Understanding Student Perceptions of Arizona State University's Downtown Campus

Built and Social Environments and their Perceived Impact on Student's Wellbeing

by

Sydney Kirsten Rood

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Graduate Supervisory Committee:

Megha Budruk, Chair
Evan Jordan
Scott Cloutier

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ABSTRACT

The United Nations projects that 68% of the world population will live in urban areas by 2050. As urban areas continue to grow, it is critical to consider how cities will be redesigned and reimagined to ensure that they are healthy and beneficial places that can properly support their residents. In addition, college students have been identified as a vulnerable population in regards to overall wellness. In Downtown Phoenix, one the biggest elements of concern will be the built environment and its influence on wellbeing as the city itself and Arizona State University's Downtown campus populations continue to expand. Given this, the purpose of this study is two-fold. I applied Social-Cognitive Theory as a framework to first, understand student perceptions of the built and social environment and second, explore how perceptions of the built and social environment influence student wellbeing. I used semi-structured interviews and participant-driven photo elicitation to answer these questions. The study took place at Taylor Place Mall on Arizona State University's Downtown Campus and participants were students who attend classes on the ASU Downtown Campus. Findings displayed the need for design considerations to focus on the safety of students, creating places to gather for social connection, and overall a desire for design to focus on place making and place meaning, as well as other themes. Understanding more clearly how the built and social environment guides behaviors and social opportunities can help urban designers, landscape architects, and community developers better plan healthier environments that foster productive behaviors, create meaningful spaces, and prove to be sustainable in future years.

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DEDICATION

To my family, friends, teachers, mentors, and all those who believed in me and never doubted that I could achieve this accomplishment. Completing this thesis and obtaining my Master's degree is the fulfillment of a lifelong dream of mine and I know the road to get here was shaped by your impact and support of me. Thank you.

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PERSONAL BIOGRAPHY OF RESEARCHER

It is important for a researcher to establish themselves, their history, and their opinions in order to attempt to bracket biases that may influence their research, especially within qualitative research. For the purposes of this study, I, the researcher, acted as the research tool by collecting and analyzing the data from participants. I believe it is important to describe myself, why I chose to study the built environment and wellbeing, as well as my previous education and life experience that both brought me to this master's program and this topic specifically.

Demographically, I am a 23 year old Caucasian female with some Hispanic heritage. I grew up in a lower-middle class family in the southern part of Glendale, Arizona. The area I grew up in has little pedestrian and transit oriented development besides what has been developed for the personal vehicle and the sparse bus route. Most of the homes in the area and the one I spent the majority of my childhood in were built in the late 1960's and early to mid 1970's. The high school I attended was located in my neighborhood and was considered a Title I school. I am fiercely proud of where I grew up. I am grateful for my community and I take pride in having grown up there. However, my community, as well as my long-time passion for environmental concerns, has been my inspiration for community development work. I recognized the difficulty that came with living in a place that was not designed for the pedestrian. There were periods of time in my life where my family did not have a vehicle that worked properly and we relied on public transportation. In Arizona, particularly in the summer, I experienced getting

groceries while utilizing sparse public transportation and the exhausting and difficult process it was.

Experiences such as these made me aware of several built environment features as a very early age and I recognized how the environment I was in truly affected my body and my mind. Primarily, I knew as an Arizona native that with continued environmental degradation, my state would continue to rise in temperatures and natural resources such as water would become less available. Secondly, I realized that the built environment was designed in a way that made it extremely difficult to exist without a personal vehicle. I understood not only how density prevented opportunities for walking and biking, but I also realized how spread out resources were, such as grocery stores, different corner stores with pharmacies and hygiene products, and other important retailers. All of these conditions that I realized at an early age have inspired my education, my work, and my beliefs.

I have my Bachelor of Arts Degree in Sustainability as well as a minor in Urban Planning from Arizona State University. My experiences in my undergraduate education propelled me to dig even deeper into the influences of the built environment, particularly how small design features and decisions have profound impact on a community's ability to lead happy, healthy, and sustainable lives. When connecting my personal opinions and beliefs to this research project, I am aware that my questions that I am asking are not opinions on if the built environment is influencing the participants wellbeing, because there is a plethora of research that solidifies how humans are influenced by their environment. That is knowledge held and reinforced by data. However, I will need to

conscious not to lead or push participants to specific answers when interviewing and

probing and understanding the difference between answers from voluntary participants

that do not have formal education about urban design features like I have. Although I do

have opinions and academic training on this subject, I aimed to remain as unbiased as

possible throughout the research process in effort to not influence the data to reflect any

particular results.

CHAPTER 1

INTRODUCTION

Background and Statement of the Problem

The United Nations projects that 68% of the world population will live in urban

areas by 2050 (United Nations). This foreshadows that approximately two-thirds of the

world's population will move to more dense urban cores within the next 30 years,

resulting in heightened challenges surrounding resource use and consumption rates. In

addition, college students have been identified as a vulnerable population in regards to

overall wellness as they face new challenges, often being in new built and social

environments for the first time. In Phoenix, the Downtown campus of Arizona State

University (ASU) will face additional pressures on the built environment infrastructure

and the surrounding population as the city itself and ASU's Downtown campus

populations continue to expand. As urban areas continue to grow, it is critical to consider

how cities will be redesigned and reimagined to ensure that they are healthy and

beneficial places that can properly support their residents, including the student

populations at urban campuses.

There has been an increased breadth of research focused on determining what

elements and characteristics of the built environment have had the most beneficial or

detrimental effect on wellbeing. This research has not been isolated to just physical

wellbeing, but has connected to topics such as mental wellbeing (Stafford et al. 2007,

Moore et al. 2018), the social wellbeing of communities (Wood et al. 2008, Cabrera et al.

2015), the built environment and crime (Foster et al. 2008, Lorenc et al. 2012, Schaefer et

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al. 2018), access to necessities such as food (Azétsop et al. 2013), as well as several other topics that are related under the built environments impact on wellbeing.

While the public health and urban planning fields have continuously been interested in the built environment and its ability to impact health related behaviors, it is important that considerations are also made for bringing awareness to communities of how the built environment guides not only their physical wellbeing, but also their mental wellbeing and their overall behaviors. The built environment can have as much of an impact on mental wellbeing as physical wellbeing. The built environment can create barriers or opportunities for people to participate in wellness activities, whether physical, mental, emotional, spiritual, or social (Owusu-Ansah et al. 2018, Li et al 2015, Frerichs et al. 2016). Understanding more clearly how the built environment guides behaviors, perceptions of efficiency or difficulty in completing particular behaviors, and moments for social opportunities can help urban designers, landscape architects, and community developers better plan more healthy environments that foster productive behaviors, create spaces that people want to be in, and prove to be sustainable in future years.

Purpose of the Study and Research Questions

This study took place on the Downtown Phoenix campus of Arizona State University, specifically focusing on Taylor Place Mall, where I interviewed students about their perceptions of the built environment's impact on their wellbeing. The purpose of my study was to understand student perceptions of the built environment as well as what built and social environment characteristics are influencing their wellbeing. After reviewing literature my research questions were:

RQ1: What are student's perceptions of social and physical streetscape characteristics? And,

RQ2: What are student's perceptions of the social and physical streetscape characteristics impact on their wellbeing on Arizona State University's Downtown Campus?

The goal of these research questions was to understand student perceptions of the built environment and wellbeing to pinpoint the areas of impact and focus to address for students. The results of my study could be used to better understand how ASU's Downtown Phoenix campus can continue to grow in an optimal way for student's wellbeing. I want to solve this problem for students whose wellness is being negatively impacted by their environment on university campuses. The Downtown campus of Arizona State University in particular is located in an urban core that will continue to face challenges with population increases and resource consumption and preparation can help make the campus and students more resilient to these changes.

It is critical that students are considered genuine stakeholders when it comes to making decisions in the design processes of the campus. Students pay for services from their educational institution and choices made at a high level within the university have direct impact on the day-to-day experiences of students. It is important to plan for the future fueled by student experiences, and to do so, students perceptions must be center in the process. While I am considerate of the fact that communities have varying needs and cultures and might require different design characteristics to maintain an appropriate balance of wellness, the goal of my study was to learn how wellness is perceived to be

impacted by the built environment and then create suggestions for how student

experiences can be improved for ASU.

CHAPTER 2

LITERATURE REVIEW

The Built Environment and Wellbeing

Several studies have looked at how the built environment impacts wellbeing (Foley et al. 2018, Moore et al. 2018, Ram et al. 2016). These studies have utilized different methodologies to discover information on an array of ways that the built environment can affect wellbeing. Wellness is defined in the dictionary as "the quality or state of being in good health especially as an actively sought goal" (Merriam Webster Dictionary). In the World Health Organization's Alma-Ata Declaration of 1978, they expanded the definition to include that health and wellness is not merely the absence of disease or infirmary (World Health Organization). This declaration created a large change from focusing on the internal and biological causes of wellbeing and disease to accepting that environmental components of our everyday lives shape the ability for one to be well. In 1997, Ed Diener and Eunkook Suh wrote in their article titled "Measuring Quality of Life: Social, Economic, and Subjective Indicators" that "subjective well-being consists of three interrelated components: life satisfaction, pleasant affect, and unpleasant affect. Affect refers to pleasant and unpleasant moods and emotions, whereas life satisfaction refers to a cognitive sense of satisfaction with life" (Diener et al. 1997). Again, this new definition implied that not only is wellbeing impacted by environmental factors, but the state of such can influence one's pleasant and unpleasant moods and further determine where or not individuals are satisfied with their life, which can greatly influence whether someone is well.

After the definitions were expanded to include social and environmental factors, studies emerged that drew the line between environmental influence, subjective perception, and wellbeing (Lindheim et al. 1983). Once it was accepted and acknowledged that the built environment could influence our wellbeing, other studies followed that focused on specific concerns generated by the built environment. This included the fear of crime, which is often exasperated and induced by specific built environment features such as poor lighting and degraded infrastructure (Foster et al. 2008, Lorenc et al. 2012, Schaefer et al. 2018). The fear of crime and being afraid of injury can have detrimental impacts on ones wellbeing as their bodies consistently exist in a high stress and adrenaline state (Stafford et al. 2007, Hedayati Marzbali et al. 2016). Further studies have searched for the influence that different built environment spaces and characteristics have on wellbeing such as the quality of housing (Carnemolla et al. 2016), ability to access healthy, affordable food (Azétsop et al. 2013), and reliable transportation that provides a way to get to and from a place of employment or school which can help with security and life satisfaction (Schauder et al. 2015).

Additionally, researchers have extensively analyzed the influence that the built environment has on social capital and how being connected socially to those in your community can affect one's wellbeing (Wood et al. 2008, Cabrera et al. 2015). The built environment creates behavior patterns that can either increase or decrease opportunities for social connection. Knowing one's neighbors can help increase feelings of safety and allow residents to feel as though they have people who care about them and would be able to assist in times of need (Mohnen et al, 2011, Chung et al. 2011).

