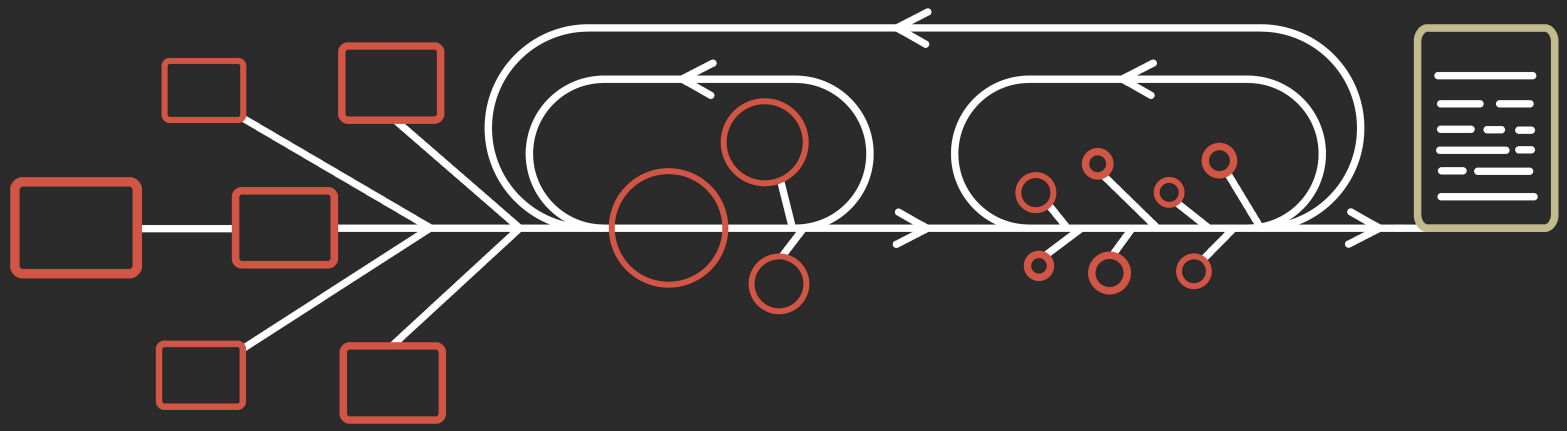
THE UNIVERSITY CAMPUS:
AN ENGINE FOR LIVABILITY



by
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A REPORT

submitted in partial fulfillment of the requirements for the degree:

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Abstract

What makes a city a place people love and want to live is the essence of livability. Livable cities are places where people can delight in a high quality of life. College towns are great places to live because their universities function as a cultural wealth and an economic anchor for the city. Using Manhattan, KS and Kansas State University (KSU) as a case study, this study utilizes a survey as an instrument to investigate the possible correlations and patterns between the perceived quality of life of permanent residents of college towns and their degree of interaction with their university's campus. Using statistical analyses of this data, this study explores the relationships between a higher quality of life in Manhattan and a higher interaction with KSU. As well, it seeks to find what aspects of university interaction have the most impact on quality of life, if there are any shortfalls in quality of life in Manhattan, and if the university can play a role in the strategy to mitigate for these shortfalls. In this, town-gown relationships give insight to creating more livable cities as a whole.



Hale Library, Photo by KSU, 2012

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Dedicated to Mom, Dad, and Jesus;
all of whom have unconditionally supported and loved me.

Researcher's Statement

I would say my arrival in Manhattan was a mix of fate and chance. In the late 1970's my father, John Chmiel, moved from the suburbs of Chicago to the sleepy college town of Manhattan, KS on a basketball scholarship from Coach Jack Hartman of the Kansas State Wildcats- one of the hottest teams in the then Big 8 Conference. During his recruitment, he had the opportunity to sit courtside of a game against the Kansas Jayhawks. The students were rowdy and the game was delayed half an hour when they began dropping live chickens from the rafters of Ahern Fieldhouse, a sign of animosity toward the in-state rivals. He was thoroughly convinced of his decision after this. He played for the Cats for two years before suffering a back injury. He very much liked the area and settled down to start a family in the nearby town of Wamego.



The Researcher, Photo by Mo Murphy, 2012

That's where I come in, I suppose. My decision to attend Kansas State was dipped in a mix of the proximity to home, a few granted scholarships, and the pursuit of the girl I was dating at the time. Though I may not have known what I was getting into, God's plan for my life was in work. Over the past five years, my love for the university and the city of Manhattan has grown tremendously. I've met the most interesting people in the world and have made countless life-long friends. It seems like I've done everything. From storming the field after defeating Texas in the Big XII Football Championship to traveling the world- seeing what some only dream of.

Despite my travels, there is still no other place like Manhattan. Visiting the Farmer's Market, trekking the Konza at dawn, biking the city streets at night, walking through the

pleasant parks and usually quiet neighborhoods, meeting with friends at the coffee shop in Aggieville, disk-golfing at Tuttle Creek, going to the big game on a Saturday afternoon, spontaneous parties at people's houses, gathering with friends at church downtown, seeing them get married at the Wareham, eating Varsity Donuts at the Top of the World, living with eight guys in a four-bedroom house… This is my Manhattan. It will always have a place in my heart. I owe all my experiences in the last five years to the university and the city. Without them, I certainly wouldn't be who I am today. This is what has inspired my research. I believe Manhattan is in every sense inseparable from the university. The characteristics of Manhattan that I love, owe much to the university's presence and I want to know how we can learn from these relationships to create better cities.

Chapter 1: Introduction & Background

Dilemma

College towns are anomalies. They are cities that don't make sense, don't fit the molds and patterns of other cities. Their people are highly educated with low economic statuses. They are young and have a high demand for public services. They are creative, open-minded, and very tolerant toward diversity (Gumprecht, 2008). As well, college towns receive heavy attention from federal and state interest and their funding, making them insulated from much of the economic commotion of their surroundings. However, college towns are not and cannot just be for college students. Somebody has to "run the city", so to speak. These are the permanent residents- the individuals who choose to live in college towns for reasons other than the attainment of a higher education from the university.

College towns can be very pleasant places for non-student populations to live due to the existing supply of many cosmopolitan amenities (Gumprecht, 2008). However, relationships between permanent residents and students are often strained, as are the relationships between city and university interest. Despite this, the coexistence of the two entities holds many unique, mutually beneficial opportunities to take advantage of (Kemp, 2013). They can depend on each other's



The Flint Hills Discovery Center, Photo by John Dengler, 2013

strengths to provide for each other and the greater community (Sungu-Eryilmaz, 2009). Despite this, there is relatively marginal research on exactly how these "town-gown" relationships contribute to the viability of college towns or what makes them livable in the first place. Knowing how universities affect the quality of life of college town permanent residents can give special insight into the aspects of livability in college towns, which can be synthesized and applied to other cities.

Research Question

"How does a university affect the livability of a city?"

The research question of this study will be answered through the analysis of city and university relationships in the context of Manhattan, KS and the Kansas State University campus, used as a case study. These findings will then contribute to the knowledge base of complex urban relationships often posed in the discipline of urban, regional, and community planning. This application of findings is illustrated by Figure 1.1.

Philosophy

The motivation and philosophy of this research lays in the notion that due to the nature that universities bring to a city, there is an inherent social, economic, or environmental benefit to the presence of a university and the physical presence of its campus within a city. Furthermore, it is believed that these benefits in-turn enhance the quality of life for the city's permanent residents and increase the city's overall livability.

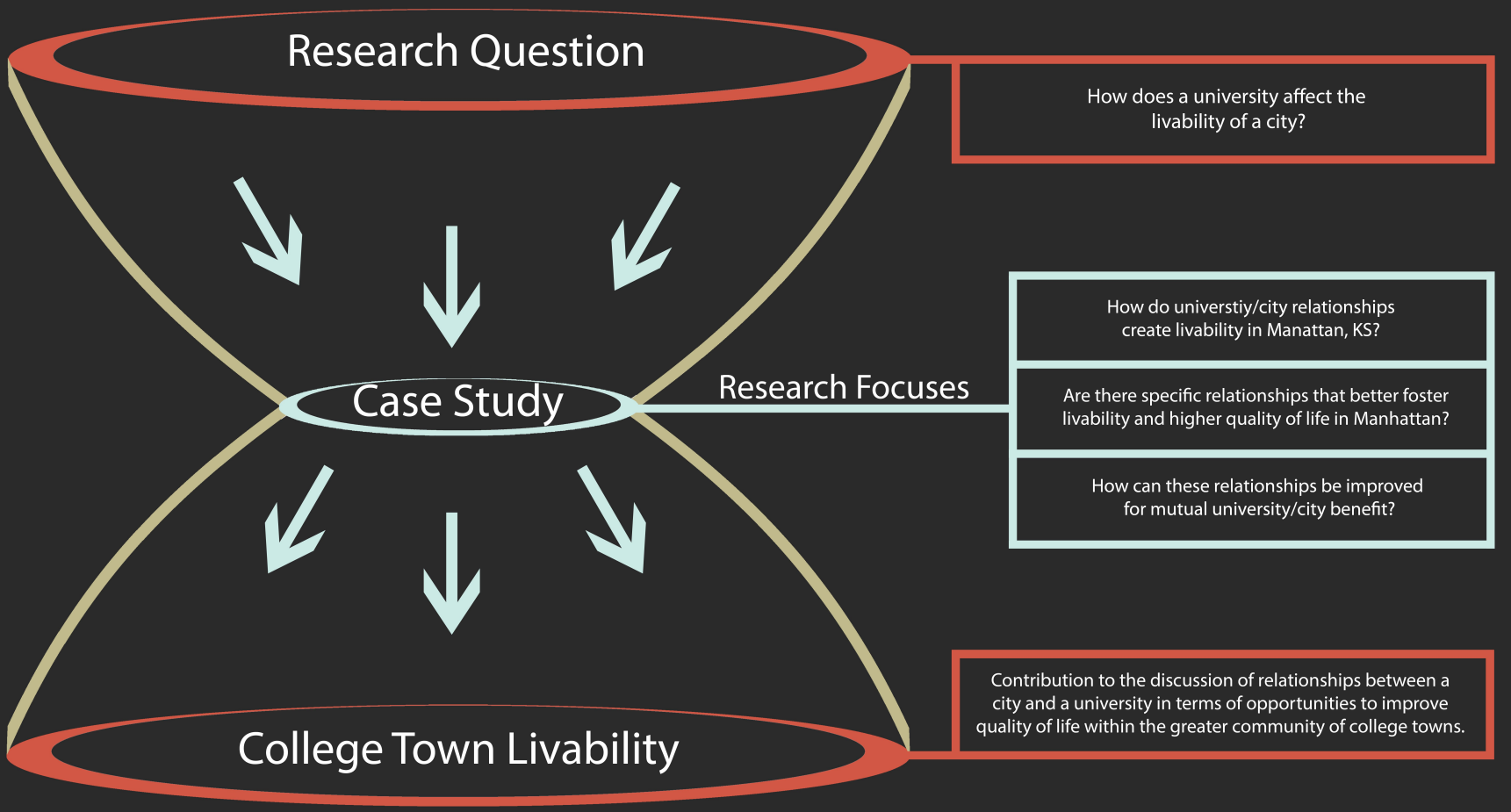


Figure 1.1: Research Application Diagram

Question Map

Developing the correct research question takes a long and often indirect path. In the case of this research, several questions were answered in the grand procedure of refining the research topic and finding the right unique research question (Figure 2.1). The largest influence that guided this process was the analysis of literature on previously conducted research related to the topic. Finding what research had been done and finding the unanswered questions with relevance and power to the discipline of regional and community planning finally lead to the correct question.



Figure 2.1: Research Path and Question Map

Chapter 2: The Project

City: Manhattan, KS

This study takes place in the geographic bounds of the City of Manhattan, Kansas (Figure 3.1), with focus on its relationship with the physical presence of the Kansas State University campus within the city- specifically the relationships with the public realm of campus (Figure 3.2), which physically draws the community across campus boundaries.

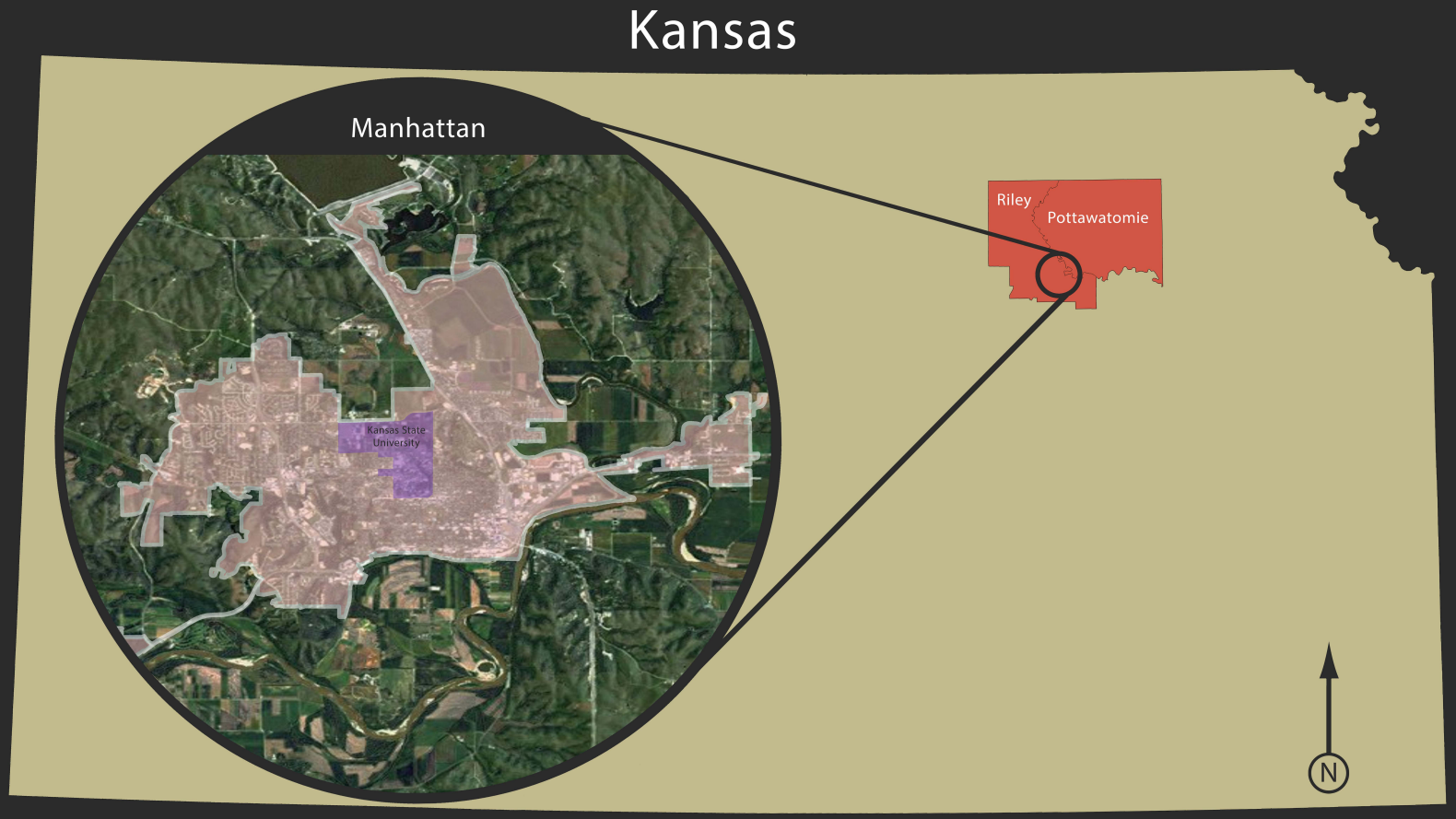


Figure 3.1: Study Area

University: Kansas State University

Since this study is concerned with the types of physical interactions the permanent residents of Manhattan experience on the KSU campus, it is critical to take inventory of the campus realm that is accessible to the public. Figure 3.2 illustrates the larger physical infrastructure that most commonly harbors public interaction in association with the nature of their use. These are the anchors that pull community members across campus boundaries. As well, they recip-



Figure 3.2: Public Realm of KSU

rocate amenities and infrastructure that would ideally be found in a community regardless of the existence of a university; baseball fields, parks, bike paths, roads, recreational facilities, libraries etc. In the case of Manhattan, and many other college towns, the supplication for this demand of amenities and services is pushed into the campus realm. As such, this study seeks to understand the effect of universities harboring community activity, in terms of livability and quality of life.

Manhattan History

Until 1830, when European pioneers arrived, the Manhattan Area was home to the Native American Kaw people (Olson, 2012). Major settlement of the area was made possible by the Kansas-Nebraska Act in 1854, the same year the settlement of Polistra was founded at the confluence of the Big Blue and Kansas Rivers (Parrish, 2004). In 1855, New England Freestaters settled in Polistra under the condition that the city be renamed New Boston. Later that year, a paddle steamer carrying more settlers heading west became stranded on the Kansas River south of New Boston and agreed to stay under the condition that the town be renamed Manhattan, which was finally incorporated in 1857 (Parrish, 2004). The city received early educational attention when Bluemont



Local Tallgrass Brewing Co., Photo by Anne Williamson, 2011



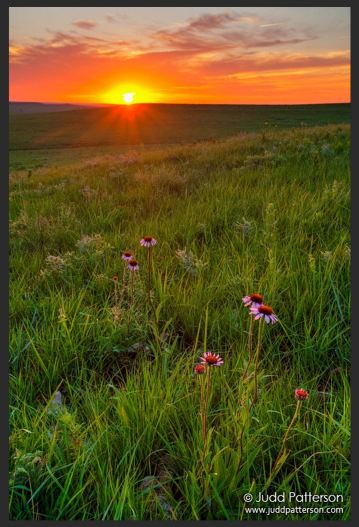
Anderson Hall, KSU, Photo by USNews, 2012



Bill Snyder Family Stadium, Photo by New York Times, 2009



Varney's Bookstore, Photo by Yelp, 2012

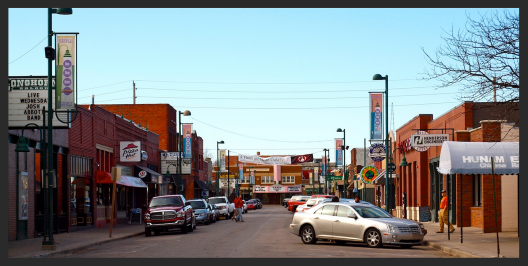


Konza Prairie, Photo by Judd Patterson, 2013

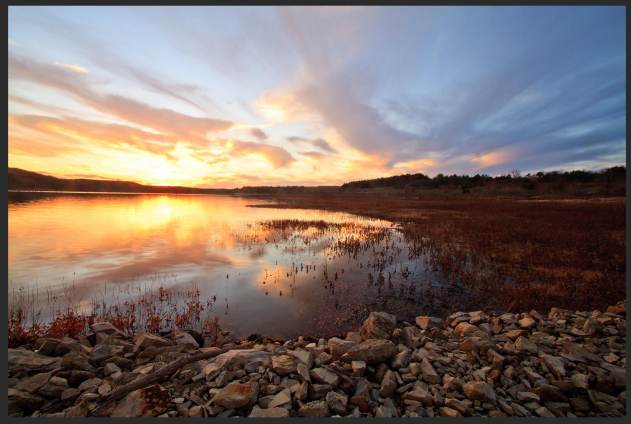
Central College established itself there in 1858. The lobbying to make the school a state college proved successful in 1863 when Kansas State Agricultural College (now Kansas State University) was established (KSU, 2013). City population and school enrollment grew steadily in the decades to come. Throughout the 20th century, the city transformed from a sleepy agricultural community to a booming college town. This was certainly attributed by the perpetual influx of federal monies for educational and military interest from the nearby base, Fort Riley. Manhattan was finally recognized and designated as a metropolitan area in 2010 when it surpassed 50,000 in population. Today, Manhattan is a vibrant, tight-knit community largely defined by a substantial student population. While it has retained a significant amount of traditional, small town characteristics, it also enjoys a culture normally unique to cities of regional and international scale.



Cyclers, Photo by The Pathfinder, 2012



Aggieville, Photo by Jennifer Windholz, 2012



Tuttle Creek Lake, Photo by Manhattan Visitors Bureau, 2013



Downtown Manhattan, Photo by Dave Leiker, 2013

Case Study Site Choice

This study chooses Manhattan, KS and its subsequent University, Kansas State University, as a case study for a two primary reasons. One, because it is a city deeply familiar to the researcher; and two, because of the characteristics that make it a prime example of an American college town. With a population of 56,069 (Census, 2012) and a student enrollment of 24,581 (KSU Registrar, 2013), there is no doubt of the university's magnitude as a prominent institution in the city. This student-to-city population ratio is very comparable to many other college towns throughout the United States, as seen in Figure 3.3. In fact, KSU lists a handful of "Peer Schools," or universities that have similar enrollment numbers and offer parallel curriculums and degree programs. These schools include Colorado State University, Iowa State University, Oklahoma State University, and Oregon State University (KSU Libraries, 2013). As seen in Figure 3.4, these universities also sustain a similarly large institutional presence in their respective cities, taking up a large portion of the urban area within their city's limits. This comparability between KSU and other college towns increases the relevance and applicability of any findings in this study to the wider realm of college town, or "town-gown", planning across the United States.

Iowa State University: 33,241 (Iowa State, 2013)
Ames, Iowa: 60,634 (Census, 2012)

Oklahoma State University: 25,544 (OSU, 2013)
Still Water, OK: 46,560 (Census, 2012)

Colorado State: 26,775 (CSU, 2013)
Fort Collins, CO: 148,612 (Census, 2012)

Oregon State University: 27,925 (OSU, 2013)
Corvallis, OR: 54,998 (Census, 2012)

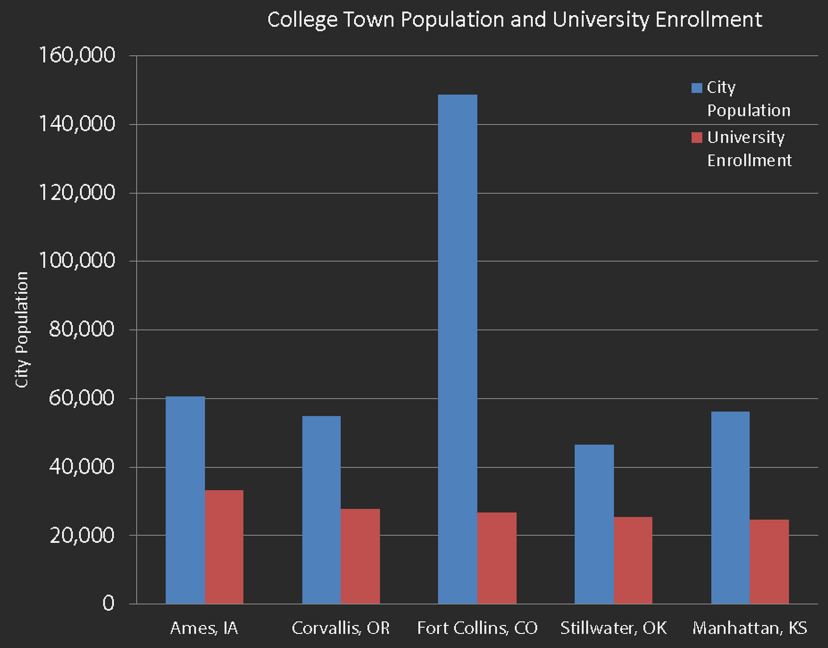


Figure 3.3 College Town Population and University Enrollment

Manhattan also makes for an interesting case study candidate because of KSU's recent praise as a highly desirable university. In The Princeton Review's "The Best 378 Colleges" 2014 edition, KSU was recognized as being ranked 2nd for "Great Campus and Community Relations"; 5th for "Student Satisfaction"; 6th for "Happiest Students"; and 7th for "Best Quality of Life" (The Princeton Review, 2013). These findings, based on survey data gathered from students, pose a great question for this study. If the students of KSU clearly experience a high quality of life at the university, do permanent residents in the community feel this effect as well? If campus-community relations at KSU are ranked as the 2nd best in the country, is it logical to believe that this quality of life enjoyed by students on campus spills out into the community, contributing to its status as a livable city? In the philosophy of this study, the answer to these questions are "yes", but how and to what degree this effect is felt is ultimately what this study seeks to discover.

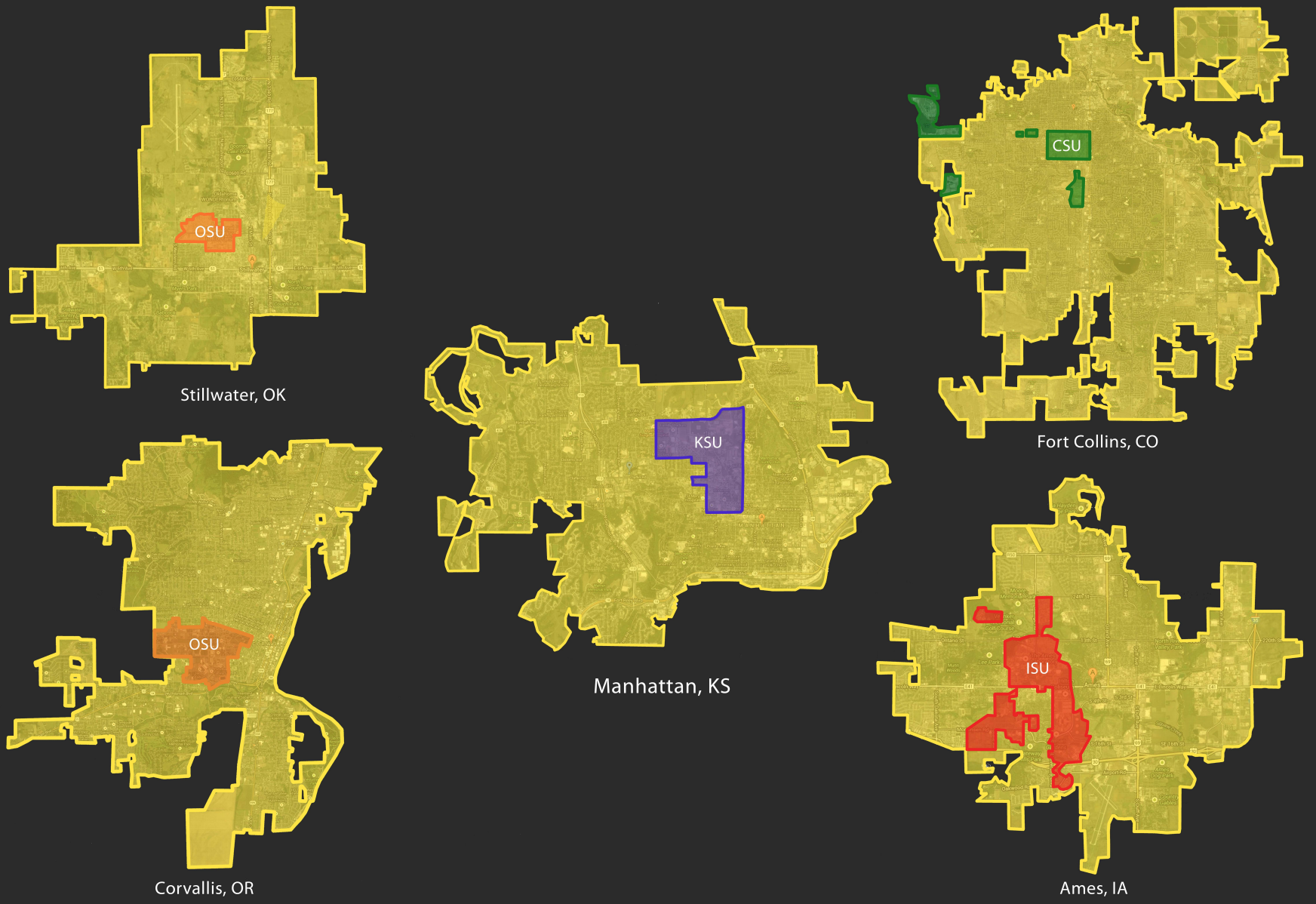


Figure 3.4: Relative Land Area Composition of Comparable College Towns

Relevance

College towns hold many unique insights into livability and quality of life. Because they have populations that demand services, amenities, and characteristics of cities that often coincide with desirable goals of urban planning, they can serve as unique stages for planning pursuit's successes and failures to be played out. In the case of Manhattan, KS, the university can double as a 680 acre park, complete with walking paths and bike thoroughfares, with endless means of economic-driving entertainment; from world-class music performances to nationally observed sporting events, art exhibits, health facilities, and educational opportunities (Figure 3.2). All of these amenities are open to the greater community for public enjoyment. Because the motivation of this research is grounded in the philosophy that the aforementioned qualities of universities in the context of a city can significantly benefit the greater community, in this study, Kansas State University is regarded and tested as an entity which creates a higher quality of life in Manhattan. Critically analyzing possible correlations between quality of life, university characteristics, and the different interactions and frequency of interactions with the university can give valuable insight into creating a higher quality of life and more livable communities in not only college towns, but all of today's cities. From this insight, policies and strategies can be created to strengthen the relationships between university and city that foster livability in the greater community, while addressing the issues that inhibit livability in the greater community. This hierarchy of research application is illustrated by Figure 3.5.



Figure 3.5: Study Topics Diagram

Objectives

Objectives of this study are to:

1. Identify the determining factors of quality of life thoughout research.

2. Recreate a contextual method of capturing quality of life and campus interaction for Manhattan's permanent residents.

3. Examine the statistical correlations between quality of life and campus interaction.

4. Examine the spatial patterns and correlations between quality of life and campus interaction.

5. Suggest policy to strengthen relationships that increase quality of life, while addressing the shortfalls of quality of life in Manhattan through university relationships.

The outcome of this study largely depends on the objective statistical analysis that searches for correlation between the different factors that make up quality of life, quality of life measured as a whole, and the types and frequency of interactions with the KSU campus that will paint a picture of Manhattan's permanent residences' campus relationships. An example of such an analysis can be seen in Figure 3.6 in which correlations can be tested by finding the correlation coefficient between two variables with a line of best fit, showing the predictive relationship between them. Based on these correlations, policies and strategies geared toward encouraging campus-town interactions that correlate with a higher quality of life will be suggested as well as addressing the shortfalls that can be administerd to by utilizing campus relationships. The exact methodology of this statistical analysis will be discussed later in the Methodology section.

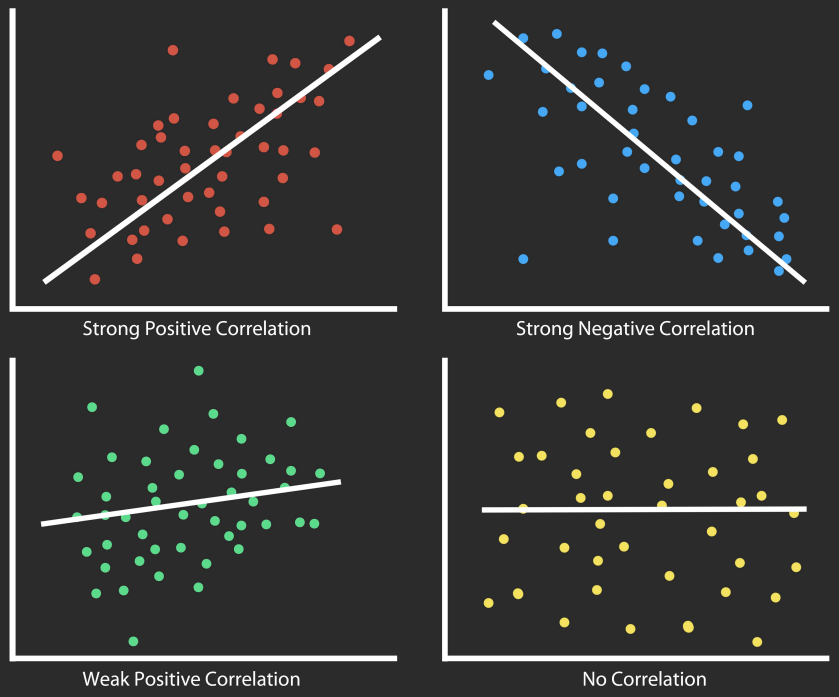


Figure 3.6: Predictive Line of Best Fit Analysis

Chapter 3: Literature Review

Literature Map

A large portion of the literature reviewed for this study can be seen in the literature map illustration in Figure 4.1. As the literature map symbolizes, this research strives to bridge the fields of livability and its application in the context of college towns. Once these topics were thoroughly researched, a clear and justified methodology for measuring the effect of a college campus on the quality of life of its respective permanent residents emerged for this study. As well, it became clear how these methods could be applied specifically to the KSU campus to measure its effect on the quality of life in Manhattan. These methods are discussed further in the Methodology section.

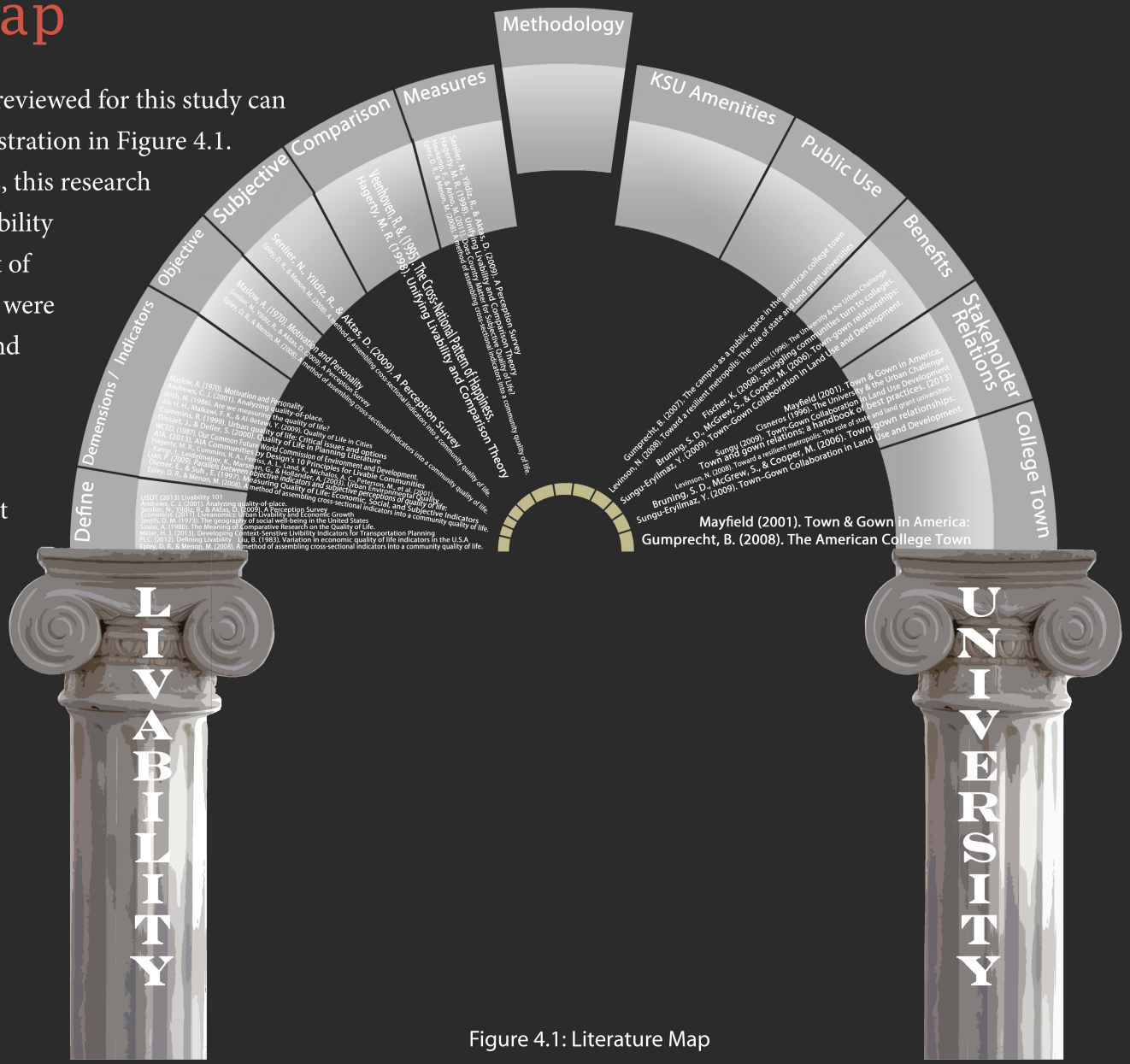


Figure 4.1: Literature Map

To properly navigate a literature review on the topic of livability and quality of life dependency on a university campus within a city, the biggest topic of research is on the concept of livability, its subsequent nature relating to quality of life, and how these largely qualitative concepts are measured. As well, it is important to cover some of the aspects of college towns, their relations with their universities, and specifically research on Manhattan and its characteristics in light of these findings.

College Towns

This section of the literature review mostly enforced the importance of the conclusions that could be drawn from this study. This included town-gown relationships, especially emphasizing the depth of relationships with a town and its university and campus, and the significance of university influence on city development and policy. As well, this section narrows the specific information on Manhattan characteristics as a recognized and prominent college town.

"College towns", for sake of this study, are classified as cities with a dominant university presence and a high student population, typically over 20% (Gumprecht, 2008). There are a little over 300 college towns in the United States. Manhattan,



Moro St. and N. Manhattan Ave., Photo courtesy of The Aggieville Archives

KS is by definition a college town. It hosts Kansas State University, a 668-acre land grant institution with a student enrollment of over 24,581 (KSU, 2013), located right in the center of a city, with an estimated population of 56,069 (Census Bureau, 2012). As seen in Figure 4.2, it is clear that university enrollment and city population have been explicitly linked over the years.

