

**LANDSCAPE, WELL-BEING, AND CONNECTION:
A QUALITATIVE STUDY OF COMMUNITY COLLEGE
STUDENTS' PERCEPTIONS OF CAMPUS ATTRIBUTES**

A Dissertation By

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Abstract:

Researchers paint a bleak picture of students spending their academic careers struggling with stress, anxiety, and a lack of belonging. Mounting evidence has demonstrated positive effects of naturalistic landscapes on students' mental well-being, behaviors, and sense of belonging, impacting their academic achievement. Many studies examining students' relationship with the landscape have been conducted at 4-year institutions, yet few studies have analyzed community college student relationships with the campus landscape.

The problem is the lack of student involvement in planning, resulting in landscapes not designed to improve student experiences, thus, negatively influencing their well-being, sense of belonging, and persistence. The purpose of this qualitative phenomenological study was to explore community college students' perceptions of campus landscapes. Research questions were: (a) How do students perceive the campus landscape attributes? (b) What characteristics of the campus landscape do students consider most salient for their mental and physical well-being? and (c) How do students describe the campus landscape attributes that contribute to or impede their success?

Key findings include (a) effect of water features and diverse naturalistic settings, (b) importance of windows for contemplation, (c) link between the campus landscape and students' psycho-physiological well-being, (d) influence of landscape excellence on feeling valued, and (e) impact of landscape on participants' sense of belonging.

Recommendations were made to (a) regard campus landscapes as a principal asset, (b) increase alternative campus landscapes, (c) connect students to the landscape, and (d) embed intentional landscape design into campus planning.

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CHAPTER 1

INTRODUCTION

I once watched from my office window as a young woman came through our college's horticulture gates and began pacing frenetically through the garden. Our horticulture department is unique in that it is a living laboratory, a veritable oasis popular with our campus community. However, the woman was visibly upset, so I went out and asked if I could help. She was having an anxiety attack and needed a quiet space to calm down. I took her to our lily pond, a rare private space away from the college campus' usual energy. She stayed there quite a while. At one point, she told me she might even quit school because of the stress. Since that talk at the lily pond, I have not seen her around campus. Other students, faculty, and staff have wandered through that same gate and expressed to me how the garden space reduces their stress and anxiety. "Nature can restore me," one student commented.

Our bodies and brains respond biologically, neurochemically, and psycho-evolutionarily to nature (Plutchik, 1980; Ulrich, 1983; Williams-Goldhagen, 2017). Researchers have shown that spending time in nature reduces negative thoughts and profoundly impacts one's physical and mental well-being (Ottosson & Grahn, 2008; Rakow & Eells, 2019). Many institutions have recently begun focusing on students' physical and mental well-being as a critical factor in their academic achievement (Berman et al., 2021; Bratman et al., 2015; Lu & Fu, 2019). However, administrators and faculty members have unintentionally overlooked the campus landscapes as additional support for students' well-being and sense of belonging (Hajrasouliha, 2017a).

Background of the Problem

Researchers paint a bleak picture of students spending their entire academic careers struggling with stress, anxiety, depression, lack of belonging, and the ability to learn (Arria et al., 2013; Dyson & Renk, 2006; Gillen-O'Neel, 2019; Rawson et al., 1994; Ryan & Deci, 2000). In 2018, researchers surveying nearly 14,000 first-year college students in eight countries found that 35% struggled with a mental illness, particularly depression or anxiety (Auerbach et al., 2018). A survey by

the American Council on Education (asked 52 presidents of 2-year public institutions to rate the mental health of their student body for 2021 compared to 2020; 63% stated that their student body's mental health was "worse" (Melidona et al., 2021, p.9). In the United States, college students seeking mental health services cite anxiety and stress as their principal concern, and it is on the rise (Eva, 2019). College support centers report being overwhelmed with requests for psychological services (Bruce-Sanford & Soares, 2019). Addressing student health and well-being on a college campus is a continually evolving challenge for leaders.

Approximately 72% of college and university students live in densely populated urban areas and spend little time in naturalized settings (National Center for Educational Statistics, 2017). This increasing disconnection with nature is related to deepening physical and mental health concerns (Rakow & Eells, 2019). There is an intensifying awareness of the interdependence between human beings and their total environment (Abdelaal, 2019; Banning et al., 2010; Gidlow et al., 2015). Despite this expanding awareness, few educational institutions, especially community colleges, do not intentionally provide students with natural respite areas. According to the American Association of Community Colleges (2016), there are 942 public community colleges in the United States, and only 1.5%–4% are considered beautiful or scenic (Egan, 2016). Many professionals consider these noteworthy campuses beautiful because they are historically significant or relevant, possess botanical gardens or arboretums, or are located near mountains, oceans, or a national forest. When comparing the community colleges considered scenic against those schools lacking such consideration, they were all in the top 500 community colleges to attend in the United States (StateUniversity, n.d.).

Mounting evidence has demonstrated the positive effects of green spaces on students' mental well-being, behaviors, and sense of belonging, impacting their academic achievement (Gillen-O'Neal, 2019). In addition, many studies have linked time spent in and around a tree-canopied campus, school gardens, adjacent parks, and forested lands to long-term health outcomes, specifically reduced stress, and anxiety (Li & Sullivan, 2016). Researchers who studied elementary school students have suggested that the amount of vegetation on and surrounding a campus predicts

school-wide student performance significantly (Matsuoka, 2010; Sivarajah et al., 2018; Wu et al., 2014). Van den Bogerd et al. (2018) made a similar point recognizing the critical role of green spaces on college campuses in boosting students' academic achievement. Some studies have explored the associations between college students' perceptions of campus greenness, restorativeness, and quality of life (Hipp et al., 2016). However, researchers have yet to deeply examine community college students' perceptions of their campus landscapes.

Many studies examining students' relationship with the landscape have been conducted at 4-year institutions, yet few studies have analyzed community college students' relationships with the campus landscape. Millions of students may have attempted to learn in settings that were perhaps significantly lacking in support. Furthermore, several studies have shown that when campus landscapes are designed with intentional plant choices, students' interaction with naturalistic settings facilitates a supportive, inclusive, and safe campus (Hajrasouliha & Ewing, 2016); thus, supporting students' academic resilience and achievement. Students flow through the campus grounds daily, engaging in an unconscious relationship with the landscape; their experiences are formed in part by that landscape as they transition from parking lots to pathways to green spaces to buildings to hallways and classrooms. The physical environment shapes students' senses of belonging and influences their well-being through their feelings of comfort, safety, and spatial knowledge (Alawadhi et al., 2014; Norizan et al., 2018).

Problem Statement

The problem this study addressed is the lack of community college student involvement in planning and shaping the campus landscape which could negatively influence their well-being, academic persistence, and sense of belonging. These factors are associated with students increasingly becoming disconnected from the natural world. This disconnection from nature appears to be related to an increase in students' mental and physical health concerns (Madhav et al., 2017; Wang et al., 2019). Higher education institutions can create spaces that help reverse the trend. Through the institution's administrative control over campus planning decisions, they can implement

decisions in a participatory and democratic way. Nonetheless, the influence of community college campus landscapes has not been studied extensively, nor has the way the students of these institutions perceived the landscape. In particular, it is unknown if or to what degree students view their campus landscape as additional support to their academic persistence, information that could provide institutions with the knowledge to make cogent decisions about campus planning. Multiple educational environment dimensions can influence a student's ability to persist in seeking academic success (Strange & Banning, 2015). The physical environment can shape students' sense of belonging and psycho-physiological well-being (Alawadhi et al., 2014; Berto, 2014; Holt et al., 2019; Speake et al., 2013).

Landscapes can generate both perceived and actual physical and psychological well-being and resilience (Chawla et al., 2014). Additionally, campus landscapes can improve cognitive functioning and learning, supporting students' persistence, resilience, and academic achievement (Hipp et al., 2016; Kuo, 2015; Peker & Ataov, 2020; Rakow & Eells, 2019). Some scholars have reported mixed evidence that the campus landscape supports students' academic success (Browning & Rigolon, 2019), though there remains sufficient evidence to support the association between the campus landscape and students' academic resilience, retention, and success (Downton et al., 2017; Hajrasouliha & Ewing, 2016; Hoffman et al., 2002; Hoyle et al., 2017; Lu & Fu, 2019).

Purpose Statement

The purpose of his qualitative phenomenological study explores community college students' perceptions and their lived experiences of campus landscapes in Southern California. The research examines the phenomenon of students' perception of and experiences with the campus landscape through a conceptual lens of person-environment interaction theory, which analyzes how an individual's interaction with the environment influences their behavior, perceptions, or values (Bubolz & Sontag, 1993).

Considerable research has examined the role that nature-based experiences play in students' well-being and academic achievement in the K–12 arena (Dadvand et al., 2015; Durán-Narucki,

2008; Flouri et al., 2014). There is less research about college or university students' perceptions that the campus environment supports their well-being or academic achievement (Föllmer et al., 2020; Hami & Abdi, 2019; Holt et al., 2019; van den Bogerd et al., 2018). Furthermore, in the already limited research on college and university students' landscape perceptions, there is even less research on community college students' perceptions of and experiences with their college campus. However, more in-depth research may support the theory that the campus environment influences community college students' psycho-physiological well-being, resilience, and academic achievement (Banning, 2016; Chapman, 2006; Kenney et al., 2005; Meredith et al., 2020; Pascarella & Terenzini, 2005; van den Bogerd, 2018).

In heightening the awareness of this phenomenon and creating a dialogue around it, this research study intends to increase understanding of students' lived experiences and the meaning they ascribe to their campus landscapes. The goal is to assist planners and administrators in making critical improvements in practices and decisions by revealing students' perceptions on how the campus landscape contributes to their well-being and academic resilience.

Research Questions

To accomplish this purpose, I have posited the following three research questions guiding this qualitative research study:

1. How do community college students perceive the campus landscape characteristics?
2. What characteristics of the campus landscape do community college students consider to be most salient for their well-being?
3. How do community college students describe the campus landscape attributes that contribute to or impede their success?

Significance of the Study

This research is essential and contributes to educational leadership by providing new knowledge about an overlooked area of support for students' academic success in college: the campus landscape (Boys et al., 2014; Hipp et al., 2016; Marmot, 2006; Strange & Banning, 2015; Temple, 2014; Yaylali-Yildiz et al., 2014). Marginalized students may struggle to manage their home

environments, affecting their ability to focus their attention at school or impacting their full access to and participation in learning, making their academic journey that much more difficult (Berto, 2005). They need restorative experiences. However, there is insufficient research examining how the physical campus landscape contributes to community college students' sense of belonging, well-being, and academic achievement (Bailey et al., 2004; Hoachlander et al., 2003; Schuetz, 2005). This study adds to this discussion by identifying gaps in the literature concerning how campus landscapes can impact students' mental and physical well-being, retention, and academic success.

This study intends to inform institutional agents (faculty, counselors, staff, and administrators) with evidence for feasible and achievable targeted interventions for students. In turn, this evidence can impact the decisions related to allocating limited institutional resources to campus planning, creating a more inclusive and equitable landscape to support students, and providing a positive return on the institution's financial investment. Communicating the crucial role that the landscape plays is vital in convincing stakeholders to fund landscape improvement projects (Barr & McClellan, 2018).

Finally, the findings will provide insight into and illuminate practitioners' experiences designing college campuses for students. Community college student demographics have changed dramatically from the original focus on White, male, full-time students aged 18–24. Current campus planning practices and literature have not kept pace with new mandates, missions, diverse student bodies, and locales. Instead, designers rely on the higher education institution's iconic form with the quadrangle lawn surrounded by neoclassical or Beau Arts architecture (Chapman, 2009). Alternatively, the other extreme for campus design is a utilitarian ad hoc approach that has proven confusing, uninspiring, and unwelcoming to a diverse student body (Turner, 1984). Indeed, many are beginning to observe that the physical campus's role in higher education is insufficiently understood (Boys et al., 2014; Strange & Banning, 2015; Temple, 2014). Perhaps the most obvious gap in the scholarship is the paucity of knowledge of how the campus landscape contributes to student success. This study intends to provide design practitioners, administrators, decision-makers, and stakeholders with a

more informed, inclusive, and supportive approach for community college students' mental and physical well-being.

Scope of the Study

This qualitative study strives to understand the students' perceptions of the community college campus's attributes and how those perceptions relate to their mental and physical well-being and academic achievement. The study is bound by the following assumptions, delimitations, and limitations.

Assumptions of the Study

I assume that students who participate in the data collection will answer questions truthfully. Any self-reported information will be reasonably accurate, such as hours on campus. As demonstrated by previous research, I assume that the relationship between students' well-being and sense of belonging supports their academic success. This study relies on participants to take photos of their areas of choice prior to their one-on-one interviews. Another assumption of this study is that participants are comfortable speaking about their perceived campus landscape attributes one-on-one or with other participants in a small group setting.

Lastly, participants enrolled for at least one semester are assumed to be appropriate representatives for assessing their campus. Thus, the population cognizant of the study site will likely be able to articulate whether the physical campus supports their physio-psychological well-being and would be able to indicate the relative importance of those places. Students not knowledgeable about their campus would have difficulty locating unique places for assessment and may provide less valid data (Baird, 1990; Banning & Kaiser, 1975; Kuh & Hall, 1993).

Study Delimitations

This study does not include all community colleges in the state, only community colleges accessible and convenient in Southern California. Comparing Southern California's 2-year public institutions would suggest location similarities such as weather, types of plant material, and maintenance practices. The students must be enrolled for at least one semester and over 18 years

old to participate in the study. Therefore, they do not represent all community college students. Participants will self-report their health and well-being. The study does not include academic success indicators such as high school GPA or SAT/ACT scores. While these indicators may predict college success, the study will focus on the students' interpretation of how their campus landscape contributes to their perceived sense of well-being and academic success (Hodson & Sander, 2017; van der Bogerd, 2018; Wu et al., 2014).

Study Limitations

There are several limitations to this study. First, the participants do not fully represent the demographic diversity among all community college students. The study will examine six schools using convenience sampling. These colleges may share some common core characteristics and represent local circumstances. The findings cannot, then, be generalized to other school landscapes in the district or state (Maxwell, 2013).

The study's second limitation concerns phenomenology research design, which contends the end product is based solely on the participants and the social context (Peoples, 2021). Hence, my findings are limited to and by the study participants and myself as the researcher. A sample size of 10–20 participants aligns with the norm for phenomenological investigations (Peoples, 2021); however, the findings do not represent all community college students who are cognizant of their campus landscape. The generalization of community college students' perception of the campus landscape is beyond the present study and is not the study's purpose. Instead, the study's primary purpose is to consider whether phenomenological investigations of how students perceive their campus landscape can usefully inform campus design and planning.

Maintaining an open mind about the possible meanings of the community college landscapes was challenging because of my biases and my role as a faculty instructor in a horticulture department. Another limitation is that my understanding of this topic stems from my background as a scholar and a professional landscape architect who has spent over 20 years on higher education campuses as a student and faculty member. I am responsible for one of the campuses where I am

conducting my research, and the recruited participants will not be currently enrolled in my courses. However, my background will provide insight into each physical campus landscape and how campuses are planned and designed. Those pre-understandings also enable me to connect with participants to highlight the most crucial aspects of relevant issues.

Definitions of Key Terms

The following definitions are included to provide clarity to this study.

Built Environment. The built environment is a human-made creation of or alterations to a specific area, including its natural resources. The built environment stands in contrast to the “natural environment” (Honour & Pevsner, 1991).

Campus Architecture. Campus architecture encompasses buildings and facilities on a college or university campus (Dober, 2000).

Campus Landscape. A campus landscape includes the site features in general and the plant material specifically on a college or university campus. It also encompasses any quadrangles and plazas, paths and walkways, open-air spaces and courtyards, conservation and preservation areas, recreation areas, and bodies of water (Dober, 2000; Strange & Banning, 2015). The campus landscape is also a network of exterior and outdoor spaces on a college campus that serve three functions: to organize and connect buildings; to serve and benefit students, faculty, staff, and visitors in different capacities; and to function as a symbol for higher education (Turner, 1984).

College Campus. A college campus is the entire physical domain, including buildings, the spaces between and around buildings, the grounds, the circulation networks, and other infrastructure forms that support them (Dober, 2000).

Green Space. Green space is an area of grass, trees, or other vegetation set apart for recreational or aesthetic purposes in an otherwise urban environment. Greenspace includes campuses, parks, community gardens, and cemeteries (Dober, 2000).

Hardscape. Hardscape includes all the nonorganic, nongrowing parts of a campus landscape, including pavement, buildings, walls, walkways, roads, retaining walls, sculpture, street amenities, fountains, and other mechanical features (Dober, 2000).

Landscape. The landscape is all the visible features of an area of land, often considered for its aesthetic appeal. A landscape may include a property's softscape and hardscape on a property. Landscaping improves the appearance of an area by altering the existing design or the contour of the ground, adding ornamental features, or planting trees, shrubs, or grass (Meinig, 1979; Motloch, 2001).

Natural Environment. A natural environment consists mainly of natural features without human-made elements (Vroom, 2006).

Naturalistic. Naturalistic describes a human-made landscape representing nature's appearance (Honour & Pevsner, 1991).

Open Space. An open space is an open piece of undeveloped land with no buildings or other built structures accessible to the public (Honour & Pevsner, 1991).

Physical Space. The facilities, grounds, structures, and additional organizational elements that define a campus is considered physical space (Strange & Banning, 2001).

Place Attachment. Place attachment is the affective bond between people and specific places (Hidalgo & Hernandez, 2001; Manzo & Devine-Wright, 2014).

Place Identity. Place identity relates to the process that humans consciously and unconsciously develop as they make associations with a place as it becomes a significant part of their world (Seamon, 2014).

Placemaking. Placemaking is an intentional design process of creating places where people want to live, work, play, and learn to promote their well-being (Oldenburg, 1999).

Sense of Belonging. For college students, the sense of belonging theory posits that the extent to which students feel connected to their academic institutions and the people in those institutions is

associated with many positive academic outcomes. (Hagerty et al., 1994; Gillen-O'Neel, 2019; Kirk & Lewis, 2015; Strayhorn, 2018).

Softscape. Softscape refers to the live horticultural elements of any landscape setting, such as trees, shrubs, flowers, lawns, and vines (Honour & Pevsner, 1991).

Validation. Validation refers to Rendón's validation theory, which refers to a confirming and supportive process of students both in and out of class to validate them as valuable members of their college community and foster their personal and academic success (Rendón, 1994).

Organization of the Dissertation

Chapter 1 provided a context of the positive effects of green spaces on students' mental well-being, sense of belonging, and behaviors, thus, impacting their academic achievement. Following the introduction, I defined the problem and purpose of this study. I further discussed the significance and scope of the study and defined key terms. Chapter 2 presents the historical, philosophical, and theoretical foundations to familiarize the reader with the person-environment lens to study how students perceive the landscape. Then a literature review about environmental behavioral perspectives, humanistic environmental perspectives, cognitive restoration perspectives, and the physical campus perspectives is provided. Chapter 3 contains the research design, including data collection and analysis methods. Chapter 4 presents the study's findings, and in Chapter 5, I discuss conclusions, interpretations, and recommendations for policy and practice.

CHAPTER 2

REVIEW OF THE LITERATURE

This chapter presents a literature review on the research related to understanding the psychophysiological response to naturalistic spaces that affect students' academic success. This chapter included the following sections: the philosophical foundation, identified as existential phenomenology (Luijpen & Koren, 1969); the historical foundation, discussing traditional campus typologies (Turner, 1984; Waite, 2014); and the theoretical foundation, taking a multidimensional approach using person-environment theories (Evans et al., 2016). From there, the chapter focused on the scholarly empirical literature of human and nature connections, cognitive restoration, physical campus preferences, and students' academic success with campus greenness. I paid particular attention to where these domains intersected and, in turn, revealed a gap in the literature about the campus landscape's impact on community college students.

Philosophical, Historical, and Theoretical Foundations

I discussed this study's philosophical foundation at the beginning of this chapter. The chapter followed a review of the historical foundation of campus planning that led to the design of community colleges. Next, there was a theoretical review of students' bioecological development, which supported the conceptual framework for the study. The chapter continued with an extensive review of the empirical research. The purpose of this research was threefold: first, it provided a context of behavioral and humanistic interactions with nature; second, it examined cognitive restoration and nature; and third, it explored greenness and academic success. The chapter concluded by identifying gaps in the literature regarding how community college students perceived their campus landscape.

Philosophical Foundation

Phenomenology and existentialism are philosophic paradigms offering a conceptual relationship for understanding how individuals experience themselves in the world (Denton, 1988; Lukenchuk & Kolich, 2013; von Eckartsberg, 1998). Existential phenomenology provided a lens for conceptualizing and studying the experience of community college students. It can provide an

empirically and methodologically rigorous understanding of students' perceptions of campus landscape phenomena and academic achievement (Nixon, 2020). Phenomenology and existentialism offer individualistic perspectives of reality, consciousness, meaning, and choice. Existentialism and phenomenology endeavor to make sense of the "lived world" experiences (Heidegger, 1961, 2008).

Existentialism

According to existentialism, the individual has control over their choices and actions. They are, in truth, "being-in-the-world" (Heidegger, 1961, 2008). It was the individual's responsibility to use their choices and actions to intentionally develop who they were to become, thereby creating their essence (Sartre, 1967). The dilemma of absolute freedom was that life's complexities constrained one's freedom of choice (Beauvoir, 2018). Community college students often experience the dilemma of choice through the complex demands of acquiring an education, attending to family, and accepting financial responsibilities (Lin, 2016; Sax, 2007). Existentialism does not offer a specific moral compass to address those choices, but it offers a foundation for the subjective reality of how one chooses to live a worthwhile life (Sartre, 1967). An individual's way of interacting with the world extends beyond the individual's personal internal life.

Phenomenology

Phenomenology was a mirror to existentialism, given that it offered a way to structure an individual's experience in the world (Merleau-Ponty, 1945, 2005). Phenomenology means the science or study of phenomena that focused on the appearances of things within one's experiences, ranging from perception, self-awareness, thought, body awareness, linguistic awareness, collective awareness, and social awareness (Lawhead, 2014; Merleau-Ponty, 1945, 2005; Noddings, 2015). Phenomenology aimed to understand the consciousness of the individual. It centralized the intentionality of addressing the meaning of things in one's experience, such as the significance of objects, events, environment, self, and others (Collins & Selina, 2012). Phenomenology led from conscious experiences into conditions that helped to give experience intentionality. This study explored the student's conscious experience as they experienced and performed within a college

environment. Using a phenomenological mindset, a researcher asked their participants to describe their experiences (Merleau-Ponty, 1945, 2005), interpret them by describing the context's relevant features (Zahavi, 2018), and analyze them by elaborating to find meaning. In the case of this study, participants found meaning in their interactions with the campus landscape. The integration of existentialism and phenomenology shifted the focus to understanding how one exists, including the experience of free choice or action in lived-world situations.

Phenomenology is a study of how phenomena affect us from an individual perspective and was characterized by developing practical human experiences such as world awareness, self-awareness, choice-making, and individual responsibility (Kriegel & Williford, 2006). Phenomenological philosophy was adopted by Husserl (Zahavi, 2018) and modified by Heidegger (2008). Husserl and Heidegger explained their phenomenological philosophies differently, though both were concerned with the conscious and the meaning of being and being in the practical world (Luijpen & Koren, 1969). Sartre (1967) and Merleau-Ponty (1945, 2005) modified the philosophy concerning freedom and choice and human awareness of experiences. They were motivated by an underlying existential question of finding meaning when traditional knowing (e.g., religion, culture, nation, or identity) has disappeared (Merleau-Ponty, 1945, 2005). All these philosophers were concerned with the concept of self-reflection and the notion that every individual's choice was theirs alone (Greene, 2018). Existential phenomenology soon merged into the forefront of modern thought.

Existential Phenomenology

The two streams of thought merged and served as the foundation for existential phenomenology's philosophy, which described the subjective human experience as it revealed people's consciousness, values, purposes, ideals, intentions, emotions, and relationships through their actions and lived experiences (Luijpen & Koren, 1969). In this study, the students' consciousness was challenged because they were unaware of their "knowing" the object, their campus environment. The students' awareness may be subtle and somewhat elusive when they prefer one campus area over another but cannot articulate why. Existential phenomenology accepted

that the object still carried meaning even if the experience was intuitive (Luijpen & Koren, 1969; Moustakas, 1994).

Nevertheless, several philosophers in different existential phenomenology camps purported that an individual's conscious awareness cannot self-reflect because it was self-reflecting upon itself—a paradox of self-reference (Kriegel & Williford, 2006; Noddings, 2015; Zahavi, 2018). That said, self-referencing was also comparable to a Möbius strip, “an odd structure in which inside and outside are not separate but continually merge into each other to form a single surface” (Watchel, 2017, p. 1). Using the Möbius strip as a metaphorical device to understand what lies below the “surface” of an individual. Self-reflecting ushered in numerous interpretations comprising and reshaping the individual's worldview and offering broader choice and freedom, which existential phenomenology can reveal.

Existential phenomenology built a foundation for interpreting how the students' conscious and unconscious awareness of their experiences with the college environment affected the perceptions of their academic success. Many studies have explored the person-environment relationship by analyzing the day-to-day experience of places, spaces, and environments (Gustafson, 2001; Knez, 2005; Lewicka, 2011; Scannell & Gifford, 2017; Temple, 2009). Those studies investigated how humans consciously immerse themselves in their environments through intentionality, whether real or symbolic.

Historical Foundation

The objective of this historical foundation was to disaggregate, decipher, and discuss the historic physical characteristics of a college's or university's environments to reveal and appreciate the aspects that have generated a long-standing construct of an ideal campus. Most literature on this subject focuses primarily on four-year institutions and very little on community colleges. Nevertheless, the influence of four-year institutions' historical design approach on today's community college master planning remains strong. Each college or university has its own identity that communicates a distinctive sense of place. However, the historic ideal campus remained prevalent in many students'

minds, and campus planners looked to capture that ideal with the school's spirit through its genius loci. It was helpful to know how campus design had successfully fostered a sense of community, engagement, and image in the past (Waite, 2014). Colleges' and universities' attributes were dynamic and changed over time. Identifying the attributes that fostered a *genius loci* was necessary to understand each campus; however, knowing what students considered ideal for a college campus was exceedingly challenging.

The Beginning of Campus Design

The growth and expansion of colleges and universities in North America began 300 years before the United States became one nation. Community colleges did not come into this discussion until the 1900s with their unique history and shifting demands. Nonetheless, understanding how campuses developed allows insight into the present-day approaches to community college design.

Early fledgling colleges were not ideal campuses (Turner, 1984). A single building housed all the faculty, students, classrooms, chapel, and administration. It was utilitarian and functional; aesthetics was not a priority (Turner, 1984). In the 17th century, religious identities supported the idea that higher education in the United States meant to train men to be part of the clergy or become teachers who would support the state. Overall, higher education's purpose was to develop citizens loyal to the union. (Rudolph, 1962, 1990; Thelin, 2019).

The colleges' religious leaders were inspired by the University of Oxford and Cambridge, built approximately 500 and 400 years ago, respectively. The architecture of both British universities reflected the cloistered monastic structures from the Romanesque period. Withdrawal from society was an essential concept to monasticism's Christian tradition of serving God, and the Puritan settlers embraced it as an ideal English collegiate system (Coulson et al., 2011). Subsequently, this reinforced the European monasteries' encouragement of literacy, promotion of learning, and preservation of ancient literature classics. Many colleges built before 1776 were not fully chartered and struggled to stay afloat. It was expensive to build and administer a college, and only those with

the church's and state's support could survive during the years America was becoming a nation (Rudolph, 1962, 1990).