For the purposes of this study I will be focusing on broader wellbeing which is often impacted by the state of one's health and not focusing specifically on health itself. However, it is important to note the many studies that have explored the ways that the built environment can promote or inhibit physical activities such as walking and biking, both of which are correlated to various health concerns including obesity and cardiovascular disease (Handy et al. 2002, Brownson et al. 2009).

Student Wellness on University Campuses

Students on college campuses experience an abundance of life changes often including residential location, social environments, social and academic behaviors, nutrition changes, and others. There have been a multitude of research studies that have approached the topic of student wellness differently, but in order to narrow down the research done previously, I am referencing studies that have specifically focused on the design of college campuses built environments and the impact on wellbeing for students.

One of the factors of the built environment that affects student wellness is nutrition options and choices. One study analyzed the nutrition choices of students who purchased food on campus and found that "approximately 45% of students purchased food/beverages from at least one campus area venue less than or equal to three times a week" (Pelletier et al. 2013). The students who did purchase food on and around the campus were found to also be skipping breakfast more often and consuming more fat and sugar (Pelletier et al. 2013). Not only does the food environment on a college campus impact student nutrition choices, but student food insecurity is another issue that greatly plagues and affects college students. It is estimated that approximately half of college

students are food insecure (Broton et al. 2017). Food insecurity can affect students' physical wellbeing from hunger, and emotional and mental wellbeing from struggling to figure out where their next meal is coming from. Researchers have been able to link food insecurity and lower graduation rates, also impacting students' academic wellness and success (Broton et al. 2016).

In addition to the food environment on college campuses, housing stability, location, and quality also affects student wellness. Living on campus in residential communities and the proximity and walkability to campus for students who live off campus influences student wellbeing. Living in residential communities helps students create community, get involved on campus, and connect them with valuable resources to help them be successful (Hernandez, 2011). Even when students do not live on campus, their wellness is impacted continuously by the proximity of their residential space to their university. One study reported that "lower residential density, traffic safety, and crime scores and higher land-use mix diversity, aesthetics, and lack of parking scores" were all built environment characteristics that impacted the physical wellness of students and that physical activity itself decreased when students transitioned to off-campus housing (Peachey et al. 2015).

While residential location and food environments are two of the major impacts on students, other built environment characteristics such as no smoking areas and college campuses that have proper restorative areas for students can also affect various elements of wellbeing. Research has shown that college campuses that enforce no smoking policies decrease students' exposure to tobacco smoke and also decreases the number of students

who smoke or have peers who do (Seo et al. 2011). Furthermore, students on campus can suffer from attention fatigue and desire places to relax on campus. Green spaces on campus have been found to be naturally restorative (Felsten 2009). Whether or not these types of restorative environments are offered can affect the wellness of students and their ability to recharge from academic studies.

Social-Cognitive Theory

For the purposes of my study, I used Social-Cognitive Theory and its components to guide my research. Social-Cognitive Theory (SCT) has primarily been used in public health research as a tool and framework to help assess social and physical environments in order to understand individual behaviors. In doing so, public health professionals could create more effective interventions to improve overall health. The Social-Cognitive Theory was originally called The Social Learning Theory in the 1960s by Albert Bandura and developed into Social-Cognitive Theory in 1986 (Behavioral Change Models). The theory explains why people model particular behaviors and why people take part in different behaviors because of observational learning (Vinney, 2019). There are seven key components that make up Social-Cognitive Theory. As provided by the Rural Health Information Hub, they components include:

1. Self- Efficacy: the belief that an individual has control over and is able to execute a behavior.
2. Behavioral Capability: understanding and having the skill to perform a behavior.
3. Expectations/ Outcome Expectations: determining the outcomes of behavior change.

4. Expectancies: assigning a value to the outcomes of behavior change.

5. Self-Control/ Self-Regulation: regulating and monitoring individual behavior.

6. Observational Learning/ Social Support: watching and observing outcomes of others performing or modeling the desired behavior.

7. Reinforcements: promoting incentives and awards that encourage behavior change.

For my study, I used five of the seven formal components of SCT to shape my interview questions for participants. The five that I used include self-efficacy, behavioral capability, expectations, self-control, and observational learning. I selected these five components because I am following the same interview question structure as the guiding methodological research paper. I also did not include expectancies and reinforcement components of SCT in my interview questions because they are more centered on evaluating and creating intervention programs and understanding how to keep people from repeating unhealthy behavior, which is more appropriate in the public health research that it is most formally used in. I am looking to understand how the built environment causes those behaviors to begin with. I am not interested in the value and incentives of conducting healthy behavior, but how the built and social environment influences this behavior. It is important to note that I am not testing Social- Cognitive Theory, but am using it as a framework to create my interview questions and guide my study. I believe that using this theory will benefit my study because I am able to analyze the social and physical environment to learn why students do or do not participate in particular behaviors and how much of their justification for their perceptions of their

wellness is placed on the built environment versus social experiences. As described by Joseph et al. (2017), "the SCT explains behavior in a dynamic and reciprocal model in which personal factors (beliefs, attitudes), the environment (social and physical) and the behavior itself all interact to produce a behavior".

While the Social-Cognitive Theory has been primarily used in the context of public health interventions, there are several other contexts that have used SCT as a lens for their research. For instance, Social- Cognitive Theory has been used in studies that focus on why individuals replicate behavior that they witness and to help predict behaviors (Basen-Engquist et al. 2013, Boateng et al. 2016). Other studies that have utilized Social-Cognitive theory have done so to help discover why people participate in certain behaviors including nutrition/dietary choices and green consumer behaviors (Lubans et al. 2012, Lin et al. 2015, Rankin et al. 2017). Similar to the study that I am using as a guide for my research, Social-Cognitive Theory has been used to help understand perceptions of programs and services and predict the most successful processes that will yield desired behaviors for individuals (Rogers et al. 2004, Mailey et al. 2016). Fields such as education have utilized SCT to create and analyze student activity interventions (Martin et al. 2017). Addiction rehabilitation has used Social-Cognitive Theory to assess relapse predictions (Van Zundert et al. 2009, Hasking et al. 2015). Some studies have zoned in on one specific component of SCT to predict behaviors in post-traumatic stress recovery (Benight et al. 2004). Overall, SCT has been used in a variety of fields and studies while still generally helping to understand how social and physical environments impact behaviors.

The built environment directly affects the wellbeing of individuals in communities and on college campuses and it is important to understand if and how people perceive the direct and indirect impacts that the built environment can have on them socially, physically, and mentally. Although there has been a growing number of studies looking to understand the connection between health and the built environment, several of them focus on quantitative data or some mixed-methods to explain the built environment and wellness phenomena. My study will identify the built environment characteristics that promote or inhibit behaviors that prevent students from feeling well. I also was unable to find a qualitative study that addressed health and the built environment through the lens of Social-Cognitive Theory which again has the unique framework of combining both the social and physical environments to promote behaviors that impact wellness. Social-Cognitive Theory can also help create solutions that benefit communities and although solutions may vary by geographic area, the process of analyzing the components of SCT can produce beneficial questions for planners and developers when considering built environment changes in a neighborhood. It can highlight the built environment characteristics that are most desired for particular residents, what characteristics create barriers that inhibit strong social connections, and wellness behaviors that are critical for overall community health. By keeping my questions subjective and also by tailoring my interview questions using the Social-Cognitive Theory, I believe that I will be able to more thoroughly understand students reactions to the built environment and the environmental pressure that it places on them, ultimately informing how the built environment influences their individual behaviors. As

populations continue to grow in urban spaces and concerns about community health as well as proper access to resources continues increase as well, research such as this can be used to help understand the desires and needs of communities. This research can also help determine how to design built environments that are appealing and provide positive perceptions of wellness that will ideally create healthier and more sustainable urban spaces.

CHAPTER 3

METHODS

Overview of Framework, Design, and Methods

In this study, my goal was to understand the participant's perspectives and experiences and then make meaning from them. In order to explore my research questions, I used Social-Cognitive Theory as the framework for my study. Social-Cognitive Theory helped shape my inquiry in a way that provided insight to how personal, social, and environmental factors interact to produce a behavior as it has shown to do in previous studies (Fuller et al. 2012, Martin et al. 2008). I conducted personal interviews with participants as well as collected photos from each of them of places on Taylor Place Mall on Downtown Campus that they believe positively and negatively impacts their ability to feel well. The interview was constructed in a way to ensure that all five of the components used in SCT are discussed. Participants recruited were students who attend classes on the Downtown Campus of ASU. I then conducted thematic analysis of the interview data and visual analysis of the photographs.

Research Methods

I searched to find research methods that were transferable, could be altered or replicated, were appropriate for the nature of my study, and had successfully utilized the Social-Cognitive Theory in order to understand the connection between the environment and individual behaviors. It was also important to find a research study that had utilized Social-Cognitive Theory with the intention of understanding wellness. The article that I used as a methodological guide for my study was titled "Utility of Social Cognitive

Theory in Intervention Design for Promoting Physical Activity among African-American Women: A Qualitative Study" by Rodney P. Joseph et al. 2017. In this study, the authors recruited twenty-five sedentary and obese African-American women, split the women up into groups of six to ten, and asked them to participate in 3 different focus groups. The three focus groups were designed to target specific Social-Cognitive Theory concepts. The ultimate goal of this study was to refine a physical activity intervention. Each question that was asked in the focus group was related back to a specific concept from SCT. While my participant pool was different and more diverse as it represented students of no particular race, gender, or age category that attend classes at Arizona State University's Downtown Campus, I did use the interview question guide in Joseph's study to develop my interview questions and help ensure that the components of Social-Cognitive Theory were addressed. One other diversion from Joseph's research paper research methods is that of the research instrument. Instead of three focus groups where only two or three of the components of SCT are addressed, I conducted individual interviews with students to ensure that I had a more holistic understanding of their perceptions utilizing the framework of Social-Cognitive Theory. All of the questions in the interview related to a component of Social-Cognitive Theory while also discussing different perceptions of built environment characteristics and wellness.

Furthermore, in addition to the data that was collected through my in-depth semi-structured interviews, I triangulated my data by collecting and analyzing photo submissions from participants, also known as participant-driven photo elicitation (PDPE). These photos represented areas on campus and streetscape indicators that students believe

positively and negatively impact their wellness. I provided participants with three

definitions of wellness, however I left the interpretation of wellness to the individual

participants. When photos were submitted, I asked the participants to explain why a

particular area or streetscape characteristic beneficially and negatively impacted their

wellness. Perspectives ranged from physical, mental, emotional, spiritual, or other types

of feelings of wellness. The article that I referenced as justification for also including

participant-driven photo elicitation was titled "Visualizing community: using participant-

driven photo-elicitation for research and application" by Paul M. Van Auken et al. 2010.

