

Place attachment to campus and community green spaces

by

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Abstract

Green spaces, also referred to as natural or built environmental spaces, are growing in popularity across the nation, potentially increasing the forming of person-place bonds also known as place attachments. In this increase, many universities and their surrounding communities incorporate these green spaces into their design, further providing opportunities for research. This study aims to investigate if factors of the individual's campus environment (e.g., the role of the individual on campus and past use of campus green space), influence their level of place attachment to campus or the community green spaces. An online Qualtrics survey was sent via email to the K-State community (i.e., students and faculty) asking questions related to place attachments. The results showed that place attachment bonds exist at the Kansas State University campus and in Manhattan, KS. However, graduate students presented much lower place attachment scores compared to their university population counterparts highlighting the influence an individual's role within the population has on an individual's place attachment. Furthermore, these results provide universities with information on how to allocate their resources among the campus green spaces which could result in higher place attachments among students and faculty in the future.

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Chapter 1 - Introduction

Background

The world is becoming more urbanized, and as of 2018, 55% of the population resides in urban areas (United Nations, 2018) making the disappearance of natural and scenic areas more common. Nations across the world have been working to combat this urban encroachment through sustainable development including the creation of natural or human-made green areas, which has gained popularity in recent years (Larson et al, 2016; Ma et al, 2018). These areas, coined green spaces, contain large amounts of vegetation and can be developed in compact spaces making them popular within large cities and suburbs (Canfield & Gibson, 2016; United Nations, 2018). These green spaces can be categorized into types that are found in both public (e.g., parks, sports complexes, reserves) and private (e.g., residential backyards or corporate campuses) settings. Due to this variety, green spaces have opened many avenues of investigation (e.g., user conflict, crowding, visitation numbers) for researchers and social scientists within the natural resources and community planning fields (Wolch et al, 2014). One of the more prevalent areas of inquiry within these fields is that of place attachment. This environmental psychological concept often is defined in terms of the emotional (e.g., place identity) and personal (e.g., place dependence) bonds individuals form within these environments (Scannell & Gifford, 2010; Rioux et al., 2017). Many researchers consider it a process for individuals to create a sense of home, and therefore it can be investigated in many green space contexts such as neighborhoods, public parks, or any other public green setting (Hidalgo & Hernandez, 2001; Lewicka, 2011). This consistent exposure to these natural areas allows individuals opportunities for reactional activities, social gathering, and visual aesthetics, which influence their attachments to their home and those environments. When shifted to an academic perspective, many undergraduate students

undergo stressful life transitions away from their homes and form place attachments to the University campus to help reduce this stressor (Qungjiu & Maliki, 2013, Vitagliano et al., 2023). However, place attachment is only one of the many aforementioned areas of inquiry within green space literature. Often, researchers find overlaps between place attachment dimensions and other areas of inquiry, one of which is an individual's quality of life.

Commonly separated into the dimensions of physical and mental well-being, quality of life has uncovered many connections to green spaces and the influence they have on an individual. Research conducted by Wolch (2014), and Ma (2018) associated many indirect benefits with improving the quality of life for individuals within large urban cities. These green spaces produce many ecosystem services which help improve public health, combat pollution, mitigate noise, cool temperatures, maintain the city's integrity by filtering air, and much more (Wolch et al, 2014; Ma et. al, 2018). Additionally, previous research has resulted in green space and quality of life being connected through many other dimensions that provide direct benefits to individuals. One of these dimensions that has been heavily investigated is the individual's mental and physical health through their proximity and place attachment to these green spaces. Many researchers have found that individuals within walking distance of green areas and natural spaces tend to generally have better overall health (Larson et al., 2016). Also, proximity to green areas encourage residents to gather and form social connections further increasing their place attachment and quality of life (Gibson & Canfield, 2016; Nisa et. al, 2020; Vitagliano et. al, 2023). Furthermore, many higher education institutions (e.g., universities, community colleges) have recently begun promoting, developing, and preserving green spaces on campus (Vitagliano et al., 2023) adding another dimension of green spaces to investigate.

Many researchers have found a connection between students' quality of life and campus green spaces. With the stressors of academic achievement, social identity, and new life transitions, green spaces have been seen to aid in reducing anxiety and other mental illness among college students (Follemer et al, 2020). This influence on mental health thereby influences the individual's physical health which is an additional connection seen among these campus green spaces. In 2022, Stepansky and company's pilot study uncovered evidence supporting the idea that "active engagement in green spaces has the potential for positive influence on the quality of life." (pp. 6). Similar findings have been concluded by McFarland and company (2008) in their investigation into campus green spaces and students' quality of life. Their study concluded, "students who used campus green spaces more frequently perceived their quality of life as higher" (pp. 237). While these studies have worked towards understanding this relationship between academic green spaces and quality of life, gaps remain within the academic scope that have yet to be thoroughly investigated which could prove bountiful in information.

Statement of Problem

While green space research is quite extensive, one topic of inquiry seems to have become stagnant. Place attachment to local and university green spaces is an area in which gaps are not being filled, especially within the populations (e.g., residents, incoming students) researchers are choosing to investigate. Many researchers focus on residents' place attachment to a certain park, natural area, city, state, or country (Budruk et al, 2009; Lewicka, 2011; Romolini et al, 2019, Eshariti & Gibson, 2021), but when shifted to an academic scope the focus remains on undergraduate students' place attachments to campus, not campus green spaces. Undergraduates have remained the focus of place attachment research so much so that additional predictors within their environment (e.g., history of past usage, residency length, etc.) and population (e.g.,

undergraduates, graduates, faculty, staff) are being overlooked or understudied. Little investigation within the academic scope has focused on graduate students or faculty members' place attachments to campus and its green areas in addition to undergraduate students (Lewicka 2011).

Furthermore, despite all the literature that has contributed to place attachment research, only two scales of measurement have been formed, until recently. The initial place attachment scale created by Williams & Vaske (2003) focused on place identity (emotional bonds) and dependence (personal bonds). While an initiation into the measurement of place attachment dimensions, society has become highly urbanized and natural landscapes have been encroached upon. It was soon realized the focus of this scale was aimed primarily towards recreational and natural areas (Lewica, 2010). The second scale developed by Scannell & Gifford (2009) expanded upon the first by breaking place attachment into a three-dimensional framework (e.g., person, process, place) which allows for more adaptability to the changing urbanized world. However, while this improved how researchers understand place attachment within urban green spaces, these scales did not measure well across disciplines outside of the natural resources and social sciences (Boley et. al, 2021). This newly developed scale by Boley and colleagues builds upon the previous place attachment frameworks by adding an additional dimension allowing for 12 items in total. Boley (2021) has found this scale to reduce the burden upon participants to respond, and yet this scale has not been utilized among multiple disciplines, which would further solidify its confirmed validity.

Significance

This study aims to close the gaps within place attachment and green space research and literature in two ways. The first will be to expand upon the university and college sampling

population outside of undergraduate students (e.g., freshmen, sophomores, juniors, and seniors). This sampling group was commonly chosen because researchers believed students reduced variability due to their differing levels of education (Hanel & Vione, 2016). While that could be the case, little research has investigated graduate level education (e.g., master, and doctoral candidates) in addition to undergraduate levels. This research will be administering an online place attachment questionnaire to the entire university campus population (e.g., undergraduate students, graduate students, and faculty members) asking participants questions regarding their usage and preference of green spaces within and around the university and surrounding community. This expansion within the population helps to better understand the campus community and begins working toward closing the gap within place attachment literature.