Religious Influence on Campus Design

Nine Christian sects (Congregational, Anglican, Presbyterian, Baptist, Dutch Reformed, German Reformed, Methodist, Catholic, and Lutheran) established colleges that continue to exist today: Harvard College founded in 1636, The College of William & Mary (1693), Yale College (1701), College of New Jersey (Princeton, 1746), King's College (Columbia, 1754), College of Philadelphia (University of Pennsylvania, 1755), College of Rhode Island (Brown University, 1765), Queen's College (Rutgers, 1766), and Dartmouth College (1769).

These institutions have become the exemplars of college campus planning throughout United States history. The locations of these institutions were in rural areas under strict regulations of focused study. The British also favored building in a rural setting away from cities to help control students' behavior and minimize distractions from outside influences (Turner, 1984). British universities' layout formed an enclosed quadrangle to wrap the entire interior within a courtyard or a grassy interior (Thelin, 2019). It was expensive for colonists to build the quadrangle layout to focus on an open campus plan. They, too, believed the idyllic rural or semi-rural setting was more appropriate than a city for molding a scholarly community (Coulson et al., 2011).

Early Experimentation with Campus Design

The nine colony colleges experimented extensively with building layouts. The schematic layout for Harvard's campus design included a large main building with smaller perpendicular buildings that allowed for a courtyard (Coulson et al., 2011). William and Mary College produced two very different plans: the Oxford-like enclosed quadrangle and the large building flanked by smaller symmetrical structures. Columbia built a single, long, narrow building with an ample open space called the College Green. Yale approached their design by elongating its façade, forming a linear plan toward its central green belt. Behind the elongated building, they added two other buildings, known as the "Old Brick Row" (Turner, 1984). University of Pennsylvania's linear Gothic-style building with wings faced a

generous-sized green space. Princeton University had a single imposing academic building set away from a road behind a large greensward or field, creating a backdrop for the green space (Turner, 1984). Dartmouth and Brown followed this same concept when designing their original campuses. Lastly, Rutgers University, with its Federal-, Greek-, and Gothic-Revival style buildings still in their original locations, has replaced the original sparse and uninspiring landscape with tree-lined pathways and green open spaces with no ivy-covered walls. The colleges' layout was designed to express their distinct social and educational ambitions, differing from their English planning roots (see Appendix A). The resulting campus designs of the nine colonial colleges were diverse and inventive. Of course, it must be emphasized that the campuses' architectural goals were achieved through enslaved labor.

Beginning the College Campus Build

College administrators rapaciously enslaved people to build, maintain, and service their entire campus. Wilder (2013) wrote that “human slavery was the precondition for the rise of higher education in the Americas” (p. 114). The precondition of a free labor pool allowed colonial academies to augment their colleges' wealth, regional development, and enrollment. Financial support for higher education came from the families of slave traders in New England, the Mid-Atlantic, the South, and the British West Indies (Harris, 2019). The merchants designed grand campuses to display their city's growing prestige status, and those campuses were built by enslaved people (Wilder, 2013).

Enslaved people also built, planted, maintained, and served Thomas Jefferson's intellectual “Academical Village,” the University of Virginia. University of Virginia's campus plan remains highly regarded as an ideal university plan that many contemporary designers use as a model. Jefferson consciously planned the campus in a rural location with human-scaled buildings sized proportionally to what students could relate to, such as their home. There were no oversized spaces or large distances between buildings and no monumental structures. Even the library, called the Rotunda, was restrained in size, but its location was the campus' central focus. The design consisted of a closed double mall with alternating French and English gardens on gently rolling terrain between the

brick building rows (Dober, 1992; Gaines, 1991; McInnis & Nelson, 2019; Turner, 1984). Professors were assigned a modest two-story pavilion with upstairs living quarters and their classrooms on the lower level. Student dormitories were adjacent to the pavilions bound by the open square of lawn and trees, embodying an academic village (Turner, 1984). In 1810, when Jefferson recounted that “much observation and reflection on these institutions have long convinced me that the large and crowded buildings in which youths are pent up, are equally unfriendly to health, to study, to manners, morals, and order” (Jefferson, 1810, p. 2). Jefferson’s emphatic philosophy that students and faculty live together and be at the campus center was too intimate and unyielding, particularly for the professors’ wives, as Turner (1984) discussed.

Nevertheless, the campus’ physical design exemplified the free and open exchange of ideas between students and faculty. This exchange allowed students to choose their curriculum and connect with their faculty (Hajrasouliha, 2017b). During the late 19th century, Jefferson’s (1810) design reflected American inventiveness. However, other college designers did not embrace it until nearly 100 years later, when architects revisited the University of Virginia scheme to create their village-like campus environs to broaden the diversity of students and fields of study. Except for the slave quarters, which were removed, Jefferson’s Academical Village design was one of the most intact and unaltered 19th-century campus buildings and landscapes in the United States (McInnis & Nelson, 2019). The Academical Village university was also one of the first to take a liberal arts approach to education when most schools prepared lawyers and clergy. However, much of the U.S. population excepted that wealthy White males struggled to find higher education valuable. The public wanted higher education to become more democratized and demanded a practical education for the industrial classes (Rudolph, 1962, 1990).

Education Reform and Federal Involvement

Congress enacted the Land-Grant College Act of 1862, also known as the Morrill Act, to establish a precedent for new Western states to support public colleges for their citizens. Morrill stated (as cited in Eddy, 1973, p. 27) explicitly that the act’s purpose was to “promote the liberal and

practical education of the industrial classes in the several pursuits and professions of life.” The establishment of these colleges generated considerable debate about their role in the nation, education reform, and federal involvement in higher education (Chapman, 2006). Traditional colleges were responsible for graduating theologians, teachers, or lawyers. The Morrill Act established agriculture, science, and engineering (mechanical arts) programs for land-grant schools (Key, 1996). Thus, however slowly, higher education began opening its doors to a broader socioeconomic stratum of men, women, and people of color.

The democratization of the college system led landscape architect Frederick Law Olmsted to create a new campus design strategy reflecting an essential change in the curriculum and pedagogy: a unification of “head-workers and hand-workers” (Stevenson, 1977, 2000, p. 275). Olmsted was involved in designing 24 colleges between the 1860s and the 1890s. Olmsted wholeheartedly believed that immigrants needed institutions that rose the level of thinking, erased class distinctions, and “civilized” people to become more tolerant of each other (Schuyler, 1992). Olmsted also believed that students could only become contributing members of society if the environment were appropriate. He emphasized the importance of (a) outdoor spaces for student health and well-being and (b) creating an optimal setting in which education, broadly conceived, could take place (Schuyler, 1992).

Olmsted based his educational institution design approach on observing nature. Specifically, he observed a functional interdependence between every organism and its environment. Olmsted believed nature to be an antidote to an individual’s understanding of their mental and physical well-being. He acquired this perspective early while spending time in the countryside with his father. As an adult, Transcendentalists such as Bartol, Emerson, Thoreau, and Fuller influenced him. Transcendentalists believed that spirituality pervades all nature and humanity. There were two camps: one group championed introspection and self-reliance as a link to spiritual life, and the second group stressed the need for ethical behavior, emphasizing equality, inclusiveness, and the common good to reform a nation (Gura, 2007). Olmsted’s social reform belief was that nature could

permeate the psyche and foster greater civil society. His campus designs then were based on the belief that the physical environment students interacted with was an essential component of their education (Chapman, 2006).

Colleges and universities struggled with opposing visions of a campus ideal. One fraction believed the college campus must be isolated from the city. Others, including Olmsted, contended that campuses were not cloistered retreats from the world but an extension of it. They agreed that a campus should not be in an urban area (too many distractions) or a rural area (too remote for students to apply what they are learning to their lives away from college). In comparison, a suburban setting balanced the two extremes of urban and rural settings (Beveridge & Rocheleau, 1998). Olmsted's campus designs reflected the naturalistic landscape aesthetic he employed in his many estates and public park designs. Crucially, the natural environment was popularly held as beneficial to students' well-being and character (Coulson et al., 2011).

With a reformist philosophy and that of several leading campus architects of that time, Olmsted stressed the impact the designed environment has on people's lives and the importance of shaping human behavior (Veysey, 1965). Humans were unconsciously affected by the scenery, whether by negative distractions or positive restoratives. Olmsted emphasized the practicality of his landscape designs compared to a superficial creation of ornamentation. He wanted to respect the natural settings by the site design to emerge; rather than being imposed on a site. Olmsted proposed that using a traditional quadrangle was inappropriate for campus design because of its inflexibility and inability to accommodate future needs and spatial changes. Nevertheless, Cornell, Amherst, Harvard, and Yale chose to keep their quadrangles and monumental buildings against Olmsted's instructions. In contrast, Olmsted and Downing, an architect of many landmark landscapes, believed that properly designed college grounds civilized students. They considered domesticity and community to play an essential role in campus plans. The ideal environment, they felt, would teach students how to be a citizen in later life (Beveridge & Rocheleau, 1998; Schuyler & Censer, 1992). Olmsted's idealism in

democratizing the American college system ignited the community college system to expand access and inclusion into public higher education.

Community College Campus Design

Universities did not want to spend the energy, time, or money teaching generalist subjects (Thelin, 2019). As they were then known, junior colleges allowed only the most exemplary students to transfer to 4-year institutions (Beach, 2011; Brint & Karabel, 1991; Cohen & Brawer, 2008). Two-year institutions were initially designed to address two very different sets of programs in postsecondary education. The first was generated from the German education system, in which the first two years of college were separated from the final, research-based years of postsecondary study. The second program was formulated to accommodate students wanting to remain in their communities while pursuing an affordable college education (Winter, 1964).

At the beginning of the 20th century, an experiment for a postgraduate high school program was conceived in Joliet, Illinois. This experiment began the influx of junior college development in the United States (Cohen & Brawer, 2008). A far cry from inclusivity, these male-dominated, majority-White schools, nevertheless, catered to a broader cross-section of the community than the 4-year counterpart. More junior colleges were built in the 1920s and 1930s. They focused on vocation and technical careers to fulfill a growing technological society.

Exceedingly little research examined the design of community colleges in the United States. Nonetheless, these colleges were required to offer general education courses in their programs (Winter, 1964). However, campus design was utilitarian during those years and either an annex of a high school, a bunker, or a reclaimed factory.

The return of veterans in the 1940s and 1950s expanded the need for occupational programs. The Truman Commission report, issued in 1947, changed the course of higher education in the United States from “merely being an instrument for producing an intellectual elite” to becoming “the means by which every citizen, youth, and adult, is enabled and encouraged” to pursue higher learning (President’s Commission on Higher Education, 1947, Vol I, p. 41). However, the traditional preference

for a rural or isolated campus altered to support a wider population's needs; the community college campus was subsequently built into the city's center or near a major thoroughfare (Beach, 2011; Turner, 1984). The physical campus design needed to change to support the commuter lifestyle of the junior college student. Campus planning focused on pedestrian and vehicular circulation surrounding the campus's edges with a sea of asphalt (Chapman, 2006; "College for the community," 1959; Turner, 1984).

In the 1960s, community colleges proliferated throughout the United States. Indeed, approximately 700 community colleges were founded across the country during the period. California took the lead with this trend by developing junior colleges and expanding the practical training that land-grant colleges initially offered with the 1907 California Upward Extension Act authorizing junior colleges (Gallagher, 1994). This mandate continues today for community colleges centered around locally based, open-access education and focusing on adult student success. Between 1955 and 1974, a new community college opened in the United States every other week (Thelin, 2019). These colleges' designs had a more industrial, minimalist style with clean lines, flat roofs, metal finishes, very little landscape, and as much parking as the site allowed. The campus plan typically included a stadium, track, baseball field, and a single uniquely shaped building. The buildings' footprint somewhat resembled the style of the Jeffersonian academic village's clusters, resulting in faculty and students often interacting there through formal classroom activities and informal outdoor meetings. The clusters were spread out just enough for students to walk by and view the activities taking place and possibly be inspired to experiment with another vocation (Chapman, 2006). The landscape was kept simple on many campuses with courtyards of varying sizes to allow students and faculty to meet informally. The urgent demands from industry and the community forced community college campus planning to accommodate and shift quickly to meet their demands; consequently, the campus buildings were hasty ad hoc builds (Turner, 1984).

Due to vocational and technical demands, public funding for junior and community colleges was forced to forgo the impressive landscapes that 4-year institutions offered students and settled for

a simple landscape plan of mowed lawns and large trees (Evans & Neagley, 1973). Nevertheless, studies revealed that 62% of entering college and university students choose a campus based on the buildings and grounds (Boyer, 1987; Fox, 2017; Vidalakis et al., 2013). One study reported that landscaping was ranked as number one among the “core factors” students evaluated when they arrived on campus (Eduscape, 2020). Recent campus planning literature and practice have reflected a lack of diversity in community college students by referencing a green quadrangle lawn with classical architecture regardless of institutional type or locale. The following factors can worsen marginalized students' experience on campus, undermining their retention and graduation abilities (Gillen-O'Neel, 2019; Griffith, 1994; Scott-Webber et al., 2013; Strange & Banning, 2015). Many community campus designs lack Olmsted's concept of the landscape as support for students' mental and physical well-being. Students from marginalized groups have less access to green space in their neighborhoods. Often the only access students have to green space is a college campus (Berto, 2014). The buildings' extensions became somewhat ad hoc, often portable structures, rented spaces, or an annexed building of the local high school and the campus landscape that suffered from this eroded spatial planning (Chapman, 2006). When a campus loses its spatial planning, circulation becomes confusing and inefficient (Turner, 1984). The inconsistent use of materials and details resulting from lower purchases and installation costs depreciated the campus environment (van Yahres & Knight, 1995).

Theoretical Foundation

This study of students' psycho-physiological response to the campus landscape and how it influenced their academic success has a solid theoretical foundation. Thus, to help understand the perceived relationship between campus landscape and student success, the research drew on a subfield of student development theory called person-environment interaction theory.

Person-Environment Interaction

Person-environment (P-E) interaction theories analyzed how an individual's or group's interaction with the environment influenced their behavior, perceptions, or values (Bubolz & Sontag,

1993). Although some theoretical differences existed among different constructs in P-E interaction theories, they invariably referred to their psychological and physical capacities and the demands placed on those capacities by their social and physical environment (American Psychological Association, n.d.). To properly frame this study based on how students perceived the landscape and how it supported their well-being and academic achievement, it was appropriate to meld two major P-E interaction theories: (a) bioecological systems theory developed by psychologist Bronfenbrenner (1979, 2005) and (b) campus ecology by Banning and Kaiser (1974; Strange & Banning, 2001). Both built their model of ecological development upon the works of Lewin (1935, 1936), Maslow (1943), and Moos (1979). All these models have proven invaluable to researchers in several disciplines relevant to students' academic success, including the fields of environmental psychology, behavioral and developmental psychology.

The Ecology of Human Development

Bronfenbrenner developed the ecological theory to understand the impact of an individual's psycho-social and physical environment interactions over time (Rosa & Tudge, 2013).

Bronfenbrenner began with Lewin's work, which placed behavior in different contexts, either situational, interpersonal, sociological, cultural, historical, or theoretical (Lewin, 1935). Place was not physical; instead, it was the psychological interaction between the individual and one's environment. Lewin (1917) shared an example during his field research of soldiers during WWI in his paper *Zeitschrift für Angewandte Psychologie*, which described how foot soldiers marched through the landscape comfortable in their surroundings such as a farmhouse, meadows, or woodland. The closer they moved toward the front lines, the soldiers' perceptions of the setting shifted to threatening and fearful. The stress factor for survival increased as they spent time under stressful conditions. Their perceived reality changed despite the setting being objectively indistinguishable from the scenes only a short distance behind the front (Lewin, 2009). This observation led Lewin to determine that behavior was a joint function of person and environment: $B = f[PE]$ (Lewin, 1935).

Bronfenbrenner (2005) added concepts and connections drawn from a wide array of research to formulate his framework for this foundation of human development. Bronfenbrenner substituted Lewin's behavior formula with an individual's development formula $D = f[PE]$, positing that person and environment development was a joint function. Bronfenbrenner (2005) also evolved the bidirectional nature of this theory, stating that human development was progressive throughout the individual's life course:

The ecology of human development [exists] . . . between an active, growing human being, and the changing properties of the immediate settings in which the developing person lives, as this process is affected by the relations between these settings and by the larger contexts in which the settings are embedded. (p. 107)

Bronfenbrenner argued that the nature of these settings or environments changed people but also that people changed environments "the internal becomes external and becomes transformed in the process" (Bronfenbrenner & Ceci, 1994, p. 572). The many different levels of these influences began with the individual and their immediate family and extended to broader social structures of culture, school, workplace, society, the economy, and politics. It was a particular challenge to consider how all these contexts, specifically the campus landscape environment, shaped student development.

One study often cited in research on human behavior and the environment was conducted by Moos (1979). They suggested a model similar to Bronfenbrenner's, illustrating that students were affected by physical settings, human aggregate, organization factors, and social climate. Using an integrated developmental approach, Moos (1979) demonstrated that behavior was a function of the person's interaction with their environment. Behavior cannot be studied separately from the environment in which it occurred. Similarly, it was unlikely that either physical or social environments could be fully understood independently. Moos established that the "arrangement of environments is perhaps the most powerful technique we have for influencing human behavior" (Moos & Moos, 1986, p. 4).

Moos (1979) argued that all socially created environments were comprised of three different dimensions: relationship, systems maintenance and change, and personal growth. All three

dimensions emphasized finding what works well for a person in a particular environment, such as a college campus. The relationship dimension measured how individuals cooperated and interacted in a specific environment oriented toward their goals. The system maintenance and change dimension covered an environment's structure and order with actual expectations, such as an academic environment. Personal development established various goals: academic, athletic, familial, and others (Moos, 1991). In an academic environment, a student's sense of belonging to that institution creates an attachment to support their progress, retention, and graduation. Overall, data gathered through the social climate dimensions study shed light on staff involvement, peer cohesion, supervisor support, autonomy, work pressure, clarity, control, innovation, and physical comfort (Moos, 1986). While Moos and Moos (1991) used four domains to understand students and their environments, Bronfenbrenner developed a model demonstrating how individuals interacted reciprocally in increasingly complex environments.

Bioecological Systems Model

Bronfenbrenner (1979) conceived the context model as a series of concentric circles with the individual at the center. In the model, each ring represented increasingly complex environments in which the individual must interact reciprocally within and between during their lived experience. (see Figure 1). Each circle had a relationship with the other circles, and they were not independent of each other, which added another layer of complexity to human development (Shelton, 2019).

Every environmental setting contains a system. Indeed, any attempt to explain development required accepting that time was a system affecting the student's characteristics and the environment in which they lived. The macrosystem was the student's attitudes and cultural ideologies that influenced their development. Culture consisted of the macrosystems patterns and mesosystems typical of a subgroup of people or possibly a region (Bronfenbrenner, 2005). The exosystem, though, was closer to the student and influenced the individual indirectly, that was, through extended family and friends or the college system or department structures. The student may not actively participate in the setting, but the setting nonetheless influenced the student. Bronfenbrenner (2005) stated that

the mesosystem was a link comprised of the processes occurring between two or more settings containing the student, such as the relations between college and home or college and workplace.

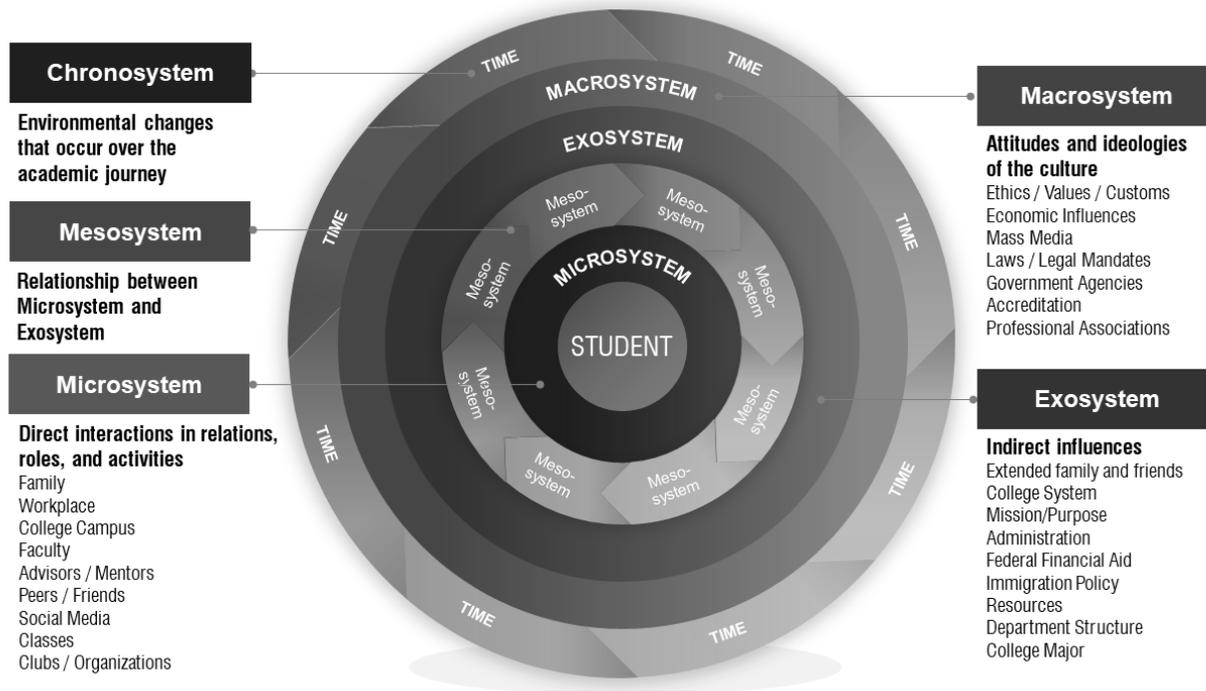


Figure 1. Bronfenbrenner's bioecological model

Lastly, the closest system in which the student participates in the microsystem. The microsystem must be part of the student's immediate and direct interactions, including their family, college campus, faculty, peers, affiliations, and related components. Each microsystem with a particular physical and material characteristic is comprised of people, activities, relationships, and roles (Bronfenbrenner, 2005). Despite Bronfenbrenner's vast body of work, there was very little research investigating the understanding of how students internalized and interacted with the campus outside the classroom or how the student could change their external environment (Bronfenbrenner & Ceci, 1994).

The student existed in a system of interconnected relationships, roles, activities, and settings. Individual development occurs as the developing person spends time in an environment and begins to understand their experience and acts effectively within the system. For example, they complete coursework, complete their academic term, or find respite in a campus landscape. This development

of the student, in turn, changed the system. As mentioned above, the students' settings were related to each other, such as the classroom with outdoor spaces and formal settings with informal settings. These environments were a complex sum of the individual's physical and psychological bidirectional interactions (Tudge et al., 2016), determining a student's values, goals, importance, satisfaction, and academic success.

Process-Person-Context-Time Model

Bronfenbrenner (1979) developed a different system for testing his theories known as the process-person-context-time (PPCT) model. More specifically, "proximal processes" mean that individuals have repeatedly engaged in activities and interactions with their environment at increasing complexity. Researchers observed that students who engage in increasingly involved activities on campus had increased retention and success rates (Astin, 1985). "Person" is the individual participating in a perceived environment that the individual experiences, which can be associated with an incoming first-year student as they interact with their environment. This interaction then shifted their perception of the campus. It changed their mental state, similar to how the WWI soldiers' mental state changed as they experienced the frontlines in a once comfortable landscape. "Context" refers to an ecosystem or a component of an ecosystem that facilitates individual development (Shelton, 2019). Development facilitation can increase the individual's effectiveness at managing the environment they experienced. Individuals can develop skills to make greater sense of their interactions with the environments and become more motivated to investigate, explore, or take care of themselves and learn from those experiences (Shelton, 2019). "Time" in Bronfenbrenner's studies referred to a developing individual at any point in their life span as long as they were engaged and evolved within the environment and worked toward a complete understanding of their experiences (Bronfenbrenner, 2005).

The PPCT theoretical framework recognized that no individual lived in isolation without the interconnections with family or social groups, with biases, strengths, and weaknesses that influenced their development throughout their lifespan (Griffen et al., 2018). People understand the environment

because they experience, observe, act on, and interact with it (Shelton, 2019). Strange and Banning (2015) concluded that student activities in the environment lead them to understand the impact of that environment, which is contingent on the characteristics of the individual experiencing it. The simple act of exploring a campus and finding a setting in the landscape that supports student mental well-being is a central component of their development. A repeated activity that the student finds meaning in or that has intent in the discovery is, according to Bronfenbrenner, called a “molar activity” (Bronfenbrenner, 1979). Thus, this activity must be ongoing, continually support the individual, and be perceived to have a reason or purpose for continuing the activity. There was potential for the student to incorporate that particular activity into more complex activities. For example, if students find an area on campus that reduces stress and anxiety, they will continue to visit that setting to manage their psycho-physiological well-being.

All in all, humans have evolved as biophilic species, feeling a connection to the natural world even if systematic and individual variation existed in nature's choices. These places strongly influence students' engagements and interactions within the natural world. As students learn to manage their well-being, they will perform better in their coursework and increase their ability and skills to succeed academically (Hodson & Sander, 2017; Kuo et al., 2018; Leung et al., 2019). The molar activities reflected the development of the student's ability to adapt to their environment, sustain their engagement through intent, replenish their depleted cognitive resources, and succeed in a college setting (Bronfenbrenner, 2005).

Bronfenbrenner (1979) defined a setting as a place with definable physical features, such as a campus setting. The campus setting consisted of all the stimuli that affected the students' physical, biological, and psychological stimulation (Strange & Banning, 2015). The setting must also contain people; it is likely not developmentally crucial without them. Understandably, a setting must be necessary, though a relatively small body of literature was concerned with an individual's cognitive restoration in a setting that does not contain people. Solitude was a state characterized by disengagement from other people's immediate demands (Long & Averill, 2003). Disengagement was

vital in various significant areas of psychological development (Denham-Vaughan & Edmond, 2010; Kemerer, 2016; Vaughan & Klimo, 2016). Researchers of the topic have found that individuals could gain insights free from environmental and social constraints (Lehmann, 2016; Lehmann et al., 2019). Bronfenbrenner may have disagreed that an individual can only develop with people in an environment. However, there must be a place for students to find a moment of solitude and reflect on their experiences. Thus, a naturalistic setting may be solitude for the student.

Strengths and Limitations of the Theories

Bronfenbrenner (2005) combined a development perspective with an ecological perspective. The theory stated that both viewpoints must be applied simultaneously and integrated into a systemic, comprehensive understanding. The theory provided a sound foundation for understanding how and why individual students—even those who shared similar backgrounds—experienced campus environments in substantially different ways. Effective leaders can use this theory as an impetus for social-emotional learning. The person-environment theory helped enhance the overall learning potential supported by intentional environmental design, which may require adjusting the design of a current environment or developing entirely new environments to support marginalized or underrepresented students (Strange & Banning, 2001). Understanding the effect of the campus landscape may translate into educational leaders reflecting more on how to create culturally affirming physical environments that promote positive identity, a sense of belonging, and strong faculty-student relationships. Taken as a whole, the person-environment theory does not establish how the student could be affected beyond the immediate campus setting or across time, yet it can help advisors support students who must adapt to and cope with different institutional environments (Banning, 2016, 2018; Strange & Banning, 2015).

Review of the Scholarly Empirical Literature

Over decades, research has examined humans' relationship with the landscape. The meanings individuals comprehend, and the values humans hold about landscape appear intimately connected with how they perceive landscapes. In turn, this relates to their landscape preference and

sense of belonging. Each researcher blends their concepts with the previous studies and offers a nuanced perspective. Students' environments affect them, which justifies investigating how a naturalistic environment like a campus landscape would support students' well-being, resilience, or perseverance in their academic journey.