This particular research article used this type of photo elicitation technique to discover

attitudes and opinions that community members had in regards to the built environment

and community changes. While I did not ask participants to bring photos in the same

categories that they authors had specifically laid out in their study due to the difference in

research questions and overall study needs, I analyzed the photographs and participants'

justification for taking them similarly. As the authors write in their justification for using

participant-drive photo elicitation in addition to interviews for data collection, "photos

can provide tangible stimuli for "deep" interviews; photo-elicitation produces "thick"

data and different kinds of information than other techniques; Photo-elicitation can help

to bridge the gaps between the researcher and subject; and Participant driven photo

elicitation (PDPE) can stimulate people to become engaged in local affairs" (Van Auken

et al. 2010). Participant driven photo elicitation helps the researcher to further understand

a participant's experience. This photo collection technique has been used in past studies

to understand cultural food experiences to help address chronic illness in different

nationalities (Johnson et al. 2011). Participant driven photo elicitation has also been used to bring in populations that would have otherwise been marginalized from the research process such as students with Autism Spectrum Disorder (Danker et al. 2017). PDPE helps illustrate participant experience in a way that might not be possible through interviews alone. Because the built environment is tangible and can be visually seen and experienced, collecting photos of built environment characteristics that facilitate perceptions of wellness helped create greater clarity of participant responses and produce more robust data while also acting as a triangulation technique.

Review of Research Questions, Explanation of Design Choice

My project design consisted of semi-structured interviews that were predicted to last between one to two hours, however the average length of the interviews conducted was 34 minutes, the shortest interview being 28 minutes and the longest interview being 44 minutes. I believe that the interviews were shorter than expected given my own probing skills as well as the participants' level of knowledge or opinions on the topic. Interviews were conducted until data saturation was achieved which did occur over the course of the 10 interviews whose data I was able to use for the study. I knew that I had reached data saturation once I no longer heard new answers from participants and themes and due to this, the confidence that if the study were replicated, the same if not similar themes would arise from the sample (Morse 1995, Guest et al. 2006, Ness 2015). I asked participants specific questions regarding different physical and social elements of the built environment while also tailoring the questions to address the five components of Social Cognitive Theory. Participants were also asked to submit photos to me that depict

street elements that they believe positively and negatively impact their wellbeing and provide brief description as to why.

To review, my research questions are:

RQ1: What are student's perceptions of social and physical streetscape characteristics? And,

RQ2: What are student's perceptions of the social and physical streetscape characteristics impact on their wellbeing on Arizona State University's Downtown Campus?

Qualitative inquiry was appropriate for this study because I aimed to discover individual perceptions of the built environment and how their interpretation of the social and physical characteristics affect their perceptions of their wellbeing. Therefore, individual interviews allowed me to ask participants questions from each component of Social Cognitive Theory. Collecting photographs from participants in addition to conducting interviews offered a visual component to the streetscape elements discussed in interviews while also providing an opportunity to triangulate the interview data for validity.

Study Site

My study took place on the Downtown Phoenix campus of Arizona State University. I asked students about their perceptions of streetscape characteristics as well as how they believed these characteristics influenced their overall wellbeing. While participants could refer to the built and social environment characteristics of anywhere on campus, for several of the questions I used examples specifically from Taylor Place Mall and asked them to refer to this major corridor when answering the questions. Taylor

Place Mall runs through the middle of the Downtown Campus from east to west, connecting North 1st and 2nd streets from Central Avenue. This particular street has been designed with student pedestrians in mind as it has various pedestrian oriented design features such as narrow streets, traffic calming characteristics, trees, seating, commercial retail facing the street, as well as other details. This study location was chosen for several reasons. First is that it is in an urban environment and contributes to the knowledge of how the built environment can impact wellbeing in a booming city center. Taylor Place Mall was designed keeping the student experience in mind. This study site is also located on an urban college campus with a relatively accessible and diverse participant pool. Lastly, as mentioned previously, there have been design considerations made for student pedestrians and cycling.

Validation for the built environment characteristics of Taylor Place Mall can be found in the Master Plan for all of ASU's campuses as well as the Master Plan Update for the Downtown Phoenix Campus. When describing the architectural features, the plan update acknowledges "following successful examples built on campus, future massing and materiality should be used to reduce the scale of a large volume, creating a more pedestrian environment on the lower floors with transparency along the street edge" (Master Plan Update, 2011, Pg. 3). This shows the intentionality behind designing pedestrian oriented features as well as transitional/ permeable spaces. Furthermore, when referencing Taylor Street specifically, the master plan states that "…The conversion of East Taylor Street to the Taylor Place Mall between North 1st Street and North Central Avenue has created a unique pedestrian experience that connects the university to the

city" (ASU Master Plan, pg. 116). This shows that there was an intentional desire for place-making and for place attachment between students and the university environment. In addition, the master plan acknowledges that with the creation of the Cronkite Journalism building in 2008, Taylor Street was closed off to create Taylor Place Mall, which has "…become the backbone of the campus and now links the majority of the campus buildings with Civic Space Park" (ASU Master Plan, pg. 128). Overall, it is clear that Taylor Place Mall was created with the student pedestrian experience in mind, making activity easier on campus, more enjoyable, and working to create a bond between students and the campus.

Participants Sample and Sampling Strategies

Participants for this study were drawn from students who attend classes and spend time on the Downtown Phoenix Campus of Arizona State University. The selection criteria was that they attend classes on the Downtown Phoenix campus, have spent enough time on campus to formulate opinions about the built environment, and were able to use the social and built environment to answer desired questions about the environment's ability to impact their wellbeing.

In order to recruit participants for my study, I began by reaching out to students that I knew fit the selection criteria, which is known as convenience sampling. I also reached out to students by asking professors if I may, or if they would, make an announcement in their courses or through email. Once I was able to recruit the initial participants, I used the snowball method to screen participants and conduct additional

interviews. When I reached out to recommended participants, I contacted them via text, email, or phone call. Communication scripts are included in the appendix.

I did reach a moment during the recruitment process when I experienced difficulty getting participants for the study. When this occurred, I also recruited participants by approaching students and passing out small fliers on Taylor Place Mall. I also changed the benefit for participating in the study by modifying the IRB and providing a five dollar Starbucks gift card to all students who participated. Through these modifications, I was able to recruit more participants to help me achieve data saturation.

The Interview

In order to create the questions and structure for my interviews, I referenced the study mentioned previously titled "Utility of Social Cognitive Theory in Intervention Design for Promoting Physical Activity among African-American Women: A Qualitative Study" by Rodney P. Joseph et al. 2017. This study used Social-Cognitive Theory to create the focus group questions and made sure to align questions with one or more of the Social-Cognitive Theory Components. While the previous study used focus groups, each focus group only addressed one or two of the SCT components and each focus group had different participants. Therefore, I believed personal and individual interviews would allow me to discuss all of the SCT components with each participant and receive a more holistic understanding of their experience. Below is my interview guide and questions which details how they were aligned with one or more of the SCT components (self-efficacy, behavioral capability, expectations/outcome expectations, expectancies, self-control/self-regulation, observational learning/social support, and reinforcements). As the

interviews are semi-structured, in addition to the questions I have outlined below, participant answers allowed me to naturally inquire and add probing questions not specifically listed.

Participant Screening Questions

1. Do you currently attend classes on Arizona State University's Downtown Phoenix Campus?

2. Are you able to discuss your opinions of the built environment of the Downtown Campus and how you believe it impacts your ability to feel well?

3. Are you willing to conduct an interview with me that will last between 60-90 minutes discussing how the social and built environment of Arizona State University's Downtown Campus affects your perceptions of your wellbeing and submit two photos to me of different streetscape characteristics, one that you feel benefits and one that you feel hinders your ability to feel well?

Interview Questions

1. What is your age?

2. What is your gender? (male, female, non-binary, prefer not to say)

3. What is you major and year of education?

4. How often are you on ASU Downtown Campus? Have you or do you currently live on campus?

5. <u>Ice breaker/ Behavioral Capability:</u> What comes to mind when you hear or think of the phrase "built environment"?

6. <u>Ice breaker/ Behavioral Capability:</u> What comes to mind when you hear or think of the word "wellness"?

7. <u>Ice breaker/ Behavioral Capability:</u> Do you believe that the built environment and wellness are connected? Why not or how so?

8. <u>Outcome Expectations:</u> In what ways do you believe your wellness may be impacted by particular built environment characteristics on Taylor Place Mall?

    a. <u>Examples:</u> Seating opportunities and access to greenspace, sun exposure during the day and proper street lighting at night, public art?

9. <u>Self-efficacy:</u> Can you tell me about a previous experience where the design of the street, specifically Taylor Place Mall, either enhanced or inhibited your ability to perform wellness activities? This includes wellness activities for physical and mental wellbeing.

10. <u>Self-efficacy:</u> What is your biggest challenge, if you have one, of staying well with the particular structure of Taylor Place Mall?

11. <u>Self-regulation:</u> What are some ways that you can overcome some of the physical barriers that the built environment on Taylor Place Mall places on your overall wellbeing?

12. <u>Social Support:</u> Can you tell me about the people around you on campus that help support or participate in wellness activities with you on Taylor Place Mall?

13. <u>Social Support:</u> Do you believe that there are systems level procedures (political, governmental) that impact the built environment on Taylor Place Mall in a way that helps or inhibits the promotion of wellness for individuals?

14. <u>Social Support:</u> If you had the opportunity to design a streetscape with wellness in mind, what components might it have? What would it look like? Will you submit a photo to me of a streetscape characteristic that either positively or negatively impacts your wellbeing?

15. <u>General:</u> Is there anything that we didn't discuss or anything that you would like to share regarding the streetscape, Taylor Street Mall, and wellness before we end?

I conducted interviews until data saturation was achieved, which I estimated would occur between 10-15 interviews and occurred at 10 interviews, as well as collected two photographs from each participant that demonstrated places on Downtown Campus and Taylor Place Mall that both inhibited and benefited their overall wellbeing. Interviews took place on campus in a reserved study room located in the library. This location ensured that the interviews were conducted in a public place while also providing silence and privacy for quality control of the interviews. Before the interview began, participants were given a map of Downtown Campus that clearly highlighted Taylor Place Mall and three different definitions of wellness for reference during the interview.

Photo Collection

Once the interviews had been conducted, I asked participants to submit photographs to me via text or email. The photos should have been of streetscape characteristics on Taylor Place Mall that the participant believed enhanced and hindered their perception of their ability to maintain their wellness. Once I had collected all of the

participant photos, I conducted visual analysis of the characteristics illuminated through each photo and compared them to the themes from the individual interviews. While I did not ask participants to bring photos to the interviews, but rather to submit them to me subsequently, this photo collection method is still referred to as participant-driven photo elicitation. As stated, collecting photos from participants enhanced my data and provided opportunity for triangulation and a visual explanation.