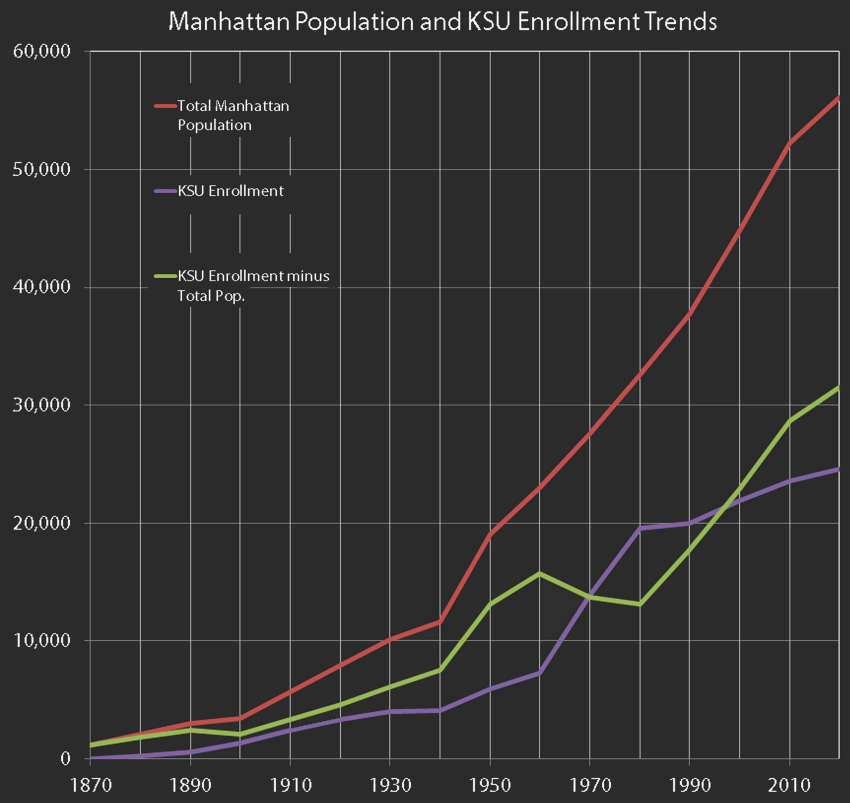


Figure 4.2: Manhattan Population and University Enrollment Trends

Universities are a large part of the urban landscape of many cities, especially college towns of land-grant origin like KSU. The KSU campus occupies approximately 1.05 square miles (KSU, 2013) of the 18.79 square mile area of Manhattan (Census Bureau, 2012), making the university about 5.55% of the total land area that comprises Manhattan. Within college towns of such a substantial university presence, the university often functions as the greatest force directly and indirectly influencing development within the city (Sungu-Eryilmaz, 2009). Though town-gown relationships are often strained, the coexistence of the two entities holds many unique, mutually beneficial opportunities for both universities and cities, which can in fact lead to a peaceful coexistence (Kemp, 2013). They can depend on each other's strengths to provide for the greater community through economic hardship, provide unique social service, and create pleasurable public environments (Sungu-Eryilmaz, 2009). KSU, like other educational institutions, functions first and foremost as an entity of education and research, but in many cases they do much more. University campuses are like small cities. They have streets, housing, parks, social events, restaurants, healthcare facilities, systems of governments, and copious means for entertainment. However, these institutions do not operate in a vacuum. They are an integral part of their cities and communities (Kemp, 2013). Universities interact with their communities in unique ways and for good reason encourage their communities to do the same. This interaction creates an emotional connection that allows the community to feel unity and devotion toward the university and its associated city. A poster example of this would be the emotional link between KSU athletics and the Manhattan community. Nothing in Manhattan brings people together more than a football game. In fact, the Powercat logo of KSU has

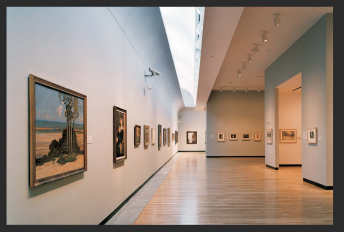
become a powerful symbol in Manhattan. It is used to brand everything between whole businesses and mixed drinks. These kinds of interactions, along with the services, amenities, and opportunities that are accessible to the general public create a very unique culture that is integral of the university in a college town. Because of this culture, college towns are often noted as great places to live, providing their citizens with a higher quality of life (Gumprecht, 2008). However there is very marginal research on exactly how cities benefit from the public institution of a university campus and how the overall livability of the city is in turn affected.

Livability and Quality of Life

This section of the literature review largely functions independent of the context of college towns, since very marginal research exists on livability or quality of life specifically in the context of college towns. Therefore, this section pertains to the overarching concept of livability and quality of life, its determining factors, measurement, and application thereof. This lends itself to determining an appropriate contextual approach to exploring and explaining quality of life phenomena in Manhattan given such heavily identified university presence, as discussed earlier.



KSU Gardens, Photo by KSU, 2013



Beach Art Museum, Photo by Helix LLC, 2010



City-University Interaction at a Football Game, Photo by Travis Heying, 2012



McCain Auditorium Perfomance, Photo by Topeka Capital Journal, 2013



Calvin Hall at Night, Photo by ITT, 2011



Memorial Stadium Rec Field, Photo by KSU, 2012

Livability is an abstract concept that holds various meanings to various people. It is a highly dynamic term that changes throughout the spans of both space, time, and culture- often

rendering it difficult to concretely define in literature. In the realm of urban planning, livability embodies the attractiveness of a specific area as determined by the "quality of life" it has to offer, a term sometimes synonymous with the more place-oriented concept of livability (Epley & Menon, 2008). According to Liu (1983), this idea of quality of life is simply a fashionable pseudonym of an old notion encompassing the physical and psychological "well-being" of persons as they interact with the environments in which they live.

It has also been described along with other research as the "general welfare" of people within specific geographies or environments (Smith, 1973). Andrews (2001) defined quality of life as a feeling of fulfillment, or satisfaction on the part of residents of or visitors to a place. In other terms, "the relationship between the individual perceptions and the feelings of people, and their experiences within the space they live." (Senlier, Yildiz, & Aktas, 2009).

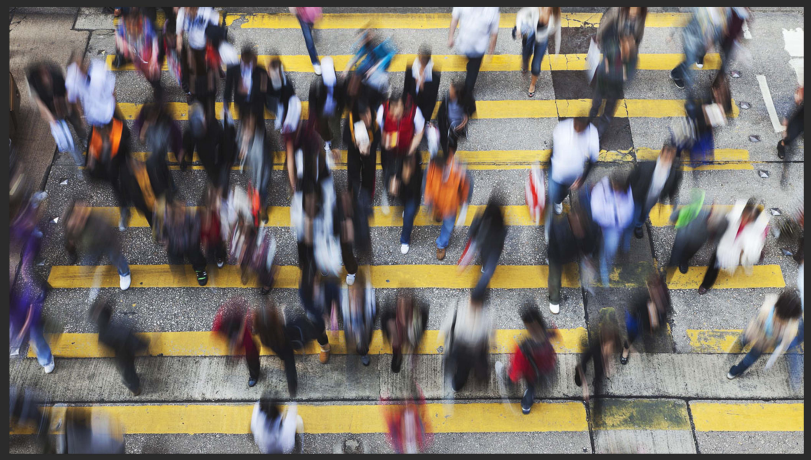


Photo by Shutterstock, 2012

Use of Quality of Life Indicator

The fact is, quality of life has become a potent marketing tool for cities around the country as an important measurement reflecting and defining qualitative and quantitative characteristics of where people live and want to live. As well, quality of life has proven itself as an adaptable tool in that it is not limited to being assessed or conceptualized on any specific scale. It can be analyzed on individual, neighborhood, city, state, national and continental levels. Though quality of life proves helpful in conceptualizing potential experience in places, it is fairly relative in its determining factors and methods for assessment, easily altered depending on local context and values. Quality of life is not even bound to any specific people group. It can be assessed across demographic categories such as race, gender, income, and age. In the United States, quality of life has been used as a means to describe important indicators of local economic development, environmental satisfaction, and overall measurement of community progress in a given area (Epley & Menon, 2008). Assessing livability and its subsequent relation to quality of life in local communities can give rise to the justification

of general policy decisions to make improvements. For example, a community lacking or showing a weakness in safety and security perception might be inclined to expand its police force, invest in improving street lighting, or invest in more spatially consistent police posts. On the other hand, quality of life assessments can identify specific strengths in the dimensions of a city's livability. For example, a city with a high environmental desirability might be able to market itself as an attraction to potential residents looking to settle in a place of such high environmental quality.

Philosophical Implications

Throughout the literature review, it was clear that there is no generally accepted definition of quality of life (Dissart & Deller, 2000) or livability for that matter (Okulicz-Kozaryn, 2013). However, these two terms are commonly framed as the "more or less good or satisfactory character of peoples' lives" when applied to the environments in which they live (Szalai, 1980). This lack of a standard definition has led to the interchangeable use of the term 'quality of life' with other concepts, such as level of living, way of life, life satisfaction, happiness, and morale (Dissart & Deller, 2000). These concepts are highly subjective and in turn difficult to objectively measure.

Throughout the research of the topic, it was clear that this lack of a concrete definition above the noise of culture and values holds very deep and unintentionally controversial implications associated with the philosophical nature of the question, "What does a high quality life look like?" For over 2000 years, writers like Plato have speculated on what is considered the "good life" and how the effect of public policy shapes and nurtures it (Hagerty, et al., 2001). However, perceptions of this "good life" are often subjected to the supporting ideas of the person of who is probing the question in the first place; using his or her own subjective point of view or professional credibility in justifying contributors. Having a substantial income, being part of a family, attaining employment, owning a house, living in a safe community, acquiring an above average level of education... are these universal goods? What should be considered as indications of a high quality of life when it is measured? To answer this, modern research on the topic basis its justification from a hierarchy of needs as illustrated by American psychologist, Maslow (1970) in Figure 4.3.

According to Maslow (1970), humans have very basic physiological needs for survival. In the interest of securing and more efficiently providing these basic needs, people live in commune- their physical manifestations are villages, towns, and cities. On a communal scale, basic human needs remain

the same: housing, safety, food supply, etc. However, once these needs are met and secured, it would seem they are taken for granted, and greater significance is placed on the fulfillment of secondary needs like access to amenities, recreational opportunities, pleasant communities, a pristine environment, and a satisfying personal and professional life (Andrews, 2001). Along this generalized continuum is where quality of life is queried, through the measurement of the satisfactory fulfillment of needs and preservation of those needs.



Figure 4.3: Maslow's Hierarchy of Needs, Maslow 1970

Literature on this research typically expresses criticisms made about the past measurements of quality of life due to their lack of all-inclusive indicators that cover the multiple dimensions they believe should be considered in quality of life. For instance, early methods in the 1960s only consider economic factors or household income to generalize the well-being of entire populations (Epley & Menon, 2008). Over time, the literature on quality of life has made deeper and more intricate connections between the multiple factors determining of quality of life, as illustrated in Figure 4.4. Most sources in the past few decades identify a number of "dimensions, domains, or categories," as they are named, that are composed of more complex indicators of quality of life.

These models appear to be more consistent and create more conclusive findings paired with more sophisticated analysis. The indicators that these models identify typically fall into three categories of Social, Economic, and Environmental factors closely resembling the ensemble concept of sustainability: economic development, environmental conservation, and social equity. Within these categories, quality of life has been expanded:

Social factors have been expanded to include accessibility to services like health, sports, education, shopping, childcare,

and recreational amenities; crime rates, sense of community, trust in government, and civic engagement.

Environmental factors have been expanded to include aesthetics of landscape and streetscape, the formation of sustainable environments, access to nature, air quality, recycling habits, waste management, and water quality.

Economic factors have been expanded to include employment opportunities, the stability of property values, level of income, poverty levels, debt management, and economic confidence.

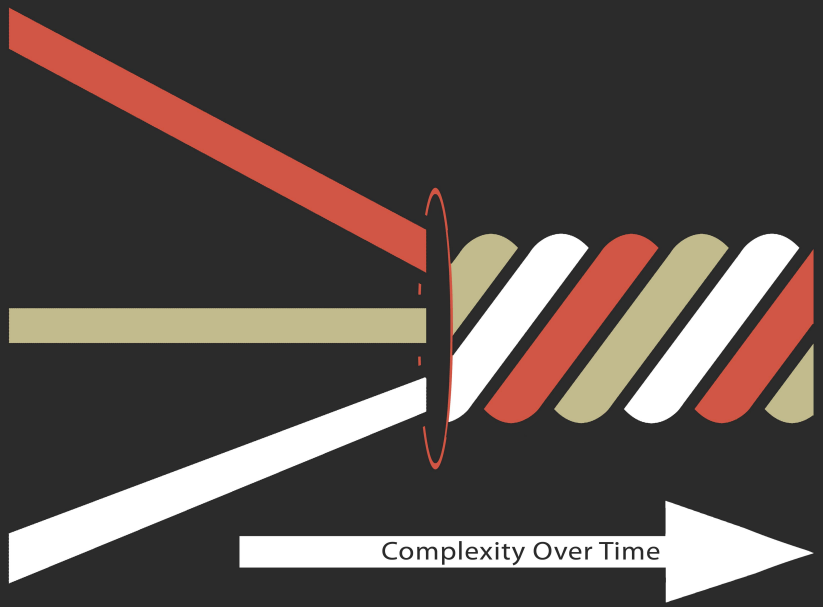


Figure 4.4: The Concept of Quality of Life Over Time



Running Through City Park, Photo by Manhattan Magazine, 2014

Additional popular measures include physical planning factors such as availability and diversity of housing and transportation options. Perhaps the most comprehensive models illustrating these dimensions are seen from Kamp (2003), as simplified in Figure 4.5.

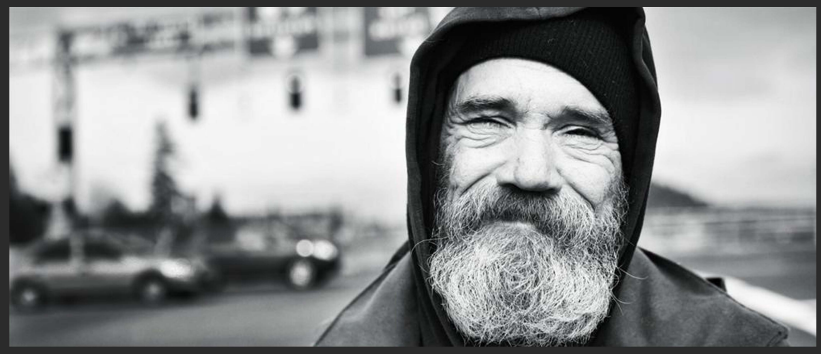


Figure 4.5: The Broad Demensions of Quality of Life, Kemp, 2003

Objective and Subjective Measurement of Quality of Life

When seeking to measure these factors determining quality of life, it is important to recognize the nature of these factors. Some factors are inherently more subjective in their measurement. For instance, how does one measure culture? It is certainly much more complicated than measuring household income. These are the two camps in the methods of measuring quality of life: subjective and objective. Factors related to the existence of physical or material aspects of quality of life are considered objective (Epley & Menon, 2008). In analyzing ones quality of life, this usually covers the existence of basic needs like housing, water, sewer, food, etc. Factors related to perceptions or satisfaction with life in a city are considered subjective. (Epley & Menon, 2008). In analyzing ones quality of life, this usually involves the higher needs of individuals, which could include safety, sense of community, social engagement, happiness, etc.

One of the greatest faults of measuring quality of life occurs when subjective indicators are measured using objective data. For instance, trying to measure happiness based on income level, trying to base sense of community perhaps by the number of festivals it hosts, or trying to measure sense of security by examining crime data. While these data can give hint to the quality of life in a community, objective measurements do not always explain the basis of unique anomalies observed in real life. Presumptuous studies often make these mistakes in the absence of greater, more desirable data (Okulicz-Kozaryn, 2013). This can lead to false assumptions about quality of life indicators. For instance, a 22 year old with an income of less than $2,500 per year, living in a two-bedroom apartment with 4 others would, by some studies, have an objectively low quality of life. Yet if this person feels perfectly satisfied with his life and has an endearing perception of his community, an objective measurement cannot correctly capture his quality of life relative to his situation. After all, quality of life is very much connected to the perceptions, feelings, and subjective values of people (Senlier, Yildiz, & Aktas, 2009).



The Relativity of Happiness, Photo by Mel Trotter Ministries, 2013

Absolute vs. Relative Quality of Life

This brings up the debate in the continuous research discussion of quality of life known as Comparison Theory: absolute quality of life vs. relative quality of life. Absolute quality of life encompasses the notion that there is an absolute, universal, and attainable quality of life that the human race is ultimately striving for of which it can be content with when attained (Hagerty M. R., 1998). This phenomenon tends to favor the objective and quantitative measures of quality of life such as GDP, crime rates, unemployment, the existence of civic amenities, and the acquisitions of technology (Veenhoven, 1995). These objective factors are more easily comparable across national borders. In fact, this objective and absolute measurement gives the reasoning for labeling countries as "developed, developing, or underdeveloped" or "first world or third world" (Veenhoven, 1995). However, this theory relies heavily on the idea that consumption and personal comforts create a higher quality of life and, for example, that populations in underdeveloped countries inherently experience a lower quality of life because they don't have the same standard of living as developed countries with the objective access to convenience goods like dishwashers, automobiles, and televisions. While this theory helps define certain aspects of quality of life, it largely fails to explain problems like individual dissatisfaction in developed countries like the United States. For instance, the existence of issues like depression and suicide among those with "objectively" high quality of lives.

Relative quality of life on the other hand encompasses the notion that quality of life amongst individuals is simply dependent on relative standards compared to their past experiences or the experiences of others (Hagerty M. R., 1998). This theory tends to favor the subjective and qualitative factors of livability that depend more on the perception of quality of life such as confidence in the economy, security and safety, sense of community, accessibility to health care, provision of desirable amenities and services, or even happiness living in a place. These indicators are more localized and are



First World Depression vs. Third World Hunger, Photos by A. Elizabeth, 2013; V. Tripathi, 2009

more difficult to find readily available data for, due to their complex and subjective nature. This theory relies heavily on the notion that constant perceived improvement to society is what makes for a higher quality of life. It would also suggest that improvements to quality of life are ultimately futile since humans adapt to new quality of life standards and often find themselves no happier without improved results over a long period of time (Hagerty M. R., 1998). For example, people perceive that they are better off when enhancements are made in their lives; a decrease in gas prices, wage increase, upgraded housing... but once the enhancement becomes perceived as the new status quo, satisfaction decreases and perceived quality of life begins to decrease since no progress or improvements in their lives are being made. In layman's terms, this is the 'what have you done for me lately?' phenomenon.

Measuring: Best Practices

Successful measurement and analysis of livability depends upon linking first the objective environment and human perceptions of that environment, and then those perceptions of the environment with perceptions of human well-being (Epley & Menon, 2008). This is essentially the process of combining absolute quality of life and relative quality of life by asking how human needs are being fulfilled and how satisfied those humans are with the facilitation of that fulfillment (Hagerty M. R., 1998). Hagerty's (1998) study on Comparison Theory provides evidence that absolute levels of quality of life, as measured by Per Capita GDP (Gross Domestic Product), had the largest effect on life-satisfaction. However, there are also studies that favor the relativist model. In Harvey J. Miller's (2013) analysis, quality of life was again measured by GDP/person, yet he found that this factor was only significant to subjects when they were affected by changes in their lives as far back as 2.5 years.

Okulicz-Kozaryn's (2011) study also postulates that probing the relative levels of quality of life through subjective assessment are the best methods of measurement, due to a weaker positive correlation (0.4) of objective measurements. However, this study was not specifically measuring the change of life satisfaction over time. Satisfaction and happiness indicators are accepted to be the most important criterion in measuring the subjective values (Senlier, Yildiz, & Aktas, 2009). Heukamp and Arino (2011) found that one of the highest correlating factors for both the subjective and objective factors of livability and quality of life was trust in the community and its functions. The subjective nature of trust or confidence assumes the consideration of past experience of

factors effecting quality of life while also giving a reasonable projection of well-being into the future.

Precedent Studies

In light of the literature review thus far, this section looks at previous studies relative to the quality of life in the Manhattan area, as a consideration for the methodology of this study.

Flint Hills Quality of Life

One local study on the quality of life of the Manhattan area comes from the Flint Hills Regional Growth Plan, the guiding document for the Flint Hills Regional Council. The Flint Hills Regional Council is a voluntary service association of local Kansas governments from Clay, Dickinson, Geary, Morris, Riley, Pottawatomie, and Wabaunsee County and their respective municipalities and unincorporated areas (FHRC, 2013). This growth plan analyzes quantitative data provided greatly by the census. The purpose of the report was to establish a performance baseline for regional providers and to identify key areas in which current or foreseeable deficiencies relative to desired standards warrant steps to improve service delivery and to develop a basic profile of the region's well-being (Flint Hills Regional Council, 2008).

The Flint Hills Regional Growth Plan report first recognizes the value of having a quality of life tool to examine an area's ability to provide a balance of economic stability, recreational opportunities, healthy surroundings, cultural experiences, and sound education, in addition to economic and housing opportunities that largely draw people to an area (Flint Hills Regional Council, 2008). Similarly, this report requires a definition or concept of quality of life. The Flint Hills Regional Council defines quality of life as follows:

"Quality of life permeates all dimensions of the community. It measures how well people move around, where they live, their access to parks and recreation, the quality of their schools, and the safety of their neighborhoods. Essentially, the measure accounts for anything that affects an individual's ability to lead a balanced, healthy, prosperous life. High quality of life is often about providing options and meeting the needs of a broad range of individuals. An example may be the balance between the efficient movement



Flint Hills Region, Flint Hills Regional Council, 2011

of vehicles and streets that are friendly for pedestrians and transit users. Other quality of life factors seek to achieve a high absolute standard, such as clean water and air, abundant open space and natural areas, low crime risk, and outstanding schools... Ideally, these communities should be places where people can raise families, get an education, build careers, and retire." (Flint Hills Regional Council, 2008).

To give this definition some context, this report states the values that shape quality of life in the region of Manhattan are:

1. Protection of the natural environment
2. Educational priority
3. Employment options
4. Friendliness to newcomers
5. Quality public service
6. Preservation of cultural history
7. Health, safety, and well-being of citizens
8. Diverse recreational and cultural activities

Furthermore, from this report the Flint Hills Regional Council lists 12 categories or dimensions used to determine quality of life. These categories are based on a collaboration of community feedback and a review of common quality of life indicators used across the nation (Flint Hills Regional Council, 2008). As seen in Figure 4.6, these dimensions closely mirror the dimensions discussed throughout this study.

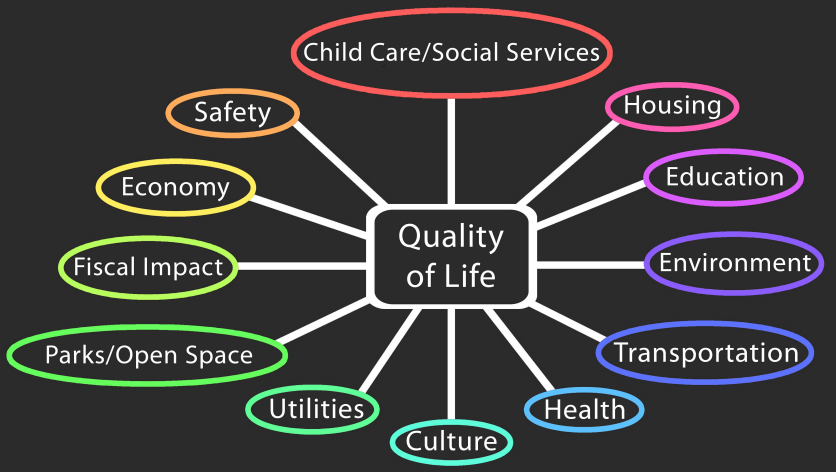


Figure 4.6: Demensions of Quality of Life in the Flint Hills

This report summarizes that quality of life indicators label the Flint Hills region as generally a desirable place to live (Flint Hills Regional Council, 2008). This summary is based on a composite scoring system, as Figure 4.7 depicts. Notably, the Flint Hills region comprised of Manhattan is ranked highest in Education, Housing, Parks and Open Space, and Public Safety. These indicators comprising the categories determining quality of life are all derived from objective statistical data as described in the proceeding list.

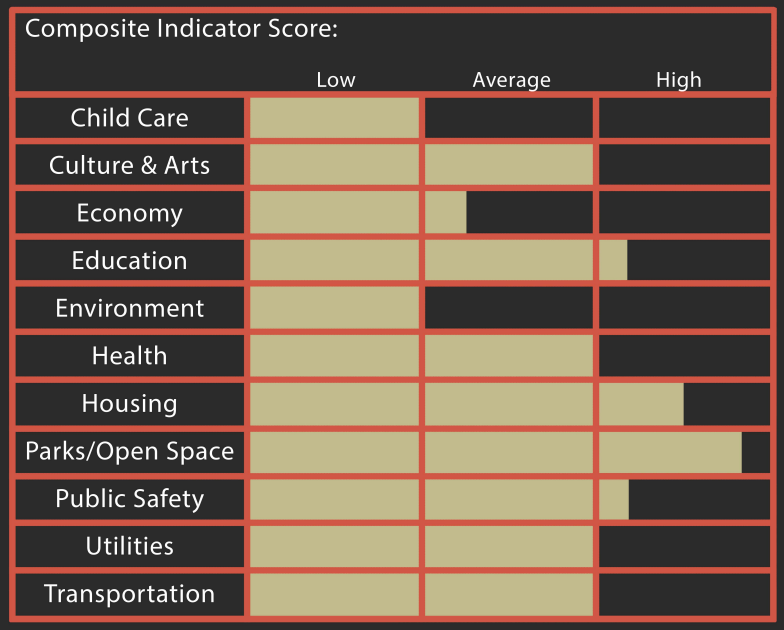


Figure 4.7: Manhattan's Regional Quality of Life Report, FHRC 2008

Child Care/ Social Services

- Number and percent of accredited child care facilities
- Registered child care spaces, as a percent of estimated need
- Percent of child care facilities contracting with SRS by type
- Affordability of child care in Flint Hills Region
- Number of youth programs and facilities

Education

- Per pupil spending
- Student-teacher ratios
- Attendance and graduation rates
- Proficiency levels
- Licensing levels
- Public vs. private school attendance
- Total number of colleges, universities, junior colleges, and professional schools
- Percentage of adults with bachelor's degree or higher

Housing

- New starts
- Vacancy trends
- Average sales price
- Sales volume
- Historic turnover
- Appraised value
- Forecasted housing supply
- Percentage of housing within 1 mile of commercial services
- Percentage of housing within ¼ mile of transit services

Utilities

- Utility access
- Utility expansion
- Percent of median income paid for utilities
- Level of regional groundwater aquifers
- Percent of median income paid for utilities

Culture

- Accessibility to arts and entertainment events, cultural institutions & programming
- Funding and government expenditures supporting art and cultural opportunities
- Historic preservation and NRHP designations

Environment

- PM2.5 and PM10 (air quality) levels - PM is particulate matter suspended in air in the form of fly ash, soot, dust, fog, fumes etc.
- Violations to Environmental Protection Agency (EPA) standards for public drinking water
- High priority Total Daily Maximum Load (TDML) or water quality violation occurrences
- Local ground-level ozone, particle pollution, carbon monoxide, sulfur dioxide, and nitrogen dioxide levels
- EPA Air Quality Index
- Per capita water consumption

Parks/Open Space

- Municipal Parkland: Acres of municipal parkland per 1,000 residents
- Acres of state, federal and private park, recreation, and conservation lands per 1,000 residents
- Acres of preserved tallgrass prairie
- Miles of recreational trails

Parks/Open Space	• Number of hunting and fishing opportunities • Other/future indicators: • Number of recreation centers • User satisfaction surveys • Acreage of unprotected intact tallgrass prairie • Distribution of public parks and open spaces
Transportation	• Total miles and Daily Vehicle Miles Traveled (DVMT) for rural and urban roads • Number of segments operating at a failing and highly congested Level of Service (LOS) • Vehicle hours per capita • Operating expenditures per capita
Economy	• Average annual unemployment rate of the working • Age population • Median family income • Other/future indicators: • Property taxes • Per capita personal income indicator
Health	• Percent of population with health insurance • Quantity of physicians • Percentage of births that are Low-Birth Weight (less than 2,500 grams) • Suicide rates
Safety	• Crime rate (number of crimes violent and property per 1,000 people) • Other/Future Indicators: • Number of sworn police officers per 1,000 people • Number of full time fire fighters per 1,000 people • Average rescue call response time • Drug related incidents per 1,000 people

(Flint Hills Regional Council, 2008)

Shortfalls

Unfortunately, there is no possible means for this study to properly analyze individual interactions with KSU for a correlation with a higher quality of life. As well, this study has very marginal mention of the University's contribution to the area's livability, though this is because of the scale of the study- spanning several counties and municipalities outside of Manhattan which are less affected by KSU as proponent of livability in the area. The most notable mention of Kansas State University in this report is in its capability to provide recreational amenities:

"The City of Manhattan… has the benefit of being home to Kansas State University. K-State provides a vast array of



Chester E. Peters Recreational Facility, Photo by KSU, 2012

recreation opportunities including the large and diverse Chester E. Peters Recreation Complex, the Ahearn Field House and Natatorium, multiple outdoor fields, a strong and diverse intramural program, 23 club sports, and the championship Colbert Hills Golf Course." (Flint Hills Regional Council, 2008).

Precedent Study Conclusion

This report from the Flint Hills Regional Council gives informative context to this study, while giving relevant indicators that determine quality of life in the region as well as a contextual definition of quality of life. While it's true that the report by the Regional Council calls for a methodology driven by objective census data that is comparable to other regions and states, for the purposes of the study herein, this methodology would not prove useful. Because campus interactions and frequency of those interactions, the independent variable(s) of the study herein, are not data that are readily available, the two variables of the study herein, quality of life and campus interaction, could not be compared. However, this report is possibly the closest thing resembling the study herein being carried out. But because the link between KSU and the city's or region's quality of life is not exclusively made, the study herein must be carried out to determine what and how the KSU campus contributes to the quality of life and livability to the region and more importantly- the immediate city of Manhattan and its citizens.



View from Manhattan Hill, Photo by Wikimedia Commons, 2013

Areavibes Index

Measuring the livability of cities and the quality of life of their citizens is not a notably new concept. However, in recent history, very comprehensive and sophisticated models have been constructed for objectively gauging the livability of cities which are readily available online. Livability.com and Areavibes.com are online tools to help prospective residents find the best places to suit their needs in the United States. They are based on the compilation of quantitative indicators of quality of life like the cost of living, household income, commute time, housing prices, crime rates, graduation rates, and qualitative data like the existence of social and cultural amenities like art galleries, zoos, restaurants, and recreational facilities.

Based on these factors, the Areavibes Index runs an algorithm, which compares these city statistics to state statistics to create a comprehensive livability score. Based on this algorithm, Manhattan, KS is noted as "Exceptionally Livable" with a livability score of 83 out of 100 for having numerous local amenities, a low cost of living, low crime rates, and high graduation rates (Areavibes, 2013). As well, notable amenities in the communities are pinpointed to give users an idea of where amenities are located in the community, as reconstructed in Figure 4.8. These are grocery stores, restaurants, shops, schools, parks, libraries, entertainment, public transit stops,

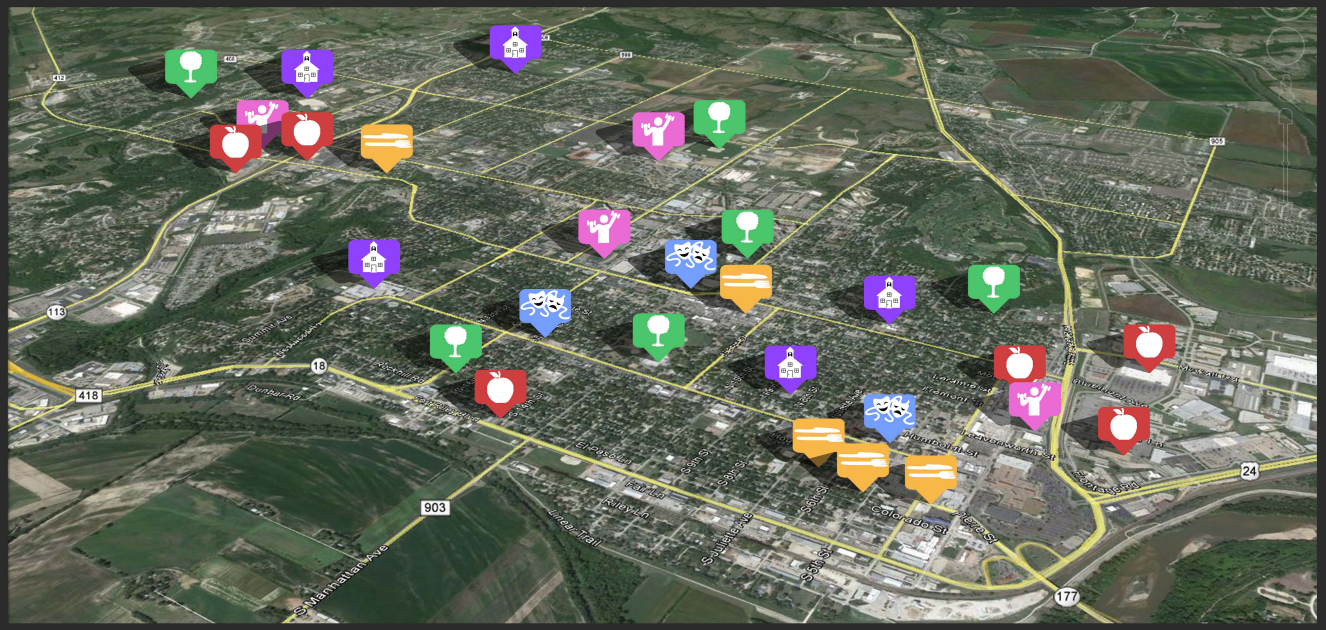


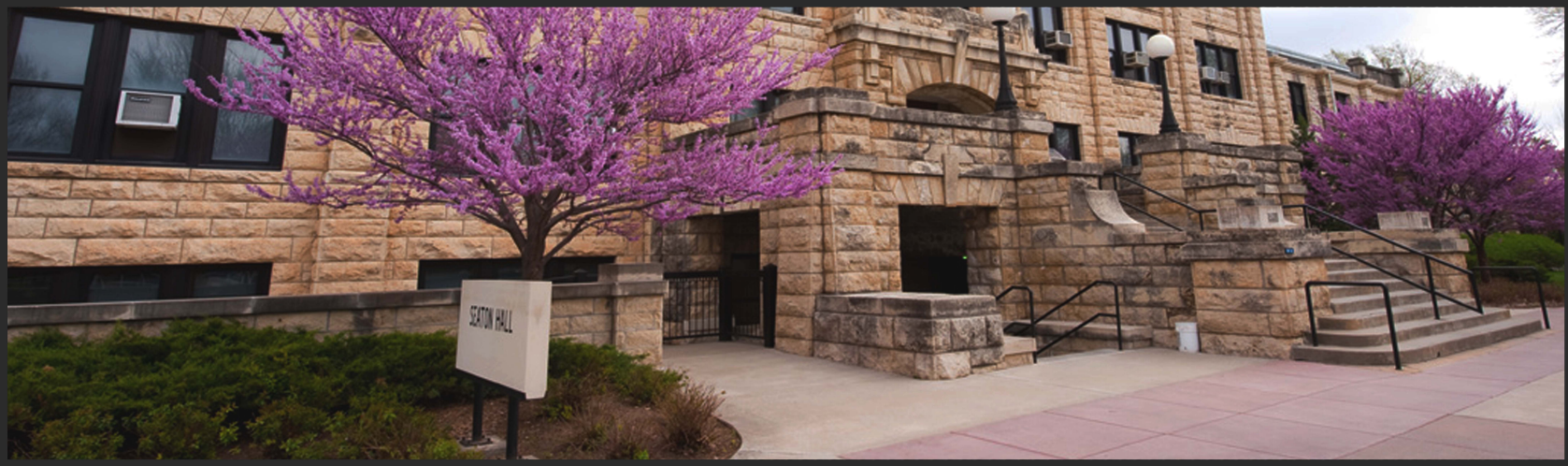
Figure 4.8: Manhattan Amenity Locations, by Author

and recreational facilities, which are automatically located and identified with an amenity type (i.e. Cultural, Educational, Health, etc.) based on broad categorical sweeps from Google. The density and number of these amenities per capita creates a separate score for local amenities. In this measurement, Manhattan is given a 100 out of 100, reinforcing the often stated notion that Manhattan is a small town with big city amenities (Areavibes, 2013).

As mentioned in the previous study, this data does not prove particularly useful for sake of analysis, because it does not exclusively separate the university's contribution to the quality of life in Manhattan in a quantitative or qualitative manner. Therefore, there is no comparison to be made. However, indicators used to determine quality of life in its methodology does not contradict the indicators of the study herein. This study also enforces the concept of livability and quality of life in a more palpable way.

Literature Summary

There is no universally accepted definition of livability or quality of life. However, it is understood that the qualities of a city that make them places people want to live are based on their ability to adequately provide for their citizens' needs and satisfaction with the provision of these needs; in most



Seaton Hall, KSU, Photo by KSU, 2013

cases based on Maslow's hierarchy of needs. The indications of those needs' fulfillments is embodied in the model for sustainability, a cohesion of environmental, social, and economic function performances. The methodology of gauging these performances in their relation to quality of life holds many philosophical implications. While an absolutist model explains the justification for an objective evaluation of quality of life, it seems to become irrelevant after basic needs are met. The fulfillment of the more non-essential human needs seems to favor the more relativist model of quality of life assessment in which peoples' relative situations and perceptions of their environments affect their quality of life. Furthermore, while measuring the sheer facilitation of citizens' needs through the analysis of objective data is a decent way to measure quality of life, measurement of more subjective factors, like satisfaction within a city, shows a much greater correlation with quality of life. As well, these results are more personal and relevant to a given specific location and culture.

Chapter 4: Methodology

Methodology Overview

It is the philosophy of this research that there is an inherent social, economic, and/or environmental benefit that is experienced in a city with a university and campus. This benefit in turn increases the city's livability. To reiterate, the research question for this study is:

"How does a university affect the livability of a city?"

To analyze these relationships, the methodology of this research calls for a case study. For this, Kansas State University will be analyzed in the context of Manhattan to answer the research question. Therefore, the research question must be modified to:

"How does Kansas State University affect the livability of Manhattan, KS?"

In this case, quality of life is the dependent variable, because it is *dependent* on the presence of the university and its relationship with the city. Essentially, this research aims to measure the city's "livability dependence" on Kansas State University. This is done in three steps:

(1) Gathering data on Manhattan citizens' quality of life as well as their types and frequencies of interaction with the KSU campus.

