different students right there, and they were willing to help you if you didn't understand something, you know, they had a nice system. And it was understandable. So, I liked the way they worked it out." Participant 3*

> *"I really like to support young people, to support those who are walking forward. So to see a young person doing that, that's like a satisfaction to see young people who are doing something and who are helping people, who are working in the community. That for me is great. To see young people treat you in that way [respect] although one is old or ignorant, they treat you the same. All of them were very kind to us and that is something for me very important that a young man treats people like this, because not many young people do that, even if they are in school. Sometimes they feel superior to you. and they are* not." *Participant 2*

An attentive team was something that stood out to participants. They felt the team was friendly and explained the process thoroughly and carefully.

> *"Well, everyone was very kind, attentive, and explained everything well how the exam process was going to be. How they were going to do it and everything." Participant 6*

Improvement and Recommendations from Participants

Nothing mentioned at this time point. One participant expressed that they had nothing negative or suggestions to improve as they were unfamiliar with the process. They said, "when

you're interested in learning will have you accept the information you are given" and hard to see flaws when you're interested in something.

> *"No, not really, because you don't know much. So, when, when you, when you look at people like that and you are interested in learning. You are surprised, okay. You cannot look at mistakes because you do not know much. A professional could have seen mistakes, or that they were not working well, but for me they did everything right. There wasn't anything that I didn't like. When you want to learn you can receive all that you are given." Participant2*

Recommendations

Only one participant mentioned a recommendation to have more screening events, perhaps every two years.

> *"For them to do it. Like, more often or, you know, keep, you know, like, every two years or something like that. Because, you know, people do change, you know, so that will be nice." Participant 3*

Author Recommendations:

The author recommends the following recommendations.

- Create partnerships and connections with clinics to inform community members of screening events.
- Create a list serve to get notifications of screening events.
- Partner with the city to have annual screening events.

2. Consent Process

The screening process was easy for most participants as people were helping and explaining the process.

> *"Well, it was easy for me. Because it was already there [forms] and someone helped me. And when I got a little stuck, I would ask them, and they would guide me. "Participant1*

For another participant, what made the process easy was how easy the forms were to join the program.

> *"Oh, it was easy, which is a form that I filled right there right then and there. And I don't remember too, too much about as far as you know, what they probably just the name and address, just like your regular little simple form. I believe it's been a while, and it's just like, "Oh, gosh, you know, I don't quite remember all the little details on that." Participant8*

Exceptional Positive or Negative Observations by Participants

Actions that stood out in the consent process were the process was well explained, either through explanation or in their preferred language. The second thing that stood out was volunteers' willingness to help and answer questions.

> *"Yes. They did it verbally and then in writing for them to read. But it's important to me to have the information explained because sometimes when I read or when they read I can't understand. But they explained exactly how it was going to be, what the process is like, what the exam was going to be, what the results were going to be like. It was interesting and well explained." Participant 2*

> *Well, everyone was very kind and very attentive and explained everything very well how the exam process was going to be. How they were going to do it and everything." Participant 6*

Someone helped out, and the organization was something that stood out.

> *"Oh yes, we had someone there to help out. Yeah, that was, I mean, organized. That was nice." Participant 10*

Improvement and Recommendations by Participants

While some participants felt the consent process was done well, standard, or what they expected (receive help and guidance).

> *"Well, it was done very well, but I wasn't so surprised, right? Because it's what I expected. The assistance was what I liked the most very attentive. There were two or three young girls there who were helping us." Participant1*

> *"No, I thought all the rest was good." Participant5*

For one participant, the length of the consent forms was mentioned as something that could be improved. Since they had to fill out other paperwork for the program, it felt like there was an unusual amount of paperwork.

> *"Um, no, not really. It was fine. I mean, maybe a little too lengthy. But other than that, it was, you know, it was okay. I think they were signing me up for the diabetes class at the same time, too. You know, so I think I filled out paperwork for that. So that's maybe why it was a little more than usual or something". Participant5*

While for coaches, the length of the process felt long. There were occasions when people would want to sit down and read the forms. At the same time, other people would not read the information in the consent form. Another coach described that the challenge was not only with the length but also having to re-do the process when a partnership ended.

> *"I think the always consents are long. I mean, I work in healthcare. So, I know consents are long, and not a lot of people would like to sit down and read it. They did explain, you know, what each area was. I mean, they gave an overview. They didn't read it. People didn't. I don't you know, obviously like anybody, you go in there, you sign a consent. You don't read the entire information, but they give them information. So, um, yeah, that's the only thing that I would say, you know, just consents are normally a little bit longer because they have a lot of information." Participant13*

> *" I feel like the paper was super cumbersome. And it was like, I know, we had to do certain things certain ways. But I feel like it would help a lot of people who are tech savvy or able can do the consent form…. we had different consents, and then [it] ended up being a hassle when everything broke apart, and we had to re-consent them. And I feel like we had to re-consent them again for something else, but I can't remember." Participant 12*

Recommendations

Participants and coaches both expressed having an online option. That way, participants can select the format they feel most comfortable with. At the same time, coaches suggested having the opportunity to send out the consent forms through e-mail and have participants read the consent forms beforehand.

> *"I like doing things electronically. And I think I had to fill it out by hand. But I know that in the program, there were a lot of older people. And I can see why they would prefer, you know, a hardcopy like to be filled out. So, I think I think the biggest thing is just giving I think the people participating have the option of filling that out either way". Participant 9*

Coaches

> *" Like I said, if we could automate it or make it online?" Participant 12*

> *"Maybe I would have e-mailed them the consent earlier. I don't know if that was done. I don't know if it was, but I probably would have e-mailed it in advance just for them to review so they can read it." Participant 13*

Another participant suggested having a group consent. That way, everyone could receive the information at once and make the process more streamlined than having to consent one person at a time.

> *"Well, you know, like, the people like, you know, we're willing, if you're not shy, or like, if it doesn't matter for people to hear I give the whole information to the group. And that way, they could fill it out at the same time. That way, you don't have to go do it one by one, you know, like one-by-one filling out the forms. when they go out, they have all the forms filled out and just get the blood work and it'd be faster." Participant 3*

The last suggestion was to reduce the number of forms and lessen the consent forms:

> *"Well anytime you could make it less, you know, less forms. That would be better". Participant5*

Author Recommendation:

- Shorten the consent form for more effortless reading with critical areas highlighted.
- Consider the number of forms that need to be filled out at each step to avoid form exhaustion from additional paperwork.

3. Biometrics

Process observations

The biometrics process was described as organized and quick. In this process, the HgbA1C is tested, and blood pressure and BMI are calculated.

> *"It was done very well. The team that came was organized and everything. They gave us an appointment, like every 15 or half an hour, because they were making the appointments for the people who did want to participate. They didn't make us wait it was all very good." Participant 6*

> *"Yeah, that there was a place, I could go and do that and not have to, you know, make an appointment and go to the doctor. And you know, so, to me, it was much easier just to go through that process." Participant 4*

Exceptional Positive or Negative Observations by Participants

The team was exceptional, professional, efficient, and well organized. Among the reasons given was that the team was very detailed in their work and took their time because the team knew

that this process was new for some participants. Another participant felt the process was thorough and friendly. They expressed that the crew was attentive in explaining each test.

> *"I thought it was exceptional. I imagine it was all students who came because there was an older person who was the doctor, but they all did it in a professional way and they did it in detail. They would give every step its proper time, whether it goes slowly or not accelerate steps. For me it was a very nice experience with young people." Participant 2*

> *"Well, I mean, the girls, you know, did the testing quite sufficiently. And I thought it was, you know, I feel that eye care thing and, and you guys, they're doing the blood pressure and the sugar test, or I think you did a few things. I think there were like at least three things, cholesterol, check too or something. And, I mean, it's, it's been like, four years since that day, you know, at least I think, you know, that that was pretty long ago, even the class." Participant 5*

One coach also mentioned how organized the team was and how thorough they in each of their actions.

> *"And it seemed to be very thorough. I wasn't part of the one. Actually, asking them the questions is doing all of that, you know, the screening, but I did, I was there too, you know, to view and, and see what was going on, but it looked like the process was very well organized." Participant 13*

Negative Observations:

Overall, the experience for participants with the biometric testing was good. The team was organized and explained how each step would occur. Only one participant mentioned that when they had to do the blood test, the first blood test did not work. Then they tried a second test, and the second test did not work for some reason. After running out of materials, they had to wait a few days to re-do them.

> *"The only thing was that the, when they did the blood test, turns out that the first one did not go well. And then they did a second one. And I think for some reason it also went wrong and then they had no more test left. There was no other test for me and I had to wait two or three days. That's the only thing. Because sometimes, for some reason, it doesn't go perfectly well." Participant 1*

Author Recommendations:

Although it can be challenging to predict the number of individuals who will get screened, I recommend the following:

- Approximate the number of potential participants and have a spare box of materials.
- Pre-order testing materials before significant events to have enough testing materials.
- Calculate an approximate number of participants expected to attend screening events and have extra in case some participants need to do the test twice.

4. Results Discussion

Exceptional Positive Observations by Coach

One coach mentioned the results discussion time point. After participants go through the HgbA1C test and blood pressure, participants are set aside to discuss and debrief their results. For one coach, what stood out to them was the team's professionalism as they took their time to explain the results and each step in the process.

> *"I think probably [them] sitting down with them and explain to them what it was done. I think overall, everything they did was great. But I think the just sitting down with them and helping them understand their information that came out, like the results, that was very, that was done well, everybody who participated there, felt that they were informed and went home, you know, informed of how, where they were on the results. And the people who provided that information. Very, you know, professional[ly] did it well. So, it was good." Participant 13*

Improvement and Recommendations by Participants

There is nothing to state on areas of improvement or further recommendations from participants or author.

Phase 2: Welcome and Recruitment

The welcome and recruitment phase has seven potential touchpoints. During these touchpoints, participants receive an invitation call, a call from their teacher (coach), and receive their first overview of the DPP program at the introduction class. In this first meet-up, the coach reviews the program, the purpose, and the class topics they will cover in the program. The first touchpoint in this process is the invitation call.

1. Invitation to program call

Process observations

For one participant, when they called them to participate, they were interested in learning about their health and well-being for the benefit of the family and themselves. If they can eat healthily, then children benefit as well. Additionally, the invitation call made them happy to be selected. They felt there was little information available from programs and were delighted to have been chosen to participate. At the same time, another participant shared the exact sentiment of happiness as it had taken some time to get them set up with the program.

> *Interest in health and well-being Participant 6*
> *"Then they called me, and we said yes to learn something for us and also for the family, right? Because it also includes the family, the children and everything, because if you eat and cook a healthy meal for one, then the children too."*

> *Happy to be selected – Participant 6*
> *"I felt happy because, ah the truth, there is very little information. Because the truth is that I had not heard programs that would give that information to you, then. To tell you the truth is that I felt, how is it? Well, glad that they chose me, chosen truth to participate in that, why. It's very good, really. It's very good."*

> *"I mean, no, it was good. It was fine. It's just because it had taken so long to get to that point that they[program] had a class. So I don't know if they [program] didn't have enough people at first. But it took quite a while for them to get the class up and scheduled. So I was ready for it". Participant4*

Exceptional Positive or Negative Observations by Participants

For some participants, the call to participate created excitement and motivation to participate. What stood out in this process for participants was the privilege to participate and the time the team took to look at their records and call them.

> *"Well, I was exceptional, because they [program team] looked at my score, and they saw that I was in danger to get diabetes. And they took the time to call me and see if I wanted to take advantage of that program. You know, so that was exceptional for me because, they're offering something good for me and at no cost. That was awesome. I was surprised, because, you know. I thought that was it. They told me my blood work, they told me your risk, you know, you should take care of yourself, but I never thought you know that they would keep me in mind and give me the privilege to call to be a participant so I could learn how to take care of diabetes." Participant 3*

Negative Observations:

None mentioned. One participant stated it was standard practice for the program to call and give information about the time and meeting location.

> *"It was just, you know, a phone call saying oh, we're going to be starting the class, and this is the approximate date, and then I think, later on, they call back it's okay, we do have a class, and it's gonna be at this location, and it's gonna start I mean, to me that's pretty typical." Participant 4*

Improvement and Recommendations by Participants

None recommended as the current process works well—no negative feedback.

2. Introduction and welcome from coach- No participant mentioned this journey touchpoint.
3. Class reminder call – No participant mentioned this journey touchpoint.
4. Introduction

Process observations

The introduction class was straightforward. The teacher impacted one of the participants on the first day as the coach was approachable. While for Participant Three, they enjoyed how the teacher explained the material and the small and friendly environment created with a small class.

> *"I mean, you, you know, you're just there. Listen, I was just basically listening, you know, to what the instructor was saying. And, and she had some handouts…And, you know, so it was, it was very simple…You know, she was a real people person. And she made things very just kind of like smooth transition and just, you know, you could talk to her, and she was very open with all of us. And, you know, it was just good, but I didn't have any, you know, like I say, I just kind of like, flowed into it." Participant 8*

> *"And then when I went to the class. I liked it, you know because there weren't many people. It was only a few that we were like seven or eight, I think it was, you know, and it was a nice, you know, the atmosphere the way they started explaining I really liked." Participant 3*

While the coaches liked the participants' engagement and the welcoming setting, the snacks assisted in socialization and communication with participants.

> *"I enjoyed that everyone was participating in the talk because a lot of them was also their first class. They were very engaged in listening, and, you know, having their own experiences of like what they did to try and, you know, reach their goal, but they couldn't*

get over like a struggle or something. So, it was pretty engaging that first class, I would have to say, and everyone was excited to be a part of this, this cohort." Participant11

"We also provided some, you know, snacks that the program provided, and waters, and it made it very like that social, you know, Open Day, so they could communicate and just speak up. So, it was a good first day." Participant13

Exceptional Positive or Negative Observations by Participants

In the introduction class, one of the things that stood out to participants was the coach. Participant Three, liked that the teacher gave them confidence. For Participant Five, the teacher's caring approach stood out and was reflected in how they taught the class.

"... she was there already, waiting for us. She give you, like, confidence. You know? I didn't feel like Oh, um, you know, "I don't like her, you know, it's like, this lady" and she was a young girl and you know, she was open, and she was she had charisma, like, you know, and explained carefully what she was saying and went through it." Participant 3

"It was fine. You know (Teacher name) was a very good teacher. Yeah, she actually cared about teaching the class. So yeah, I mean, the class was real good, I thought. ...She cared! You know, you could see that, you know, she cared about teaching the class." Participant5

The second thing that stood out was the location in which the introduction class took place. For Participant Three, the location close to home was mentioned as something positive. While for Participant One, they liked the location was at a church where they regularly meet at. The location allowed them to connect with people they already knew through the church and to meet new people.

"They had the time, and the place where they had it wasn't fair. It was close to the house, and the time you know, they really kept a good time also." Participant 3

"Well, what I liked was that it was done very well for me, it was where we regularly go to church in a hall and gather together. The class was with people we already knew and people we didn't know. I felt very comfortable, with people I already knew. And you can also meet more people." Participant 1

The third thing that stood out in the introduction class was the friendly environment. Participant Ten, liked that they were not put down for their weight and that, if anybody wanted to

share anything about their personal experience, the space was there for anyone who wanted to share.

> *"I think people are really nice and they're happy. I didn't feel like I was put down or anybody, you know, being overweight or being (obese) and it was I mean, she was the one in a place where everybody was comfortable to share if they wanted to, you know, it was not obligated. But, you know, if they wanted to share, and I thought that was very respectful because some people, they wanted to share stuff and some people wanted to share a lot so that, you know, it's okay, you know, yeah. And what is different, they wanted to keep it (low key). But when everything in the whole thing was nice, I enjoy it." Participant 10*

The last thing that stood out to a participant was the materials handed out. Participant Six, liked that the team took the time to print the material because it was helpful to refer too later. They expressed that they still keep the printed materials with them.

> *"Ah, well, the truth is that when we started, they said they were going to give us class handouts printed and all that. That that was very good. Excellent that they took the time to printing documents and so much information they were giving us here, I still have it. That was helpful to read it on paper later." Participant 6*

For one of the coaches, the organization of the team stood out to them.

> *" But the team was really on top of everything. They provided all the materials, like they were there helping me with the screening process. So, it went fairly smoothly. And at that time, I believe I had six or seven participants. So, it wasn't too big of a class that we couldn't handle… I think it just the team, the SDIT team was just very on top of everything, and they like very organized. So, they kind of made me comfortable in stepping into this role as a health coach, so that was like a highlight for me, I guess." Participant 11*

Neutral Observations:

One participant stated that they did not feel anything stood out to them as they did not have any expectations of what the program would be like.

> *"That went above my expectations. Um, no, I mean, I didn't. I didn't have any expectations. I didn't know what it was about, you know, I'm saying. So, I didn't have any great expectations. I didn't have any. You. I'm saying I just, I kind of flowed with it. You know, but I mean, but I'm saying not putting anything down best for darn sure." Interview 8*

<u>Improvement and Recommendations by Participants:</u>

Overall, most participants were satisfied with their experience with the introduction overview. For some, they felt the first meet-up was well structured. For another participant, they felt everything was well explained, and others felt everything was good.