Data Analysis

I conducted thematic analysis and visual analysis of the collected photographs. After the interviews had been conducted, I transcribed each of them using a phone app verbatim and reviewed them to ensure accuracy of the transcription. Once the interviews have been transcribed, I completed my initial open coding of the data by hand. This involved me sectioning off the meaning fragments of the data and assigning preliminary codes to them in order to describe the data. The goal during this stage was to stay very close to the data and use the language specifically used by participants. Once the initial open coding was complete, I then grouped the open codes by related information and patterns in the data. This secondary coding created my axial codes. These axial codes became the themes from my data. At this point, I stopped and defined the thematic codes because I am using the Social-Cognitive Theory framework. If I were using grounded theory, I would have continued with more grouping to create selective codes to further refine the data, however for the specific analysis and qualitative research I used, thematic analysis is most appropriate because I aimed to organize, analyze, and report the results (Nowell et al. 2017). I also asked a peer trained in research to code key pieces of the

interview data to ensure inter-coder reliability. Due to time constraints, I had to assess which critical parts of the interview data are most relevant to the overall study results. My second coder was able to code significant data rich sections from each of the interviews that were conducted. I created a short codebook that outlined the codes used and their definitions which I provided to the second coder. Once she had completed the coding, we began comparing to find our agreement percentage, which should have been between 80-90% (McAlister et al. 2017). There are three inter-coder reliability percentages. The first is the number of agreed codes over all of the codes in the document. The second and third are the scores each for my co-coder and I, which are found by "(1) the number of times Coder 1 agreed with Coder 2 divided by the total number of codes used by Coder 1, and (2) the number of times Coder 2 agreed with Coder 1 divided by the total number of codes used by Coder 2" (McAlister et al. 2017).

Once I had been able to refine and define the thematic codes of the data, I then conducted visual analysis on the photograph submissions from participants. The purpose of conducting the visual analysis was to have a visual representation of the built environment characteristic, describe it, analyze it, and interpret it. I created a similar coding system for the characteristics illuminated from the photographs. I received twenty photographs, two from each of the ten participants. I wrote out the characteristics photographed and then grouped them by theme. I then used what is shown in the photographs to see if they aligned with the themes that came from the thematic analysis of the interviews.

CHAPTER 4

RESEARCH FINDINGS

Summary of Participants

The final sample of participants included ten students that attended classes on the

Arizona State University Downtown Campus. There had originally been eleven

interviews conducted before reaching data saturation, but one interview was lost due to a

corrupted voice recording. I did find it challenging to recruit students to participate. Some

of the students that I reached out to participate did not respond to my emails. I had

another student text me and say that they were interested in participating, but when I

continued to schedule an interview time, they did not respond. However, with the ten

interviews that were conducted that had not been corrupted, I felt comfortable continuing

as data saturation had been attained and no new information was being provided through

the interviews.

A brief description of the demographics of the participants is explained here

followed by the demographic information expressed in a table. I asked students their

ages, gender (male, female, non-binary, prefer not to say), majors, year of education, how

often and for what amount of time they on average spent on the Downtown campus, and

if they had lived on campus. I did not ask about nationality, but it may have been a

prevalent question to ask as different communities might have found the campus more or

less impactful on certain aspects of their wellness. For example, students of different

religious backgrounds might have found that having places to pray on campus throughout

the day might strengthen their spiritual wellness. There was a total of ten participants

whose data was usable for the study. The age of the participants ranged from 20 to 35

years old, the average age being approximately 24. Although this age would appear older

as students who attend a university directly after high school usually graduate around age

22, approximately 64% of ASU's undergraduate students are between the ages of 19-24

(ASU Fact Book). Furthermore, over 50% of ASU's graduate level students are between

the ages of 25-34 (ASU Fact Book). As my study was open to both undergraduate and

graduate students and I had almost an even split between undergraduate and graduate

students in my sample, this explains why my average age of participants lands in the

middle at approximately 24. The sample included 6 female participants and 4 male

participants. The participant's interview that was corrupted was that of a male student.

There were 6 students who identified as being a graduate student and 4 undergraduate

students. On average, participants stated that they were on campus between 2-3 days a

week and only two participants whose data was viable said that they had previously lived

in the Taylor Place residential community on the ASU Downtown campus.

AGE	GENDER	MAJOR/ YEAR	AVG. DAYS A WEEK ON CAMPUS	AVG. TIME SPENT ON CAMPUS EACH TIME	LIVED ON DOWNTOWN CAMPUS
26	Female	MPA, Year 1	3	10 hrs.	No
23	Male	J.D. Year 2	3	8 hrs.	No
23	Female	MPA, Year 2	1	2 hrs.	No
20	Female	Nonprofit Leadership and	3	3-4 hrs.	Yes

		Management, Sophomore			
29	Female	MPA, Year 2	2	7 hrs.	No
23	Female	Journalism, Senior	3	8 hrs.	No
35	Female	Community Resources & Development, 2nd Year PhD	3	8hrs	No
27	Male	MPP, Year 2	2	3 hrs.	No
20	Male	Urban and Metropolitan Studies, Sophomore	2	N/A	No
21	Male	Journalism, Senior	2	N/A	Yes

Table 1: Participant Demographics

Themes

After all of the interviews were analyzed, 13 themes were illuminated, some of which also contain subthemes. Certain themes did show to overlap with one another occasionally. Each theme presented is supported by quotes from the raw data as well as a visual representation from the photos submitted to me from participants if they correlated with a specific theme.

Theme 1: *Traffic/Cars/Streets (Subthemes: parking, controlled intersections)*: Throughout the interview process, students expressed their concerns regarding the streets that are open to personal vehicles that run through campus. Some participants expressed that the streets that ran through campus deterred them from crossing the street and occasionally made them feel unsafe. While the participants acknowledged the importance and limited quantity of parking on and near campus, they encouraged the removal of

parking and shutting down campus to traffic in order to create better safety and accessibility for students on Downtown campus.

"I don't really go across the street to the civic space park very often I don't know why but I think it's like crossing the street honestly kind of keeps me from going over there."

"This intersection it's a little bit less controlled it's just stop signs and that is one of my least favorite places to walk at night or after class because I think people don't know they're on campus they don't know they are driving through a college campus I didn't know I was driving through a college campus when I started going to school here."

"I think it would've been nice where first street is instead of like letting cars go all the way through that since they do own that entire block is making that a whole corridor and they could have like where the light is where you have to across they could've made that more like a common area maybe more like put more trees made it a little bit more shady like and I think that could've been nice cause I do know that like driving down first street on Taylor Street maybe just getting rid of cars on Taylor Street it is very stressful drive on Taylor Street it's stressful to drive on first when you're on campus so typically and so kind of like it would be nice if it kind of had a more like blocked off areas."

Figure 1: Taylor Place Mall Street

Example: "Allowing this to continue as a vehicle-centric road prevents the campus from feeling more connected. It also isn't healthy for students to have to dodge traffic in the middle of campus. This area is especially chaotic because of the large amount [parallel] parking and its narrowness. Frustratingly, the street seems to remain open to accommodate a very small number of parking spaces."

Figure 2: Controlled Intersections:

"This area by the Arizona center- it feels precarious to cross because it is only a warning light to cars rather than a red light."

Figure 3: Crossing Lanes of Traffic & Public Transportation Lines:

"I do not like this because you literally have to go to the other side of the tracks to go off campus. Moreover, it's not very welcoming coming on to campus from this direction."

Theme 2: *Safety/Security (Subthemes: transient population, trapped in, behavior changes):* Safety and security were prevalent in the interviews. Students referred to their safety as it related to traffic/cars and the high concentration of transient populations around campus. For these reasons, participants noted that they felt trapped on campus at times, afraid to adventure out, even to the gym located across Civic Space Park. They also engaged in various behavior changes in order to increase their feelings of security.

> "Sometimes living down there at night since the streets or the sidewalks are not
> necessarily narrow but I mean we do have a lot of homeless people things like
> that so it does like oh am I going to walk on that side of the street where that lady

is yelling at night like am I going to worry about my actual safety like am I scared."

"We do have a lot of transient like that and not that they were ever going to like attack you or do anything but you I would probably be like do I want to cross 3 full streets right now to go to the gym and go to that workout class."

"I also noticed something about security a lot of bike I see a lot of bikes and they are often stolen or like they have one wheel I still see students use bicycle a lot so it's something that could be made better."

"The main gym it's over here it's way across the street way across Civic Space at the YMCA it's two blocks away you have to walk through civic space park and the only time I could ever go was late at night just because of how my class schedule worked out and there's always a lot of migrants in civic space park… I never went to the gym because I was afraid of going there."

Figure 4: Stolen Property:

"The bicycles parked around Taylor Place are often stolen or damaged. It makes me feel not safe if I have a bike or walk around at night because the thieves might be active then."

Theme 3: *Nature/Green Space (subtheme: Civic Space Park):* The desire for more green space on campus appeared in almost every interview conducted. Participants discussed how green space and nearby nature made them feel calm and at peace. While Civic Space Park is not physically located on Taylor Place Mall, when talking about green space, each participant referred to the location, mostly stating that they did not spend very much time there for varying reasons including separation from campus and the populations that were at the park.

> "The closest green space is civic space park and even then just because of the area where and there's a lot of homeless and migrant people there and it's not necessarily the safest place to be and I felt like that definitely impacted like my wellness."

> "Walking through civic space park at as you're mentioning those things I had forgotten yeah there is at different times of day different groups of people experiencing homelessness there's a police presence as well which kind of just intimidates me and so it's kind of yeah I get signals that I'm kind of unwelcome there or just I wouldn't be comfortable spending a long time there."

Figure 5: Green Wall Drapery:

"I like this wall because of the plant life that changes with the seasons."

Figure 6: Civic Space Park

Theme 4: *Architecture (subthemes: multiple levels, rooftops, windows):* The design of the buildings on Taylor Place Mall and the features they did and did not offer students were expressed in the interviews. How buildings were positioned and how they appeared provided different feelings about comfort, connection, and accessibility. Suggestions for improving the design and spaces included creating multiple levels of transportation between buildings and not having all of the experience exist on the ground floor. Other suggestions included more windows in buildings and taking advantage of rooftop spaces for students.

> "It would be using more than just the street level So whether that be I don't know
>
> if it's having patios on buildings or having you know I guess in Las Vegas they

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have all of the pedestrian walkways up a level so you're always crossing the

street on the second level and you can walk between buildings on the second

level."