Three over-arching models are used to integrate a framework of the campus environment and students' well-being: a) behavioral, b) humanistic, and c) cognitive. The behavioral model contends that evolutionary adaptation and biological need are the significant factors influencing landscape preference (Abdelaal, 2019). The humanistic model stipulates individuals connect to landscapes through physical and emotional engagement with other individuals (Gillen-O'Neal, 2019). Finally, the cognitive model states that students restore themselves mentally and physically in natural settings, boosting academic achievement (Lu & Fu, 2019).

Joining these three bodies of scholarship introduces a unique perspective and offers a shared set of ideas essential to this study. Crucially, it supports the concept of students' academic success through campus landscape design (Föllmer et al., 2020).

Behavioral Perspectives

Literature on human nature studies contends that evolutionary adaptation and biological needs are the significant factors influencing landscape preference. Many scholars have assessed the efficacy of the psycho-evolutionary and biophilia theories' relevance to campus landscape design (Kellert, 2008; Plutchik, 1980; Söderlund & Newman, 2015; Thake et al., 2017). Psycho-evolutionary theory, identified with Charles Darwin, hypothesized that human responses to varying physical surroundings were adaptations to stimuli (Plutchik, 1980). Biophilia theory posits that the natural environment is critical to human meaning and fulfillment at individual and societal levels (Wilson, 1984). The campus presents a setting for students to adapt and adopt by finding meaning through their interactions with the landscape.

Psycho-Evolutionary Preferences in Humans

Reactions to one's environment have fundamental psycho-evolutionary importance to all living beings, and many aspects of social functioning are derived from those reactions, particularly with one's environment (Darwin, 1958; Kellert & Wilson, 1993; Orians, 1986; Orians & Heerwagen, 1992; Plutchik, 1980).

According to evolutionary psychology, humans have an innate preference for environments that allow for both opportunity (prospect) and safety (refuge). The prospect-refuge theory states that humans consistently assess their surroundings for survival from evolutionary survival conditioning (Appleton, 1975; Evans & Zarate, 2012). Appleton referred to many landscape paintings depicting groves of trees, open spaces with low grasses, and vistas. In so doing, Appleton (1975) implied that humans have an affinity for these landscapes based on their preference for their images.

Several studies have explored the factors that influence landscape preference, revealing parallels of specific landscape components. For instance, Herzog et al. (2003) found that the prominence of vegetation (shrubs and trees), openness, and water presence was consistent in investigating landscape preferences across two cultures. The most preferred component was rivers, yet other environmental components were parallel despite varying rankings. Preliminary work by Falk (1977) described how human landscape preferences were strongly affected by evolutionary adaptation to life on the savannas of Africa. In a follow-up student, Falk and Balling (2010) found that humans appear to possess an innate preference for savanna-like settings.

The prospect-refuge theory has been widely adopted in design theory (Gärling & Golledge, 1993; Kellert, 2008). It posits that it is not nature in the space but the nature of the space that is paramount. This theory was expanded by Hildebrand (1999), who identified that prospect and refuge are integrated into architectural design, incorporating ceiling heights, the sizes of terraces, open spaces, and overall spatial form and balance.

To better understand the definition of prospect and refuge, Dosen and Ostwald (2013) reviewed the origins of Darwin's theory that humans react to environmental stimuli. Drawing on an

extensive range of sources, the authors embraced four features: view, the balance between frame and view, a sense (either real, implied, imagined, or symbolic) that safety is required, and a degree of visual and experiential richness and complexity. Consequently, the prospect-refuge theory can be described as “a particular environmental pattern, made up of spatial and formal relations that induce feelings of safety and well-being” (Dosen & Ostwald, 2013, p. 20). A relationship exists between people’s preferences and their desire for distance vistas, elevated views, picturesque grottos, and high-backed seating in our modern era. These features positively affect individuals, consequently reducing or even buffering psycho-physiological stress (Cooper-Marcus & Francis, 1998).

Psycho-evolutionary studies suggest that exposure to natural environments can promote recovery from stress, whereas exposure to human-made and urban environments tends to hinder recovery from stress (Velarde et al., 2007; Ulrich, 1993). Natural environments supporting mental health and well-being have long been observed throughout history. The sanctuary of Asklepieion was a sacred healing place devoted to the belief that water, green vegetation, mountains, views, vistas, and grottos can support physical, mental, and social well-being (Nielsen, 2016). In the Middle Ages, Hildegard von Bingen embraced the concept of “viriditas,” or vitality, concerning gardens, which came from the practical concern that plants can heal. The first hospitals in Europe were monasteries, wherein a cloistered medicinal garden, fountains, and quietness would bring relief to the ill (Howes, 2016). Evolutionary and psychological interpretations understand human landscape preferences as dynamic and fluid based on generational social constructs (Falk & Balling, 2009; Moura et al., 2018). Biophilia discusses the social constructs and human beings’ innately emotional affinity for nature (Wilson, 1984).

Humans’ Inherent Affinity for Nature

The biophilia theory speculates that the innately positive responses based on the natural landscape may vary due to our ability to adapt millions of years ago, and our ever-evolving genetic makeup continues to value those instinctual responses (Falk & Balling, 2010; Plutchik, 1982; Shackelford & Liddle, 2014; Söderlund & Newman, 2015). Edward O. Wilson introduced and

popularized the hypothesis suggesting that humans possess an innate tendency to seek connections with nature and other forms of life (Wilson, 1984). Wilson defined biophilia as the “innately emotional affiliation of human beings to other living organisms. Innate means hereditary and hence part of ultimate human nature” (Kellert & Wilson, 1993, p. 31). Kellert and Wilson (1993) demonstrated that humans have biophilic (positive approach) and biophobic (negative/ avoidance) responses to natural elements and settings that contribute to our survival. This perspective contends that humans’ biophilic desire to view or be in nature is innate from our evolutionary development. The possible genetic basis for biophilia and biophobia reflected in biologically prepared learning predisposes humans to quickly learn and retain the association with positive and negative stimuli (Ulrich, 1979, 1983).

Though humans are no longer hunter-gatherers, they biologically respond to visual openness, allowing escape opportunities, surveillance, and a lower probability of dangerous encounters (Appleton, 1975; Falk & Balling, 2010; Kellert & Wilson, 1993). By expanding on that concept, studies have shown a persistent “liking” for natural environments, particularly open spaces such as savanna environments, which are perceived to possess survival necessities, like food, water, and security than forests or deserts (Heerwagen & Orians, 1993; Joye, 2007).

Balling and Falk made a similar point in their studies (2010) of visual preference for savanna environments to be at least as strong as that for forests. Nevertheless, subjects under 12 years of age preferred the savanna form over other biomes (deserts or forests). This preference may be rooted in cultural bias, but the researchers believed that the variance reflects the familiarity of the landscapes presented to the participants. The researchers’ participants were primary, secondary, college students, and adults consisting of landscape architecture students, aboriginal students, teachers, theater-group members, and government agents were included in the participation sampling. Regardless, their participant pool was relatively small, so the study’s results must be considered cautiously.

The desire to be near water, green vegetation, and flowers over human-made elements such as concrete, asphalt, or glass is a psycho-physiological preference (Ulrich, 1983; Kaplan & Kaplan,

1989). One detailed literature examination by Abdelaal (2019) analyzed the benefits of biophilia within universities and their plans to enhance the quality of their campuses in response to students' needs in education. Abdelaal found that merging biophilic design characteristics with sustainable development will generate a more robust campus master plan that supports students' well-being. The body of literature reviewed by Adbdelaal (2019) provided evidence of a positive impact that biophilic designs benefit humans through physical-physiological, psychological, cognitive, social, and spiritual interactions with nature.

Studies have shown stress as a physiological and psychological response to stimuli that threaten well-being (Baum et al., 1982). The findings of Kellert and Wilson's (1993) study proposed that environments that do not require copious amounts of information or stimuli are non-threatening. Thus, the individual's stress or tension levels decrease when spending time in such settings. Drawing on an extensive range of sources, the authors sought to determine the different ways in which spending time in a naturalistic setting can help relieve stress and anxiety and improve well-being, and that allows an individual's mind to recover from the stimuli (Bratman et al., 2021; Brown et al., 2016; Hartig et al., 2014; Kondo et al., 2018; Lopes et al., 2020; Rakow & Eells, 2019; Ulrich, 1991).

Several researchers have also attempted to examine associations between nature connections and psycho-physiological well-being, particularly in undergraduate students (Föllmer et al., 2020; Holt et al., 2019; Hu & Kuh, 2002; Norizan et al., 2018; Speake et al., 2013). However, findings on how nature connectedness and emotional well-being relate to cognitive restoration have been inconsistent with elementary public schools (Browning & Rigolon, 2019; Markevych et al., 2019). The researchers recommend that future studies distinguish the socio-economic status of participants. It is essential to consider the effects of poverty, race, access to green space, zoning practices, and vacancy rates on greenness-academic performance models. In addition, future greenness-academic researchers must develop a nuanced understanding of the various types of green cover on a campus that may lead to diverse outcomes.

In an investigation into human nature connections, Howel et al. (2010) found that nature connectedness correlates with psychological and social well-being. The campus is also considered a cognitive entity because of these preferences or desires for connectedness, openness, and safeguarding. As such, the brain is involved in the campus' perception and is governed by its development pattern (Stanton, 2005).

Humanistic Perspectives

During the second half of the 20th century, many thinkers, including Bachelard (1964), Lefebvre (1975, 1991), de Certeau (1992), and Soja (1996), used space as a critical and analytical tool. Many perceptions of space may overlap: “physical space, mental space, and social space” (Lefebvre, 1975, 1991, p.14). Space has a multiplicity of meanings and connotations that resonate with positive and negative energies. Space may have deep meanings, such as “a place called home,” which conjures safety and comfort, or “do not go there,” which incites fear and panic. Space is not neutral, and perceptions of college spaces are not universal. All space is classed, gendered, and racialized through unconscious intentional design (Pérez, 2018; Rendell, 2006). Often, campus landscapes do not represent the current student demographics, making it difficult for many to feel they belong.

The campus landscape is unique; it is not a city, block, or neighborhood. Nor is it a park or an open space. Therefore, describing and analyzing the campus landscape should differ from analyzing other aspects of the campus built forms. Interestingly, Hajrasouliha's (2017a) quantitative study showed significant similarities among campus master plans regarding challenges, objectives, and recommendations. Hajrasouliha's (2017b) research sought to define a “well-designed” campus by identifying 100 common recommendations in master plans. According to these recommendations, the well-designed campus is a mixed, compact, well-connected, well-structured, activated, and green campus in an urbanized setting. However, the study was limited. It did not consider whether the university students' differences, particularly those of marginalized students, were used to shape an equitable, diverse, and inclusive campus (Vaccaro et al., 2015).

Place Attachment

When individuals form emotional bonds with a space and place attachment and meaning fuse with physical space, there is a tendency to maintain a relationship with such a place (Botts et al., 2003; Hidalgo & Hernández, 2001). It follows that space metamorphoses occur when meanings are ascribed to them, such as when a house becomes a home, a street becomes a neighborhood, and an institution becomes a campus (Oldenburg, 1999). Space is constructed and continuously reconstructed through social, cultural, and political processes (Cheng et al., 2003). Space becomes a place imbued with meaning and attachment and where actual bonding occurs. In this process, individuals develop a sense of place and belonging (Altman & Low, 1992; Scannell & Gifford, 2017).

The term “sense of place” has had broad and diverse implications in environmental psychology, sociology, geography, and design for many years (Hiss, 1990; Proshansky et al., 1983; Tuan, 1977). A sense of place is defined as the emotional attachment to a particular geographical/physical space. It is a concept wherein an ordinary space transforms into a particular place through memory, associations, and identity constructs. Place can serve as a heuristic device for understanding the dynamics of the college campus. As Strange and Banning (2015) reveal, the nature of campus environments as place is the iterative influence of the environment on the student’s behavior and the student’s influence on the environment. To many academic writers and researchers, how people relate to places has become an essential expression of social stratification and spatial justice (Bullard, 2000; Closman, 2014; Freire, 1995; Massey, 2005; Soja, 1996). Lewicka (2011) provided a 40-year review of place literature covering more than 100 different authors across multi-disciplines in this specific area of study. These studies have become increasingly important for evaluating how students’ sense of place is associated with their sense of belonging, in turn supporting their higher academic engagement, motivation, and achievement (Eccles et al., 1993).

A sense of place is a natural condition of human existence that has not changed even with the development of non-places such as hotels, airports, bus stops, laundromats, or shopping malls (Augé & Howe, 2009; Beatley, 2004). These are places with no history, no connections, and no identity –

they are “placelessness” (Relph, 1976). By comparing those places with the definition Turner (1984) states, a campus becomes “the pervasive spirit of a school, or its genius loci, as embodied in its architecture and grounds” (1984, p. 4). College grounds are sites of memory and meaning with informal and formal social spaces for students to experience and connect to the campus.

Sense of place theory has been applied and explored as a device for understanding the dynamics of connection to a college campus (Kenney et al., 2005; Strange et al., 2015; Sturmer, 1972). Such studies have related a distinctive sense of place in the campus design. Moreover, they have suggested that the concept increases the campus attraction for prospective students, contributing to higher retention rates once enrolled and creating lasting relationships between students and institutions (Broussard, 2009).

The concept of place is critical for campus environments and their potential influence over students’ behavior (Chapman, 2006). Place attachment or the bond between people and meaningful places has been inadequately associated with the perceived restorative potential of environments (Hartig et al., 2011). However, preferences for a specific environment are implicated in restorative perceptions (Sussman & Hollander, 2015; van den Berg et al., 2003). Experiencing nature and its visual complexity—even for less than an hour and even if represented by a simulation—reduces stress and provides additional benefits (Orians & Heerwagen, 1992). Hajrasouliha & Ewing (2016) examined 103 4-year colleges and universities through 13 variables. A “well-designed” campus supports students’ sense of belonging, place attachment, and student retention. Moreover, the degree, location, and the ability of a physical space to offer respite shapes behavior by facilitating or discouraging students’ mental well-being (Hajrasouliha, 2019).

From a student’s perspective, place attachment associated with a college campus is often critical in shaping their first impression of an institution (Boyer, 1987; Vidalakis et al., 2013; White, 2020). A sense of place or place attachment connects to deeper levels of engagement in an institution’s academic life (Banning et al., 2010). The physical environment affects students’ behavioral patterns and academic performance, such as “retention, attention, motivation, learning,

and academic achievement” (Scott-Webber et al., 2013. p. 1). Students develop strong place attachments (Giuliani & Feldman, 1993) to colleges and universities. Their senses of belonging and identity become deeply entwined in place identity (Proshansky et al., 1983). Indeed, place identity can support studies exploring the relationship between student retention and degree attainment to intentional campus design (Cain & Reynolds, 2006; Hajrasouliha & Ewing, 2016). Whether the environment determines the behavior facilitated by the environment or the opportunity for a particular behavior (Bell et al., 2005), the environment must be considered when understanding students’ behavior and development.

Sense of Belonging

According to Maslow’s hierarchy of needs theory, if a person has realized both physiological and safety needs, a need for love, affection, and belonging will emerge (Maslow, 1943). A sense of belonging is a basic human need and must be achieved before accomplishing any other higher psychological well-being level. It is a complex construct that relies on students’ perceptions and experiences in the academic environment. The main difficulty researchers have encountered when navigating the study of the sense of belonging has been the diversity of approaches available at the theoretical and empirical levels (Gillen-O’Neel, 2019; Morieson et al., 2018; Samura, 2016). Sense of belonging is notably applicable when evaluating whether students from different backgrounds may have different versions of “the college experience.” A growing body of research suggests that, for first-year college students, a sense of belonging is a critical dimension of positive academic outcomes (Freeman et al., 2010; Strayhorn, 2018) and a positive mental attitude (Leary & DeRosier, 2012). The need for connection challenges higher education administrators to develop this sense of belonging in a highly diverse student body regarding ethnicity, race, gender, age, socioeconomic level, family, and work obligation. Much research on the sense of belonging has focused on between-person correlations that result in overall feelings of well-being, self-actualization, resilience, persistence, and retention (Bowler et al., 2010; Bowman, 2010; Deil-Amen 2011; Mamiseishvili & Koch, 2012; Murphy & Zirkel, 2015; Pichon 2015). Such research has demonstrated that students who report a high level

of sense of belonging feel safe on campus, have a positive racial identity (Johnson et al., 2007), and form deeper connections with students, faculty, and support services (Booker, 2016).

Much research on the importance of belonging has focused on positive associations with places (Scannell & Gifford, 2017). However, not all the research on belonging is affirmative. Murphy and Zirkel (2015) argued that the “nature and meaning of belonging in school is different for students targeted by negative racial stereotypes” (p. 3). Despite the growing presence of nontraditional students in higher education, colleges continue to cater to the needs of traditional students. Many first-generation, nontraditional students have difficulty connecting with traditional students or are not being respected, and thus they lack a sense of belonging (Goncalves & Trunk, 2014; Wyatt, 2011).

College landscape design and planning offer opportunities for realizing transformational change, developing a sense of belonging, and promoting healthy spaces in which students learn and thrive. In many cases, institutions have had little regard for the social incorporation of nontraditional students, and many students have reported feeling they are not a part of their campus communities. This lack of belonging has a considerable impact on a student’s success; as previously stated, students are more likely to be satisfied and successful if they actively engage with their campus (Wyatt, 2011). Stress and anxiety are reduced when students choose to interact, learn, and experience (Fink, 2013). Some scholars determined that diverse spaces and accommodations should be provided for traditional and nontraditional students and those with different modes of learning and study (Gillen-O’Neel, 2019; Strange & Banning, 2015).

In recent decades, a remarkable number of studies have attempted to scientifically validate the theory that spending time in nature contributes to students’ well-being. Equally important to the student’s sense of belonging is one of three mechanisms that benefit mental health, which are as follows: increased physical activity, increased sense of belonging within a community, and psychological restoration from mental fatigue (Roe et al., 2013; Schuling et al., 2018). Landscapes play a pivotal role in psychological restoration and a student’s sense of belonging (Hartig et al., 2014; Scholl & Gulwadi, 2018; van der Berg & Van Winsum-Westra, 2010). Traditional design approaches

such as the enclosed quadrangle and Gothic Revival architecture may influence how students' sense of belonging is affected by their connection with the campus. However, academics know very little about the campuses where they spend their time, particularly in community colleges because they are often commuter schools. There is a false idea that commuter college students spend little to no time on campus. Instead, research shows community college students require an average of six years to graduate; they likely spend a considerable amount of time on campus, more than is typically conceived of about students.

Kirk and Lewis (2015) analyzed and discussed the effects of commuting on students' well-being in great depth using an online survey (761 total participants, 588 commuter participants). Their study focused on one 4-year public Midwestern US university of moderate size and the lack of research on commuter students and how commuting affects their sense of community. Four factors were considered for student retention and development: academic goals, mental health, general life satisfaction, and self-efficacy. While a sense of community is a positive indicator of student development and retention, commuter students may be more likely to suffer from a lack of well-being and have difficulty building relationships and accessing support services (Kirk & Lewis, 2015). No literature has meaningfully addressed the effects of a community college student's response to commuting, considering almost 100% of the students' commute. One study examined commuting costs, including the cost of commuting time, and how it significantly affected community college students' budgets compared to students' budgets at other institutions (American Association of Community Colleges, 2016; Hyde, 1980). More research on campus landscapes may support commuting students and encourage them to organize their schedules to spend time on the campus between classes.

Cognitive Restoration Perspectives

Scholarship linking the landscape and human well-being to cognitive restoration has revealed that students' stress and anxiety is caused by multiple factors and may be reduced by experiencing the natural environment and stimulating health and well-being (Bratman et al., 2015; Hartig et al.,

2014). Many college students spend their time engaged in activities requiring sustained attention; however, they develop mental fatigue, stress, anxiety, and irritability (Benfield et al., 2015; Hipp et al., 2016; Lu & Fu, 2019). Such activities do not allow the brain to rest and recover, which increases performance errors, reduces the ability to continue to focus, and lowers problem-solving ability (Kaplan, 1995; Rakow & Eells, 2019). Bratman et al. (2015) reported that participants walking through a natural environment for 90 minutes lowered their levels of rumination (prolonged focus on causes and consequences of experiences, most often negative emotions) and showed reduced neural activity in the area of the brain linked to risk for mental illness. The study did not determine what characteristics of the environment nor the duration, frequency, or type of experience would generate those benefits.

Empirical evidence has widely supported restorative experiences referring to the capacity naturalistic environment's ability to replenish cognitive resources depleted by everyday activities and, in turn, reduce stress levels (Hartig et al., 2011; Herzog et al., 2003; Kaplan & Berman, 2010; Laumann et al., 2003; Scopelliti et al., 2019; Staats et al., 2003; van den Berg et al., 2010). Seminal work on restorative effects of naturalistic settings includes the stress reduction theory (Ulrich, 1983) and the attention restoration theory (Kaplan & Kaplan, 1989) frameworks.

Stress Reduction

Consider Ulrich's stress reduction theory (SRT), based on numerous studies. It focuses on how natural environments can reduce physiological stress and aversive emotion, specifically in hospital settings. (Ulrich, 1983). In a follow-up study, Honold et al. (2016) examined the cross-sectional relations between urban nature (naturalistic spaces) and health outcomes. Participants who experienced diverse kinds of vegetation had significantly lower stress levels.

Ulrich et al. (1991) questioned the usefulness of Kaplan's attention fatigue because Ulrich found it to be a side effect of stress and anxiety merely. An individual's ability to spend time in natural settings—or even view naturalistic settings—can result in positive changes in psychological and physiological activity levels and create a more positive mental state (Atchley et al., 2012; Abraham et

al., 2010). Such results suggest that accessible naturalistic areas may be vital for our college students' mental health (Bratman et al., 2015). Moreover, researchers have observed a strong relationship between the natural environment, restoration, and well-being (Atchley et al., 2012; Hartig et al., 2011). According to Ulrich's stress theory, stress recovery benefits individuals if they experience naturalistic environments (Ulrich et al., 1991). By drawing on the concept of cognitive restoration, Kaplan has shown that directed attention fatigue (DAF) is also restored through naturalistic environments (Kaplan & Kaplan, 1982).

Attention Restoration

Kaplan and Berman (2010) emphasized the importance of executive functioning, stating that the cognitive processes are specific for self-control, focusing attention, remembering instructions, and successfully task-set switching to achieve goals. Kaplan and Kaplan (1982) defined attention restoration theory (ART) as the individual's actions and ability to experience environmental stimuli that restore executive functioning after depletion, called DAF. DAF makes it challenging to focus on complex and competing demands (Kaplan & Berman, 2010; Sullivan & Kaplan, 2015).

Kaplan (1989) explained that four factors for restoring cognitive function characterize the person-environment interaction through ART: being away (getaway or withdrawal from daily routines), compatibility (individual preference for the environment), extent (exploration and understanding of the environment), and fascination (unconscious, effortless attention). Natural scenes easily and effortlessly maintain an individual's ability to respond positively to nature (Kaplan & Kaplan, 1989). Naturalistic scenes regulate attention and restore executive functions while reducing negative ruminations (Bowler et al., 2010; Bratman et al., 2015).

Environmental preference allows an individual to rest their attention and revive their energy. (Kaplan & Kaplan, 2003). The content of the environmental scene and the natural elements' presence are the most critical factors in predicting preferences. Kaplan and Kaplan's results showed preferences for environments that were not confusing and offered more exploration. People want environments to be under control, not to control them. If they are in control, they do not want the

responsibility. In contrast, they want the environment under control and share in determining the control input, known as meaningful action (Kaplan & Kaplan, 2003). It allows the individual to be valued and integrated into the environment they are experiencing (Peterson et al., 1995; Seligman, 1992, 2011).

Humans must control how and at what speed they explore their environment. Furthermore, an individual's ability to exert control over the environment is essential for their well-being (Kaplan & Kaplan, 2003; Leotti et al., 2010). Then, a naturalistic scene's content plays a particularly influential role in perceiving an environment as safe or dangerous (Kaplan, 1995). Generally, though, researchers have found that natural settings appear benign for enhancing attention restoration and quality of life (Berto, 2005; Hartig et al., 1991; McFarland et al., 2008; van den Berg et al., 2003). Stemming from a quantitative research methodology, many authors have noted several shortcomings with ART, such as the vague definition of Kaplan's fascination or exactly how nature affects restoration (Hartig & Jahncke, 2017; Joye & Dewitte, 2018; Ohly et al., 2016). Nevertheless, ART has been invaluable in revealing the importance of natural environments in restoring well-being and cognitive function. In combination, the findings from these and numerous other studies provide compelling evidence that experience of nature may create real psychological benefits, particularly for students' self-efficacy, academic success, and their perception of their campus environment (Browning & Rigolon, 2019; Hodson & Sander, 2017; Kuo et al., 2018; Leotti et al., 2010; Leung et al., 2019; Matsuoka, 2010; Meredith et al., 2020; van der Bogerd et al., 2018).

Campus Greenness Perspectives

College is typically the largest and most influential institution with which people are involved themselves, and it is a primary context for their development. Each year, students flow through the campus grounds engaging in a subconscious relationship with the landscape; the landscape partially forms their experiences as they transfer from parking lots to pathways to buildings and hallways to classrooms. Scannell and Gifford (2017) examined the potential influence of the physical environment and how it has shaped students' sense of belonging and mental well-being. Others have suggested

that students engage in the process of placemaking by finding spaces that nurture and support their individual needs (Kennedy et al., 2005; Temple, 2014). Thus, the campus's physical environment becomes integral in students' psycho-physiological development.

Greenness and Well-being

Understanding the college campus space and its use informs perceptions of preferences within the landscape (Norizan et al., 2018; van der Berg & van Winsum-Westra, 2010; van den Bogerd et al., 2018). Perceptions provide insights into student–nature integration and student preferences for landscape typology and quality (Abu-Ghazze, 1999; van den Bogerd et al., 2018). Herzog et al. (2003) suggested that preference may play an adaptive role in attracting people to environments that relieve stress, yet the rating approach of the landscape yielded mixed results. Joye and Dewitte (2018) also doubted the ability to define how nature explicitly reduces stress or improves cognition. In an analysis of the therapeutic campus landscape, Föllmer et al. (2020) evaluated the ability of the greenspace at a German university to support attention restoration, place of identification, social encounter, and exchange. The importance of green space has the potential to support healthy intentional campus planning.

When campus landscapes are designed intentionally, interaction with nature can generate perceived and actual benefits in terms of physical and psychological health and well-being, explicitly improving students' cognitive functioning and learning (Abraham et al., 2010; Atchley et al., 2012; Hartig et al. 2014; Hipp et al. 2016; Johnson et al., 2007; Kaplan, 1989; Keniger et al. 2013; Kuo, 2015; Leong et al., 2014; Rakow & Eells, 2019; Ulrich, 1991). By contrast, students of different racial backgrounds can have negative perceptions linked to fear and insecurity (Beemyn & Rankin, 2011; Cabrera et al., 2017; Goncalves & Trunk, 2014). This alone undermines these students' ability to remain focused. When the many other challenging factors for community college students are considered as well, such as financial, family, and work demands, it becomes clear that some students fail to complete their term (National Center for Education Statistics, 2017). In summary, contact with

the natural environment may substantially support students' well-being and resilience development (Chawla et al., 2014; Flouri et al., 2014).

Two of the most cited studies were conducted by Banning and Kaiser (1974) and Strange and Banning (2015). They showed the impacts of students' development and the higher education campus environment, identifying four primary goals in a holistic environment that supports student development: inclusion, safety, involvement, and community. These four goals attend to the physical, human aggregate, organizational, and socially constructed components that "prod, bend, and shape behavior" of individuals in a specific setting (Strange & Banning, 2015, p. 4). Like Bronfenbrenner's ecological systems theory (1979, 1994), Strange & Banning posits an unambiguous relationship between students and their environment, which provides a way to identify the intersections, interactions, and feedback of multiple components using an ecological approach.