> *"No, I think that first class was solid. I think I think it was well structured. I think there wasn't, you know, the fuzzing like again the first class was introductory so I don't I don't seem like too much. I don't have too much to say about the first day" Participant 6*

> *"Not really. No, for me everything was done very well. I liked the whole in the beginning of class , how it was going to be, how we were going to go step by step." Participant 9*

> *"Well, no, I don't see anything negative. Was done well, I liked it [classes]." Participant 1*

In particular, the coaches mentioned they felt supported and had all the materials needed to teach.

> *"I don't think so. I think everything was pretty good for that first class. So, we were all very prepared. I can't think of anything right now." Participant11*

> *"No, I think I think we had all the information. So, I think it was good. For me, I felt like the onboarding was fine. I mean, they received their calls. And they did show up on that first day. So, everything was fine there." Participant13*

Recommendations:

The first recommendation in this stage was wanting their teacher to be more direct. There were times when fellow participants would go on "tangents" or talk and shift the focus of the class. In instances like those, the participant shared wanting the coach to be direct and guide the conversation back to the class content.

> *"We had a person there in that group that always made us like late because they [would] go in and stand and do these long talks. So [they] to answer a question or ask a question it would take forever and like and the [coach] you know, she had I tell you, she had a really good patience. And then until we said, "can we go on? can we go on?" so I would like like for her a little bit to say "you know what, she had to tell them afterwards you know, can you stop we have to go on with the class". So for me I think, [I would like for coach] to be a little bit more, stronger you know, direct to persons that were there." Participant 3*

The second recommendation was for classes to be more diverse in age and gender. One of the participants noticed that there were not a lot of men in the courses and most people were around the same age range (older adult). They expressed that having a mix of people in the class from different age groups could provide a "refreshing" diverse perspective.

> *"So, the first thing I noticed was everybody seemed to be like, maybe late 40s. And like 50s in that timeframe. And that kind of made me feel good about myself in the sense of like, kind of starting early, like not waiting too late to like, actually try to make a change, like in terms of my lifestyle, and like eating habits, and like, you know, the whole diabetic thing. I noticed that there were more females than there were males. And I don't know if that's like an ego thing that like males have, they feel like they don't need to go to a program that like changes. I don't know what it was, but I thought that was interesting. But I think it would have been [good] to have more males in general, but also younger people that are in that situation, I think that would give more I think it'd be more refreshing because I think people deal with different challenges when it comes to their, their diet and like their lifestyle, that may lead to like different perspectives." Participant 9*

One coach mentioned the team's need for proper coaching techniques because other members would give out wrong information during their course. Additionally, the coach suggested having one-on-one time with participants to assist in the connection and trust building during the first meeting. Otherwise, the coach has to worry about building trust while also balancing class dynamics with other team members.

> *"There was one issue. I had a person and a couple of navigators that attended my class. And they, they were giving out kind of wrong information, as far as like nutrition. And then a person from the team was like, taking part in [the] discussion and like, making the discussion go in a direction that I didn't want it too, and it wasn't accurate information. And with measurement and eval team, they're supposed to be kind of out of sight, out of mind, you know, they shouldn't be part of the intervention, you know, when they're evaluating….I probably would not have had the navigators there for the first hour. And then I would have the measurement eval coming in at the end, instead of being there the whole class. So just give it like that first class, just giving the coach time to, you know, bond and build trust and get to know the participants without having to worry about three or four other people." Participant12*

Author Recommendations:

- Train team in proper coaching strategies.
- Train team and define team roles.
- Train teachers to have the skills needed to manage class and student environment.

- Advertise courses more broadly to increase recruitment.
- Create diverse class cohorts to provide different perspectives and experiences.
- Have cohort options for people to join different class environments (for example, an all-male vs. female cohort, older adult cohort, family, or mixed class cohort).

5. RAI SURVEY

Negative Observation

After classes, the SDIT program had surveys for program participants to complete. Once the introduction class was over, one participant mentioned a lot of paperwork in the enrollment phase. One participant said they wanted to learn the day of the introduction and do a hands-on activity. Since they are older, they do not like wasting time. They like to enjoy every day and live to their fullest potential.

> *" When I want to learn, I want to listen, learn and hands-on. You know, and we're too old to sit down and do all this paperwork. When we want action, we don't want to waste our time in filling out paperwork, we wanna live that day in full." Participant 10*

Author Recommendations:

- Condense survey(s) to be short and reduce survey items.
- Consider the amount of paperwork that is filled out on first contact.
- Evaluate what is necessary versus what can wait.
- Consider alternative survey formats (e.g., polls, interviews, diaries, calls, and discussions).

6. Reminder call or text for class – Nothing mentioned

7. Biometrics is taken before class 1- Nothing mentioned

Phase 3: Class

Participants enjoyed the classroom setting because they could ask questions and see examples evolve on the whiteboard. Some experiences were vague and thus could not be categorized to a specific journey time point therefore, they are in this section.

Exceptional Positive or Negative Observations by Participants

In this time point two participants mentioned that the teacher stood out to them. For Participant Four, the coach stood out because of their caring personality and openness to being

contacted. For Participant Five, not only was the teachers caring personality something that stood out, but also the preparation for each class.

> *"I mean, no, I enjoyed the whole class. I don't think one thing stood out more than others. I mean, I guess one thing was like, the (Teacher Name) was like, oh, even when the class was over, she would always say, "Oh, if you need anything, or, you know, if you just want to talk to me, you can, you know, reach out to me at any time, even though the class is now over ."I mean, she said it during the class, but even when the class was over, you know, she was, she said she was there to support if we needed her." Participant 4*

> *"Like I said, I just thought the teacher cared about teaching the class (Teacher Name) was good. She, you know, she was always on time, you know, prepared, you know, and I mean, that's what I thought was, you know, good about the class, you know, you could tell she prepared for every class, you could tell that you know." Participant 5*

Another component that stood out to one participant was the snacks offered in class. As the snacks served as examples of healthy eating and were a good way to be introduced to foods one had not tried before.

> *"When they would bring a snack to show us you could eat healthy. And since sometimes you say, "I don't like that, right?" But they would introduce food. Giving, us the physical example, but also with their actions." Participant 6*

Other aspects that stood out to participants were the digital tablets given for participants to use. For Participant Two, the program's willingness to send out a digital tablet demonstrated trust in them. That was important, as they felt you "can't always trust people will return them." For Participant Four, what surprised them was that the program was willing to provide digital tablets to participants. They felt it was an excellent opportunity for someone that needed it to continue the program.

> *Oh, "you don't worry, we're going to send you this." And they sent me the digital tablet. For me it was also a great help, a new learning experience. And the fact they trusted me and sent me the tablet; you understand me? Because you just can't trust anyone will give it back." Participant2*

> *"I guess what surprised me the most was that they sent the tablet back for me to use to attend …I had a tablet, and I could have just did it on my own. Did my own, you know so?*

But I mean, it just surprised me that they provided that, so I mean, for somebody who needed that, that would have been a good help, I'm sure." Participant 4

For one coach, what stood out was the cultural needs of the participants. Many of the questions they would get during the classes were related to what foods participants could replace in their dishes while also maintaining their culture.

"a lot of things that came up is what can we replace? From, you know, what we normally are used to eating as, as our, you know, background, you know, we're coming from our culture, right? Of course, [in] our culture, this is what we eat. But instead of eating this, what can we do to make it better? How can we eat healthier and still enjoy eating right? And so that kind of stood out, you know, really working on replacing some of the foods you're used to eating? Because that's just part of your culture. And part of you know, where you grew up with? And now you're transitioning to something new, something different." Participant 13

For another coach, the social connection stood out in the course journey. Regardless of the modality in which the courses took place, the social connection was something they were able to accomplish in both.

"Well, the main thing, whether it was when we were in person or online, was the social connection they made. You know, they got to care about each other." Participant 12

Lastly, what stood out to another coach was participant engagement. Some classes were late in the day, and participation was not always present. However, participant interaction and engagement made the courses fun making the class experience above the teacher's expectations.

"I think that, like, there were in some classes that were more engaging and fun, like the participants would be more excited about it. I thought that because sometimes they would, it was late in the day or after their work, or like, they're tired or something like that. So, there's not much engagement. So, in those classes, their full attention and engagement made me feel like it was above expectations." Participant 11

Improvement and Recommendations by Participants

To improve the class experience, one participant and coach expressed changing the location of the classes. In contrast, one participant suggested a preference for teaching lessons at the

hospital. At the same time, the coach offered a site with more natural lighting to keep everyone more awake during courses.

> *"I didn't like the location. I don't [know] maybe at the hospital, you know?" Participant 4*

> *"Maybe someplace with more windows? So that it is just like more natural lighting…I would also like, mornings would probably be better. Again, better natural light. Everyone just seems more awake the around like 10/11 ish. That's like about an hour [of] class. So I think that would have meant it was before lunch [time]. I think the location was like a church. It was very nice for them to provide us with the area, but I think just being stuck inside, and then it was later in the day. Some people were just very tired, [which] was like the fall months. It gets dark pretty fast. I think by that time, some people were just kind of out of it. So yeah, if I could change the location and the time...Maybe some place with more windows? So that it just like more natural lighting…mornings would probably be better. Again, better natural light. Everyone just seems more awake around 10/11ish." Participant 11*

Additional recommendations from the coaches were for more flexibility to adapt the curriculum. Sometimes they felt the material was dry and would like the opportunity to make it more fun and exciting for participants. Another reason for wanting to adopt the curriculum was to have the flexibility to be more creative with the curriculum and incorporate more mental health material. While Participant 13, suggested to record courses to provide opportunities for participants to review later.

> *"I think I would update the material a little bit because sometimes they would come off as a little dry. And I would try to make it more, I guess, fun and maybe add some more activities to just make it more exciting… I would have to use that material to teach the classes. I would try my best to create activities or use the material to engage the group, but sometimes they just weren't really into it." Participant 11*

> *" I was going to say because it was a research study we had, we had to have everyone, you know, it had to be laid out the same for everyone because of the RAIs. So it limited your creativity, as far as moving things around and doing different things and having guest speakers, and you could, but it's just you had to be mindful off…I probably would, like I said, "change the order of the curriculum". And then the more social-emotional stuff in the beginning, so I changed the order whether it was on Zoom or in person." Participant 12*

> *"Probably, maybe, recording the sessions might have been helpful. They could replay them later in the future. If they, if you know, they would have that opportunity. That would be good, too. Sometimes you're in a session, and you can forget, and it's always nice for you*

to be able to watch it again. Or maybe you weren't able to attend that session, in particular, so you missed out. And it's a good opportunity for you to be able to watch it and be still in sync with everybody else. When you get back to the following courses or whichever one, you're going in next." Participant 13

Recommendations:

Let participants teach a class. Two participants were excited when asked a scenario question: if they were a teacher, what they would have done differently. Two participants responded they would love to teach a course:

"Ah, yes, I would love to [teach]. But maybe I would need more training? Or another class to open up more, if you understand me? But I would love to do it.... But I would like to learn more how to do it, how to explain it, how to expose it. If you understand me? But if [had the opportunity to teach] I would love to be able to do it." Participant 2

"That would have excited me, motivated me a lot, or it would have also encouraged me because I, I don't know, have always liked to speak. So, if you tell me something that I could improve in class so that I could be the speaker, I would have liked the opportunity to study a topic and present it." Participant 1

Author recommendations:

- Update the curriculum to be more engaging for participants and coaches by adding at least one activity to each lesson.
- Create an engaging classroom environment. If possible, select a location that is well lit or a time and day with more daylight.
- Re-organize the chairs and tables, when possible, to create an open environment.
- Provide flexibility in the curriculum for coaches to be creative with participants.

1. Navigator Connection Call

Process observation

No participant mentioned anything about this journey point. The only comment said came from the coach, who suggested more follow-up with participants and their navigators.

"For them to stay connected with their navigator, I think we were expecting, a little bit more connection with their navigator. I mean, the navigators would call, but they [participants] were probably expecting a little bit more… Follow up. Some of them did say that they didn't get too much of that follow-up. And I think it's because they, they changed. Then they switched people that were supposed to be connecting with them. When we had navigators, the first navigators, they didn't end up being the navigators when we finished

the program. I think we switched out navigators, like two or three times. And so that made it difficult." Interview 13

Author Recommendations:

• Create time slots before or after class for participants to meet and connect with a navigator to create connection and comfort.
• Set follow-up times to talk after class throughout the program journey.

2. Class reminder call

Process observation

Participants did not mention this journey point. Only one coach mentioned this step, as they enjoyed communicating with participants and the opportunity to create connections. In the reminder calls touch point, the coach would always make sure to remind participants that someone would be reaching out to talk to them, and if they need anything, they would remind participants they were always available to speak to them.

"And then I would text them, you know, prior to, hey, you know, we're gonna meet up today, tomorrow, I'm just sending out a reminder, and I would send the group, I know, they would get calls, you know, I would tell him, I'm always available for you. You're going to get the calls from Uhm the program, somebody is going to talk to you, if you need assistance, make sure you talk to them. I can help you if you want to talk whatever you want, obviously, resources and all of that they'll provide all the resources that they can, if I can provide information, I go and just gather information from what I learned, you know, so, uhm yeah, it was a good communication." Participant13

Recommendations: No recommendations are suggested for this time point.

3. Weekly Class 1-8: Physical Activity & Food

Exceptional Positive or Negative Observations by Participants

In the weekly classes. The classes that stood out for participants and coaches were:

- Nutrition Class
- Counting calories
- Labels Class

Of the eight classes offered in the physical activity and food category, participants seemed to enjoy the courses around healthy eating and cooking. The top classes labeled as favorites were nutrition, counting calories for participants, and labels for the coaches. Receiving exercise tips was something that stood out to a few participants. The nutrition class was one that participants enjoyed. Although there is no class titled "nutrition," most of the weekly content has nutrition components. It may be that they enjoyed all the nutrition content in those courses. One participant said that nutrition was the main focus of their interest since they had put on weight. For Participant Five, nutrition was their favorite and something they wanted to improve. While nutrition was important to Participant Seven, it was essential to learn how they can eat healthier while trying to balance their stress.

> *"I guess maybe it was more like the nutrition, you know, because that's maybe, what I was more, you know, going into, or, you know, cared about, and not that I didn't care about the others, they just kind of all flowed together because its likes like the stress part, you know, and everything else, you know, are saying it's, it's all it's one and then the other, you know, it kind of like follows. To me, it's kind of like followed suit, you know, so they were all individually, I think, really good classes, you know, but my main one, because I put on weight, you know, I was more interested naturally, you know, in the nutrition, you know, that type of stuff, you know." Participant 8*

> *"I don't have a clue on that one. I guess I'm going to say that nutrition, the, my big thing was, you know, for like an improving, you know, the class I mean like I said, you guys did a really good job at motivating us and educating us on diabetes. Okay, that's what you know, I got out of the class, you know, that you guys were trying to achieve, you know, and the two other things, or, you know, the nutrition and exercise. Okay. So, yeah, that's, you know, so I'm gonna probably say that one of my favorite classes was a nutrition class." Participant 5*

> *" I guess you know, the best one for me was learning to eat healthier, which I already kind of know what to do because I do in, you know, I'm a veggie person. I do like my vegetables, but I think just learning to eat healthier, and maybe stress plays a big part in things too. I know. But I guess learning how to deal with your stress better." Participant 7*

Counting Calories was another class that participants enjoyed. For Participant Two, counting calories was one of her favorite classes as they did not have the mindset of checking

calories or food labels before purchasing items at the store. Participant One, also mentioned not having the mentality to reflect on their food choices and the classes helped them eat healthier foods. For both participants, counting calories was something new and they were glad to learn a new way of thinking.

> *"My favorite is learning. How to look for calories when you go to the store. Because, I didn't have that mentality of saying "okay, I'm going to check how many calories" and you learn that, how much you should eat or not eat, what you should buy and what you should not buy because you can eat, you can say "I can't eat this. But why can't I eat it?" And that's when you turn [what your learned]." Participant 2*

> *"The one I liked the most was when they helped us understand how to measure your food. And how to eat healthy. That helped me a little bit to open my mind, because sometimes one has never had education, like always eating whatever you have. And so, you kind of got a spark in my thinking and said "oh, I have to take care of this" ... How to measure food, was something new that I learned and there's a lot of reason in that, I also liked that there was always something there for like a healthy snack for, to eat." Participant1*

One of the coaches mentioned their favorite class was the one in which they discussed food portions and sizes. It was one of their favorite classes because participants were very engaged, and the topic was fun as it was related to healthy recipes and snack ideas.

> *"I think there was one class we started talking about, like food and portion sizes. And you know, what type of healthy recipes and snacks that you can provide, I thought that was my funniest class because it was about like recipes, and different snack ideas, things like that. So everyone was very engaged in sharing what they use and like. And then we would kind of knuckle down together and be like, Oh, which option is the best type of thing? So that was like the most engagement I had from my group." Participant11*

Another course that coaches found to be one of the favorites was the labels class. For a participant, it was one of their favorites because it opened their mind about their food choices and understanding how to read labels. For two coaches, the labels class was one of the favorites because the course was very interactive. The coach was able to bring different salad dressings and apply the content they were learning in class in a fun way. For Participant 13, the labels class was one of their favorites because they got to bring examples and participants engaged with the material.