"I wish the top of the buildings were all every single one of them garden spaces/

like yoga studio spaces."

Figure 7: Law School Building Architecture 1

Figure 8: Law School Building Architecture 2:

"It is pedestrian friendly, both open air and shaded, offers a ton of seating, and is well-removed from the street."

Figure 9: Cronkite Building:

"The environment, classes, and people that are in the building have created a great community for me and after not knowing what I wanted to major in my freshmen year it's a good reminder that there's somewhere I belong."

Theme 5: *Sky Exposure:* Both shade and sunlight were heavily discussed. On both ends when discussed, there was a desire for more options for both experiences. Participants discussed wanting bright spaces free from fluorescent lighting, but also desired the ability to escape the heat in shaded locations, particularly when walking on Taylor Place Mall. There was acknowledgment from the participants that Taylor Place

Mall's design and location can both inhibit and help this at different parts of the day and year.

> "I also really wish there was a little bit more shade again it's there's very little there's some tall buildings but I walk off and in the middle of the day it hot and sunny so and I think shade is one I would spend a lot more time sitting outside in some of those areas if there was shade."

> "That kind of goes into what I was saying about sun exposure I mean if you're sitting in kind of a you know dimly lit or not very well put together place you know you can have those same other you know stimuli but not really having the same experience from a wellness perspective."

Figure 10: Shade Produced by Buildings

Figure 11: Shade Produced by Trees:

"tree blocking most of the light making it feel closed in."

Theme 6: *Common Space (subtheme: sneaking in):* Arguably one of the largest and most common themes to emerge was the discussion of the lack of communal space on the Downtown campus. Students discussed that there is no location for students to congregate comfortably or to gather to sit and read a book or work on homework. To combat this, participants spoke about their experiences finding isolated places in various buildings on campus, but because they may not have belonged to the college associated with that building, they constantly were concerned they were not allowed to be there.

"I would definitely like just open up like some kind of space over there or that would almost be like a safe area for students to come relax that will be within the

confines of the Taylor place mall and would be safe and close to campus and just be like a safe place for students to come and unwind if they need to."

"I guess those like maybe quintessential like college elements of like an old main or something that's not part of this and not I'm not sure how that would be incorporated because we are kind of flagged by like some corporate kind of spaces or retail but for me like a lot of Just kind of positive college memories are associated with some of those like lawn spaces and that may look a little bit different here but I think it would be really nice to have something like that I think I would be really likely to use it."

"It took a year to realize that like we found a few spaces to concrete that you feel like you're sneaking into so In the law building there's that fourth floor patio space it's beautiful and it's green it's a little quiet because it's kind of halfway enclosed but I'm not a law student you sort of don't really know if you should be there."

"Going back to that central location where everyone can kind like hang out like there's not really that here so when I have a break like a far break between my classes I actually drive back to Tempe."

Figure 12: Option for Common Space:

"An open area with some lawn, sitting desks but seems not to be well maintained. It looks messy and not very comfortable for students to hang around."

Theme 7: *Sense of Place/ Place Attachment (subtheme: signage, leavings campus, connection to others, most activities in Tempe):* Several participants noted that they did not feel connected to Arizona State University or Downtown Campus. Part of this was based on the lack of social connection opportunities provided and the lack of active gathering spaces for students. Participants also noted that part of this is impacted by the lack of events on Downtown campus and that often times advertisements for events, clubs, and other student social gatherings occur on the Tempe campus. Another reason for the lack of connection was based on the lack of place-making on the Downtown Campus and feelings that it might be too integrated into Downtown without proper indication that it is a college campus.

"My biggest way of escaping also was a lot of time like Getting out of the city it was a lot of time going adventuring going just taking the drive up to Flag or just like somewhere that wasn't here."

"I would kind of go outside of campus so then it's just going further going away from like the ASU experience to be able to find that so I'm thinking of like maybe a coffee shop outside of campus or just going for a walk somewhere."

"I feel very unconnected to the downtown campus I have no emotional attachment to it I come here I work here I go to class here but yeah I have very little attachment to what goes on."

"I would love it if you felt like you're entering campus so there was some sort of signage or welcome."

"Lack I think they lack a little place making because no part of me feel like I'm at ASU sometimes I see the building that says ASU and I know I'm there."

"Everybody if they work for the campus or anything like that they are really encouraging you to like get involved as much as possible which is hard because almost all the stuff is at Tempe."

"One thing people don't consider is how much of like nonacademic campus life students in downtown have to do in Tempe and like the graduations in Tempe for a lot of people like if you want to go to sports you have to go to Tempe its sort of like this quasi connected appendage of the Tempe campus because you have to get on a bus to get there take the light rail and so you're semi disconnected like a lot of the student organizations are based in Tempe I think to me that's the most

interesting challenge around wellness is like interfacing the fellow students with

ASU activities makes you go back to Tempe for a lot of things."

Theme 8: *Food:* Food options and food wellness were issues that the participants

had with the design on the campus. Most felt that there were not adequate healthy options

or very many areas they could sit and enjoy their meals. Participants noted that this

affected their desire to stay on campus longer than necessary or that they would result in

purchasing food that was not high in nutritional value.

"I'm not a big fast food fanatic and I think that the options for my food wellness

you know this is just my impression it may or may not be true but I'm not a big

fan of like the convenience store model like we have in the basement of UCENT

nor the subway nor the Chick-fil-A and so then I feel like it's either fast food or

it's that sort of expensive artisan grain place."

Theme 9: *Seating opportunities:* The lack of seating opportunities was discussed

by almost every participant. Students noted that most of the seating available outside on

Taylor Place Mall is for dining or was not comfortable for a variety of reasons to spend

an extended amount of time at. The lack of seating opportunities drove participants to

again leave campus or go inside to locations that were quiet such as offices or the library

which did not foster opportunity for social connection.

"When it comes to seating kind of like a lot of it so then because we are on a

college campus so sometimes its awkward sitting at a tiny table with a bunch of

chairs but there's only one person going to be cool with me sitting here or not."

Figure 13: Scope of the Street

Figure 14: UCENT Building:

"It's not a very welcoming environment and it has almost no natural lighting. I think it

has the ability to be a good neutral area for students but right now it just induces stress

when I'm inside the building."

Theme 10: *Student Radio:* Several participants discussed the benefit of the ambient noise on Taylor Place Mall from student radio. Students noted that it made their experience on Taylor Place Mall enjoyable and offered another positive dimension to the space that also combated noise pollution from surrounding traffic.

> "Hearing the radio station I really like that there are times when I can hear it and when I can't hear it but at night at night it's kind of nice just to have like a little bit of ambient noise."

Theme 11: *Public Art:* Public art was mentioned throughout the interviews as a positive characteristic for wellness. Participants mentioned the tiles on Taylor Place Mall and some art on surrounding areas just near campus. They mentioned that it would be beneficial to have more art on Taylor Place Mall or a way to participate in public art activities.

> "I definitely like the mosaic public art by the seating aspects like when I'm walking through there."

Theme 12*: Density:* The density and narrowness of Taylor Place Mall was discovered to be both a negative and positive characteristic by different participants. For some, the density of the street allowed for quick transportation in between buildings. For others, the narrowness of the streets and proximity of various buildings created two main issues; the first was that it limited time outside in common spaces for social connection. The second was that it created some feelings of unsafety because there are limited spaces for pedestrians, bicyclists, skateboarders, or other types of commuters to share the walkway.

"How the buildings are doesn't give you any time to be outside walking to your class like it really is a five minute walk to class and so I think that that's another thing like if they just move where Taylor Place was a little bit I think that could've made a difference."

"It's very dense so I can go to restaurant I can go to the drinking place or library everything is just walking distance."

Figure 15: Taylor Place Mall Design Features and Walkway:

"I like the walking pavement of Taylor Place with a lot of green trees and outdoor dining tables. It makes me feel relaxed when I walk by, eat and drink coffee there. It also brings a sense of community because it offers opportunity for me to gather with my friends and colleges over lunch or coffee."

Theme 13: *Emotional and Mental Impact:* Throughout all of the design themes, the focus was on the impact on wellness. Participants mentioned clearly how these

characteristics affect their emotional and mental wellbeing. On the negative side, participants talked about a variety of impacts from creating feelings of being trapped, to being fearful of their surroundings, to feeling isolated. On the positive side, participants were able to identify features that made them feel at peace and helped them cope with other stressors.

"Being downtown in the built setting like living in the dorms and being in like surrounded by buildings 24 seven it was a lack of personality there's a lack of my own like my own self like I felt lost in a big city and I guess lost in the built environment and it was that there is just when you look out your window and you just see more buildings it's not necessarily the best environment to be in wellness like for your mental wellbeing I feel."

"I just I have to say that living in Taylor place was one of the hardest things I ever did it felt like a prison even though I was on the 12th floor like you have a concrete pillar and it was just plain white walls and just a really like dark carpet and sealed everything up and when you overlook like you look outside and you just The more city and skyscrapers like it was like really closed you in and it was one of the hardest things like emotionally doing because like I just felt trapped."

Within the answers from participants and the themes illuminated, there were two trends in the way that students approached answering questions. On one hand, students answered questions based on the current state of the built environment. Answers focusing on the current state of the environment were tailored to understand more of the

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perceptions students had about the built environment in general and how it affected them. Towards the end of the interview, I began asking questions about what students would do to improve the environment and its impact on their wellness. This brought to light the second approach in the way that participants answered questions which was how the built environment could be. Participants demonstrated through their approaches to the questions that they recognize how the built environment has impacted them and that they have important perspectives on how it can be improved in the future.

Answering the Research Questions

After discussing the broader themes that were made apparent through the interviews and photo collection, the data must also be considered through the two original research questions.

RQ1: What are student's perceptions of social and physical streetscape characteristics?

Considering research question one, interview and photographical data show that students perceive the physical streetscape of Taylor Place Mall to have both negative and positive characteristics. Participants discussed the ways in which they interacted with the built environment and the social environment on Taylor Place Mall and their opinions on the various structures. Answers ranged from their perception of the buildings and design features along the street level to their thoughts and opinions of why they believed Taylor Place Mall had been the designed the way it is and who made those high level choices. Some perceptions included students believing that Taylor Place Mall is too narrow, that the streets running through campus make them unsafe, and that particular buildings are

campus are only for specific schools. Participants acknowledged the urban environment of Downtown campus and discussed how the campus creation had resulted in revitalization in much of the surrounding Downtown Phoenix area. From participant answers, it was clear that they do perceive the social and physical streetscape characteristics to impact them, while the responses ranged in opinion and detail.

RQ2: What are student's perceptions of the social and physical streetscape characteristics impact on their wellbeing on Arizona State University's Downtown Campus?