Strange and Banning (2015) also acknowledged what Bronfenbrenner demonstrated with his bioecological model that many influences impact students' success, ranging from socioeconomic background to institutional agent support to internal motivation. However, a variable often underemphasized is the role of the campus landscape. A broadly similar point was made by Durán-Narucki (2008), who stated that factors of the built environment affect retention, attention, motivation, learning, and academic achievement. This view is supported in Banning and Kaiser's (1974) previous studies in which they write that the campus ecology is based on the "issues of institutions changing, institutions adjusting, or institutions growing up, or more importantly, to the relationship between students and their environment" (p. 371). This statement implies a need for institutions to take responsibility for the campus environment and evolve into a more inclusive and just space that supports students.

A holistic environment includes the campus's cultural and social constructs, the people's personalities who inhabit the campus, its organizational infrastructure, physical condition, and design and layout (Strange & Banning, 2001, 2015). Other researchers noted that components of the physical campus include natural and manufactured built-forms, random or specified encounters,

symbolic and nonverbal artifacts, and formal and informal spaces that define students' learning experience (Chapman, 2006; Griffith, 1994; Hajrasouliha, 2019, 2017a; Hu & Kuh, 2002).

Campus components could be a powerful behavioral determinant in shaping individuals by permitting some activities and limiting or preventing others (Berto, 2014; Strange & Banning, 2015; Temple, 2014). Considering the human aggregate, the researchers realized that dominant campus features reflect the influence of dominant occupants. Strange and Banning (2015) observed that individuals create an environment in that others join through shared values, attitudes, interests, and behaviors (Pike & Kuh, 2005). The institutional response must examine campus characteristics and artifacts that communicate explicit or implicit messages that enhance or detract from a student's sense of belonging and psycho-physiological well-being (Strange, 2003). This result conflicts with Goncalves and Trunk (2014) and Scott and Lewis (2012), who found that nontraditional students felt isolated and lacked a sense of belonging. Hence a sense of belonging can be instrumental in student success, particularly for historically marginalized populations (Harper & Quaye, 2009). Together, these studies indicate that campus landscapes have a role in advancing a more intentional, inclusive, supportive, and equitable college environment, particularly for college students' mental well-being.

Student Stress and Anxiety

Attending college for the first time or re-entering college for the second or third time can be stressful for many community college students. Psychological factors influence how students respond to such barriers (Goto & Martin, 2009). One study by Darkenwald and Merriam (1982) examined college barriers that could be institutional, informational, situational, or psychological based on the students' levels of family and college stress, anxiety, depression, and other mental health issues. These factors reported by college students significantly predicted their ability to achieve their goals and placed them at greater risk of academic failure (Dyson & Renk, 2006; Fink, 2013; Pierceall & Keim, 2007). The 2019 report from the Center for Collegiate Mental Health concurred that "anxiety and depression continue to be the most common general or top concerns experienced by students" (p. 19). In studies investigating student stress and anxiety, Deroma et al. (2009) and Eisenberg et al.

(2009) found that students self-reporting moderate levels of depressive or anxiety symptoms demonstrate shorter concentration periods, lower GPA, and a higher probability of dropping out of academic environments than those with minimal levels of depression and anxiety. Regardless of whether it is chronic, acute, or episodic, anxiety and stress can be barriers to academic success. Campuses plan for and design opportunities to support mental health throughout the campus (Stringer, 2016). Design opportunities include visual connections to nature from every point in the building, quiet refuge places, or methods to bring nature into the buildings.

Community college counselors have encountered students struggling with different levels of stress and anxiety as barriers to their academic success (Pierceall & Keim, 2007). The rising rate of stress and anxiety in college students revealed the genuine need for more campus services (Anderson, 2020). Examinations of student-to-staff ratios have shown that many campuses that offer these services struggle to keep pace with the increasing rate of students entering their college. In a comprehensive study of the added benefits of natural environments to health, Bowler et al. (2010) provided evidence supporting greater attention after exposure to a natural environment. Taylor and others (Kuo & Taylor, 2004; Taylor et al., 2001) have also demonstrated that nature exposure positively influences concentration. A longitudinal study of stress recovery in nature-based interventions by Corazon et al. (2019) attained sound evidence of psychological effects. However, physiological effects (e.g., endocrine, cardiovascular, and immune outcomes) showed heterogeneity. The sample size varied widely, ranging from 9 to 935 participants. Most of the studies took place outdoors in natural green environments on several continents: Europe (14), Asia (14), United States (6), Canada (1), and Australia (1). The outdoor spaces included urban gardens and parks or more remote areas such as forests, mountains, grasslands, and beaches. The variety of settings questioned the perceptions of landscape preference, providing insights into adult individual-environment experiences.

Greenness and Academic Success

Consequently, researchers have investigated many approaches to supporting students struggling with stress, anxiety, and depression. An increasing body of evidence has demonstrated that interactions with nature, green space, or naturalistic environments can help human stress reduction, mental health, well-being, and improved cognitive function (Matsuoka, 2010; Meredith et al., 2020; van den Bogerd et al., 2018). By making connections between green space and academic performance, researchers have suggested that green space can foster performance and reduce stress, anxiety, and depression (Browning & Rigolon, 2019; Grahn & Stigsdotter, 2009; Hodson & Sander, 2017; Kuo et al., 2018; Kweon et al., 2017; Leung et al., 2019; Wu et al., 2014). Further studies by Browning and Rigolon (2019) uncovered that the more a person visits green spaces, the less often they report stress-related illnesses. Upon peer-reviewing 13 articles and 122 findings, their study focused on institution greenness, tree cover, and green land cover at distances up to 2000 meters around schools. GPA and college preparatory exams showed greater positive associations to greenness. The studies were not conclusive, but the data indicated a high enough positive significance (28%) to justify more investigation in this area.

Other essential factors that scholars have found to facilitate optimal function, well-being, and academic success include goal formation, resilience, adaptation, motivation, and self-efficacy (Goto & Martin, 2009; Leary & DeRosier, 2012; Ryan & Deci, 2000). One suggestion for supporting this optimal development is establishing a partnership between the institution and the student (Evan et al., 2010).

Dalton et al. (2018) made a similar point in their exhaustive review of college and university campus site planning. They observed that campus planning could ensure a supportive physical environment for students by exploring five topics: land use, design, sustainability, economic development, and collaboration. Most of the master plans they reviewed were based on 4-year research universities in urban areas. The review showed that case and comparative studies dominate campus planning. Campus master planning focused on the physical development of the visible

campus or campus park. The research from the 50 schools showed how campus master planning could support student learning and an emerging trend indicating that campus planning promotes health through design.

A campus landscape's greenness has long been one of the top criteria for students' college choices. Following the emerging trend in campus design by promoting health through design, Hipp et al. (2016) showed that students associate campus greenness with a greater quality of life. The students' first impression psychologically begins with their appreciation of the college green space, their feeling that they belong on the campus will be supported and valued, and a sense that they will thrive throughout their academic journey there.

Conceptual Framework

Because one theory cannot fully address how students perceive their campus' physical environment, thus affecting their academic persistence, this study was informed by psychological, anthropological, and ecological perspectives. Figure 2 shows the conceptual framework developed from the literature on the person-environment theory, with additional influence from space and place, humans and nature, cognitive restoration, and physical campus ecology perspectives. Many researchers have attempted to understand the phenomena of the bidirectional effects of students and the higher education settings (Banning & Kaiser, 1974; Bronfenbrenner, 1979; Moos, 1979; Strange & Banning, 2015). Bronfenbrenner's (1993) theory can be applied to a framework encompassing the many environments that affected students during their academic terms. Bronfenbrenner discussed "ecological niches" as "specified regions in the environment that are especially favorable or unfavorable to the development of individuals with particular personal characteristics" (p. 18). The college physical campus could be considered an ecological niche that affects students. This study expanded the framework to understand better the student-physical environment dimension domains for psycho-physiological responses to naturalistic settings.

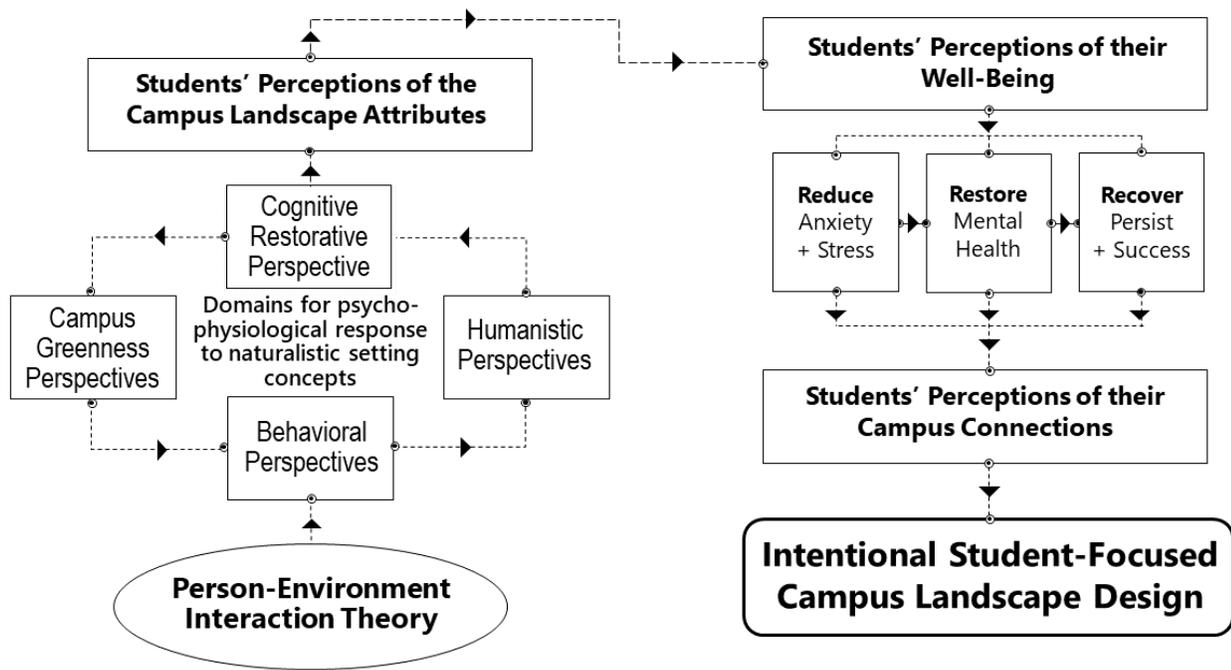


Figure 2. Conceptual framework for the study

Research has indicated that the architectural design of campus spaces affects students' academic performances and behaviors. The model assumes that the student-campus landscape directly and indirectly (sense of belonging, anxiety, stress, and mental and physical well-being) is related to students' retention and academic achievement. In one comprehensive literature review, researchers found a considerable degree of a relationship between campus buildings and academic achievement (Earthmen & Lemasters, 2011). They focused on the internal building design with lighting, climate control, adequate space, equipment, and furnishings that indirectly influenced students' performance. While Earthman and Lemasters (2011) identified factors within the campus' walls, failing to represent any literature about outdoor space or the landscape and its effect on students. Other studies have concluded that students are indirectly influenced by informal encounters outside the classroom, such as a courtyard, where they meet with peers or faculty members (Astin, 1993; Kuh & Hall, 1993; Pascarella & Terenzini, 2005). Interaction outside the classroom has been defined as informal talks with students, discussions with faculty about class assignments, collaborations on research projects, and general outside classroom encounters.

In response to spaces and nature, when people feel secure and absorbed in the environment, without feeling vulnerable, they can restore their cognitive abilities and regain a sense of well-being (Kaplan et al., 1998). A broadly similar point was made by Kenney et al. (2005) and Banning et al. (2010), agreeing that physical spaces outside the classroom influenced a student's well-being, particularly spaces that supported the mental and physical restoration and mitigated the effects of stress, anxiety, and fatigue. Such spaces included parks, natural landscapes, and grassy areas. Furthermore, based on the literature findings, a set of student experiences were postulated to have either direct or indirect relationships with student-campus landscape interactions and their academic success. Students' out-of-class interaction with the landscape improves their academic performance (Browning & Rigolon, 2019; Hodson & Sanders, 2017; Kuo et al., 2018; Leung et al., 2019; Lin & Van Stan, 2020; van den Bogerd et al., 2018). The model, then, illustrates a conceivability that time in the campus landscape positively affected students' academic resilience, persistence, and success by reducing stress and anxiety through direct and indirect influences.

Lastly, intentional campus planning was added to the conceptual framework. Given previous studies' findings, it is apparent that students require a supportive environment beyond the classroom's physical space. Drawing on the concept of a "well-designed" campus, Hajrasouliha and Ewing (2016) demonstrated a significant correlation between the morphology of university campuses and first-year student retention rates. Other authors, including Akhir et al. (2017), Clauson and McKnight (2018), Lau et al. (2014), and Reynolds (2007), conducted several investigations into how the campus environment can support students' retention. Overall, these studies highlighted the need for intentional campus planning as an additional resource to support students through their academic time on campus.

Chapter Summary

This chapter linked literature on the sense of place, belonging, mental and physical well-being, and campus landscape to create a foundation for building a contextual lens to understand how students experience their community college landscape. In addition, the literature provides extensive

research regarding how humans interact with their environment and how elementary, high school, or even 4-year college students interacted with greenness and their academic success. Nevertheless, there was a clear research gap about how community college students perceived their campus landscape and how the landscape supported their sense of belonging and academic success. This qualitative study provided additional insights into how the campus landscape may support students' psycho-physiological well-being.

CHAPTER 3

METHOD OF INQUIRY

Spending time in nature reduces negative thoughts and profoundly impacts a person's physical and mental well-being (Ottoosson & Grahn, 2008; Rakow & Eells, 2019). To date, studies have observed how humans respond to nature biologically, neurochemically, and even in psycho-evolutionary ways (Plutchik, 1982; Ulrich, 1983; Williams-Goldhagen, 2017). Academic institutions have focused on student wellness and sense of belonging as critical factors in academic success (Bratman et al., 2015; Lu & Fu, 2019), and time in nature has been shown to support their well-being (Rakow & Eells, 2019). Despite this, school administrators unintentionally overlook their campus landscapes as additional sources of support for students' well-being, sense of belonging, and academic success.

This qualitative study explored how students perceived the impact of their campus landscape on their well-being, resilience, and academic achievement. Few researchers have investigated how a community college campus landscape might benefit student well-being and, in turn, act as supplemental support for their academic success (Hajrasouliha & Ewing, 2016; Schuetz, 2005). Further qualitative research could provide a more profound understanding of the student's interactions with the campus landscape, revealing ways for the college to advance students' well-being and academic persistence.

This chapter presents the methodology and rationale for this study, discussing its philosophical foundations and describing the research design chosen to support the methodological approach. Following the research design, I detail the study's specific research design methods and provided information on the setting, sample, data collection, including instrumentation and research procedures, and data analysis. Finally, I describe measures used to ensure trustworthiness in the study and my role as the researcher. I conclude with a chapter summary.

Qualitative Research

The study follows a qualitative research approach illuminating “thick descriptions” (Denzin & Lincoln, 2005) and personal meanings of lived experiences related to how students perceived their campus landscape. The philosophical inquiry foundations of qualitative research focused on discovering how individuals construct reality and truth. Humans understand their worldview through rich narrative traditions. Qualitative research is a human-centered, iterative inquiry-based method that conforms to the phenomenon studied (Creswell & Creswell, 2018). It does not have a predetermined starting point and instead involves constructing interconnections and interactions between complex, multidimensional phenomena (Maxwell, 2013). Collecting data based on words or imagery from a small number of individuals offers participants the opportunity to express their perspectives and understand what they believe was true (Denzin & Lincoln, 2005). This study endeavors to understand better the layered complexity of the environmental factors that affected community college students’ academic resilience, persistence, and success. To accomplish this, it used the features of qualitative research that allowed for collecting viewpoints through rich narratives that influenced the process and guided the logic behind the study and the actions taken in it (Creswell & Guetterman, 2019).

This study focused on how students experienced their world within the campus landscape and how that landscape, in turn, supported their mental and physical well-being, enhancing their ability to remain in school and graduate. Qualitative research entails collecting and analyzing different design components, such as texts, photos, maps, videos, questionnaires, field notes, or audio recordings to enhance understanding of concepts or experiences (Creswell & Creswell, 2018; Denzin & Lincoln, 2005). The research questions are the center of the research design. Students were asked to answer a questionnaire, collect photographs on their campus, and participate in semistructured one-on-one interviews. Such collection instruments facilitated a deeper and richer understanding of how students perceived their campus landscape (Maxwell, 2013).

The advantage of qualitative research is its ability to preserve and reveal the student participants’ voices. Because of the method’s flexibility, the data collection process was adapted

through detailed descriptions of students' experiences, feelings, and perceptions as new research questions or patterns emerged (Peoples, 2021). To gain a more detailed description, I used open-ended questions, campus landscape photo collecting, and one-on-one discussions, which uncovered more opportunities to improve the campus landscape (Moustakas, 1994).

The most significant disadvantage of qualitative research is the researcher's subjectivity when analyzing and interpreting data. The researcher decides what is relevant and what is not; thus, interpretations vary widely among scholars (Creswell & Creswell, 2018). Another disadvantage is the small sample size required to gather the detailed information the methodology is designed to produce. It is impossible to generalize the analysis to a broader population (Creswell & Creswell, 2018). Nevertheless, qualitative research was appropriate for understanding the attributes of a campus landscape that participants feel supported their well-being, persistence, and academic success.

Research Design

This study sought to use the influence of existential phenomenology philosophy as a foundation to develop an in-depth understanding of human experience as it reflects people's values, purposes, ideals, intentions, emotions, and relationships (Thorpe & Holt, 2017). The foundation of phenomenological thought and its existential variations demanded the rigor and relevance of studying multidimensional human phenomena. Under the umbrella of this philosophy, one of the more well-known tools for assessing perception in a qualitative study is phenomenology. As a robust research design strategy, qualitative research is uniquely positioned to help researchers learn from others' lived experiences and is highly flexible and adaptable to various data collection goals (Peoples, 2021). Additionally, the study's literature review demonstrated various methods to gain insights into the campus landscape greenness that supports students' academic success.

The study used a phenomenological research design to illuminate the phenomenon of perceived campus landscape attributes through community college students' experiences. Also, the extent to which the campus landscape supports student persistence and resilience by adding an

interpretive dimension to phenomenological research while enabling practical theory allowed this research approach to inform, support, or challenge an institution's policy and action. The exploratory nature of qualitative research enabled the researcher to investigate "how" or "why" (Krueger & Casey, 2015). Phenomenological research methods effectively weave the participants' experiences and perceptions into a "tapestry" that can be understood by the researcher (Creswell & Creswell, 2018).

Research Methods

Many researchers have stated that systematic, rigorous, and auditable analytical processes were among the most significant factors distinguishing high-quality from flawed research (Creswell & Creswell, 2018). Therefore, researchers are encouraged to articulate their findings with logical processes accessible to a critical reader. The relationship between the actual data and the conclusions based on data is explicit, and the claims made concerning the data are rendered credible and believable. Multiple instruments were incorporated into this study, including questionnaires, photo imagery, and one-on-one interviews, to enhance the data's accessibility and credibility. The following section describes this study's systematic and rigorous research methods. Data compilation followed the established sampling and data collection protocols by describing the setting, sample, and data collection strategies, including instrumentation and data analysis processes. I concluded by describing steps to ensure trustworthiness, data confidentiality, and safety and discussing my researcher role.

Setting

Data collection began with the location of sites and students as prospective participants and requesting access. I contacted a total of 24 community college campuses for the study. Ten accepted the request for the study to be executed on their campus. Participants' responses came from 6 of 10 urban community colleges that approved my study on their campus. All campuses are located in Los Angeles County, Orange County, or Riverside County in Southern California. The institutions shared several characteristics that made them appropriate for the study. The colleges were public, 2-year institutions in urban cities of approximately 90,000 people with median household incomes above

\$48,000 per year. The six campuses had over 10,000 students each, with more than 50% reporting diverse ethnic-racial backgrounds. I altered campus names and identified participants by gender-neutral pseudonyms to maintain confidentiality.

The campuses ranged from 100 acres to over 400 acres, with an average acreage of approximately 140 acres, excluding the largest campus. The districts were somewhat diverse. The average percentage of racial identity on the seven campuses at the time of the study: African American/Black 4.23%, American Indian/Alaskan Native 0.20%, Asian 15.10%, Hispanic/LatinX 45.63%, Pacific Islander 0.33%, White 26.32%, and Multiracial 3.44%. Student population ranged from 10,500 to 30,000 with an average of approximately 17,600 students. The campus construction ranged from the early 20th century to the late 20th century.

Table 1. Campus Abridged Descriptions

Campus*	Year Campus Built	Approx. Student Population	Approx. Acreage
Junius Community College	1915	13,000	100
Posidonius Community College	1927	24,000	110
Diogenes Community College	1946	30,000	420
Aurelius Community College	1947	20,000	165
Epictetus Community College	1965	12,000	120
Aristo Community College	1991	11,200	135

*All names are pseudonyms

I chose six southern California Community College (CCC) districts, including both single college and multiple college districts. The landscape characteristics on each of the campuses consisted of site elements (walkways, seat walls, steps, furnishing, lighting, etc.), vegetation (trees, lawn, plants, flowers, etc.), water features, focal points (art, murals, sculptures), parking lots, and buildings (Wang et al., 2021). Although design varied by campus because of an urban area's limitations and financial resources, the landscape types tended to share standard features (Cooper Marcus & Francis, 1998; Hajrasouliha, 2015).

Sample

I selected the study sample through purposeful sampling methods. Purposeful sampling enables focused data collection and offers the opportunity to describe the significant impact the findings had on a given population. In this study's phenomenological approach, all participants must have experienced the campus landscape phenomenon before contributing to the study (Creswell & Creswell, 2018). The sampling criteria for participation were (a) current students who (b) completed at least one semester physically on campus.

A total of 23 participants completed the focus-building questionnaire. It included a psychometric scale to measure students' perceptions of the physical campus characteristics, well-being, academic persistence, and awareness of their environment on a continuum from "strongly agree" to "strongly disagree" and "none of the time" to "all of the time." The questionnaire also included two open-ended questions for the participants.

There were 13 female participants, nine male participants, and one participant who identified as non-binary. Eighteen of the 23 participants identified as minority students: three as African American/Black, nine as Hispanic/LatinX, one as Pacific Islander, three as Southeast Asian, five as White, and two as multiracial. Nineteen participants stated they were first-generation college students.

Twelve participants identified their ages between 18 and 24 years old, five between 25 and 34, four between 35 and 54, and two over 55. In addition, there were seven participants with disabilities, one veteran, 16 full-time students, and seven part-time students. Most participants, 20 of 23, planned to continue their enrollment the following semester. Three participants who were not continuing had completed their program and were entering the workforce.

Three participants arrived for morning classes, two for evening classes, six for morning and afternoon classes, four for afternoon and evening classes, and eight on campus from morning until evening. Many students shared that they would have a morning and evening class but would stay the entire day on campus because it "was easier."

Ten out of 23 participants spent between 2 and 16 hours per week on campus, five spent 17-34 hours, and seven saw themselves as both students and employees of the college and spent 35 or more hours on campus. Only one student spent less than 5.5 hours on campus per week. Table 2 contains an overview of participants' profile data.

Table 2. Participants' Profile Data

Name*	Gender	Race/Ethnicity**	Age	Person w/ Disability	Veteran
Aero	Female	Hispanic/LatinX	18 - 24	No	No
Bellamy	Female	White	35 - 54	Yes	No
Cagney	Male	African Am/Black	18 - 24	Yes	No
Darby	Female	Hispanic/LatinX	25 - 34	No	No
Ellery	Male	Pacific Islander	25 - 34	No	No
Faber	Female	Hispanic/LatinX	18 - 24	No	No
Gemi	Male	Hispanic/LatinX	18 - 24	No	No
Hayden	Female	Southeast Asian	18 - 24	No	No
Isley	Male	White	18 - 24	No	No
Jalen	Female	Hispanic/LatinX	25 - 34	No	No
Malec	Male	Multiracial	18 - 24	No	No
Nicola	Female	Hispanic/LatinX	35 - 54	No	No
Omega	Female	White	55 - 74	Yes	No
Pennington	Female	White	55 - 74	Yes	Yes
Raen	Female	Hispanic/LatinX	35 - 54	No	No
Sailor	Male	Southeast Asian	35 - 54	No	No
Tate	Female	White	25 - 34	No	No
Underwood	Male	African Am/Black	18 - 24	Yes	No
Valentine	Female	Southeast Asian	18 - 24	Yes	No
Weaver	Female	African Am/Black	18 - 24	Yes	No
Xi-Wang	Genderqueer or non-binary	Multiracial	18 - 24	No	No
Yuki	Male	Hispanic/LatinX	25 - 34	No	No
Zeta	Male	Hispanic/LatinX	18 - 24	No	No

*All names are pseudonyms

**Self-Identified

This study aimed to uncover themes or patterns from the data and then analyze relationships between them while determining how the lived experience of research participants can be understood (Creswell & Guetterman, 2019). Previous research in landscape assessments has shown that capacity is typically reached with approximately 12 participants (Zube, 1984). Previous research on college campuses has focused on traditional students described as full-time, 18–24 years old, White, able-bodied, and male. The CCC student population differs from this because the students are typically 20–39 years old, Latinx, and identify as female, and over 50% of students are part-time (California Community Colleges Chancellor’s Office, 2019). Studies have also shown that men interact with their environment differently from women, particularly marginalized women, whose unique experiences foster different perspectives on their relationship with their environment (Jiang et al., 2014; Monk, 1984; Villamor et al., 2014). Thus, I formed the study with as broad a range of participants as possible to attain a more diverse response to the landscape which would more accurately represent current community college students’ profile, totaling 23 participants (Creswell & Creswell, 2018). Table 3 contains information regarding the participants’ campus schedule and attendance status.

Data Collection and Management

Data collection is the process of gathering and interpreting information in an established systematic fashion that enables the researcher to answer research questions. Accurate data collection is imperative to maintaining the integrity of the research. The selection of appropriate data collection instruments and the correct use of those instruments reduced the likelihood of errors (Creswell & Guetterman, 2019). This section details each data collection instrument used in the study.

Table 3. Participants' Campus Schedule

Name*	Full Time or Part-Time	Continue Next Semester	Time on Campus**	Hours on Campus
Aero	Full-Time	Yes	M	2-16 hrs
Bellamy	Full-Time	Yes	M/A/E	35 or more hrs
Cagney	Full-Time	Yes	M/A/E	17-34 hrs
Darby	Full-Time	Yes	M/A	35 or more hrs
Ellery	Full-Time	No	A/E	17-34 hrs
Faber	Full-Time	Yes	M/A/E	35 or more hrs
Gemi	Part-Time	Yes	A/E	2-16 hrs
Hayden	Full-Time	Yes	M/A/E	35 or more hrs
Isley	Full-Time	Yes	M/A	17-34 hrs
Jalen	Full-Time	Yes	M/A	17-34 hrs
Malec	Full-Time	Yes	M/A/E	2-16 hrs
Nicola	Part-Time	Yes	M	Less than 5.5
Omega	Part-Time	Yes	A/E	2-16 hrs
Pennington	Part-Time	No	E	2-16 hrs
Raen	Part-Time	Yes	A/E	2-16 hrs
Sailor	Full-Time	No	E	2-16 hrs
Tate	Full-Time	Yes	M/A	35 or more hrs
Underwood	Part-Time	Yes	M/A/E	17-34 hrs
Valentine	Full-Time	Yes	M/A/E	35 or more hrs
Weaver	Full-Time	Yes	M/A	2-16 hrs
Xi-Wang	Part-Time	Yes	M/A	2-16 hrs
Yuki	Full-Time	Yes	M/A/E	35 or more hrs
Zeta	Full-Time	Yes	M	2-16 hrs

*All names are pseudonyms

**M = Morning, A = Afternoon, E = Evening

Instrumentation

The first step in this study was determining whether a suitable instrument exists to measure students' perceptions of the campus landscape attributes. Finding a suitable instrument required an extensive literature search that concluded with multiple approaches for practical use. Indeed, several instruments were incorporated into the study using a questionnaire, photo documentation, and semistructured one-on-one interviews to ensure the need for accessible and credible data.