"I want to say the favorite one when they had to do with nutrition and also to be able to read the nutritional labels, the nutrition facts on the food I think that did highlight a lot of it at least allowed me to be more aware of what I'm consuming. And it allowed me to make better choices ultimately. So that was the most impactful, and it was the nutrition side of things of that topic." Participant9

" But one of my favorite classes was when I brought in foods for them to try. And we were looking at labels, and it was interactive, and they were all excited. And like, one of them like just I brought in some different like, types of salad dressings, and one loved it so much. And the little peppers, like to the very end, she would be like I'm still eating my yogurt dressing with my peppers, you know, just it was just that practical, fun, interactive part. And then they got something out of it. They, you know, took to the end. [This class was one of the favorites] Because we could, you know, interact, and I could let them try things. And they could see, instead of it just being a slide or a handout, they could see what I was talking about or what the class was about." Participant 12

"You know what, showing them like actually bringing some examples, I don't remember which one was the, where we were showing the measurements and the foods. That one was pretty good. I don't remember which session it was or if it was the third or fourth, but that one was really good. And they were, all the participants were really into it. Wanting to, um, you know, learn and learn what the labels were and all of that. So that one was a really good class." Participant 13

Among the things that stood out for participants in these courses were the exercise tips they received. Participants enjoyed getting practical advice and being able to apply it at home. In comparison, another participant enjoyed learning tips and ideas on how they can exercise at home without the need for a gym.

"The exercise ideas of walking, do you understand me? It was impractical and I bought weights for my feet to do my exercises inside. Others for, like a bike, like I can't ride a bike, but I bought something for my legs which is something that's like a bike so all that mmm helped me the classes and I used it, bought it and used it." Participant 2

"What exercises like, then. Well, say "I don't have the time to go to the gym" I can do a little in the house without having to be spending or I can exercise with what I have like a chair or a few gallons of water. Get some exercise without saying, "Oh, I didn't (exercise) because I couldn't get out or I don't' have a gym." So the ideas they contributed or even when the girl (coach) there began to teach us how to do them at home. That was the one. One of the ones I remember best." Participant 6

Improvement and Recommendations by Participants

Participants expressed different areas they would improve courses by adding guest speakers such as nutritionists, dieticians, and personal testimonials. While other class components they would improve are the exercise class and classroom management to enhance the class experience.

Concerning a nutritionist, participants were interested in hearing the benefits of initiating a healthy lifestyle.

> *"Nutritionist, to talk about the benefits of eating well and how to start." Participant6*

> *"Knowledge in each of their subject matter. A nutritionist by a nutritionist would be perfect for me." Participant1*

One coach suggested a registered dietician, specializing in content for seniors or a registered nurse to provide tailored physical activity advise.

> *"Just different people in health and wellness. Like, um, you know, maybe some people who do physical activity for like seniors. So just give me someone who specialize[s] in that. Maybe having a nutritionist like an RD [registered dietician], I don't know because I didn't think about it." Participant 12*

Another guest speaker suggested was a dietician, because they could potentially cover areas of the class or show a healthy recipe. In contrast, a participant was interested in learning the physiology of food and understanding what happens to our bodies when we eat certain foods. Participant Seven, on the other hand, was interested in getting ideas of different ingredients they could buy to incorporate into their healthy eating routine.

> *"Maybe a professional dietitian could have come and talked to them about certain areas of the class. Or, like, someone who works in a kitchen could show them recipes, or something like that. I think that would have been fun for the group." Participant11*

> *"Maybe some people that specialize kind of in that field. I don't know if that's a field or something, but just that you are more informed about what's happening in your body. And like, why, you know, what the impact is ultimately on your body, obviously, having doctors*

and people that are obviously, you know, educated in that field will also be interesting." Participant 9

"like eating, you know, learning how to make your smoothies healthier. I like to know, different stuff like that...I put [flaxseed] in my smoothies when I make them and what's the other one with the black seeds, chia seeds, you know, a lot of different stuff. So I, you know, I'm trying to get more and more into buying different, you know, vitamins and all of that, you know?" Participant7

For coaches, the exercise class was the least favorite, as it was hard to identify if participants were doing their exercises. They felt it was challenging to motivate them, especially during the pandemic. For another coach, the exercise class was also the least favorite due to the pandemic social distancing guidelines making it challenging to teach the material in a fun and interactive way.

"I think it's like the exercising, kind of making sure that they do their exercises because not a lot of people are a fan of that. So trying to encourage them to exercise and tell them the middle portions of it, finding ways to bring it into their normal lifestyle. I thought it was just difficult to encourage them to do that…I think many of them weren't very motivated to do that. Especially when it was kind of like in the midst of COVID- 19 or, like, you know, it's coming type of thing. So everyone was just trying to stay home and then like finding creative ways to do exercising, it was just like, they weren't motivated to do that. So it was hard to kind of get through to them." Participant 11

"It was exercise one. And the only reason why it was the least was that it was when the Pandemic hit online. And we were in the group wanted to, like they were focused on wanting to uhm work [on] this together, and they wanted to start walking before class, and meeting up and just doing a walk. And that wasn't possible. And so the exercise part we just talked about it was online and Pandemic was a little bit harder. Those are the ones I found harder to teach because you can only share so much. And then obviously video content that you can share with them and just say, "Hey!, you know what, you could try this at home? because now that we're in shutdown mode, you know, this is what we can do" because we were completely shut down. So yeah, those were probably my least favorite to teach because they were a little bit more difficult." Participant 13

Classroom management was something that participants mentioned wanting to improve the class experience. In one instance, a classmate asked in class for specific exercise tips while asking repeated questions. While another participant expressed that classes would start late, which would frustrate them to have to wait for late people to come to class. Other instances where

classroom management would have been helpful are during discussions. One participant mentioned that it was hard to have conversations online because people tended to talk over each other.

> "*Yeah, I can't recall. Maybe the one I say is the one I like when they are telling you about. Oh, like repeating like, exercise or the to this person that you know, he wanted. He kept asking about the exercise, and she kept telling him, you know, where to go and how to do it. When she had to like go over stuff" Participant 3*
>
> *"And like I said, the first 15 minutes was trying to get people online. So that's like, another thing that was like, okay, like, come on, like, we're already starting, like in a bad, like momentum, if you will." Participant 9*
>
> *"Yeah. Cuz you're basically like there, there weren't much discussions. And if there were discussions, people kept talking over each other. So like, there'll be points where like, it would be a little frustrating." Participant 9*

Other courses that participants mentioned not enjoying were "burn more calories and track your food". Although both classes are very different, they share one common reason for being the least favorite. They both required participants to implement the learning and make it a habit. For participants, some of the learning tools did not feel practical enough to do daily.

> *Least favorite - Module 7: Burn More Calories*
> *"Probably the least favorite is burning more calories. Because you have to watch what you're eating, you have to make sure that you're exercising, you know, walking, You know, [what] I'm saying? It makes you think about stuff more. And so [I] was "like eh I hate doing that" [thinking] You know? but you know, you have to do it. I'm saying, and that's when I started walking with my neighbors. So, we would walk three times a week and, you know, go through all that kind of stuff, you know, so that will say that you know? We all did what we had to do. You know, but the least favorite. Yeah." Participant 8*
>
> *Least favorite- Module 5: Track your food*
> *"least favorite for me was like teaching you it was more about trying to build a habit of tracking your food, like what you're eating and stuff. And I know that's beneficial. But I think I just had a really hard time doing it consistently just because I'm super busy. And I'm like, always on the go. And it's difficult for me to like, stop and like, take 10 minutes to like, write down what I ate and like, how much I ate in that particular moment….it was harder to track, but it just it was time-consuming and like a little bit of an effort to like figure out or remember what I ate that day. Or even like trying to figure out, "okay, did they eat eight ounces of the chicken or did I eat like six ounces of chicken?". And then like I don't cook like that to where I can like pre-weigh everything to be like oh this is how much*

I'm going to eat so anyways, it was there's just something that I wasn't used to from like a habit like a building a habit standpoint to where I really like got the benefits from it" Participant 9

Recommendations from participants:

- Have discussion prompts/questions
- Videos: what's happening to the body, testimonials, exercises
- Testimonials from individuals who have done the program and who have not had the program.

Discussions, one participant felt there was not enough discussions and would have liked to have prompts or questions to answer. Otherwise, they felt the material was being read to them.

"To me, there was like a lot of reading the material…Well, I would probably have everybody read the material before they came to class and then, you know, have something in mind that they wanted to discuss, whether it was questions or different ways of approaching it… You know, I have the material in front of me, yet they were reading it. So, I don't know. I guess more of a discussion. " Participant 4

Many participants expressed interest in having videos incorporated into the curriculum. They wanted to see a video of a person who had taken DPP and another person who did not have DPP to hear about their journey and the steps they took in their health. It is important to note that some stated they did have videos in the online class, but perhaps they did not have them in the in-person course.

"Have people with diabetes giving their experiences. What is it? How were they? What steps or process did they take from what we learned in class and what steps and process did someone take who didn't have these classes. I would like to know that." Participant 2

Other video interests were related to videos incorporating what happens to your body during diabetes or when you eat certain foods. Videos explaining the process would have helped them visualize what is occurring with their bodies and understand and retain the information they were learning.

"Kind of like, as I said, like more, it more interaction more visualization of what's happening in your body. You know, how does one you know, basically what's happening in your body." Participant9

"Maybe like we're exercise videos or breathing exercises, anything like that, or maybe like an I don't know. You know, that could help sort us with our life better.… there was a show on the magic school bus. That teaches you about what's happening, like physically to your body, but it also gives you [the] context of what happens outside it like, like things that you're not even thinking about, consciously happening within your body. Like, you could be eating a grape. And magic school bus would do a good job of breaking down how your body's processing that grape, for example. And I think having videos like that, but more catered to, like, you know, if you eat foods that have high sugars, or if you eat foods that are high in carbs, or whatever the case may be, I think having a video like that would be I think, to be more interesting, like they would I would be able to retain more information." Participant10

Other recommendations made by participants were an interest in testimonials and personal experiences from people getting out of the pre-diabetic stage. They prefer to have someone they can relate to, rather than hearing from a subject expert, like a doctor. Another participant shared that it would have been helpful to hear from one person who had the program and another who didn't, to understand what their experience was like. While for Participant Three, they would have liked to ask questions to a diabetic participant about why it's so essential to make changes and hear from their personal experience.

"I think it'd be nice to have people that were successful and getting out of the pre-diabetic stage… you need people that are relatable as a guest speaker. So I think people that went through the program, and they ended up being successful, I think, would have more of an impact than doctors, because I feel like, you know, doctors are gonna tell you, you know, the same thing, right? They are doing it from a physician's standpoint, whereas somebody who has gone through it can relate more to people participating. Because I think it's a different struggle, right? It's easier to say, "you need to lose weight," than it is doing it." Participant 9

"A person without knowledge and another with knowledge. I would have liked that. Have people with diabetes and giving their experiences. How was it? How were they? Or why? What steps did they take?" Participant 2

"Somebody that knows, really like had the experience of not themselves, or maybe if someone else that knows what diabetes does to a person and how it's so important, necessary, for us to change the way we look at it. You know? That way, you could ask a question and that person because you could see their reaction. And say, "well, yeah, you know, I've seen that you know, I could tell you off hand, what, I've seen it you know, with my own eyes, what it does to a person "or "I'm living it, you know, with my mom with

somebody else a friend or whatever." So, I think a live person will be better than on video." Participant 3

Author Recommendations:

- Invite guest speakers such as nutritionists and dieticians to provide insight on what is happening with their bodies.
- Identify exercises participants are interested in incorporating into their lifestyle, interest, and needs.
- Assist in creating a plan to create a habit to exercise.
- Have practical tools to offer to track food and replace foods.
- Train teachers to create classroom expectations and rules for being late, asking questions, and engaging in class.
- Provide opportunities for participants to teach a class or lead a course section.
- Add engaging components: videos, activities, and question and answer sessions with past class members

4. RAI Surveys

Process observations

Note: There was some confusion about who was considered a guest speaker versus a guest in the classroom. Participants referenced team members from the evaluation team and navigation as class guests.

Most participants recalled guests (team members from evaluation) coming into class and felt they were friendly. Participants expressed team members were knowledgeable and willing to help answer questions and "take care of you" throughout the class. That was important for Participant Two, as team members would check in on them to ask if they needed help.

"Give examples, motivated, you know they enjoyed what they were doing" Participant 3

"Oh, I thought they were all really good. They seem to be, you know, knowledgeable. You know, they were, they were good." Participant 8

"Very friendly. They would sit close to us. And observe our expressions, and when they would see that you don't understand. They would come by and ask "Oh, you didn't understand?" Or "do you have any questions about what they're saying or explaining?" And they were there. I do not know. I liked that, because they were kind of taking care of you. Observing too but taking care of you. In case you need anything or didn't understand? And that for me was important." Participant 2

Improvement and Recommendations by Participants

Areas described needing improvement were related to delays, length, and team members distributing surveys. Although participants expressed finding the evaluation team friendly, many disliked the survey paperwork after courses. One participant mentioned delays in receiving the surveys and, as a result, having to wait during class or not receiving them in the mail. Other concerns expressed feeling rushed by the team member when trying to fill them out.

> *"You, the only thing is like when she had to be waiting for the students. The coach was teaching the class. Sometimes, she had to wait because they were going to come and give us paperwork that we had to fill out form the student. And sometimes we had to be waiting there. They weren't there. They show up late, you know? And we were like. She was done with the class. And "we were like, oh, you know, oh, he's on his way. He's coming" That could be improved." Participant 3*

> *"...yeah, like, if the girls, you know, like the women's were more like, you know, like, they will give examples, and they will, like, they're more motivated, like, you know, they enjoy what they were doing, they were doing. It was in their like because it was part of their class because part a part of what they were learning, you know. And then some guy, one of the guys, you know, really like, "Boom, Boom, Boom" was like, and I was one of the ones that also was to turn in the paper last because, you know, I was reading and, you know, and sometimes, and like, he was there, like, they're like, "are you done, you know?" Participant 3*

> *"Too much type of work, you know, was too much answering questions. Too much out answering and all that. And like I said, that's the only thing I'm not a more on hands doing hands-on thing learning hands-on doing? ... as older folks, we have to find the priority. And, you know, that's why I mean, like, make it fun, make it, you know, that way, it doesn't become like another class or another sort of package of questions." Participant 10*

One coach mentioned the challenges with mailing out surveys. Sometimes they would not arrive on time. Other times, participants did not have their surveys to do them promptly after class.

> *"Sometimes they didn't receive it, or they didn't have it. And I don't know if there were issues with the mail or when they were mailed out. But they didn't get their surveys in a timely [manner]. So, they could take the date off, the session, you know, after the session, they would do the questions for the survey, and then they'd have to fill it out. And some of them just didn't get the packet. So that was a little bit challenging in the mail piece for the surveys." Participant 13*

Author Recommendations:
• Reduce the number of surveys and assessments
• Shorten survey and assessments when possible.
• Change the assessment format (e.g., discussion, phone call, or polls).
• Hire staff that is interested in the work.
• Have team members talk and coordinate with one another to ensure they have class materials.

5. Biometrics

Exceptional Positive Observations by Participants

For two participants, the biometrics touchpoint was something that stood out. They felt that the program was checking to see if they were improving through blood tests. While another participant felt that the biometrics stood out as they thought the program was quantifying the participant's progress with the program.

> *"I also will maybe, they stood out that afterward they also came back and took our blood to see also to see where the range was and if there was an improvement or if we were going worse. I think that stood out because it wasn't yet the teaching they wanted to see if we were putting it into practice. If there was a change in our blood work, you know? So that stood out for being like, you know, it was like a complete service." Participant 3*

> *"But that was one thing that I wasn't expecting, that I thought was interesting. Just so that, you know, it gives, you know, it quantifies the progress that's being made in the program as people are taking [the class], you know, the information that's being provided and doing something with in terms of like lifestyle changes, and kind of being able to quantify, you know, the, you know, the progress, if you will, of individuals. I thought that was something that I wasn't expecting that I thought was more like a lecture and like, just like being told stuff instead of taking measurements, like tracking your weight, like your blood levels." Participant 9*

Improvement and Recommendations by Participants- None Mentioned

6. Bi-Weekly Class (9-16): Stress, Triggers, Motivation

Improvement and Recommendations by Participants

Only one participant expressed interest in a guest in financial class to help reduce their stress levels.

> *"Well maybe we'll economics or for the market, you know, like stocks or, you know, a lot of worries and bad eating comes from me (from worries). I am talking about me. Just*

sometimes, when I am stressed, I tend to eat. So, if I see my account is low, I want somebody to help me, you know? Now, and that might reduce my stress, to give me some of the ideas. We don't know, were older folks. Somebody might have a better budget system than I have. And I'm struggling, and if they share that. That'd be awesome. You know, and my stress might come down, and my eating might come down, and I think more about my health and then budget." Participant10

While the coach recommended for the ability of courses to be adapted and have a greater focus at the beginning on mental health and motivation levels.