Considering research question two, students who had been more critical of the built and social environments on Taylor Place Mall were more likely to speak negatively about the environment's impact on their wellbeing than students who believed that Taylor Place Mall had been built well. Each participant acknowledged that the built environment impacted their wellness on one or more of the facets of wellness. Participants discussed the ways that the mall had been built that affected their feelings of safety including the traffic design that allows cars to drive through campus as well as sharing the narrow walkway on Taylor Place Mall with pedestrians, bicyclists, skateboarders, and others. Participants discussed how their perceptions of built environment features, for example the task of crossing streets of traffic, created mental barriers that decreased their desire to visit certain parts of campus, including the fitness center. Participants also discussed how the architecture of the buildings along Taylor Place Mall affected their mental and emotional wellbeing and their attachment to the ASU campus. While there were some characteristics that students highlighted as beneficial, such as student radio, participants

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expressed desires for better food options, a common space outside on campus that felt

safe and welcoming, and more opportunities to engage with others without having to

travel to Tempe campus to do so.

CHAPTER 5

DISCUSSION AND CONCLUSION

Discussion and Conclusion

This qualitative study was designed to use the framework of Social-Cognitive Theory to understand how students on the Downtown campus of Arizona State University perceived the built environment on Taylor Place Mall and how they interpreted the design features to impact their wellness. In the end, eleven semi-structured interviews were conducted with students that attend classes on the ASU Downtown campus, however only ten of the interviews had usable data due to a voice file corruption. The interview data was supplemented by photos provided through participant driven photo elicitation, each of which were used to conduct thematic analysis in order to discover patterns in the data that could be used to answer the two research questions. There had not been studies previously that had specifically utilized Social-Cognitive Theory as a framework for understanding pressures that the built and social environments place on overall wellbeing; however other researchers have used Social-Cognitive Theory as a tool to understand behaviors and design health intervention programs (Basen-Engquist et al. 2013, Fuller et al. 2012, Joseph et al. 2017). Given the fact that the connection between the built environment and wellness had been established (Brownson et al. 2009, Cabrera et al. 2015, Chung et al. 2011, Foster et al. 2008, Li et al. 2015, Foley et al. 2018, Moore et al. 2018, Ram et al. 2016, Schauder et al. 2015), but had not provided as significant of a connection between college campuses and campuses designed for wellness in urban environments, this study was warranted to better

understand this link and prepare for future challenges that this campus would face. Due to the fact that college students are a vulnerable population and undergo an abundance of new life experiences that impact their wellness, it is important to add to the literature by studying this relationship in an understudied context.

The first research question that this study aimed to answer was how students on the Downtown ASU campus perceive built environment characteristics. This question was created to gauge understanding and student opinions about the built environment on the Downtown campus. By capturing the participants understanding and thoughts about the built environment, that created a basis for diving deeper into the ways in which the designs affect overall student wellness. Students expressed a multitude of opinions and perceptions of the environment. Some examples included that occasionally having different parts of campus separated by roads created a mental block for students to cross over, which is not a specific relationship that I had previously found in other studies. Another perception about the design of the environment was that particular buildings along Taylor Place Mall were reserved for specific majors and fields, which developed a subtheme of participants having to sneak into places in order to find a comfortable space. Furthermore, participants also highlighted that because there is not a central gathering location on Taylor Place Mall, such as a courtyard or a Memorial Union, they did not perceive the Downtown campus as a place to linger or spend time beyond academic requirements. All of these perceptions speak to a larger finding of student experience on campus. Once these opinions were expressed fluidly through the interview questions, I

followed up with asking participants to explain the impact on wellness, which answered the second research question.

The second research question that this study was designed to answer was how the perceptions of the built environment that students had impacted their perceptions of their overall wellness. There have been studies that have looked at some specific characteristics on college campuses such as housing, food environments, policies on campus like no smoking, and walkability (Broton et al. 2016, Broton et al. 2018, Felsten 2009, Frerichs et al. 2016, Hernández 2011, Peachey et al. 2015, Pelletier et al. 2013, Seo et al. 2011), however, I wanted to understand perceptions of wellbeing on campus. I aimed to have participants explain why they felt certain design features could alter their perceptions, whether positive or negative, especially in the environment of the Downtown Phoenix ASU campus. Several of the studies that I had been able to find relating to the built environment and student health focused on housing (Broton et al. 2016, Broton et al. 2018, Hernández 2011) and food availability choices (Broton 2016, Broton 2018, Lubans 2012, Pelletier 2013). Healthy food choices and options was discussed by participants as something that they desired more of on campus, but the length to which the previous studies had differentiated between the food consumption behaviors was not as prevalent in the results of this study. In previous studies, emphasis had been put on how different student populations engaged in different food consumption behaviors based on different characteristics such as year of education or location of residence while in school (Frerichs 2016, Lubans 2012, Pelletier 2013). I believe part of this reason this distinction was not made in my study was because my research questions

were broader while past studies were specific about a particular design feature of the built environment and land use options for food, which I would recommend in the future.

Perhaps the most relatable article was titled "Where to take a study break on the college campus: An attention restoration theory perspective" by Gary Felsten in 2009. One of the most prevalent themes that arose from Felsten's study was that of a lacking common space for students to go to recharge, relax, and have an opportunity to spend time on campus and experience the campus culture. Due to the lack of this space on the Downtown Campus, students consistently felt the need to leave campus once they completed academic work. Not having this space also contributed to participants feeling as though there was no defining characteristic of the Downtown campus and not feeling connected to the campus or the university. The lack of place attachment for students helps to highlight the behaviors resulting from their perceptions of the environment. One's feelings and emotions about a particular place is central to the theory of place attachment (Altman & Low 1992). Altman & Low 1992 state that place attachment can be biological, environmental, psychological, and sociocultural and also span across different scales, actors, relationships, and temporal aspects. By designing spaces on campus that are meaningful and provide students with opportunities to make social connections, ASU would also be helping students create the bonds to form an attachment to the ASU Downtown campus and feel invested in the place and culture. Students who are able to form these bonds and attachments may see their experiences improve in regards to their wellness and overall college experience. Additionally, Felsten (2009) discusses the need for spaces on campus that allow restorative breaks from the attention

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demands of classes and activities, particularly spaces related to nature as nature was found to have the best restorative properties. This included actual physical outdoor spaces, windows with views of nature, as well as large nature murals in buildings. The nearest area that had nature for students to go to for restorative purposes on the Downtown Campus is Civic Space Park. However, students expressed discomfort going to Civic Space Park for a plethora of reasons including having to cross a busy street to get there, not feeling like the park is part of campus, a large transient population, and a police presence in the space. Felsten utilized Attention Restoration Theory for this study which could be useful in future studies when diving deeper into the common space theme that was illuminated. Overall, the findings of this study matched Felsten's study in the need for these spaces to rejuvenate on college campuses as well as an opportunity to research place attachment on the Downtown campus in the future.

The results of this study helped to depict the wide impact the built environment of the Downtown Phoenix Campus has on the wellness of students and illuminated several themes that require more attention. Results show that students do not always feel comfortable on and around campus and have developed behaviors to combat not receiving proper support. Students should feel safe on their college campus and feel as though they are able to participate in wellness activities in all of their forms, as they align with university policies, without being forced to leave campus to do so. Additionally, results show that students do not have places to linger and stay on the Downtown campus, especially if they do not live on campus. Each participant discussed the desire for an outdoor common space along Taylor Place Mall, which several suggested could

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occur by closing the streets along the mall. Doing so, participants concluded, would increase feelings of safety from the decrease in traffic and constant crossing of busy streets and also allow them to increase their time spent on campus for opportunities other than academics, which is pivotal in creating a college culture and atmosphere. Finally, by increasing opportunities for comfort and lingering time on the Downtown campus, students would have the option to recharge on campus, have increased opportunities for social connection, and develop a true sense of place and place attachment to the university, which the data found was lacking.

The purpose of this study was to understand how students perceived the built environment of the campus as well as how they believed it impacted their overall wellbeing. While this study focused on a particular population and tailored the study more towards urban university design and college student wellness, the process of using Social-Cognitive Theory to understand environments, both built and social, pressure on behaviors could be useful in preliminary public participation work for outside planning organizations and community planners. While the focus of the study was on built environment design characteristics and opinions regarding them, it was interesting to uncover that more than the built environment's impact on wellness was a desire from participants for a true sense of identity and place on campus. Participants discussed building as well as social connection features that made them feel more connected to ASU and each other, which included changing the design of Taylor Place Mall to feel safer and offer more social connection opportunities. Another prevalent theme relating to place attachment and the social environment of Downtown Campus was that the student

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organizations and engagement, which participants mentioned were often advertised on the Downtown campus, but based in Tempe which made getting involved in campus life difficult. As a whole, it was clear that the built environment played a role in the wellness of students, but it was an interesting result to see a strong desire for more social connections as well as sense of place and place attachment.

When going through the interview questions, as students answered the preliminary warm-up questions, they noted that the built environment had been created at the systems level, by humans, and done so intentionally. Natural elements such as trees or flowers were included in this definition if they had been chosen for the design and placed in the space intentionally. Participants also recognized that wellness was multi-faceted. None of the participants identified physical health as the primary factor for wellness, but rather noted that wellness was about mindfulness, quality of life, and happiness. Each participant believed that the built environment impacted their wellness and noted ways in which they know the built environment can positively and negatively affect them as example and justification for their answers. Characteristics of the built environment on Taylor Place Mall were used as examples from participants of ways the design of the street helps and hinders their behaviors. Students mentioned behavior changes they had taken in order to combat the pressures of the built environment and also as a way to get to spaces and resources that were not provided by the spaces on Taylor Place Mall.

Using the Social-Cognitive Theory as a framework for this study allowed me to structure the interview questions to discover connections between student behavior and the design of the built environment. The goal of using SCT was to understand how

individual experiences, the actions of others, and an environment work together to create

a behavior. By using five elements from this theory, (self-efficacy, behavioral capability,

expectations/outcome expectations, self-control/self-regulation, and observational

learning/social support), I gained insight into how students believed the built environment

would impact behaviors. SCT also helped show how students had to overcome barriers of

the built environment, as well as the social environment on campus, and how they

affected their social connections and support.

Participant's answers for questions associated with behavioral capability showed

that they understood the connection between the built environment and wellness and

could answer questions about this association. Secondly, participant's answers for the

question outlined for expectations displayed how students anticipated the impact of the

environment on their wellbeing to change based on alterations of the streetscape design

on Taylor Place Mall. Questions designed to understand participant's self-efficacy

provided a deeper understanding of the pressures the built environment put on student's

ability to perform certain wellness activities. Self-regulation questions were useful to

understand the additional behaviors that students had to take in order to still participate in

wellness activities when there may not have been proper support to do so on Taylor Place

Mall. Finally, the questions created to address observational learning and social support

displayed what type of social environment participant's felt was created on Taylor Place

Mall, a description of who participated in wellness activities with them, and how this

impacted their modeling of behavior. Social support was also helpful in asking what

Taylor Place Mall would look like if students had the opportunity to recreate the space.