(2) Analyzing Manhattan citizens' quality of life and level of KSU campus interaction for correlations, patterns, and statistical significances.

(3) Drawing conclusions about the spatial and physical relationships between Manhattan and KSU that affect quality of life for Manhattan residents.

Depending on the strength and validity of the research, these conclusions can then contribute to the general field of knowledge of town-gown planning relations between universities and cities, giving insight to livability. Findings could then be applied to other college towns as to present solutions to common problems experienced throughout American college towns, as previously illustrated in Figure 1.1.

Based on precedent, it is clear that a survey is the best way to conduct a quality of life analysis as well as the best way to measure the independent variable of individual campus interactions.

A survey has an advantage in its capability of gathering attitude and behavioral information directly from people of interest (Fink, 2002). In this case, attitudes and perceptions of quality of life in Manhattan are gathered from respondents in Manhattan. As well, behaviors and frequency of behaviors of subjects are gathered from respondents in terms of their interactions with the KSU campus. Through the literature review process, there have been two distinct methods noted for analyzing quality of life: objective and subjective. The objective method uses quantitative data to draw conclusions based typically on absolutist theory of quality of life, as discussed previously. The subjective method uses qualitative data to draw conclusions based typically on the relativist theory of quality of life. While precedent acknowledges the strong suits of the objective method, it tends to validate the more subjective and relative aspects of quality of life; that is to say, what people feel and perceive about their quality of life, rather than what a third party rigidly concludes about a their quality of life.

This is the method of choice for this study, a relatively subjective measurement with a relativist philosophy on quality of life. Conveniently, the simplest and most effective way to gather this information is through a survey. This allows direct querying of subjects whom hold the relevant and exact information that is sought after in this study. In the same sense, this survey eliminates the needless and extensive searching for other primary data that may not yield the critical information required for this study. A survey also reduces the risk of misinterpreting objective data. However, this puts more pressure on the researcher in designing a suitable survey and properly probing for the correct information that will develop insight to the research question posed previously.

Survey Design

Survey design is a unique art and science. It is a careful balance between achieving maximum response while attaining the maximum desired information. To achieve maximum response from subjects, the survey must be short and simple while giving subjects convincing reason to participate. To obtain the maximum desired information, the survey has to ask the right questions that take definitive steps toward answering the research question while communicating them in a concise and understandable manner (Fink, 2002).

The structure of the survey, as presented to the participant, is divided into sections as follows derived from the CMU (2013) model.

1. Cover Letter
    a. Project Description
    b. Instruction
    c. Disclosure/Assurance
    d. Contact Information
2. Questionnaire
    a. Quality of Life Assessment
    b. University Campus Interaction Assessment
    c. Self-Assessment
    d. Demographic and Spatial Inquiry
3. Closure
    a. Gratitude

Cover Letter

The following is the word-for-word cover letter used for the survey of this study:

Greetings,

My name is Benjamin. I am a graduate student at Kansas State University. In my current research, I am examining the relationships between Manhattan citizens and Kansas State University. I invite you, as a citizen of Manhattan, to provide your valuable input as a part of this study by completing this survey.

The questionnaire should require about 5 minutes to complete.

Your input is GREATLY appreciated and will remain strictly confidential. Your responses will be compiled with other respondents' input and presented as general data. The data collected will provide critical information on how best to improve city relationships. Participation is strictly voluntary.

Completion of this survey will indicate your willingness to participate in this study and no further contact will be made. If you require additional information or have questions, please contact me by the information below.

Thank you,

Benjamin Chmiel

Regional/Community Planning Student, KSU
Chmielb@k-state.edu
785/458-2920

The cover letter of the survey is intended to give context to the research, give instruction to the questionnaire, assure participants on how their responses will be used, how the respondent can make contact for further questions or concerns, and above all, how important the survey is to the study and how much appreciation is owed due to the respondent's choice to participate in the study. This is the opportunity to "sell" the survey to the respondent. In this, the cover letter of this survey was carefully designed to achieve a maximum response rate.

Quality of Life Questionnaire

The factors determining quality of life in the questionnaire were clearly identified through the literature review. As well,



Educational Institutions of KSU, Bluemont Hall, Photo by KSU, 2012

precedent surveys conducted on quality of life were analyzed for patterns in question types, topics covered, dimensions constructing quality of life, and the strategy for measuring these factors, as fully seen in the Master Table in the Appendix. Twenty-six quality of life study surveys were analyzed to determine what factors were associated with the construction of quality of life t

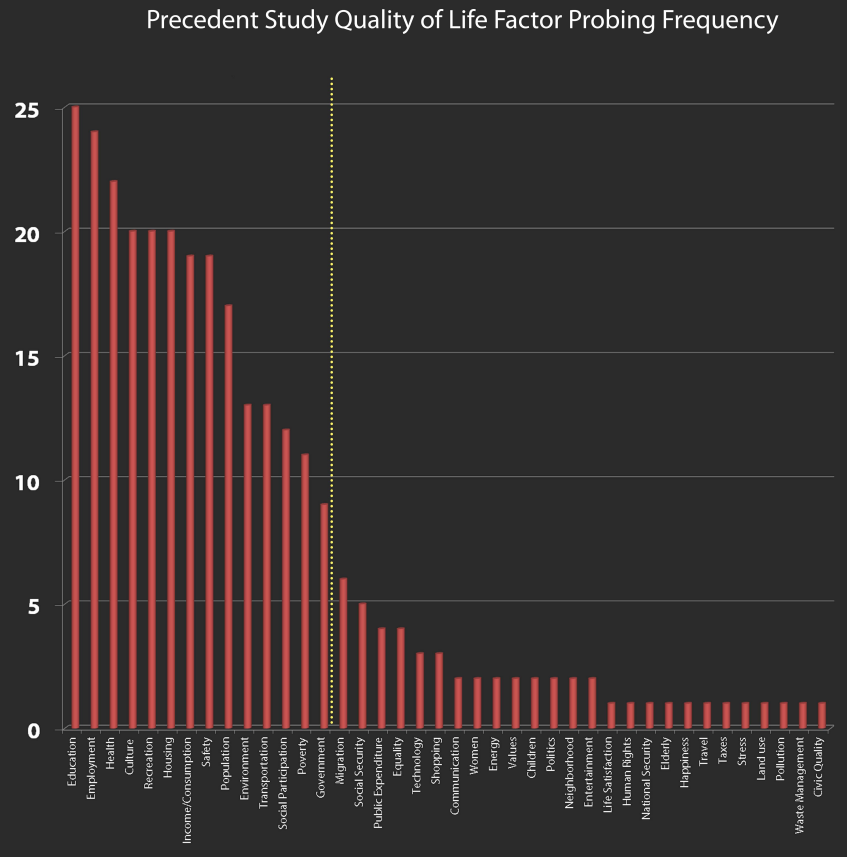


Figure 5.1: Precedent Study Quality of Life Factors

through the questions they asked. When these surveys were analyzed, it became clear what the most important quality of life factor concerns of these studies pertained to, as indicated by the factors to the left of the yellow dotted line in Figure 5.1: education, employment, health, culture, recreation, housing, income, safety, population, environment, transportation, social participation, poverty, and government. For sake of brevity and validity, this survey seeks to limit the probed factors of quality of life to a select few, in this case, the most frequent found in precedent research. This study also seeks to consolidate quality of life factors that may overlap, or may not be particularly relevant in the context of the American college-town of Manhattan, Kansas. From this point, constructing a survey to examine these traits of quality of life in the community is fairly straightforward. The survey itself consists of three sections: (1) The quality of life assessment, (2) The campus interaction assessment, (3) The demographic information section. A full copy of the survey and its questions can be found in the Appendix.

These three sections of the survey following the cover letter are constructed in the matrix style, asking a series of questions with the same ordinal response options. This creates great efficiency while the respondent is filling out the questionnaire, since he or she will be aware of the pattern of response options and should not have to refer back to the response options more than once or twice. For all matrix sections, there are five ordinal options for the respondent to select, all on a Likert scale. While five degrees of response in surveys of this nature are typical, an acceptable range of response options is noted between three and seven (Frankfort-Nachmias & Nachmias, 2007). Ordinal responses like this are powerful because though they are qualitative in nature, they can easily be transposed into quantitative "ratings" from say 0 to 4 since they create a continuum of options on the Likert scale. The response to these questions can then be analyzed quantitatively for statistical significance (Fink, 2002). The last section, the demographic questionnaire, is merely an attempt to categorize respondents based on the information they provide. This nominal data is necessary because it can give insight to any trends among specific demographics as well as ensuring that the target population is successfully reached.

Quality of Life Assessment

The first part of the questionnaire contains questions designed for the self-examination of respondents' perception of quality of life factors in Manhattan. These different dimensions of quality of life are summarized by posing one question that is intended to cover as many aspects of quality of life within that factor as possible. As previously mentioned, these factors derive from those that precedent research attests contributing to livability at the municipal level- depending on their existence and intensity, as discussed in the Literature Review section. For this case study, questions in this section are structured to inquire on the respondent's agreement with these factors as far as their existence and intensity in Manhattan, as seen in Figure 5.2. Because this is perhaps the most crucial section of the survey and the better part of the study, each factor's question in the quality of life factor section will be discussed in detail, as to interpret their purpose and intention in this study.



Figure 5.2: Quality of Life Demensions in Manhattan

Culture

The respondent's agreement with "Manhattan is a city with cultural" is aimed at measuring the respondent's qualitative take on the existence and performance of museums, galleries, sports, movies, plays, and other cultural and commodities that fulfill his or her need for beauty, creativity, and entertainment in Manhattan. Art and culture is a higher societal need according to Maslow (1970), but is necessary to measure as a factor of quality of life in cities within objectively more developed countries like the United States. "Having or revealing natural creative skill" defines the concept of "artistic," (Marriam-Webster Inc., 2013). These skills on a societal level are manifested and enjoyed as a

general appreciation for literature, music, painting, philosophy, and aesthetics through the concept of culture: the arts and other manifestations of human intellectual achievement regarded collectively (Marriam-Webster Inc., 2013). "Culture" in this case also relates to a particular group of people and their habits, beliefs, traditions, etc. in a particular society, group, place, or time (Marriam-Webster Inc., 2013). These are the things that define cities as unique and desirable places to live life for certain individuals. It is understood and assumed that the more in agreement the respondent is with this statement, the higher his or her quality of life.

Economy/Employment

The respondent's agreement with "Manhattan has economic/employment opportunity" is aimed at measuring the confidence and security that the respondent has in Manhattan's ability to support his or her employment needs and ambition for long term investment in Manhattan's local economy. Economic opportunity like employment and job security is one of the greatest reasons people migrate and settle in cities (Economist, 2011). This measurement in the survey can also probe the foresight, ability, and opportunity of the respondent to climb the career ladder and be socioeconomically mobile within Manhattan. As well, this measures the respondent's sense of security to provide and increasingly provide basic needs like housing, food, utilities, etc. for themselves as well as his or her family if they have or are planning for one. Additionally, Greenwood (2001) describes economic opportunity as the diversification of the employment base, the affordability of housing, and the degree to which income growth is spread throughout the community. It is understood and assumed that the more in agreement the respondent is with this statement, the higher his or her quality of life.

Education

The respondent's agreement with "Manhattan provides access to good education" is aimed at measuring the respondent's overall perception of the public and private educational system in terms of its performance and proactive ability to fulfill his or her and/or his or her family's educational needs. Education in this sense could range from pre-school to postdoctoral research. All the same, this question probes accessibility and availability of quality education and its facilities within Manhattan. These are the day care centers, museums, libraries, vocational training centers, adult education classes, KSU courses and degree programs that the city harbors opportunity to and that the respondent feels are easily and readily available to him or her. It is understood and assumed that the more in agreement the respondent is with this statement, the higher his or her quality of life.

Environment

The respondent's agreement with "Manhattan has a desirable environment" is aimed at measuring the respondent's overall satisfaction with the natural physical environment of Manhattan. This is the respondent's perception of the quality of parks, green spaces, natural environments, trees, wildlife habitats, as well as the adequate quantity of and access to such amenities in Manhattan. This is his or her ability to enjoy the landscape of trees, shrubs, flowers, and grass on walks through neighborhoods; his or her ability to enjoy fresh and clean air on jogs, visit and enjoy the tall grass prairies and natural landscapes of the Konza, etc. This could also probe the respondent's opinion on other environmental management systems and opinions on the environmental friendliness in Manhattan, like recycling service convenience, water management performance, energy conservation, auto emission control, etc. It is understood and assumed that the more in agreement the respondent is with this statement, the higher his or her quality of life.

Government

The respondent's agreement with "Manhattan has an effective government" is aimed at measuring the respondent's opinion of the local government. In a democratic society, people, whom by definition create the systems of government in the first place, should be justified in measuring the performance of government. This is the respondent's experience with the Manhattan government, how reliable he or she feels that it is and how well it carries out its duties. This is his or her interaction and respect for policeman, attitude toward the efficiency and management of public infrastructure, agreement with the policies and laws within Manhattan, and how competent he or she feels the Manhattan government administration is in serving his or her needs and the needs of the community at large. It is understood and assumed that the more in agreement the respondent is with this statement, the higher his or her quality of life.

Health

The respondent's agreement with "Manhattan promotes a healthy lifestyle" is aimed at measuring the respondent's view of how Manhattan effectively facilitates options of healthy choices, activities, or means for a healthy life style. This could include the respondent's satisfaction with the number and quality of healthcare facilities as well as their accessibility, or the availability of health food stores or restaurants. Health could also include the perception of exercise facilitation to the means of an active lifestyle. This is the utilizable bicycle or pedestrian infrastructure that allows for active commuting, or the number of active

recreational facilities or exercise facilities in the city of Manhattan, like trails, public swimming pools, disk-golf courses, baseball fields, sand volleyball pits etc. It is understood and assumed that the more in agreement the respondent is with this statement, the higher his or her quality of life.



The Children's Splash Park at Manhattan City Park, Photo by Wesley Fryer, 2009

Community

The respondent's agreement with "Manhattan has a sense of community" is aimed at measuring the respondent's general connectedness with the city and community as a unique place with an identity that he or she can belong to and have pride in along with fellow citizens. This could include his or her satisfaction and level of involvement with choice community events like Purple Power Play on Poyntz, Arts in the Park, Fake Patty's day, or the MHK Weenie Races. It could also include his or her sense of commonality with other Manhattan citizens through shared experiences like football seasons or basketball games where collective support towards a common goal ensues. It could also gauge his or her sense of support for and from local businesses, groups, and individuals with common goals to improve the city and create a more engaging community. As well, this question could be a reflection of the respondent's amount of involvement in community groups like churches or neighborhood associations that he or she is dedicated to. It is understood and assumed that the more in agreement the respondent is with this statement, the higher his or her quality of life.



The MHK Weenie Races, Photo by Author, 2013

Safety

The respondent's agreement with "Manhattan is a safe place to live" is aimed at measuring the respondent's sense of security within Manhattan. This gauges his or her ability to go out at night, walk around the neighborhood, trust neighbors, and in general trust the people of the community. This could also describe the respondent's personal or indirect past experience with crime in the city, its frequency, severity, and how the process of justice was carried out. This could also gauge his or her trust of city law enforcement officials to do their job. As well, this could carry over to his trust for Manhattan citizens in following the laws intended to protect the respondent from harm- like curfews or traffic laws. It is understood and assumed that the more in agreement the respondent is with this statement, the higher his or her quality of life.

Social

The respondent's agreement with "Manhattan is a community with quality social interaction" is aimed at measuring the respondent's positive or negative experiences connecting with those in Manhattan. That is to say, the quality of relationships between him or her and other members of the community at large. This could include the state of racial relations, tensions, equality in treatment, and neighborliness (Greenwood, 2001). These are the friendly chats, the waving hellos, the opening of doors, or the comfort and welcome that the respondent feels when interacting with his or her fellow citizens in Manhattan. These are the building blocks of social capital, a term that embodies the collective benefits of healthy social networks in a "not what you know, but who you know" philosophy (Putnam, 2000). It is understood and assumed that the more the respondent agrees with this statement, the higher his or her quality of life.

Transportation

The respondent's agreement with "Manhattan has diverse and functional transportation" is aimed at measuring the respondent's experience and attitudes toward the transportation systems and networks in Manhattan and their effectiveness for his or her own needs. As well, this gauges how diverse the respondent believes the transportation options are for him in Manhattan, and how accessible these choices are. These transportation options could include biking, walking, driving a car, taking a bus, a taxi, or flying out of town. This could also gauge his or her experience and satisfaction or dissatisfaction with traffic congestion, frustrations with the shortcomings of public transportation viability in Manhattan, or the accommodation, or lack thereof, for the bicycle infrastructure he or she desires.

As well, this could reflect the respondent's commuting experience, how long it takes, or his or her need for more diversity in more affordable transportation options due to the high price of gasoline. It is understood and assumed that the more in agreement the respondent is with this statement, the higher his or her quality of life.



Bicycle "Sharrows" on Campus, Photo by Parker Robb, 2014

Recreation

The respondent's agreement with "Manhattan has sufficient recreational activities" is aimed at measuring the respondent's satisfaction with and enjoyment of the quantity and quality of recreational amenities throughout and around Manhattan. Probing the satisfaction of recreational activities are measuring the quality, quantity, and access to public amenities like golf courses, parks, trails, baseball fields, swimming pools, camping grounds, fishing lakes, hunting grounds, bowling allies, etc. in the experience of the respondent. It is understood and assumed that the more in agreement the respondent is with this statement, the higher his or her quality of life.

Housing

The respondent's agreement with "Manhattan has appealing and affordable housing" is aimed at measuring the respondent's satisfaction with the housing market in Manhattan. Appealing housing is housing that fits his or her needs as far as functionality. This need is defined by the demand of the respondent, whether he or she needs a one-bedroom apartment for living alone or a five-bedroom house with a large backyard for accomodating a family with kids and dogs. Appealing housing is also dependent upon location of the housing in a desirable neighborhood ideally nearest the needs and services of the respondent. This

measurement could also include the condition of the housing stock in Manhattan, with aesthetic appeal and structural soundness in the mind of the respondent. As well, this statement probes the perceived accessibility of said desirable housing in terms of affordability. After all, a house might be perfect for the respondent, but if it is not affordable for him or her, then it matters not because they do not have financial access to it. It is understood and assumed that the more in agreement the respondent is with this statement, the higher his or her quality of life.

Response Interpretation

Because of the way this section of the questionnaire is designed, a higher degree of agreement with the statements listed would translate into an assumed higher quality of life for the respondent. Therefore, a respondent whom marks all statements with "Strongly Agree" would assume to have the highest quality of life possible relative to the terms and concerns addressed in this survey. In the same sense, a respondent whom marks all statements with "Strongly Disagree" would assume to have the lowest quality of life possible under the terms and concerns addressed in this survey.

Disclosure

It is obvious, through prior studies and surveys that attempt to measure quality of life on a city scale, that there are much more detailed questions that seek to explore more aspects of the dimensions of quality of life covered in this survey that could be asked, but are not. For example, when considering transportation, this survey could attempt to gather more detailed information on the respondent's attitudes and perceptions, by asking questions such as "Do you agree that Manhattan has an adequate public transportation system?" or "Do you believe that bicycle infrastructure is significantly lacking in Manhattan?" or "Do you think that Manhattan automobile traffic is a problem?"

This survey does not ask these specific questions. Rather, it intends to gauge the respondents overall feelings and perceptions of the factors that umbrella these questions. While it would be



Manhattan Satalite Imagery, Photo by Google Earth, 2013

ideal that the respondent make all these considerations and ask himself or herself these questions and more under the factor the questions aim to measure, it is simply impossible for sake of attracting higher response rates through simplicity of the survey. As well, while it may be intended to communicate the accurate definition of things like "culture" or "sense of community" or "environment" in the survey design, it is not entirely possible. It is in full faith and assumption that the respondent makes the necessary considerations, or overall considerations when marking his or her opinion concerning an entire dimension of livability in Manhattan. Any further probes or explanation of these dimensions would inherently add length, time, and possible frustration to the participant. These are things that the survey cannot afford for sake of achieving a desirable response rate. At any rate, responses to this survey will be taken as they are, in that it will be assumed that the respondent's definition of concepts like culture, sense of community, or environment are parallel with the definitions expressed in this report.

Interconnectedness

Through determining the factors of quality of life to be measured in this study, it is clear that many of them share an inherent overlap. For instance, the way the respondent answers the

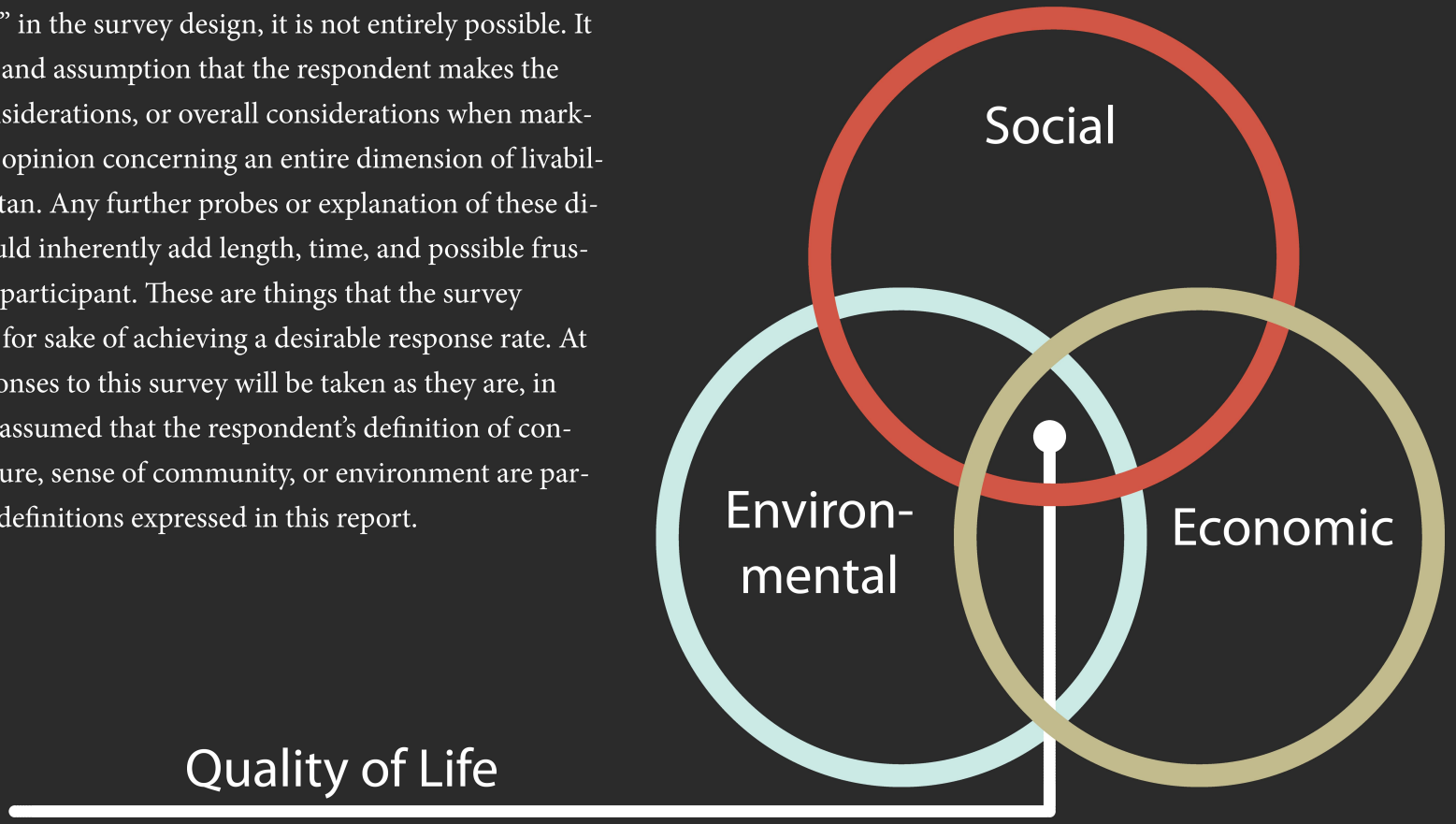


Figure 5.3: Quality of Life Ensemble

question probing the quality of social constructs in Manhattan might be directly related to how he or she answers the question probing his or her sense of community, simply due to the fact that their social life in Manhattan is the basis for the respondent's sense of community in a more personal way (an overlap of social and community). Or perhaps the respondent doesn't trust the government because he or she doesn't believe that Manhattan law enforcement officials can be trusted to perform their duties adequately, and thus his or her perception of the government is thrown off (an overlap of safety and government). A third example might be that the respondent doesn't believe that Manhattan has a desirable environment because of the heavy car traffic and air quality problems associated with it (an overlap of environment and transportation).

These are all unproblematic overlaps. The ensemble concept of quality of life, illustrated by Figure 5.3, is complex and its factors will never be perfectly separable. Although those specific questions cannot be asked to separate the distinction between these factors that are linked, the generalization of quality of life dimensions can still give insight to livability in Manhattan. As well, this natural grouping of factors can prove insightful in the data analysis phase as statistical significance can be attributed to bivariate and spatial analysis. In this case, multiple variables can be tested for correlations against one variable or against a set of multiple variables.

Campus Interaction

The second part of the survey, "Campus Interaction," measures how often and in what ways the respondent utilizes public amenities at KSU. It gauges what kinds of activities the respondent experiences on the KSU campus and the frequency of these interactions. Unlike the quality of life section, the questions within this section of the survey are much more straightforward and require less explanation as to why they are asked. All of the factors inquired about in this section are simply a list of individual activities that the respondent can partake in on the KSU campus, asking respondents how often they participate in the activity facilitated by the university. These factors have the same number of ordinal options associated with them on a Likert scale ranging from "Very Often" to "Never". Just like the Quality of Life section, this section of the questionnaire is also in the format of a matrix, for sake of ease and efficiency.

Detail

These questions could be summed up by simply asking, "How often do you utilize public amenities or participate in activities on the KSU campus?" While this is asked in the Self-Assessment section, this section of the survey seeks to find more detailed information about the respondent's campus interaction.

This assessment is made to get a better impression of what kinds of interactions, if any, have greater positive or negative correlations with higher or lower reported quality of life responses, as indicated in the quality of life section of the survey. For instance, if a respondent indicates a higher than average quality of life along with an overall lower than average frequency of interaction with the university, but marks a higher than average frequency of sport attendance, it could be concluded that sport attendance has a greater weight in correlating with quality of life and livability in Manhattan for that respondent, even though his campus interaction could be relatively low. Such assessments are made later in the Analysis section of Chapter 6.

Overall Perception

The third section of the survey is included for the intention of self-validating the survey and its methodology for measuring quality of life and campus interaction through the design and questions in the previous two respective sections of the survey. While conclusions can be drawn from these first two sections, it is important in this case to test if the respondent would agree with the conclusions drawn from the study when asked directly.

University Interaction

The question "Overall, how high would you rate your level of interaction with or use of the KSU campus?" is aimed at essentially creating a measurement of campus interaction independent of the factors chosen in the campus interaction section. Having this independent campus interaction measurement can assist in weighting the respondent's interaction components in the campus interaction section of the survey. For example, if a respondent marks a "very high" KSU use and marks a higher degree of agreement with a certain interaction with the KSU campus, he or she personally weights that factor heavily when considering his or her campus interaction as a whole. As well, this measurement creates a different variable to be considered when conceptualizing campus interaction as a whole.

Quality of Life

The question "Overall, how high would you rate your satisfaction with life in Manhattan?" is also aimed at creating a measurement of quality of life, independent of the factors chosen in the quality of life section. Having this independent quality of life measurement can assist in weighting the respondent's perceptions of the components of quality of life probed in the quality of life section of the survey. For example, if a respondent marks a "very high" Life Satisfaction and marks a higher degree of

agreement with a certain category or categories of quality of life factors, he or she personally weights those factors heavily when determining his or her quality of life. Similar to the KSU use factor, this measurement creates a different variable to be considered when conceptualizing quality of life as a whole.

Validation

If there is no correlation between these Self-Assessment questions and the trends of their corresponding sections which break down the individual factors hopefully contributing to quality of life and campus interaction, the questions asked may not be the proper questions to assess the respondent's personal interaction with campus or quality of life. For instance, if a respondent marks that he has an overall low life satisfaction, but all indications in the categorized questions point to him having a very high quality of life, clearly there is something else contributing to his quality of life in a negative way that was not queried in the survey. However, if the correlations between these two sections are strong and positive, the questions asked are justifiably validated.



Purple Power Play on Poyntz, KSU Interaction in the Community, Photo by William McNeill, 2009

KSU Use Contribution to Life Satisfaction

The last question in the Self-Assessment section of the survey "Overall, how high would you rate KSU's contribution to your satisfaction with life in Manhattan?" is aimed at essentially answering a big part of the research questions in a fairly simple way. This creates an independent measurement of correlation between campus interaction and quality of life useful for validating and weighting other factors and relationships analyzed in this survey, as will be discussed in the Analysis section in Chapter 6.

Demographics

The last part of the survey simply inquires about the respondent's demographic and personal information; their age, education, employment status, marital status, etc. These questions are very straightforward and for the respondent, is simply

a matter selecting an available answer.

These questions are mostly concerned with finding out who the respondents are in order to make sure that the target population has been reached and that the data is under control. This section can also give opportunity to explaining the possibility of outliers and other phenomenon. For instance, if a respondent marks that he is in fact a KSU student or a KSU employee, then his frequency of interaction with campus will be expectedly high. It is for this reason, among others, that this survey is intended to target non-KSU students if possible. Other demographic information can give insight as to what kind of correlations there are between the kinds of people that identify with having a higher frequency of interaction with the university or a higher quality of life in Manhattan. This allows the research to ask questions like, "Do wealthier people or people whom have lived in Manhattan longer enjoy a higher quality of life?" or "Do those who are married or have children experience a greater frequency of campus interaction?" Having the answers to questions like these help to eliminate false conclusions about the relationships between quality of life and campus interactions when demographic factors may be playing a bigger role in determining quality of life or campus interaction.

The respondent's address is also requested at the end of the survey. This is asked so that location information can also be gathered for analysis to account for any spatial relationships or phenomena between proximity to campus and quality of life or level of campus interaction. For sake of confidentiality and encouraging responses, the questionnaire only asks for a street intersection nearest to the respondent's home.

Reliability

Reliable surveys are instruments that are consistent. This means that each time the survey is used, the same information and conclusions can be drawn (Fink, 2002). A valid survey is one that is accurate. If the survey is unreliable or inconsistent, it is also inaccurate (Fink, 2002). Simplicity and precise wording throughout the survey is the key to achieving the closest thing possible to a universal and consistent interpretation of a survey and its questions- deeming it reliable and valid. The survey of this study has intrinsic or concurrent validity, due to its derivative origin, based on over twenty-six different credible and scholarly surveys used in previous quality of life studies. Reliability is a bit more difficult, as it is based on the consistency of the survey in this study. The reliability of this survey is based in its simplicity and understandability. This is reflected in the overall consistency and normal distribution of the survey's responses, as discussed later. As well, the careful survey development process, discussed next, lends itself greatly to the reliability of the survey used in this study.

Survey Development

Developing and polishing the survey for this study required a little over a month. As seen in Figure 5.4, the influences in this process were drawn from the synergetic atmosphere of academia that exists in a university setting. The survey was first created using previous research's methodologies and techniques for major content and content arrangement. Then, the survey was brought before professors for constructive critique on content, structure, clarity, and strategy for raising response rates. Finally, the survey was presented to colleagues for concerns on presentation, minor error corrections, and readability. As seen in Figure 5.4, the process was repeated when necessary. In the end, the final product was ready for distribution, being founded on over twenty-six previous studies, critiqued by four professors, and reviewed by over fifteen colleagues.

Targeting

This survey is intended to reach permanent residents of Manhattan whom are not KSU students. This is so because the study is intended to measure the effect of the university presence on livability in Manhattan. While students would be an interesting subject to question, their high interaction with campus would certainly skew the results. As well, it is fair to say that students do not necessarily choose to live in Manhattan because it is a particularly nice city, though that can certainly be a factor in their reasoning to move to Manhattan. No, it is fair to say that a student's primary concern for relocating to Manhattan is due to the university and what it has to offer as far as educational opportunities and other student targeted amenities. Permanent residents on the other hand reasonably choose to live in

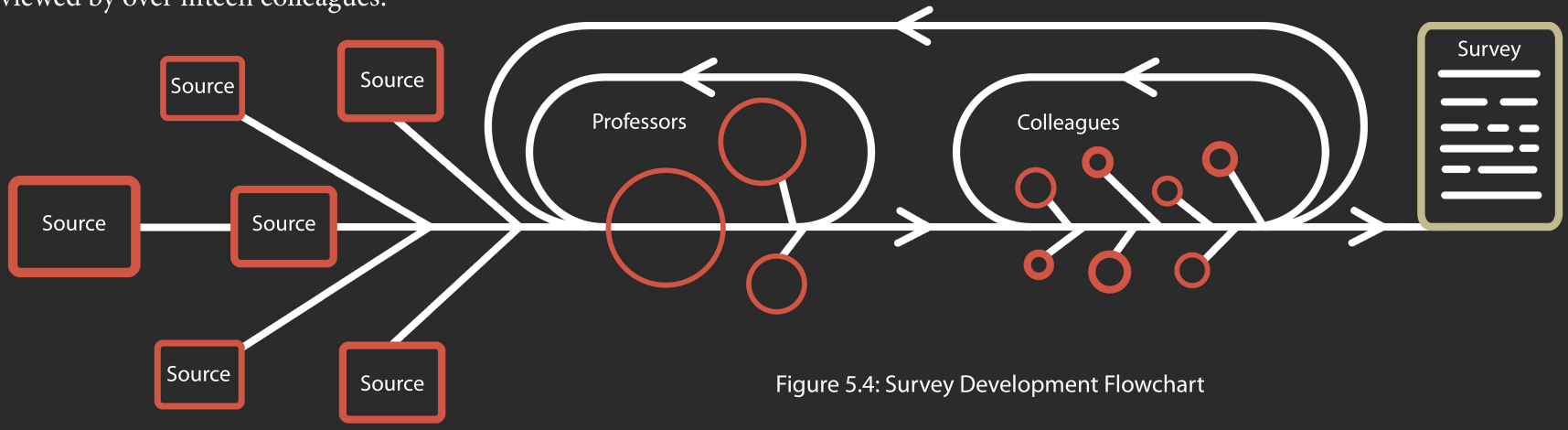


Figure 5.4: Survey Development Flowchart

Manhattan because they more or less believe it is a nice place and that it can fulfill vital economic, environmental, or social needs. Whether these needs are fulfilled or not in part by KSU is a large part of the research question for this study. To test the unbiased hypothesis that the campus serves as a resource for livability in the community, it is permanent residents, whom have a greater stake in the community and whom must be queried for this study. This survey that targeted permanent residents of Manhattan exists online, as was the most efficient way to deliver the survey, and for potential subjects to access it. As well, it was the most cost-efficient method for survey delivery, costing virtually nothing to send to potential subjects.

Sample Size

Manhattan has an estimated total population of 56,069 (Census Bureau, 2012). Manhattan also has an estimated 20,042 students enrolled in college or graduate school (Census Bureau, 2011). This number will be less or more accounting for the indeterminate number of students commuting in and out. As well, it must be noted that not all these students are enrolled at Kansas State, though it is by far the most prominent higher education institution in Manhattan, so it is likely that the majority are. However, subtracting these two populations gives an approximate non-student population of about 36,027. To achieve a confidence level of 95% with a 5% random error for this population's data, the sample size needed for this survey was approximately



Manhattan Hill, Photo by K-state Collegian, 2013

380 (Creative Research Systems, 2013). Given an expected return rate on surveys at about 23.8% (Frankfort-Nachmias & Nachmias, 2007) it was recommended that about 1,600 surveys be sent out.

Recruitment and Distribution

The recruiting process for distributing the survey, which this research relies so heavily on, lent a great amount of assistance from civic institutions throughout the city of Manhattan and the KSU campus. Many institutions were contacted and many responded, but fewer were able to or willing to release contact info, in the form of e-mail addresses, of the potential target population. It was assumed that all institutions contacted had a degree of common interest in the purpose of the study, though in some cases, it wasn't extremely apparent to each institution's person of contact. Because of this, a common interest had to be properly conveyed, and in some cases some gentle persuasion, in order for them and the institution they represented to assist this research with reaching the permanent residents of Manhattan. The recruitment process was not easy, and the research presented in this report owes much gratitude to those whom were willing to help.

By contacting a multitude and unique variety of key institutions, the recruiting process of this study was simplified and well within the reasonable resources and budget of any given study of its kind. As discussed earlier in this chapter, it was in the intention within the recruitment process to target the population of permanent residents whose demographics, taken as a whole, would match as accurately as possible any random sample of the same size of permanent residents in Manhattan. It is safe to say that all practical precautions were taken in the recruiting process of this research in order to sample a cross-cut of multiple demographics of Manhattan permanent residents. The following is a brief description of each institution that supplied contact information for potential subjects whom responded to the survey in this report.

UFM (University for Mankind)

The UFM is a product of collaborative efforts of the city and KSU to bridge the university with the greater community through educational efforts. The UFMs main function is hosting classes for the citizens of Manhattan- students and permanent residents alike. The UFM posted the survey on their Facebook page, which is followed by about 1,500 people.

Vintage Faith Church

Vintage Faith is a Non-Denominational Christian church in the city of Manhattan. The pastor was willing to post the survey in the churches weekly newsletter, which is distributed to several subservient house churches and their members throughout the community.



Vintage Faith Church, Photo by Author

KSU Alumni Association

The KSU Alumni Association is the central hub of relations between the KSU community and its alumni. The Alumni Association keeps a record of contacts with KSU Alumni as well as non-KSU affiliated citizens that reside in Manhattan. They maintain this contact information in the form of e-mail addresses on a list serve. Access to a select portion of this list serve was graciously granted to this research and used to directly e-mail its survey to potential subjects.

Manhattan Community Connection

The Manhattan Community Connection is a program that the city of Manhattan maintains to connect citizens with other citizens for sake of collaborating on events or activities within the community. The network keeps a publicly viewable list of profiles of community members whom have registered for the Community Connection on the city website. The survey of this study was sent directly to these members via e-mail.