"Because I think that the curriculum jumps too fast into the dieting aspect, and it's just diet, more diet culture than people are ready for. Generally, someone doesn't even know they're pre-diabetic. And when they find out, they're like, whoa, and then they come in, and they're not, it's not necessarily that they might have sought this out on their own. But they find out they have that A1c see, and either their doctor or somebody tells them, hey, you should go to this class, their mindset, they're not ready to like to lose 5 to 7% of their body weight. And so, I like doing that other work because that's what it takes to get your head, right. And then after you kind of have a good space in your head, you can work on other things." Participant12

Recommendations from the author:

- Adapt the curriculum to assess where in the stages of change participants are at.
- Based on stages of change, create cohorts with similar motivation levels.
- Adapt the curriculum to meet participants' personal goals and needs.
- Assess participant's need and connect with community resources to help with financial literacy.
- Connect with community resources to identify additional sources of income.

7. RAI Surveys – Nothing mentioned

8. Biometrics taken – Nothing mentioned

9. **Monthly Classes (17 – 22): Staying Active, Motivation, Prevention**

<u>Positive Observations by Participants</u>

Not many participants mentioned this time point. Only one participant mentioned enjoying the motivation class, and one of the interviewed coaches expressed joy in discussing stressors and motivators in their courses.

"Maybe the one that I liked the most is the one when they say you like, like to never give up, you know, to keep on trying, you know, like to if you have to exercise them, and you miss one to keep on going, like, and if you're eating, if you mess up on you're eating, too,

don't [quit] keep on saying" Oh, well I messed up, I give up on it, now go back and start again." Participant 3

"Online, I liked when we talked about identifying barriers to their goals and finding solutions with each other. I liked that and liked a lot of emotional work. So identifying triggers, finding social support" Participant 12

Recommendations: None suggested.

10. RAI Surveys - Nothing mentioned
11. Biometrics taken and Graduation - Nothing mentioned
12. Hospital Cohort 23-26 - Nothing mentioned
13. Biometrics taken and Graduation - Nothing mentioned

Overall, despite the time since completion of the program, most participants were able to recall their experience in the classes. However, experiences related to screening and enrollment were not as easily recalled. The map experience of participants was integrated with the hospital and community recruited participants, as differences between recruitment methods did not significantly create differences in program experiences with the classes. Only one experience at the hospital time point was recalled from one participant at the screening phase.

Hospital Recruited

Phase 1: Screening at the Hospital

1. *Hospital Screening: Participant Identified through records*

The first point of contact is the screening process. Of all the participants, only one mentioned they were contacted through hospital records. The only recommendation expressed was having the option to do the paperwork at home.

"No, I think the paperwork was filled out at the doctor's office in real-time. So it would have been nice to do it at home. I mean, [it] went smoothly. It was just questions and, you know, filling out paperwork, it was straightforward." Participant 9

Author Recommendation:

Although an organization might not have a lot of control over how paperwork and recruitment is done at other facilities. Some options that can be considered are:

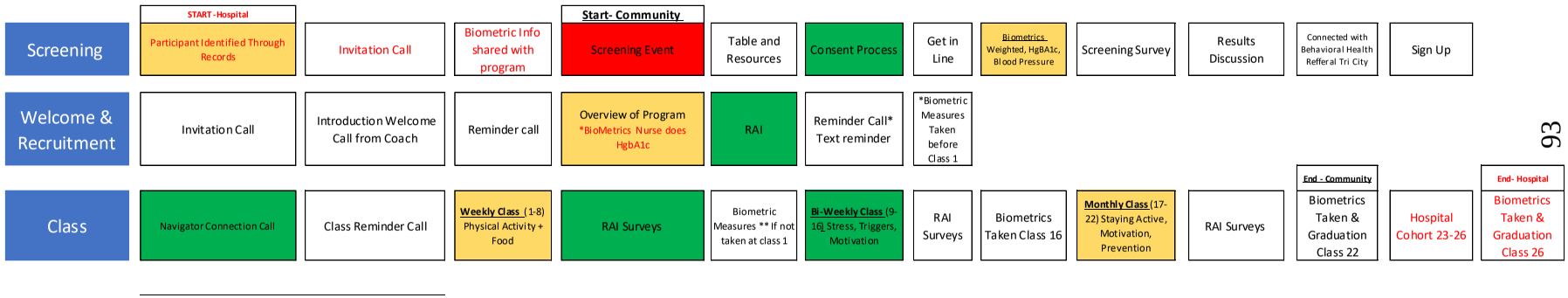
- Options for participants to enroll at the clinic.
- Register at home using an online link.
- Have a sign-in sheet to connect with someone from the program at a later time.

Conclusion

The CXJM was a participant centered approach in identifying touchpoints and process that were either exceptionally positive or negative. Dividing the map intro three categories was useful in assisting participants with remembering the journey from start to finish, conceptualizing key time frames, and facilitated the identification of touchpoints participants were referring too.

The CXJM had a total of 32 possible touchpoints. However, after analyzing participants experiences, only 4 touchpoints would benefit the most from making changes. At the screening stage, changing the consent process to be shorter in length was the most mentioned and was categorized in green as an organization has the control to edit and facilitate these forms. The second stage, welcome and recruitment, the RAI stage, was commonly mentioned as an area of improvement. This section was also labeled in green as the organization can be creative and change how assessments are done and identify when to best distribute. The third stage, classes, two time points could benefit from changing and that was the RAI assessments, and the Motivation, Stress, and Triggers classes. As these were areas the organization can change by adding activities and engaging components. Overall, the CXJM was a useful tool in creating not only a clear visual of key touchpoints to change but provided depth in each touchpoint to improve experiences for future participants.

Figure 4.3 CXJM of Touchpoints mentioned by



Map Key
Organization has no control
Some control
Organization has control
Activity in journey map -not discussed by participants but part of the journey

*Note: Red represents the hospital recruited journey

CHAPTER 5: OVERVIEW OF CENTRAL THEMES OF THE STUDY

Interviews conducted with participants and staff provided rich detailed information regarding their experiences with the program. The following summary will highlight three central themes that came across participants regardless of timepoint mentioned or where they were recruited from. The first major theme was how motivated participants were to participate and complete the program. Many participants expressed interest in the class topics and material and where eager to complete the program. Second theme, the reactions to the overall program experience were positive, when asked about areas to improve the program participants expressed enjoying all of the classes and the material learned. The third theme identified focused on program improvement, participants shared specific and concrete areas to adapt and enhance the curriculum. Participants shared interest for activities and interactive components to make the classes more engaging and culturally competent. Wile also sharing interest for guest with backgrounds in nutrition, mental health, and past program participants to share their experiences to prevent type 2 diabetes.

Theme 1: Participants were self-motivated to participate and complete the program

Overall, most participants were self-motivated. When asked if anything could have discouraged program completion during the pandemic, many responded that there was nothing that could have prevented them from continuing the program. The typical response was “when I start something I like to finish it." For Participants Two and Three, what motivated them to continue the program was having family members who had experienced dialysis or liver transplants. For them having access to information and education was very important.

"Well, I want to finish, you know, if I start something, I like to finish." Participant 5

"Because I started something, and I didn't want to quit. I wanted to finish it. Finish what I started." Participant 7

"And thinking about switching from in-person to online, what encouraged you to continue the program during the pandemic? Participant: I wanted to finish. I wanted to know that I completed it." Participant 3

"Eh what motivated me the most, was my dad. I tell you because, I can't stop learning. my dad was already going on dialysis. So I said, "I have to, even though I'm in a pandemic, I have to continue, I have to keep going, not stop. Not only for my dad, not just for me, but for all those people who are there and who do not know how to eat." ... And that motivated me to continue in the pandemic. No, not because I'm in the pandemic, I'm not going to do it. You don't have to continue! Because there are people who really need that. They need those classes." Participant 2

"Did I have a brother-in-law? He has done dialysis. And he has, he has some he's on the liver transplant because he's two livers don't work, you know. So, I don't want to go through that, you know." Participant 3

Throughout the program experience, participants were highly interested in guidance and lifestyle change support. In the screening journey touch point, interest in receiving health guidance, advice, and nutrition support were among the reasons participants got screened. Other reasons for getting screened were self-interest in their health and well-being and their family. This interest could have been why the class topics were all interesting to participants in the interviews and the surveys. As they enjoyed the different topics and thought all the classes were good.

For many, it was hard to identify a favorite or least favorite class.

"You know what, I liked them all. Because I liked the different you every time it was something different to learn, you know?" Participant 3

"Um, I guess the favorite one, well, I didn't have no favorite one that was all good to know." Participant 7

"Interviewer: What was your least favorite class? Participant: I really didn't have one. I mean, I wouldn't, I wouldn't know and when yeah, now they were all fine. You know?" Participant 5

Theme 2: Overall, reactions to the SDIT program was positive

When participants were asked for areas of improvement in either the screening, enrollment, or class journey, many expressed they didn't have any suggestions. Participant Seven, felt there was nothing to improve since the program worked for them. Participant Six, also could not find anything to be improved as they thought the program was excellent as it was. They felt that the program was very detailed and would enroll again if they could.

> *"I don't have any suggestions. I thought the program was it was good and it worked… I just appreciated everyone. And it was a good experience for me. It was something new and different. Yeah. So like I said, I don't have anything negative to say about the class. I did enjoy it. If I didn't, I wouldn't have stuck it out. I did as long, and I would have quit a long time ago. But I hung in there." Participant 7*

> *"Interviewer: Was there anything that could have been improved? Participant: Not to my knowledge, no." Participant 8*

> *"Well, the truth I don't know, to me the whole program was excellent. Everything was fine, everything was organized. Well detailed. So, for me it was good I don't know. I could not give suggestions. If they returned me to the program, I would participate again." Participant 6*

A positive experience could have also been why participants did not always mention a favorite or least favorite class. Another subtheme under why participants found the program to be good is the attentive program team willing to help participants. The SDIT team was something that stood out for participants in the differing journey points along with their assigned coach. The screening team was described as "professional, efficient, friendly, and humble," while other team members were described as "detailed, taking care of you, or excited for their work," motivating participants. In the different journey time points, the coach stood out to participants. The coaches caring and approachable personality made participants feel welcomed. Some also felt the coach was not only a teacher but served as a leading example of how to eat and lead a healthy lifestyle incorporating their personal experiences exercising and healthy eating.

"Well, because of how she also tried (coach) and did it in her house. They set an example with us at home." Participant 6

"The recipes, like I said, was the only real thing that you know, it was you know. I don't know. It just never cured cure. You know. And like I said, once I suggested that the (Teacher Name) she did give us a handful of recipes, you know, and she came up with a few things over herself too, you know, I think she looked, [because] she cooked, because she eats healthy too, you know?" Participant 5

Theme 3: Participants identified specific, concrete areas to adapt and improve the program

In the journey map, all three coaches mentioned wanting the flexibility to adapt the curriculum. The curriculum sometimes felt "dry," and thus would have liked the flexibility to be creative and make the material more engaging. For participants in the journey map, they described an interest in more activities. These activities ranged from cooking classes, food sharing components (bring a salad to share or cook a healthy meal and share your experience), and exercise activities (dance classes, walking together, doing stretches). At the same time, coaches and participants shared an interest in having practical activity components to make the lessons more fun and interactive. Suggestions ranged from hands-on activities and games to treating the class as a science class. See **Table 5.1** for examples and quotations from the activities participants and coaches suggested.

The second sub- theme in this category was the inclusion of guest speakers. Among the guest speakers mentioned in the journey map were the incorporation of a nutritionist, mental health support, testimonials from participants, and trainers/coaches to provide exercise techniques tailored toward seniors:

"Maybe some people who do you know, physical activity for I had a lot of like seniors." Participant 12

"And that well, and I guess, would be more the fitness coach to deal with exercising far as you know, getting started exercising and for older people, what are good exercises and you

know they need thing, most of my classes. My class was well, yeah, above 50. So, you know." Participant 4

"Somebody who can show proper technique on working out." Participant 13

Culturally competent material and resources was another subtheme in adapting the curriculum. Some of the participants and a coaches suggested wanting options in the language the curriculum was taught in. They would have liked to have more support to identify materials and resources in the language participants preferred by participants. One participant was bilingual and would have liked a coach that knows both languages. For another participant, a diverse class cohort would have been beneficial to hear different experiences as it can broaden ideas to formulating a healthy lifestyle. For Participant 10, consideration of culture would have helped them with a transition to healthy eating.

"I would love for them to have more, people like bilingual and more people. More ideally, the abilities to have more of those classes, you know, to the people that don't know English… some people like us, like, we speak English and Spanish, but there's sometimes like, you speak both, you know? And, like, I wish that the person that was right there could do both. Participant 3

"I think, is having more diverse, like demographics to share their experiences. Because I know like, I may have different lifestyles or even like, you know, home life situation and somebody else. And maybe they can be more successful at losing weight or eating better because maybe they have a different routine or a different dynamic within their household that will allow them to do that. And maybe it allows other people to like think, or is that something that I can implement? Or is that something that you know I can try to do that'll allow me to be successful as well. You know what I mean? So I think having that I think more, a more diverse demographic, may benefit the group in its entirety. So maybe it makes sense. And I don't know if this goes against your guys' research or your studies, but, you know, basically, cherry-picking people to be in certain groups. So that way there is more diverse people in that group or in that class." Participant 9

"I think is focusing in our culture. Yeah, so I think that's where, where my weakness was where I'm talking about my weakness that I come home and yeah, we'll talk about this night like reading this, what it contains. How much sugar on the and then when I go to the grocery shop, well, well, let's get that. Let's try this. But, you know, it is breaking how we can learn to break those habits of culture." Participant 10

"Finding content in Spanish is always a little bit more difficult. And you want to, you know you want to share the information in their language. So some of the stuff was, I wasn't finding some of that content in Spanish. So that was a little bit more challenging."- Participant 13

Conclusion

Similar results from the satisfaction surveys came up as themes in the interviews. Just like in the surveys, the coach was something that stood out in the program experience. At the three-time points surveyed, no areas of improvement were mentioned. At point one, the main thing that participants enjoyed about the class was the information they received. This could have been why there were no areas of improvement reported on the satisfaction surveys and in the interviews. Most participants enjoyed the class experience and an environment to meet new people. As for guest speakers, both in the survey and the interviews, there seemed to be confusion about who was a guest and who was not. Although there were no guest speakers, in the interviews, participants were interested in guest speakers that could talk about nutrition, exercise, mental health, and personal testimonials with diabetes.

In the journey map, the touch points where the SDIT program can make the most impact for future participants was the consent process during screening and RAIs during enrollment. In the class journey, the navigation connection, class components, and RAIS was where the program can make the most impact. In the classes, most participants' suggestions were for the incorporation of interactive elements, whether through an activity, game, discussion, or group exercise. The journey point that had the most positive impact and experience for a few participants was the invitation call to participate in the program. For some, it indicated an opportunity to access invaluable information, while for others, it showed that the program was dedicated and cared about their health and well-being. Another time point that stood out to participants was the biometrics

touch point; it was surprising for participants to receive materials to do their test at home. While also tracking their progress towards better health outcomes.

Table 5.1: Activities to adapt and improve the program

Theme	Sub-theme category	Frequency	Suggestion	Example
Adapt Curriculum	Activities (cooking)	3	Cooking demos	"I feel like we need that cooking component that some I've seen other DPP programs do it. And so it was difficult for us because we had no budget. And then we also didn't have them, we didn't have anyone doing like the cooking demos, that kind of thing that we could have kept up online. Going back, like, if I were to go back through and start another one, I would have that inner I would look for an interactive component within each session, and you know, have it ahead of time and because I just think that they prefer, like practical things that they can try" Participant 12
			Requirement to cook one healthy meal	And then you [can] ask us, you know, during the class, you know, "what meal did, we cook, you know, you know, what healthy recipes did we cook? You know". Maybe have a requirement like [that], you know, we're forced to exercise, I think it was you guys had us, [do] 30 or 40 minutes … But if you could have like one of the requirements too, you know, cook one healthy meal a week" Participant 5
			Cooking class	"make a cooking class, you know, and you say, my personally I am Latina, and you know, Mexican, but I was raised here, and I noticed that our culture they didn't want to let go of the habits … we have to cook with this kind of oil, or we don't cook with lard anymore. We don't cook beans with this, or fry this with this. And so, the flavor changes, so we have to end the end, that's thing. But if it was, like, cooking class in there, we're supplementing more hands-on things. That's what I thought would be more, you know, because, you know, nobody knows. I learned cooking by my mother, whether she did it right or wrong, I still learn you know?" Participant 10
	Food Sharing component	4	Salad to share	"A salad or something to share that is healthy. Because the truth is, sometimes I've looked at them mixing like fruit with vegetables and I sometimes say "no" But ah, lately I've tried them. Well, I bought in a restaurant, right? Salads with apple and spinach and chicken then all mixed, right? Fruit, vegetables and meat and it is so good. Then, that would have changed, or I would change sooner. So not just talking to use and showing us photos." Participant 6

			Favorite healthy dish	"One thing I was looking forward to, that we never did get a chance to do. Um, it would have been nice if each person in the class, before the pandemic happened, could have brought one of their favorite healthy dishes to the class. That's something I would like to have done; you know?" Participant 7
	Exercise Physical Activity	4	Dance class	"I have to say salsa maybe, I don't know. Like, line dancing, I don't know… You know, something easy to it. line dancing team can add to their extra classes…something, to get your, your body moving… doesn't have to be like, "wild or anything, we think maybe, you know, get involvement"…. So, if you make it fun if you make it interesting. You know? people will come so, you know, that's a thing. What? Anything that we do, you know, whatever age it is, if it's young or old, whatever, you know." Participant 10
			Walking together	"We did like we did a walking one. And everybody liked that. Were we had one of our coaches that has done like walking videos. She had everyone like, take your phone and go outside and let's walk together and they liked that one. Like I said that more active interactive." Participant 12
			Go outside do stretches	"I think maybe if we had like, if it was an activity, like an exercise in class, maybe we could have gone outside instead of just being stuck in a room and we were kind of like marching in place type of thing. Looking up like YouTube videos for ideas. So, I think kind of going outside and maybe doing some stretches things like that that would have been better to catch their engagement" Participant 11
			More physical activity	"For me, that's what I would like, you know, the importance of, of the exercise, you know, I'm saying of movement of, you know, walking of, you know, just activity, more physical, physical activity, you know" Participant 8
	Practical and Fun	10	Older adult activities	"Maybe adding a little bit more other people (guest) you know .., the people that came in to give little you know talks about this or that you know something with more, for older adults. …Yeah, a few more guests or something like that you know to do with you know, to do activities and you know, getting out there and you know, doing something instead of sitting in front of the TV." Participant 8
			Treat it like a science class-group activities	"Like I said more like you know, treat it more like a science class guest speakers would have been nice. You know, have more interaction, more group activities, you know, depending on the time of day maybe you know, as a group kinda maybe everybody does like a walk around the park or something if there's something nearby, I don't

				know, like just being a little bit more interactive in like I don't know like stuff like that" Participant 9
			hands-on activities like my plate activity	"I think if there were if I like some classes that I created certain activities that they were like hands-on like with my plate, we provided them with like everyone with little plates and like food models that they can create their own healthy plate and then we will talk about it. I think in those instances it kind of stuck with them a little more than just like watching me teach them about certain …I'm just a lot more activities where the patients can be used their own personal experience in creating something …. like an actual box or something then I think for them it just made it, stuck to them a little better than just reading off like the material." Participant 11

CHAPTER 6: WAS THERE A MEANINGFUL DIFFERENCE BETWEEN IN-PERSON AND TELEHEALTH?