Additionally, the second way this research contributes to the literature is by implementing the newest place attachment measurement scale. Within the last two years this new, multidisciplinary place attachment scale was created. Despite this push toward a more inclusive understanding of place attachment, little research has been conducted using this scale. Through the online questionnaire, this scale is implemented through questions aimed at the participants' personal experiences and preferences. For example: "I feel very attached to *insert location*" or "No other place could compare with *insert location*." The use of this scale and this questioning format helps to better understand the place attachment of the university population while reducing the participation burden. Future research could continue this investigation of higher education using this newly formed scale at different universities to see if a commonality is uncovered among university populations.

Chapter 2 - Journal of Leisure Research Thesis Manuscript

Introduction

Open. Scenic. Natural. Green. All these words can be used to describe the built environmental spaces showing an increase in community development across the nation. These green spaces encourage recreational activities within urban settings as well as provide the aesthetic visuals individuals enjoy (e.g., beautiful scenery, water features). Moreover, previous research indicates this increase in recreation opportunities increases the overall physical health of community members (Gibson & Canfield, 2016). Additionally, over the years, these spaces have the potential to shape person-place bonds, also known as place attachments. Forming person-place bonds has resulted in many social and health benefits such as improvements in an individual's quality of life (McFarland et al., 2008; Xu et al, 2015) and mental health (Foellmer et al., 2021.)

Many universities and their surrounding communities across the nation have focused on the incorporation of green spaces within their campus and communities, thereby opening new approaches to place attachment in natural resource and community development fields. Kansas State University and small-town Manhattan, Kansas have various green spaces located throughout the campus and community. These spaces provide locations to study place attachment of campus green spaces as a way to uncover avenues towards individual health, well-being, and potentially retention of students and faculty. However, as of now, minimal research has been seen regarding campus faculty or staff having place attachment to campus, to the town, or its green spaces. Moreover, limited research focuses on the entirety of the university population (e.g., undergraduates and graduate students with the inclusion of faculty.) This paper aims to investigate if factors of the individual's campus environment (e.g., role of the individual

on campus and past use of campus green space), influence their level of place attachment to campus or community green spaces. This research can help to close a gap in university population studies, while furthering place attachment literature. Furthermore, the success of this investigation then will lead to an increase in campus and community developers' understanding of place attachment and how it relates to the attributes of the campus and rural town community.

Literature Review

Place Attachment

Place Attachment, defined as “a positive affective bond between an individual and a specific place” (Hidalgo & Hernandez, 2001), continues to be a popular area of inquiry as a socio-psychological construct, rendering years of research and theoretical maturity. Broadly, place attachment can be categorized into two dimensions: place identity and place dependence. Psychological research associates cognitive processes, more specifically interpersonal attachments, as a key component of these dimensions. The first dimension, place identity, is the emotional and significant aspect of the individuals to a place or location. According to Nisa et. al (2020), “interpersonal attachment strongly shapes individual’s identity, thus conceivably also becoming a critical factor in place identity” (p. 2).

The second dimension, place dependence, is when the individual relies on a place or resource. This dimension functionally and typically refers to an area’s physical characteristics (Williams & Vaske, 2003). The reliance an individual is dependent on pertains to how well their goals and motivations are fulfilled. These preferred goals and activities are influenced and shaped by interpersonal attachments (Nisa et al, 2020). The influence of attachments to goals often can produce outcomes such as frequent visitation or the achievement of goals and activities

that are specific to the area. Place attachment has been linked to place across scales including home, cities, community green spaces, and iconic national parks (Scannell & Gifford, 2010; Rioux et. al, 2017), among others, and can be considered an important predictor of how people interact with their environment.

While there had been previous, initial studies on measuring and understanding place attachment, Williams and Vaske (2003) were among the first to develop and test a place attachment scale across settings and populations. This scale was primarily focused on natural recreation spaces, and included a two-dimensional scale, place identity, and dependence, that has become a widely accepted place attachment scale among researchers in the natural resource sciences and beyond (Williams & Vaske, 2003).

Several years later in 2010, Scannell & Gifford developed the person-process-place (PPP) framework. This framework considers behavior as another dimension of place attachment in addition to identity and dependence. The addition of this dimension to place attachment helps to provide a psychological element to person-place bonds. According to Scannell & Gifford (2010), these emotional-cognitive aspects and cultural place values, such as belongingness and connection, helped expand the place attachment influences and strengthen individual and group place attachments, sense of belonging, and wellbeing. Moreover, related to the natural resource sciences, a higher place attachment generally results in more pro-environmental and pro-restorative environment behaviors towards a place (Scannell & Gifford, 2009, p. 295; Scannell & Gifford, 2010, p. 3). The PPP framework continues to be an area of inquiry that is investigated in the psychology sciences; however, the scale developed by Williams and Vaske remain the typical point of reference for the methodology of many natural and environmental sciences.

After the PPP framework by Scannell & Gifford (2010) was validated, research into place attachment scales continues to explore new items of measure. The PPP framework is a reference point for many natural sciences that propose to expand its applicability. The most recent extension of the place attachment scale is the Abbreviated Place Attachment Scale (APAS). It provides a six-item measurement of place identity and dependence (Boley et. all, 2021). While these efforts did not work to minimize the social bonding measure, “it effectively opens the door to more psychological constructs to be included within a survey that will enable researchers to better understand the precursors (e.g., social ties) and outcomes of place attachment (e.g., loyalty to a place)” (Boley et al., 2021, p. 10). Boley et. al (2021) go on to state that “the ability to better understand the context in which different behaviors linked to place attachment occur advances the theory of place attachment” (p. 10). However, since this validated scale has been developed recently, it has yet to be tested across certain populations. An additional aim of this research is to investigate the APAS scale as applied to a campus population which will be outlined in the methodology.

Attachment to Green Spaces

Green spaces have been primarily utilized throughout different cultures and societies for the past two centuries. Green space can be defined as a “natural or human-modified urban outdoor environment containing significant amounts of vegetation (Budruk et. al., 2009, p. 825). These spaces (i.e., public parks, rooftop gardens, etc.) provide an area to find a sense of serenity and escape from everyday life. Based on this classification, greenspaces do include areas that have been modified by humans --- therefore may not be considered “natural” in the strictest sense of the word. That said, all green space included “significant amounts of vegetation” and

therefore is required to be natural to some degree. According to McFarland et. al. (2008), “Individuals who have access to natural settings were happier with their home, job, and life in general” (p. 232). Additionally, green spaces (both modified and unmodified by humans) are providers of a variety of environmental services such as wildlife biodiversity, landscape, and aesthetic features, recreation and amenity opportunities, water services, and storm protection. (Barton et. al, 2009).

While these multifunctional green spaces provide a variety of environmental benefits, researchers have investigated their relationship with individual and societal benefits as well. This ongoing field of research has linked greenspace access with reduced stress, enhanced mood, replenished mental fatigue, faster illness recovery, and better health overall (Barton et. al., 2009; Foellmer et. al, 2021). The health benefits associated with green space access could also help explain the individual attachments formed. Individuals and communities can form different types of attachment (i.e., nature or social bonds) which can then enhance these green spaces with individual, cultural and communal values. According to Raymond, Brown, & Weber (2010) “individual connections to places are dynamic and encompass a broad range of physical settings such as resident, recreational, and leisure settings” (p. 425).

As such, over the last 20 years, place attachment research has shifted from a focus on attachment to the home and neighborhoods to attachment to outdoor recreation spaces. The development was likely driven by several factors including the conversion of rural areas into recreation and leisure areas such as public parks (Larsen, 2004) or the increase in spaces aimed towards individual and community growth (Lewicka, 2011).