Chapter 5: Analysis and Results

Survey Responses

Figure 6.1 lists each institution recruited for the distribution of the survey of this study and the approximate population of the groups that were contacted. In total, it is estimated that the survey was made available to about 1116 people. Of these, 209 responded to the survey, meaning that 209 surveys were started, creating a "soft" response rate of 18.73%. Of the 209 surveys that were started, 178 were actually submitted, creating a "hard" response rate of 15.95%. Overall, the response rates of this survey, while lower than average for a typical online survey (23.8%) (Nachmias, 2008), still yielded a reasonable amount of responses, contributing to the ability of this research to more confidently draw conclusions throughout the analysis.

Sampling Frame	Population
UFM	*65
MAC	*50
Community Connection	390
Vintage Faith Church	*30
Alumni Association	581
Total Target Population	1116
Responses	209
Surveys Completed	178
Soft Response Rate	18.73%
Hard Response Rate	15.95%
*Estimated	

Figure 6.1 Survey Response Rates

Data Limitations

Due to the strategic design of the survey, many of the 31 surveys submitted as incomplete, though missing parts of information were still useful in performing certain analysis without having the survey completed in full. These subjects' data are used whenever possible. While precautions were taken to reach the targeted population of permanent Manhattan residents, inevitably a handful of students completed the survey. However in the analysis, subjects reported as students are put aside. The survey progress patterns showed that there were clearly "dropouts" of this survey in which "bottle-neck" questions coaxed subjects to halt their survey progress and exit before finishing. As expected, most dropped out when inquired about their location and a few dropped out after answering the essentially "required" questions just before arriving at the demographic section of the survey.

Descriptive Statistics of Survey Respondent Demographics

This section will briefly look at the descriptive statistics of the sample population of this study. It includes all demographic categories of the respondents as reported within the survey.

Age

The ages of the sample population, as asked in the survey, is recorded in terms of a range. As seen in Figure 6.2, the majority of subjects, represented by the mode response, fall into the category of 56 to 65 years old. However the average age, as indicated by the averaged response code, falls into the category of 46 to 55 years old.

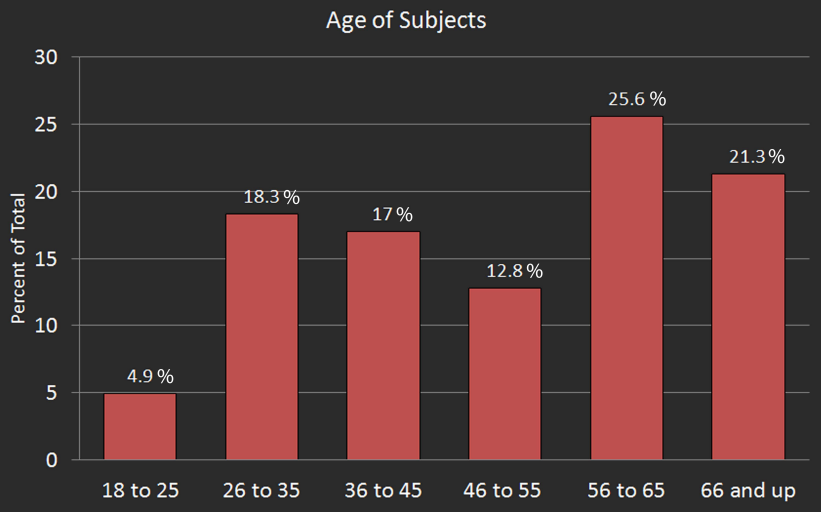


Figure 6.2 Age of Subjects

Years Lived in Manhattan

The lengths of time that subjects have lived in Manhattan are seen in Figure 6.3. This length of time is also represented by a range of years. The majority of subjects in this study, represented by the mode response, have lived in Manhattan between 21 and 40 years. However, the average length of time, as indicated by averaged response code, falls into the category of 11 to 20 years in Manhattan.

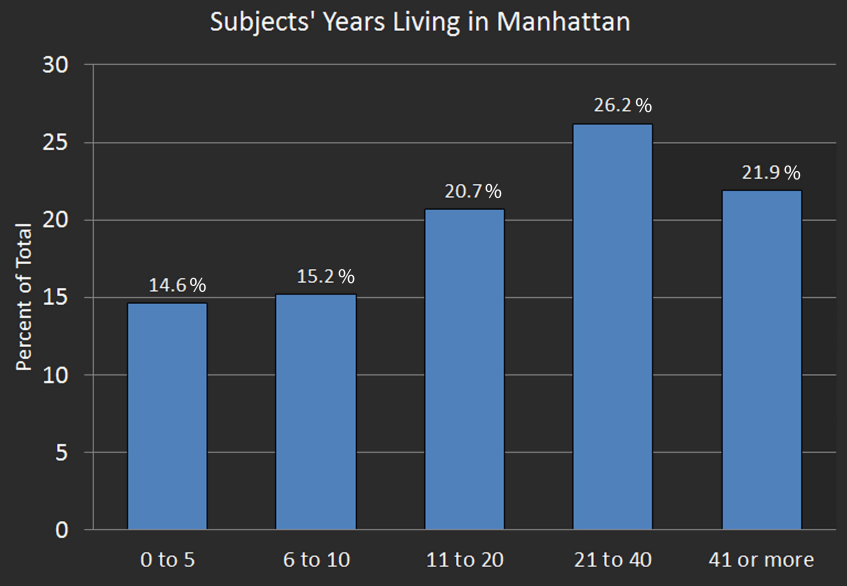


Figure 6.3: Subjects' Years in Manhattan

Males and Females

The ratio of males and females among the subjects of this study are almost evenly distributed. As seen in Figure 6.4, males make up 51% of the subject respondents, while females make up 49%.

Those whom did not answer make up 3% of the sample population.

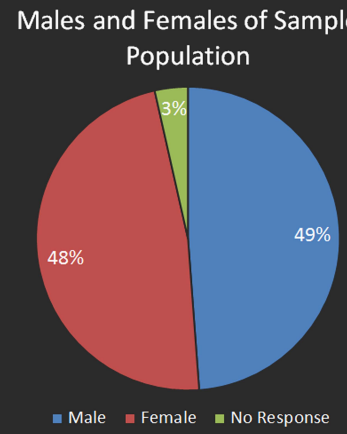


Figure 6.4: Subject Sex

Owners and Renters

The majority of subjects in this study are home owners. As seen in Figure 6.5, home owners make up 81% of the subject respondents, 16% are renters, and 3% did not respond to the question.

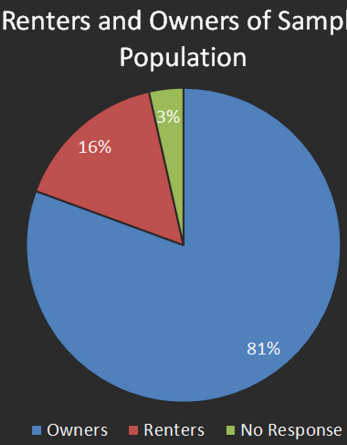


Figure 6.5: Owners and Renters

KSU Employees and Non-KSU Employees

The majority of subjects in this study are not employed by Kansas State University. As seen in Figure 6.6, KSU Employees make up only 22% of the subject respondents, while 74% are non KSU employees. KSU is one of the largest employers in Manhattan, therefore it is important to account for any biases or anomalies in the campus interaction data by identifying this characteristic of the subjects.

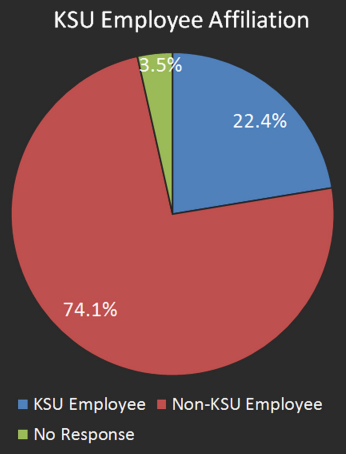


Figure 6.6: KSU Employee Affiliation

Level of Education

Overall, the subjects in this study are relatively well educated. As seen in Figure 6.7, the most frequent level of education attainment is a bachelor's degree, while a considerable amount (90.8%) of subjects had a bachelor's degree or higher. This trend is undoubtedly linked to the fact that a notable number of subjects are KSU alumni.

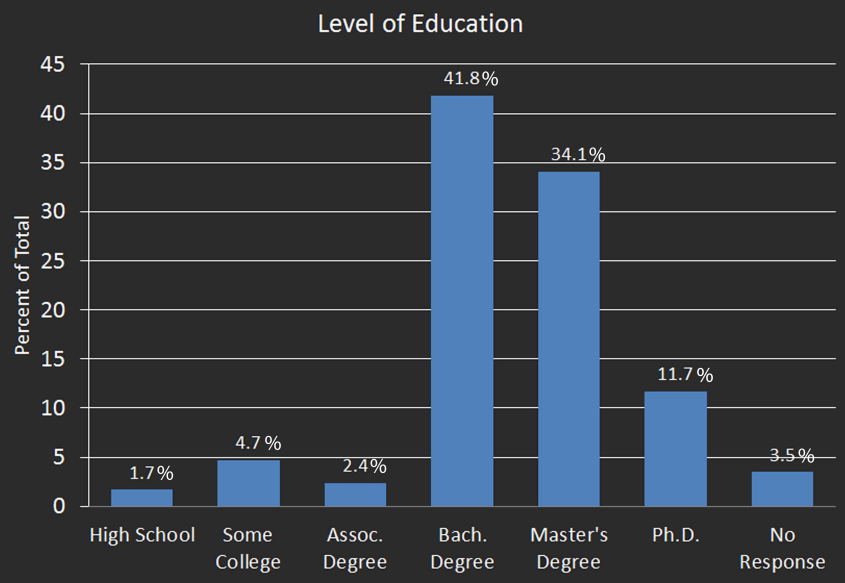


Figure 6.7: Subject Level of Education

Employment

The majority of subjects in this study are full time employees. As seen in Figure 6.8 however, a considerable amount of subjects categorized themselves as retired. This is undoubtedly linked to the fact that 21.3% of the respondents are reported to be over the age of 66, as seen in Figure 6.2.

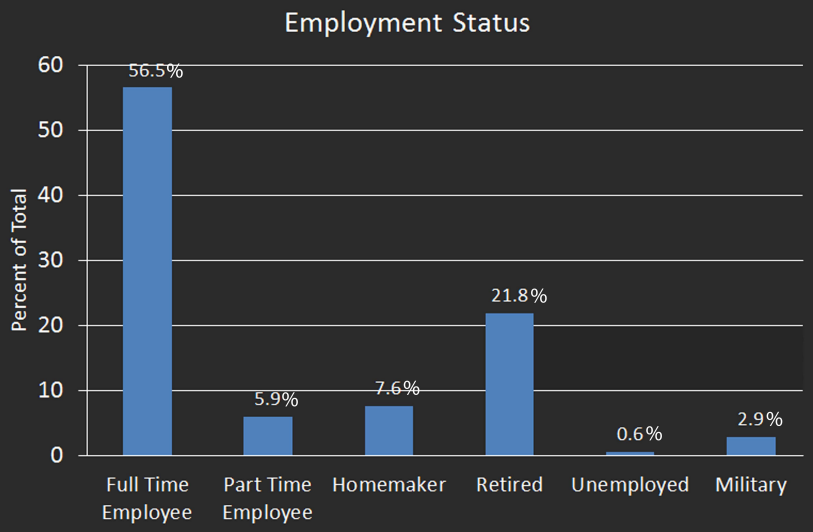


Figure 6.8: Subject Employment Status Frequency

KSU Alumni and Non-KSU Alumni

As seen in Figure 6.9, the majority of subjects in this study are non-KSU Alumni (64.7%), though a considerable amount are KSU Alumni (31.7%). This is expected in a college town and undoubtedly linked to a few other demographic characteristics- education especially.

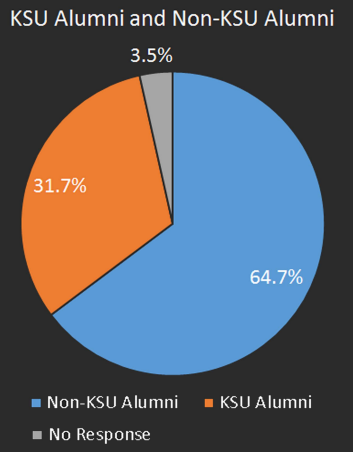


Figure 6.9: Subject Alumni Affiliation

Living Situation

The majority of subjects were noted as living with a significant other, which in this case could be a spouse, girlfriend, boyfriend, partner, etc., though is fairly assumed to be a spouse, given the age of subjects (Figure 6.2). As seen in Figure 6.10, 75.3% of subjects report living with a significant other, 11.7% report living alone, and only 4.1% report living with roommates.

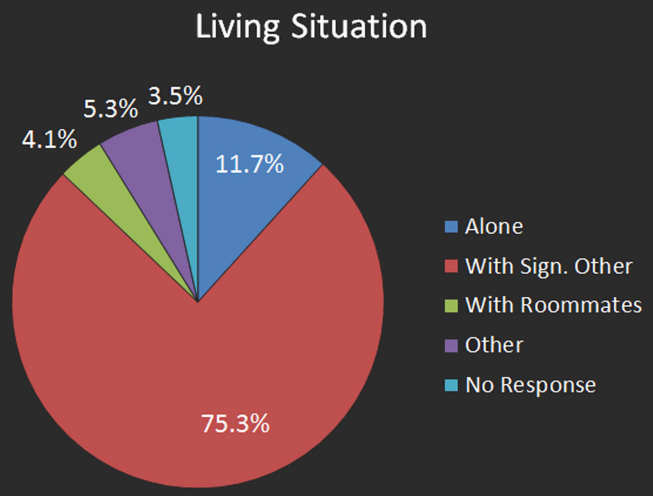


Figure 6.10: Subject Living Situation

Children

The majority of subjects reported having no children living in their home, as seen in Figure 6.11. This could mean that they either have no children or their children have moved out. Given the fact that almost 47% of subjects in this report are ages 56 or older (Figure 6.2) and 75.3% of subjects report living with a significant other (Figure 6.10), it is reasonable to assume that the later situation is most likely the case. Subsequently, only 28.6% of subjects report having one or more children living in their home. This is also likely due to the subjects' older age as a whole.

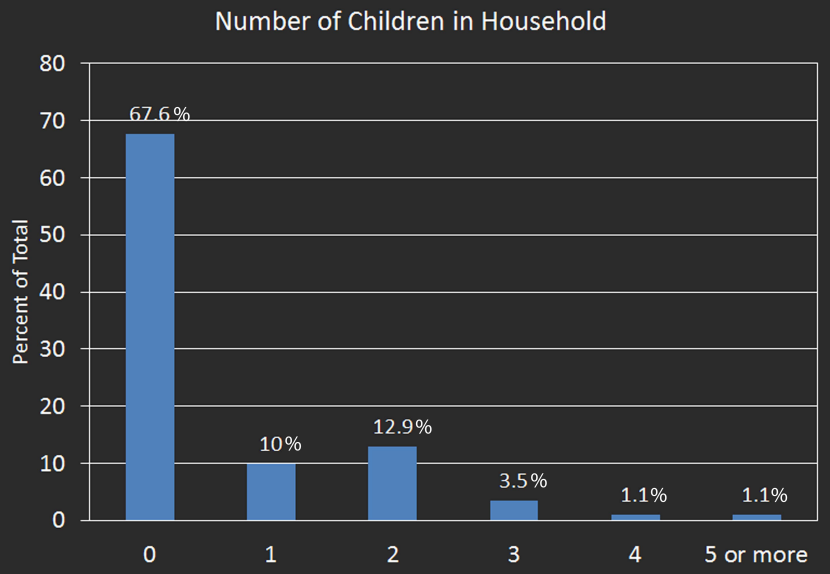


Figure 6.11: Number of Children in Subjects' Household

Quality of Life

Figure 6.12 depicts a general portrayal of Manhattan Quality of Life factors as they are perceived by the subjects of this study. These scores are derived from the average ratings reported by all subjects in the study for each Quality of Life factor. These factors are rated on a Likert Scale, as seen in the Survey Design section, and transposed to numeric ratings on a scale from 0 to 4; 0 indicating the lowest rating and 4 indicating the highest.

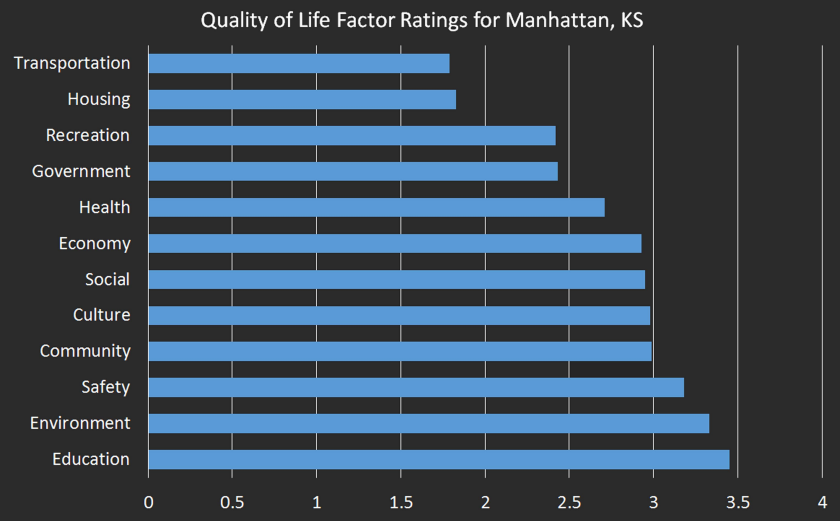


Figure 6.12: All Subjects Quality of Life Factor Ratings

As seen in Figure 6.12, when these averaged ratings for all subjects are compared, education, environment, and safety score among the highest three Quality of Life factors in Manhattan. It is safe to say that the high rating describing Manhattan as a city with access to quality education can be attributed to the strong educational and research presence of KSU. The high rating describing Manhattan as a city with a desirable environment could be strongly attributed to the conservational efforts and presence of the Flint Hills surrounding Manhattan, an integral facet of the city and region's culture and characteristics.

It is clear in Figure 6.12 that housing and transportation are the lowest rated quality of life factors in Manhattan. These are the only factors that averaged below moderate satisfaction among subjects, as reflected by the averaged below 2 rating, indicating general dissatisfaction more than satisfaction. These low ratings describing Manhattan as a place with less appealing and less affordable housing, as well as a place without diverse and functional transportation is undoubtedly attributed to the steady population growth that the city has experienced in the past few decades, as seen in Figure 4.2. Population growth as such creates a strain on the relatively inelastic supply of street capacity and housing stock in the demanded areas of the city. Despite this, it should be noted that while there are clearly quality of life factors that rate higher than others, the general population is at least on

average more satisfied than not with all other Quality of Life factors in Manhattan.



Manhattan Development, Bluemont Hotel Rendering, 2013

Campus Interaction

Figure 6.13 depicts a snapshot of all subjects' kind and frequency of activities within the KSU campus that compose campus interaction as a whole. As with Quality of Life, these scores are derived from the average ratings reported by all subjects in the study for each campus activity. These factors are rated on a Likert Scale, as seen in the Survey Design section, and transposed to numeric ratings on a scale from 0 to 4; 0 being reported as least frequent and 4 being the most frequent.

As seen in Figure 6.13, it is clear that the most frequent interactions that subjects have with the KSU campus include driving through, attending sporting events, and walking through. The high frequency of subjects driving through campus can easily be explained by the central location of campus, in essence being a node of employment, entertainment and transportation. As well, the act of driving through campus is not an entirely independent factor, due to the fact that many of the other interactions inquired about in this study might necessitate or compel a subject to drive through campus; for instance driving to the football game, driving to the Student Union parking garage to bowl on a Friday night, or driving through the McCain valet circle to see a show. The same can be said to explain the frequency of subjects reporting walking through campus, though this factor might prove to be a bit lesser of an interdependent factor, as walking

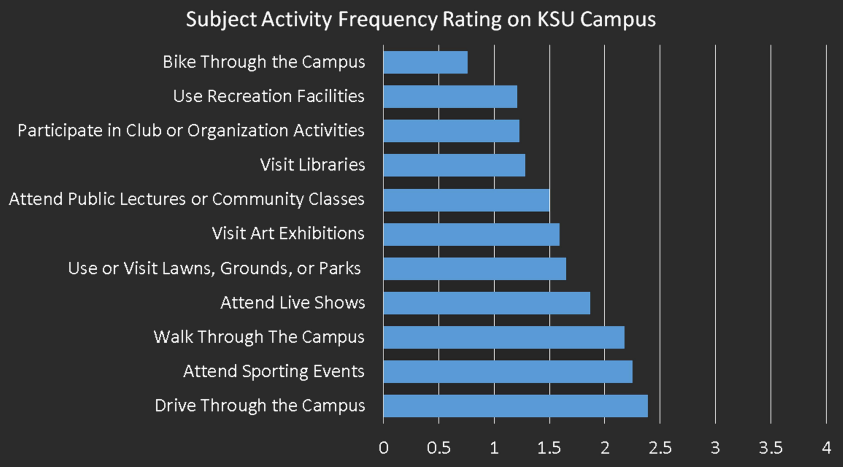


Figure 6.13: Subject Activity Frequency on KSU Campus

through the campus could easily be considered a leisurely activity in and of itself regardless of other campus activities that require subjects to walk through. The relatively high frequency of sport attendance at KSU is easily explainable through the sheer capacity of KSU athletic facilities and attendance records. Bill Snyder Family Stadium alone can hold over 52,000 people and boasted several sell-out games throughout the 2013 football season. Many of these ticket holders are permanent residence of Manhattan, and perhaps a few of them are the subjects of this research.



Walking Through Campus, Photo by Gerry Snyder, 2009

Figure 6.13 also shows the least frequent campus interaction experienced by permanent residents of Manhattan is biking through the campus. This is believed to be more of a demographic and spatial phenomenon, which will be explained later. It could be noted now though, that regardless, the demographics of the subjects in this study are not necessarily the biking kind. In addition, while there are clearly campus interactions that are more frequently enjoyed by permanent residence, the majority of those included in this study are shown to be frequented on a low absolute scale. As Figure 6.13 shows, a score of 4 would represent a very high frequency of an activity while a score of 0 represents no frequency of an activity. Since the majority of interactions fall below the middle rating of 2, the subjects on average reported less overall interaction with campus than more.



Bill Snyder Family Stadium at Full Capacity, Photo by Rob Voelker, 2013

KSU Use and Life Satisfaction

The survey of this study provided a section for subjects to score their own level of campus interaction and quality of life, defined as the "KSU Use" score and the "Life Satisfaction" score respectfully. As well, subjects were also given the opportunity to rate their own perception on their interaction with the university contributing to their quality of life in Manhattan, defined as the "KSU Use Contribution to Life Satisfaction" score. As seen in Figure 6.14, ratings from 0 to 4 were transposed from Likert scale reports; 0 being the lowest rating and 4 being the highest. In this case, the averaged subject ratings show a slightly higher-than-not level of KSU Use score at a rating of 2.33. Subjects also reported a higher-than-not level of Life Satisfaction score at a rating of 3.3. Lastly, subjects reported a KSU Contribution to Life Satisfaction score at a higher-than-not rating of 3.13. This KSU Contribution to Life Satisfaction score is in essence one attempt at building a foundation of an answer to the research question. The score given here should pique the interest of this research as its implications moves this study forward in the bivariate analysis.

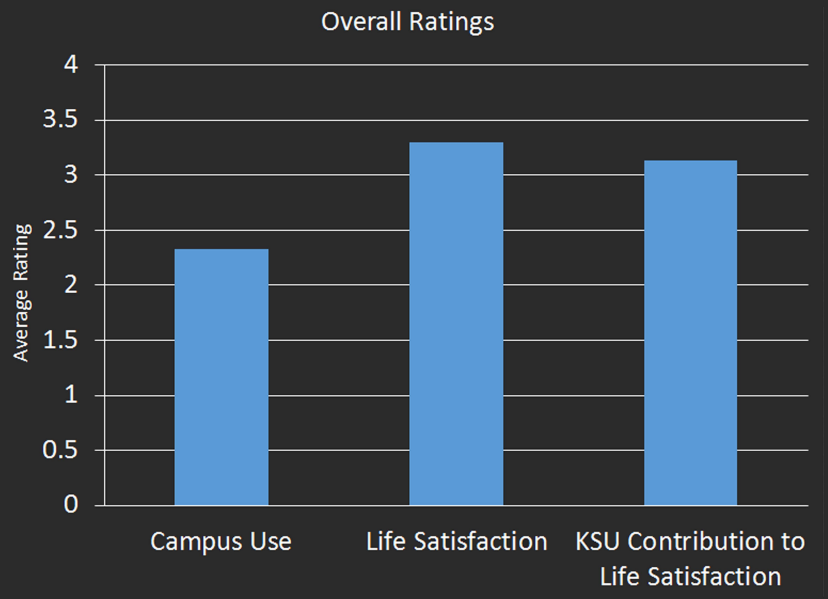


Figure 6.14: Overall Quality of Life and Campus Interaction Ratings

Bivariate Analysis

This section covers the many relationships between all individual variables from demographics, to individual and composite quality of life and campus interaction factors. In this section, there are several measurements to determine interaction with the KSU campus as well as quality of life that are compared to individual factors of demographics, individual factors composing campus interaction, and individual factors composing quality of life. For sake of removing the

ambiguity between terms, the following measurements are defined as such:

Composite Quality of Life:

This is a composite measurement, which is created by summing all of the quality of life factor ratings (i.e. Social Quality, Environmental Desirability, Health Promotion, etc.) for each subject, as illustrated in Figure 6.15. This score ranges from 0 to 48, since there are 12 quality of life factors measured in the survey, each with a possible rating ranging from 0 to 4 with intervals of 1, transposed from a Likert scale. For each subject, a 0 would represent the lowest Quality of Life score possible, while a 48 would represent the highest.

Life Satisfaction:

This is a measurement aimed at capturing quality of life as a whole, but is determined directly by the individual subjects, as seen in the Survey Design section. This measurement derives directly from the single rating ranging from 0 to 4 with intervals of 1, transposed from a Likert scale, which subjects provided to indicate their life satisfaction in Manhattan. For each subject, a 0 would represent the lowest life satisfaction while a 4 would indicate the highest.

Please indicate your level of agreement to the following statements:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Transposed to Score
Manhattan is a city with culture	O	O	X	O	O	2
Manhattan has economic/employment opportunity	O	O	O	O	X	4
Manhattan provides access to good education	O	O	O	O	X	4
Manhattan has a desirable environment	O	O	O	X	O	3
Manhattan has an effective government	O	O	X	O	O	2
Manhattan promotes a healthy lifestyle	O	O	O	X	O	3
Manhattan has a sense of community	O	O	O	O	X	4
Manhattan is a safe place to live	O	O	O	X	O	3
Manhattan is a place with quality social interaction	O	O	O	X	O	3
Manhattan has diverse and functional transportation	O	X	O	O	O	1
Manhattan has appealing and affordable housing	O	X	O	O	O	1
Manhattan has sufficient recreational activities	O	O	O	O	X	4
					Composite Score Total	**34**

Figure 6.15: Composite Quality of Life Score Calculation (Example)

Composite Campus Interaction:

This is a measurement, which is created by summing all of the Campus Interaction factor ratings (i.e. Sports Attendance, Live Show Attendance, Library Visits, etc.) ratings for each subject, as illustrated in Figure 6.16. This score ranges from 0 to 44 since there are 11 campus interaction factors measured in the survey, each with a possible rating ranging from 0 to 4 with intervals of 1, transposed from a Likert scale. For each subject, a 0 would represent the lowest Campus Interaction score possible, while a 44 would represent the highest.

KSU Use:

This is a measurement aimed at capturing campus interaction as a whole, but is determined directly by the individual subjects, as seen in the Survey Design section. This measurement derives directly from the single rating ranging from 0 to 4 with intervals of 1, transposed from a Likert scale, which subjects provided to indicate their use of the KSU campus. For each subject, a 0 would represent the lowest level of KSU campus use, while a 4 would indicate the highest.

	Never	Usually Not	Sometimes	Usually	Very Often	Transposed to score
Attend sporting events at KSU	O	O	O	O	X	4
Attend live performances or movies at KSU	O	X	O	O	O	1
Visit libraries at KSU	O	O	O	O	X	4
Use recreational facilities at KSU	O	O	X	O	O	2
Visit or use lawns, grounds, or plazas at KSU	O	O	O	X	O	3
Attend public lectures or community classes at KSU	X	O	O	O	O	0
Visit art exhibitions at KSU	O	X	O	O	O	1
Walk through the KSU campus	O	O	O	O	X	4
Bike through the KSU campus	O	O	O	O	X	4
Drive through the KSU campus	O	X	O	O	O	1
Participate in club or organization activites on the KSU campus	O	X	O	O	O	1
					Composite Score Total	25

Figure 6.16 Composite Campus Interaction Score Calculation (Example)

Trends Among Demographic Groups

The purpose of recording demographics of the subjects was two-fold: one, this allowed the researcher to assure that the target population of permanent residents was reached; two, this allows the researcher the opportunity to account for any

anomalies in the data in terms of quality of life trends that may be dependent more on the demographics of the subjects rather than their frequency of certain interactions with the university campus. That being said, it is critical to analyze such quality of life and campus interaction trends within demographic characteristics so that no correlations between quality of life and campus interactions are accredited as causations without a thorough elimination of all other variables.

Quality of Life and Life Satisfaction

This section will only be covering the significant findings related to specific demographic groups and Quality of Life and Life Satisfaction. Only significant and relevant trends in this data are discussed.

Years Living in Manhattan

It would be expected that the longer one has lived in an area, the more he or she would be satisfied living there, due to the fact that there is probably a good reason they have stayed so long. However, as seen in Figure 6.17, there is not much of a significant difference among the groups of subjects at different lengths of years living in Manhattan (less than 5.5%).

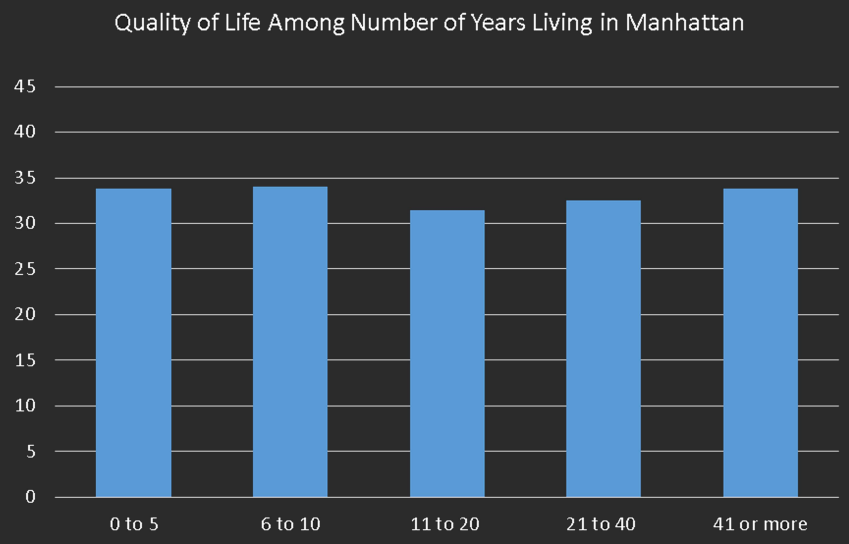


Figure 6.17: Quality of Life Scores Among Lengths of Living in Manhattan

Renters and Owners

It would be expected that home owners would have a higher quality of life than renters. Renters tend to have a lower income and are thus less financially secure. They are also less likely to be married or have a family. This is reflected in the data, as owners have a Quality of Life score that is 7.51% higher than renters. As well, when asked of their Life Satisfaction in Manhattan, owners reported an average Life Satisfaction score that was 19.6% higher than renters.

Employment

Employment is a complex variable for this research. On the one hand, economic security comes with employment as well as an increase of employment (i.e. part time to full time employment). On the other hand, free time and more time devoted to recreational pursuits, relationships, hobbies, etc. can result from less employment or none at all (i.e. retirement and homemakership). At any rate, the general trend in this survey shows that less employment (retirement and homemakership) results in a higher quality of life and higher life satisfaction. However, it is difficult to develop this conclusion, because economic security could very well be paired with, or be a cause for, retirement and/or homemakership.

While this could be the case, unfortunately the survey used in this study did not inquire on aspects of financial security or income, assets, etc. As seen in Figure 6.18, there is very little difference between the Quality of Life scores of full time employees and part time employees (1.5%). As well, there seems to be very little difference between those who are retired and those who are classified as homemakers (2.28%). However, there is a significant difference between the two groups, as retirees report a 5.28% greater Quality of Life score than full time employees and a 6.78% greater Quality of Life score than part time employees. As well, homemakers, with the highest composite Quality of Life scores within the group, report a 7.56% higher score than full time employees and a 9.06% higher score than part time employees.

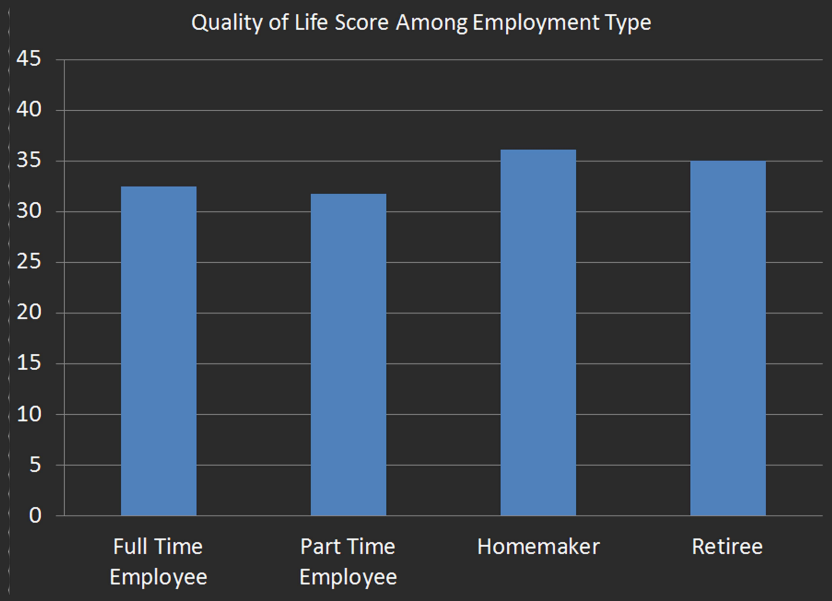


Figure 6.18: Quality of Life by Employment Type

This trend is exemplified even further in the Life Satisfaction scores of these groups (Figure 6.19), though here, part time employees report a 5% higher average Life Satisfaction than full time employees. However, Retirees still report a higher average Life Satisfaction than part time employees and full time employees by 4.88% and 9.88% respectfully. What is even more

significant about the Life Satisfaction scores within these groups is the big jump in the Life Satisfaction of homemakers at an average absolute score of 96.15%, which is 6.27% higher than retirees, 11.15% higher than part time employees, and 16.15% higher than full time employees.

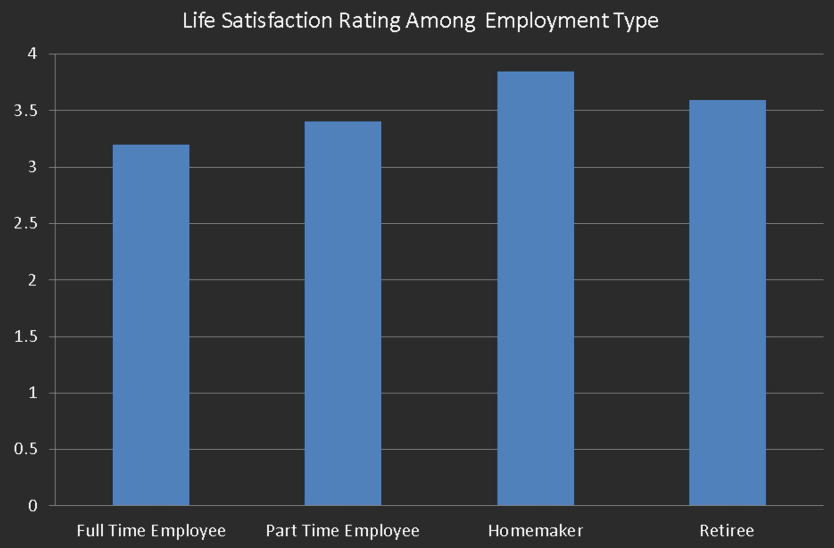


Figure 6.19: Life Satisfaction Ratings by Employment Type

Education

As mentioned previously, it is difficult to pinpoint some of the demographic factors affecting quality of life without having substantial financial security information from the subjects of this study. After all, the concept of quality of life throughout the literature review often put an emphasis on financial security. However, education can, in some fashion, supplement this information, since there is a very clear relationship between income and education level within the United States; that is to say, the higher one's level of education, the higher one's income tends to be. As well, it is believed by the researcher that education in and of itself leads to greater life satisfaction alone, despite the subsequent increase of income and financial security.

As seen in Figure 6.20, it is clear that there is a difference in Quality of Life among certain education levels of subjects in Manhattan. It should be noted, that while it seems that the attainment of a high school degree alone results in both the highest Quality of Life score and Life Satisfaction score, there were

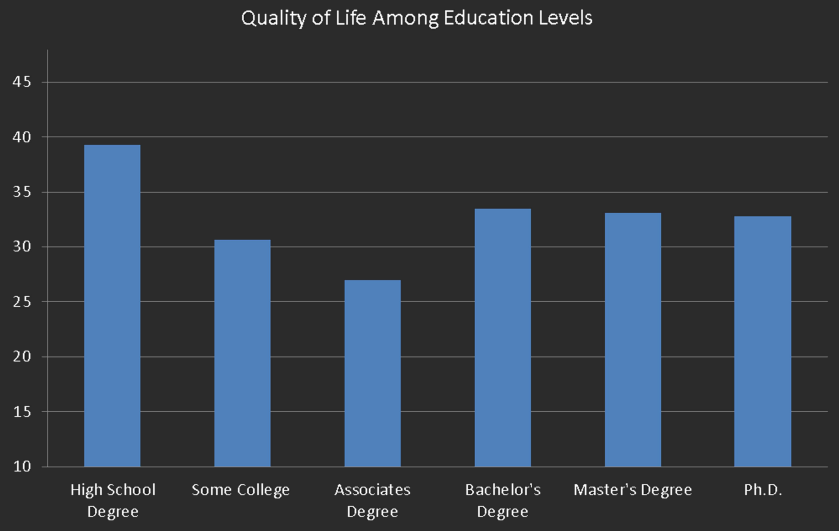


Figure 6.20: Quality of Life Scores by Education Levels

only three total respondents that fall into this category. Therefore, stating that a high school degree alone results as shown, should be stated very reluctantly as there is not a substantial number of this demographic to justify the labeling of a trend. It is also apparent in Figure 6.20 that there is very little difference between Quality of Life scores (less than 1.5%) among those with a bachelor's degree or higher. However, it should be noted that there is a distinct difference in Quality of Life between those with less than a bachelor's degree compared to those with a bachelor's degree or higher- excluding those with high school degrees. Averaging quality of life scores of those with a bachelor's degree or higher (68.99%) would show that there is a 12.74% difference in Quality of Life between those with an associate's degree and those with a bachelor's degree or higher. Those with "some college experience" however show a Quality of Life score only 5.18% lower than those with a bachelor's degree or higher.