In-person class and virtual delivery created different experiences for participants and coaches. The following will provide an overview of what participants liked most about the in-person and telehealth class experience and disadvantages mentioned by participants to both modalities. **Table 6.1** below provides an overview of the experiences to be discussed in the current chapter. The chapter will be divided into two sections the in-person experience and the telehealth experience. In each of the experiences the chapter will first review the advantages of that modality followed by the disadvantages.

Table 6.1 Summary themes of in-person and telehealth experience

In-Person		Telehealth	
Pros	**Cons**	**Pro**	**Cons**
Class environment • Ask questions • Time and space • Visuals • Social interactions	• Travel time and cost	• Comfort • Connection • Removes barriers (travel & cost)	• Technology challenges/literacy • Discussion • Personal time • Time on computer • Felt-in personal • Distractions at home • Preparation

In-Person Experience

There were many positive aspects that participants enjoyed about the in-person class. Some of those were related to the setting and environmental context in which in person courses happen, like: the ability to ask questions, having a dedicated time and space to be present in class, a whiteboard to create visuals, and experience social interactions that come from being in-person (small talk, a smile, share a snack). One of the major themes was the classroom setting that the in-

person had in comparison to online. The classroom setting was crucial in participant's preference over in-person class.

Ask Questions

Some participants felt it was easier to ask questions in the classroom than online in particular, Participant eight, felt that being in the class was what made it "real."

> *"You know, there's something about being in a classroom situation instead of online. You know, so maybe because everybody is there. And online, me, yeah, you can see all the other people, but it just makes it more real. When you're in a classroom situation." Participant 8*

For another participant, preference was due to in-person having more time to talk than online. There were times like before class where there were opportunities to talk and check in with their coach.

> *"No, no. Online no. In person, I guess, because there was more time to talk then online… You know, I think it was it was good. Because she even weight us, you know, and she would go separate before we even started the class, get our weight in and talk (to each) individual. And how we felt that week, and/or was there any personal questions we wanted to ask her, you know, that she would help us." Interview 3*

The same sentiment was shared by the coach as well. The coach felt they had more opportunities to interact with participants in the in-person class. For example, they could interact at the start or end of class and create opportunities for participants to ask one-on-one questions they may not be comfortable asking in front of the course.

> *"Because you have more interaction, you know, more interaction with the participants. And you always have that opportunity to after class, somebody just comes up to you and you know, ask you questions or talk to you. And maybe they're the group's shy ones and don't want to share something with everybody. But they'll come after class and talk to you, you know, privately and just say hey, you know what, I'm struggling with this or this has become challenging. So I think those little side a sidebar and you know, after-class conversations are the ones that I enjoy having as well" Interview 13*

For both participants and coach, the in-person class experience provided opportunities to interact on a one-on-one basis and check in with their coach. In contrast, the telehealth class removed those moments to interact with one another either before, after, and between the courses.

Time and space to be present

A second reason there was a preference for the in-person class was the ability to have dedicated time and space to focus. Being in a classroom environment helped participants stay focused and feel they were being held accountable for their personal growth:

> *"I think I think face to face, I think I would have received more personal, I mean, peer accountability." Participant 9*

For others, doing the telehealth version brought conflicts between personal time and space with the home environment. One participant expressed that in-person class had a time established and space to focus. While in the telehealth class, they describe you have to look for a corner to sit, listen, and watch when you are home.

> *"Yes, because for me, it's the time when you're at home. If you grab a place at home, a corner, let's say, right? Then you sit and looking at class." Participant 2*

For others, the time was a challenge when it was online. For example, if the class was in the evening, it was okay when it was in-person because it was an opportunity to go outside the home. However, if you are doing the class virtually and the course is in the evening, then it is invading an individual's personal time:

> *"No, online. And then when it was in person, it was six o'clock, but I didn't mind that because I looked at it, I looked forward to going out once a week to the class. So I didn't mind so much of them in person, but doing it on the Zoom 6:00 pm to 7:30 pm and you're at home, you know, I just wanted to relax by that time." Participant 7*

Additionally, when someone is at home, it is harder to remember, as being home, you might get distracted with home duties:

"I will forget, like, because I get involved in what I'm doing in my house and like, today, you know, what happened with me. It was a two (2:00 pm), and I forgot I was doing something else, you know? Yeah. That's, that's why when I knew I had to go over there, it was like, I was there for that time. And that time it was nothing else, it only the class." Participant 3

While another benefit of the class environment mentioned by a participant was the peer accountability they received:

"I think I think face to face. I think I would have received more personal, I mean, peer accountability." Participant 9

For this participant, the in-person class, created more opportunities to discuss and share progress toward weight loss. In being able to hear their peers' progress, the participant felt accountable for their health goals:

"there was less accountability [online]. Like I because there are two different types of accountability, right, there's like, there's like your peer accountability. And then there's, like, personal accountability. And if I had personal accountability, especially when it comes my way, then obviously it wouldn't be a problem because I can just do it off my own, like, you know, willingness to just needed me to get it done. And, but I think having the peer accountability helped, kind of remind me that I need to check myself when it comes to my diet or my exercise or what have you…. every other challenge that I've had in my life, I've always been able to succeed because of my own personal [accountbaility] like, motivation. So it's funny how I can't apply the same that same thinking to like weight loss, that that that is what's frustrating for me." Participant 9

Therefore, the class environment served as a location to meet and a mental space reserved for class focus. When the physical space was removed, it put participants in their home environments where they are distracted by home responsibilities. Additional benefits of physical space was having peer accountability in participants personal goals.

Visuals | White Board Use

Participants enjoyed using the whiteboard to create visual examples in the in-person class. While the Zoom class had drawings, for one participant, the whiteboard helped envision the examples given in class.

"Because they have a whiteboard and they can write and put examples and I can see the examples, you visualize the examples and drawings." Participant 2

For the coach, the whiteboard during class served as a tool to engage participants and create interactions. Putting a discussion question or example and then going back to the illustrations throughout the class:

"I liked using the whiteboard. And we would do like, you know, we talk about the first few courses where our sessions were about, you know, if you eat these this much, how many calories did you eat? or this?" So, it was nice to just put that information up in the whiteboard and have a master question… It was very interactive." Participant 13

The whiteboard in class helped participants understand the examples discussed and served as a tool of engagement for the coach.

Social interaction | Humanness

The second noticeable preference for the in-person class was the ability to socialize and have interactions (example: exchange looks, see peoples reactions, body language, share reflections, and feed of each other's energy) with other participants humanizing the class experience.

For instance, in the in-person class, one noticeable difference was the ability to exchange looks with others. For Participant Eight, being able to exchange a smile across the room, share a laugh, or exchange a comment about what they liked about the in-person class was important. While on Zoom, the class felt an in-personal feeling like a "little soldier" on the screen:

"*You can smile to someone and, you know, make a little comment, laugh a little, you know, seeing a little something, something with the other person next to you across the table from you, you know, whatever it is, you know, we're on Zoom, you're more like little like little soldiers just kind of, you know, say you just up there.* ***"Participant*** *8*

Not being able to see human expressions was challenging for one participant. They felt more people were moving to less personal approaches asking to be "emailed or texted". When they

do that, they feel they lose touch with being able to see a person and engage with their full expressions:

> *"Yeah, I think that. I think it's harder not to see people. You know? Not hear people, you know, it's like, you know, now it's like, you know, everything, you know, "email me or text me", you know. It's not like, when you see a person, you're looking at that face that eyes and seeing the expression and Bigs [smile]. You know?" Participant 3*

Another component that was important in the class environment was group discussions. Participants enjoyed sharing and reflecting on their peers' experiences:

> *"You know, we would talk and give our opinions about different things, or, you know, about what we were going through as far as diabetes and having a hard time eating different foods, you know?" Participant 7*

Class discussions were not only crucial to the learning environment but also assisted in motivating participants to make progress towards their goals:

> "*The biggest thing was interacting. Yeah, the biggest thing was just more of the group discussions and, like, the reflections on how we did for the week, and the things that we try doing that week to kind of get ourselves into a better ultimately, to make better choices. So I think sharing those experiences didn't transfer when I went, you know, when we went online and then just physically seeing people, you know, kind of make progress and feel like, I don't know. Still, their energy, I don't know, you kind of feed off each other's energy when you're motivated. I don't know. It's weird. Socialize (snacks)" Participant 9*

Human interactions in the in-person class were valuable components to the class experience. When those interactions were lost in the telehealth class, participants felt as if the class experience was "unreal". Sharing a look, a smile, or an emotion across the room provided a "real" class experience as the different senses are being used and shared with other individuals.

Telehealth Experience

Telehealth experience had both positive opportunities and challenges. One thing to note was that for many participants interviewed, the SDIT transition, was the first time participating in a virtual class. For some participants, the telehealth class was what participants expected:

"Um, well, you know, one. Everybody can see each other. And you know that that was something different for me. As I said, it was the first time I ever did that. You know what I mean? And I'm I don't know, I don't have anything bad to say about it. You know, I'm only I'm glad I experienced it. And I stuck it out and did it." Participant 7

"Interviewer: And thinking about the virtual class, was it what you expected? Participant: Yes, exactly the same... they are exactly the same, we follow the book, and the manual." Participant 1

Some participants felt the telehealth experience was the same as they were still following the book and manual offered and could still see all class participants. Others, on the other hand, some did not know what to expect and had no expectations as they had no prior experience to compare it to:

"I didn't know what to expect. I would say it was fine. Nope. No complaints? No, nothing. You know, it was fine. Nothing to compare to. Yeah." Participant 8

"I didn't have any expectations of it. I mean, I've never done anything to that. That procedure, far as telehealth before. So that was my first experience with telehealth." - Participant 4

"I'm not sure what I was expecting because it was my first time doing a telehealth class. So I guess it was as expected because I'm not sure I don't have anything to compare it with." Participant 11

Comfort to do classes at home

In reflecting on the telehealth experience, participants liked the benefit of not worrying about getting ready as it reduced travel preparation to get to the location:

"Well, you don't have to. You don't have to bother getting ready. Other than your face, a little makeup brush your hair type of thing, you know, that type of thing, you know? So I get that makes it kind of easy. You know what I am saying? as opposed to, Okay, gotta go to class, you got to get dressed look decent. And, you know, I'm saying, get over there on time. You know? So that's what I would think about that." Participant 8

While for another participant, they liked calling into the Zoom class because they could easily follow along from the comfort of their home:

"I mean, the Zoom classes were fine. Or even just calling in, you know, I mean, like I said, I saw no difference, no quality difference between the zoom and the in-person classes. And

it's really because the way you guys had it set up was given us the chapters. You know, I'm saying that we could just follow along at home on Zoom as easily as we could have in the classroom." Participant 8

For the coach, telehealth provided comfort in not having to go anywhere to set up for a before class. It simplified the process for one of the coaches, while also still being able to do the class and offer the visual tools to teach the content:

"It's just more uh, I mean, you don't have to get up and go to somewhere. You definitely, you know, you're on Zoom. You can see everybody it's nice because it's just you know, you see your little group, and you could share the screen I was able to do more PowerPoint, which I liked." Participant 13

The benefits of the telehealth class provided comfort in doing things from home and reduced steps to prepare for class. For a participant, it removed the time it took to get ready and travel to the location. While for the coach, it reduced the time it took to set up for class. For other participants, it brought comfort from not traveling and having the same class experience as in-person.

Connection with others

The Covid- 19 pandemic created isolating time point for individuals globally. Connecting with other individuals virtually provided an opportunity to continue with the classes and an environment to connect with others when social distancing and mask mandates were in place. Seeing people online was a way to see others physically even if you could not welcome or greet someone, laugh, or talk like you used too in the in-person class:

"Because, since it was on zoom, it was another way to be looking at us physically. Well, I did it on the phone, but when we greeted each other, we laughed, we talked, right? We were still listening to the class... because with the pandemic you couldn't go out or talk face to face with people without having the mask… So when they said it was going to be virtual, I thought it was an excellent idea that we didn't stop with the program." Participant 6

From the perspective of the coach. The ability of participants to connect with her through Zoom was something that surprised them.

> *"And what surprised me the most in a telehealth class? Participant: that they still were able to make that social connection. And they got to know each other. So, I guess that aspect was the same, or I don't know the same, but it was good." Participant 12*

One of the benefits of the telehealth class was thus the ability to connect with individuals while continuing the program.

Removes barriers | Travel time and gas

The last significant benefit the telehealth class offered was reduced time and cost to travel. Making it easy to participate in the course:

> *"Well, online, I just have [to] open my tablet and participate. I didn't have to drive to another city and sit in the class, and you know, just easier, more comfortable. Yeah, just more relaxed [because I am at home]." Participant 4*

> *"Well, it became more comfortable for me because of my work when I was virtual" Participant 1*

> *"I don't think it took anything off the class. If anything, it was more of a benefit. Because, you know, you guys were a 20-minute drive to the location, and 20 minutes back for me, you know, that was 40 minutes of time saved. And, you know, whatever, four or eight bucks, go for gasoline. And in the same site time for you guys, you save time and money on, you know, the blackboards and the, and the, you know, her gas driving back and forth. So I thought zoom was just fine. I think you guys could teach this class on Zoom and be fine. You know, just so people are reliable, and they check in? You know, I think you'd be fine on Zoom." Participant 5*

For those that worked, the telehealth class was much more comfortable since they no longer had to worry about not making it back in time or having to change after work to get to class. Participants liked being able to join the class wherever they were at. For others, the ability to do the course from home allowed them to be relaxed and comfortable. Not having to travel and save money was the most significant benefit.

Telehealth Challenges

Technology barriers

Some of the challenges with telehealth classes were due to not having the proper tools to participate. One participant mentioned that their internet source was their phone and unfortunately, it was not the best:

> *"I mean, I guess everyone's online these days…I have Internet [on] my phone, which is, you know, not the greatest because, you know, I've only paid $30 a month for my phone and the Internet. And so, I don't have Internet at home [and doing class online was challenging]." Participant 5*

Another participant mentioned that doing the class online on their phone was hard because they did not have a smartphone. So, it was harder for them to enter the Zoom codes when using the digital tablet, and they were used to using a phone that "opens with only numbers". Even though it was difficult, they were determined to learn and wanted to continue with the classes online:

> *"Yes, because I didn't have a smartphone. ... I had one of those that just open. You know, with the numbers. That's why it was a little harder for me to use the tablet, get in, the codes and that. But I did it and I learned it. Because I believe that each person, when you want something, you fight and you achieve it. And I wanted, I wanted to continue with the classes, even though I wasn't going to be in the physical classroom anymore." Participant 2*

Similar to the participant above, others did not have prior experience with technology:

> *"Because over there right here. I only see myself, and I see the teacher, or I see the teacher, and I see everybody in the room at one time. I don't know, at least with mine. I don't have the equipment to see everybody talking at the same time, you know, because I'm not that good with this equipment. I guess people that do better can see everybody at the same time" Participant 3*

For coaches, the limited technology experience brought challenges in teaching online classes. There were activities they would have liked to do with their participants but to log in to class was a challenging enough for participants:

“some of them weren't tech savvy…. [I could have] said, "Hey everybody go pull up a menu on your phone and read it to me". But my group was not tech savvy, so that was another issue, so it was hard enough just to get them to be able to log on to zoom much less have them interact." Participant 12

“online classes, there were some people who didn't know how to use the Internet or didn't have it, so they were just on the phone. So sometimes like there will be some technical issues and there was like a lot of like. "Hello?, Are you there?" type of thing. And then with them in person, or online we try to make it as engaging as possible. But it's really just like, you know, having a PowerPoint there and they have to look at the PowerPoint. So there's not much hands-on going on there. Yeah." Participant 11

The telehealth class offered an opportunity for participants to have access to learn new forms of communication and connection. For most participants, it was their first time doing a virtual class. Not having the proper internet access or phone to use technology to date made it challenging. However, the learning curve limited coaches in their teaching approach.