Moreover, recreational opportunities that green spaces provide to rural and urban residents alike may enhance dependence on a place based on the services it provides. Certain

green spaces and urban parks might provide services better suited for specific activities (Budruk et al. 2009), potentially increasing resource dependence for individuals. Additionally, previous research has shown green spaces that are located closer to residential areas result in the development of place identity. This development of place identity could be due to the lack of additional options in their area or the shorter proximity from their homes, but these green spaces provide easy access to the individual of all ages resulting in frequent visitation (Romonlini et al, 2009) and enhanced attachment to the place (Lewicka, 2011). As the psychological aspects of place attachment have matured, so too has the application expanded to green spaces at the local and national level, as well as green spaces in uniquely situated and purposively designed landscaped such as community centers and college campuses.

Place Attachment to Community and Campuses

While an increase in dimensions of place attachment can be seen in the residential and natural settings (Lewicka 2011), a focus on these dimensions in a strategically designed university or campus setting should be further investigated. Major changes in environment or lifestyle are considered stressors to most individuals. Many young adults consider this stressor to be moving to a university or community college due to strong attachments to their hometown or neighborhood. These students tend to struggle with this transition because their sense of normalcy has been disrupted (Xu et. al, 2015). Even less research has explored this same transition for faculty and staff that may have relocated for a new position.

According to Xu et. al (2015), “students [...] whose sources of safety and identity are threatened have to develop associations with a new place, resulting in a more daunting transition” (p. 95). When this new identity development or sense of community becomes stalled,

students typically withdraw or fail because of adjustment to environmental factors rather than intellectual difficulties (Qingjiu & Maliki, 2013). However, properly managed green spaces in built environments have been important for individual and community well-being and could provide the space needed for these students (and incoming faculty alike) to form new attachments. Previous research has shown that while students are integrating into their new college lives, University campus green spaces provide an area for these students to adjust, adapt, and cope (Qingjiu & Maliki, 2013). Additionally, studies have linked college campuses' green spaces to physiological benefits and a higher quality of life (Foellmer et al., 2021). This coincides with the idea of green spaces as a classification for the desirability of attending college (e.g., McFarland et.al, 2008), or working on a college campus. Therefore, it becomes important to understand factors that influence the development of place attachment on places like college campuses.

Factors Influencing Attachment to Place

A highly investigated influence on place attachment is the individual user's past use history or experience with a place. According to Manning (2010), "research has suggested a relationship between previous experience with a setting and attachment to place" (p. 264). For public parks and other natural spaces, past use could influence place attachment due to dependence on services provided (Budruk et al. 2009), enjoyment of aesthetics (McFarland et al, 2008), and personal benefits gained when in the space (Foellmer et al., 2021). Moreover, this relationship between user history and experiences has been analyzed in residential areas as the resident's length in coordination with their ties to the community. Researchers found this combination was "consistently found to positively predict place attachment" (Lewicka, 2011, p. 217). While past

use has been previously explored and understood, it is unclear if past use of green space influences attachment to a college campus, or broader town setting, specifically by a college community beyond the often-studied undergraduate student population that is usually only living on campus or in town for two-four years.

Undergraduate students have generally received the most attention when studying place attachment to a university campus. For instance, McFarland and colleagues (2008) investigated undergraduates and their perception of quality of life at a university. Relatedly, Qingjiu and Maliki (2013), aimed to fill the gap in place attachment literature by investigating the influence and intensity of campus environment to place attachment among undergraduates. More specifically, they focused on 114 undergraduate students of varying study levels (freshman to senior). Both studies proved to an extent that undergraduates experience place attachment to campus especially when green spaces or other open gathering spaces are available to students. However, while undergraduate students are heavily explored at the campus level, limited research has explored place attachment to campus and community green spaces for the entire campus community (e.g., students, faculty, and staff). Next to no literature can be found linking faculty place attachment to college campuses or their green spaces. However, the retention of employment within the university could highlight their campus attachments.

This research aims to help close this research gap and help further place attachment literature. Moreover, this research can help to inform the university and town of the campus demographics that use the campus and town green spaces as well as the individual factors that might influence the attachment and use of those spaces. This research can help inform the allocation of campus and municipal resources for green space to better the lives of students and community members.

Research Questions

How does past use of campus and community green spaces influence the level of place attachment to campus and community for students and faculty?

1. Does the past use history of campus green spaces have an impact on place attachment to Kansas State University and the Manhattan community?
2. Does past use of community green spaces have an impact on place attachments to Kansas State University and the Manhattan community?
3. Does the role of the individual on campus (e.g., students and faculty) influence place attachment to Kansas State University and the Manhattan community?

Methodology

Research Site

This research will focus on two locations: Manhattan, Kansas, and Kansas State University (located in Manhattan, KS). The town of Manhattan is located at the meeting point of the Big Blue and Kansas rivers and was founded by three groups of Anglo-American settlers in 1855. The town is well known for its influence on agriculture as it was a region that “became noted for its shorthorn herds and fine horses as well as its pure-blood Berkshire and Poland China swine” (NPS, 2012, pp. 12) in the early years. During that time, the city became more established, and by 1870 Manhattan became one of the few towns to reserve centrally located blocks for public parks (NPS, 2012). The inclusion of these green spaces contributed to the bounty Manhattan was reaping not only from the agricultural economy but also from the societal benefits as the town grew and developed around the establishment of Kansas State University.

Kansas State University established in 1863, is the country's first Land Grant Institution (2022). It has since remained the state's foremost University for Agricultural production, Military tactics, Mechanical arts, and Classic studies. Kansas State University offers "250 majors and options" in addition to faculty in "90 research centers or facilities" (Kansas State University, 2022). The campus also includes many open and accessible green spaces for the public and members of the campus community. Green spaces (identified below) located at Kansas State University and within or around the City of Manhattan, are the sites of study for this research.

In order to provide participants with a representative range of green space locations, five sites on campus, and five sites throughout Manhattan, KS were chosen based on the following: similarity in landscape typology classification, popularity, proximity, and types of opportunities provided at each location. Proposed locations of inquiry, as shown on the Google Earth maps provided below, include Konza Prairie, Blue Earth Plaza, Frank Annenberg Park, Goodnow Park, and City Park (Figure 1). The Kansas State University's Campus Master Plan, last updated in 2012, classifies green spaces as "quality landscapes that may be preserved as the campus is developed. It also includes undeveloped areas with minimal landscaping" (2012, p. 12). For this research, we will use this classification to define campus green spaces. Locations for inquiry included The Meadow, Jardine Pond, Memorial Stadium, The Quad, and Anderson lawn (Figure 2).