A similar trend, excluding high-school-degree-only holders, is seen when assessing Life Satisfaction as reported by all subjects, as seen in Figure 6.21. Here, there is still very little difference between those with a bachelor's degree or higher and those with less than a bachelor's degree (less than 2.1%). However, those with some college experience and those with associate's degrees report the same absolute Life Satisfaction score of 68.75%. That being said, there is an average Life Satisfaction score difference between those with a bachelor's degree or higher and those with an associate's degree or lower. Simply put, those with bachelor's degrees or higher are on average 15.09% more satisfied with life in Manhattan.

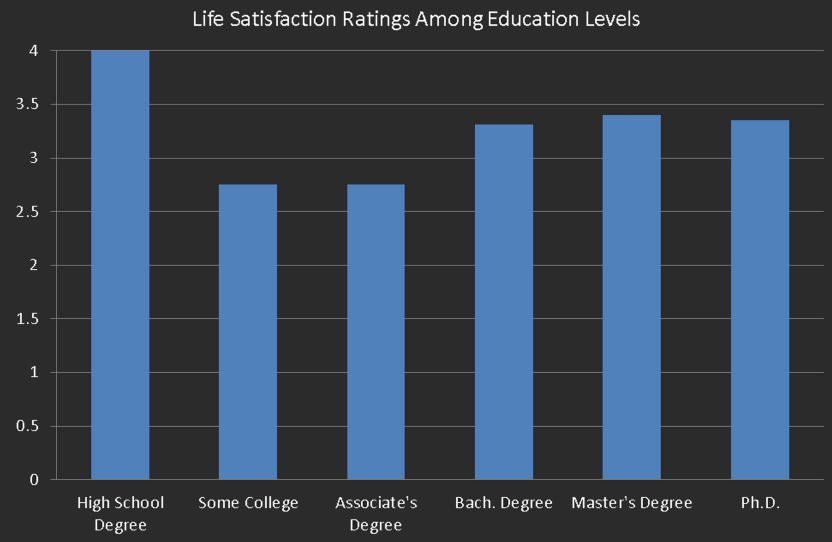


Figure 6.21: Life Satisfaction Ratings by Education Level

Living Situation

It would be expected that those living with a significant other would prove to have a higher Quality of Life and higher Life Satisfaction as opposed to those who are not, for reasons related to personal happiness, companionship, etc. This supposition is certainly not disproven in this study.

As seen in Figure 6.22, it is very clear that those living with a significant other report a Life Satisfaction that is 7.15% higher than those living with roommates and 18.83% higher than those living alone, with an absolute Life Satisfaction score of 86.33%. However in terms of Quality of Life, those with roommates find themselves reporting a better quality of life in Manhattan, having an absolute Quality of Life score of 77.69%, which is 7.48% higher than those living with a significant other and 16.34% higher than those living alone. Either way, it is very clear in this study that those living alone have both the lowest Quality of Life and the lowest Life Satisfaction.

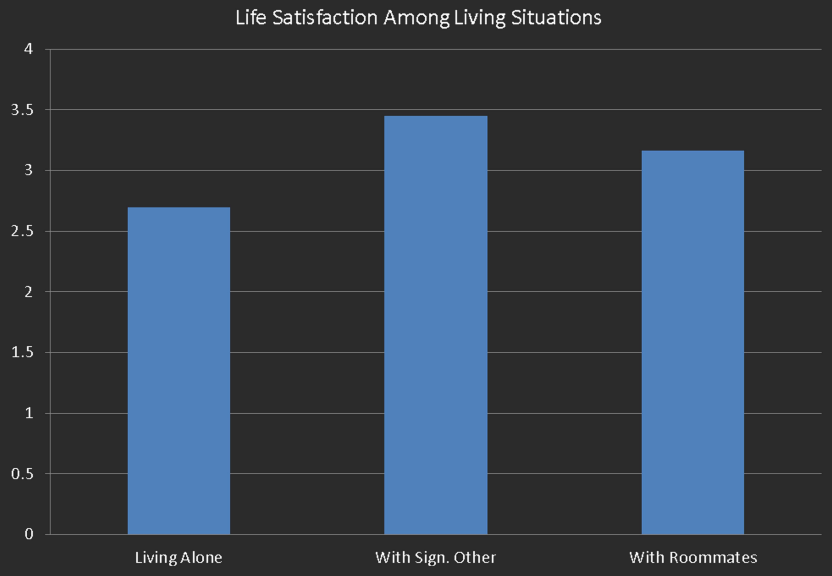


Figure 6.22: Life Satisfaction Ratings by Living Situation

Age

It would perhaps be expected that, as a college town, 18 to 25 year olds might have a higher Quality of Life and higher Life Satisfaction than any other age. This is especially noted by the fact that Manhattan was rated as the "number one place to retire young" in 2007 (Money Magazine, 2007). This trend can be explained by this study, though the Quality of Life and Life Satisfaction of 18 to 25 year olds are certainly rivaled by those age 66 and older (Figure 6.23). This particular factor however, can also be somewhat related to the number of years that a given

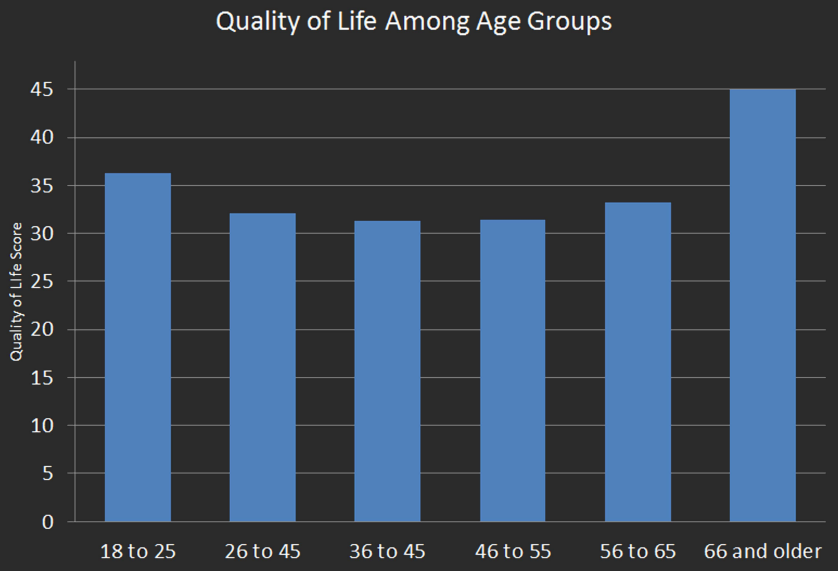


Figure 6.23: Quality of Life Scores by Age Group

respondent has lived in Manhattan, since those who have lived in Manhattan for over 41 years would have to be at least 41 years old. Although, one whom is at least 41 years old does not necessarily have to have lived in Manhattan for that same time. This factor can also be dependent on employment status since, as seen earlier, subjects reported as retired have a higher Life Satisfaction and Quality of Life, and those whom are over age 66 are more likely to be retired.

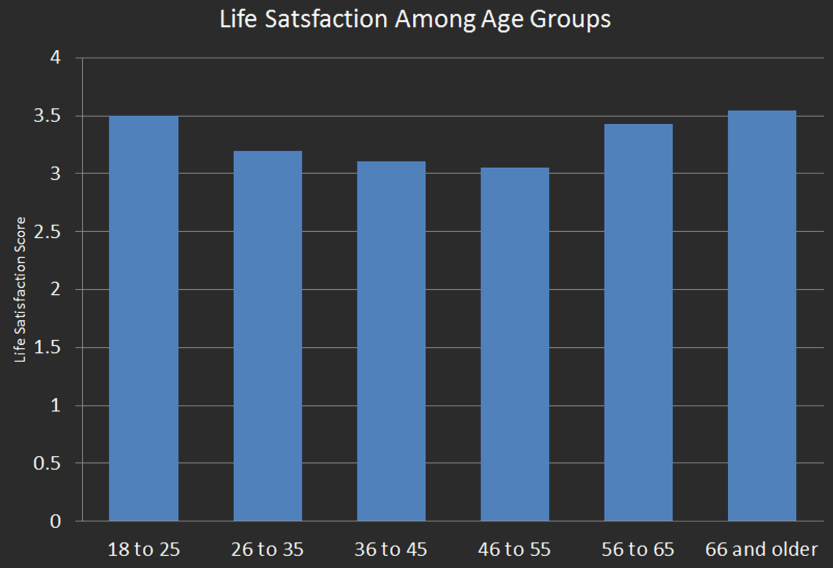


Figure 6.24: Life Satisfaction Ratings by Age Group

As seen in Figure 6.23 and Figure 6.24, there is a distinct pattern in Quality of Life and Life Satisfaction, in which Quality of Life and Life Satisfaction levels are relatively high for the younger groups, then bottoms out between ages 36 to 55, and then tops out again for the age groups 56 and older. In either case, it is clear that subjects 66 years and older report having the highest average Quality of Life score and highest average Life Satisfaction score than all other age groups. With an absolute Quality of Life score of 93.75%, those 66 and older report a Quality of Life that is 25.24% higher than the average of all those 65 or younger (68.51%) in Manhattan. Life Satisfaction among those 66 and older is a bit less dramatic in contrast to other age groups, though it is still clear that they have the highest score at an absolute score of 88.58%, which is only 1.08% higher than 18 to 25 year olds and 12.33% higher than the group with the lowest Life Satisfaction score, the 46 to 55 year olds.

To add to the accolade of being a city ranked as the best city to be young and retired, this study seems to conclude that Manhattan is a great city to be young *or* retired.

KSU Employees and Non-KSU Employees

There is not a high degree of significant difference between the demographics of KSU and non-KSU employees when it comes to Quality of Life and Life Satisfaction. However, it is important to note this as a class of subjects due to their presumable levels of daily interaction with KSU. In this study it was found that there is not a large difference in the Quality of Life of these groups (less than 5%). However, there is a 7.7% higher average Life

Satisfaction score reported among non-KSU employees compared to KSU employees. This data would suggest that this hyper-exposure to campus experienced by KSU employees has a more positive effect on their perception of Quality of Life in Manhattan. To say otherwise risks contradicting the overall pattern found in the rest of this study. It is possible however, that this phenomenon is more related to other socio-economic factors that aren't immediately apparent. These relationships will be discussed more in depth later.

KSU Alumni and Non-KSU Alumni

As one would expect, there are many KSU Alumni living or still living in Manhattan. As it would seem, alumni of the university do not report much of a difference in Quality of Life compared to non-KSU Alumni (less than 0.2%). However KSU Alumni in Manhattan do report an average Life Satisfaction that is 8.11% higher than non-KSU Alumni. This factor however is not entirely independent and might have other factors influencing it. For instance a KSU Alumni will have a degree, be more educated, and is more likely to be financially secure with a higher paying job- a factor proven to affect Quality of Life and Life Satisfaction, as explained earlier.



Disk Golfing at Warner Park

Conclusion

Many of the demographics divisions of this study are not entirely independent. As mentioned, the implications of a subject reporting to be a KSU Alumni would logically lead to him or her having a certain level of education, which would correlate with their income and financial security, which could correlate with their quality of life experience in Manhattan. Based on the discussions of the data available above, it can be safely assumed that Quality of Life and Life Satisfaction are most greatly influenced by age, living situation, education, and employment status. That is to say, those whom are older, living with a significant other, highly educated, and retired, would seem to be the demographic that would ideally enjoy the highest quality of life and life satisfaction in Manhattan. Identifying these trends are critical in further analysis of campus interactions and quality of life correlations, contributing to the main research question(s).

Campus Interaction and KSU Use

This section will be discussing the survey data that relates to the relationships between specific demographic groups and any significant trends that explain their interactions as a whole with the KSU campus. Included here are the trends between demographic groups and their total campus interaction as defined previously. Also included here will be an analysis of the trends between demographic groups and their KSU Use as defined previously.

KSU Employees and Non-KSU Employees

As expected, KSU employees have a higher campus interaction score than non-KSU Employees with a 12.83% greater Campus Interaction score than non-KSU employees. Some of this obviously has to do with the fact that KSU employees most likely work on campus and must physically step onto the campus on a day to day basis, which would be reflected in their high frequency reporting of walking and driving through campus. They are also more likely to be involved, both emotionally and physically, with the university through sporting events, organizational activities, and shows due to their awareness through associate exposure to event information displayed on campus and in their work place. Out of all demographic groupings, KSU Employees, as should be expected, have the highest absolute Campus Interaction scores when averaged at 49.64%. In addition, KSU employees' KSU Use scores are 24.66% higher than non-KSU employees.

KSU Alumni and Non-KSU Alumni

As should be expected, KSU Alumni report slightly higher interaction levels with the KSU campus than non-KSU alumni in Manhattan. As so, they should be more familiar with the programs, events, and physical amenities that the campus has to offer through their years of attending KSU. This expectation is to a degree reflected in the data, though there is only a 2.83% increase in the average Campus Interaction score for KSU Alumni. The KSU Use score for KSU Alumni however, was on average 10.7% higher than non-KSU Alumni in Manhattan.

Years in Manhattan

As seen in Figure 6.25, there is a clear similarity in trends between subjects' Composite Campus Interaction scores and KSU Use scores throughout the progression age in Manhattan. That is to say, the trend between the two factors that determine overall campus interaction in this study are almost identical. As seen in Figure 6.25 and 6.26, both measurement models show that the

group of subjects whom have lived in Manhattan between 6 and 10 years experience the highest level of Campus Interaction and KSU Use. Though in both cases, there is not a greatly significant difference between these groups since the group that has lived in Manhattan for 6 to 10 years has only a 3.32% higher Campus Interaction score than the second highest group, those whom have lived in Manhattan for 11 to 20 years, and only a 9.23% higher score than the lowest interacting group- those whom have lived in Manhattan for 0 to 5 years.

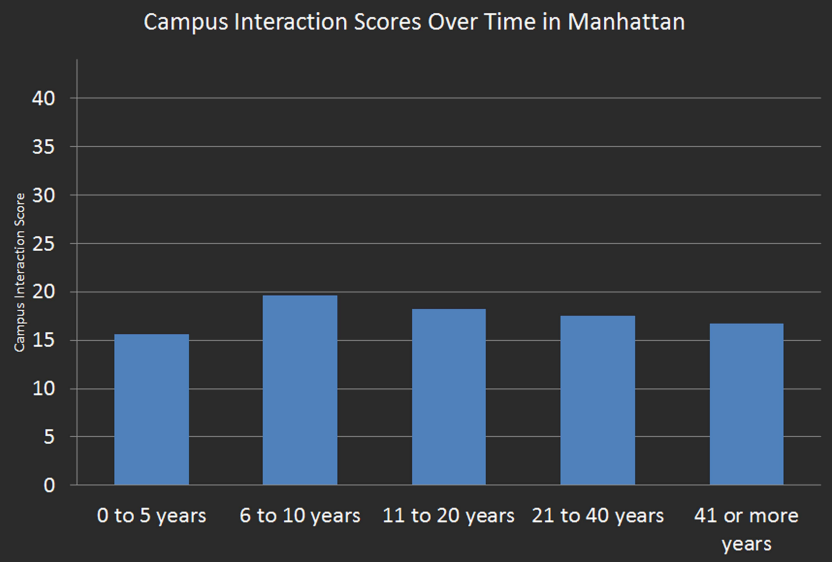


Figure 6.25: Campus Interaction Scores Over Years Living in Manhattan

The difference in KSU Use score averages is a bit more dramatic than the Campus Interaction scores, though as motioned earlier, the trends over time are relatively the same. In this analysis, those whom have lived in Manhattan for 6 to 10 years have a 5.8% higher score than the second highest interacting group, those whom have lived in Manhattan for 21 to 40 years, and a 12.6% higher score than the lowest interacting group- those whom have lived in Manhattan for over 41 years.

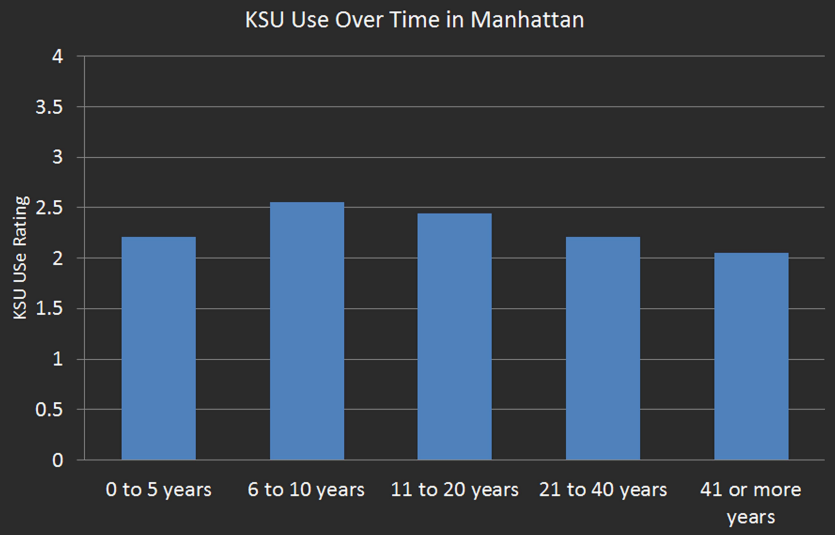


Figure 6.26: KSU Use Rating Over Years in Manhattan

Employment Type

As seen in Figure 6.27, there are some differences in KSU Use scores reported by the subjects of this study when analyzed across employment types. However, the differences in Campus Interaction scores are negligible- the biggest gap between groups

being less than 4.5%. In the case of KSU Use scores on the other hand, full time employees report having the highest level of interaction with the KSU campus at 59.13%, which is 5.08% higher than retirees, 7.2% higher than homemakers, and 11.63% higher than the lowest interacting group, part time employees.

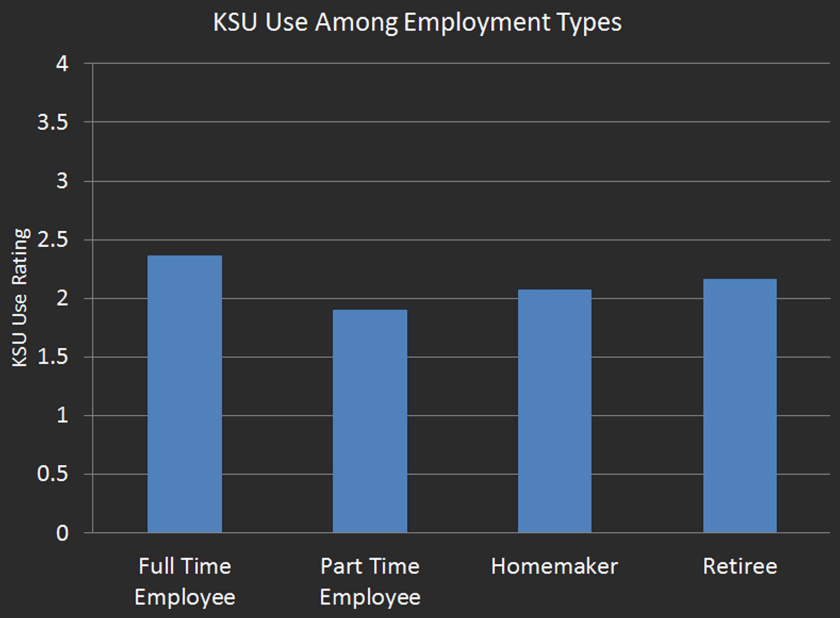


Figure 6.27: KSU Use Scores by Employment Type

Education

Education level is not an extremely significant factor dictating subjects' frequency of interaction with the campus, whether measured as KSU Use scores, or the Composite Campus Interaction scores. However little significance, the groups of education levels do match in in their trends as subjects move higher up the scale of educational attainment. As seen in Figure 6.28 and 6.29, there is a general trend for interaction with the university to increase in frequency as one becomes more educated. It should be noted that in both Campus Interaction scores and KSU Use scores, Ph.D. holders have the highest interaction levels by far at an average absolute score of 47.16% and 67.50% respectfully. As well, those whom reported having completed "some college" have the lowest scores in both interaction measurements of Campus Interaction and KSU Use at 30.11% and 34.38% respectfully.

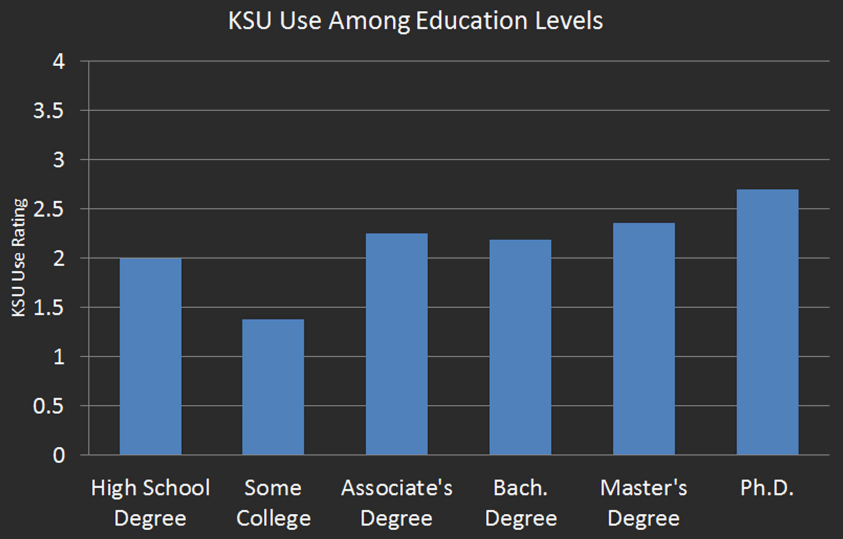


Figure 6.28: KSU Use Scores by Education Level

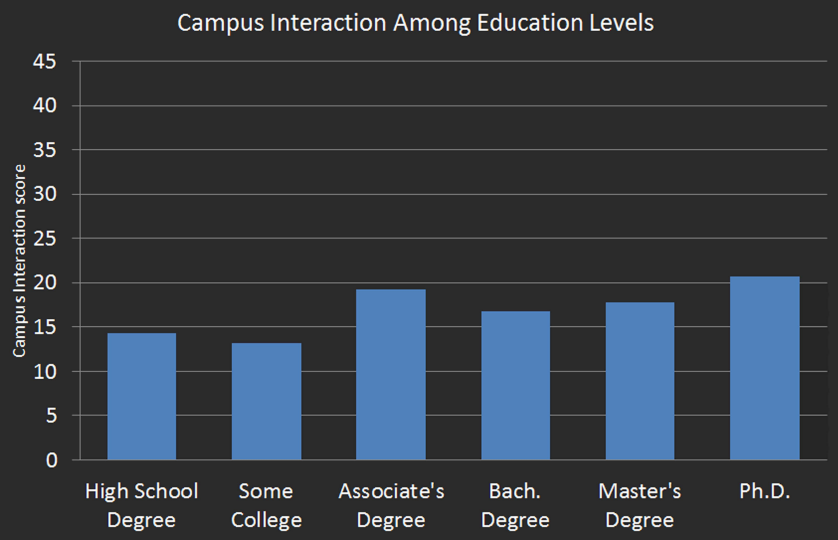


Figure 6.29: Campus Interaction Scores by Education Level

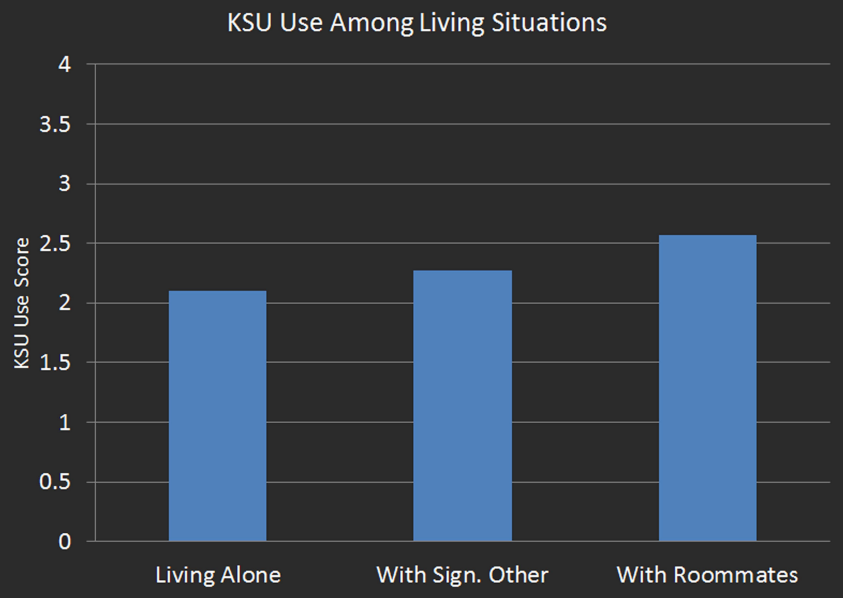


Figure 6.30: KSU Use Scores by Living Situation

Living Situation

In the analysis of Campus Interaction compared across living situation categories, it is clear that there is not a significant difference between those living alone, living with a significant other, or living with roommates (less than 4.5%). However, what difference there is between these demographics is held in greater contrast when looking at KSU Use scores. In this case, as seen in Figure 6.30, those living with roommates are interacting with campus the most with an absolute score of 64.28%. This is a frequency that is 7.45% higher than those living with a significant other and 11.78% higher than those living alone.

In any case, it would seem that subjects living with more people interact with campus more frequently. That's not to say that people whom report living with a roommate or roommates live with more people than those living with a significant other, since those with a significant other are more likely to have a family with children for instance. However, as the demographic data shows, as seen in Figure 6.11, very few of the respondents have children. At any rate, those whom are living with others, as opposed to those living alone, would appear to have a higher level of interaction with the KSU campus.

Age

Overall, age does not seem to play very significantly into the subjects' level of interaction with the campus. There is very little variation in both Campus Interaction scores (less than 3.2%) and KSU Use scores (less than 3.5%), excluding the lowest scored group in both cases, the 26 to 35 year olds. This would seem to suggest that while the campus is a place that is mostly utilized by younger, traditional students (18 to 25 year olds) for educational purposes, it is a place that is also used and equally available to all age groups of permanent residents in Manhattan.

Children

Though there is not a significant difference between the Quality of Life scores and Life Satisfaction scores of those reported to have children in their home and those without children in their home, it is clear that campus interaction is effected by this demographic factor. For instance, those with children living in their home have a 5.82% lower Campus Interaction score than those with children. As well, those with children living in the home have a KSU Use score that is 11.02% lower than those without children in their home. As discussed earlier, this might contradict the previously held notion that the more people one is living with, the higher their campus interaction is. At the same time, this phenomenon with campus interaction levels among those with children might properly be explained by the fact that those with children in the home may not have the luxury of time to have particularly extensive interactions with the campus.



Child Interaction with KSU, photo by Logan Jones, 2012

Conclusion

Like the Demographics and Quality of Life Section, there are a few demographic factors that are not entirely independent. In analyzing the data discussed above, it would appear that age does not play a significant role in campus interaction, giving the KSU campus a characteristic of accessibility. As far as significant demographic factors that play into campus interaction, it would

appear that children in the home, living situation, education, KSU employee status, and KSU Alumni status, play the relatively largest significant role. That is to say, KSU Alumni, with a higher level of education, that are also KSU employees, whom are living with roommates, and living with children in their home would have the highest ideal level of interaction than any other demographic- though the last two factors of children and living situation scenario might be mutually exclusive, and thus unlikely to exist. Identifying these trends are critical in further analysis of campus interactions and quality of life correlations, contributing to the main research question(s).

Quality of Life and Campus Interaction Correlations

This section will be discussing the survey data that relates to the relationships between specific demographic groups and any significant correlations between their Campus Interaction scores and their Quality of Life scores. This correlation significance will be determined by the two factors' Spearman-rho correlation coefficient, as discussed in the methodology section. This correlation factor is also paired with a P-value, which determines the significance of the correlation. Spearman correlation coefficients near zero, whether positive or negative are considered to be weak correlations and will not be discussed as a significant finding.

As well, Spearman correlation coefficients with p-values above 0.1 will be considered insignificant and will not be discussed.

As well, this section will be discussing the KSU Use Contribution to Life Satisfaction score as it relates to demographic groups. Any average score greater than 2 will be treated as a self-reported positive correlation and any score below 2 will be considered a self-reported negative correlation. Therefore, the closer this score is to 0 or 4, the stronger the respective negative or positive correlation. Though with analysis, it is more difficult to determine significance outside of the variance of scores, as could be determined by a standard deviation calculation. Therefore, the more polarized scores with lower relative standard deviations will be favored for discussion and regarded as more significant.

These two analyses in this report attempts to snap-shot the big picture effect of KSU campus interaction contributing, to any degree, to one's quality of life in Manhattan. For sake of the research question of this study, this is one of the more significant sections contributing to the foundation of knowledge that lead to evidence based policy and strategy in the conclusions of this research.

KSU Employees and Non-KSU Employees

As seen in Figure 6.31, there is a fair degree of positive correlation between non-KSU Employees' Quality of Life scores and Campus Interaction scores with a correlation coefficient of .256 and a p-value of .003. This means that the more non-KSU employees interact with the university, the higher Quality of Life that they also report, as illustrated by the blue regression line in Figure 6.31. KSU employees on the other hand, while their correlation between Quality of Life and Campus Interaction is positive, it is not particularly significant or very strong. However, these groups' KSU Use Contribution to Life Satisfaction scores show that both have a relatively strong association between the two factors. In fact, when assessed this way, KSU employees show a higher KSU Use Contribution to Life Satisfaction score that is 4.69% higher than non-KSU Employees. While it would be expected that KSU employees might have a higher correlation between Campus Interaction and Quality of Life, this anomaly might conclude that while KSU employees have a less objective campus interaction contributing to their quality of life, they do in fact have an equal if not higher subjective perception of their campus interaction contributing to their quality of life.

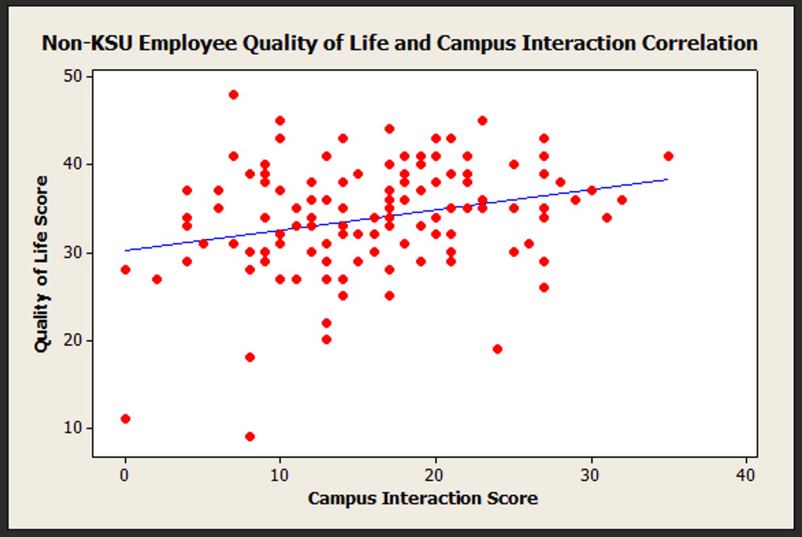


Figure 6.31: Non KSU Employee Quality of Life and Campus Interaction Correlation with Regression Line

KSU Alumni and Non-KSU Alumni

While it would be expected that KSU Alumni still living in Manhattan would show a greater correlation between Campus Interaction and Quality of Life, there is not a particularly significant correlation. While KSU Alumni have a greater correlation in this regard compared to non-KSU Alumni, neither have a great enough correlation coefficient to further analyze. However, when looking at the KSU Use Contribution to Life Satisfaction ratings of these groups, both support the notion that there is a significant correlation, as KSU Alumni rate this relationship at a 3.25 and non-KSU Alumni at a 2.91, which is 8.71% lower. This analysis would also support the notion that perhaps in a more

subjective sense, KSU-Alumni, and Non-KSU Alumni for that matter, share a stronger self-identified association between campus interaction and quality of life, which does not perhaps show objectively according to the data.

Renters and Home Owners

The difference in campus interaction contribution to quality of life between these groups is also a bit of an anomaly. As seen in Figure 6.32, renters certainly show a more objective association between Campus Interaction and Quality of Life, with a Spearman correlation coefficient of .33 with a p-value of .049. That is to say, the more renters interact with campus, the higher their quality of life tends to be. This relationship is represented by the blue regression line in Figure 6.32. On the other hand, owners show a correlation coefficient of only .099 with a p-value of .533. However, the KSU Use Contribution to Life Satisfaction scores show that, in a more subjective fashion, owners experience a stronger positive association between campus interaction and quality of life with a score of 3.2, which is 9.91% higher than renters.

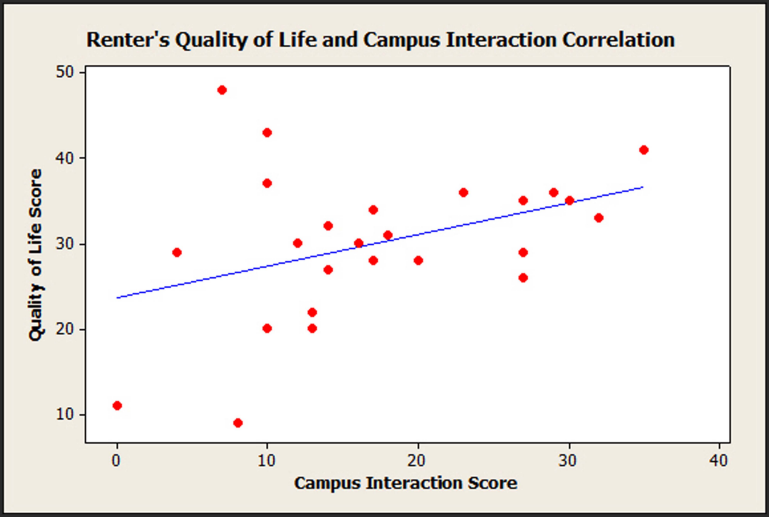


Figure 6.32: Quality of Life and Campus Interaction Correlation of Renters with Regression Line

Male and Female

This is perhaps the only significant difference found between male and female subjects of this study. Though it is considered a weak correlation (.209), with a p-value of .027, the male subjects of this study show a stronger positive correlation between Campus Interactions and Quality of Life than women at .032. That is to say that male permanent residents whom report having a higher interaction with the university also report having a higher Quality of Life. This relationship is illustrated by the blue regression line in Figure 6.33. However, at the same time, the KSU Use Contribution to Life Satisfaction scores for the two sexes differ by less than 1.5%. These facts are fairly unexplainable in the analysis due to the fact that males have not indicated a much higher Quality of Life score (+2.37%) or KSU Use score (+3.73%). As well, males have not indicated a much higher

Life Satisfaction score (+0.82%) that would explain why their campus interaction correlates more positively than females.

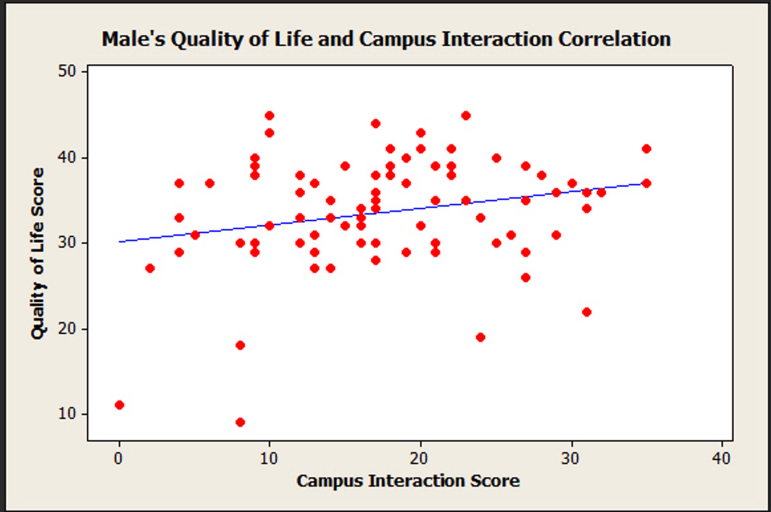


Figure 6.33: Quality of Life and Campus Interaction Correlation Among Males with Regression Line

self-assessment of subjects' KSU Use Contribution to Life Satisfaction score. In this analysis, full time employees report an

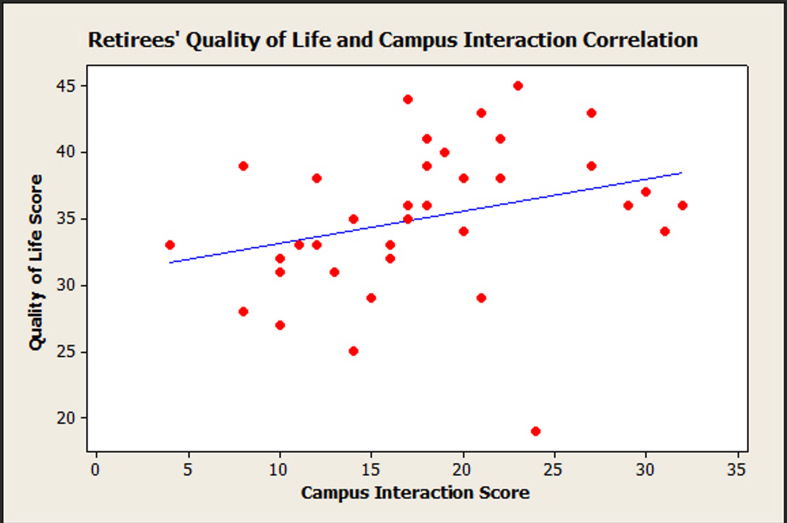


Figure 6.34: Quality of Life and Campus Interaction Correlation Among Retirees with Regression Line

Employment Type

Generally, there is very little significance among part time and full time employee Quality of Life and Campus Interaction correlation- both of which have a Spearman correlation coefficient that is less than .015. However, when considering the correlation coefficient of these two groups compared to homemakers and retirees, the latter two groups have much higher correlation coefficients at .591 and .450 with p-values of .022 and .070 respectfully. The characteristics of this relationship also reflect in the average KSU Use Contribution to Life Satisfaction score that is 23.77% lower than homemakers and retirees averaged score; part time employees report a 15.4% lower score. Clearly the pattern here shows that there is a relationship between how much one works and their interactions with campus that contribute to their quality of life. This evidence supports the notion that people that work less, while not having a particularly higher level of interaction with the KSU campus, as discussed earlier, do seem to attribute their interactions with the KSU campus more heavily in contribution to their quality of life.