Hard to have discussions

Discussions were something that participants enjoyed in the in-person class. However, they were challenging to do online and thus limited.

“Yeah. Cuz you're basically like there weren’t much discussions. And if there were discussions, people kept talking over each other. So like, there'll be points where like, it would be a little frustrating" Participant 9

One of the coaches shared the same sentiment. They expressed enjoying their interactions with participants before class when they were in person. When they would try to have a discussion online, it was more challenging as sometimes participants would be away from their computer:

“The engagement, the hands-on activities. Like during the beginning of each [in-person] class, I would kind of have everyone step off to the side when I get their weight, and then that will give me some time to talk to them one-on-one to see how they're doing. You know, if there's anything that I can better assist them with, but when we try to move to an online class that wasn't an option, as I would call them but sometimes, they would be out and about or do something else that they're not really focused on our conversation. so, I really like that one on one in person, okay for the actual class.” Participant 11

Personal time

Among the reasons why telehealth was more challenging were due to differences in environment. For participants, being at home was a time to relax in their personal space:

> *"But when I come home, I want to rest. I want to attend to my family, when I, you know, do my life stuff. And, and I wanna, don't wanna you know, I don't wanna, like I don't want anything to invade my privacy, is my time at home you know, I like to put my home, I get to do stuff around the house. And that's, that's my, my, that's my time." Participant 10*

> *"Then coming home and you're home, and you're relaxing, then "oh, I have to go online, because we have to do the class" you know?" Participant 3*

For others having a class online in the evening was challenging as they recalled it was their time to relax and unwind at home:

> *"To be honest. Yeah, it was at five o'clock. I think, we used to start at five in the evening. And me, I'm more of a morning person. Like now, but I know other people work, you know what I mean? So, five was good for them. But five for me, I'm winding down and you know what I mean? And or ready to prepare my dinner or whatever the case is, but, um, I wished it could have been maybe in the morning time instead of in the evening time" Participant 7*

A coach recalled an additional challenge with the virtual modality. They mentioned that for a participant going to class was a space to get away from work. When they switched to online, they could join from work or home. However, if they come home, their family would be disappointed to find them busy on their computer:

> *"One [participant] recalled saying, "I liked coming in because it got me away from work before I went home, and he's like, but when we were doing it on Zoom, it's just like I'm either staying at work an extra hour or I'm going home where I should be my family, and I'm on my computer again" Participant 12*

In these examples, having a class online in the evening at home versus in-person in a classroom environment created a different experience. When at home, participants want to relax and unwind. Home for one participant was a private space that became invaded by a virtual learning modality. While for another participant, home is a space to be away from the computer

and engage with their family. The time the telehealth class was offered becomes essential for participants who want to maintain the privacy of their home environments.

Felt in-personal (just a face on the screen)

Another factor to consider about telehealth class is the difference in how one engages with the teacher and other class participants. For some, having class on the Zoom platform seemed in-personal, almost as if they are watching something on television:

> *"It's like me buying a movie cassette and watching tv it someone and that's it. It's not, you're not seeing the human there. You're not seeing. I don't know if you understand that by It's like I told you in the beginning like I don't know its not for me… I don't know it's just to me is something fake. You know?" Participant 10*

For Participant Eight, they felt that the class online and in-person were the same. However, being in person made the course feal "real", whereas online it felt like it was fake:

> *"Like the zoom you know, they're still the same class the same instructor everything the same, but it just it just, for me, this just for me, it just had I just like them with more people around you that they're, they're real people, not just like I said before faces on the screen." Participant 8*

One of the coaches, also shared a similar experience. However, for them a class online feels like there is less engagement from students:

> *"It was just a lot of PowerPoint and not much of engagement, I guess from the participants." Participant 11*

Distractions (house noises, kids, pets)

Distractions in the home environment was another factor that made the telehealth class challenging for individuals. One participant mentions it was not the same thing, because you are home and because you cannot concentrate the same because sometimes your child is crying, or the dog is barking.

> *"No, it wasn't the same, really. One because, you're in your house and the child screams, because the dog barks and the truth is you can't concentrate the same." Participant 6*

For a coach, technology barriers impacted the ability to interact with participants. However, the most challenging problems and harder to solve was participants in class who were distracted at home or multitasking:

> *"I mean, focus, tech barriers, interaction, demonstrations. But you know you could problem solve all that stuff… after cohort three, a lot of people didn't want their cameras on, and some people were doing the classes driving to work. So, focus was definitely an issue, or they're at home, you know, and they're just not paying attention." Participant 12*

Class preparation

For coaches, the challenge with doing classes online was having to prepare for each class. The classes were structured to be in-person and the coaches had planned out their activities and class structure but online they mentioned the sudden change limited a coach's creativity due to rapid change:

> *"I wasn't prepared to do online there was just like, it was like just wham! all of a sudden, you're doing it online. So I was prepared for in person and I had ideas and I had different things I wanted to do. Oh had I known from the get-go I was gonna be online, I'm sure we could have been more creative." Participant 12*

Online one coach mentioned it took more time as they were preparing PowerPoint presentations. They did not have to create them, but they felt it was way to capture the attention of their participants:

> *"Doing it online, I had to prepare, I had to prepare a presentation. I didn't have to, but I wanted to do it because I just feel like you can capture, captivate their attention a little bit more and always looking at something is always easier... It took more time, because you have to create something for the session. And I wasn't doing that on the other one…I was just reviewing the material preparing myself for the course." Participant 13*

Both coaches were able to adapt to the change. However, the challenge with the abrupt transition shifted their teaching styles that included more visualization and feeling less creative in how they could engage with participants in an online space.

CHAPTER 7: SWITCH EXPERIENCE

This chapter will first review concerns participants shared when they heard the program was switching from in-person to online. While some participants were ready to adapt, others worried about the momentum they had created in the in-person class and access to class materials. The second part of the chapter will review challenges participants mentioned when they had to switch from in-person to online. Overall, participants and staff were able to adapt however, the process did require time and adjusting. Switching from online to in-person was a new experience for most participants. Thus, the chapter will end with positive experiences participants had with the switch. For a summary of how this chapter will be organized see **Table 7.1.**

Table 7.1 Summary themes of switch experience

Switch from in-person to online		
Positive	**Challenges**	**Concerns**
• Opportunity • Easily adapted to change	• First day hard • Time to organize • Materials needed • Class Preparation	• Momentum • Access to materials • How will it work

Concerns

Losing Momentum

When participants heard the program was switching some were concerned for losing their momentum:

> *"Yeah, just the only concern that I had was about, like, my personal progress. And, like, getting the benefits of being in a class like that, I felt what I was getting in the beginning of the of the course, you know, I felt like, I was gonna lose my momentum, if you will. And I don't know, I just think that the overall experience wasn't going to be what I what I thought was going to be when I started the course." Participant 9*

While another participant worried they would lose access to the materials and handouts and shared, they worried they would no longer have them if the program switched to online format.

> *"Well, how are we going to have the class handouts and everything? Because every class they gave us was like the documentation, the papers of that class that we were going to be doing on that day." Participant 6*

For Participant Ten, they were concerned the program would end and they would no longer have the opportunity to get better:

> *"I said "I hope it doesn't end and I hope it doesn't go away and I hope it comes back, when all this is over " my concerns were you know, "I hope I can go back to it and engage more and get better" and I was (stressful?)" Participant 10*

For participants access to the class content and materials were valuable to improve their health outcomes and goals. The possibility of losing access created concerns for losing the momentum of their progress for others the possibility of improving their health.

Concern: How will it work?

Other concerns during the switch were around how the program would work. One participant expressed feeling concerned, nervous, and scared. They would ask themselves, what if they can't do it? It was a concern that lasted a few days, until they were able to assimilate that they in fact can do it. They had people around them saying "you can do it; you will be able to do it!"

> *"Not being able to do it. And, and having to leave classes. Created restlessness and nerves, fear. I said, "And if I can't, I'm not going to be able continue anymore." That was a restlessness that lasted for days. To be able to assimilate it and say "yes I can!" and I had people around me who told me, " you can do it, and, you're going to be able to!" Participant 2*

For Participant Seven, they were concerned they would not like the experience and worried for how would work:

> *"Like I said that "I didn't. Well, you know, like I said, I didn't know if I was going, like doing that. That way, you know?" I think it was, I think, you know, it was a little nobody really liked doing that either. I don't think, but we did it and we stuck it out, you know, together, you know? Because a lot of people agreed that we enjoyed the class in person." Participant 7*

Participants who had no prior knowledge or experience with technology worried they would be able to continue learning. While others worried for how the transition would work and to continue participating.

Adaptation

The switch to telehealth was easy for participants to adapt too due to their knowledge and prior experience with Zoom. For them the transition was smooth:

> *"For me, it was simple. I mean because I was already doing other stuff on Zoom. So, it was easy. "Participant 4*

> *"I just slid right into it. It didn't bother me. You know, I'm not afraid of the computer. So, you know, she just told us, she gave us all the information what we do. She sent us what do you call it? Like the information on the email? And we just clicked on it and dah - dah- dah we did what we're supposed to do. You know, she. And yeah, so I mean, it was easy. It was not a problem for me or anything like that." Participant 8*

> *"I was already into the Zoom system. So, I knew how to go into the Zoom. And I had the Zoom already… I was like, "Okay, I'm going to do it on my tablet, because I will do it on my tablet", but it was dead. You know, so I might have the phone also. And then, you know, it wasn't that hard to do it. You know, before it was like to be like, Oh my god, how am I going to do this?" Participant 3*

Challenges

Although for some, the transition was a smooth and easy experience. For others, the first days were hard as they were not used to having "people look at you". It was challenging to enter the call they described, but later it wasn't difficult. It was easy to join the class and be with everyone. You could talk and ask questions with trust.

> *"To me, the first day. It was a little more difficult, I was nervous. Because you're not used to being looked at (Zoom Video)... I don't know, it was weird to me. But the first day was harder to get in. After that, it was easier to enter classes and be with everyone. We could talk and ask (questions) with more confidence. "Participant 2*

Other difficulties that came up were preparing for the class. A participant described waiting for the program to figure out how the shift would work to get the class started again.

> *"Yeah, I mean, the only thing is [it] almost [took] like two months to get organized or something, to figure out how you were going to do it. You know, I guess you're seeing if the pandemic was going to end or, or what the story was. But yeah, we had like about a two-month lag time." Participant 5*

From the coach's perspective, the switch was also described as a challenge:

“It was a challenge. But we did it. And I think we did it well.” Participant 12

“It was a little difficult because I've never done it before, I don't usually use Zoom. In my personal life, either. So it was hard to merge everything and just think about how to engage the group and how we would, because when we were switching, it was like the mark where we had to get new labs done for the participants. So it was like the team really had to think about how to provide them with the blood tests and the material and everything like that. So it was a little difficult. But, but again, the team was really great. We had meetings. We made sure everything was kind of done smoothly as possible. So it was, a it was kind of difficult, but then, in the end, it kind of went as smoothly as they can go Yes." Participant 11

For participants, the switch was easy to adapt once they got used to it. Those with prior experience using Zoom the switch made the shift straightforward. From the coach's perspective, the switch was challenging as it required meetings to discuss, prepare, and organize all class and testing materials. Overall, despite the first days being a little challenging, the experience seemed smooth.

Opportunity

Despite the challenges experienced, program adaptations created an opportunity for participants to learn how to use technology. In particular, to get comfortable using a smart phone:

"Because I think it helped me. I learned how to use the smartphone." Participant 1

For another participant they described it as a great opportunity, even though they were scared. Sometimes they would ask themselves, "what is this? Why? [why do this online]”. It was like a fear they had since they were not familiar with the system.

It was a great experience for me. But at the same time, you are afraid. At the same time, you start to learn, what is this? And why? It's like a fear, a fear because you don't know. But then, as I say, you learn. You look and see how important it is to be able to do that, because, if you can't do it in person (class), then you can do it virtually and then there is no problem. You don't have stop doing it (class)." Participant 2

Learning a new skill and seeing its value created a sense of fulfillment for their abilities to learn and adapt. For Participant Eight, doing a telehealth class was also their first time. They described their experience as something different that they enjoyed:

> *"No, no, I didn't. I've never been the first time I've ever done anything like that, like any kind of online classes. So that was a first for me. You know, so I just kind of like no, do something different, something new. And, yeah, you know, I enjoyed it." Participant 8*

The switch to telehealth was an opportunity for participants to continue receiving health education and gain a new skill and comfort with technology.

Conclusion

In understanding the switch from in-person to online one of the biggest themes for this program was that there was no difference between the two modalities. The material and class content remained the same. Those who preferred in-person class preferred it due to the nature of the classroom environment that supports asking questions, discussions, and the sharing and exchanging of human interactions (smile, laugh, a comment). It was in those human interactions that participants missed having in the telehealth class, making it feel less “real” and in personal. Overall, most participants adopted and could reflect the switch to be easy or at least easy to get used too. A surprising experience that both participants and coaches expressed was the possibility of being able to continue to create social connections online. Therefore, regardless of the modality taught social connection was possible. For a summary of the themes found in the switch experience, see **Table 7.1**.

CHAPTER 8 DISCUSSION AND RECOMMENDATIONS

A mixed-methods approach was used in this dissertation to explore telehealth and in-person experience with DPP. The three core research questions that guided this research were the following: “Was there a difference between reported program satisfaction versus lived experience with the program?”, How did these experiences differ for coaches and participants during the telehealth transition?” and “How did these experiences differ by age and ethnic background?”. The study sample for this consisted of 10 participants. This chapter will provide a summary of the findings, discussion of the limitations that were considered in the analysis, and a description from the quantitative and qualitative approaches used to answer each of the guiding research questions. In addition, after major findings, the chapter will provide an overview of the recommendations from participants aimed at improving the program experience of DPP. The study sample for this dissertation was small and will be discussed as a limitation to its generalizability along with other limitations that should be considered in the analysis. Lastly, the dissertation will end with implications for future research.

Review major findings

This study had three major research questions. The first research question:

1.Was there a difference between reported program satisfaction versus lived experience with the program?

To understand the experiences of participants in the program, surveys and interviews were used from existing program data to understand program experience of participants. A total of 12 participants were included in the satisfaction surveys, and were distributed after in-person class, however, once program switched to online the surveys were distributed by mail and completed after the online class. A total of 13 interviews were conducted online using either Zoom or Google

Phone. Overall, there was no difference in program satisfaction among participants who provided survey responses and those interviewed. Participants in surveys discussed how they enjoyed the opportunity to have access to printed material and resources of class content. In surveys, little to no negative feedback was expressed by participants. While during interviews most participants mentioned they enjoyed the classes and had no improvements or suggestions to make. However, when asked a scenario question's for example, if they were to be the teacher then participants had ideas and concrete recommendations. The most common recommendation to the curriculum was to make the content more engaging and interactive by incorporating activities, guest, and engaging practical applications to everyday life. Although some classes had activities participants expressed interest for more fun and interactive components to be included in specific classes.

2. How did these experiences differ for coaches and participants during the telehealth transition?

The program went through a transition of having services conducted in person to having them done via telehealth. The transition started on March in the year of 2020, for some cohorts the average transition time frame was two and a half months, as it took time for the team to prepare, create materials, order equipment needed, and train participants to use Zoom. In the analysis it was found that participants experienced challenges the first few days. However, after repeatedly doing Zoom, participants recalled the experience to be easy and simple. For coaches, the transition was challenging as it required time to prepare, develop material and resources, and discuss process changes with the team (e.g., how to distribute class materials, surveys, and conduct biometrics at home). However, once a routine was established, the switch experience was easy. Coaches described feeling a sense of pride and excitement recalling on the ability work and adapt quickly as a team during the pandemic.

2a. Did the telehealth transition create negative or positive experiences for participants and coaches?

The telehealth transition created both positive, negative, and neutral experiences. For most participants it was their first-time experiencing virtual learning. Although it was challenging to get used to, participants with no prior experience expressed feeling proud to learn a new way to receive services. While on the contrary, some of the participants disclosed not enjoying the telehealth experience during interviews, describing it as "fake", "unreal", and just a "face on the screen". The experience for these participants was something they would either have "less of a preference for" or "not repeat again in the future". Despite the challenges the pandemic presented, the most interesting finding was that attendance among participants remained consistent. Demonstrating the interest and self-motivation participants had to complete the program. For coaches the transition was neither positive nor negative. For them the transition was an eye-opening experience to how classes can be adapted and taught in a different modality.

2b. How did these experiences differ by age and ethnic background?