While Social-Cognitive Theory proved to be a useful framework in helping explain the wellness behaviors of students in relationship to their environments, if I were focusing on specific characteristics of the built environment on Taylor Place Mall and not the built environment holistically, I would choose to test a theory more associated with the literature that focuses on that design feature. However, the SCT framework proved useful in guiding my study and ensuring the questions asked would answer the research questions for the purposes of the study.

The emerging themes from this data have started the beginning stages of understanding the design impact of the Downtown Phoenix ASU campus as well as Taylor Place Mall on student's wellbeing. Engaging students and treating them as the legitimate stakeholders that they are in the planning process for this campus will be important to help develop a plan for the future that will combat the negative implications of population increases on student wellbeing.

Implications

The implications for this study are twofold and reach within the scope of Arizona State University and outside the university. First, the findings of this study have implications for Arizona State University and displays the need for more consideration regarding the design and structure particularly of the Downtown Phoenix Campus. While the establishment of the Downtown campus is newer and originally investments focused on getting the acquired place to function properly for a campus, through the results of this study, it is evident that it is now time for the university to dedicate time and resources to the student experience and wellness on the Downtown campus. If ASU does not want

additional campuses to feel simply as an appendage of the Tempe campus and want them to stand on their own with their own unique culture, then investment needs to be made into doing so. It cannot be assumed that students who are based on the Downtown campus, as well as other campuses, must suffer the consequences to their wellbeing and college experience because less investment has been made into place making and environmental improvements. It is also important that ASU acknowledges the impact on student wellness these choices have had, and will continue to have, until the situation is addressed. While this study focused on the Downtown campus because of its sensitive location, it is possible that the populations on the other campuses, West and Polytechnic, may yield similar results. ASU's charter states that the university is "measured not by whom it excludes, but by whom it includes and how they succeed" (ASU Office of the President). The results of this study show that students on the Downtown campus do not feel engrained in the culture of ASU and do not have the same opportunities for involvement and connection as students may have being on the Tempe campus. In order to ensure the success and retention of students, ASU must spend time addressing the disparities students based on other campuses are experiencing.

Secondly, this study could serve as a preliminary step for urban planners and community designers in regards to public participation and determining the guidance and pressure that built environment design places on communities. As mentioned earlier, cities and urban spaces are facing an influx of residents as is Arizona State University. Increasing populations in both of these communities create heightened concerns as the Downtown ASU community and that of the general population of Downtown Phoenix

overlap. Concerns that arose from student interviews and photographs including issues of traffic and walkability, gathering spaces, social connection, protection from the sun, and others that affect population wellness on campus will continue to expand if design does not work to intentionally address these issues and plan for the future. If students on the Downtown campus are discussing the implications that these design features and the surrounding location have on their wellbeing, then it is possible that the surrounding communities are experiencing similar struggles as it relates to the design and environment. The process of this study and the results should be seen to primarily showcase the need for more information and attention and secondly, provide a lens and process for public participation in searching for community input in the process of design improvement. Based on this study, some starting recommendations for ASU to enhance the built environment on the Downtown campus would be to close down Taylor Place Mall to traffic, create a gathering area with indoor and outdoor options such as a Memorial Union and courtyard, and add more options for shaded seating along the mall. Other recommendations based on the results of this study would include researching more about how best to support all travelers on campus and how to bring student life to more than just the ground floor of Taylor Place Mall. I would also suggest offering more dining options for students, including a common dining hall.

Delimitations and Limitations

The limitations of this study include the variety and sample size. While I was still able to reach data saturation with the sample size for this research study, the ability to have other participants may have influenced the research. Another limitation was that of

the loss of one of the recordings of an interview through voice file corruption. Both of these limitations were not under my control as a researcher, but did have influence over the scope of the study.

The delimitations of this study were that the scope of the study only included the location of Taylor Place Mall on the Downtown Campus of Arizona State University. This choice was made because of the intentionality of design behind this particular street, the fact that this street acts as the main corridor and transportation pathway for students on campus, and that the university praises it for its impact on the Downtown campus. However, participants seemed to naturally include thoughts regarding other places on campus which is important for future research as there are other Downtown ASU locations not situated along Taylor Place Mall that influence wellness. Another delimitation was the scope of what was defined as "built environment". Participants were given the opportunity to define the built environment themselves in the beginning of the interview, however in retrospect even "built environment" was too broad of a beginning. I could have focused on specific features of the built environment such as a common space on campus, green space along Taylor Place Mall, or traffic patterns through campus. While this study sifted the stronger themes to the top, each of the themes could have been, and should be in the future, explored singularly to gain stronger insight into the connection between the design feature and wellness.

Suggestions for Future Research

Due to the fact that this study is preliminary and highly subjective, more studies could be useful in helping determine the future creation and design of the ASU

Downtown campus. Future studies could include a larger participant pool and also showcase more intentionality for different populations of students, breaking them up to dive deeper into aspects that affect different age groups, nationalities, and degree levels. Each theme that was illuminated should be explored more in depth and perhaps aided with quantitative or a mixed methods approach to continue to discover what design elements in that category should look like for a wider population of students. Studying particular built environment design features or social environment features in the future instead of generalizing "built environment" will yield more detailed and conclusive results as well as potentially show more connection with literature. In addition, while my study was not focused on specific demographics other than that they were a student on the Downtown campus, refining the participant pool could highlight deeper themes for ASU to consider. Furthermore, while the participant driven photos submitted to me by participants proved useful in helping showcase a visual representation of interview data, in future studies, I may recommend students take the photos prior to the interview and bring them to the interview for discussion. Flipping this model could have allowed the participants and me to delve more deeply into why they chose the photographs and what elements affected them and why. Another option would be to show participants simulations of what the built environment could or would look like and gage perceptions of impact on wellbeing from there. I did find that it was also difficult to collect the photos after the interviews as participants had forgotten and therefore asking for them ahead of time to bring them to the interview could have prevented that issue. Overall, I believe that this study is preliminary. It provided an overall summary of perceptions, but it is possible

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that each of the themes illuminated in this study could be studied singularly in order to develop the most positive results for campus design on student wellbeing. However, regardless, in future studies determining projected design plans, students should be consulted and thought about as genuine stakeholders.

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APPENDIX A

ADDITIONAL PARTICIPANT INTERVIEW MATERIALS

Map of Arizona State University Downtown Campus
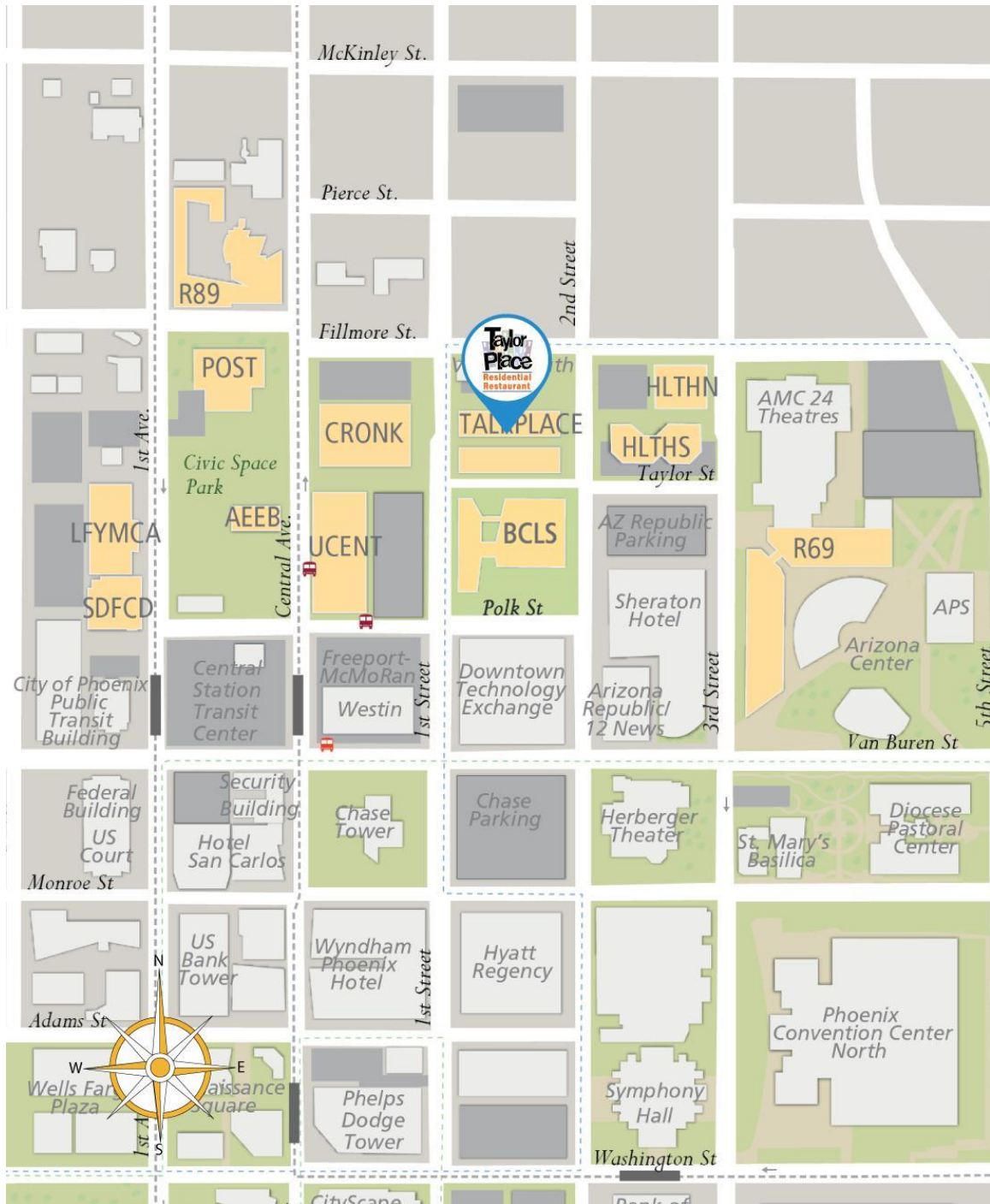
Definitions of Wellness

- Wellness is defined in the dictionary as "the quality or state of being in good health especially as an actively sought goal" (Merriam Webster Dictionary)

- In the World Health Organization's Alma-Ata Declaration of 1978, they expanded the definition to include that health and wellness is not merely the absence of disease or infirmary (World Health Organization)

- Wellness definitions continued to expand; "life satisfaction, pleasant affect, and unpleasant affect. Affect refers to pleasant and unpleasant moods and emotions, whereas life satisfaction refers to a cognitive sense of satisfaction with life" (Diener et al. 1997)

Photograph Submission Protocol

Directions:

1: Take two photographs. One photograph should be of a streetscape characteristic that you believe positively impacts your wellbeing. The other photograph should be of a streetscape characteristic that you feel negatively impacts your wellbeing.