I began the data collection process with a pre-Photovoice exploration introduction and welcome (see Appendix B). The first data collection instrument was a questionnaire (see Appendix C). Through the triangulation process of the literature review, expert consultation, and a pilot test, I developed a 23-item questionnaire. The questionnaire aimed to build rapport with the participants, focus on their outdoor campus environment, and consider how the campus landscape may affect their psychophysical well-being or academic success. Participants provided their opinions in the form of two Likert scaled responses.

Questionnaires are beneficial for conducting qualitative research because they can reveal profound and diverse respondent feedback (Fowler, 2014). I developed the questionnaire using literature on open space planning, campus planning, and campus environmental psychology research (Gifford, 2016; Groves et al., 2004). The questionnaire asked for general demographic information (student's gender, age, ethnicity, length of time on campus, and next-term persistence). After the demographic questions, several campus-based behavioral questions asked respondents to indicate if they visited the campus before enrolling, how many hours a week they spent on campus, and whether they attended during the day or night. This questionnaire gathered specific indicators from students about their campus characteristics, including their well-being, academic persistence, and awareness of their environment responses to Likert scales of agreement about the campus and feelings related to experiencing the campus landscape. Additionally, open-ended questions allowed the respondents to provide unique answers. Suskie (1996) recommended varying question formats to prevent respondents from losing interest, though not so many that the questionnaire becomes challenging to complete.

The second instrument for the study was the visual data collection method, Photovoice, using digital cameras. The image was one of the richest data collection methods (Johnson & Christensen, 2019). It was a research instrument through which people identified, represented, and gave "voice" to their environment through photographic documentation as they moved through it (Wang & Burris, 1997). In general, Photovoice has three general goals: (a) enable people to record the positive and

negative areas of their environment, (b) promote critical discussion about perceptions and lived experiences through small focus groups, and (c) reach policymakers (Wang & Burris, 1997). The previous photo-elicitation studies used images in interviews to produce more in-depth information and prompted more significant responses (Reese et al., 2019). I adapted the photo-elicitation instrument to a photo collection instrument. It gives participants the freedom to choose photos to speak about their environment; instead of the researcher taking the photos (Wang et al., 1996).

Following the questionnaire, I provided participants with instructions for Photovoice (see Appendix D). All 23 students took photos of their respective campus using a digital camera and were asked to take photographs of places within the campus landscape that they preferred, found visually interesting, or felt a sense of belonging or well-being. The participants identified, represented, and gave a “voice” to their preferred environment through photographic documentation. The Photovoice collection of the study generated over 400 photos. I removed the sim card from each camera, logged the sim card with the date and student identification, then uploaded the images onto my laptop. The images were not the primary data for the environmental referents. Still, a means to encourage the participants to think and speak about their campus landscape using an additional method in conjunction with the questionnaire and interview.

The final data collection instrument consisted of semistructured questions for the one-on-one interviews after their Photovoice collection (see Appendix E). I asked my study participants two sets of open-ended questions that guided them to express their campus landscape perceptions. The one-on-one interviews were conducted on location at the students’ campuses. A significant strength of interviews was my ability to use prompts to obtain clarity or additional information (Tashakkori & Teddlie, 2003).

Qualitative research does not intend to generalize but to clarify a particular phenomenon (Pinnegar & Daynes, 2007). My goal with the one-on-one interviews was to collect multiple opinions across many individuals (Krueger & Casey, 2015). Interviews were conducted on each of the six campuses, allowing for maximum variation while simultaneously gathering information about the

similarities and differences in the students' experiences with the landscape. The research recommended between three and eight participants as the minimum when using Photovoice as a data collection instrument (Reese et al., 2019; Wang & Burris, 1997). This sample size may be considered small, but it does increase interactions and influences between the participants and the researcher to deepen and enrich the data collected (Krueger & Casey, 2015; Miles et al., 2020). Because of the Photovoice method's time-intensive nature, recruiting and retaining college students was challenging throughout the project.

Procedures

The first step of the study was to receive Institutional Review Board (IRB) approval. College students' data and confidentiality must be protected. This study followed California State University, Fullerton's procedures for securing approval from the IRB. Approval from the IRB assured the respondents' and the campuses' privacy and confidentiality (Creswell & Creswell, 2018). It was equally important to attain additional IRB approvals from six of the 10 institutions that responded to my request. The six study sites were in the Los Angeles County, Orange County, and Riverside County areas of Southern California.

I recruited a group of three nonparticipant college students for a pilot study, defined as a small-scale test of the methods and procedures of the formal study (Creswell & Creswell, 2018). The pilot study aimed to assess the feasibility and acceptability of the selected data collection approaches. It was also necessary to confirm the questions asked, the descriptive language used, and the moderator techniques implemented to foresee any obstacles to data collection that can be corrected before the formal data collection begins (Creswell & Creswell, 2018). A pilot study helped me gather information to answer the question, "Is this study feasible?" It also reduced the possibility of mistakes regarding the protocol or moderator techniques and timing of the entire procedure.

I followed each college's protocol to recruit students for the study. I recruited participants through the campus sites' psychology, architecture, horticulture, environmental science, and sociology departments by distributing an email invitation to faculty to pass along to students (see

Appendix F). I attached a flyer with my information to aid in recruitment posted in their classrooms or handed to the students directly (see Appendix G). If the students were interested in participating, they contacted me through email or text. To each student interested in the study, I sent an email with details of the research and a list of times students could select to meet for the data collection. I sent a reminder text to the participants one week before and then again on the actual day of our meeting to ensure the scheduled meeting would occur.

I estimated that each session, which consisted of an introduction, a questionnaire, visual data collection, and a concluding set of open-ended questions, lasted approximately 45-60 minutes. There were no promises of grades or extra credit. I provided a \$25.00 Target gift card as an incentive for students who participated to increase response rates (van Selm & Jankowski, 2006).

I began the session by reviewing the study's consent form and obtaining participant signatures (see Appendix H). I conducted an icebreaker activity (see Appendix B) to build rapport with the participants. Next, I asked participants to complete a questionnaire responding to the campus's characteristics as a focus building exercise for the Photovoice stage (see Appendix C). Participants were asked to refer to each other by first name or pseudonym which was displayed with nametags.

The next stage of the one-on-one session required approximately 30 minutes. The photo collection process, known as Photovoice, enables recording and reflection on an environment through a specific photographic technique, allowing people to tell their stories through imagery (Boys et al., 2014; Catalani & Minkler, 2010; Van Auken et al., 2010; Wang & Burris, 1997). The process used the participants' visual images as evidence of the campus attributes that fostered their well-being or preferences (Boys et al., 2014; Reese et al., 2019). Participants were not given examples of the campus attributes before being asked to photograph them. This was done to minimize researcher influence. Each participant was given a digital camera and asked to take as many photos as they felt necessary to tell their story (see Appendix D). I took the first picture on each participant's camera so that there was documentation to connect the individual digital photo file with the participant.

When the participants returned, I began reviewing and discussing their collected images. These images represented places that supported the participant's well-being, preference, or comfort within the campus landscape (see Appendix E). There may also be more negative spaces or artifacts that the participants documented through their collecting process. I downloaded the images on my laptop into separate folders, one for each participant.

The one-on-one interview discussion aimed to deepen and enrich my understanding of how community college students interpreted and developed preferences for a specific outdoor campus area and sense of well-being. I asked the participants two sets of semistructured questions about their perceptions of the campus landscape (see Appendix E). Each participant received the same questions (Krueger & Casey, 2015). Each interview was audio-recorded and later transcribed verbatim by an online transcription application. I took notes throughout the interviews to account for participants' body language and who stated what to the comments during the discussions. I ended the interviews by thanking each participant for their input by name (only three sessions had multiple participants). Lastly, I provided the incentive gift cards to each participant as we completed the data collection.

Data Management

This study protected all participants by complying with the California State University, Fullerton IRB requirements for human subjects research. All electronic data, including scanned consent forms and questionnaires, interview transcripts, audio and imagery files, and observation notes, were stored in a password-protected computer and backed up on an encrypted external hard drive. The electronic data did not contain any identifying or personal information such as student identification numbers, birthdates, addresses, or identifying data to assure participant and campus confidentiality. The study participants and campuses were assigned numbers and pseudonyms to protect their identities, and the numbers were used to label all files. No photos were used for publishing, only for data analysis.

Images were downloaded into my computer and backed up on an external drive, and audio files were transcribed using both an online application that transcribed interviews, as well as a

professional transcriber. All files were managed and tracked in a data log, and all paper documentation was scanned into my computer and stored in a locked file cabinet in my home office. All electronic and paper files were stored onsite for five years in a locked fireproof and waterproof safe held in a private location, and one complete set was held offsite in a security deposit box. I am the only person who had access to the files, the cabinet, the safe, and the security deposit box.

Data Analysis and Interpretation

This research explored how and the extent to which community college students perceived their campus' attributes in terms of their well-being and academic resilience. The term data analysis was not wholly in line with phenomenological inquiry because analysis meant to study the relationship between the parts of a whole. In contrast, phenomenological inquiry seeks to understand a phenomenon in its entirety (Peoples, 2021). However, thematic analysis was used to illuminate the themes or concepts of the participants' lived experiences of a phenomenon (King et al., 2019). Therefore, the data that emerged changed during analysis by evaluating each narrative theme and then synthesizing all significant patterns gleaned from participants. The following section detailed the data analysis employed during this study, examining the relationships between the meanings behind the research questions, the procedures to ensure trustworthiness, and the researcher's role in the current study.

Data Analysis

Researchers analyzing qualitative data results generate large volumes of textual material that involve developing a systematic approach (Miles et al., 2020). The difficult objective of this analysis was to integrate all the data collection instruments; however, using a constant comparative method to evaluate the data at each level strengthened the analysis (Charmaz, 2014). Data analysis was considered independent until the final interpretation of patterns and themes. Data integration is essential to implicit and explicit meta-inferences such that it increases the researcher's understanding of their findings (Tashakkori & Teddlie, 2009).

Qualitative data was nonnumerical and unstructured; it referred to a phenomenon that can be observed but not measured (Miles et al., 2020). The purpose of this qualitative data collection and analysis was to address the following research questions: (a) How do community college students perceive the campus landscape characteristics? (b) What characteristics of the campus landscape do community college students consider to be most salient for their well-being? (c) How do community college students describe the campus landscape attributes that contribute to or impede their success?

The questionnaire includes student demographics, ranking characteristics of the campus landscape, their well-being on the campus, and open-ended questions (Fowler, 2014; Robinson & Leonard, 2018). The questionnaire data were analyzed by with computer-assisted qualitative data analysis software (CAQDAS) program to develop a coding system and reveal patterns and themes. Using a combination of questionnaire administration methods ensured better sample coverage and reduced coverage error (Dillman et al., 2014).

After the interviews concluded, I reviewed my notes and developed themes using a thematic analysis method implemented in prior Photovoice studies (Catalani & Minkler, 2010). Such an approach avoided the distortion of fitting data into a predetermined paradigm, enabling me to understand how people construct meaning for themselves (Wang & Burris, 1997). Students received an email summarizing the information gathered during the focus groups, allowing feedback before finalization (Dillman et al., 2014).

The focus group's recordings were transcribed with an online transcription application to be transcribed verbatim. I assessed the transcripts for accuracy alongside the recordings, removed any identifying information, reviewed the questionnaires, and extracted the answers to open-ended questions. I organized the data by type, participant, or group and developed a file naming system and data tracking systems to ensure quality control for the data collected. For example, <participant ID number and pseudonym>_<data collection method>_<CCnumber (site of data collection)>_<date of data collection>_<other codes>.

Throughout the data collection stage, I repeatedly reviewed each photograph and transcript to gain a preliminary sense of the data and compared new data to previous. After completing the transcriptions, I merged the files into one document with an additional column for memos, notes, or ideas. I continued with the initial inductive coding by developing concepts or themes that described, named, and classified students' perceptions of their college campuses through a CAQDAS program (Boyatzis 1998; Thomas 2006). I developed a qualitative codebook that identified and defined anticipated codes used to categorize the data throughout this stage to stay focused and use time more efficiently. After one week, I revisited the data to rewrite old codes and evaluated the need for new codes. To minimize the impact of bias, an external reviewer reread the codebook before data analysis begins. Additionally, this step ensured that the literature guided the data interpretation rather than my assumptions.

A series of workspaces allowed for coding, retrievals, and memos, generating charts to visualize the data. I implemented the second-stage coding process through data analysis software to organize research data into categories using the codebook. I identified additional codes as needed to capture the data collected. Coding developed the descriptions and dominant themes by grouping and organizing codes so that patterns emerged. I asked a doctoral program colleague to review and provide feedback on the coding gleaned from the transcriptions to verify my coding evaluation. I then used this analysis to render the participants' experiences, share the findings again with my peers, and receive feedback during the debriefing session. Then, I organized the themes using visual models, figures, and tables. Each theme contained evidence that emerged through quotes, multiple perspectives, and thick and rich data (Miles et al., 2020).

Procedures to Ensure Trustworthiness

Qualitative research findings are accurate and credible from the research design (Creswell & Creswell, 2018). I actively incorporated "validity strategies" to access the findings and assure the reader that the presented information was trustworthy. Although methods and procedures do not

guarantee a study's trustworthiness, accuracy, or credibility, they are essential to minimizing testing biases, inferences, and ambiguity (Maxwell, 2013).

Researcher bias is one of the most apparent threats to trustworthiness in a qualitative study. It was impossible to eliminate my training, beliefs, or perceptual lens for this study, nor was I able to facilitate long-term involvement with the participants. I believed my background gave me insight into the participants; however, with pilot studies, peer reviews, triangulation, and rich responses from participants, the project was deemed trustworthy. Integrity was the driving force behind all data collection, management, or analysis (Maxwell, 2013).

Peoples (2021) recommended that a neutral colleague conduct a peer review to ask questions about the methods, results, and any other emerging conclusions to further foster accountability and trustworthiness. As Krueger and Casey (2015) recommended, a pilot study before the actual focus group to test the interview protocol and individual questions. The pilot study fine-tuned the interview questions and provided the researcher with additional information to refine the process (Maxwell, 2013).

The interviews enabled the collection of detailed and varied data to provide a complete and revealing interpretation of what each participant has experienced on their campus (Maxwell, 2013). The process ensured the interview's trustworthiness process.

According to Lincoln and Guba (1985), it was essential to establish a study's logical, documented, and traceable audit trail, which included the following: (a) research proposal, (b) questionnaire, (c) interview protocol, (d) recorded interviews and collected photographs, (e) recorded questionnaire, (f) transcripts, (g) codebooks, (h) industry professional analysis, (i) emails, and (j) a reflective journal. The reflective journal provided information for all strategy criteria and informed the researcher about its interpretation. Additionally, using an open-ended script minimized researcher bias in the discussions (Krueger & Casey, 2015). Thus, member checking allowed the participants to review the questions and make any changes or additions as they saw fit (Lincoln & Guba, 1985).

Role of the Researcher

Peshkin (1988) defined “subjectivity” as the “amalgam of the persuasions that stem from the circumstances of one’s class, statuses, and values interacting with the particulars of one’s object of investigation” (p. 17). Subjectivity guided the researcher’s choice of topic, formulation of research questions, selection of methodologies, and interpretation of data. A researcher using qualitative research methods defined the world studied (Ratner, 2002). Therefore, as a licensed landscape architect, instructor for over 20 years, and a lifelong student, my role influenced the assumptions that led to the research process, analysis, and results. At the time of the study, I taught in the horticulture department at a large community college in southern California.

My previous professional experience has assured me of the administration’s need for data before investing financially in the campus environment. My role is not only that of a landscape architect professional but also that of someone who daily observes students requiring a place of respite, which translates to “green space.” My previous experiences have shaped this study. As an instructor, I saw first-hand the effects of stress, anxiety, and depression on students. Through this research, I saw an opportunity to combine my landscape experience with my professional education background to understand how students perceived the campus landscape’s ability to support their well-being. My bias has already affected the research direction, but there has been special care, as Maxwell (2013) stated, in the design, analysis, and interpretation of all the research phases. Awareness of subjectivity involved using precautions to prevent personal assumptions from interjecting during the study’s analysis phase. Those precautions were mitigated with peer debriefing, the detailed description of participants’ answers, transcript and coding verifications, research journal reflexivity, and discussions of contrary information that may come through during the research.

Chapter Summary

This chapter discussed the methodology used to understand the complexity of the environmental determinants affecting community college students' academic resilience, retention, and success. It described how Bronfenbrenner’s (2005) bioecological theory and Strange and Banning’s

(2015) physical campus theory were used to design the research questions for this study. Qualitative research was placed under the philosophical “umbrella” of existential phenomenology, which guided the construction of phenomenological research design procedures, strengthened the data, and provided a more robust analysis (Peoples, 2021). This chapter outlined how I collected qualitative data using phenomenological research design procedures such as a focus-building questionnaire, Photovoice imagery collection, and semistructured one-on-one interviews. I then analyzed the photo collections, interview transcriptions, and field notes data using a CAQDAS program to determine emerging themes and patterns that explained student perceptions of their campus landscape. The chapter defined the setting and sample for the study and described data collection, management, analysis, and the role of the researcher. In Chapter 4, I describe and analyze findings of this study. I expected my findings to show positive student interaction with nature to generate perceived and actual physical and psychological well-being and academic success. The study’s results encouraged the intentional design of campus landscapes.

CHAPTER 4

FINDINGS

This qualitative phenomenological study explored community college students' perceptions and lived experiences of campus landscapes in Southern California. I collected qualitative data using phenomenological research design procedures. There were 23 participants and findings were obtained from questionnaires, in-depth recorded interviews, and over 400 participant-produced images (Krueger & Casey, 2015; Miles et al., 2020; Wang & Burris, 1997). Pseudonyms were used for the colleges and participants to ensure that all participants' identities were protected. Quotes from the interviews have been edited for ease of comprehension. I used thematic analysis to explore data in conjunction with the study's conceptual framework. The thematic analysis provided a flexible approach to exploring students' perceptions of the landscape using three data collection instruments: questionnaires, student-produced photographs (Photovoice collection), and interviews. The thematic analysis and conceptual framework initiated and influenced the possible themes I expected to find. To the same extent, the iterative analysis process allowed me to uncover unexpected themes in data to illustrate each research question and support the findings. I used a CAQDAS program to aid the process of structuring, organizing, and coding large amounts of text and imagery. Key themes and patterns were generated that revealed student perceptions of their campus landscape and what characteristics students preferred for their overall well-being.

Study findings demonstrated the richness of student preferences, campus attributes, and students' opinions about how a campus supported students' well-being and sense of belonging. The diversity of the content made it challenging to select the best narratives and artifacts to address the three research questions:

1. How do community college students perceive campus landscape characteristics?
2. What characteristics of the campus landscape do community college students consider to be most salient for their well-being?
3. How do community college students describe the campus landscape attributes that contribute to or impede their success?

To preface the discussion of study findings, I described an “icebreaker” activity I used during the data collection to warm up the conversation with participants. The icebreaker question was, “What real or fictional place would you like to visit?” Using this question may have revealed more about participants’ relationship with the campus than I imagined. The 18- to 24-year-old participants answered with more fictional than real places. They often chose Hogwarts from J.K. Rowling’s *Harry Potter* series and locations from anime, video games, outer space, or Disney movies. All narratives associated with these locations had elements of searching for a hero, home, enemy, power, adventure, or mystery. When asked if they would visit a real place, four of the 18- to 24-year-olds mentioned Japan, several said Hawaii, and two participants said the South Pacific. Interestingly, the locations are all islands. Only one participant would visit Mexico because of family. Another participant would visit the Bermuda Triangle, which I see as a mixture of fictional and real. Participants over 34 years of age immediately identified actual places, including Borneo, the Palace of Versailles, Colorado, or the Galapagos Islands. One participant wanted to see the Northern Lights, and another participant preferred visiting any garden in the world. Participants did not appear to consider the option of a fictional place because their answers quickly and automatically identified actual places that exist in the world.

The icebreaker activity revealed a compelling insight into how fictional or real environments may influence students’ beliefs, attitudes, or behaviors on a college campus. Although this icebreaker question relieved nervousness, built rapport, and started a conversation, it also provided intriguing answers from participants on their perceptions of landscapes. It further aided my examination and analysis of data to identify central themes. This chapter describes each theme constructed from participants’ accounts throughout the remaining interview process.

Themes

To determine themes, I systematically searched the corpus of interview transcript and questionnaire text multiple times to find all instances of common words or phrases and their context. The process was repeated for student-produced images through discussion notes with the

participants and identification of elements in the photographs. Data was organized and structured into codes, categories, and subcategories using the CAQDAS program. In this process, themes were shaped and reshaped in an iterative process of analysis and interpretation.

Three unifying themes emerged from the questionnaires, photo collection, and interviews: (a) appreciation of the landscape, (b) recuperation in the landscape, and (c) connection to the landscape. These themes directly relate to the study's research questions. In addition, they support findings from the empirical literature review by tracing back to behavioral, humanistic, cognitive restoration, and physical campus perspectives as reflected in the study's conceptual framework.

Appreciation

A central theme of the participant interviews and Photovoice collection was an appreciation for quality landscape characteristics, such as well-maintained lawns, trees, colorful plants, and diverse site elements, buildings, and particular settings. The findings for this theme answered the first research question: "How do community college students perceive campus landscape characteristics?"

Recuperation

Over half of the participants used the landscape to reduce stress and anxiety, restore positive thoughts, and recover after challenging moments on their academic journey. Recuperation findings addressed the second research question: "What characteristics of the campus landscape do community college students consider to be most salient for their well-being?"

Connection

Most participants contributed perspectives related to the third theme of connection to the campus landscape. The theme of connection combined multiple concepts such as sense of belonging, sense of place, place attachment, familiarity, home, and being cared for and valued as a student on campus. The findings of connection addressed the third research question: "How do community college students describe the campus landscape attributes that contribute to or impede their success?"

Findings of this qualitative study address the research problem: the lack of community college student involvement in campus landscape planning and shaping may negatively influence students' well-being, academic persistence, and sense of belonging. Findings should be considered descriptive only of these study participants. Readers may connect elements of this study with their own experiences, contexts, or settings to judge the transferability of the findings.

Appreciation of the Landscape

The findings for this theme of appreciation of the landscape answered the first research question: "How do community college students perceive campus landscape characteristics?" Using three qualitative approaches to deepen the understanding of students' perceptions and lived experiences on their campus.

The first step in data collection was an administration of a questionnaire to focus participants' attention on campus attributes. The first set of statements in the questionnaire focused on the behavioral and physical aspects of the campus with a five-point scale ranging from "strongly disagree" to "strongly agree." Questions inquired about available seating, the appearance of the campus, aesthetics, and whether the campus promoted relaxation (see Figure 3). Five participants ranked these elements as neutral, 16 people felt their campus was appealing, 15 felt the campus had enough seating, and 16 participants "agreed" and "strongly agreed" that the campus landscape promoted relaxation. Many participants "agreed" or "strongly agreed" that there were sufficient trees and plants. However, in contrast to research that identified campus aesthetic appeal as a top reason to attend a college (Secore, 2018), eight participants were neutral about campus aesthetics influencing their decision to attend, nine "disagreed" or "strongly disagreed" with that statement. However, 15 participants felt that the landscape made them want to continue to attend. Seventeen participants ranked feeling safe and secure on their campuses as "neutral," "disagreed," or "strongly disagreed."

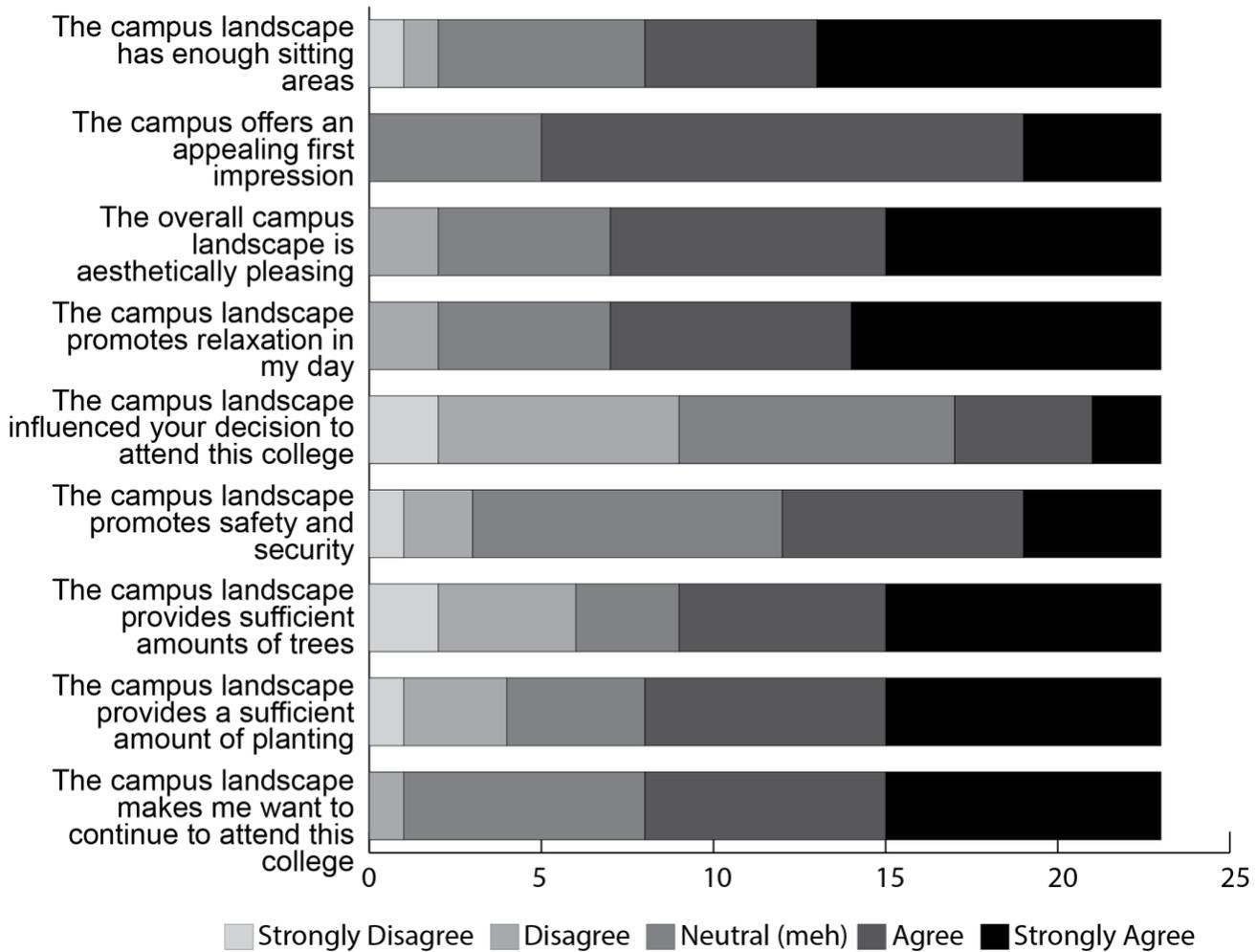


Figure 3. Participants' appreciation of their campus.