Most participants were around the same age (57 years old and above) and thus no noticeable age difference in experience was identified. The sample was also very small (n= 10). Future research can consider evaluating the experience with a much larger and diverse population to identify differences in experience and preferences for telehealth. In terms of background, 70% of participants identified as Latino/Hispanic their experiences reflected more interest for culturally relevant content and diversity in bilingual staff. For example, one participant expressed having the option of a class with a teacher that speaks both Spanish and English, for those that know both languages. While other participants requested interest for staff that understood Spanish to communicate and connect with them at a deeper level. Other noticeable differences were in recommendations for content that was inclusive of the family as whole. Additionally, 70% of

participants who were older had recommendations for classes to be more interactive and fun. The recommendations called for less surveys and lecturing and more social activities such as dancing, cooking classes, and working out together. Lastly, 20% of individuals were in the young adult category 18 to 35 years of age (Petry, 2002), and one participant suggested an interest for more diversity in cohort classes to have a better understanding of diabetes.

3. How did these experiences differ when compared to in-person delivery?

In general, the experience did not seem to have significant difference for participants. Some recalled there was "no difference" in quality as you could still listen to the teacher and the information taught was the same. For others, the biggest difference was being inside the home environment in the evening hours, a private space to get away and relax. When classes were in-person in the evening it was not only easier to focus but it was a space to socialize in. Overall, participants were still able to get the education content. The change in environment however, created challenges for some due to the nature of home environment distractions and personal preferences for in-person class.

Recommendations

As of February 1st of 2022, the Center for Disease Control and Prevention updated its DPP curriculum (*Introducing the Revised PreventT2 Curriculum*, 2022), under this new review the curriculum includes updates to its content, format, tools, resources, and handouts. Part of the revisions include more culturally content material and inclusion of habit formation as part of their curriculum. However, what the new revisions do not include are the incorporation of videos to enhance the learning experience online. Additionally, the recommendations do not include the participation of past or current participants as leaders to teach or share their experience with the program. This was a recommendation brought on by many participants, as they would like to hear

from “someone they can relate too, who understands what they are going through” to motivate them in their diabetes prevention journey. An additional recommendation that DPP curriculum should consider is the incorporation of mental health components, as there was an interest from participants to learn more about anxiety and stress from being pre-diabetic. Although important to note, that now the new DPP curriculum has incorporated more “habit building” content to assist in healthy lifestyle changes. One challenge that was found across different stages was class management. Although not related to the DPP curriculum, it would helpful if the program provided teaching tools and tricks to help new teachers manage a classroom and its environment to better support student learning.

Generalizability

Diverse and elderly populations

Although the study had a small sample size. This study findings could be considered applicable learning lessons for other telehealth programs for chronic disease management such as heart disease, chronic obstructive pulmonary disease (COPD), asthma, and mental health services. As it can assist in understanding the needs of users with telehealth care. Among other groups, these results could also apply to the elderly and ethnic populations to provide tailored care. As the aging population grows, tailored approaches will be critical to improve concerns with unsatisfaction with quality (Arcury et al., 2020; Kim et al., 2019; Livingston, 2010; NIH, 2016; Tourkmani, M. et al., 2021; Yoon et al., 2020) and preferences for in-person care (Sim & Lee, 2021). The increasing role of telehealth adaptation will need to consider integrating telehealth with chronic disease management (Guo et al., 2021) to support older adults and assist them with telehealth literacy and comfort. The elderly is not the only group who has been left out of tailored telehealth care, but the interaction between ethnic identity and low-income status will need to be considered in future programs. As race, ethnicity, and age have been found related to low acceptance of telehealth.

Therefore, as research develops in this field, assessments to improve diverse ethnic communities and older populations will be essential.

Demographic factors that have contributed to telehealth service use are perceptions of the internet. For example, Raine (2010) identified that Hispanic older adults had lower internet and health information use than Blacks and Whites (Laz & Berenson, 2013; Livingston, 2010). Low acceptance of telehealth has been higher in certain ethnic identities but lower in socioeconomic status (Arcury et al., 2020; Yoon et al., 2020). As a result, of the hesitancy with telehealth adoption, a need has been identified to train individuals to use telehealth modalities (Aponte & Nokes, 2017; Sanders et al., 2012; Yoon et al., 2020). The results from this study could help inform educational training for participants and provide insight into telehealth curriculum development for users (patients) and providers (medical staff, public health, social work).

Curriculum Development and Workforce Training

Lower telehealth literacy and the English language have been linked to dropping out of telehealth/telemedicine interventions (Sanders et al., 2012). Some of the reasons past participants have withdrawn from studies were due to needing reminders and training to assist them with telehealth use. Otherwise, they felt discouraged from the "multiple numbers of steps," making telehealth challenging to use. As a result, training for patients will be essential to create comfort and acceptance among diverse populations. Therefore, what is missing is a combined telehealth literacy component for individuals and users to learn and be comfortable with telehealth in virtual health management programs. For example, past evidence-based virtual programs have only focused on disease management (Kim et al., 2019; Murray et al., 2018; SMRC, 2021) or telehealth literacy/computer training (Malone et al., 2017; Xie & Bugg, 2009). Instead of offering programs

in isolation, programs should consider combining chronic disease management and telehealth literacy as participants could benefit from the combined program elements.

The increasing role of telehealth adaptation will also require telehealth competencies to support staff with virtual chronic disease management (Guo et al., 2021). Therefore, telehealth literacy training should also include medical providers, health professionals, and students to adequately prepare them to provide telehealth care. Resistance in the literature among nurses and physicians have been found due to preferences for in-person services and in-person training received to develop connections and relationships with patients (Glazer et al., 2014). However, if they had the competencies and training (Gifford et al., 2012) to deliver telehealth, providers could be more accepting of this modality. An additional challenge that will also need to be addressed is the lack of standardized telehealth training at a national level. Training physicians is not only beneficial but has been found as a critical component in telehealth adoption. As providers and medical staff serve as champions to adoption, and can assist the improvement of glycemic control through telehealth care (Chike-Harris et al., 2021; Xie & Bugg, 2009).

Limitations

Generalizability

Study sample was small, a total of ten participants and three coaches were interviewed and as result the study cannot be generalized to larger populations. Future research should consider scaling the research to include a larger sample that is diverse in language, background, and age groups. Additionally, future research can consider diverse recruitment strategies to provide a cross-cultural perspective to telehealth experience.

Theory used

Potential fatal flaws can be due to the framework used. As technology advances, the theory will also need to evolve. There may be better theories that evolve to fit the changing environment

and context of telehealth evolution. For example in a review by Harst et al. (2019) found that two of the most commonly used theories were the 1. Unified Theory of Acceptance and Use of Technology (UTAUT*)*, to understand users' acceptance toward using technology. And the 2. Technology Acceptance Model (TAM), to "predict attitude and perceived perceptions of usefulness and ease of use." Both theories have been widely used (Harst et al., 2019; Heinsch et al., 2021), to explain the readiness of individuals to use technology. However, they are limited in their scope as they only focus on individual-level factors.

A systematic review conducted by Heinsch et al., (2021), identified that out of 36 identified theories available on telehealth use, most are focused on individual readiness of telehealth. This can bring biased results as it does not help explain the systemic process that can inhibit or assist adoption. Therefore, Heinsch et al., 2021, suggest the need to start a focus on the "disorderly social processes, systemic dimensions of implementation", and understand the structural design (Karsh, 2004) to improve the future implementation and adoption of telehealth. Additionally, future theories will need to consider conducting holistic assessments to include not only user acceptance but technology factors as well to provide a complete understanding of acceptance (Hastall et al., 2017) as well as the complexities to adaptation. Future research will thus need to consider multi-level factors and inhibitors that prevent telehealth use (Heinsch et al., 2021). Although the BHSUM may become outdated over time, because it includes individual and environmental level factors in addition to sociocultural factors, the theory might not be a significant flaw for this research.

Retrospective approach

To gather participants and coach's experiences, participants were interviewed and asked to reflect on their experiences retrospectively. Due to the time of completion and time of the interview

participants had a difficult time remembering certain journey touchpoints. This limited the visualization of the customer journey maps ability to assign experiences to exact touchpoints to when they occurred. Thus, for experiences mentioned in a general context were placed in the "class" category and experiences related to certain class topics were placed with similar class topics in earlier stages of when they occurred. This limitation affected the CXJM to capture specific touchpoints, as specific repeated experiences such as: biometrics, repeated class topics (e.g. exercise, motivation, stress) and RAIS were hard to distinguish at what time point participants were referring to them. Additional map limitations were due to cohort differences in start and end times, and differences in number of classes each cohort had. Despite the retrospective nature of the study CXJM, allowed the creation of a visual of the approximated program experience.

Language

Interviews were conducted in both Spanish and English by the author. Although a research assistant was brought on to assist with inter coder reliability of qualitative data, there is a possibility for misinterpretation or deviation from the nature of how a quote or phrase was expressed when translated later to the English language.

Future Research

The next step might be to study telehealth experience at a much larger scale (Baltaxe et al., 2019) to tailor telehealth needs and improve health care delivery for individuals and systems at large. The study of telehealth experience is still in its infancy and thus needs further replication and understanding across individuals and institutions to assist the acceptance, adoption, and implementation. In a study conducted recently by Phimphasone-Brady et al. (2021), it was suggested that future telehealth studies should include patients and stakeholders to identify, test, and engage them better in the implementation of telehealth care. To do this, Thomas et al. (2020)

suggest that sustainability efforts will require “developing a skilled workforce, empowering consumers, reforming funding, improving the digital ecosystems, and integrating telehealth into routine care." For that reason, a study that continues to analyze experiences will be important to further understand individuals' and stakeholders needs to analyze and improve telehealth systems integration and collaboration when adopting telehealth. A longitudinal randomized factorial design could be conducted in the future guided by the socioecological theory. Using the socioecological theory has been useful in identifying challenges with adoption in each level of change. In a systematic review conducted by Hughes, (2020), they were able to identify critical challenges in each of the levels of implementation.

Based on previous literature, there is a need to evaluate telehealth at the system level (Baltaxe et al., 2019; Hu, 2003; O’Donnell et al., 2020). For that reason, scaling up of this project would allow evaluating telehealth experience at the induvial level (users and providers) and the analysis of integrating system experiences. The next steps for future research should consider the experience of systems (multi-stakeholders) when adapting to telehealth. This would provide more understanding of the process, functions, and needs of telehealth implementation when integrating and collaborating services. More specifically, seek to understand system needs and between systems when interacting with one another. The implementation of telehealth is complex, and therefore, the more we understand the needs and opportunities in telehealth, infrastructure developments can better fit individual and systemic needs to facilitate the adoption of telehealth.

Second consideration for future research is to compare the experience of individuals users with systems (consumers and provider experience). Since Covid- 19 created a sudden shift in telehealth implementation, it will be important to understand what the telehealth experiences is like for organizations. For example, how do these differences impact cross-sector collaboration

and access for participants? While also considering how the individual needs of users are targeted and addressed across locations.

Third, evaluate the positive and negative telehealth experiences for stakeholders. In particular, what impacts and implications do these experiences have on adoption and implementation? This will be important as the medical landscape evolves and starts to adopt telehealth delivery in the future. As a result, it will be essential to capture the implications of positive and negative experiences on future collaborations, funding, and policy level changes.

Fourth, future research should consider comparing differences between users if they had different points of entry or additional components that made the experience different. This will be important in identifying differences between in-person and telehealth experience.

Conclusion

The purpose of this dissertation was to understand the experience of participants and coaches with the DPP program during the Covid- 19 pandemic. CXJM was a useful tool to find exceptional positive and negative experiences, identifying participant centered recommendations, allowing the discover of key touchpoints that can be changed. The CXJM not only provided visualization to the step-by step experience of participants but was useful in identifying key processes that stood out to participants but also identifying components that attracted participants to the program; such information can be useful for future programs and marketing of education and prevention materials. This approach was useful in providing a holistic perspective of participants and coaches journeys from start to finish, and the hope is that future programs can consider the benefits of transdisciplinary research approaches to evaluating the experience of health education programs.

APPENDIX

CGU IRB Exemption

Claremont Graduate University
Institutional Review Board

Dear Cindy,

Thank you for submitting your research protocol to the IRB at Claremont Graduate University for review. On 12/06/2021, based on the information provided for Protocol #4073 (Telehealth experience of program participants), we have certified it as *exempt from IRB supervision* under CGU policy and federal regulations at 45 CFR 46.104(b)(2).

Exempt status means that so long as the study does not vary significantly from the description you have given us, further review in the form of filing annual reports and/or renewal requests is not necessary. Although study termination/closure reports are also not required, they are greatly appreciated. You may specify in relevant study documents, such as consent forms, that CGU human subjects protection staff members have reviewed the study and determined it to be exempt from IRB supervision. The IRB does not "*approve*" (or disapprove) studies that are exempt, so kindly avoid use of this verb.

If we have approved informed consent/assent forms for your study, please be sure to use the approved versions when obtaining consent from research subjects.

Please note carefully that maintaining exempt status requires that (a) the risks of the study *remain minimal*, that is, as described in the application; (b) that *anonymity or confidentiality* of participants, *or protection* of participants against any higher level of risk due to the internal knowledge or disclosure of identity by the researcher, is maintained as described in the application; (c) that *no deception* is introduced, such as reducing the accuracy or specificity of information about the research protocol that is given to prospective participants; (d) the research *purpose*, *sponsor*, and recruited *study population* remain as described; and (e) the principal investigator (PI) continues and is not replaced.

Changes in *any such features* of the study as described may affect one or more of the conditions of exemption and would very likely warrant a reclassification of the research protocol from exempt status and require additional IRB review. If any such changes are contemplated, please notify the IRB as soon as possible and before the study is begun or changes are implemented. If any events occur during the course of research, such as unexpected adverse consequences to participants, that call into question the features that permitted a determination of exempt status, you must notify the IRB as soon as possible.

Please note that a series of suggestions may also be attached to this email. These are suggestions to develop or improve your research protocol. These suggestions are highly recommended but not required. You do not need to send anything back to the IRB.

If Applicable: Most listservs, websites, and bulletin boards have policies regulating the types of advertisements or solicitations that may be posted, including from whom prior approval must be obtained. Many institutions and even classroom instructors have policies regarding who can solicit potential research participants from among their students, employees, etc., what information must be included in solicitations, and how recruitment notices are distributed or posted. You should familiarize yourself with the policies and approval procedures required of you to recruit for or conduct your study by listservs, websites, institutions, and/or instructors. Approval or exemption by the CGU IRB does not substitute for these approvals or release you from assuring that you have gained appropriate approvals before advertising or conducting your study in such venues.

The IRB may be reached at (909) 607-9406 or via email to irb@cgu.edu. The IRB wishes you well in the conduct of your research project.

Sincerely,

Andrew Conway,
IRB Chair
andrew.conway@cgu.edu James Griffith,
IRB Manager
james.griffith2@cgu.edu

Informed Consent- English

Claremont Graduate University

AGREEMENT TO PARTICIPATE IN *EXPERIENCE WITH TELEHEALTH DURING COVID- 19* (IRB # 4073)

You are invited to participate in an interview for a research project. Volunteering will not benefit you directly, but you will be helping the investigators understand telehealth experiences during Covid- 19. If you decide to volunteer, you will be answering a series of questions about your experience with the Stopping Diabetes in Its Tracks (SDIT) program. The interview will take about 1.5 to 2 hours of your time. Volunteering for this study involves no more risk than what a typical person experiences on a regular day. Your involvement is entirely up to you. You may withdraw at any time for any reason. Please continue reading for more information about the study.

STUDY LEADERSHIP: This research project is led by Cindy Delgado who is a Doctorate of Public Health Candidate at Claremont Graduate University. Ms. Delgado is being supervised by Jessica DeHart, PhD, MPH; an Assistant Professor of Community and Global Health at Claremont Graduate University.

PURPOSE: The purpose of this study is to understand your experience with in-person and telehealth delivery of Stopping Diabetes in Its Tracks (SDIT).

ELIGIBILITY: To participate in the interview, you must have been registered for in-person diabetes prevention classes in Cohorts 1, 2, or 3 of the SDIT Program. You are eligible whether you:

1) registered for in-person diabetes prevention classes and could not attend;
2) registered for in-person diabetes prevention classes and attended at least one class;
3) registered for in-person diabetes prevention classes and participated in telehealth classes between March 2020 and July 2020
4) led the diabetes classes for cohort 1, 2, 3

PARTICIPATION: During the Virtual interview (Zoom Video Conferencing/Phone), you will be asked to answer a series of questions about your experience with the SDIT program as well as demographic questions. This will take about 1.5-2 hours of your time.

RISKS OF PARTICIPATION: Volunteering for this study involves no more risk than what a typical person experiences on a regular day. However, you may feel uncomfortable when answering questions about your experience with the SDIT program during the COVID- 19 pandemic.

BENEFITS OF PARTICIPATION: We do not expect the study to benefit you personally. This study will benefit the researcher understand the telehealth program experience within the SDIT program. This study is also intended to benefit future program participants and other programs for diabetes prevention and management.

COMPENSATION: You will be directly compensated $38.00 for participating in this study upon the completion of interview questions.

VOLUNTARY PARTICIPATION: Your participation in this study is completely voluntary. You may stop or withdraw from the study or refuse to answer any particular question for any reason at any time without it being held against you. Your decision whether or not to participate will have no effect on your current or future connection with anyone at Claremont Graduate University or with the Stopping Diabetes in Its Tracks (SDIT) program.