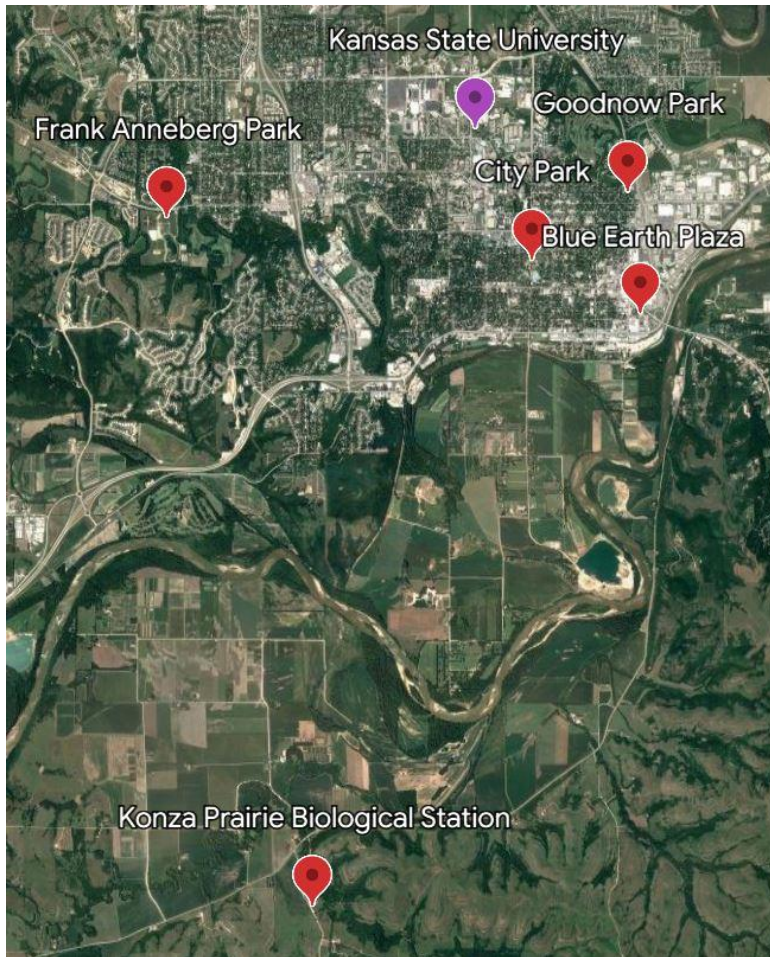
An example of how these guidelines were utilized for site selection: Konza Prairie is a tallgrass prairie ecosystem that has three popular hiking/running trails open to the public. The other portions of the Konza are private land that is home to many research inquiries and investigations by both The Nature Conservancy and Kansas State University. The similarities to The Meadow on K-State Campus are reasons why these sites were chosen. The Meadow is a

tallgrass prairie restoration area located on campus. These green spaces align in landscape typology and provide opportunities for both academic research and recreation while being well-known among many within the Manhattan and K-State communities.

Figure 1 - Google Maps image of Kansas State University green spaces



Figure 2 - Google Map image of Manhattan, KS green spaces



Data Collection

Questionnaires were administered throughout Kansas State University campus using email. Vaske (2008), states “the main reason for following these implementation strategies is to achieve the highest possible *response rate*” and goes on to define the term as “the proportion of completed interviews to the total number of eligible respondents” (p. 208). To ensure an ideal response rate within this research, the questionnaire was administered to students (e.g., undergraduate and graduate) and faculty members via direct email. Compared to on-site

sampling, this will provide more opportunities for participation and reduce the time restraints and stressors that can be associated with on-site sampling (Hooley et al, 2012).

After IRB verification (IRB-11344), the Office of the Registrar provided a complete list of current Kansas State University students' emails ($n = 17,080$). Additionally, for faculty members, the survey was administered through the Assistants to the Deans of each college (e.g., College of Arts and Sciences and College of Human Health and Sciences; $n \approx 773$). These individuals sent their college's faculty members the questionnaire via mass email on our behalf.

To achieve a sufficient response rate, multiple contacts are important and highly suggested (Vaske, 2008). The questionnaire email was distributed a total of three separate times. The initial email was sent out on January 17, 2023, accompanied by two follow-up emails before the end of January 31, 2023, for a total of 22 sampling days. The survey took approximately 10 minutes to complete, was voluntary, and respondents' IDs were kept confidential.

Survey Instrument

According to Ball (2019), survey validity refers to the accuracy of representing the sample, and the precision of the questions in their effort of measuring the intended variable. The questionnaire was developed using Qualtrics survey software, and the sample size was narrowed to focus on Kansas State University students and faculty. Participants were asked about their past usage of green spaces in and around Manhattan, KS, including the Kansas State University campus. We also asked questions using the "Abbreviated Place Attachment Scale (APAS) (i.e., three items for place identity and three items for place dependence)" (Boley, et. al, 2021) to inform degree and type of attachment by students and faculty. Since the Abbreviated Place Attachment Scale has been formed recently, in 2021, there is minimal research testing it. Yet

reliability and validity have been confirmed “across a variety of contexts (e.g., among residents and tourists) and cultures (e.g., in the USA, Poland, Cape Verde, and Nigeria)” (Boley, et. al., 2021, pp 10).

This research may serve as an additional foundation for the application of this scale as well as add an additional question without burdening the respondents, including place attachment to campus and education outcomes, campus community recreation preferences, and other important education-based initiatives. For potential future analysis, a final question asked participants if they were interested in follow-up questioning later and included their email addresses.

Data Analysis

The quantitative data collected from the online questionnaire was entered, cleaned, and analyzed using the online statistical program Statistical Package for Social Sciences (SPSS). According to Vaske (2008), if researchers are unsure of or have little knowledge on their sample’s options and diversity of characteristics, then assume a *50/50 split* sampling error. This term means that the “researcher would expect 50% of the population to answer one way (e.g., support, agree) and 50% to answer the other way (e.g., oppose, disagree)” (p.180).

During the survey, respondents were asked how long they have been a student or worked at K-State, as well as the frequency of visits to campus and community green spaces in varying periods (e.g., 30 days, 12 months, total years.) For simplification and a clean analysis, each visitation period was broken down into the following set ranges: 30-day (0-10, 10.001-20, 20.001-30), 12-month (1-30, 30.001-60, 60.001-90, 90.001-120, 120.001-360), and the total number of years (1-10, 10.001-20, 20.001-30, 30.001-40, 40.001-Highest). When measuring this frequency of past use history in conjunction with place attachment, a series of One-Way

ANOVAs was used to compare the frequency of visitation against mean place attachment scores. These place attachment scores are derived from the Abbreviated Place Attachment Scale portion of the questionnaire. Each participant was asked to rate their personal thoughts and experiences on a scale of 1, strongly disagree, to 7, strongly agree, regarding campus and community green spaces. If any of the visitation ANOVAs revealed statistical significance, a Tukey's Honest Significant Difference Test was utilized to further analyze the significance and highlight whether the past use history of campus and community green spaces have an impact on place attachment to Kansas State University and the Manhattan community.

Furthermore, a set of One-Way ANOVAs was performed on participant responses to mean place attachment scores for both the campus and the community in conjunction with their self-identified campus role. If any of these ANOVAs revealed statistical significance, a Tukey's Post-Hoc test was utilized to further analyze the significance and could unveil whether there are differences in place attachments among graduate level education, faculty members and/or undergraduate students.

Results

After analyses, results conveyed there was a total of 1,448 surveys completed with an undergraduate response bias (87.3%) producing a overall response rate of 8.11%. Of those participants that completed the survey, only 1,417 chose to self-identify their role within the university population. The highest number of respondents identified as graduate students (e.g., masters and doctoral candidates, n=336). The remaining self-identified groups descended in the following order: juniors (n = 266), freshmen (n = 256), seniors (n =240), sophomores (n = 234),

and faculty/staff (n = 84; Table 2.1). This distribution of participant identity aligns with the commonly reported age being between 23-28 (n = 686; Table 2.2).

Moreover, the highest level of education reported by participants was some college (n=753, 54.2%) which coincides with roughly 70% of respondents identifying themselves as undergraduate students. In addition, nearly half of respondents (n=679, 49.5%; Table 2.2) described their residency in Manhattan, KS as temporary (1-4 years) which also aligns with the distribution of self-identified roles.

Furthermore, it was discovered that the most favored green space on the Kansas State University campus among respondents, was The Quad (23.1%, n= 307) with Memorial Stadium following closely behind (22.6%, n=301; Table 2.3). However, within the city of Manhattan, an overwhelming favor among participants was seen for Konza Prairie Biological Station (44.4%, n=444) with the next favorite green space being City Park (24.9%, n=249; Table 2.4).