2: Once you have taken the two photographs, please email them to: Sydney.Rood@asu.edu. Please include in the subject heading of the email your identification code, which is your first two letters of your mother's maiden name as well as the last two numbers of the year you were born. This will allow the research team to connect your photos with your interview.

3: When you submit the photographs, please indicate which photograph is representing the positive characteristic, and which one is representing the negative characteristic. Additionally, please provide a brief description of what streetscape characteristic is being displayed in the photograph and why you feel as though it positively or negatively impacts your wellbeing.

Thank you!

Interview Questions

Participant Screening Questions

1. Do you currently attend classes on Arizona State University's Downtown Phoenix Campus?

2. Are you able to discuss your opinions of the built environment of the Downtown Campus and how you believe it impacts your ability to feel well?

3. Are you willing to participate in an interview with me that will last between 60-90 minutes discussing how the social and built environment of Arizona State University's Downtown Campus affects your perceptions of your wellbeing and submit two photos to me of different streetscape characteristics, one that you feel benefits and one that you feel hinders your ability to feel well?

Interview Questions

1. What is your age?

2. What is your gender? (male, female, non-binary, prefer not to say)

3. What is you major and year of education?

4. How often are you on ASU Downtown Campus? Have you or do you currently live on campus?

5. <u>Ice breaker/ Behavioral Capability:</u> What comes to mind when you hear or think of the phrase "built environment"?

6. <u>Ice breaker/ Behavioral Capability:</u> What comes to mind when you hear or think of the word "wellness"?

7. <u>Ice breaker/ Behavioral Capability:</u> Do you believe that the built environment and wellness are connected? Why not or how so?

8. <u>Outcome Expectations:</u> In what ways do you believe your wellness may be impacted by particular built environment characteristics?

    a. <u>Examples:</u> Seating opportunities and access to greenspace, sun exposure during the day and proper street lighting at night, public art?

9. <u>Self-efficacy:</u> Can you tell me about a previous experience where the design of the street, specifically Taylor Place Mall, either enhanced or inhibited your ability to perform wellness activities? This includes wellness activities for physical and mental wellbeing.

10. <u>Self-efficacy:</u> What is your biggest challenge, if you have one, of staying well with the particular structure of Taylor Place Mall?

11. <u>Self-regulation:</u> What are some ways that you overcome some of the physical barriers that the built environment on Taylor Place Mall places on your overall wellbeing?

12. <u>Social Support:</u> Can you tell me about the people around you on campus that help support or participate in wellness activities with you on Taylor Place Mall?

13. <u>Social Support:</u> Do you believe that there are systems level procedures (political, governmental, and institutional) that impact the built environment on Taylor Place Mall in a way that helps or inhibits the promotion of wellness for individuals?

14. <u>Social Support:</u> If you had the opportunity to design a streetscape with wellness in mind, what components might it have? What would it look like? Will you submit a photo to me of a streetscape characteristic that either positively or negatively impacts your wellbeing?

15. <u>General:</u> Is there anything that we didn't discuss or anything that you would like to share regarding the streetscape, Taylor Street Mall, and wellness before we end?

APPENDIX B

PARTICIPANT FORMS AND RECRUITMENT SCRIPTS

Consent Form

I am a graduate student under the direction of Professor Megha Budruk in the
Watts College of Public Service and Community Solutions at Arizona State University. I
am conducting a research study to understand student perceptions of Arizona State
University's Downtown Campus built and social environments and how student's
perceive them to impact their wellbeing.

I am inviting your participation, which will involve an interview that is estimated to last
between 60 to 90 minutes as well as a requirement for you to submit two photos to me of
a built environment characteristic on campus that you feel both benefits and inhibits your
ability to be well. The photographs you provide should not contain faces of individuals. If
they do, please block them out prior to submission. You have the right not to answer any
question, and to stop participation at any time.

Your participation in this study is voluntary. If you choose not to participate or to
withdraw from the study at any time, there will be no penalty and your standing with the
university will not be affected. As a participant in this study, you will receive a $5 gift
card to Starbucks. You must be 18 or older to participate in the study.

This interview could help you discover what places structurally help or inhibit your
ability to feel well which could be beneficial throughout and beyond your college
experience. This could include helping you discover the best places on campus to go to
assist in wellness activities. Self-awareness may also act as education for you of how the
built environment can affect your wellbeing. There are no foreseeable risks or
discomforts to your participation.

The data you provide will be tracked by using a randomized ID number created by you consisting of the first two letters of your Mother's maiden name and the last two digits of the year you were born. No names or identifying features will be documented. Your responses will remain anonymous. The results of this study will be used in my master's thesis, presentations, and publications, but your name will not be used.

We are also asking your permission to audio record the interview. Only the research team will have access to the recordings. The recordings will be deleted immediately after being transcribed and any published quotes will be anonymous. To protect your identity, please refrain from using names or other identifying information during the interview. Let me know if, at any time, you do not want to be recorded and I will stop.

If you have any questions concerning the research study, please contact the research team at Sydney Rood, Sydney.Rood@asu.edu or my supervisor Megha Budruk, Megha.Budruk@asu.edu. If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788. Please let me know if you wish to be part of the study.

Recruitment Script (In-Person/Classrooms/Phone Call/Text Message)

I am a graduate student under the direction of Professor Megha Budruk in the Watts College of Public Service and Community Solutions at Arizona State University. I am conducting a research study to understand student perceptions of Arizona State University's Downtown Campus built and social environments and how student's perceive them to impact their wellbeing. I am recruiting individuals to participate in an interview and to submit a photo to me of a place on the Downtown Campus that you believe helps or inhibits your ability to feel well. This will take approximately 60-90 minutes. Your participation in this study is voluntary. If you have any questions concerning the research study and if you would be willing to participate please call me at (602) 299-6233 or email me at Sydney.Rood@asu.edu. Thank you!

Recruitment Script (Social Media Post)

Hello everyone! I am currently searching for participants for my Master's Thesis research. I am looking for students that attend classes on Arizona State University's Downtown Campus and are able to answer questions about how the built and social environment there has impacted your ability to feel well. You must be 18 years or older to participate in the study. Your participation will include an interview lasting approximately 60-90 minutes and I will also ask you to submit a photograph to me of a place on Downtown Campus that you feel beneficially or negatively impacts your ability to feel well. Participation is voluntary. For more information, contact me at Sydney.Rood@asu.edu. Thank you!

Recruitment Script (Email)

Hello _____, You are receiving this message because you are eligible to participate in a research study about student perceptions of Arizona State University's Downtown Campus built and social environments and how student's perceive them to impact their wellbeing. Participation is voluntary and choosing to not participate will not affect your standing with the university. This study will involve an interview lasting between 60-90 minutes and a submission of a photograph to me of a place on Downtown Campus that you feel beneficially or negatively impacts your ability to feel well. If this sounds like an exciting opportunity please reply to this email for more information. You may also text or call me at (602) 299-6233.

APPENDIX C

SUMMARY OF THEMATIC CODES

THEME	DEFINITION	COLOR FOR CODING
Traffic/Cars/Streets	Responses that discussed cars and streets through campus, parking, controlled intersections and other transportation related responses.	Red
Safety/Security	Reponses that discussed feelings of safety or security on Taylor Place Mall, including transient populations, stolen property, and general ways in which the built environment exasperated these perceptions.	Orange
Nature/Green Space	Responses that discussed green space and nature on campus including trees, flowers, and Civic Space Pak.	Dark Green
Architecture	Responses that talked about the design of campus buildings along the streetscape of Taylor Place Mall and how they impacted general feelings of wellness in those spaces.	Yellow
Sky Exposure	Responses that discussed both sunlight and shade and the way that the built	Dark Blue

	environment affected both aspects.	
Common Space	Responses that detailed a place to gather and linger on campus and on Taylor Place Mall. Desires to have places outside to spend time in on campus.	Purple
Sense of Place/Place Attachment	Responses detailing attitudes and feelings of attachment to ASU and the Downtown campus and how the built environment affects these feelings.	Pink
Food	Responses that discussed food choices and food availability on campus and how that impacted wellness feelings and choices.	Light Blue
Seating	Responses that discussed seating opportunities along Taylor Place Mall and opinions about what opportunities are there and what they would like to see.	Light Green
Student Radio	Responses that mentioned student radio playing on	Light Orange

	Taylor Place Mall and ambient noise.	
Public Art	Responses that discussed any element of public art on Taylor Place Mall as well as the desire for more public art opportunities,	Light Purple
Density	Responses that discussed the density of Taylor Place Mall and the proximity of the buildings to one another and to surrounding resources.	Underlined Blue
Emotional/Mental Impact	Responses that discussed in further detail the emotional and mental impacts of the built environment on student's wellness.	Underlined Red

APPENDIX D

INSTITUTIONAL REVIEW BOARD LETTERS

EXEMPTION GRANTED

Megha Budruk
Community Resources and Development, School of
602/496-0171
Megha.Budruk@asu.edu

Dear Megha Budruk:

On 2/4/2019 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Understanding Student Perceptions of Arizona State University's Downtown Campus Built and Social Environments and their Perceived Impact on Student's Wellbeing
Investigator:	Megha Budruk
IRB ID:	STUDY00009564
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• IRB Form , Category: IRB Protocol; • Study Participation Consent Form.pdf, Category: Consent Form; • Participant Questions.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Recruitment Scripts.pdf, Category: Recruitment Materials; • Photograph Submission Protocol.pdf, Category: Participant materials (specific directions for them);

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 2/4/2019.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Sydney Rood
        Sydney Rood

APPROVAL: MODIFICATION

Megha Budruk
Community Resources and Development, School of
602/496-0171
Megha.Budruk@asu.edu

Dear Megha Budruk:

On 2/19/2019 the ASU IRB reviewed the following protocol:

Type of Review:	Modification
Title:	Understanding Student Perceptions of Arizona State University's Downtown Campus Built and Social Environments and their Perceived Impact on Student's Wellbeing
Investigator:	Megha Budruk
IRB ID:	STUDY00009564
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• Participant Questions.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Study Participation Consent Form.pdf, Category: Consent Form; • IRB Form , Category: IRB Protocol; • Photograph Submission Protocol.pdf, Category: Participant materials (specific directions for them); • Recruitment Scripts.pdf, Category: Recruitment Materials;

The IRB approved the modification.

When consent is appropriate, you must use final, watermarked versions available under the "Documents" tab in ERA-IRB.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Sydney Rood
        Sydney Rood