The questionnaire asked two open-ended questions. The first question was, "Have you seen something on another campus landscape that you wish was at your campus?" The answers varied from "not really" to 14 participants asking for more greenery, more trees, animal habitat, water features, art installations, and flowers. Answers also included wanting rock climbing walls, hammocks, plaques, and towers with excellent views.

The second question was, "If you could add or change one thing about your campus landscape, what would it be?" Most frequent responses included shaded functional seating (i.e., seats with backrests), trees for shade with seating, and more comfortable seating. Other suggestions included greater food selection, installing a labyrinth, numbering the buildings, job opportunities, diversity of plants, adding flowers, and a water feature like a fountain or koi pond.

The visual research methodology, Photovoice, put the cameras into participants' hands to help them capture aspects of their environment and experiences. Study participants provided over 400 images and detailed descriptions of the campus landscape and how it supported their psychophysiological well-being. Our discussions were spirited, and participants seemed to enjoy talking about the landscape and their campus experiences. Photographs provided a platform for participants to share and expand on their experiences, and students captured a wide variety of viewpoints, angles, and distances within the campus landscape. Some participants took similar photos of unique places on their campus, but they were slightly different depending on participants' perspectives or connections with the space (e.g., whether the space was familiar or new). All but two participants preferred naturalistic settings and did not express dislike or fear about the landscape.

Many images focused on the appreciation of the landscape: trees, colorful plants, lawn, site elements, and buildings. Participants took photos of trees known on campus as ideal places for studying, reading, naps, privacy, or hammocks. enjoyed the presence of trees for shade, the changing leaves, and the opportunity to spend time in nature to alleviate stress. As Isley valued a naturalistic setting, "I think that [outside the library] is probably my favorite area in terms of the trees and the natural kind of aspect of the campus." Many photos showed tall trees or a variety of trees in groves. Xi-Wang appreciated "the layers and different visual interests."

Students took photos of buildings. Generally, images depicted newer structures that were more "modern with lots of glass" and "cleaner" than other campus buildings. Often participants explained how different buildings affected them in certain ways. Using terms such as "awesome," "iconic," "familiar," and "supportive." Table 4 shows the distribution of students' photos per the theme of appreciation of the landscape.

Table 4. Distribution of Photos - Appreciation of the Landscape

	Categories	Number of Photos
Theme: Appreciation	Lawns Areas	43
	Trees	165
	Colorful Plants	33
	Site Elements	231
	Buildings	46
	Settings: Prospect	61
	Setting: Refuge	45
	Room for Improvement	13

After participants discussed their photographs, I conducted semistructured one-on-one interviews in an outside area on campus familiar to each participant. There was a clear tendency among most participants to use and prefer green space in their campus environment. Only one participant who grew up in an urban city, Cagney, believed nature should be “viewed from afar.”

Lawn

Several participants liked lawn areas. Nicola felt grounded in these locations:

There are some things that I've done [like] taking off my shoes and standing on the grass and kind of planting myself there, taking a moment to de-stress and let go of whatever it is that's going on. It is grounding to be able to feel the ground under my feet or be in, or close to, the trees, or be around nature. It makes you feel good.

Students often enjoyed sitting on the grass; however, when it lacked shade and was consistently wet from poor irrigation practices, it would make that area unpleasant and to be avoided. The lawn areas on several campuses were often too uncomfortable for participants to relax and enjoy themselves. Saylor disliked lawn areas on his campus:

In the center of the school, there is a vast and open field of grass and walkways. This area provides nothing but enervating feelings, an utter chore to walk through. The area is completely flat and devoid of life, with any areas you are trying to reach located well off in the distance.

Although many lawns were not appropriately maintained or comfortable, Tate and Isley frequently observed people sitting in properly maintained lawns, relaxing and enjoying the area. When campus planners included interesting site elements, such as trees, benches with shade, or

colorful plants, most students appreciated the lawn aspect of the landscape. However, the vastness of lawn area meant to Saylor that he had to work harder, and the space was boring and discouraging for his studies. Other participants did not feel as strongly as Saylor, but they believed that too much lawn area was dull and could be designed more creatively.

Trees

All participants mentioned trees in the landscape. Participants expressed an affinity toward tree groves with a variety of species that provided shade for sitting. Several campuses had large trees that allowed students to set up hammocks, and the shade facilitated studying outdoors. As further confirmation of the students' appreciation of trees in the landscape, Isley and Gemi described their "awesomeness." Students were fascinated by the fall colors of the trees and looked forward to seeing the changing of the leaves each semester. Participants pointed out trees they admired in their photographs, especially the occasional unusual tree. The more unusual the tree form, the more the students appreciated it. Malec preferred trees that reminded him of being on an alien planet. He often explored the campus for inspiration to create stories about future space travel. Omega's perceptions focused on the various types of trees:

I like the trees. There's a variety of trees, and I think the eucalyptus trees are striking. I think there is also a pear or prune tree turning color. Many [of the trees] are deciduous, so I cannot tell what they will be like in a couple of months. But I like the variety of trees. It is kind of like a little enclave in the middle of suburbia.

Saylor described his walk before starting class:

I pass by a large variety of California natives, with pops of colors and plenty of life flitting about and a transition of grape leaves enveloping the fence line. Looming, tall trees cast a calming shade over the ivy-covered grounds, bringing about a certain peace before starting class.

Being in a specific campus area helped Valentine absorb more information when studying.

Ellery's favorite area on campus to study and relax was by a fountain where he could sit beneath trees that cast shade. Many participants related that being outside of the classroom and near a natural setting helped them to study, relax, and reduce their stress or anxiety. Less stress allowed

students to focus and dive deeper into their studies. Zeta appreciated the trees as a kind of shelter from attention:

Some trees, like four sets of trees, are not tall. They're kind of short. So, when you're walking into campus, it feels like you're not being announced that you are coming in. It's like you get to just fly by unless someone notices you. They don't know if it's really you.

The overall response to trees in the landscape was very positive. Participants took the most photos of trees, especially those with unusual trunks, or were old, or in groves. They desired the "lushness" of multiple trees and a variety of trees in the landscape. Students enjoyed the lawn, but preferred trees interspersed throughout the lawn to create shade and variety on the campus. Trees also provided a practical application by casting shade for students to sit under while relaxing and regrouping, in addition to serving as habitats for wildlife, such as birds, butterflies, and squirrels.

Colorful Plants

A common view among interviewees was that flowers implicitly and positively influence people's moods. Valentine and Zeta preferred voluminous amounts of colorful flowers that boosted their moods and reduced their stress. Participants' photos of flowers were presented in a series, with varying angles and degrees of closeness. When asked about the flowers, they shared that they were aesthetically pleasing in terms of sight and smell. Judith commented, "These are such bright flowers, and it is really gorgeous to look at." Pennington, a veteran with a traumatic brain injury, used the flowers in the landscape as a means to appreciate the perpetuation of life and survival. Faber recalled a childhood home:

I lived with my grandma in Ontario, and they had a house. It had a bunch of flowers and roses: yellow, orange, and red. She had different kinds of flowers. Even walking by, many people would be like, "Your house is my favorite house. It has so many flowers. It just draws attention." I never thought about it, but flowers really do make a difference. It makes things happy. I think flowers make a big difference.

Diversity of Site Elements

Site elements such as seating, water features, wildlife, art, sculptures, and signage figured prominently in the themes of appreciation, recuperation, and connection. Many participants found the seating on campuses to be inconvenient and inequitable. In a few cases, to find a clean, shaded

bench near buildings where participants had class was almost impossible. Seating options were next to vending machines, in full sun, or on the edge of a planter's concrete wall. Complaints about the lack of shade were repeated throughout the interviews.

Seating arrangements reflected students' feelings regarding their interaction in the landscape. Aero did not care where she sat, as long as it was with friends. Other participants were more specific about where they wanted to spend their time outside. Valentine described the challenge of seeking seating when other students had already claimed the limited seating in the café area. Students protected their territory, mainly when the weather was terrible:

Benches are a hit or miss . . . [and] uncomfortable for studying, or no shade . . . When it is raining, half of the chairs could be occupied. And it's like the *Squid Games*: I take this chair that happens to be near me, then, I would be in the shade and cold. It would be under the roof so at least I won't get wet. But everyone has already grabbed their seat [in the best areas], and you're like, "Noooooo, I have to compete with them?!" Like I said, *Squid Games*.

Some participants preferred an open and welcoming seating arrangement, such as seating in more active areas on campus. But others preferred a closed arrangement that discouraged social contact. They preferred seating that was hidden away and where they would not have to share their space. Regardless, many wanted movable chairs to decide the arrangement themselves rather than be limited by where campus designers placed benches.

Seating arrangements were not the only aspect of seating that affected students' moods and behaviors. Comfortable seating with backs was also necessary so studying outside was comfortable enough that students could focus on their studies and recover from stress. Yuki perceived a lack of investment: "[The college] just went to the 99-Cent Store and put some plastic chairs there. At least, that is what it feels like—not very inviting, welcoming, or comfortable, and no shade." Another concern regarding seating was its "randomness." There was a lack of thoughtfully placed seating to support students' needs. Seating was located without views or near interesting elements, like flowers or unique plantings.

Many participants enjoyed water features, including natural stone fountains or ponds with fish. The sound of flowing water had a calming effect on their minds and bodies. Comments included, "I

love this little water [fountain] here. It is so calming” (Gemi). “Water, water, the sound of water” (Omega), and “The water feature makes you feel welcome, and the benches are under the shade” (Raen). Saylor found water relaxing:

[Coming from] an enclosed space [classroom] to the outside which is filled with various plant life and a bubbling fountain that pokes out above leopard plants and has a welcoming, clean bench below offers a great place to enjoy the shade and lose yourself in quiet thoughts. I always find that being near some water or hearing some water can be refreshing and calming after being tensed from a test.

Buildings

Particular buildings were a recurrent reference point for interviewees. Most participants’ aesthetic preferences leaned toward newer buildings with their glass façades. They felt proud of attending a campus with newer buildings that were beautiful, well-maintained, and contemporary. Buildings that included courtyards were described as open, welcoming, and “alive.” Most participants mentioned their library as a refuge to study, use services, and find safety. Gemi commented, “The library is my safe place.”

Buildings with glass façades and windows offered opportunities to escape psychologically from crowded or unpleasant rooms. Windows have complementary functions. First, a window is a source of sunlight. Second, a window serves as a visual connection with the outside environment. In this study, participants conveyed the importance of connecting to the exterior world via plantings and green landscapes. Participants expressed the desire to ruminate or as Zeta said, “glance [out the window], think a problem through, and then go back to doing it.” Window coverings were deemed unfavorable because students wanted to look out the windows and regroup before finishing an exam, collect their thoughts about a question posed by the instructor, or reduce their stress. The view from windows supported Isley’s comfort in a classroom or building:

The building had windows, but the windows had these weird things outside that limited what you could see, which wasn’t too great. Then the lecture hall, physical science, and life science buildings don’t have any windows. Well, the life science building has windows, but they’re all covered. You can’t see out of them. The library has a nice number of windows to it. It feels comfortable inside. You can see outside to the campus.

Saylor, like a few participants, underlined the importance of window views in classrooms:

While inside the classroom, looking out and seeing nature—whether it be plants or animals or birds—can offer a breath of fresh air while being bombarded by a slew of information by the faculty. It makes classes feel less monotonous.

Despite a few negative perceptions about certain aspects of buildings, most students embraced the value of having new buildings on campus. Faber indicated that “they could give the buildings some color—different colors—'cuz all the buildings look the same.” Hayden lamented, “[The original buildings] look old and nasty to me.” Several campuses included rooftop gardens, and students believed that hiding an “ugly” roof with plants positively impacted their mindset.

Setting

Setting represents another category constructed from responses about a naturalistic campus. Perceptions of the environment are formed from meaningful stimuli or events that people experience on their campus. Students experienced solid attachments to various buildings because they were familiar (as the site of students’ classes or on-campus employment). Data illustrated two noteworthy spatial configurations of the landscape: (a) prospect and (b) refuge. Participants sought opportunities to explore the campus and find vistas and panoramas or shelter and protection. All campus settings in this study seemed to provide both types of spatial configurations, which evoked a positive sense of well-being in students and supported the study’s second research question.

Recuperation in the Landscape

Students spoke about aesthetic pleasure in the landscape that helped them maintain their stress levels, which addressed the second research question on characteristics of the campus landscape that students consider to be most salient regarding their well-being.

The second set of statements from the questionnaire examined participants’ feelings toward the campus, on a 5-point scale ranging from “none of the time” to “all the time” with statements, such as “I feel calm when I am in the campus landscape” or “I feel welcomed on this campus.” In this section, the participants held stronger opinions about the campus in general. When asked if they felt calm, safe, relaxed, comfortable, or glad to be on the campus; most participants stated “often” or “all of the time” in response to the statements (see Figure 4).

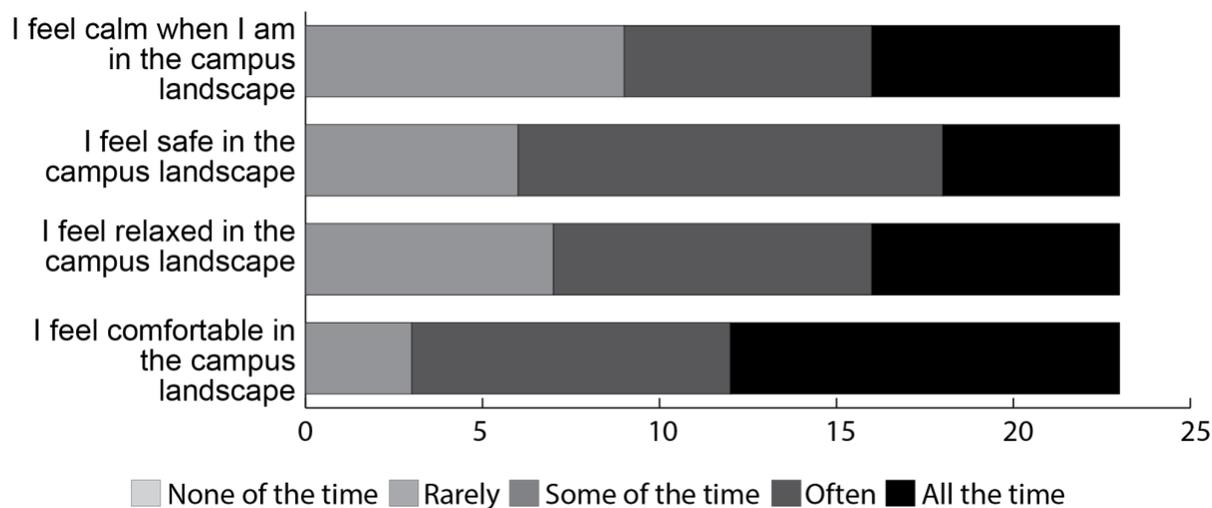


Figure 4. Participants' mental state on the campus.

Participants often spoke of how the landscape helped them reduce stress and calm down. They shared images of special places that made them feel a strong bond with the campus. Students also shared the places they liked and in which they spent the most time.

Aspects of recuperation were evident in photos of campus areas with large trees, rocks, dappled light, and natural water features. Participants alleviated stress by walking around campus or sitting on rocks next to a pond. The ponds on campuses were usually a “secret,” and students enjoyed thinking they were the only ones knowing about the pond. Zeta used the pond area to meditate in solitude, while others noted that the pond was a popular place for students to meet and talk because “it’s like a park.” Participants enjoyed interacting with the fish by feeding or watching them. Other water features, such as fountains, were not preferred over the ponds. However, participants liked to listen to the water and the sound helped to alleviate stress. Omega explained, “being near some water or hearing some water can be refreshing and calming.”

Listening and reviewing the participants' images of small, private enclaves, participants needed a form of landscape to rest, regroup and recuperate. These places of refuge included benches off the beaten path and surrounded by trees, wildlife, and flowers. Students consistently appreciated how the “nooks and crannies” felt private and secluded. Participants felt a connection with nature and relief from stress by observing squirrels, birds, and rabbits.

Finally, elements of recuperation that needed room for improvement included photos of various campuses areas that could be enhanced to support students' success, sense of belonging, pride, and attachment to the college. Poorly landscaped parking lots engendered feelings: "Makes you sad coming on campus." Random seating without shade or concrete planter walls too uncomfortable to sit on while studying "[don't] make you want to be outside." Participants noted patchy grass and poor irrigation that made walking through or spending time in some areas unpleasant. Participants also took photos of bare areas of their campus with dead grass, dirt, dead plants, and weeds, and offered no trees or shade. The lack of maintenance in these areas led participants to feel that administrators did not value students. Table 5 shows the number of photos related to recuperation.

Table 5. Distribution of Photos – Recuperation in the Landscape

	Categories	Number of Photos
Theme: Recuperation	Stress reduction	91
	Auditory Interest	57
	Walking/Discovery	32
	Wildlife	56

Most participants appreciated the spatial configurations of prospect, including panoramas, distant vistas, mountains, or wide skies. Prospect allowed them to feel free and independent. Some interviewees preferred open space and views because they were significant to their mental state. Related comments included, "I like how open it is around because it is less stress for me" (Weaver), and "[A view] makes you both relaxed and excited. I enjoy seeing nature and relaxing [outside] because it's an open space. I don't feel like I need to stress out about anything" (Hayden).

In contrast to the desire for prospect and open spaces, solitude was important for many students who needed a refuge. A refuge included "nooks and crannies," hidden away places that included seating with backs to lean on or boulders to sit on and enclaves in which to tuck away for comfort and safety. All campus landscapes featured some of these settings or site elements. Several

participants preferred spending time alone in selected areas. When Malec was deep in thought, he did not want to be disturbed:

You kind of get lost in the sound of the wind or the birds or anything. You get so immersed in what you're doing. I like the campus, especially the areas that not many people go to. Because otherwise, you might get disturbed and snapped out of that immersion when there are too many people.

Looking for a space to reduce panic attacks and be alone to regroup, Xi-Wang chose an area removed from the busyness of the campus' open areas:

It's usually tucked away on the older side of campus. I think that's because there are more nooks and crannies on the older side of campus—versus places like the Student Union, which is very modern and open. I don't like having my back exposed. It's easier to find something to kind of put my back against so that it's not in the open. I've had several panic attacks on this campus. That's just a part of me. I tend to gravitate [to the native plant garden] because there are only one or two people in that space. They ignore me if I'm crying, which is what I want. I don't like being touched. I don't like being interacted with . . . What really helps me about [the native plant garden], is that I can tuck myself away from people in an area where people don't usually pass by. It's not on the main path. There are always the sounds of nature. There are always birds, and squirrels, chattering at each other. There are leaf noises—you know, the rustling? And it doesn't sound like there are people there. It feels like nature.

Darby stressed the need to spend several moments in the landscape to reset before going back to class. Isley wanted to be relaxed and calm while studying:

I can just sit on a bench and listen to music and relax. It calms me down. I get myself into the right headspace. Then, if I need to go over some notes or anything, I do what I need to do. I can calm down my mindset. I don't have to think about class right then or think about work. I can walk through the campus and enjoy the stroll, looking at the trees, shrubs, everything. It just feels nice.

Three participants emphasized the importance of a naturalistic green campus landscape to their well-being to allow them to recover, while managing stress. Bellamy stated,

Testing and studying are stressful. Places where I find peace have plants and natural materials features, and that's my preference for a space to relax. Coming out of an exam to a bit of a green or a natural environment would help me exhale and regroup. I'm a person who does not necessarily recover from the stress by being in groups. Some people do, [but] that isn't me. The areas that are more scaled down to accommodate one or half a dozen people are more my thing. I feel like I need to recover and recoup if I'm in a large group setting.

Recouping in nature helped Omega with the big picture of life:

I think one thing about being in nature—it's not instantaneous. If I'm sitting somewhere peaceful, surrounded by plants and trees, it slowly helps me reconnect with the world

and remember that it doesn't revolve around me. That "Yeah, I bombed this test," but there's more out there, and there will be another test. I'll do better next time instead of staying in that hopeless state.

In addition to being in a naturalistic environment, students needed to be near water or hear the water from a fountain or pond to reduce their stress, while recuperating from academic pressures. Many participants could study longer in these environments. Saylor explained, "Being able to study in the gardens has resulted in more consistent and diligent progress for me personally. I'm able to study longer without breaks compared to being inside."

In addition to being near water or hearing the sound of water, the participants on two campuses strongly embraced the myth of the "hidden pond." Students believed they were the only ones who knew about the secret of the ponds' hidden locations. The secret seemed to give them a feeling of belonging and ownership. However, many openly shared the location of the hidden water features and they enjoyed being knowledgeable about special places on their campus. These unique places allowed the students to practice meditation, relaxing, and de-stressing. Being near water in a secret place by the pond positively affected Yuki's ability to meditate: "I feel like I could meditate there and do it for long periods. No stress." Zeta's overall well-being improved when he meditated at the pond and connected with the fish:

The part of the landscape that helps me most is the koi pond because there used to be a lotus in the pond. The lotus only blooms once a season. When I was going through tough things, I would go there to meditate and see the lotus's progress in blooming, and that would help me to keep going. There are fish swimming in there, too. I like to call them my aquatic friends because they are nature's aquatic children. They are always just chilling. They just swim, and when you go there, they think you're gonna feed them, so, they come up to you. I like that feeling. I feel noticed. Even though there is no one I can humanly connect with, these fish understand that I exist. You know that they want to reciprocate my energy. It is good to have connections with animals.

Malec also connected with wildlife on campus and appreciated a secret place:

I like checking out the animals going about their daily business. It is the trees and animals—all the squirrels, hawks, and crows. I find more appealing the small hidden areas on campus where it's very quiet. Nobody goes there . . . there is a small little Japanese-like garden that no one knows about. It helps me because you remember that you're also an organism on this planet.

Water features and wildlife were vital to reviving participants' mental states. Students responded well to the richness of the campus and its diverse landscape features. Participants also enjoyed unique artistic elements in the landscape. Art, sculptures, container plants, and school logos or mascots added to pride in their school.

When I asked participants which elements in the landscape helped support them when they faced challenges, two students mentioned that being outside with natural light and listening to leaves rustling offers a better studying experience than the library. That perspective agrees with much of the broader research on stress reduction through nature. Valentine, preferred being outside, but surrounded by a familiar building:

When I take my "timeout," I sit in that courtyard. [That's] the most poetic way to describe it. The buildings are so tall, and I'm inside the courtyard on the bench. It's still open space. I feel like it's kind of a blanket that is hugging me. For some reason, the building is very sentimental for me since I take a lot of classes there. I sit there a lot when I'm frustrated. I feel a kind of comfort because I feel the buildings are shielding me from the bad stuff in the world.

Negative comments about campuses referred to a lack of landscape features that offered relaxation, stress reduction, or comfort, which in turn affected academic success. Tate felt that the lack of outside areas to rest between classes may have affected students' ability to do well on exams. Several other participants agreed that their GPA might increase if they had a better environment. Being in areas that lacked a pleasing landscape created more stress and anxiety for students. Certain landscape areas on campus were dismal and students avoided those areas because they are not inviting. Yuki declared, "It's concrete. I don't want to be here, and it makes me feel more stressed than before I walked into the landscape." Participants repeatedly mentioned parking lots' lack of trees and plantings. Passing through the parking lot on the way to class made them feel "lonely, uncomfortable, or sad." Raen expanded on this feeling: "No shades, no plants at all. You don't want to be there. If it's sunny, it's terrible. And if it's raining, you have to run, or you get soaked. When you come out of your class, it's still terrible." The campus environment mattered to students and influenced their behavior and attitudes about the campus.

The functionality of the campus landscape both allows and constrains certain activities. Physical activities on campus for participants' well-being included walking their dog, reading, eating, listening to music, meditating, and exploring. These activities were associated with participants' mental well-being. Walking on campus was valued by many participants. Walking reduced Weaver's feelings of stress and anxiety and being overwhelmed:

When it gets overwhelming, I take a walk around campus, looking at the landscape. It's really beautiful. Not just on this side of the campus, but when you look onto the other side where the stadium is located. You see all the mountains and stuff. It's very green and relaxing.

Being on campus was beneficial for most participants' mental and physical well-being. Students often used the words "happy," "good mood," "good energy," "excited," "prefer," and "peaceful" to describe being in the campus landscape.

Connection to the Landscape

Connection to the campus landscape occurred when students felt a sense of belonging to their campus's social, cultural, or spatial aspects. The physical spaces on campuses offered the participants a wide range of positive, connection options. Many participants felt integrated into the campus.

Several questionnaire statements focused on participants' sense of belonging and connections to their campus (see Figure 5). 21 participants felt that people show them respect. Almost all participants felt understood, welcomed, accepted, and successful on their campuses "often" or "all the time," only one participant chose "some of the time" or "rarely." Five participants would have chosen another campus "some of the time," and only 2 of 23 participants indicated they would prefer another campus "often" or "all of the time."

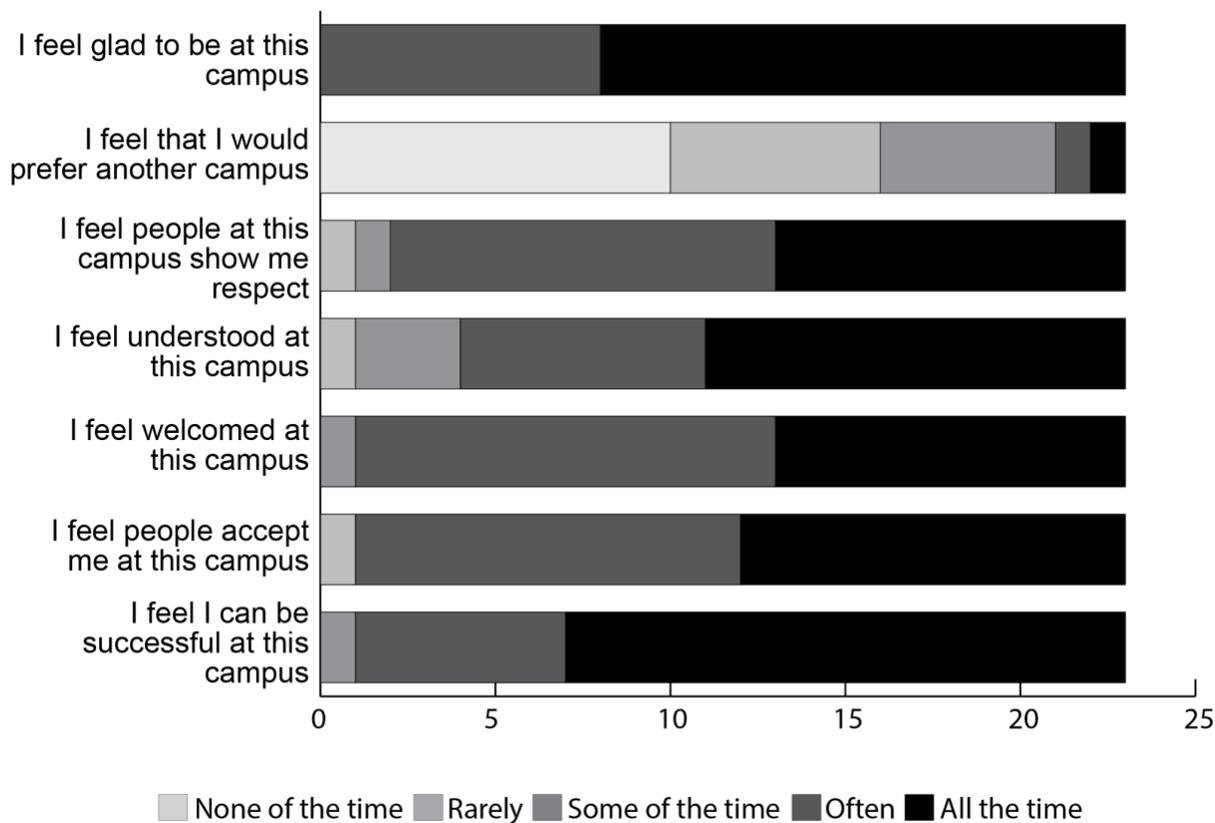


Figure 5. Participants' connection to the campus.