CONFIDENTIALITY: Your individual privacy will be protected in all papers, books, talks, posts, or stories resulting from this study. We may use the data we collect for future research or share it with other researchers, but we will not reveal your identity with it. In order to protect the confidentiality of your responses, all names and any identifying name of locations will be removed from the interview to protect your privacy

SPONSORSHIP: This study is being paid for by Claremont Graduate University's Transdisciplinary Dissertation Award.

FURTHER INFORMATION: If you have any questions or would like additional information about this study, please contact Cindy Delgado at (657) 464-4431 (cindy.delgado@cgu.edu) or Dr. Jessica DeHart at (909) 607-6001 (jessica.dehart@cgu.edu). The CGU Institutional Review Board (IRB) has certified this project as exempt**.** If you have any ethical concerns about this project or about your rights as a human subject in research, you may contact the CGU IRB at (909) 607-9406 or at irb@cgu.edu. A copy of this form will be given to you if you wish to keep it.

CONSENT:

By checking the checkbox below you are indicating that you understand the information on this form, that someone has answered any and all questions you may have about this study, and you voluntarily agree to participate in it.

Name: _____

☐ Yes, I consent to be part of this study Date _____

☐ No, I do not consent to be part of this study

Informed Consent – Spanish Version

Claremont Graduate University

AGREEMENT TO PARTICIPATE IN *EXPERIENCE WITH TELEHEALTH DURING COVID- 19* (IRB # 4073)

Está invitado a participar en una entrevista para un proyecto de investigación. Al participar no lo beneficiará directamente, pero ayudará a los investigadores a comprender las experiencias de telesalud durante Covid- 19. Si decide ser voluntario, responderá una serie de preguntas sobre su experiencia con el programa Stop Diabetes in Its Tracks (SDIT). La entrevista tomará entre 1.5 a 2 horas de su tiempo. Al ser voluntario para este estudio no implica más riesgo de lo que experimenta una persona típica en un día normal. Su participación depende totalmente de usted. Puede retirarse en cualquier momento y por cualquier motivo. Continúe leyendo para obtener más información sobre el estudio.

LIDERAZGO DEL ESTUDIO: Este proyecto de investigación está dirigido por Cindy Delgado, candidata de Doctorado en Salud Pública de la Universidad de Claremont Graduate. La Sra. Delgado está siendo supervisada por Jessica DeHart, PhD, MPH; profesora asistente de salud comunitaria y global en Claremont Graduate University.

PROPÓSITO: El propósito de este estudio es comprender su experiencia con el programa Stop Diabetes in Its Tracks (SDIT) dado en persona y virtualmente.

ELEGIBILIDAD: Para participar en la entrevista, debe haberse inscrito en las clases de prevención de la diabetes (cohortes 1, 2 o 3) del programa SDIT. Eres elegible si:
1) Se inscribió en clases de prevención de la diabetes y no pudo asistir;
2) Se inscribió en clases de prevención de la diabetes y asistió al menos a una clase;
3) Se inscribió en clases de prevención de la diabetes y participó en clases de telesalud entre marzo de 2020 y julio de 2020.
4) Dirigió las clases de diabetes para cohortes 1, 2, 3.

PARTICIPACIÓN: Durante la entrevista virtual (por Video (Zoom) o teléfono), se le pedirá que responda una serie de preguntas sobre su experiencia con el programa SDIT, y también preguntas demográficas. Esto le llevará alrededor de 1.5 a 2 horas de su tiempo.

RIESGOS DE PARTICIPACIÓN: Ser voluntario para este estudio no implica más riesgo de lo que experimenta una persona típica en un día normal. Sin embargo, es posible que se sienta incómodo al responder preguntas sobre su experiencia con el programa SDIT durante la pandemia de COVID- 19.

BENEFICIOS EN PARTICIPAR: No esperamos que el estudio lo beneficie personalmente. Este estudio beneficiará al investigador a comprender la experiencia del programa de telesalud dentro del programa SDIT. Este estudio también está destinado a beneficiar a los futuros participantes del programa y otros programas para la prevención y el control de la diabetes.

COMPENSACIÓN: Se le compensará directamente con $ 38.00 por participar en este estudio al completar las preguntas de la entrevista.

PARTICIPACIÓN VOLUNTARIA: Su participación en este estudio es completamente voluntaria. Puede detenerse o retirarse del estudio o negarse a responder a cualquier pregunta en particular por cualquier motivo en cualquier momento sin que se lo tome en su contra. Su decisión de participar o no, no tendrá ningún efecto en su conexión actual o futura con nadie en Claremont Graduate University o con el programa Stop Diabetes in Its Tracks (SDIT).

CONFIDENCIALIDAD: Su privacidad individual estará protegida en todos los documentos, libros, charlas, publicaciones o historias que resulten de este estudio. Podemos utilizar los datos que recopilamos para investigaciones futuras o para compartirlos con otros investigadores, pero no revelaremos su identidad con ellos. Para proteger la confidencialidad de sus respuestas, todos los nombres y cualquier nombre de identificación de ubicaciones se eliminarán de la entrevista para proteger su privacidad.

PATROCINIO: Este estudio está financiado por el Premio de Disertación Transdisciplinaria de Claremont Graduate University.

PARA MÁS INFORMACIÓN: Si tiene alguna pregunta o desea información adicional sobre este estudio, comuníquese con Cindy Delgado a (657) 464-4431 (cindy.delgado@cgu.edu) o con la Dra. Jessica DeHart al (909) 607-6001 (jessica.dehart@cgu.edu). La Junta de Revisión Institucional de CGU (IRB) ha certificado este proyecto como exento. Si tiene alguna inquietud ética sobre este proyecto o sobre sus derechos como sujeto humano en la investigación, puede comunicarse con CGU IRB al (909) 607-9406 o al irb@cgu.edu. Se le entregará una copia de este formulario si desea conservarlo.

CONSENTIMIENTO:

Al marcar la casilla de abajo indica que comprende la información de este formulario, que alguien ha respondido todas y cada una de las preguntas que pueda tener sobre este estudio, y que acepta participar voluntariamente en él.

Nombre: _____

Fecha _____

☐ Sí, doy mi consentimiento para ser parte de este estudio.

☐ No, yo no doy mi consentimiento para ser parte de este estudio.

Interview Guide for Participants

Note: Cohort 3 Started Telehealth at Class 7, Cohort 2 on Class 10, Cohort 1 on Class 16

Pre-Journey (Screening Process with Community Team)

1. How did you hear about the DPP program?
    a. Once you arrived at the screening site, what encouraged you to get screened?

Consent/Screening process

2. How wat the consent process?
3. Was there anything in the screening/consent process that you thought was above expectations- or even exceptionally done?
    a. That stood out to you? (ex.Screeners, organization, students helping, psychology, motivation components of class)
4. Was there anything in the screening/ consent process that was problematic – or could be improved? (consent process time, screening test)
    a. If you were the program manager, would you have done the process differently?

During (Defined at the invitation call participants receive and onboarding to the first 3lass)

5. When you got the first call to participate in the program, how was that experience in getting you started with your first class?
6. Was there anything in between the (first call and 1st class) that stood out to you?
7. Was there anything in the (first call and 1st class) onboard process you would change or improve?

Post-Journey (Defined as the continuation of class 2-22 for cohort 1 and 2 and class 22 to 26 for cohort 3) **(First 1-8 -weekly nutrition, healthy eating, 9-16- once every 2 weeks (stress, motivation, fitness, triggers, 16 -22 was on maintain behaviors, staying active, support)**

8. What was your favorite class? Why?
    a. Was it because it was online? Was it the content? Was it the Coach?
9. Was there anything in classes that
    a. That stood out to you?
10. What was your least favorite class? Why?
    a. Was it because it was online, in person? Or was it the content? Length?
    b. Was it the way it was taught?
11. Thinking about the classes was there anything that could have helped you learn? (Example liked more videos, pictures, stories, worksheets, changes to the workbook?)
12. What if you had to teach the class ... what would you have done differently?
13. Was there anything in the classes that was ~~problematic – or~~ could be improved or you would like to change (ex. Blood test at home, location, time, privacy, audio, video, time duration, sound/video quality,)? Would you add a class?
    - Would you reduce the number of classes Or add more classes?

- Reduce the amount of time the class was held?
- Would you add a part where you would teach the class?

14. Would you create a hybrid class?

15. Were the classes better online or in person? Why?

16. What did you think of the guest speakers? (ex. Did you not/like them, felt they were prepared/prefer more)

17. If you could add guest speakers, what would you have liked to have? (ex. doctors, nutritionist, psychologist, people who have gone through the program)

18. How was the switch to telehealth?
    a. Did you find it easy? What was challenging? (Video, sound quality, privacy, connection)

19. What encouraged you to continue the program during the pandemic?

20. When you heard that the program was going to switch to online, did you have any concerns?
    a. Anything that could have discouraged you from continuing the program during the pandemic?

21. How was the virtual class experience for you in comparison to in person?

22. Was the telehealth experience what you expected? What you had imagined it would be liked?

23. What was different in the telehealth class?

    a. What surprised you the most?

24. If you had to do another virtual program, would you do it again? Why? Why/not?

25. Would you like a hybrid class when we are able to be in-person again?

26. What was the best part of the program?

27. What suggestions would you like to have to make it a better program?

28. Anything else you would like to share?

Demographic

1. **What is your age?**

2. **What is your ethnicity?**
   - White
   - Hispanic or Latino
   - Black or African American
   - Native American or American Indian
   - Asian / Pacific Islander
   - Other
3. **What is the highest degree or level of school you have completed?**
   - No schooling completed
   - Nursery school to 8th grade
   - Some high school, no diploma
   - High school graduate, diploma or the equivalent (for example: GED)
   - Some college credit, no degree
   - Trade/technical/vocational training
   - Associate degree
   - Bachelor's degree
   - Master's degree
   - Professional degree
   - Doctorate degree

4. **What is the language used at home?**
   - Spanish
   - English

Guía de entrevista para participantes

Nota: Cohorte 3 inició telesalud en la Clase 7, Cohorte 2 en la Clase 10, Cohorte 1 en la Clase 16

Pre-Viaje (proceso de selección con el equipo de la comunidad)

1. ¿Cómo se enteró del programa DPP? ¿Cuando se enteró del programa?
    a. Una vez que llegó al lugar donde estaban haciendo el examen de salud, ¿qué lo animó a inscribirse?

Consentimiento/Examen de Salud- el proceso para calificar en el programa)/ proceso de hacer los exámenes de salud (tomar la presión arterial, su peso, prueba de azúcar)

2. ¿Cómo fue el proceso de consentimiento?
3. ¿Hubo algo que resalto en el proceso?
4. ¿Hubo algo en el proceso que podría mejorar?

Durante (definido en la llamada de invitación que recibió para participar en el programa y la primera clase que atendió)

5. Cuando recibió la primera llamada para participar en el programa, ¿cómo fue esa experiencia?
6. ¿Hubo algo en el proceso entre la llamada- y la primera clase que resalto?
7. ¿Hubo algo en el proceso entre la llamada- y la primera clase que podría mejorar?

Después del viaje (definido como la continuación de la clase 2-22 para Clase 1 y 2 y la Clase 22 a 26 para Clase 3) **(Primeras - 1-8 -cada semana nutrición, comer saludable, 9-16 cada dos semanas (estrés, motivación, ejercicio, 16-22 como sostener los hábitos de ejercicio, comida,, y apoyo)**

8. ¿Cuál fue su clase favorita? ¿Por qué?
    ¿Fue porque estaba en línea? ¿Fue el contenido? ¿Fue el entrenador?
9. ¿Hubo algo en las clases que pensó que se hizo de manera excepcional?
    a. Algo que sobre salió? (eg. Los ejemplos de clase, instructor, material mandados a casa, tabletas, continuación de programa internet)
10. ¿Cuál fue su clase menos favorita? ¿Por qué?
    a. ¿Fue porque estaba en línea, en persona? el contenido? ¿o fue la duración?
    b. ¿Fue la manera en que enseñaron la clase?
11. ¿Hubo algo qué le pudo haber ayudado aprender? (¿Por ejemplo, le gustaron más los videos, las imágenes, las historias, o las hojas de trabajo, cambios en el libro?)
12. Si usted tuviera que enseñar una clase, que hubiera hecho diferente?

13. ¿Hubo algo en las clases que fue ~~problemático~~ o podría mejorar o cambiar? (eg. Tesis de azúcar en casa, ubicación, hora, privacidad, audio, video, tiempo de duración, calidad de sonido / video)? Agregaria una clase?
    a. Reduciria la cantidad de clases? Agregaria mas clases?
    b. Reducir el tiempo de las clases?
    c. Agregaria un componente para ensenar la clase usted?
14. ¿Usted crearía una clase "hybrid" -virtual y otras clases en persona?
15. ¿Las clases eran mejor virtuales o en persona? ¿Por que?

16. ¿Qué pensaste de los oradores invitados? (ej. le gustaron/no le gusto/ sentiste que estaban preparados / prefieres más invitados)
17. Si usted pudiera agregar oradores, a quien invitaría? (eg. Doctores, nutriólogos, psychologos, personas que han graduado del programa)
18. ¿Cómo fue el cambio a telesalud (clases virtuales por Zoom)?
    a. ¿Se le hizo fácil o difícil? ¿Por qué o por qué no?
19. ¿Qué le motivo para continuar el programa durante la pandemia?

20. Cuando escuchó que el programa iba a cambiar a forma virtual, ¿tuvo alguna inquietud?
    a. ¿Hay algo que le podría haber desanimado a continuar con el programa durante la pandemia?
21. ¿Cómo fue la experiencia de la clase virtual en comparación con la experiencia en persona?
22. ¿La experiencia de telesalud (clase virtual) fue lo que esperaba? ¿Fue lo que usted imagino?
23. ¿Qué fue diferente en la clase de telesalud y qué fue lo que más le sorprendió?
24. Si tuviera que hacer otro programa virtual, ¿lo volvería a hacer? ¿Por qué? ¿Por qué no?
25. Usted estaría interesado en una clase "hybrido" cuando estemos regreso en persona (en el salón)?
26. Que fue la mejor parte del programa?
27. Que sugerencias tiene para mejorar el programa?
28. otra cosa que quiere compartir?

<u>Demográfico</u>

1. ¿Qué **edad tiene?**

2. **¿Cuál es su origen étnico?**

o Blanco
o Hispano o latino
o Negro o afroamericano
o Nativo Americano o Indio Americano
o Asiático / isleño del Pacífico
○ otro

3. ¿Cuál es el título o nivel mas alto de educación que ha completado?

o Sin escolaridad completa
o Guardería hasta 8o grado
o Algo de secundaria, sin diploma
o Graduado de la escuela secundaria, diploma o equivalente (por ejemplo: GED)
o Algo de crédito universitario, sin título
o Formación comercial / técnica / profesional
o Grado asociado
o Licenciatura
o Maestría
o Título profesional
o Doctorado

4. ¿Cuál es el idioma de tu hogar?

o Español
o Ingles

Interview Guide for Coaches

Pre-Journey (Screening Process with Community Team)

1. How was the consent/screening process?
2. Was there anything that you thought was above expectations- or even exceptionally done for participants?
3. Was there anything in the process that was problematic – or could be improved?

During (Defined at the invitation call participants receive and onboarding to the first class)

4. When thinking about the onboarding of the first class, how was that experience in getting the first class started?
5. Was there anything in the onboarding process that you thought was above expectations- or even exceptionally done?
6. Was there anything in the onboard process that was problematic – or could be improved?

Post-Journey (Defined as the continuation of class 2-22 for cohort 1 and 2 and class 22 to 26 for cohort 3)

7. Were the classes better online or in person? Why?
8. What was your favorite class? Why?
    a. Was it because it was online? Was it the content? Was it the Coach?
9. Was there anything in classes that you thought was above expectations- or even exceptionally done?
10. What was your least favorite class? Why?
    a. Was it because it was online, in person? or was it the content? Length?
    b. Was it the way it was taught? What could have helped you? (Example liked more videos, pictures, stories, worksheets?)
11. Was there anything in the classes that was problematic – or could be improved (location, time, privacy, audio, video, time duration, sound/video quality)?
12. What did you think of the guest speakers? (ex. Did you not/like them, felt they were prepared/prefer more)
13. How was the switch to telehealth?
    a. Did you find it easy ? What was challenging? (video, sound quality, privacy, connection)
14. How was the virtual class experience for you in comparison to in person?
15. Was the telehealth experience what you expected?
16. What was different in the telehealth class, and what surprised you the most?
17. If you had to do another virtual program, would you do it again? Why? Why/not?

Demographic

5. **What is your age?**

6. **What is your ethnicity?**
   - White
   - Hispanic or Latino
   - Black or African American
   - Native American or American Indian
   - Asian / Pacific Islander
   - Other
7. **What is the highest degree or level of school you have completed?**
   - No schooling completed
   - Nursery school to 8th grade
   - Some high school, no diploma
   - High school graduate, diploma or the equivalent (for example: GED)
   - Some college credit, no degree
   - Trade/technical/vocational training
   - Associate degree
   - Bachelor's degree
   - Master's degree
   - Professional degree
   - Doctorate degree

8. **What is the language used at home?**
   - Spanish
   - English

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