On the same point, this factor is not completely independent from other demographics, as homemakers and retired citizens tend to be older than part time or full time employees. As discussed later, older subjects tend to have a higher positive Quality of Life and Campus Interaction correlation as well.

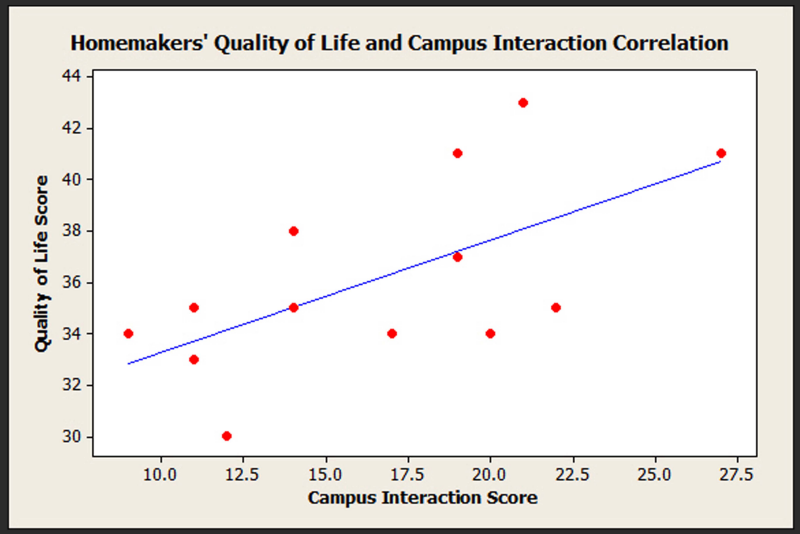


Figure 6.35: Quality of Life and Campus Interaction Correlation Among Homemakers with Regression Line

Education

As seen in Figure 6.36, the correlation between Quality of Life and Campus Interaction when analyzed across educational levels shows some peculiar trends. The composite score correlation analysis shows only one significant correlation among associate degree holders with an almost perfect correlation coefficient of .949 with a p-value of 0.01. This interpretation of the data should not be taken too radically, since the number of subjects reported having an associate's degree alone are relatively few (4), though not as few as those with high school degrees only (3). As seen in Figure 6.36, there is a particular trend in Quality of Life and Campus Interaction score correlations. In this trend, as subjects move from less educated to more, significance of Quality of Life to Campus Interaction correlations are low at high school degree attainment, top out associate's degree, and then bottom out at Ph.D. attainment- as a sine pattern graph might illustrate.

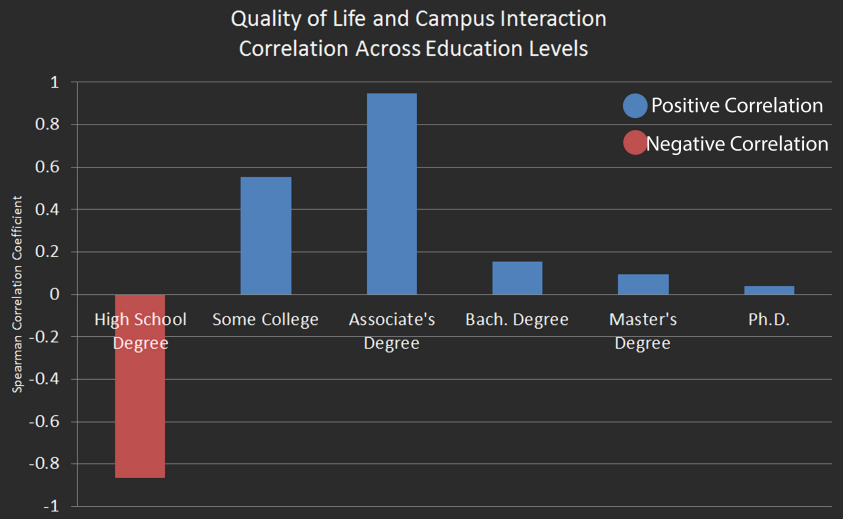


Figure 6.36: Quality of Life and Campus Interaction Correlation Coefficient by Education Level

On the other hand, the KSU Use Contribution to Life Satisfaction scores among these groups show a clear pattern of increasing as subjects become more educated, as seen in Figure 6.37. In this case, it would seem that the more subjective perception of this association between campus interaction and quality of life is not particularly similar to the pattern seen in the more objective analysis. An example of this is seen clearly in the difference between the relative significance of Ph.D. holder's correlations. In the self-report of association, this group is scored as the highest, implying a strong correlation; in the objective analysis of correlation, their correlation factor is the weakest and least significant, as seen in Figure 6.36. This trend may have much to do with the fact that a fair amount of subjects in this study are in fact KSU Alumni, whom feel they have more to "owe" to KSU for their life satisfaction than non-KSU Alumni as their education level increases.



KSU Contribution to Life Satisfaction through Education, Photo by KSU Grad School, 2013

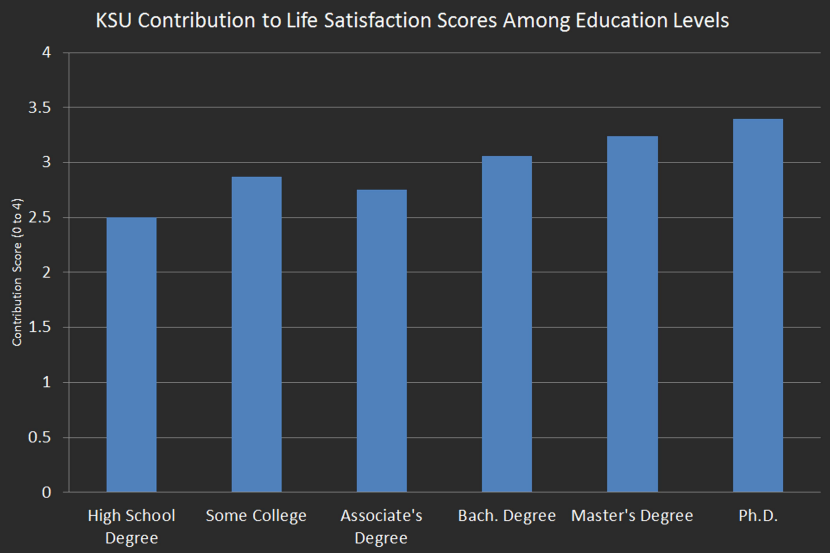


Figure 6.37: KSU Contribution to Life Satisfaction Average Score by Education Level

Living Situation

As seen in Figure 6.38, there is a small and slightly significant positive correlation between the Quality of Life and Campus Interaction scores of subjects whom reported living with a significant other- more than any other group. That is to say, as subjects living with a significant other interact more with campus, the higher their quality of life tends to be, as indicated by the blue regression line in Figure 6.38. A more interesting observation about this grouping comparison is in the insignificant, but noticeable Spearman correlation coefficient of -.252 among subjects reporting living with roommates. This would not be

so strange if this same group did not also report the most significant positive association among the KSU Use Contribution to Life Satisfaction scores, which is 11.21% higher than those living with a significant other, and 24.18% higher than those whom reported living alone, as seen in Figure 6.39. Though the p-value of the former correlation analysis for this group was greater than .55, it is still curious. It is possible that this phenomenon exists because those living with roommates don't have a particularly high quality of life compared to other groups to begin with, as discussed earlier, yet they do tend to have a higher interaction level with the university campus. So in a more objective sense, it would appear that those living with roommates would have a negative correlation with Quality of Life and Campus

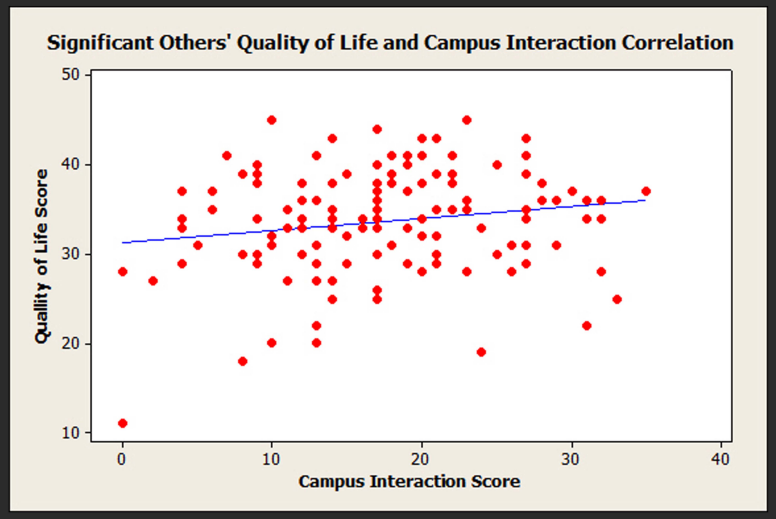


Figure 6.38 Quality of Life and Campus Interaction Correlation Among Subjects Living with a Significant Other with Regression Line

Interaction, though subjectively, they seem to benefit more greatly from campus interaction than any other living situation group.

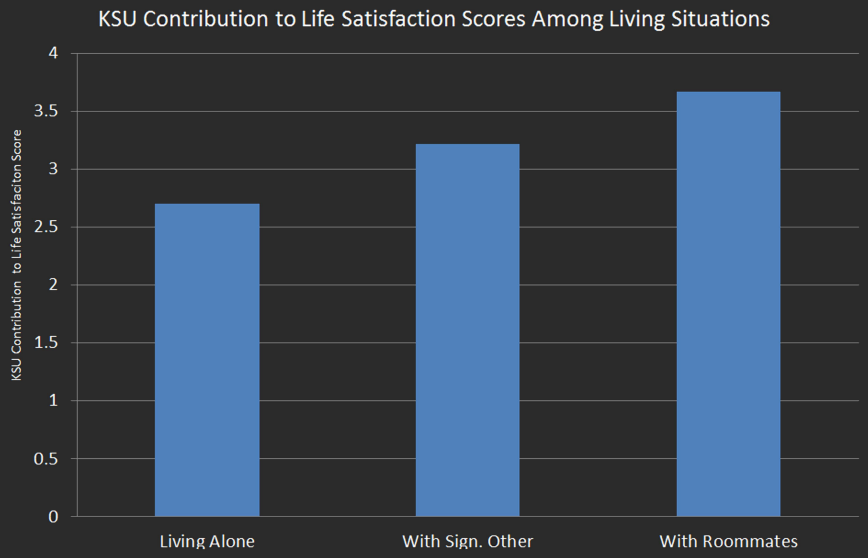


Figure 6.39: KSU Contribution to Life Satisfaction Scores by Living Situation

Age

As seen in Figure 6.40, the trends of Quality of Life and Campus Interaction correlations are sporadic at a glance. However, it will be noted that as alluded to earlier, the age group with the highest Quality of Life and Campus Interaction correlation were those 66 and older. The same is seen in the KSU Use Contribution to Life Satisfaction scores among these age groups, whereas those

66 and older report the highest KSU Use Contribution to Life Satisfaction score at 82.58%, though it is not terribly higher than the lowest score of 75% coming from the 18 to 25 year olds (Figure 6.41).

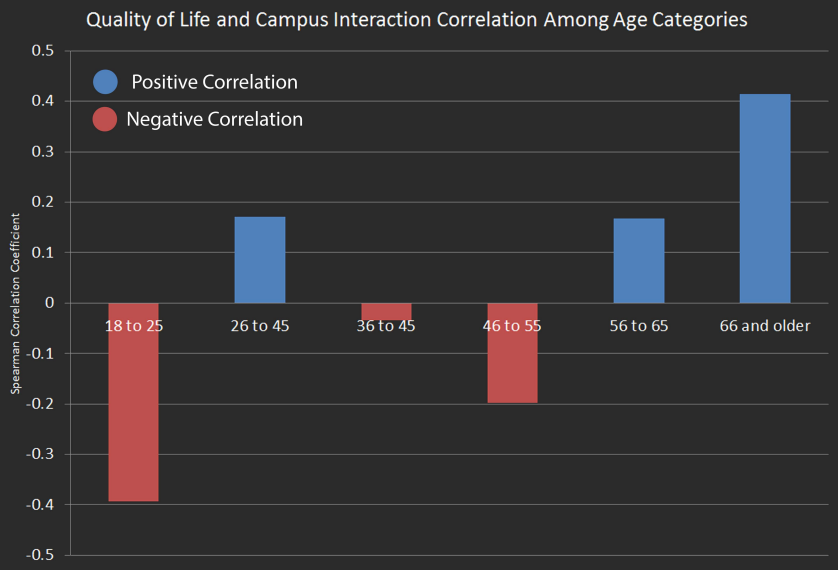


Figure 6.40 Quality of Life and Campus Interaction Correlation Coefficient by Age

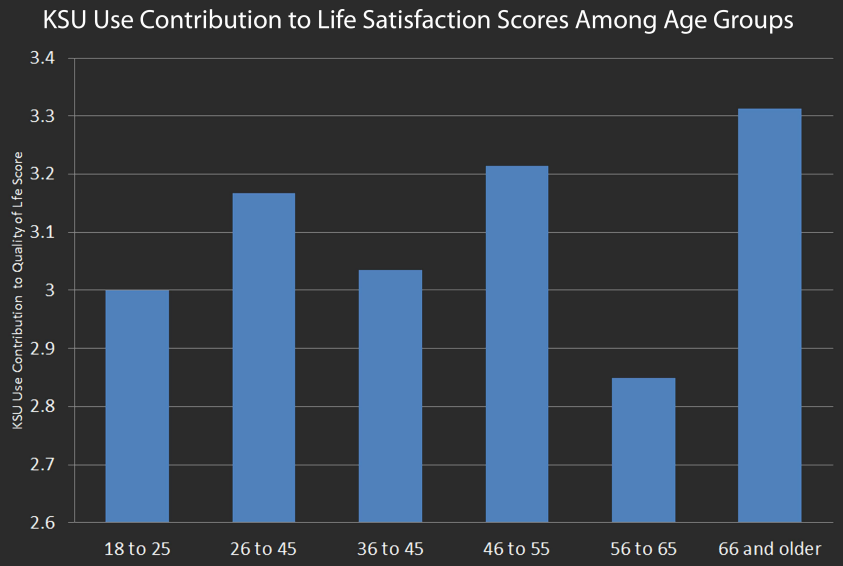


Figure 6.41: KSU Use Contribution to Life Satisfaction Scores by Age

Children

There is not a very significant difference between those with children in their household as opposed to those whom have none- in terms of KSU Use Contribution to Life Satisfaction scores. However, it is clear that there is a slight positive correlation between composite Quality of Life and composite Campus Interaction scores, with a Spearman correlation coefficient of .189 and a p-value of .024, among those subjects whom reported to have no children in their household. That is to say, those without children in their household have a Quality of Life that has a higher correlation with Campus Interaction.

Conclusion

Almost every demographic group reported some kind of positive correlation between campus interaction and quality of life, though many were admittedly weak and/or insignificant. However, this conclusion does patronize the notion that campus interaction does contribute to a higher quality of life or perceived life satisfaction for Manhattan permanent residents, though this would appear to be truer in some cases more than others. This theory will be tested further in the conclusions of this report.



The Campus Experience, Photo by KSU, 2011

Effective Factor Analysis

Questions in this survey were carefully researched, chosen and worded to get the most effective results in an efficient and easily understandable manner. It is therefore in good reasoning to analyze the significance of the information that these questions, their implications, and their meanings have. In this section, variables within their respective sections of the survey will be analyzed to identify how effective, or influential the variable is as a part of their greater whole. This will help identify which factors of Quality of Life and Campus Interaction have the greatest and the least importance, which will be used later to determine the relative "weight" of each factor.

Quality of Life and Quality of Life Factor Correlations

Here, subjects' Quality of Life factors are analyzed for their correlation with the subjects' respective comprehensive Quality of Life score. This helps to identify what Quality of Life factors contribute most heavily to Quality of Life, as determined by this study. The Spearman Rho correlation coefficient and its subsequent p-value is used to determine the factor's respective correlation strength and significance.

Composite Quality of Life and Quality of Life Factor Correlations

As seen in Figure 6.42, when individual Quality of Life factors are assessed for their significance using this method, there is a clear hierarchy of factors that weigh more heavily when determining the subjects' overall Quality of Life. While this will obviously differ from person to person, this analysis gives a snapshot of the Quality of Life factors that have more overall significance in assessing Manhattan permanent residents' Quality of Life in this study.

Obviously, all of these individual Quality of Life factors will have a more significant correlation with the composite Quality of Life score, since the score is dependent upon the sum of the factors themselves, but this analysis is focused more on the relative significance, seeking to find the most influential factors by viewing them in raking order, as seen in Figure 6.42.

Looking at Figure 6.42, it is easy to see that some Quality of Life factors hold greater weight in determining the composite Quality of Life score for individuals throughout this study. In this comparison, sense of community, healthy lifestyle promotion, and appealing and affordable housing are the top three respectful determinants that hold the

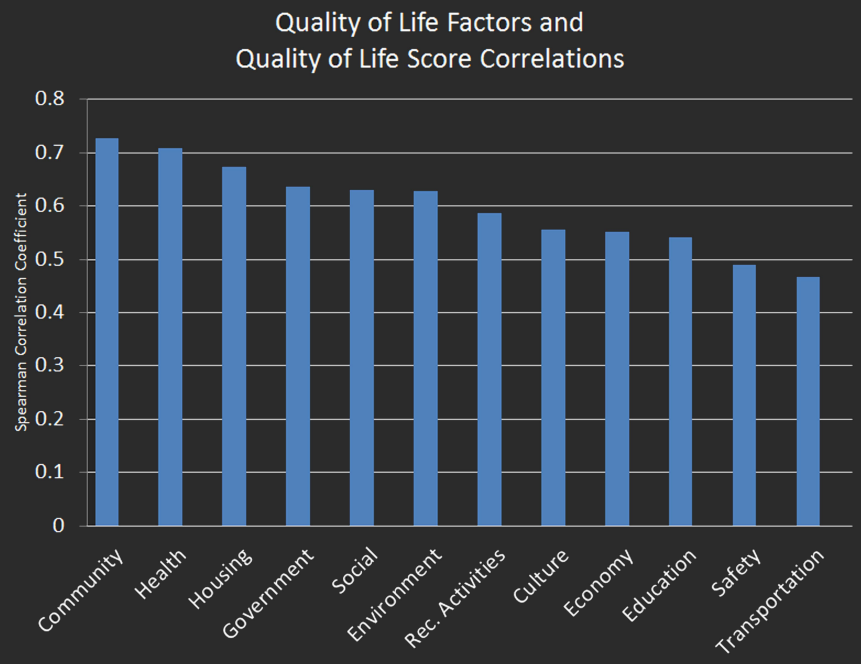


Figure 6.42: Quality of Life Factor Rating and Quality of Life Score Correlations

greatest significance in composing Quality of Life in Manhattan. Subsequently, as seen in Figure 6.42, safety and transportation are the lowest weighted Quality of Life factors that compose Quality of Life in this study.

As mentioned earlier, education, environment, and safety are rated the highest rated Quality of Life characteristics in Manhattan, while Housing and Transportation are rated as the lowest.

In light of this, a simple comparison of this data would imply that factors juxtaposed as influential in Quality of Life assessment, but ranked low compared to other Quality of Life factor ratings in Manhattan (Q4 of Figure 6.43), are factors that are important, but are not adequately fulfilled by Manhattan. These factors are health, government, and housing. In the same sense, factors juxtaposed as not as influential in the Quality of Life assessment, but rated high compared to other Quality of Life factor ratings in Manhattan, are factors that are not as important, but are being relatively fulfilled in Manhattan (Q1 of Figure 6.43). These factors are safety, education, and culture. Going further, factors that are influential in determining Quality of Life and rated high among Quality of Life factors in Manhattan are those that are both relatively important and being relatively fulfilled (Q2 of Figure 6.43). These factors are community, environment, and social. In the same sense, factors that are not as influential in determining Quality of Life and rated low among Quality of Life factors in Manhattan are those that are both relatively unimportant and relatively unfulfilled in Manhattan (Q3 of Figure 6.43). These factors are economy, recreation, and transportation.

Comparing factors' relative significance to Quality of Life and relative fulfillment reveals some insight to Quality of Life factors that might be neglected or overemphasized in Manhattan. For instance, factors in Q4 of Figure 6.43 could require attention, while perhaps factors in Q1 of Figure 6.43 are being overemphasized. Or perhaps factors in Q2 of Figure 6.43 are to be commended for as far as there successful provision by the city of Manhattan, while factors in Q3 of Figure 6.43 are negligible and need not be addressed. While these factor rakings and significance are

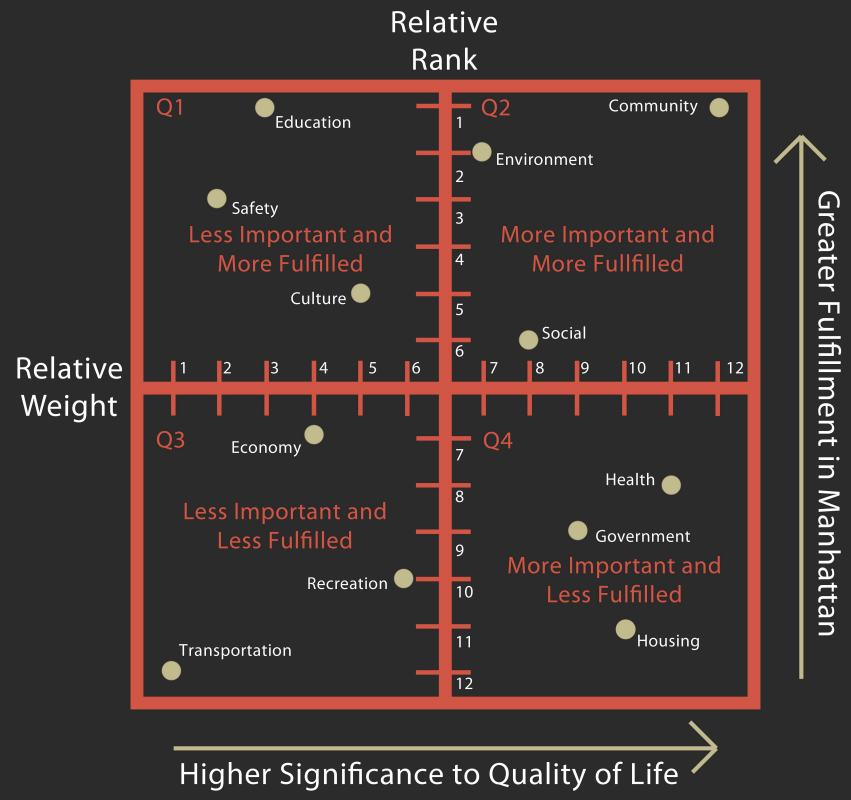


Figure 6.43 Relative Weight and Rank Matrix of Quality of Life Factors

relative to one another, it does give a picture of the state of how Quality of Life factors are fulfilled and regarded in Manhattan.

Life Satisfaction and Quality of Life Factor Correlations

The same principle can be applied if comparing subjects' individual Quality of Life factor ratings to their Life Satisfaction scores. This is an analysis of independent factors, which uses the subject's personal assessment of their quality of life to determine which Quality of Life factors are weighted heavier in determining Life Satisfaction of the subject.

As seen in Figure 6.44, there is generally less correlation between Quality of Life factors and Life Satisfaction scores than the correlation between Quality of Life factors and Composite Quality of Life scores. As conceptuallized previously, this is because these are independent variables in which Quality of Life factors do not directly contribute to the overall Quality of Life measurement. Regardless, this comparison can give another perspective on the Quality of Life factors that contribute to overall quality of life, when overall quality of life is determined by the respondent as "Life Satisfaction."

When comparing Figure 6.44 to Figure 6.42, it is clear that

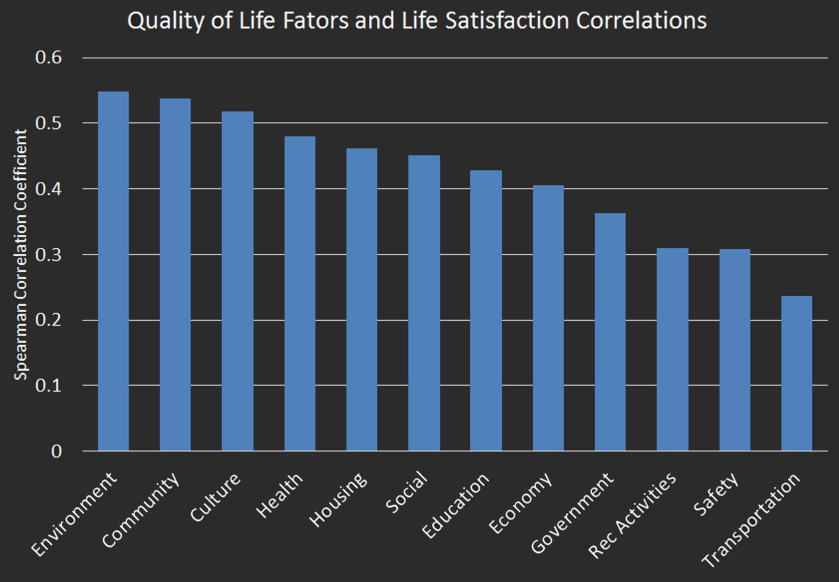


Figure 6.44

some of the hierarchy of Quality of Life factor significance remains the same, as sense of community remains in the top three heaviest weighted factors determining Life Satisfaction. At the same time, safety and transportation remain in the bottom two as the lightest weighted factors when determining Life Satisfaction. However, in this case, environmental desirability and culture are thrown to the top of this hierarchy, replacing housing quality and health promotion.

When viewed in a matrix analysis of weight and Quality of Life factor rating, as performed earlier, slightly different conclusions could be drawn when considering over-emphasized,

under emphasized, unfulfilled, and fulfilled quality of life factors in Manhattan. At first glance, it notable that factors in this analysis are more polarized toward being more important and more fulfilled (Q2 of Figure 6.45) or being less important and less fulfilled (Q3 of Figure 6.45). Of these, culture moves from being a factor that is less important and more fulfilled to a factor that is more important and more fulfilled; government moves from being a factor that is more important and less fulfilled to being a factor that is less important and less fulfilled. All other factor significance and weighting remained within the same quadrants, though some shifted a few intervals, signifying some change in weight and fulfillment, as seen in Figure 6.45.

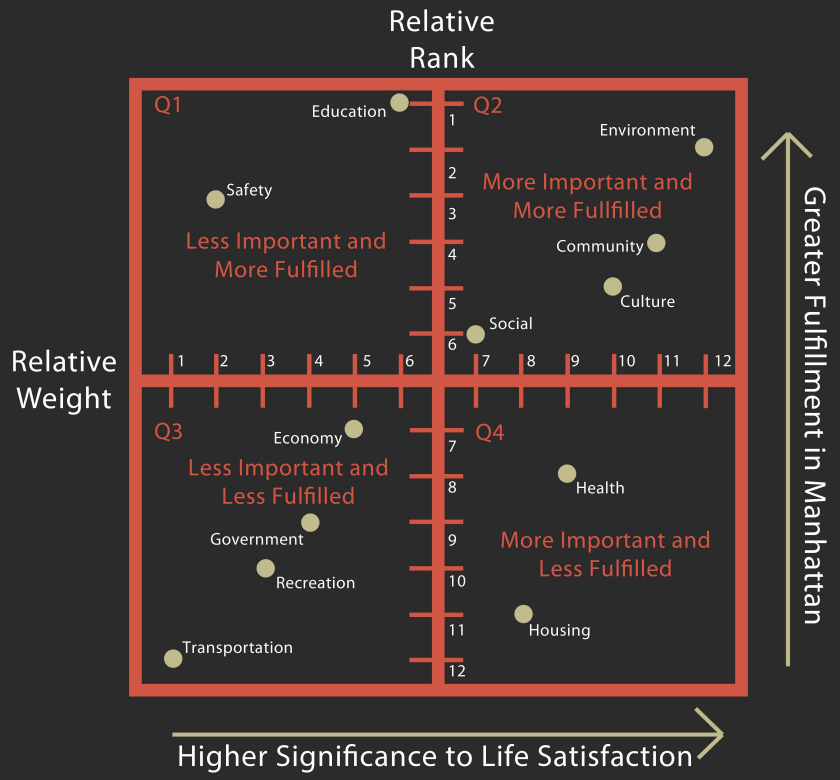


Figure 6.45: Relative Weight and Rank Matrix of Quality of Life Factors

Again, comparing these factors' relative significance to Life Satisfaction and relative fulfillment reveals some insight to Quality of Life factors that could be neglected or overemphasized, as could be assessed in the matrix chart of Figure 6.45.

Conclusion

These two comparisons do in fact imply slightly different issues with quality of life in Manhattan. However, now would be a good time to examine how comparable the composite Quality of Life scores are to the Life Satisfaction scores. When looking at a correlation between these two factors, the results yields a Spearman correlation coefficient of .683 with a p-value of 0. That is to say, that there is a "good" positive correlation between the two scores among subjects as a whole. This correlation coefficient helps to validate that the survey used within this research does in fact use quality of life factors, that, when summed together, properly reflect quality of life reported in terms of "life satisfaction" to a large degree in Manhattan. As seen in Figure 6.46, there is a

very strong relationship between Quality of Life Scores and Life Satisfaction scores; in general, as one increases, so does the other.

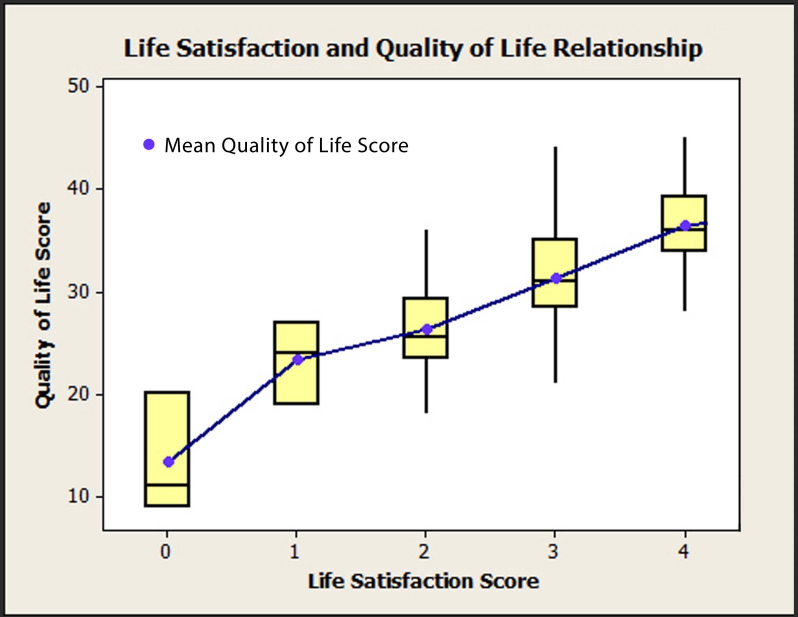


Figure 6.46 Life Satsfaction Ranking and Quality of Life Score Relationship

Campus Interaction and Campus Interaction Factor Correlation

Much like the previous section, here, subjects' Campus Interaction factors, as listed in the survey, will be analyzed for their correlation with the subjects' respective comprehensive Campus Interaction score. This will help to identify what kinds of campus interactions contribute most heavily to Campus Interaction as a whole in this study. The Spearman Rho correlation coefficient and its subsequent p-value will be used to determine the factors' respective correlation strength and correlation significance.

Composite Campus Interaction and Campus Interaction Factor Correlation

As seen in Figure 6.47, when individual Campus Interaction factors are assessed for their significance, there is a clear hierarchy of interaction factors that weigh more heavily when determining the subjects' overall level of Campus Interaction. While these weights will differ from person to person, this analysis gives a snapshot of the individual campus interactions, that when taken as a whole, have more significance in assessing Manhattan citizens' overall level of campus interaction. Obviously all of these individual campus interaction types will have a significant correlation with the total Composite Campus Interaction score, because, like the Quality of Life section discussed earlier, the interaction factor frequency ratings are summed together to create the composite Campus Interaction score. As well, like the Quality of Life factor analysis above, this analysis is more relative, seeking to find the most influential Campus Interaction factors, by looking at their correlation with Composite Campus Interaction scores in raking order.

In Figure 6.47, it's easy to see which campus interactions contribute more heavily to total level of Campus Interaction as seen by the descending value of correlation coefficients associated with each interaction. In this analysis, the top three campus interactions that have the greatest weight when determining Campus Interaction levels are visiting libraries, walking through campus, and visiting art exhibitions. The two interactions on the far right of Figure 6.47 are those that hold the least weight in determining campus interaction; attending sporting events and biking through campus.

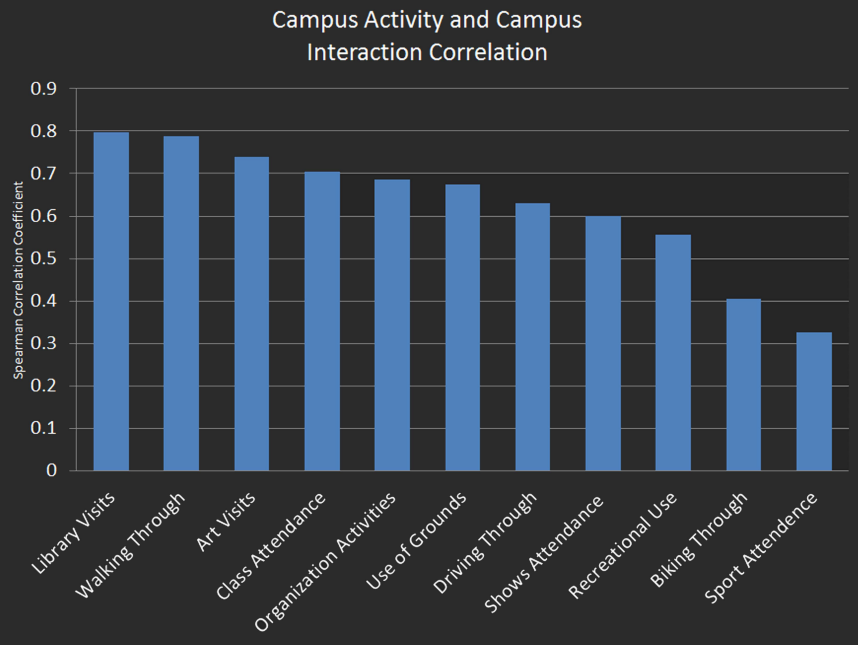


Figure 6.47: Campus Interaction Factor and Campus Interaction Correlation

Another way of thinking about this might be to say that the activities on the further left end of Figure 6.47 are the most "engaging" campus interactions, allowing subjects to feel more involved with the campus than the others, while those on the right could be considered the least engaging. When the Campus Interaction factors are viewed in a matrix analysis of relative weight, as determined by rank correlation with Composite Campus Interaction and factor frequency ranking, one can begin to draw conclusions about the characteristics of campus interaction- their level of engagement and frequency, as seen in Figure 6.48.

Also seen in Figure 6.48, factors juxtaposed as influential in Campus Interaction assessment, but ranked low compared to other Campus Interaction factor ratings in Manhattan (Q4 of Figure 6.48), are factors that are important, but are less frequented by permanent residents of Manhattan. These factors are class and lecture attendance, library visits, and organization activity. In the same sense, factors juxtaposed as not as influential in the Campus Interaction assessment, but rated high compared to other Campus Interaction factor ratings, are factors that are not as important, but are frequented more often by permanent residents (Q1 of Figure 6.48). These factors are driving through campus, attending sporting events, and attending shows. Going further, factors that are influential in determining Campus Interaction and

rated high among Campus Interaction factors are those that are both relatively important and being frequented more often (Q2 of Figure 6.48). In this analysis, there is only one factor in this quadrant- walking through campus. In the same sense, factors that are not as influential in determining Campus Interaction and rated low among Campus Interaction factors are those that are both relatively unimportant and frequented less often by permanent residents (Q3 of Figure 6.48). These factors are recreational use, and biking through campus.