Table 2.1 - Descriptives on Self-Identified Campus Role

	N	Valid %
Freshmen	256	18.1
Sophomore	234	16.5
Junior	266	18.8
Senior	240	16.9
Graduate Student	336	23.7
Faculty/Staff	84	6.0

Table 2.2 - Descriptives on Demographics

	Status	N	Valid %
Age	18-22	1395	15.1
	23-35		73.7
	36+		11.2
Gender	Male	1396	34.4
	Female		58.5
	Non-binary/Other		4.0
Race	White	1381	86.0
	Latinx/Hispanic		5.3
	Asian		4.3
Education	Some College	1389	54.2
	Bachelor's Degree		15.8
	M.S./Ph.D. Degree		12.2
Residency	Seasonal (1-8 months)	1371	27.1
	Temporary (1-4 years)		49.5
	Permanent/Other (4+ years)		17.1

Table 2.3 - Campus Green Space Descriptives

	N	Valid %
The Quad	307	23.1

Memorial Stadium	301	22.6
Anderson Lawn	216	16.2
The Meadow	182	13.7
Jardine Pond	127	9.5
Have not visited any green spaces in/or on Kansas State University campus.	118	8.9
Other:	80	6.0

Table 2.4 - Community Green Space Descriptives

	N	Valid %
Konza Prairie Biological Station	444	44.4
City Park	249	24.9
Have not visited any green spaces in/or around Manhattan, KS.	131	13.1

Frank Annenberg Park	89	8.9
Other:	52	5.2
Goodnow Park	20	2.0
Blue Earth Plaza	14	1.4

30-day Visitation

To better understand the relationship between participants' place attachment scores and their visitation/usage history regarding Kansas State University and the city of Manhattan, KS, a One -Way Analysis of Variance (ANOVA) was implemented for each of the visitation periods (e.g., 30-days, 12-months, total years) against the place attachment scores derived from the Abbreviated Place Attachment Scale (APAS). The first visitation period asked participants to record the number of days they had visited said campus or community green space in the last 30-days. It was found that within the 30-day visitation period, many participants concluded high visitation to campus green spaces on a weekly basis (e.g., 7 days), which by many was described as a brief pass through. No significant influence can be seen on the individual during the 30-day visitation periods at either the campus or community levels (Table 2.5 & 2.6)

Table 2.5 - Campus Place Attachment 30-days Visitation ANOVA

		N	df	F	Sig.
<i>I feel very attached to the Kansas State University campus.</i>	643	642	2	.314606	.731546
<i>The KSU campus is very special to me.</i>	642	641	2	.157005	.855995
<i>I identify strongly with the KSU campus.</i>	642	641	2	.530266	.589767
<i>This campus is the best place for the activities I like to do.</i>	641	640	2	1.423.545	.243580
<i>No other place can compare to this campus.</i>	642	641	2	.626405	.535667
<i>I would not substitute any other place for the activities I do on this campus.</i>	641	640	2	.015110	.97185896

Table 2.6 - Community Place Attachment 30- day Visitation ANOVA

	N	df	F	Sig.
<i>I feel very attached to the city of Manhattan, KS.</i>	642	2	.606	.546
<i>The city of Manhattan is very special to me.</i>	641	2	.005	.995
<i>I identify strongly with the city of Manhattan.</i>	641	2	.266	.767
<i>Manhattan, KS is the best place for the activities I like to do.</i>	640	2	.545	.580
<i>No other place can compare to Manhattan.</i>	641	2	.405	.667
<i>I would not substitute any other place for the activities I do in Manhattan, KS.</i>	640	2	.110	.896

12-month Visitation

The next visitation period asked participants to record the number of days within the last 12-months (e.g., 2022-2023) they went to these green spaces. When analyzing days of visitation or usage within this visitation period, participants showed stronger attachments to campus green

spaces compared to community green space. At the K-State University campus level (Table 2.7), statistical significance ($p \leq 0.05$) was shown by participant's response to the following question: "I identify strongly with the KSU campus" ($F = 2.401, p = .049$). Further analysis from a Tukey's post hoc test revealed participants' place attachment scores in the 4-12 month range ($M = 3.33, SD = 1.96$) were significantly less than the 1-2 month ($M = 5.25, SD = 1.43$) and 1-30 day ($M = 4.93, SD = 1.44$) ranges. It uncovered most participants ($n = 597$) visited within a 30-day period implying that throughout the course of the academic school year individuals are forming emotional attachments to Kansas State University campus in month long segments. However, compared to the community level, no strong influence can be seen on individual's place attachment to Manhattan, KS (Table 2.8) during this visitation/usage period.

Table 2.7 - Campus Place Attachment 12-month Visitation ANOVA

	N	df	F	Sig.
<i>I feel very attached to the Kansas State University campus.</i>	670	4	1.711	.146
<i>The KSU campus is very special to me.</i>	670	4	2.272	.060
<i>I identify strongly with the KSU campus</i>	667	4	2.401	.049*
<i>This campus is the best place for the activities I like to do.</i>	669	4	1.066	.372
<i>No other place can compare to this campus.</i>	670	4	1.067	.372
<i>I would not substitute any other place for the activities I do on this campus</i>	670	4	.838	.502

*Statistically significant ($p \leq 0.05$), means are not equal inferring presence of an emotional attachment (place identity)

Table 2.8 - Community Place Attachment 12-month Visitation ANOVA

	N	df	F	Sig.
<i>I feel very attached to the city of Manhattan, KS.</i>	634	4	1.375	.241
<i>The city of Manhattan is very special to me.</i>	633	4	.572	.683
<i>I identify strongly with the city of Manhattan.</i>	633	4	1.234	.295
<i>Manhattan, KS is the best place for the activities I like to do.</i>	632	4	.230	.921
<i>No other place can compare to Manhattan.</i>	633	4	.095	.984
<i>I would not substitute any other place for the activities I do in Manhattan, KS.</i>	632	4	.088	.986

Total Years of Visitation

Regarding total years of visitation for both the campus and community scales, participants were asked about the number of years (total) they have been visiting green spaces within each scale. From the results, no statistically significant influence on the individual's place attachments can be seen (Table 2.9 & 2.10).

Table 2.9 - Campus Place Attachment Yearly Visitation ANOVA

	N	df	F	Sig.
<i>I feel very attached to the Kansas State University campus.</i>	660	4	.845	.497
<i>The KSU campus is very special to me.</i>	660	4	1.269	.281
<i>I identify strongly with the KSU campus.</i>	657	4	.471	.757
<i>This campus is the best place for the activities I like to do.</i>	659	4	.148	.964
<i>No other place can compare to this campus.</i>	659	4	.271	.896
<i>I would not substitute any other place for the activities I do on this campus.</i>	Between Grou	4	.135	.969

Table 2.10 - Community Place Attachment Yearly Visitation ANOVA

	N	df	F	Sig.
<i>I feel very attached to the city of Manhattan, KS.</i>	639	4	1.005	.404
<i>The city of Manhattan is very special to me.</i>	638	4	1.329	.258
<i>I identify strongly with the city of Manhattan.</i>	638	4	.495	.740
<i>Manhattan, KS s is the best place for the activities I like to do.</i>	637	4	.724	.575
<i>No other place can compare to Manhattan.</i>	638	4	1.036	.388
<i>I would not substitute any other place for the activities I do in Manhattan, KS.</i>	637	4	.803	.524

Self-Identified Role on Campus

Another question this research aimed to investigate was whether an individual's role on campus (e.g., freshmen, sophomore, junior, senior, etc.) influences their place attachment to campus or community greenspaces. To better understand this relationship, One-Way ANOVAs were completed to analyze participant's self-identified role against the derived campus and community place attachment scores. From the results, statistical significance ($p \leq 0.05$) can be seen at both the campus level (Table 2.11) and the community level (Table 2.12). Due to this significance, a Tukey's post-hoc test was run for each place attachment question at both spectrums (e.g., campus and community) which showed this significance.