Participants' images communicated something different than words or numbers by adding to the understanding of what they believed were salient characteristics of the landscape contributing to their success (see Table 6). Participants photographed some buildings because of their familiarity with the structure. Their familiarity came from taking classes in a particular building, receiving services, or working in a specific building, and participants viewed these buildings as a second "home." Participants shared special places that made them feel a strong bond with the campus. Students also shared the places they liked and in which they spent the most time. These connections informed their sense of identity, creating meanings and attachments in their lives.

Table 6. Distribution of Photos – Connection with the Landscape

Theme: Connection	Categories	Number of Photos
	Sense of belonging (Attachment, Pride, Familiarity, Feeling Valued, Home)	70

Students took advantage of opportunities to enjoy the campus landscape with friends, informally with professors, or on their own. Students described memorable conversations with instructors, meaningful experiences with peers, and the statuary of school logos and mascots that helped foster loyalty to their schools. Participants wanted to experience varied and complex landscapes. The landscape offered opportunities for participants to develop social interactions with other students. Gemi stated, “You can talk about the garden because it is interesting, there is so much there to comment on [with another student].”

Referring to the landscape and interacting with other students, when Cagney felt challenged, finding help seemed easy and friends connected him to the campus:

Whenever I feel challenged, I always go to the Student Life Center and ask for help. It's where all the people that I work with are, so I have better access to help. The people here are very nice, and the atmosphere is nice. Nobody is really like, “Oh, you can't sit here. You can't do this. You can't do that.” You can just sit wherever. I'll just go to the Student Life Center and hang out with friends. Hopefully, that will kind of cheer me up.

Like Cagney, Aero also discussed being cheered up. Her family was in Jalisco, Mexico, and she was alone in California. Being with her friends was incredibly important to Aero, and the campus acted as a communal space to develop deeper social relationships with her friends. Aero also observed students in a nursing program as they walked by while she sat outside the café each day, which motivated her to do well as she aspired to apply to the nursing program. Being away from home and immersed in the campus environment has helped Weaver stay focused on her academic journey:

The campus is almost like a second home, like a home away from home. When I'm not home, I'm on campus. I am a full-time student, and I'm also a student employee, so I spend almost all my time here on campus.

Valentine said, “Yeah, I feel a little bit at home here . . . I've gotten used to the campus for the past two years.”

Malec used the campus landscape to connect to his professors on campus, which made him feel welcomed and part of the college. He spoke about meeting professors informally outside the classroom to discuss and explore his ideas, thoughts, and opinions.

Yuki felt the care and maintenance of the landscape reflected his belief that the college cared for him. Yuki is proud of the college, a feeling that was especially invoked by his campus logo statue:

Seeing that logo, especially the modern metal lighting . . . it's like all "hell yeah." It just feels like "Hey, we're proud to announce this is the campus," and I feel more like, "Oh, yeah, if I'm here, I need to hustle." I mean, you know, I'm proud of being on this campus.

Participants' reactions to their lived experiences on campus shed light on the complexities of such connections for students. All students seemed to adapt in some ways to their new environmental context, finding ways to continue what is essentially of value to them. Returning to the ice breaker comments, throughout the interviews and photo collection participants were reinterpreting the campus landscape searching to connect to their campus.

Chapter Summary

Qualitative data collected in this study provided subjective, open-ended information from participant questionnaires, photos, and interviews from a sample of 23 community college students. The results offered insight into community college students' perceptions of campus landscape characteristics and campus attributes that support well-being and contribute to students' academic success. Three themes emerged from the qualitative data analysis: (a) appreciation, (b) recuperation, and (c) connection.

The three research questions explored students' experiences with the campus landscape. The first question considered how community college students perceived campus landscape characteristics. The second research question asked what characteristics of the campus landscape community college students considered to be most salient for their well-being. The final question investigated campus landscape attributes contributing to or impeding community college students' success.

This chapter discussed the 23-item questionnaire measuring students' responses to campus aesthetics, attractiveness, trees, and plants. The campus landscape's appeal did not influence decisions to attend a college, though it did influence participants' desire to continue.

In response to the questionnaire items about well-being, most participants expressed that they often or always felt comfortable, relaxed, and safe in the landscape. Most participants felt glad to be on the campus. They also felt respected, welcomed, accepted, understood, and successful on their campuses. Over half rarely, if ever, felt they would prefer another campus.

The questionnaire's open-ended questions asked what students observed on other campuses or what they like would add to their campus landscape. The answers varied from "nothing" to approximately half of the interviewees asking for more greenery, trees, animal habitat, water features, art installations, and flowers. Participants would add shaded functional seating (i.e., with a backrest), trees for shade with seating, and more comfortable seating for studying.

The Photovoice exercise resulted in more than 200 images of trees and plants out of over 400 total images taken on students' campuses. Study findings suggest that participants appreciated a well-designed landscape including a variety of trees, colorful plants, and water features. Features such as seating with shade, openness, wildlife, and places for solitude were identified as supporting mental and physical well-being. Contemporary buildings with large glass panes were appreciated because looking out from the windows alleviated stress and anxiety and offered perspective, particularly during exams.

The most striking result was that participants felt the quality of the landscape, and especially the maintenance of the landscape, reflected the degree to which administrators and faculty members valued and cared for students. These positive feelings generated a desire to belong and an attachment to the college, which became a "second home" to many participants.

Finally, students offered several surprising answers during an icebreaker question. When asked where they would like to visit, participants less than 34 years of age wanted to experience fictional places with underlying themes of searching for peace, home, power, mystery, adventure, and even the hero's journey. These fictional themes represented elements of self-reflection and transformation for participants. Attending college is a process of coming into one's own. The campus landscape environment supports, influences, and facilitates students' expectations, attitudes, and

behaviors. In the students' minds, campus landscape design and maintenance supported their feeling of being valuable to the college. The themes of appreciation, recuperation, and connection were deeply woven together, and each was identified as playing a significant role in students' perceptions of campus landscape attributes, physical and psychological well-being, and connectedness to the institution.

Chapter 5 presents a comprehensive discussion of the findings, interpretations, and implications. Finally, I offer recommendations for practice and future research.

CHAPTER 5

DISCUSSION

This chapter addresses the research questions through an interpretation of the findings from the questionnaires, Photovoice collection, and semistructured interviews making connections and comparisons with the empirical literature. The study's implications for policy and practice are outlined, and its limitations are acknowledged. Based on this study's findings, recommendations are offered to key stakeholders, including administrators, campus planners, and designers. These recommendations focused on action steps leading towards inclusive and equitable approaches to support community college students' psycho-physiological well-being, sense of belonging, and academic achievement. The chapter concludes by offering recommendations for further study.

Researchers paint a bleak picture of students spending their entire academic careers struggling with stress, anxiety, depression, lack of belonging, and the ability to learn (Arria et al., 2013; Dyson & Renk, 2006; Gillen-O'Neel, 2019, Rawson et al., 1994; Ryan & Deci, 2000). A survey by the American Council on Education asked 52 presidents of 2-year public institutions to rate the mental health of their student body for 2021 compared to 2020; 63% stated that their student body's mental health was "worse" (Melidona et al., 2021, p. 9). Stress was the number one health factor most often reported impacting academic success (Eva, 2019). Lack of belonging is a secondary factor, particularly for students of color, financially struggling students, and students with disabilities (National Academies of Sciences, Engineering, and Medicine, 2017). Because of the detrimental effect of poor mental health on students, many institutions have begun focusing on students' mental as well as physical well-being as a critical factor in their academic achievement (Berman et al., 2021; Bratman et al., 2015; Lu & Fu, 2019).

Our bodies and brains respond to nature in biological, neurochemical, and psycho-evolutionarily ways (Plutchik, 1980; Ulrich, 1983; Williams-Goldhagen, 2017). Hence, in seeing to understand and ameliorate students' emotional well-being, researchers have shown that spending time in nature reduces negative thoughts and profoundly improves physical and mental well-being

(Ottosson & Grahn, 2008; Rakow & Eells, 2019). Additionally, mounting evidence has demonstrated positive effects of green spaces on students' behaviors and sense of belonging, impacting their academic achievement (Gillen-O'Neal, 2019; Gopalan & Brady, 2020). Many studies examining students' relationship with the landscape have been conducted at 4-year institutions, yet few studies have analyzed community college student relationships with the campus landscape. Millions of students may have attempted to learn in settings that were significantly lacking in support. Key stakeholders and designers unwittingly overlooked the community college campus landscape as additional support for students' well-being and sense of belonging (Hajrasouliha, 2017a).

Using findings from the study and following the literature, I argue for greater student involvement in planning and shaping the campus landscape. Moreover, excluding students' opinions could negatively influence their well-being, academic persistence, and sense of belonging. Researchers have not extensively studied the influence of community college campus landscapes. Here I suggest that campus design and planning efforts should focus on developing landscape characteristics preferred by students, while supporting their needs for recovery and their sense of belonging.

This qualitative phenomenological study explored community college students' perceptions and lived experiences of Southern California's campus landscapes. Chapters 1-3 of this dissertation (a) introduced the problem surrounding lack of student involvement in campus landscape planning; (b) reviewed literature on behavioral, humanistic, and cognitive restoration, and association of campus greenness with well-being; and (c) presented the methodological design used for this study.

Using phenomenological research design procedures, I collected qualitative data from 23 participants at six sites. Findings were obtained from questionnaires, in-depth recorded interviews, and over 400 participant-produced images (Krueger & Casey, 2015; Miles et al., 2020; Wang & Burris, 1997). Pseudonyms were used for colleges and participants to ensure that all participants' identities were protected. I used thematic analysis in two stages to explore the study data. In the first stage, I evaluated the data in conjunction with the conceptual framework. In the second stage, the

iterative analysis process provided a flexible approach to investigating students' perceptions of the landscape, uncovering themes to address each research question and support the findings. I used a CAQDAS program to aid the process of structuring, organizing, and coding large amounts of text and imagery. Key themes and patterns were generated to describe student's perceptions of their campus landscape and characteristics students preferred for their overall well-being.

Study findings demonstrated the richness of student preferences, campus attributes, and participant opinions about how the campus supported well-being and sense of belonging and addressed the research questions:

1. How do community college students perceive campus landscape characteristics?
2. What characteristics of the campus landscape do community college students consider most salient for their well-being?
3. How do community college students describe the campus landscape attributes that contribute to or impede their success?

The data analysis revealed three themes related to community college students' perceptions and lived experiences of their campus landscape: appreciation, recuperation, and connection. These central themes are defined and described through my interpretations.

Interpretations

A vibrant, attractive campus creates a place where students want to be. Analysis of data collected produced five key findings that answered the three research questions of the study. The study's key findings were: (a) the effect of water features and diverse, lush, colorful naturalistic settings; (b) the importance of windows for contemplation; (c) the link between the campus landscape and students' psycho-physiological health; (d) the influence of environmental excellence on feeling valued and supported; and (e) the impact of campus landscape on participants' sense of belonging and place attachment. These findings are consistent with previous studies (Föllmer et al., 2020; Gillen-O'Neel, 2019; Holt et al., 2019; Howel et al., 2010; Norizan et al., 2018; Speake et al., 2013; Strayhorn, 2018) and present a challenge for stakeholders interested in supporting students' ability to

reduce their stress, restore their well-being, and recover from daily stressors. I offer interpretations of research findings, including connections to empirical literature and the study's theoretical foundation.

Appreciation

A central theme of appreciation of the landscape was prevalent throughout participant interviews and Photovoice collection. Participants were positively affected by the visual and sensory richness and complexity of naturalistic campus settings. Participants desired various landscape characteristics, such as well-maintained lawns, trees, and colorful plants. They preferred contemporary buildings and landscapes with diverse elements that would fully engage their senses. The findings on this theme answered the first research question: "How do community college students perceive campus landscape characteristics?"

Participants had no difficulty indicating how much they enjoyed some aspects of the landscape. Participants had common reactions to the questions asked and the photographs they collected. The theme of appreciation emerged from analyzing patterns of participant discussions and photos they selected. Thus, their appreciation of landscape elements was helpful, indicating the kinds of settings that students favored. It was equally important to understand how students experienced the settings. Participants were affected by the campus landscape's visual and experiential richness and complexity or lack thereof. As expressed by participants in terms of their appraisals and needs, perceived attributes of the campus landscape included relaxation, visual stimulation, safety, and comfort. Spaces containing shady elements, a variety of trees, colorful plants, flexible furniture, and grass promoted stress relief and recuperation. Students wanted a setting that was not dull or mundane. An interesting landscape could facilitate conversations with other students about what they were visually experiencing, allowing them to share their enthusiasm over an interesting plant or tree.

This finding is consistent with those of Kellert, Heerwagen, & Mador (2013) demonstrated that, due to individuals' evolutionary development, humans have an innate biophilic fascination with natural elements and settings. Humans must expend effort to make familiar these mysterious, diverse, complex landscapes, and the process of becoming familiar allows students to develop an attachment

to the campus. Beyond seeing naturalistic spaces as providing aesthetically pleasing views, most participants seemed to have a positive psychological response that ultimately affected their behavior within the campus landscape (Strange & Banning, 2015).

Research literature provides evidence that biophilic designs benefit humans through physical, psychological, cognitive, social, and spiritual interactions with nature. Students often mentioned the sight and sound of water. They felt that being near water helped calm and restore their mental state. The most preferred water feature was a pond surrounded by trees that allowed participants to see water movement and wildlife, such as fish or birds. This finding is consistent with Herzog et al.'s (2003) conclusion that humans prefer prominent trees and shrubs, openness, and water presence in the landscape. The presence of water on a college campus can substantially enhance students' psychological well-being. One detailed study analyzed the benefits of biophilic design and universities' plans to enhance the quality of their campuses in response to students' needs in education (Abdelaal, 2018). Although a few designers now regularly incorporate water in their designs, the vast majority do not. The findings of my study suggest that water should be an integral component of the campus landscape.

The results show that, contrary to what might be expected, human-made structures in the landscape do not seem to negatively affect students' aesthetic consideration of the landscape. Many of the participants' photographs showed buildings they preferred and landscape features that defined the building's form. Aesthetically, students preferred modern buildings because of their contemporary appearance and cleanliness. However, a few participants preferred buildings that were merely visually different from other buildings on campus, or they preferred a building they were familiar with on campus. Several participants stated that surface parking should be evaluated in terms of landscape enhancement. Unattractive utilitarian parking often impaired first impressions and the sense of place. Landscape appreciation seemed less dependent on pure nature than experts and planners might assume. According to participants, complex integration of buildings and landscape features was critical. Students may develop deeper connections with the campus as they explore

their appreciation of landscape elements; thus, increasing their academic engagement and motivation to persist on their academic trajectory. This connection fosters a sense of belonging and ownership of the campus (Gopalan & Brady, 2020).

Campus landscapes have the potential to act as additional support to students if intentionally designed to enhance landscape preferences. Participants preferred complex areas rich in a variety of plants and wildlife. Findings suggested that participants are curious about the wildlife; they expressed delight in spending a moment watching animal behavior. The moment allowed students to temporarily escape from the daily pressures of college life (Kaplan et al., 1998). Making positive connections with the campus landscape may be construed as a coping or adaptive strategy. Adaptive strategies varied with each participant, yet there were general preferences to be near trees and green space, watch birds or squirrels, sit in the shade, and be near water to reconnect or recover from their daily stressors (Kaplan et al., 1998; Purcell et al., 1994). Some participants preferred open spaces to reduce their feelings of confinement or to watch the stream of outdoor activity. Others preferred “nooks and crannies” where they could study independently or have a moment of respite. Without such strategies, students may find life much more difficult and uncertain. The campus landscape may help students manage the demands of everyday life by boosting positive emotions, providing a sense of perspective on their life circumstances, and encouraging learning. Additionally, creating landscapes that support students’ needs for recovery may help them feel a sense of belonging to their college.

Students were also intrigued by the plants’ growth, maturation, metamorphosis, and struggle to survive. Nature may be the most information-rich and intellectually stimulating environment that students encounter outside the classroom. Nature facilitates opportunities for exploration and discovery eliciting considerable interest and appreciation for students’ learning. Several participants’ interest and engagement with the campus landscape helped them see their academic struggles as temporary. Plants change through their life span. Participants understood changes are part of life.

The connections to nature may also suggest how they experience their development or ability to cope with stress and anxiety, whether personal or academic.

Recuperation

Recuperation in the landscape as a theme in this study is consistent with similar themes found in other studies of how nature supports an individual's well-being and with the theoretical framework. Over half of the participants used the landscape to reduce stress and anxiety, restore positive thoughts, and recover after challenging moments on their academic journey. Studies from multiple disciplines support an association of nature with psychological well-being (Bowler et al., 2010; Bratman et al., 2021; Keniger et al., 2013; Lopes, 2020). Findings on this theme addressed the second research question: "What characteristics of the campus landscape do community college students consider to be most salient for their well-being?"

Studies show that contact with certain types of nature creates restorative responses. Open, naturalized, and planted spaces foster safety and comfort (Rakow & Ellis, 2019). A wide range of shapes and forms that mimic nature can be used to add depth and variety to the college campus (Kaplan et al., 1998; Kellert et al., 2008; Ottosson & Grahn, 2008; Rakow & Eells, 2019; Ulrich, 1979). Similarly, results of my study suggest that benefits accruing from access to nature in landscapes counter stress and recover students' mental and psychological states.

Stress and mental fatigue are cumulative concepts. Many sorts of issues come together to determine one's mental state on the continuum from relaxed to stressed to fatigued. It is influenced by two types of attention: voluntary and involuntary. Daily students require mental effort or voluntary attention to their studies but that can soon become overwhelming. On the other hand, involuntary attention allows the mind to recover. People often seek environments that are involuntarily interesting when they feel in need of recuperation, such as naturalistic environments (Kaplan & Kaplan, 1989). Participants required an involuntary moment to escape from life's demands and restore their voluntary attention (Kaplan, 1995). Campus settings permitted reflection and meditation—a moment

of beneficial involuntary attention from the sound of water flowing, dappled sunlight, leaves rustling, or antics of squirrels and fish—allowing students to recover and move on with their day.

Research confirms that people prefer windows with views of nature because they can provide opportunities to psychologically escape for a moment of respite (Hartig et al., 2011; Heerwagen & Orians, 1993). The value of windows is highlighted by the growing literature documenting the therapeutic effects of healthcare institutions' windows overlooking a green landscape view, which was associated with shorter postoperative stays for patients and lower doses of painkiller requirements (Ulrich, 1984). Findings of the current study suggest that contemplation is crucial for students to reduce their stress or anxiety and recuperate. Participants expressed a desire to contemplate classroom challenges, such as exams, papers, or questions from professors. A view out of a window onto the green landscape would support their ability to pause, reflect, and continue with the class.

Connection

Throughout the study, most participants described aspects of the connection to the campus landscape. These aspects of connection as a theme combine multiple concepts such as sense of belonging, sense of place, place attachment, familiarity, home, and being cared for and valued as a student on campus. Findings of connection addressed the third research question: “How do community college students describe the campus landscape attributions that contribute to or impede their success?”

How students perceive their ability or interest in navigating the landscape features of the campus will influence where they choose to spend their time and how they engage in campus life. Students' perceptions of the landscape are worth consideration in the context of student development literature, which has shown that students involved in the community life of the campus report higher levels of satisfaction about their overall educational experience, feel more connected to the college, and are more successful academically (Astin, 1984; Pascarella & Terenzini, 2005).

Perhaps the most striking finding from this study is that while community college campuses provide some form of landscaping, it is imperative that the landscape be intentional. Students can be

critically affected by the landscape's design, quality, and maintenance. Participants were acutely aware of how well the campus environment is supported, cared for, and valued. They felt that the care of the landscape was directly associated, whether positively or negatively, with how the campus administrators, staff, and faculty regarded them as students. Sense of belonging and being valued create conditions for deep and authentic engagement essential for learning and other forms of knowledge generation (Harper & Quaye, 2009; Rendón, 1994; Strange & Banning, 2015). A sense of being valued needs to be actively fostered. The landscape features and site elements of the physical campus environment have been demonstrated in the literature to have a significant influence on students' psychological sense of belonging and their perceptions that they matter, both of which are significant contributors to student retention rates (Bowler et al., 2010; Strange & Banning, 2015; Strayhorn, 2018).

Implications

Appreciation of, recuperation in, and connection regarding the campus landscape have implications for policy, practice, theory, and future research. Findings imply that, in my role as a faculty member, I should advocate for decisions about the campus landscape design to include the students. Developing the capacity of students to be leaders of their campus design, to play a role in evaluating the quality of the landscape and its spatial organization, and to take part in the selections of new site elements is crucial to their ability to feel a sense of belonging and ownership. Campus physical outdoor environments play a role in the accommodation and retention of community college students. The students' input enlightens key stakeholders about student priorities, preferences, and requirements for success in their academic journey. The campus landscape design may need to be refined and elevated to being fully enshrined in the institution's mission and vision statement to holistically support students' sense of belonging and academic success. Leaders need to think differently about the college landscape and how this offers another opportunity to support students' mental and physical well-being.

Limitations of this study result from choices made in the research design and my interpretations. Although it was a multiple-site study, findings are still limited by the number of institutions (6) and the specificity of the public, 2-year southern CCCs in urban settings. It is also important to consider possible bias in the responses. The students participating in the study were volunteers who may have had previous interests in landscape aesthetics. Qualitative research focuses on the narrative of small sample sizes, and caution must be applied, as the findings might vary with each student. However, these findings are encouraging in that they may reveal another source of student support readily available to students.

Implications for Policy

The quality of the campus landscape affects all the organization's individuals, operations, and priorities. Findings offer an opportunity to make changes within an institution that may prompt it to reassess its values, vision, and mission. These changes may be in the leadership. For example, the administrators may request that facilities planning, and management be deeply involved in the strategic education master plan process. It may also mean that students be included in campus planning, processes, and policies so that high-reaching goals for the campus landscape reflect diversity and placemaking. Campuses must support new and varied andragogy, including collaborative, highly interactive, and student-driven outdoor learning and living laboratories.

Implications for Practice

These findings suggest many students are in dire need of natural respites within their campus landscape. The campus setting should provide as many opportunities as possible for students to contribute to their growth and development. In this regard, the physical environment stands as a powerful component. In accessing this critical component of campus landscape design, practitioners must give adequate attention to the inclusion and design of specific elements and types of spaces. The key stakeholders and designers must now play an extensive and emerging role in creating the necessary conditions for improving campus landscape design that may have been overlooked with community college campuses.

This study's findings offer three implications for practice within the larger educational and design field. First, key stakeholders must open a dialogue with students to understand the landscape attributes necessary for their well-being and academic success. Administrators and designers have made assumptions and continue making assumptions about students' perceptions of their landscape. It is believed that community college students are indifferent to their campus landscape. However, these findings suggest many students are acutely aware of their landscape attributes. Second, campus attributes must be integrated into the college mission statement through intentional design, providing holistic environmental support for students' mental and physical well-being. Third, campus spaces must be as diverse as their student population. While students generally enjoy people watching, viewing art, and observing naturalistic features, some students also need solitude and privacy, away from the noise and traffic of a lively college campus. The campus designer must provide a scattering of "hidden places" throughout the campus landscape, appropriately designed and situated to serve students who vitally need a place of respite. It is necessary to reiterate that to understand the diversity on campus, planners and designers must create an open dialogue with students to understand how they perceive the campus landscape.

Implications for Theory

To properly frame this study, it was appropriate to meld two major person-environment interaction theories: (a) bioecological systems theory, developed by psychologist Bronfenbrenner (1979, 2005), and (b) campus ecology theory, developed by Banning (Banning & Kaiser, 1974; Strange & Banning, 2001, 2015). Individual development occurs as the developing person spends time in an environment, understands their experience, and acts effectively within the mesosystem that develops all aspects of a campus (Bronfenbrenner, 2005). The activities, social interaction, and physical spaces are all part of the campus as a mesosystem. For students, the simple act of exploring their campus supports their need for a temporary escape from the pressures of deadlines, exams, papers, and projects (Kaplan et al., 1998; Temple, 2014). This study suggests that students' need to step away from their daily pressures and find a landscape that supports their mental well-being is a

central component of their development. I believe that higher education theory has overlooked the significant role that the campus landscape plays in the development of students' interanimation into the fabric of campus life. The campus setting consists of all the stimuli that affect the students physically, biologically, and psychologically (Strange & Banning, 2015). Equally important, the impact of the campus is contingent on the holistic personality characteristics and qualities of the individual experiencing it (Strange & Banning, 2015).

Implications for Future Research

No research can ever encompass every aspect of the topic under consideration. I recommend that future studies address issues concerning variations in landscape needs in different populations, locations, or individuals being studied (Abraham et al., 2010). Examining landscape preference from various perspectives would help establish a more holistic impression of the issue and the studied groups or individuals. Additionally, researchers tend to focus on 4-year educational institutions or K-12 schools rather than developing research on community colleges campuses. More research in collaboration with psychologists is required to understand the mental health-promoting impacts of different landscape characteristics. Along these lines, I recommend more in-depth studies of belonging and place attachment for academically struggling students at 2-year institutions to elucidate these findings and the processes at play within the outdoor environment. Lastly, understanding how a particular age sector responds to fictional landscapes and how that affects their association to the campus landscapes may offer a nuanced understanding of how they would prefer to interact with their environment.

Recommendations

This study's findings and the empirical literature review may offer insights to the leaders of other community colleges searching for additional support for their students. Four significant recommendations for supporting administrators, facility planners, and practitioners are offered: (a) campus landscapes must be established as a principal asset, (b) alternative campus landscape spaces should be increased, (c) students should be connected to the outdoor landscape, and (d)

intentional landscape design should be embedded into campus planning to support all students' mental and physical well-being.

Establish the Campus Landscape as a Principal Asset

Outdoor spaces should be considered one of the institution's most valuable assets. Key stakeholders should be called upon to renovate and upgrade low-quality spaces that should be made more functional for students. Campus landscape planning and management must be aligned with the college's mission and vision. The campus landscape should be promoted as an essential institutional asset, and there should be a focus on understanding and responding to students' perceptions of the campus landscape.

Increase Alternative Campus Landscape Spaces

The number and variety of alternative spaces should be increased to allow students to choose from various outdoor spaces to accommodate both secluded areas and social gatherings. A mix of individual, informal learning, and group study spaces should be provided, balanced with open spaces for gathering, including trees, colorful plants, and a water feature. Adaptable furnishings should be offered that provide flexibility, comfort, and shade in the outdoor learning environment to allow people to determine how this furniture will be used. Comfortable seating should be positioned in welcoming areas so people can take advantage of views or nestle into a private space.

Connect Students to the Outdoor Landscape

Campus administrators should connect students to the outdoors to foster their curiosity, mental and physical well-being, and place attachment. Indoor spaces should take advantage of natural light and create a visual connection to the natural outdoor environment. Institutions should offer a variety of environmental settings to be shared and integrated into science and humanities curricula so campus landscape spaces can be used as living laboratories and facilitate learning.

Embed Intentional Landscape Design to Support Students

The college's mission and vision should be communicated by integrating connections to the campus through well-maintained landscapes, beautiful site elements, iconic buildings, and landmarks

to generate students' sense of belonging and place attachment. A holistic college approach should be developed that explicitly embeds intentional campus landscape design into campus planning. This approach will reduce students' anxiety and stress, restore their mental and physical well-being, and aid recovery for continued academic engagement.