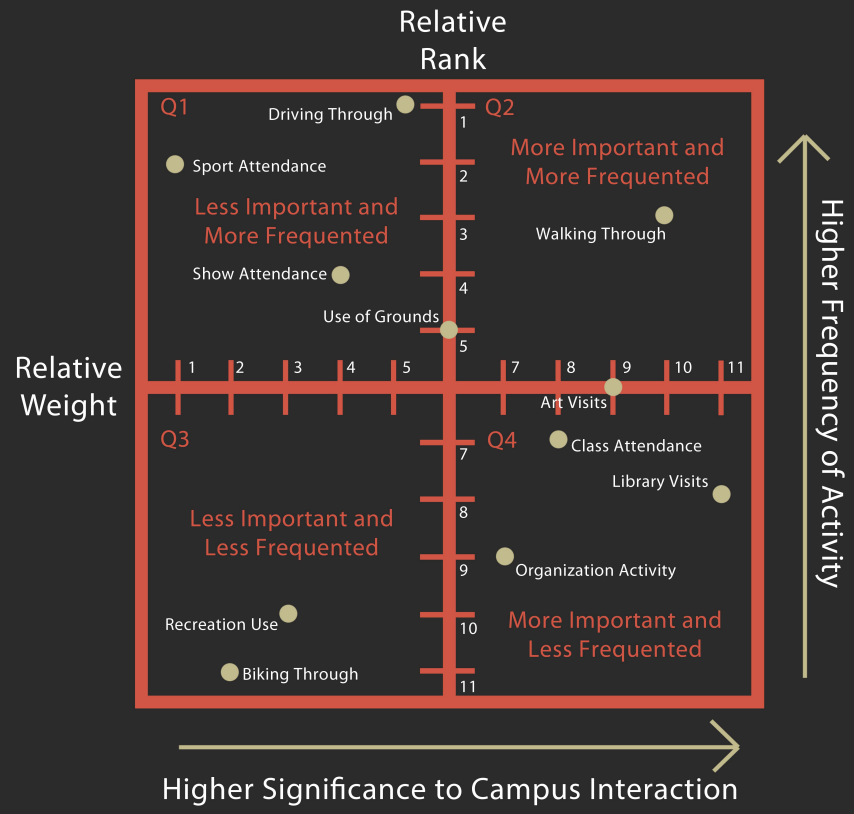


Figure 6.48: Campus Interaction Factor Relative Significance and Frequency Ranking

Comparing factors' relative significance to Campus Interaction and relative frequency reveals some insight to Campus Interaction factors. For instance, factors in Q4 could require attention as activities the university should encourage for sake of community involvement, while perhaps factors in Q1 are being overemphasized as interactions that aren't particularly engaging. The factor in Q2 should be noted as one that the university should boast as something it adequately provides well in the community. Factors in Q3 could perhaps be



The Great Room, Photo by Hale Library, 2010

considered negligible and need not be addressed. In both cases, these factor rakings and significance are relative to one another. That is to say, all factors have to fit somewhere, and can force these labels upon them. But this type of analysis gives a picture of the state of how Campus Interaction factors are frequented and regarded on the KSU Campus.

KSU Use and Campus Interaction Factor Correlation

Analyzing the same campus interactions and their comparison to the KSU Use scores reveals similar insight to the factors that are heavily weighted in terms of contribution to campus interactions. As seen in Figure 6.49, walking through campus and visiting libraries still tops as the interactions that weigh heaviest in determining the self-reported level of interaction with campus, while visiting art exhibitions was bumped down to number four on the list and replaced with organizational activity on campus. At the bottom of this hierarchy, signifying the least weighted interactions with campus contributing to subjects' overall interaction with campus, is biking through campus and attending sporting events, as in the previous analysis- though the order for the two have been reversed. Again, as seen in Figure 6.49, it could be concluded that the activities on the left of this hierarchy are the more engaging activities, as they are more associated with campus interaction. The activities at the right of the hierarchy could be considered the least engaging.

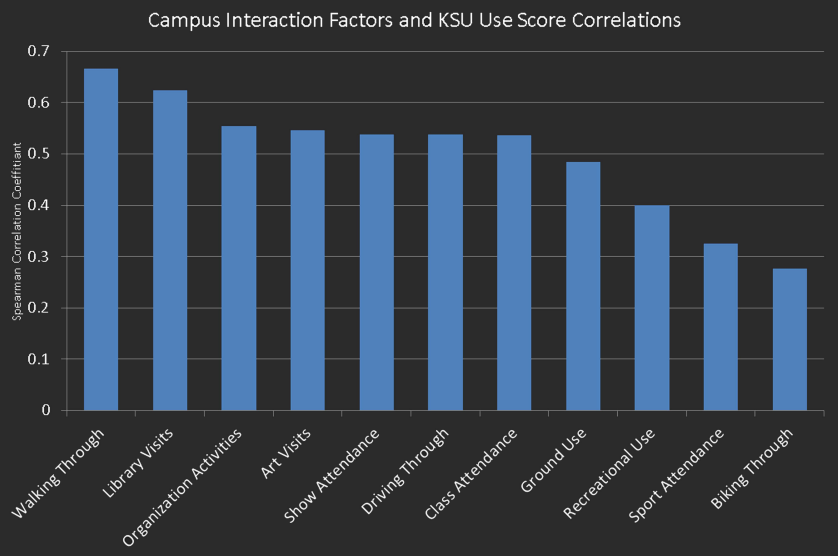


Figure 6.49: Campus Interaction Factor Rating and KSU Use Rating Correlation Coefficients

When viewed in a matrix analysis of weight and Campus Interaction factor rating (Figure 6.50), determined by factors' correlation with KSU Use scores, slightly different conclusions could be drawn when considering over-emphasized and under-performing campus interactions. In this analysis, a notable change is show attendance going from less important to more important (Q1 to Q2) as class attendance went from more important to less important (Q3 to Q4). All other factor significance and weighting remained within the same

quadrants, moved to being split between two quadrants, or shifted an interval or two, signifying some change in weight and fulfillment, as seen in Figure 6.50. Again, comparing factors' relative significance to Campus Interaction and relative frequency reveals some insight to Campus Interaction factors that could be unimportant or overemphasized in terms of engagement, as could be assessed in the matrix charts of Figures 6.48 and 6.50.

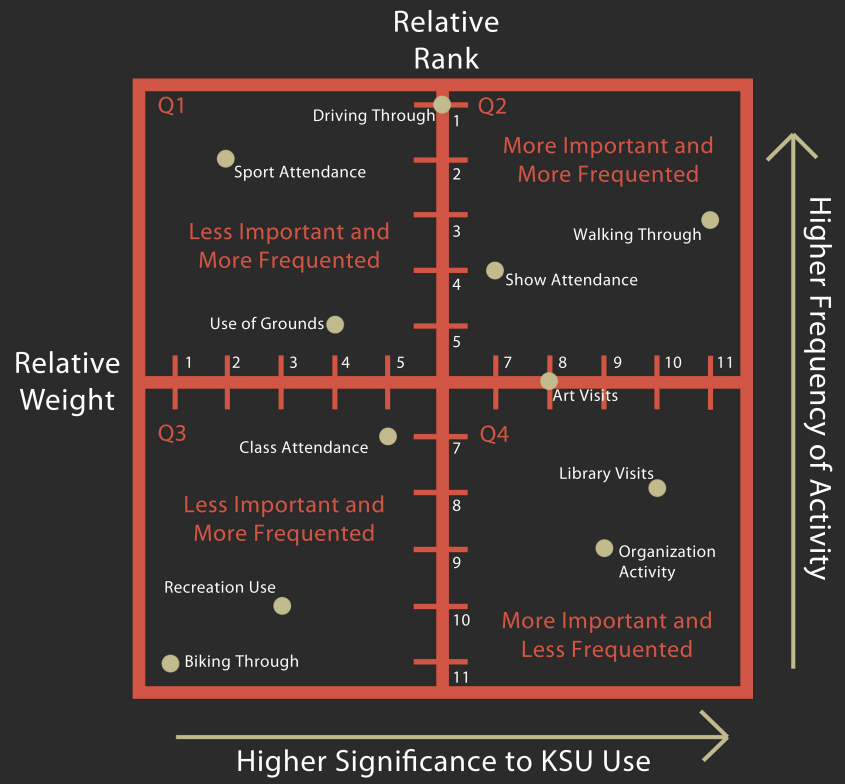


Figure 6.50: Campus Interaction Factor Significance and Frequency Relative to KSU Use Scores

Conclusion

These methods of essentially weighting individual campus interactions with the two measures of total campus interactions do differ on some degree, specifically in the intermediately weighted interactions, seen in Figures 6.48 and 6.50. This would also be an ample time to note the similarities between KSU Use and Campus Interaction. When the KSU Use scores and the composite Campus Interaction scores are compared using Spearman correlation analysis, as the quality of life measurements were compared, the similarities are quite significant. These two methods correlate with an

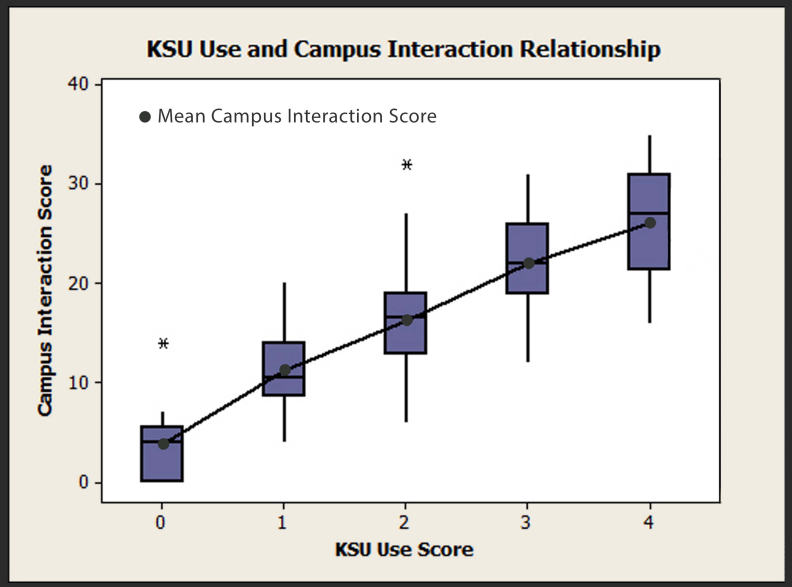


Figure 6.51: KSU Use Rating and Campus Interaction Score Relationship

"excellent" positive spearman correlation coefficient of .789 with a p-value of 0. As seen in Figure 6.51, there is a clear relationship between KSU Use and Campus interaction, as subjects reported their campus interaction with scores that are virtually parallel with the objective frequency rating totals of all of their campus activities. This correlation strength helps contribute to the validity of the method for systematically and accurately reflecting overall campus interaction of subjects in terms of "KSU Use".

Quality of Life and Campus Interaction Correlation

Now that the individual trends of the survey have been fully analyzed and understood, the in-depth analysis of variables affecting the overarching answer of the research question can be examined. These are the relationships that form the foundation of the conclusions that facilitate the answer to how the university campus affects the livability of its respective city.

Quality of Life and Campus Interactions

For all intents and purposes, the correlations discussed in this section are effectively the most important, albeit the most basic in terms of answering the question of this

That is "How does a university affect the quality of life of a city?" The survey used in this study allows this section to look at the relationship of these two factors in four different ways.

Composite Quality of Life and Composite Campus Interaction

Firstly, an answer can be found by looking at the correlation of Composite Quality of Life scores and Composite Campus Interaction scores. The results show that there is indeed a small positive correlation between the two (0.123) with a p-value of .095. As seen in Figure 6.52, when paired with a line of best fit (indicated by the blue line), the trends would suggest that to a certain degree, quality of life is positively related to campus interaction, at least to a point, then begins to have no effect. While this is a relatively weak correlation, at the least, it does nothing to defeat the hypothesis of this study. Rather, it gives good reason to dive deeper into the details of this general relationship, which will be discussed later throughout this report.

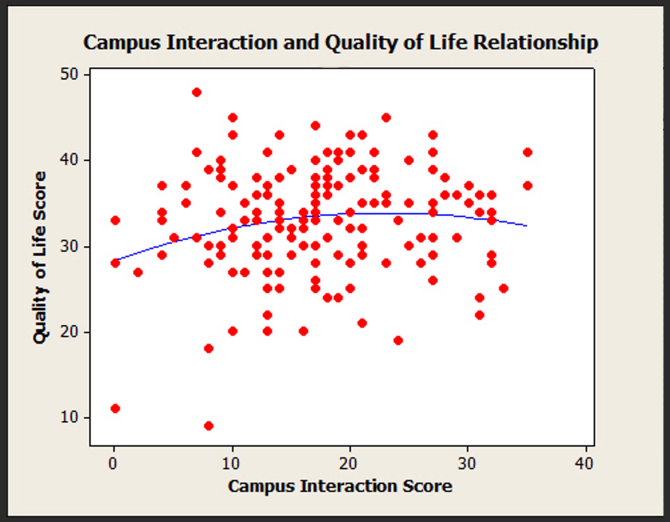


Figure 6.52: Campus Interaction Score and Quality of Life Score Relationship with Line of Best Fit

Composite Quality of Life and KSU Use

A second way of analyzing this relationship which this study's survey allows is by comparing the composite Quality of Life scores with the KSU Use rating reported by subjects. This particular comparison's strength is in the fact that it largely eliminates the chance that the Campus Interaction factors used in this study prove to inaccurately represent a subject's overall campus interaction, though as previously discussed, this does not appear to be the case. All the same, using this analysis, a similar trend appears. Between Quality of Life scores and KSU Use ratings, there is a Spearman correlation coefficient of 0.129 with a p-value of 0.053, again showing a slight positive correlation between quality of life and campus interaction. This relationship is illustrated by Figure 6.53, where the blue regression line plots the slight increase of Quality of Life scores as KSU Use increases.

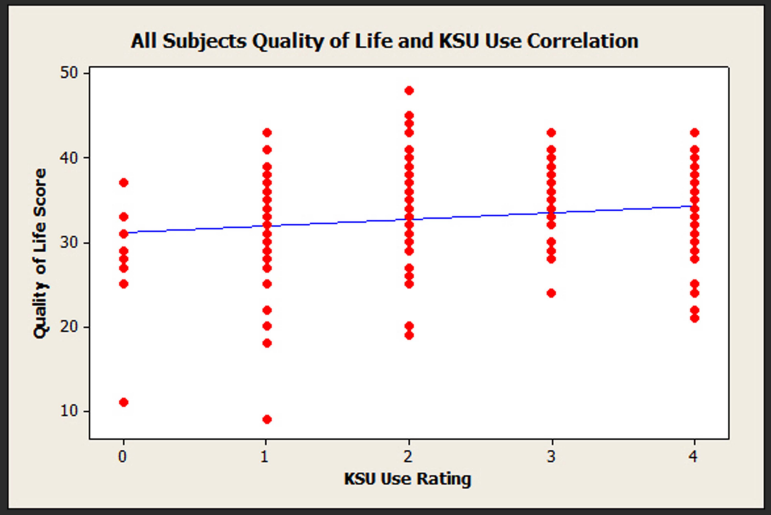


Figure 6.53: Quality of Life Score and KSU Use Rating Correlation with Regression Line

Life Satisfaction and KSU Use

The third way of looking at this relationship is by looking at the general correlation between the Life Satisfaction scores and the KSU Use scores reported by subjects. Here, there is a slightly stronger correlation than the previous two analyses with a coefficient of .199 with a p-value of .004. This

correlation would also imply that, when self-reported, the average permanent resident of Manhattan would experience an increase in Life Satisfaction as their interactions with campus increases. This is illustrated by the blue regression line seen in Figure 6.54. The strength of this analysis is also its weakness. While it eliminates the possibility of this study's presumption of misrepresented factors of campus interaction and quality of life, it is also very subjective and based solely on the respondent's opinion of their campus interactions and quality of life.

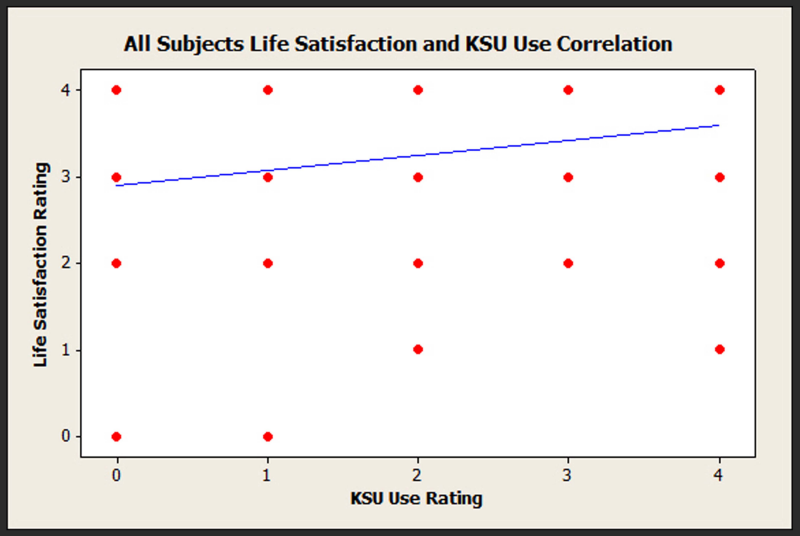


Figure 6.54: Life Satisfaction Rating and KSU Use Rating Correlation with Regression Line

KSU Use Contribution to Life Satisfaction

The fourth, final, and very simple way the survey of this study allows this report to examine the relationship between campus interaction and quality of life, is by looking at the KSU Use Contributing to Life Satisfaction scores among subjects. As mentioned earlier, the average rating given by subjects when asked to rate their use of the KSU campus and how it contributes to their life satisfaction in Manhattan is at 3.125 with a standard deviation of 0.9362; transposed to a scale of 0 to 4; 0 being the lowest contribution and 4 being the highest contribution. This means the subjects themselves believe their interactions with campus contributes a relatively high amount to their life satisfaction in Manhattan. As with the previous method of analysis, the strength of this score is also its weakness. While it eliminates the possibility of this study's presumption of misrepresented factors of campus interaction and quality of life, it is also very subjective and based solely on the respondent's opinion.

Conclusion

Despite the strengths and weaknesses of these analyses examining the relationship between quality of life and KSU campus interactions, it is clear that in every case, there is a positive correlation between campus interaction and quality

of life. Though some correlations serve as stronger evidence than others, this section would seem to indicate that, in general, as permanent resident's level of interaction with the KSU campus increases, as does their quality of life in Manhattan.



KSU Student Union Skywalk, Photo by K-State Collegian, 2011

Quality of Life and Campus Interaction Relative Factor Correlations

This section will analyze the relationships between specific interactions with campus and their correlation with Composite Quality of Life scores. As well, this section will analyze the relationships between specific interactions with campus and their correlation with Life Satisfaction scores. Again, this will be done using the Spearman correlation coefficient and subsequent p-value to determine strength and significance of the relationship. This section will give the research an idea of which campus interaction factors have the greatest correlation or effect on quality of life in Manhattan.

Composite Quality of Life Scores and Campus Interaction Factor Correlations

Here, as seen in Figure 6.55, it is clear that some interactions with campus correlate much stronger than others. However, almost none of the factors show any sign of significant correlations with the composite Quality of Life scores, given their p-values. The two factors that do show significance are

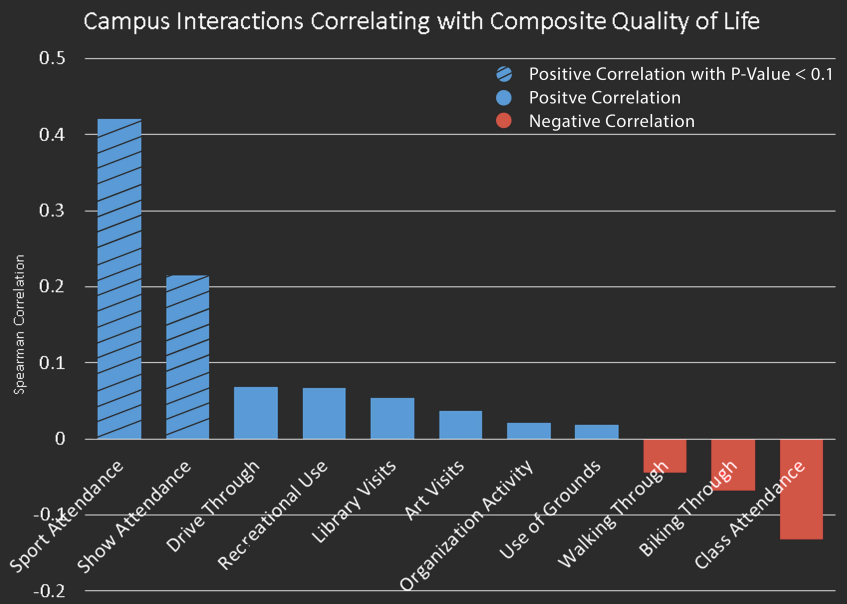


Figure 6.55: Campus Interaction Factor Correlation Coefficient with Quality of Life Score

sport attendance and show attendance. These factors have correlation coefficients of .421 and .215 respectfully with p-values below .001. As discussed earlier, there is a general correlation between campus interaction and quality of life. Here, the data takes this notion further by looking at the specific facets of campus interactions as they contribute, or take away from quality of life in Manhattan. Figures 6.56 and 6.57 illustrate this relationship by showing the noticeable increase in Quality of Life scores as the sport attendance frequency and show attendance frequency increase respectfully.

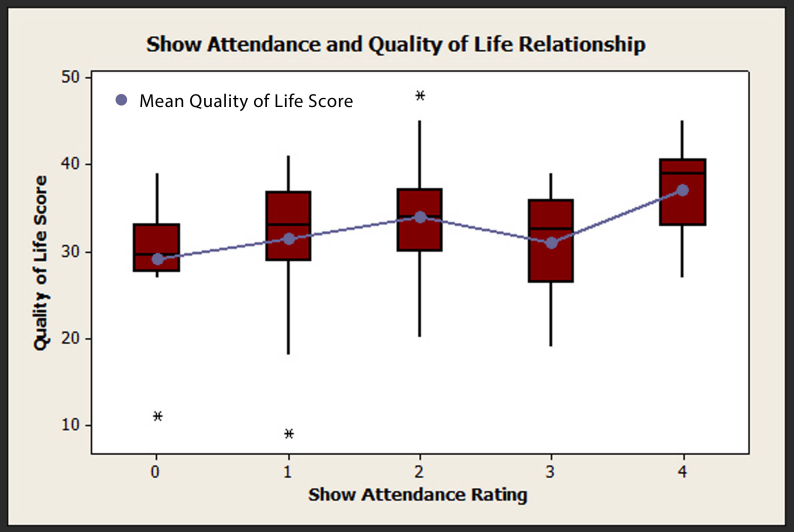


Figure 6.56: Show Attendance and Quality of Life Score Relationship

In short, this analysis would seem to suggest that sport attendance and live show attendance are the greatest individual campus interactions contributing the most to, or at least correlating the most with, quality of life in Manhattan.

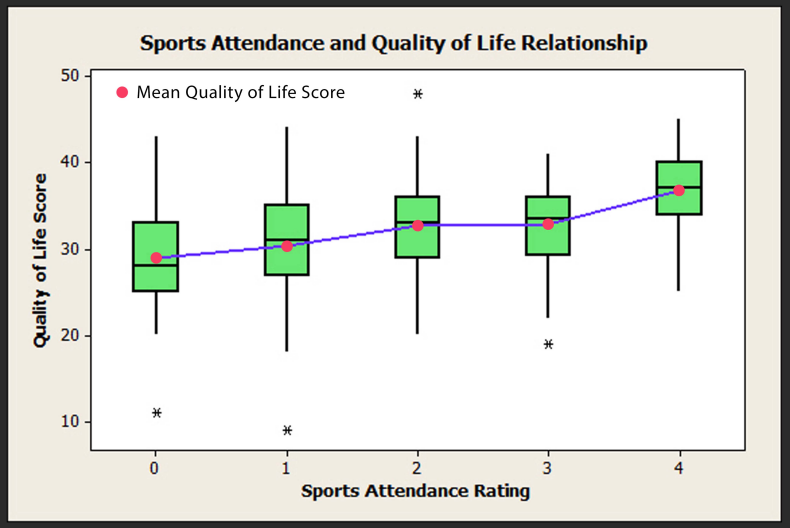


Figure 6.57: Sports Attendance and Quality of Life Score Relationship

Life Satisfaction and Campus Interaction Factor Correlations

In this section, Life Satisfaction scores are compared in their correlation with individual Campus Interaction factors. In general, Life Satisfaction scores and Composite Campus Interaction scores have a slight positive correlation (0.148) with a p-value of 0.026. That is to say, subjects whom have a

higher Composite Interaction level with the campus tend to have a higher Life Satisfaction. When examined on a factor by factor basis, as illustrated by Figure 6.58, it is apparent that most campus interactions correlate positively with Life Satisfaction. Sport attendance and show attendance again show to be the highest correlating factors with correlation coefficients of 0.403 and 0.266 respectfully, with p-values of 0. In other words, with most interactions, the more they are frequented by subjects, the higher their Life Satisfaction tends to be. This relationship is illustrated by the lines of best fit as plotted in Figure 6.59 and 6.60.

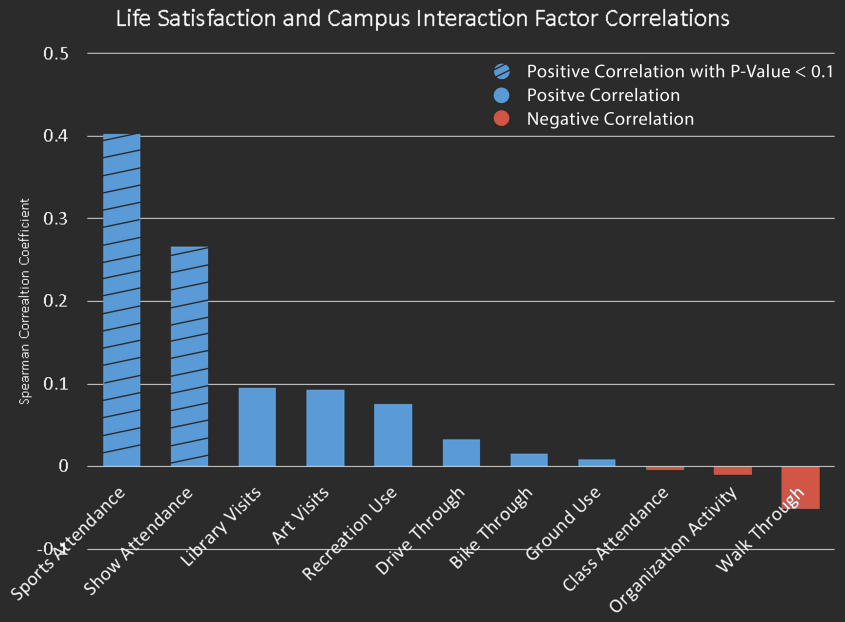


Figure 6.58: Campus Interaction Factor Correlation Coefficient with Life Satisfaction Rating

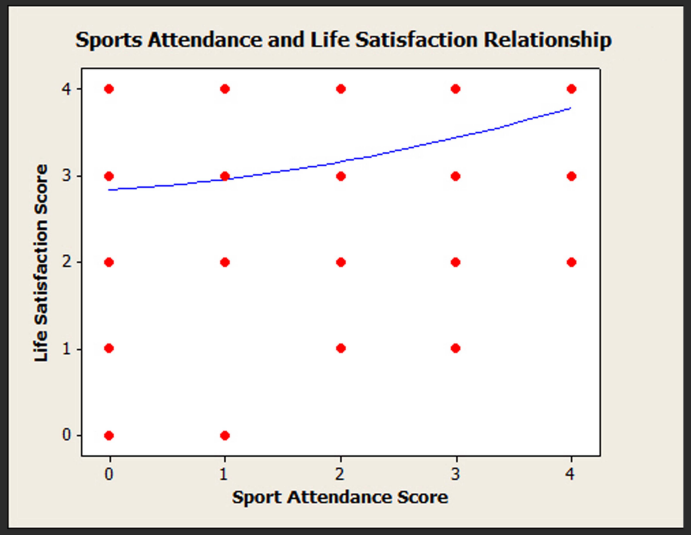


Figure 6.59: Sports Attendance Rating and Life Satisfaction Rating Relationship with Line of Best Fit



Figure 6.60: Show Attendance Rating and Life Satisfaction Rating Relationship with Line of Best Fit

Conclusion

In this Campus Interaction factor correlation analysis section, it is clear that Sport Attendance and Show Attendance on the KSU campus are the two Campus Interaction factors that correlate highest with the two measures of quality of life in this study. Since these two factors are averaged as the highest frequented by all subjects in this study, it would appear that these factors need to be explored for their affect and implication.

Spatial Analysis

The survey of this study inquired on the subjects' location information in terms of an "intersection near their home." While willingness to answer this question was posed as optional to the subjects, many nonetheless (87%) chose to provide the information. Though this isn't the primary function of this study, it helps provide supplementary insight to quality of life, specifically in Manhattan. This information allows the study to analyze yet another factor that could possibly be affecting individual subjects' quality of life and KSU campus interaction in Manhattan. As well, this analysis provides a more holistic answer to how universities affect the quality of life in cities by accounting for physical spatial relationships.

The technique used to analyze this spatial data was all composed in ArcMap GIS software. The major analysis that takes place is known as network analysis, which takes location points on a map and attributes them to a network layer to gather information about their distances from other locations, features, or points of interest. Using this analysis technique, subjects' locations were pinpointed on the network of streets in Manhattan in order to calculate their road distance from campus. The map that this analysis produced can be seen in Figure 6.61 and will be discussed throughout this section of the report.

While it was simple to locate subjects based on their street intersections, determining what was constituted as the destination of campus, as a large physical entity on a map, was less objective. In this analysis, Anderson Hall is used as the representative destination point of the KSU campus. This site was chosen because of its central location relative to many of the amenities, destinations, and services, used to determine campus interaction within this study. As well, it is a culturally significant building within Manhattan and is highly socially identifiable as perhaps the pinnacle of the KSU campus.



Anderson Hall, Photo by KSU School of Communications, 2011

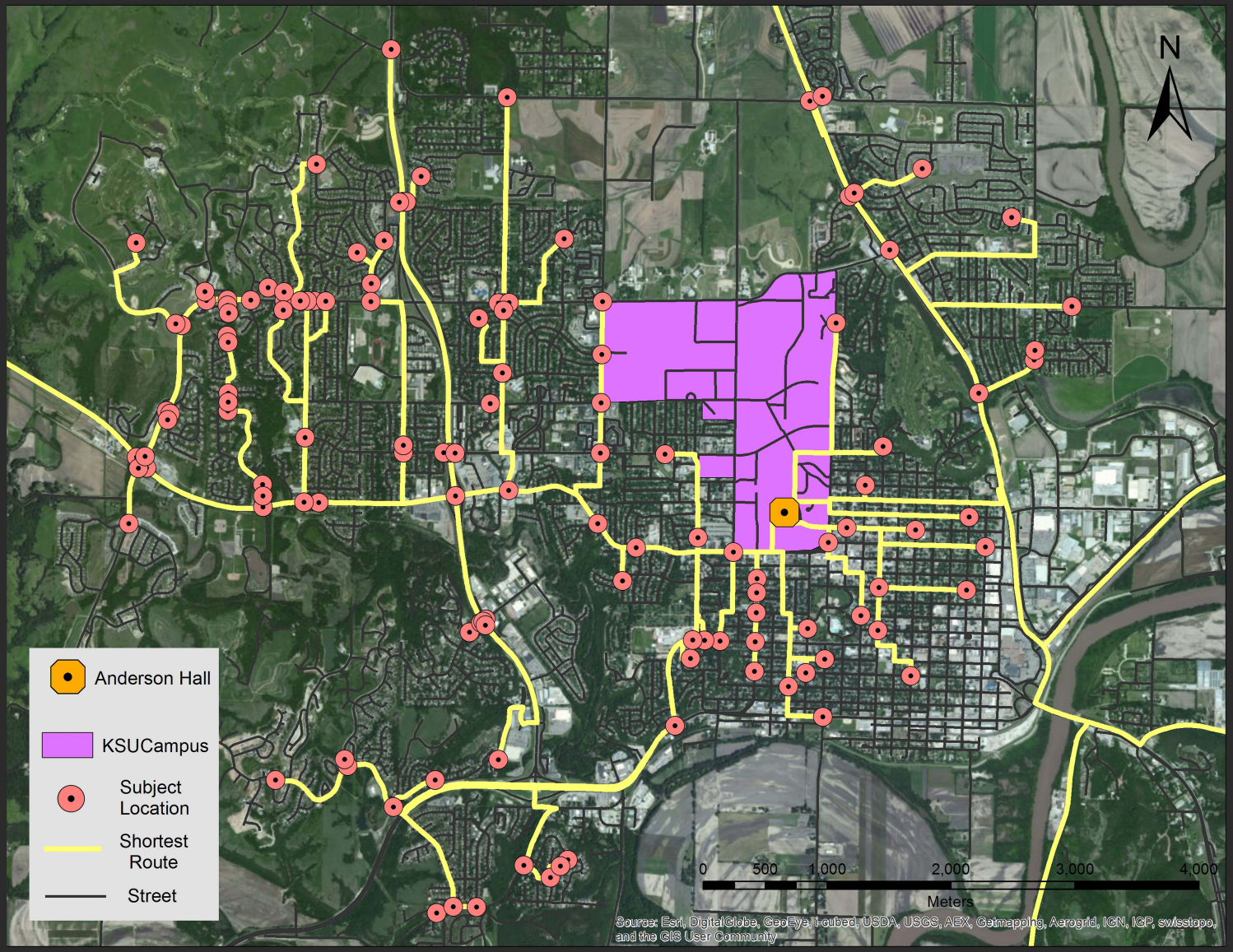


Figure 6.61: Spatial Network Analysis Map

Descriptive Spatial Analysis

This section largely provides a description of the patterns seen in the spatial data. This includes where subjects report living, their demographics, and a brief look at their Quality of Life and Campus Interactions. As well, it will discuss how these major factors could be affected by their location in Manhattan and their location in relation to the KSU campus.

Subject Locations

As seen in Figure 6.62, there is a reasonably even spread of location points of subjects throughout Manhattan.

Because this study cannot collect information about every permanent resident in Manhattan, it is highly important for this analysis and the validity of the study that there be a

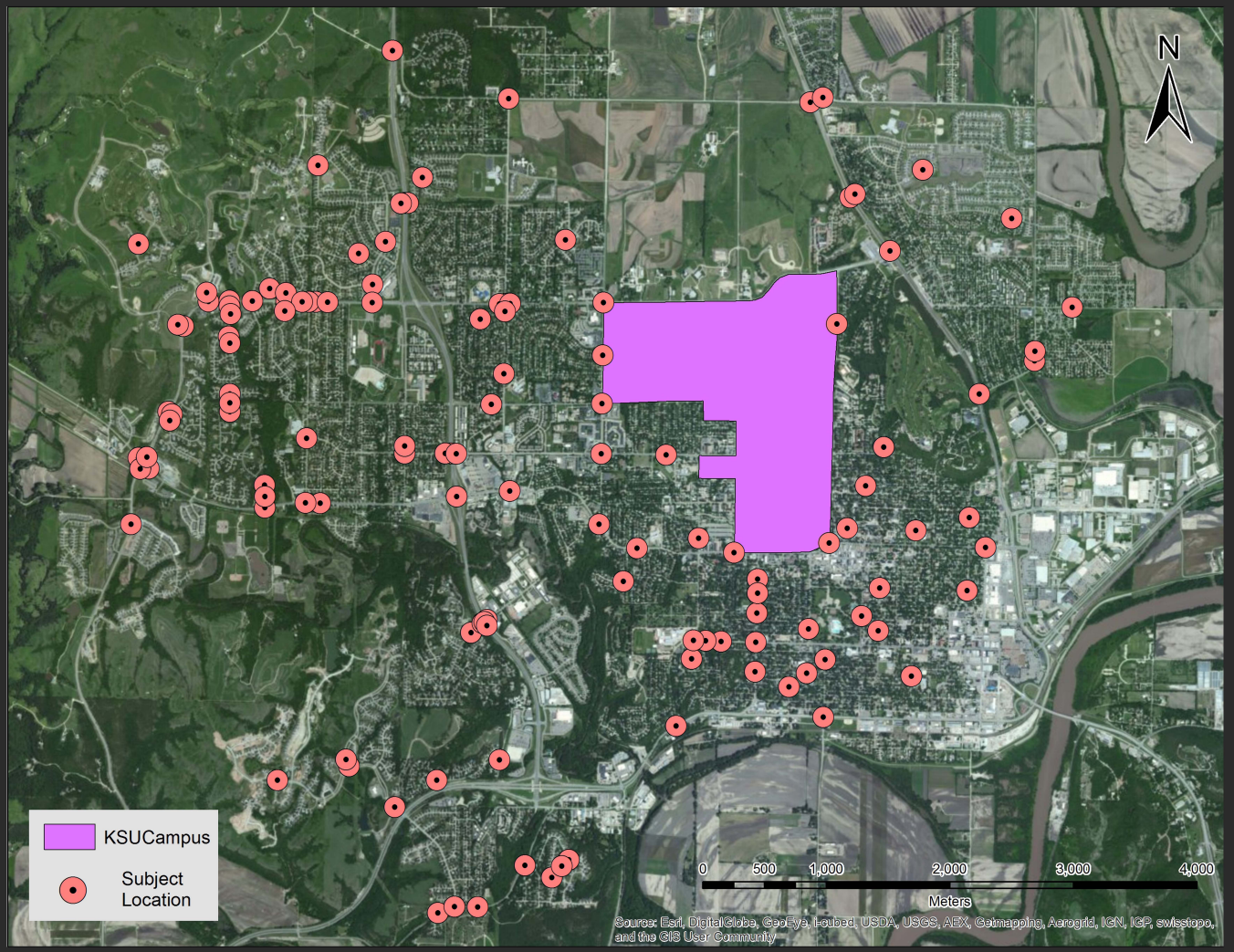


Figure 6.62: Subject Location Map

diverse range of subject locations as such. That being said, there are also some "holes" in the map data in which there are only a few subjects to represent a specific area of town. One area for example, seen in Figure 6.62, is within the Southeast area of Manhattan, where there are relatively few subjects to represent the location. At the same time, there are some relatively over-represented areas within Manhattan in which many responded to the survey of this study. One area for example, seen in Figure 6.62, is the Northwest area of Manhattan, where many subjects identified as living in. While the diversity of locations contributes to the validity of the spatial analysis and study as a whole, the underrepresented areas, or "holes" in the map, do not lend themselves to concrete assumptions concerning their patterns of information. Nonetheless, no spatial analysis is perfect, and while the conclusions drawn in this analysis should be taken with a grain of salt, there is still pertinent knowledge to be found, pointing toward some answers to the research question(s).

Spatial Analysis of Demographics

Manhattan has several neighborhoods of distinct character, often filled with people of distinct demographics. To name a few, there is the endearingly named "Student Ghetto" on the east side of campus, filled with high-density accommodation for students; the traditional neighborhoods south and east of City Park, filled with older single-family accommodation; and the west side "Townie" neighborhoods, filled with newer, single-family and suburban accommodation. It is important to account for and be aware of location factors like these in Manhattan, so that no false conclusions are reached before analyzing all possible factors effecting the quality of life and campus interaction of subjects in this study.