From the APAS developed by Boley, the first three questions aim to measure the individual's place identity as seen by their phrasing. The first question for both spectrums was phrased as "*I feel very attached to campus/community.*" At the campus level, graduate students ($M = 4.91$, $SD = 1.47$) had significantly lower place attachment scores compared all other self-identified campus roles except freshmen which had very similar scores to graduate students. However, this question within the community level revealed no significant differences between the place attachment scores of the campus roles, yet it was seen that freshmen had a lower average place attachment score compared to the other self-identified roles. The next question was phrased as "*Campus/Community is very special to me.*" From the Tukey's post-hoc, it was seen at the campus level that graduate students ($M = 4.96$, $SD = 1.49$) had significantly lower place attachment scores to this question compared to other campus roles apart from staff members which also had scores on the lower end. At the community level, no significant differences between the place attachment scores of the self-identified roles. However, freshmen were seen to have the lowest average score among self-identified campus roles. Thirdly, participants answered

the question phrased “*I strongly identify with campus/community.*” At the campus level, it was seen that all self-identified roles felt strong attachments to Kansas State University campus except for graduate students ($M= 4.62$, $SD= 1.52$) who had significantly lower scores. At the community level, the trend of seeing no significant differences between self-identified roles continues. However, it can be seen the freshmen undergraduate students had a lower average place attachment score compared to the other campus roles at the community level implicating an unfamiliarity with these green spaces.

The last three questions from the APAS aim to measure the second dimension of place attachment, also known as place dependence, within both spectrums which can be seen in the questions phrasing. The fourth question stated “Campus/Community *is the best place* for the activities I like to do.” At the campus level, the Tukey’s post-hoc test revealed all self-identified undergraduate roles and faculty/staff members had strong place attachments compared to graduate students ($M= 3.43$, $SD= 1.07$) who averaged much lower place attachment scores especially in comparison with seniors ($M=4.34$, $SD=1.56$). Since these graduate students had lower scores this could imply a preference for other undisclosed spaces to complete their recreational activities. At the community level, there was no overwhelming sense of significance seen, but the trend continued as it revealed graduate students ($M=3.86$, $SD= 1.63$) showing significantly lower place attachment scores compared to sophomores ($M=4.43$, $SD= 1.68$). From the other university subgroups, this does not mean there are no place attachments seen, but rather there is no major difference seen between their means unlike graduate students and sophomores. The difference seen between these two university subgroups could imply a lack of dependence on community green spaces from graduate students whereas sophomore students rely on them regularly.

The fifth question stated, “*No other place can compare to campus/community*”. A pattern is beginning to emerge among graduate students ($M= 3.43$, $SD= 1.71$) at the campus level as they had an overall lower place attachment score compared to all other campus roles. The Tukey’s post-hoc test also revealed faculty ($M= 3.43$, $SD= 1.71$) and staff members ($M= 3.43$, $SD= 1.71$) showed lower average place attachment scores compared to the undergraduate students. This could imply these groups within the university population feel less dependent upon campus green spaces and turn to other sources within or outside the community.

The last question pulled and adapted from the APAS method stated, “I would *not substitute any other place* for the activities I do on this campus/community.” All self-identified roles within the university population felt strong place attachments to Kansas State University campus apart from graduate students ($M=3.50$, $SD=1.61$). This subgroup within the population presented much lower average place attachment scores compared to the other groups. This further supports the previous implication, that this group feels less dependent upon campus green spaces and turns to other sources. The significance of these ANOVA and Tukey’s results reveals all self-identified roles on campus feel place attachment, whether for dependent or emotional reasons, to Kansas State University campus and the city of Manhattan, KS., apart from graduate students who consistently had lower place attachment scores toward K-State campus and Manhattan.

Table 2.11 - Self- Identified Campus Role Place Attachment to Kansas State University

	N	df	F	Sig.
<i>I feel very attached to the Kansas State University campus.</i>	1018	6	4.664	<.001*
<i>The KSU campus is very special to me.</i>	1019	6	5.947	<.001*
<i>I identify strongly with the KSU campus.</i>	1015	6	5.106	<.001*
<i>This campus is the best place for the activities I like to do.</i>	1017	6	5.864	<.001*
<i>No other place can compare to this campus</i>	1018	6	7.040	<.001*
<i>I would not substitute any other place for the activities I do on this campus</i>	1016	6	4.838	<.001*

*Statistical significance ($p \leq 0.05$), means are not equal inferring attachments in both dimensions (place identity and place dependence)

Table 2.12 - Self-Identified Campus Role Place Attachment to Manhattan

	N	df	F	Sig.
<i>I feel very attached to the city of Manhattan, KS.</i>	938	6	2.348	.029*
<i>The city of Manhattan is very special to me.</i>	937	6	2.570	.018*
<i>I identify strongly with the city of Manhattan.</i>	937	6	2.231	.038*
<i>Manhattan, KS is the best place for the activities I like to do.</i>	935	6	.2.372	.028*
<i>No other place can compare to Manhattan.</i>	937	6	1.408	.208
<i>I would not substitute any other place for the activities I do in Manhattan, KS.</i>	936	6	1.660	.128

*Statistical significance ($p \leq 0.05$), means are not equal inferring attachments in both dimensions (place identity and place dependence)

Discussion

From the ANOVA results, we can conclude there is evidence of place attachment at the campus and community levels. The first two research questions investigated if visitation/usage of campus and community green spaces influences an individual's place attachment to K-State University and Manhattan, KS. After analysis, no overwhelming sense of attachment is seen within either of the place attachment dimensions (e.g., place identity and dependence) at two of the three visitation periods. The only period that presented any place attachments was the 12-

month visitation period to campus green spaces (Table 2.8). The results from the Tukey's post-hoc concluded that the 4-12 month range had lower place attachment scores which is counterintuitive of place attachment literature. This would suggest that these individuals are becoming less attached the longer they are around Manhattan, KS for the academic school year. However, most of the participants reported visitation in the 1–30-day range which resulted in the highest place attachment scores. This could be an implication that the seasonal nature of college (e.g., fall, winter, spring, and summer breaks) influences place attachments. Due to these large gaps of time where students are not visiting, they might have to rebuild the attachment throughout the academic year. While the most accurate answer is unclear, this could be an opportunity for the university to investigate this sparse range of visitors seen among the university population.

Additionally, the third and final question of this research investigated the individual's role on campus and the influence it had on their place attachment (Tables 2.11 & 2.12). The results emphasized many freshmen and sophomore students feel strong attachments to the K-State campus. These results support the findings of previous place attachment research studies which conclude undergraduate students use green spaces to help them reduce stress during these transitions to their new environment (Xu et. al, 2015; Qingjiu & Maliki, 2013; Ma et. al. 2018). This could imply a strong need for green spaces from these groups in which Kansas State University could assess their advertisement and accessibility of these campus green spaces to the university population.

Furthermore, based off previous trends in the literature, we expected to see individuals associated with Kansas State for longer periods of time (e.g., juniors, seniors, graduate student, or full-time faculty) to yield higher place attachment scores to the campus and possibility the

community. While undergraduate upperclassmen and faculty adhered to trends within place attachment literature, there was an unpredicted exception. Graduate students consistently felt less attached to K-State campus and Manhattan, KS compared to all other roles within the university population (e.g., undergraduate students and faculty). This lack of strong attachment could imply an unfamiliarity with K-State campus or Manhattan green spaces. Since many graduate students move to Manhattan, KS for university, they could be choosing institutions based on funding or programs rather than atmosphere or visual appeal. Also, this lack of attachment could be due to having limited time in their schedule due to research and other academic responsibilities.