Summary of the Dissertation

It seemed appropriate to end this study with the event that prompted the study: a panicked young woman entered my department begging to be near some green plants to calm down from an anxiety attack. Her dire need to be near nature underpins my assertion that campus landscapes can become a viable mental and physical support for students' well-being. Additionally, I heard the voice of a participant, Tate, referring to the campus landscape as a manifestation of how administrators cared for and valued students as belonging on the campus. Insights gleaned from Tate and the 22 other participants in the study confirmed findings from multiple studies that campus physical landscape directly influenced how students can reduce their anxiety and stress, restore their mental well-being, and sense of belonging, and recover to succeed in their academic journey (Gillen-O'Neel, 2019; Peker & Ataov, 2020; Rakow & Eells, 2019; Strange & Banning, 2015). The study's primary purpose was to consider whether phenomenological investigations of how students perceive their campus landscape can usefully inform campus design and planning.

At the outset, I had three goals for this study: (1) to understand how community college students perceive campus landscape characteristics, (2) to explore characteristics of the campus landscape that students consider to be most salient for their well-being, and (3) to increase understanding of how students describe campus landscape attributes that contribute to or impede their success.

Analysis of data collected produced five key findings that answered the three research questions of the study. The study's key findings were: (a) the effect of water features and diverse, lush, colorful naturalistic settings; (b) the importance of windows for contemplation; (c) the link between campus landscape and students' psycho-physiological health; (d) the influence of

environmental excellence on feeling valued and supported; and (e) the impact of campus landscape on participants' sense of belonging and place attachment. These findings are consistent with previous studies of the physical environment's influence on human behavior (Föllmer et al., 2020; Gillen-O'Neel, 2019; Holt et al., 2019; Howel et al., 2010; Norizan et al., 2018; Speake et al., 2013; Strayhorn, 2018). Findings of this qualitative study affirm the lack of community college student involvement in campus landscape shaping, planning, and decision-making, which may negatively influence students' well-being, academic persistence, and sense of value. The study also underscored the need to diversify, innovate, and create a bold culture of leadership and advocacy treating the campus landscape as a highly valuable asset that can support students.

The participants in this study described how the landscape added value to their experiences as college students and increased their ability to cope with daily stressors—illustrating a direct link between student mental and physical health and campus landscapes. Despite differences between the six campuses in terms of acreage, locations, architecture, and vegetation, participants developed lived experiences with surprisingly common characteristics and, as a result, a set of shared meanings. Three themes (appreciation, recuperation, and connection) emerged, illuminating how students preferred naturalistic campus settings that were visually and experientially rich and complex. Multilayered, these thematic meanings encapsulate the wide range of ways participants experienced and perceived their campus associated with their feelings, emotions, and meaning in their daily lives.

While Herzog et al. (2003) found that the prominence of vegetation (shrubs and trees), openness, and water presence was consistently significant in investigating landscape preferences, the study's findings also confirmed that students appreciate vegetation but a lush and complex mixture of plants and trees of various species. Openness was also addressed as some participants needed to feel unrestricted, and the ability to view the landscape from the classroom was necessary to reduce stress and anxiety. By contrast, other participants required places away from people with “nooks and crannies” to help them rest and recuperate. Water was a valuable strategy for students to calm themselves and settle their mindset before or after a challenging class. Participants' responses

and the literature demonstrated that one preference or appreciation of nature reinforces the other. As Zeta observed, it was through finding specific places on campus that he could recuperate and persist through his daily stressors. Participants' appreciation for aspects of the landscape showed a direct link between the campus landscape and students' psycho-physiological health. The inclusion of site elements that focused on the importance of outdoor campus items will allow campus planners and designers to understand how relevant a given element matters to students. Armed with this information, campus planners and designers can make assertions about student satisfaction with the outdoor campus environment and have better information for decision-making.

Drawing on an extensive range of sources, researchers sought to determine the different ways in which spending time in a naturalistic setting can help relieve stress and anxiety, improve well-being, and allow an individual's mind to recover from stimuli (Bratman et al., 2021; Brown et al., 2016; Hartig et al., 2003; Kondo et al., 2018; Lopes et al., 2020; Ulrich, 1991). The increasing disconnection with nature is related to deepening physical and mental health concerns (Rakow & Eells, 2019). Few educational institutions, especially community colleges, intentionally provided students with natural respite areas despite this expanding awareness. Many college students spend their time engaged in activities requiring sustained attention; it follows that they develop mental fatigue, stress, and anxiety (Hipp et al., 2016; Lu & Fu, 2019). Such activities do not allow the brain to recuperate yet spending time in a natural setting can restore the ability to solve problems, calm the mind, and increase concentration levels (Kaplan, 1995; Rakow & Eells, 2019). Bratman et al. (2015) reported that participants walking through a natural environment for 90 minutes lowered their levels of rumination and showed reduced neural activity in the area of the brain linked to risk for mental illness. Participants concurred the more time they spent in natural settings, the more they could reduce stress and anxiety. Bellamy acknowledged that testing can be challenging and a need for even a breath of fresh air would benefit her restoration for the next challenge. Participants searched out areas beneath trees, near water, or found places where birds or animals would be present so they could recuperate from their daily stresses.

The findings of this study confirmed Bronfenbrenner's (2005) contention that the individual's environment is enhanced if the person's initial transition into that setting is supported and valued through relationships or activities in the setting. Development of student identity is not restricted to making distinctions between oneself and others but extends with no less importance to place (Proshansky et al., 1983). This vital relationship between the environment and students' identity requires that higher education institutions better define how to articulate a sense of connection to the outdoor landscape. If this connection is disregarded, students' ability to function at optimal rates may result in increased performance errors, reduced ability to continue to focus, and reduction in problem-solving ability (Kaplan, 1995; Rakow & Eells, 2019). When individuals form emotional bonds with a physical space, place attachment and connection fuse with that physical space and there is a tendency to maintain a relationship with such a place (Botts et al., 2003; Hidalgo & Hernández, 2001). It follows that space metamorphoses occur when meanings are ascribed to them, such as when a campus becomes a "second home." Appropriate to a community college's smaller scale than 4-year institutions, a sense of "home" can be integrated into purposeful campus planning to support students' need for a place of familiarity, safety, and connection.

Participants equated the quality of the landscape, its level of maintenance, and its offerings with faculty, staff, and administrators' attitude toward students' academic success. In an academic environment, a student's sense of belonging to that institution creates an attachment to support their progress, retention, and graduation. The need for connection challenges higher education administrators to develop this sense of belonging in a student body that is highly diverse in ethnicity, race, gender, age, socioeconomic level, family, and work obligation. Much research on sense of belonging has focused on between-person correlations that result in overall feelings of well-being, self-actualization, resilience, persistence, and retention (Altman & Low, 1992; Bowler et al., 2010; Deil-Amen 2011; Hartig et al., 2014; Murphy & Zirkel, 2015; Scannell & Gifford, 2017; Scholl & Gulwadi, 2018; van der Berg & Van Winsum-Westra, 2010). Perhaps the most surprising finding of this study was the extent to which students believed that the campus landscape represents how

much they are valued by college personnel. This study substantiated that engaging in landscape excellence supports students' perceptions of their well-being as individuals valued by administrators, staff, and faculty, thus increasing their sense of belonging and place attachment. As the study also suggested, a sense of being valued and belonging can be fostered through intentional student-centered planning and design activities that support the diversity of students interacting in the same place.

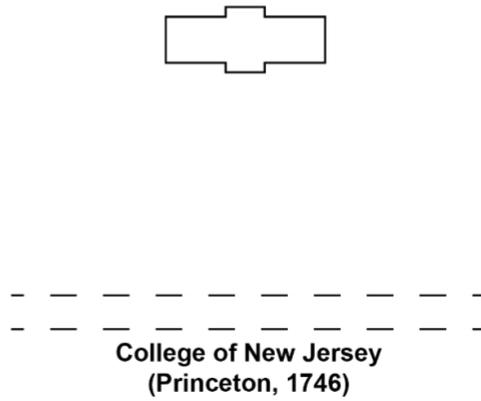
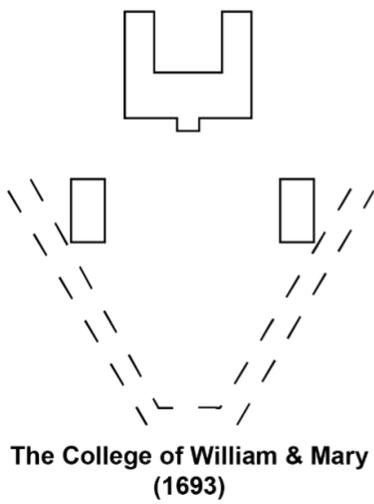
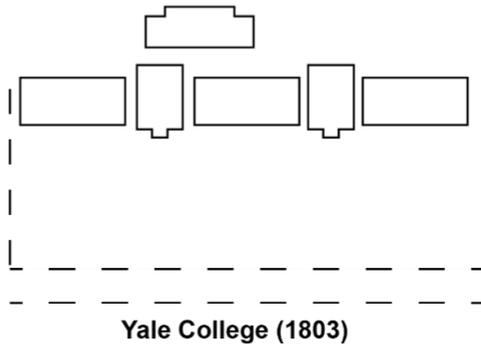
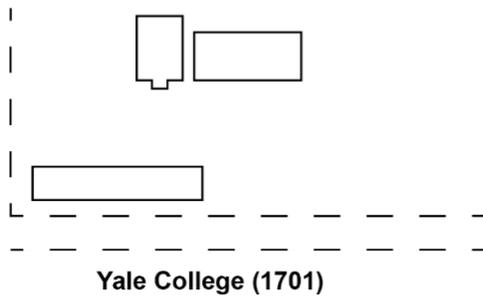
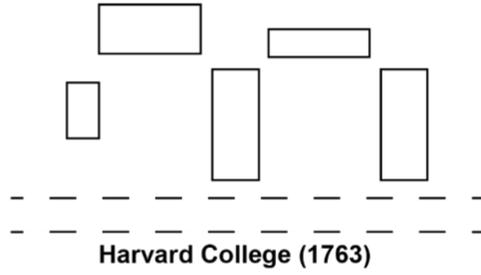
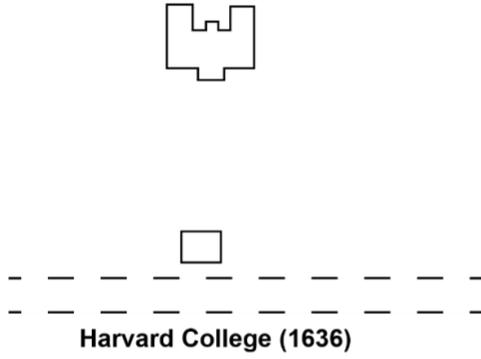
This study's findings suggest that phenomenology offers both a perspective and method of understanding the relationship between students' lived experiences and the campus landscape that can enhance other forms of traditional campus planning and design. This study represents an initial foray into community college campus planning and design focused on: (a) understanding how community college students perceive the campus landscape characteristics, (b) exploring characteristics of the campus landscape that students consider to be most salient for their well-being, and (c) increasing understanding of how students describe the campus landscape attributes that contribute to or impede their success. Understanding these three areas can inform campus planners and college administrators about (a) the potential of campus landscape to become a highly valued asset and support for students, (b) the link between campus landscapes and students' mental and physical well-being, (c) the influence of landscape excellence on students feeling valued and supported, (d) the impact of campus landscape on participants' sense of connection, and e) the impact of intentional student-centered landscape design informing academic persistence and success.

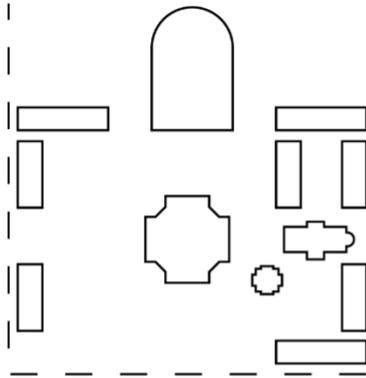
Factors of the landscape affect retention, attention, motivation, learning, and academic achievement. This view is supported in Banning and Kaiser's (1974) previous studies about how campus ecology is based on "issues of institutions changing, institutions adjusting, or institutions growing up, or more importantly, to the relationship between students and their environment" (p. 371). This statement implies a need for institutions to take responsibility for the campus environment and evolve into more inclusive and just spaces that support students. Thus, findings inform institutional

agents (faculty, staff, and administrators) with evidence for feasible, achievable, and targeted student-centered design approaches. In turn, this evidence can impact decisions to allocate limited institutional resources to campus planning, create a more inclusive and equitable landscape to support students, and provide a positive return on the institution's financial investment.

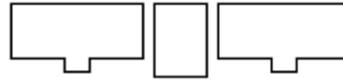
APPENDIX A

HISTORIC CAMPUS SCHEMATICS

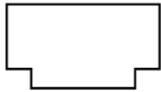




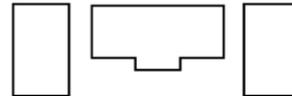
**King's College
(Columbia, 1754)**



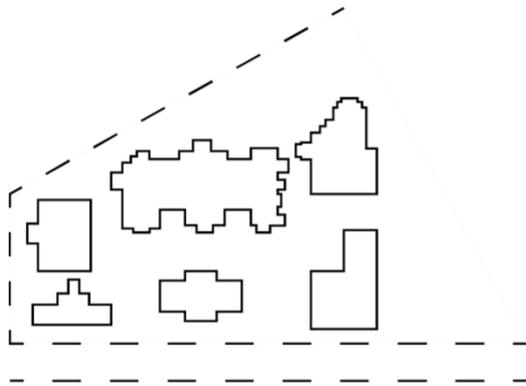
**College of Rhode Island
(Brown University, 1765)**



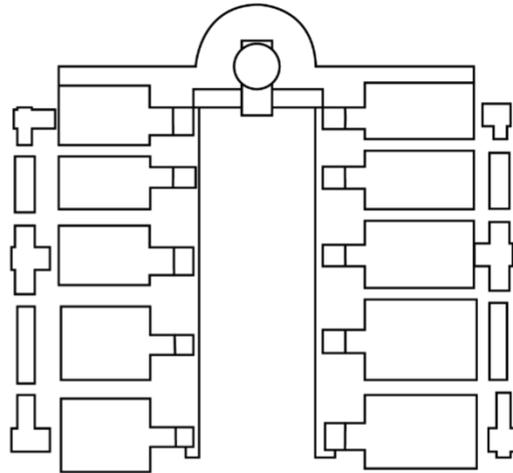
**Queen's College
(Rutgers, 1766)**



Dartmouth College (1769)



**College of Philadelphia
(University of Pennsylvania, 1769)**



University of Virginia (1819)

APPENDIX B

PRE-PHOTOVOICE EXPLORATION FOCUS GROUP SESSION

Hello, and welcome. Please feel free to grab some snacks and water. My name is Lori Pullman, and I am from CSU Fullerton. I am so glad you decided to come here today and help me with my research. As we explained to you through email, I will ask you some questions about the campus landscape. I want your help with your perceptions of the campus landscape. I am having discussions like this with students from several community colleges around the area. You were invited because you have been on these campuses for several semesters, so you are familiar with the campus landscape.

There were no wrong answers during the interview but somewhat different points of view. Please feel free to share your point of view, even if it differs from what others have said. Keep in mind that I am just as interested in negative comments as positive comments, and at times the negative comments are the most helpful.

You have probably noticed the microphone. I will be recording the session because I do not want to miss your comments. People often say very helpful things in these discussions, and I cannot write fast enough to get them all down. Since I am recording, that would be grand if one person could speak at a time. I ask for you to all fill out your name tags. Today, we will be on a first-name basis, and I will not use any names in my project. You may be assured of complete confidentiality.

You do not need to agree with each other, but you must courteously listen as others share their views. We ask that you turn off your phones or at least silence them. If you cannot and if you must respond to a call, please do so as quietly as possible and rejoin us as quickly as you can.

The study will take about an hour to take photos and briefly discuss what you photographed. You do not have to raise your hand or talk in any particular order. I will ask questions for you to answer.

<RECORDER ON>

Icebreaker

Well, let's begin. Let's find out a little more about each other by going around the table and introducing ourselves.

Please give your first name and how long have you been attending Campus XXX; just for fun, ***tell us what fictional or real-world place you would like to visit?***

Warm-Up Questions

I would like to start with just a few general questions about the campus.

First, are you aware of the campus landscape?

What do you remember or think about the campus landscape?

Rapport Building and Focus Questionnaire

Please take a moment and fill out the questionnaire – again, there are no wrong answers.

APPENDIX C

QUESTIONNAIRE

(Please note these questions are optional, and data and responses will be confidential)

1. What is your gender identity?
 - Woman**
 - Man**
 - Genderqueer or non-binary**
 - Agender**
 - None of the above**

2. What is your racial or ethnic identity?
 - African American/Black**
 - American Indian/Alaska Native**
 - East Asian**
 - Hispanic/Latinx**
 - Middle Eastern**
 - Pacific Islander**
 - South Asian**
 - Southeast Asian**
 - East Asian**
 - White**
 - Multiracial**
 - None of the above**

3. What is your age?
 - 18 to 24**
 - 25 to 34**
 - 35 to 54**
 - 55 to 74**
 - 75 or older**

4. Are you a person with a (dis)ability?
 - Yes**
 - No**

5. Are you a veteran?
 - Yes**
 - No**

6. Are you a full-time or part-time student?
(full-time = you must be enrolled in at least 12 credit hours)
 - Full-Time**
 - Part-Time**

7. Do you plan on enrolling the following next semester?
 - Yes**
 - No**

8. Are you typically on campus during?
Select all that apply
 - Day: sometime between 8 am-Noon**
 - Afternoon: sometime between 12:30 pm to 5:00 pm**
 - Night: sometime between 5:30 pm – 11:00 pm**

9. How many hours a week do you spend on campus?
 - Less than 5.5 hours**
 - 2 – 16 hours**
 - 17 – 34 hours**
 - 35 – or more hours**



Strongly Disagree



Disagree



Neutral Meh



Agree



Strongly Agree

The campus landscape has enough sitting areas

The campus offers an appealing first impression

The overall campus landscape is aesthetically pleasing

The campus landscape promotes relaxation in my day

The campus landscape influenced your decision to attend this college

The campus landscape promotes safety and security

The campus landscape provides sufficient amounts of trees

The campus landscape provides a sufficient amount of planting

The campus landscape makes me want to continue to attend this college



None of the time



Rarely



Some of the time



Often



All the time

I feel calm when I am in the campus landscape

I feel safe in the campus landscape

I feel relaxed in the campus landscape

I feel comfortable in the campus landscape

I feel glad to be at this campus

I feel proud to be a student of this campus

I feel that I would prefer another campus

I feel people at this campus show me respect

I feel understood at this campus

I feel welcomed at this campus

I feel people accept me at this campus

I feel I can be successful at this campus

1. Have you seen something on another campus landscape that you wish was at your campus?
Please list below.

2. If you could add or change one thing about your campus landscape, what would it be?

APPENDIX D

PHOTOVOICE EXPLORATION INSTRUCTIONS

Now that we are all warmed up, I would like all of you to take these digital cameras with 24 exposures and walk around the campus taking pictures of what you like the most about the campus landscape and what you dislike about the campus landscape. Maybe where you like to spend time. I believe you could accomplish this in 30 minutes. You do not have to take many pictures. Please do not take photos of people. After you finish, please come back here to finish the study. Have FUN!

Before you go off to your special places, let me take a picture of you with your digital camera to keep track of later when I am gathering all the data.

Does everyone have the time? I have XX:XX a.m./p.m. How about all of you? Great. Please come back to this room, and I will see you all back here at XX:XX. (30 minutes)

APPENDIX E

POST-PHOTOVOICE EXPLORATION FOCUS GROUP SESSION

*Welcome back. Let me collect the cameras and tag your photos as you have your lunch.
Please mark on the aerial photos where you believe you took your photos.
<after the participants finish their lunch, begin the questions>*

Transition *Now, I would like you all to be more specific about the campus landscape. May I ask you just a few more questions?*

- Main Question Set 1
- I will ask you to close your eyes and imagine yourself walking through the campus the way you usually go and think about what that looks like and how it feels. If you are uncomfortable with your eyes closed, think about that walk.
 - How much time – give or take – do you spend walking through the campus before entering your classroom?
 - As you come onto the campus either a car, bus, or foot, what feelings are evoked when navigating through the campus? What contributes to those feelings? Why?
 - What do you find most appealing on campus? Can you describe to me why those elements are most appealing to you?
 - Is there an area on campus that provides a “wow” factor? If so, where and what is it?
 - What could be taken away or eliminated that would not affect you all that much?

Transition *Now, I would like to discuss how the campus landscape may support your well-being.*

- Main Question Set 2
- When you feel challenged in whatever way, what are some things in the environment that help support you as you work through those challenges? Or how it sustains you? Or how does it help you to keep going?
 - When you come out of a space that has been tense or challenging or overwhelming – like a midterm – in what ways is the landscape able to help you find balance, again?
 - Where do you find comfort or rejuvenation on campus? What outdoor activities help you rejuvenate?
 - Are there aspects of the campus landscape that you feel helped you to be successful in your academic pursuits? What about the landscape helped you achieve those goals?

Wrap-Up Question *These are all the questions I have for you. Is there anything else you would like to know about the project or the campus landscape?*

*Thank you for your time. It was a pleasure to meet all of you.
Your answers will be very helpful as I move forward with this project.
I will give you your gift cards on your way out.*

APPENDIX F**EMAIL LETTER OF INVITATION**

Dear Student,

Hello! My name is Lori Pullman, and I am a doctoral student at California State University, Fullerton, in the College of Education, Community College Leadership Program. I am also a professor in horticulture at Orange Coast College. The purpose of this letter is to invite you to participate in my research study called "Landscape, Well-Being, and Resilience: A Qualitative Study of Community College Students' Perceptions of Campus Attributes."

The purpose of this study is to learn more about the experiences of community college students in the campus landscape. If you meet the criteria for this study, I encourage you to participate. You must meet two criteria: 1) have been on campus for at least one semester, and 2) over 18 years of age. This study aims to learn from your perspectives on campus landscape characteristics to improve the success of campus planning.

You will be asked to share your experiences in a 5-minute questionnaire, a 30-minute photo collection activity, and a 20-minute audio-recorded interview on your campus. You will receive a \$25 Target gift card at the time of the interview as my thanks for your participation.

This study involves no more than minimal risk. A pseudonym (another name) will be used to identify each person who participates so your identity will remain confidential. I am the only one who will have access to the study data.

Your participation in this study is voluntary. You can choose not to answer any question, and you can withdraw from the study at any time. There will be no negative consequences if you choose not to answer or to withdraw during the study.

If you would like to participate and receive a \$25 Target gift card or have any questions, please contact me at xxxxxxxxxx@csu.fullerton.edu or text xxx-xxx-xxxx.

Thank you,
Lori Pullman

APPENDIX G
RECRUITMENT FLYER



ATTENTION STUDENTS

If you are a community college student who has been on this campus at least one semester, over 18 years old, and would be willing to talk to me about how you experience your campus landscape, I need your input for my study!

[Participant's identity and research records will be kept confidential.]

Participants will receive a \$25 Target Gift Card as a token of appreciation to be in the study.

MY NAME IS LORI PULLMAN AND I AM A PROFESSOR IN LANDSCAPE HORTICULTURE AT ORANGE COAST COLLEGE AND A DOCTORATE STUDENT AT CSU FULLERTON

**IF YOU WOULD LIKE TO PARTICIPATE, PLEASE
EMAIL ME AT XXXXX@CSU.FULLERTON.EDU
OR TEXT: XXX-XXX-XXXX**

HSR-20-21-433

APPENDIX H

CONSENT FORM

California State University Fullerton Research Study Consent Form

Study Title: Landscape, Well-Being, and Resilience: A Qualitative Study of Community College Students' Perceptions of Campus Attributes

Protocol Number: HSR-20-21-433

Researcher: Lori Pullman, Ed.D. candidate, College of Education, Educational Leadership Department, xxx-xxx-xxxx

Advisor: Meri Beckham, Ed.D., xxx-xxx-xxxx

You are being asked to take part in a research study carried out by Lori Pullman, a graduate student in the California State University, Fullerton (CSUF) Doctorate in Community College Educational Leadership Program. This consent form explains the research study and your part in it if you decide to join the study. Please read the form carefully, taking as much time as you need. Ask me to explain anything you don't understand. You can decide not to join the study. If you join the study, you can change your mind later or quit at any time. There will be no penalty or loss of services or benefits if you decide to not take part in the study or quit later.

What is this study about?

This research study is being conducted to investigate how community college students perceive their campus landscape that can support their mental and physical well-being. You are being asked to take part because you have identified yourself as student at least one semester before COVID-19 restrictions closed campuses. Participating in the study will take about 60 to 90 minutes. You cannot take part in this study if you are under 18 years of age.

What will I be asked to do if I am in this study?

If you take part in the study, you will be asked to review and sign this consent form, and then participate in a photo collection activity and a group interview session that will be audio-recorded with your permission.

The interview questions will be about how community college students perceive their campus landscape that can support their mental and physical well-being. You will be asked to share your perspectives on your campus' landscape characteristics. During the interview, you do not have to answer any questions that make you uncomfortable. If you choose not to answer, there will be no consequence and you will still remain a part of the study.

Are there any benefits to me if I am in this study?

There is no direct benefit to you from being in this study, but your participation will contribute to our knowledge and understanding of campus planning and this may help others in the future.

Are there any risks to me if I am in this study?

There is no more than minimal risk for participation in this study.

Will my information be kept anonymous or confidential?

The data for this study will be kept confidential to the extent allowed by law. I will use a pseudonym (alias) in place of your name in the documents associated with this study. No published results will identify you, and your name will not be associated with the findings. Under certain

circumstances, information that identifies you may be released for internal and external reviews of this project.

The data for this study, including recordings, will be kept on a password-protected computer and/or in secure cloud storage. I am the only person who will have access to the study data.

The results of this study may be published or presented at professional meetings, but the identities of all research participants will remain confidential.

The data for this study will be kept for a minimum of 3 years as required by CSUF, and then indefinitely, for future educational use, presentations, and publications. Data will be kept to ensure accuracy in future analysis.

Are there any costs or payments for being in this study?

There will be no costs to you for taking part in this study. If you complete all portions of this study in their entirety, there are no promises of grades or extra credit, but there will be an incentive—a \$25.00 gift card to Target.

Who can I talk to if I have questions?

If you have questions about this study or the information in this form, please contact me, Lori Pullman, at loripullman@csu.fullerton.edu or xxx-xxx-xxxx. If you have questions about your rights as a research participant, or would like to report a concern or complaint about this study, please contact the Institutional Review Board at (657) 278-7640, or email irb@fullerton.edu.

What are my rights as a research study volunteer?

Your participation in this research study is completely voluntary. You may choose not to be a part of this study. There will be no penalty to you if you choose not to take part. You may choose not to answer specific questions or to stop participating at any time.

What does my signature on this consent form mean?

Your signature on this form means that:

- You understand the information given to you in this form
- You have been able to ask the researcher questions and state any concerns
- The researcher has responded to your questions and concerns
- You believe you understand the research study and the potential benefits and risks
-

Statement of Consent

I have carefully read and/or I have had the terms used in this consent form and their significance explained to me. By signing below, I agree that I am at least 18 years of age and agree to participate in this project. I will be given a copy of this signed and dated consent form to keep.

Name of Participant (please print) _____

Signature of Participant _____ Date _____

Signature of Investigator _____ Date _____

Your signature below indicates that you are giving permission to audio- and/or video-record your responses.

Signature of Participant _____ Date _____

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