Moreover, this indicates graduate students are not prospering in the many associated benefits of both green spaces and place attachment bonds. Based on previous research, this would implicate that graduate students have poorer physical and mental health (Foellmer, 2021; Vitagliano et al, 2023), quality of life (McFarland, 2008; Stepansky et al, 2022), and a minimal sense of community (Lewicka, 2011; Rioux et al, 2017) compared to the other individuals within the university population. While there is no clear explanation for these lower place attachment scores among higher level education, it is clear there is an uninvestigated area within green space and place attachment literature.

Limitations

As this research progressed, some obstacles and limitations were uncovered along the way. One of the primary obstacles faced during this research process involved contacting the Office of the Registrar. In the end, there was a six-month delay in receiving the undergraduate/graduate student email list, which included the emails for all three major K-State campuses: Manhattan, Salina, and Olathe. This email was only aimed towards students of the

Manhattan K-State campus, yet students from the other campuses were included which could be considered an additional limitation as it could have skewed the visitation data. Furthermore, while the email list was obtained, due to the six-month delay the initial timeline of this research (e.g., August-December) was pushed back to the Spring semester.

However, this time delay was not the only obstacle encountered when obtaining email lists. On the Kansas State University website, any faculty member can be found if searched, but no unified list of faculty members' emails exists. In an attempt to reach this target population, we reached out to each of the College Dean Assistants to aid in the questionnaire's distribution. Of the eight campus colleges, only two of their Dean's Assistants responded and cooperated with the distribution of this questionnaire. Had more colleges participated in the distribution of the questionnaire, there could have been the possibility of a larger faculty response.

Future Research

Despite these limitations, this research still provided steppingstones into the future of place attachment and green space research. A final question placed within the survey asked participants if they would be willing to answer follow-up questions at a later, unannounced date. From the individuals who provided their email to this question, focus groups could be formed to help provide a qualitative perspective to place attachment and green space research. These groups could be used to help Kansas State University better understand how their university population prefers to choose their green spaces, and how to allocate resources to these spaces appropriately.

Based off the results, K-State could put an emphasis on forming focus groups consisting of graduate students in order to better understand their perspective and lack of attachment to the

campus. On the other hand, they could also form undergraduate student and faculty focus groups to understand the attributes and qualities which these individuals look for in the green spaces to understand why they feel attached to the campus. Furthermore, the benefits of this response could expand beyond the improvement of campus green spaces, and into students' quality of life and general health. The development of new campus green spaces could continue to increase accessibility to these green areas while also increasing the possibility of place attachment to occur.

Chapter 3 - Future Implications

After the completion of this research, the primary purpose of this research was supported as place attachment is present among green spaces on Kansas State University and around Manhattan, KS. Focusing on visitation and self-identified campus roles in conjunction with place attachments, this research unveiled strong attachments within the 12-month visitation period. Specifically, strong feelings of place identity are seen within the range of 1-30 days for this period. Moreover, all self-identified roles within the university population, except for graduate students, had strong attachments in both dimensions (e.g., place identity and dependence). While these results did support and contribute to areas of literature, further investigation into the university sampling population is needed.

Literature

Millions of academic articles are published every year within the thousands of academic journals available to the world. In these articles, many researchers are aiming to adapt or simplify previous scales of measurement or going farther by forming and validating new scales of measurement for research communities. Within the last few years, the natural resource and community planning fields uncovered new measurements for place attachment research. Boley et al. (2021) formed a new, multidisciplinary place attachment scale coined Abbreviated Place Attachment Scale (APAS). While it has confirmed validity, little research has been conducted using this scale, until now. Another purpose of this research was to implement the APAS measurement to help test its validity. Through our online questionnaire, we implemented this scale through questions aimed at the respondent's personal experiences and preferences of green spaces at the campus and community levels. Utilizing the scale in this format helps to reduce

participant burden while aiming to better understand place attachment, in our case, of the university population.

One way in which this research could be expanded would be to re-run this study and try to reach all the university faculty members of the eight colleges, as the smallest identified group response of this research ended up being faculty members. The results emphasize a connection between them and the campus/community showing room for growth in this area of the literature. Additionally, expanding the surveyed population into research extension offices and other traveling faculty members could investigate if their place attachment to K-State campus and Manhattan, KS were to differ from the trend seen among faculty from this study.

Moreover, the results highlighted a lack of connection between graduate student and the campus/community which goes against trends seen in place attachment literature for undergraduate students. Understanding the nuances of this connection at K-State could produce future research, or expanding beyond KSU campus and seeing if there is a trend across large universities. Furthermore, this research could be expanded upon in the future by using this recently formed scale at different universities to continue this investigation of whether commonalities exist among university populations. For example, investigating whether recently hired or transferred faculty members, M.S. students, or Ph.D. candidates feel attached to their current location or their previous place of employment/study, or analyzing the enrollment and retention rates of the university populations and how they are influenced by their place attachments.

Sampling Population: Faculty

Along with these new, simplified ways of measuring place attachment within the natural resources field, many of these social scientists must select their sampling or target population to

conduct these measurements. For many years when these researchers focused on an academic scope, only undergraduate students were chosen for the focused sampling group. However, this overlooks the input of the entire university population, and the other purpose of this research was to help bridge the gap in university sampling populations. Switching the target population from one individual group of the university population to include all groups (e.g., undergraduates, graduates, and faculty) helps grasp a better, fuller understanding of the whole population. In this research, despite our results yielding less than what was hoped for, of the 1,448 respondents we still managed to get roughly 6% to identify themselves to be faculty members. While the limitation in distribution does reinforce this small response of faculty members, this expansion within the sampling population is a small step forward in closing this space noticed within place attachment literature.

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Appendix A - IRB Exemption

Appendix A Figure A.1



TO: Ryan Sharp
Horticulture & Nat Resources
Manhattan, KS 66506

Proposal Number: IRB-11344

FROM: Lisa Rubin, Chair
Committee on Research Involving Human Subjects

DATE: 10/06/2022

RE: Proposal Entitled, "Place Attachment to Campus and Community Green Spaces."

The Committee on Research Involving Human Subjects / Institutional Review Board (IRB) for Kansas State University has reviewed the proposal identified above and has determined that it is EXEMPT from further IRB review. This exemption applies only to the proposal - as written – and currently on file with the IRB. Any change potentially affecting human subjects must be approved by the IRB prior to implementation and may disqualify the proposal from exemption.

Based upon information provided to the IRB, this activity is exempt under the criteria set forth in the Federal Policy for the Protection of Human Subjects, **45 CFR §104(d), category:Exempt Category 2 Subsection ii.**

Certain research is exempt from the requirements of HHS/OHRP regulations. A determination that research is exempt does not imply that investigators have no ethical responsibilities to subjects in such research; it means only that the regulatory requirements related to IRB review, informed consent, and assurance of compliance do not apply to the research.

Any unanticipated problems involving risk to subjects or to others must be reported immediately to the Chair of the Committee on Research Involving Human Subjects, the University Research Compliance Office, and if the subjects are KSU students, to the Director of the Student Health Center.

Electronically signed by Phill Vardiman on 10/06/2022 10:20 AM ET
On Behalf of IRB Chair

Appendix B – Kansas State University & City of Manhattan Green

Space Visitor Survey

Kansas State University and City of Manhattan Greenspace Visitor Survey 2022

Start of Block: Introduction

Q0 This survey is related to place attachment to green spaces located on Kansas State University campus and throughout the city of Manhattan. All personal information from the questionnaire will remain anonymous. Moreover, by participating in this survey, the individual is providing their consent to have this information used in place attachment research.

End of Block: Introduction

Start of Block: Demographics

Q1 Please classify your role on campus.

- ☐ Freshman (1)
- ☐ Sophomore (2)
- ☐ Junior (3)
- ☐ Senior (4)
- ☐ Graduate Student (5)
- ☐ Faculty (6)
- ☐ Staff (7)

Page Break



Q2 What is your age? *Please select your birth year.*

Year (1)	▼ 1923 (1) ... 2007 (87)
----------	--------------------------

Page Break

Q3 What is your gender?

- ☐ Male (1)
- ☐ Female (2)
- ☐ Non-binary (3)
- ☐ Other (4) _____

Page Break

Q4 What is the highest level of education you have completed? *Select one.*

- ☐ Less than high school (1)
- ☐ Some high school (2)
- ☐ High school graduate (3)
- ☐ Some college (4)
- ☐ Two-year college graduate (5)
- ☐ Four-year college graduate (7)
- ☐ Graduate of professional degree (8)
- ☐ Do not wish to answer (9)

Page Break

Q6 Which of the following best describes your current residency in Manhattan, KS?

- ☐ Permanent Resident (4+ years) (1)
- ☐ Temporary Resident (1-4 years) (2)
- ☐ Seasonal Resident (returning annually for 1-8 months) (3)
- ☐ Other (please specify) (4)
-

Display This Question:

If Which of the following best describes your current residency in Manhattan, KS? = Permanent Resident (4+ years)

And Which of the following best describes your current residency in Manhattan, KS? = Temporary Resident (1-4 years)

And Which of the following best describes your current residency in Manhattan, KS? = Seasonal Resident (returning annually for 1-8 months)

Q7 What year did you move here?

End of Block: Demographics

Start of Block: Kansas State University Campus Greenspaces

Q8 Based on this map of greenspaces, please select your favorite location you have visited in or around **Kansas State University campus**.

- ☐ Jardine Pond (120)
- ☐ The Quad (121)
- ☐ Anderson Lawn (122)
- ☐ Memorial Stadium (129)
- ☐ The Meadow (130)
- ☐ Other: (131) _____
- ☐ I have not visited any greenspace sites in/or on Kansas State University campus (132)

Skip To: Q14 If Based on this map of greenspaces, please select your favorite location you have visited in or aro... = I have not visited any greenspace sites in/or on Kansas State University campus

Page Break

Q9 How did you hear about your chosen site?

- ☐ Family (1)
- ☐ Friend (2)
- ☐ Colleague (3)
- ☐ Local source (newspaper, social media, signage, etc.) (4)
- ☐ Other (5) _____

Page Break

Q10 Please tell us about your visitation to this site.

- ☐ How many **days in the last month** (30 days) have you visited your chosen site on campus? (1) _____
- ☐ How many **days in the last year** (12 months) have you visited your chose site on campus? (2) _____
- ☐ How many **years** (total) have you visited your chosen site on campus? (4) _____

Page Break

Q11 During your most recent visit, what mode of transportation did you use to reach the site?

- ☐ Walking (1)
- ☐ Bicycling (2)
- ☐ Car (3)
- ☐ Public Transportation (e.g., ATA buses, electric scooters, etc.) (4)
- ☐ Other (5) _____

Page Break

Q12 On your most recent visit, what was the purpose for visiting the site? Please mark all that apply.

- ☐ Business (1)
 - ☐ Passing through – unplanned visit (2)
 - ☐ Visiting a friend or family member in the area (3)
 - ☐ To recreate (4)
 - ☐ To relax or take a break (5)
 - ☐ For mental and/or emotional wellness (6)
 - ☐ Communal (e.g., cultural events, music, movies, et.c) (7)
 - ☐ Other (please specify) (8)
-

Page Break

Q13 How important is the chosen site to you? Please select **only one** response.

- ☐ Not at all important (1)
 - ☐ Slightly important (2)
 - ☐ Moderately important (3)
 - ☐ Very important (4)
 - ☐ Extremely important (5)
-

Page Break

Q14 Please indicate how strongly you DISAGREE or AGREE with the following.

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I feel very attached to the Kansas State University campus. (1)	☐	☐	☐	☐	☐	☐	☐
The KSU campus is very special to me. (2)	☐	☐	☐	☐	☐	☐	☐
I identify strongly with the KSU campus. (3)	☐	☐	☐	☐	☐	☐	☐
This campus is the best place for the activities I like to do. (4)	☐	☐	☐	☐	☐	☐	☐
No other place can compare to this campus. (5)	☐	☐	☐	☐	☐	☐	☐
I would not substitute any other place for the activities I do on this campus. (6)	☐	☐	☐	☐	☐	☐	☐

End of Block: Kansas State University Campus Greenspaces

Start of Block: City of Manhattan, KS Greenspaces

Q15 Based on this map of greenspaces, please select your favorite location you have visited in or around the **city of Manhattan, KS**.

- ☐ Konza Prairie Biological Station (58)
- ☐ Blue Earth Plaza (59)
- ☐ Frank Annenberg (60)
- ☐ City Park (61)
- ☐ Goodnow Park (62)
- ☐ Other: (63) _____
- ☐ I have not visited any greenspaces sites in the city of Manhattan, KS (64)

Skip To: Q21 If Based on this map of greenspaces, please select your favorite location you have visited in or around... = I have not visited any greenspaces sites in the city of Manhattan, KS

Page Break _____

Q16 How did you hear about your chosen site?

- ☐ Family (1)
- ☐ Friend/Colleague (2)
- ☐ Local source (newspaper, social media, signage, etc.) (4)
- ☐ Other (6) _____

Page Break _____

Q17 Please tell us about your visitation to this site.

- ☐ How many **days in the last month** (30 days) have you visited your chosen site in Manhattan? (1) _____
- ☐ How many **days in the last year** (12 months) have you visited your chosen site in Manhattan? (2) _____
- ☐ How many **years** (total) have you visited your chosen site on campus? (4) _____

Page Break _____

Q18 During your most recent visit, what mode of transportation did you use to reach the site?

- ☐ Walking (1)
- ☐ Bicycling (2)
- ☐ Car (3)
- ☐ Public Transportation (e.g., ATA buses, electric scooters, etc.) (4)
- ☐ Other (5) _____

Page Break

Q19 On your most recent visit, what was the purpose for visiting the site? Please mark all that apply.

- ☐ Business (1)
- ☐ Passing through -- unplanned visit (2)
- ☐ Visiting a friend or family member in the area (3)
- ☐ To recreate (4)
- ☐ To relax or take a break (5)
- ☐ For mental and/or emotional wellness (6)
- ☐ Communal (e.g., cultural events, music, movies, etc.) (7)
- ☐ Other (please specify) (8) _____

Page Break

Q20 How important is the chosen site to you? Please select **only one** response.

- ☐ Not at all important (1)
- ☐ Slightly important (2)
- ☐ Moderately important (3)
- ☐ Very important (4)
- ☐ Extremely important (5)

Page Break

Q21 Please indicate how strongly you DISAGREE or AGREE with the following.

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I feel very attached to the city of Manhattan, KS. (1)	☐	☐	☐	☐	☐	☐	☐
The city of Manhattan, KS is very special to me. (2)	☐	☐	☐	☐	☐	☐	☐
I identify strongly with the city of Manhattan, KS. (3)	☐	☐	☐	☐	☐	☐	☐
Manhattan, KS is the best place for the activities I like to do. (4)	☐	☐	☐	☐	☐	☐	☐
No other place can compare to Manhattan. (5)	☐	☐	☐	☐	☐	☐	☐
I would not substitute any other place for the activities I do on in Manhattan, KS. (6)	☐	☐	☐	☐	☐	☐	☐

Q24 Would you be willing to respond to follow-up questions at a later date? If so, please provide your e-mail below:

End of Block: City of Manhattan, KS Greenspaces