Age

Age seems to be a fairly influential component determining subject location within Manhattan. As seen in Figure 6.63, older subjects tend to be located nearer the periphery of the city, and tend to cluster in the northwest of Manhattan and just southwest of the campus. In terms of distance from campus, as illustrated in Figure 6.64, there is a distinct trend for those to live further away from the campus itself as they get older. For sake of the study, this makes sense, as citizens become more financially affluent and have families throughout life, their needs for housing change from when they were younger. It is clear that this trend is true in Manhattan. As seen in Figure 6.63, the older subjects tend to live near the periphery of town, in the quieter, more spacious neighborhoods, whereas the younger tend to live in the more affordable, densely-built core of the city.

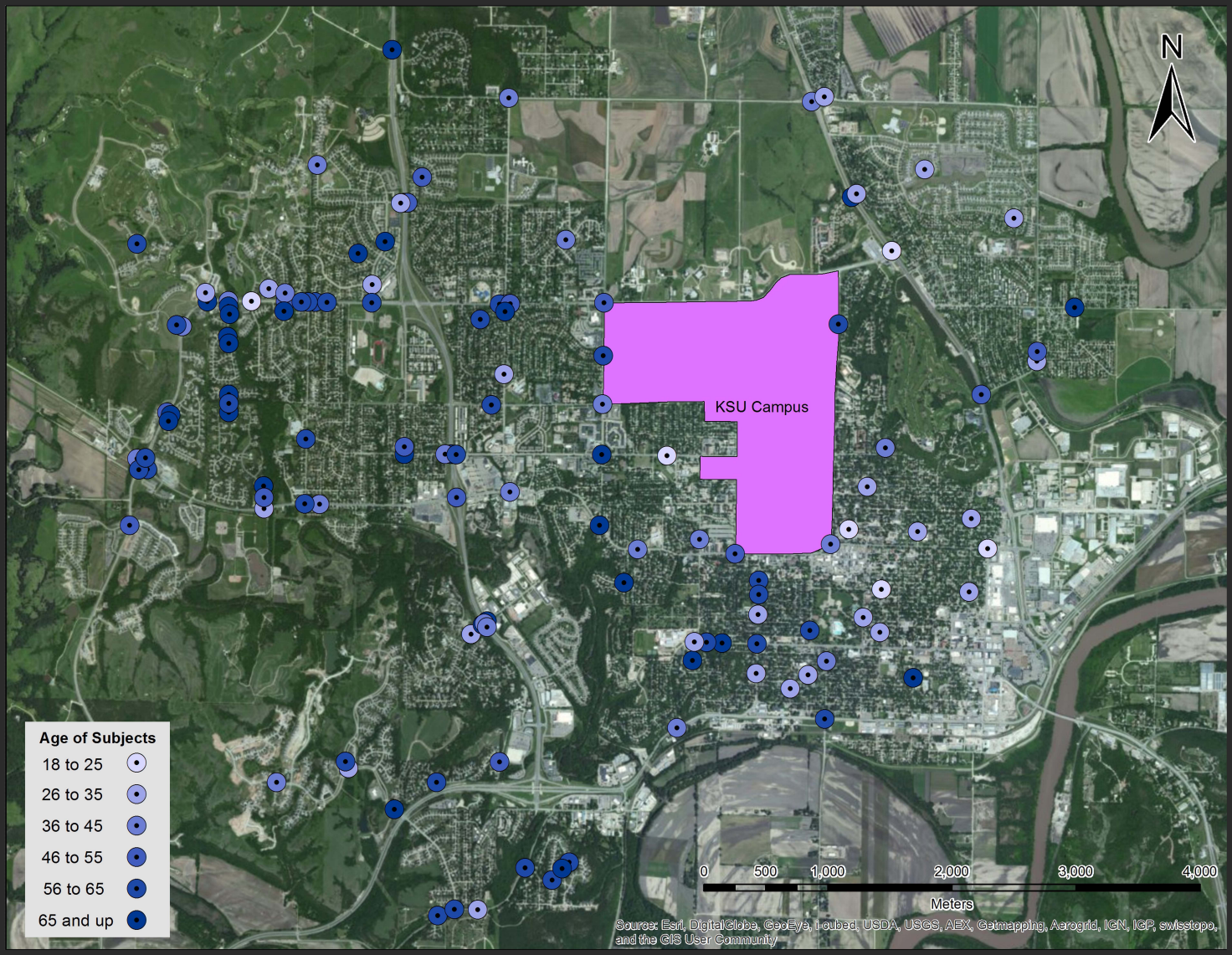


Figure 6.63: Age and Location of Subjects in Manhattan

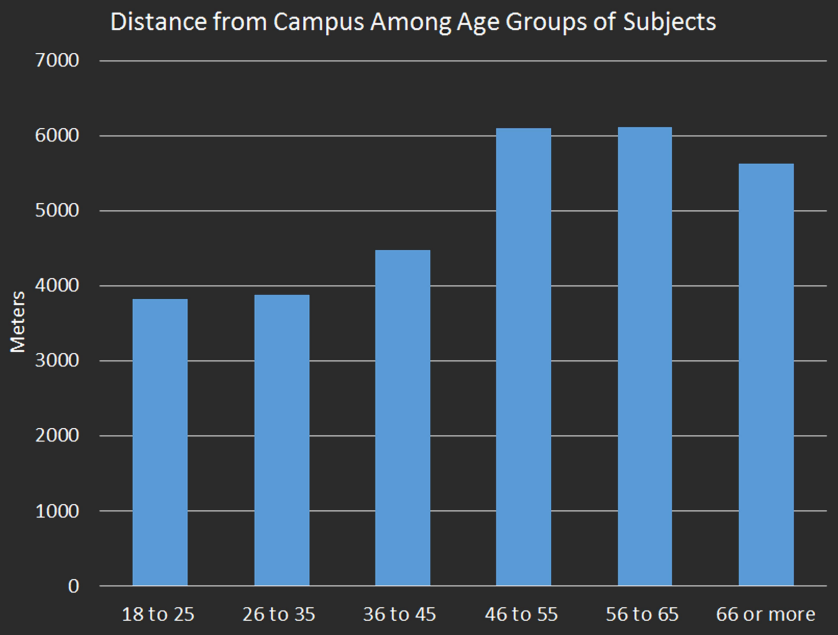


Figure 6.64: Distance from Campus by Age Group

Years in Manhattan

The same trend seen in age groups is seen when looking at the time that subjects have lived in Manhattan. This is not surprising as these are highly dependent factors. As discussed earlier, one living in Manhattan for 41 or more years will have to be at least 41 years old… As seen in Figure 6.66, subjects whom have lived longer in Manhattan tend to live in the south and west sides of town. In terms of their distance from the KSU campus, as seen in Figure 6.65, it is clear that subjects whom have lived longer in Manhattan tend to live further away. This is not a surprising phenomenon in Manhattan. As discussed in the Age section, people's housing needs change over time, needing bigger housing, kid-friendly neighborhoods, nicer places, etc. The amount of time one has spent in Manhattan shows this trend no differently as it is clear that the longer subjects live in Manhattan, the further from campus they tend to reside.

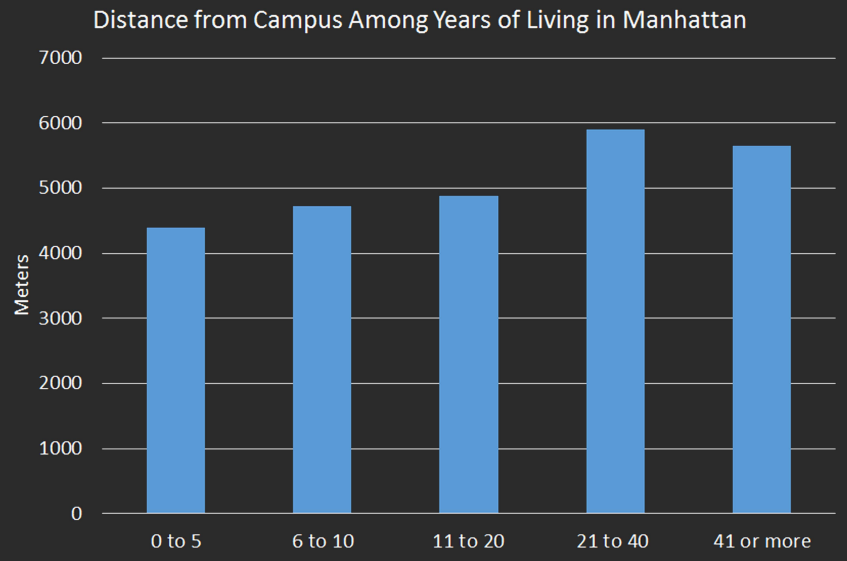


Figure 6.65: Distance from Campus over Time in Manhattan

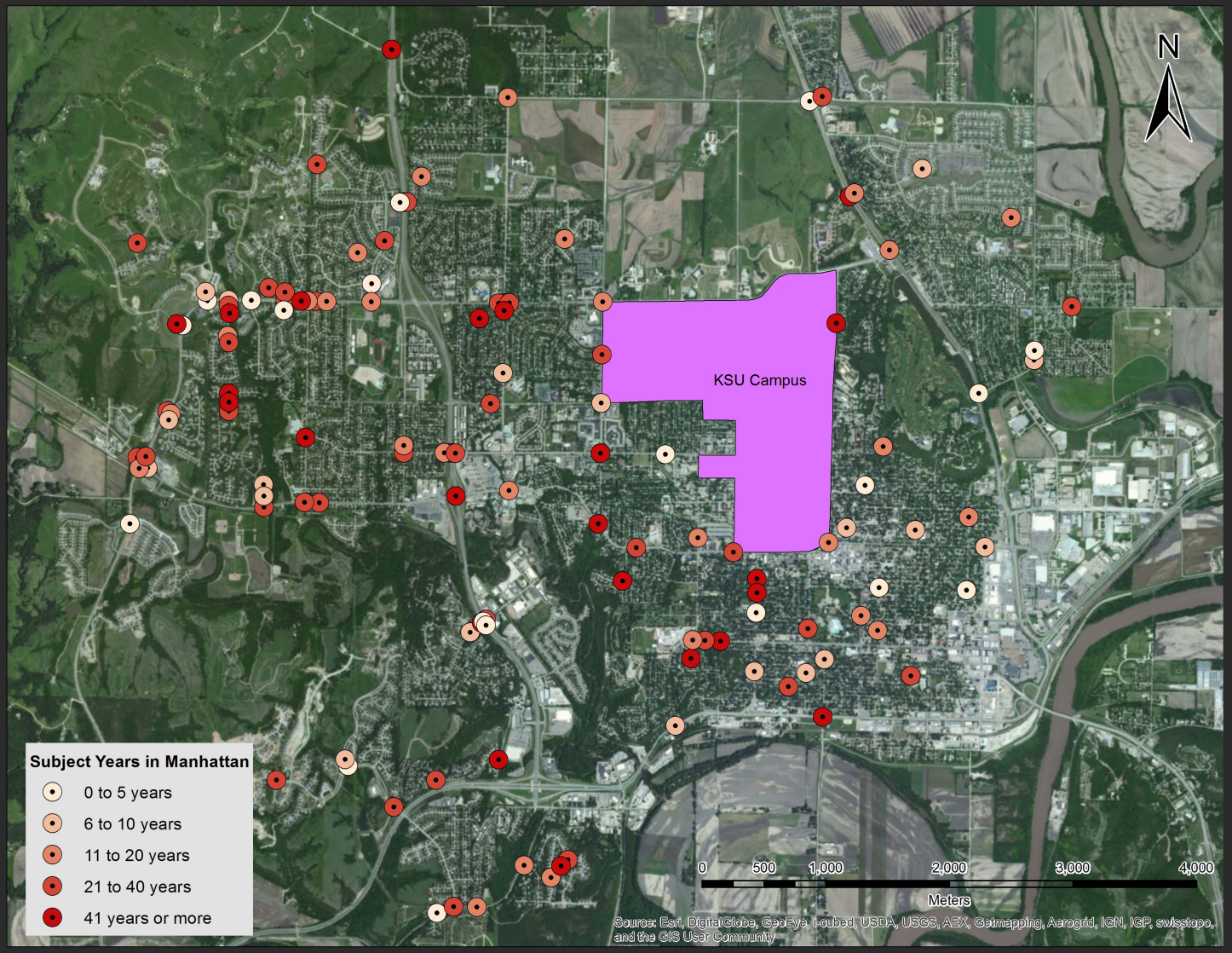


Figure 6.66: Subjects' Years Living in Manhattan by Location

Owners Renters

As seen in Figure 6.67, it is very clear where those that rent their home and those that own their home live. Renters tend to flock around the more immediate south and east edges of the KSU campus, as well as being scattered throughout the west side of the campus though still closer than owners to the campus. In contrast, owners, while indeed occupying several locations near the campus, are still overwhelmingly clustered around the periphery of the city, having major pockets in the west and south-

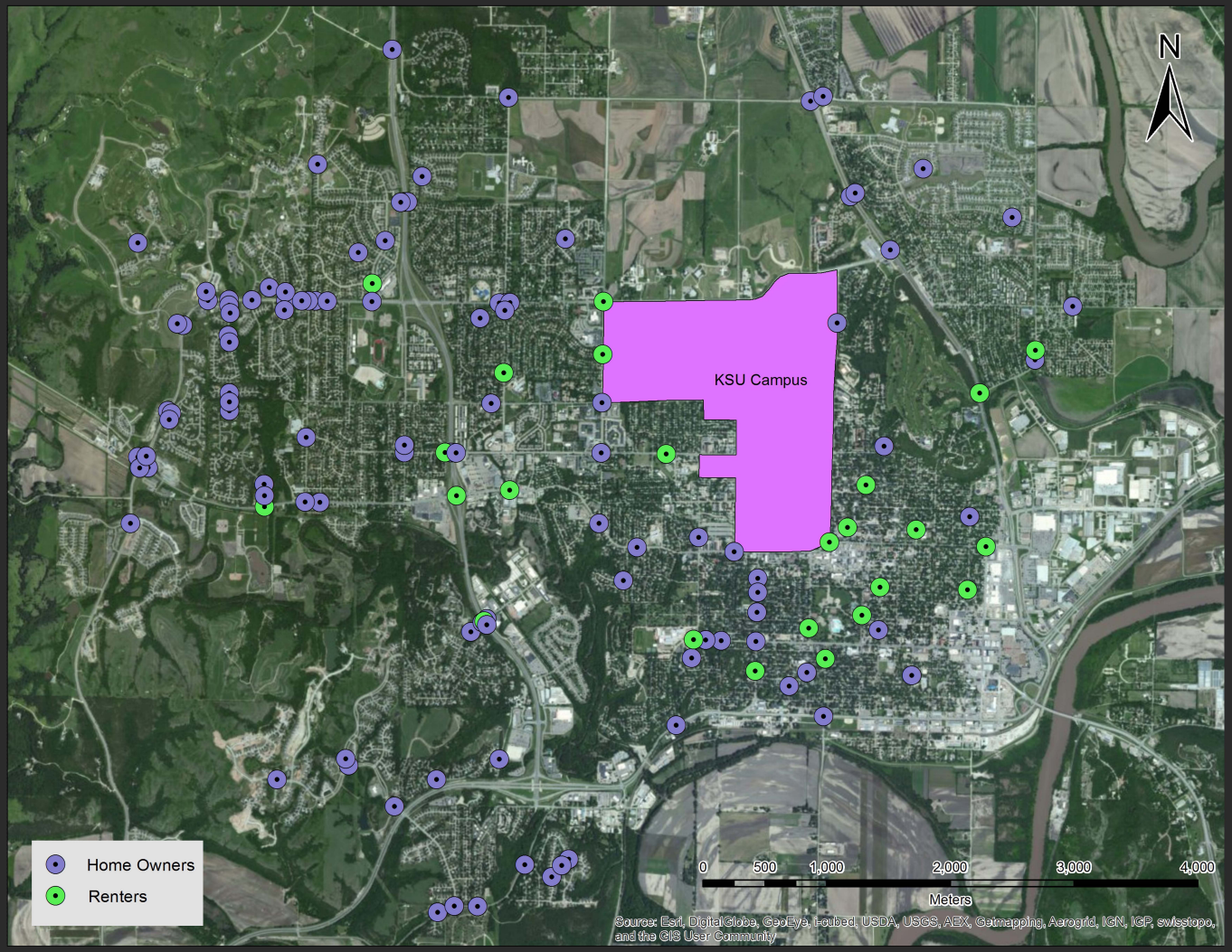


Figure 6.67: Home Owner and Renter Location

west areas of the city. This comes to no surprise as most rental units in Manhattan tend to cluster around the KSU campus, where students are in high demand for inexpensive and temporary housing. This is greatly reflected when comparing these two demographics and their distance from campus. As seen in Figure 6.68, home owners are on average more than twice the distance from campus as renters, at 5752 meters and 2710 meters respectfully.

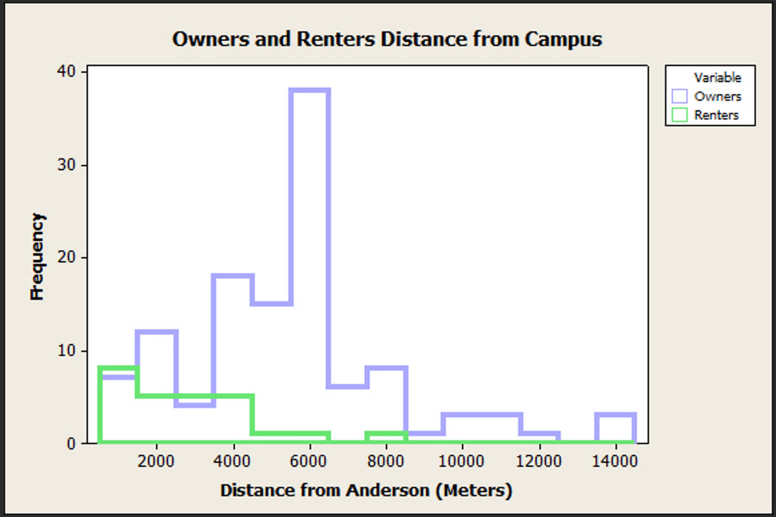


Figure 6.68: Owners and Renters Distance from Campus Distribution

KSU Employees and Non-KSU Employees

As seen in Figure 6.70, subjects reported as KSU employees in this study live almost exclusively on the west side of town and the west side of the campus, though even in the west they are fairly homogeneous with non-KSU employees. Given this, there is actually not a significant difference between the two groups' average distance from campus, although as a whole, KSU employees live on average about 12% closer. As seen in Figure 6.69, KSU employees are on average 4719 meters from campus while non-KSU employees are on average 5360 meters from campus. While it's assumed that KSU employees would want to live closer to their work on the KSU campus, it is clearly not an extremely significant factor determining their actual proximity to the campus.

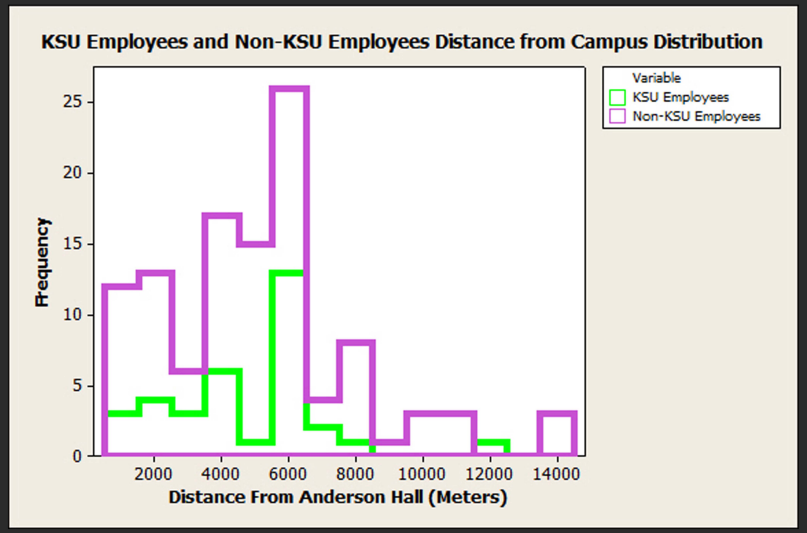


Figure 6.69: KSU and Non-KSU Employee Distance from Campus Distribution

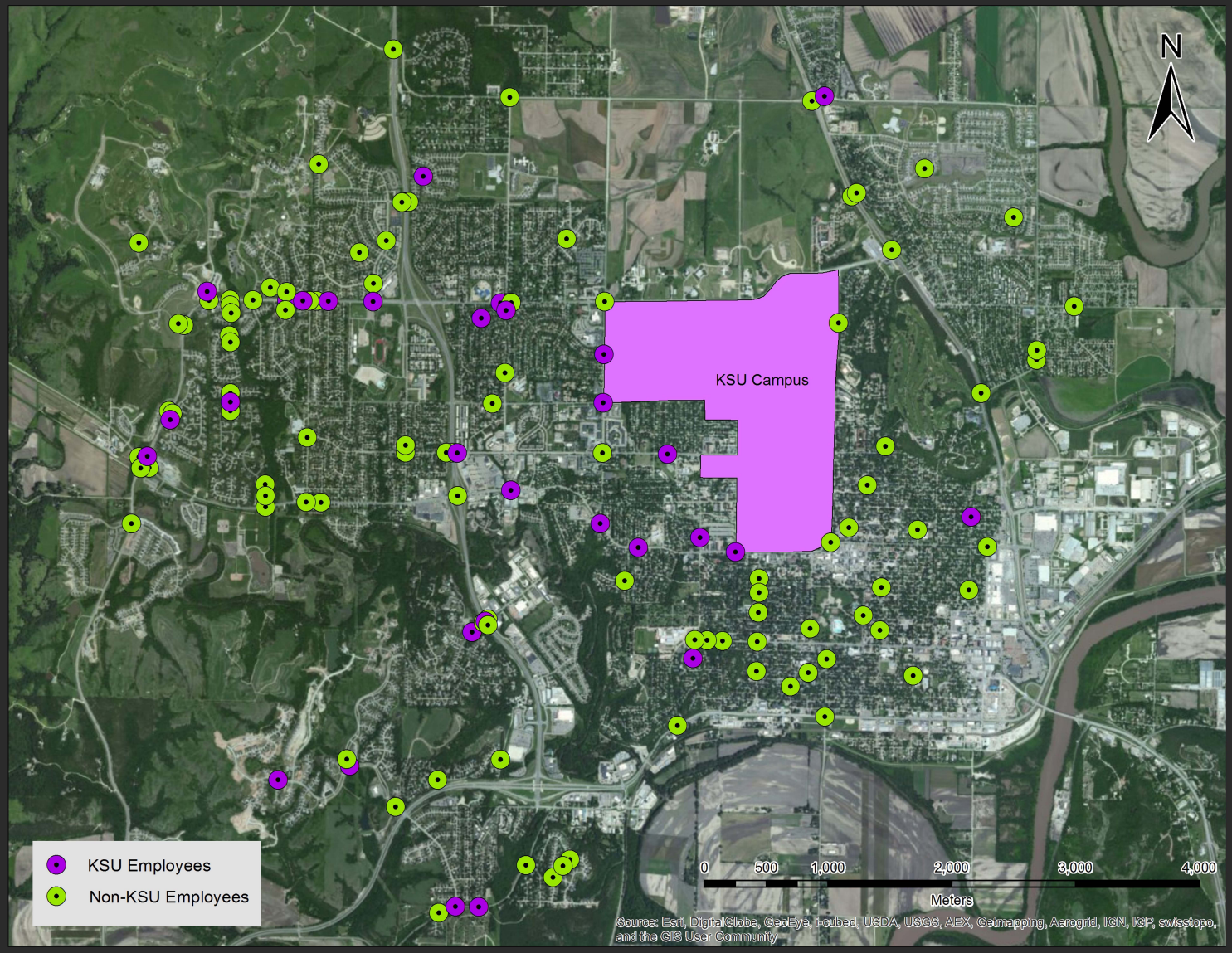


Figure 6.70: KSU and Non-KSU Employee Location in Manhattan

Level of Education

At first glance of Figure 6.71, there appears to be very little difference in the locations of subject by education level, save that there might be a slight pull for lower educated subjects to live on the east side of Manhattan. However, when looking at the subjects' distance from campus, there is a clear difference between those whom have an associate's degree or lower and those whom have a bachelor's degree or higher. In this sense, it is clear

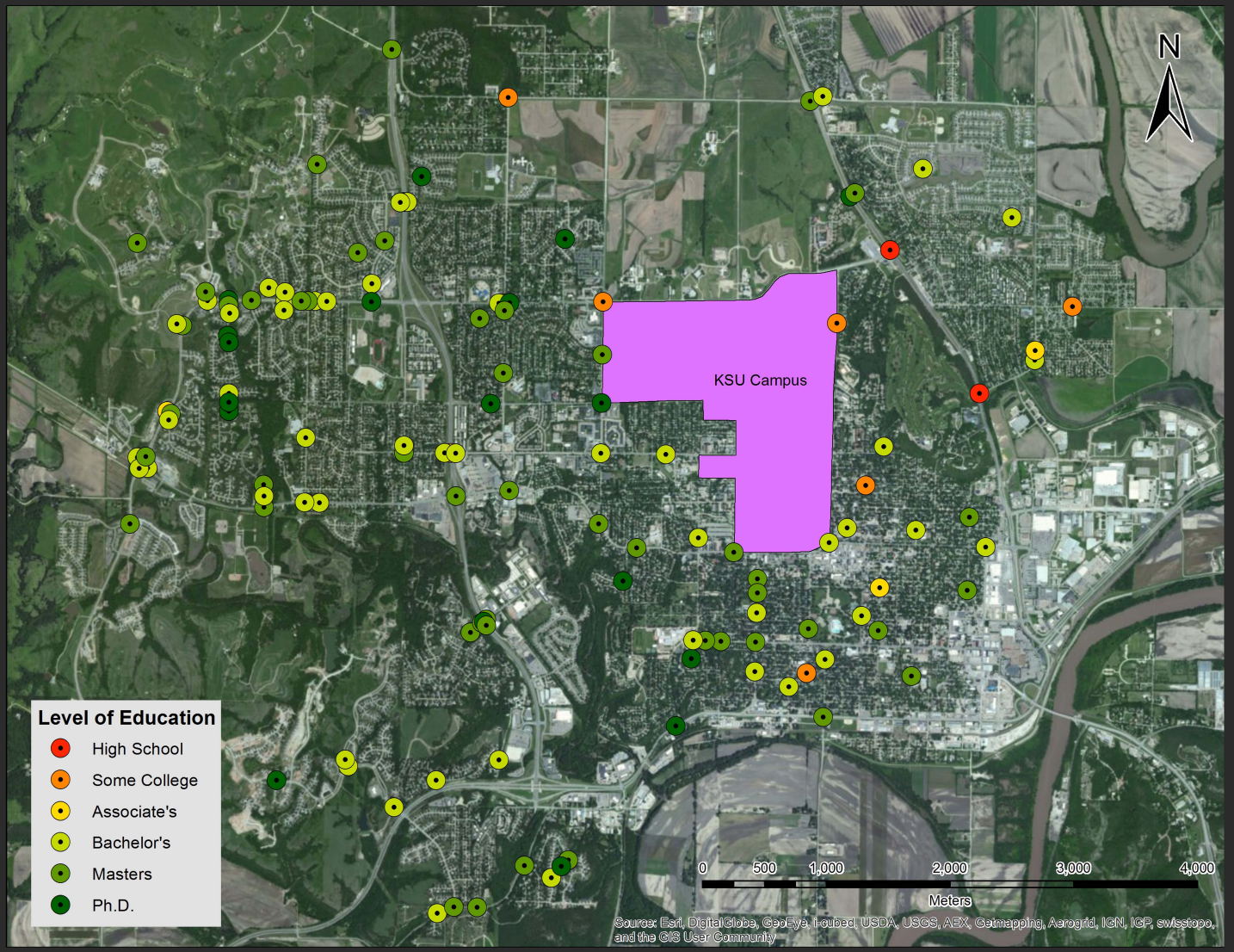


Figure 6.71: Education Level by Location

that the more educated a subject is, the further he or she lives from campus. In fact, those with an associate's degree or lower live on average 3947 meters from campus, whereas those with a bachelor's degree or higher live on average 5334 meters from campus. As mentioned earlier, education level is one of the factors that can in some part supplement the lack of financial information of subjects. It could thus be argued that as subjects become more educated, they become more socio-economically mobile, and have the opportunity to move to the quieter, spatially accommodating housing that, in Manhattan, tends to be further from the KSU campus.

Employment

Employment status would appear to have a little bit of weight in relation to subjects' location in Manhattan. As seen in Figure 6.73, all subjects classified as homemakers are all located on the west side of town and are extremely clustered in the northwest. As well, it is clear that retirees tend to spread to the periphery of the city, while full time employees are quite homogeneous throughout. As seen in Figure 6.72, there is not a largely significant difference in these demographic groups in terms of their distance from the KSU campus. However, it should be noted that retirees are the furthest demographic from campus at an average of 5861 meters. The factor of employment status however, is not entirely independent from other demographic factors- the largest dependent probably being age. As seen previously, age seems to play a significant role in predicting where subjects tend to live- in respect to their distance from campus.

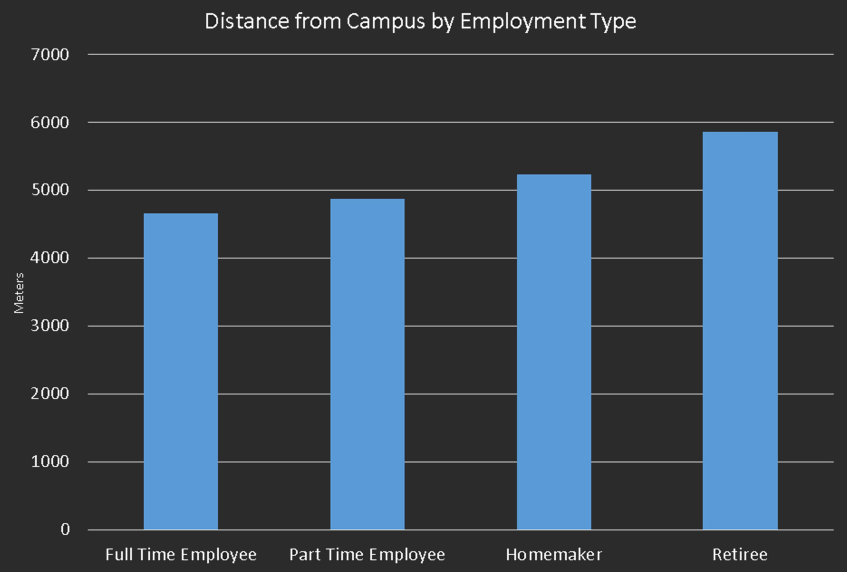


Figure 6.72: Distance from Campus by Employment Type

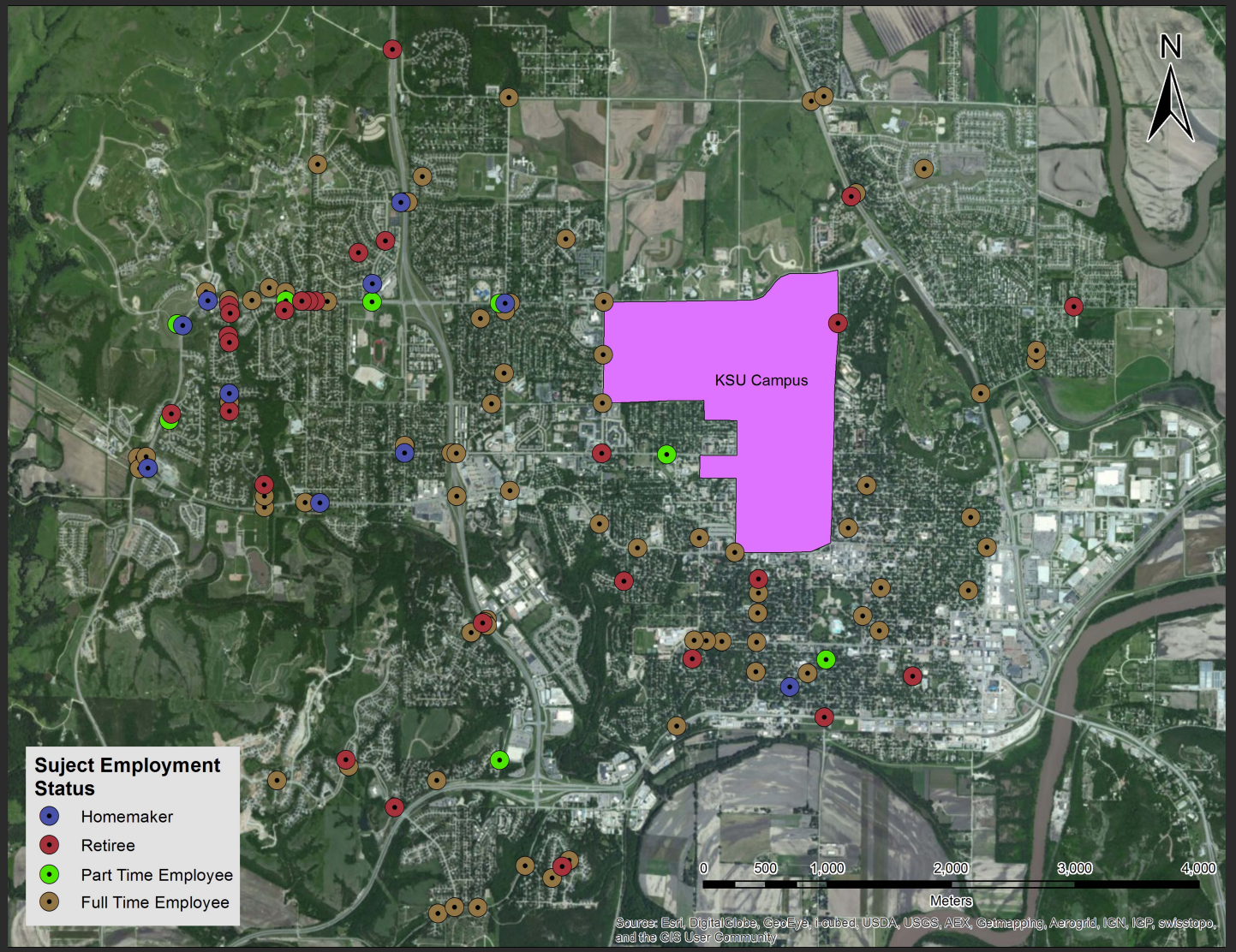


Figure 6.73: Subject Employment Status by Location

Living Situation

As seen in Figure 6.75, there is a fairly distinct pattern determining where in Manhattan subjects live when examining living situations. The far west, southwest, and south of campus are almost exclusively occupied by subjects whom report living with a significant other. On the other hand, those living with roommates or living alone tend to stick closer to the campus, almost fully surrounding the university. When looking at these groups' distance from campus, there are very clear differences. As seen in Figure 6.74, those living with a significant other tend to live much further from campus at an average of 5646 meters, whereas those living alone live an average of 34.6% closer to campus at

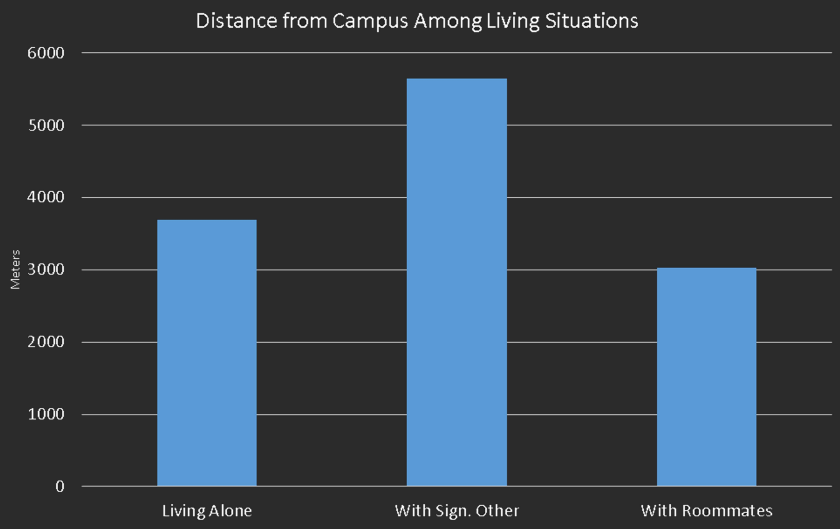
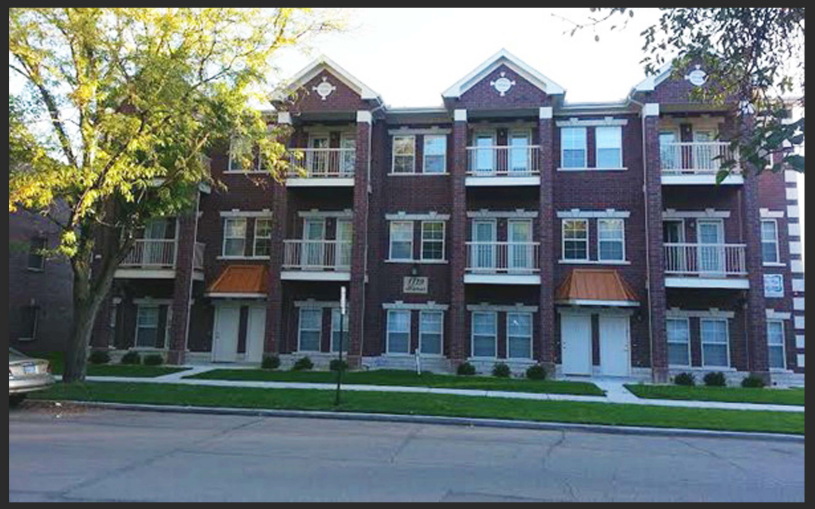


Figure 6.74: Distance from Campus by Living Situation



Rental Apartments Near Campus

3693 meters. The group living closest to campus in this case are those reported living with roommates at an average of just 3025 meters. This factor is also heavily dependent on other demographic factors; renting vs. owning, age, employment, etc. It is expected that those living with roommates would in fact live closest to campus due to the availability of rental housing, while those living with a significant other would live furthest from campus due to spatial need, financial affluence, age, etc.

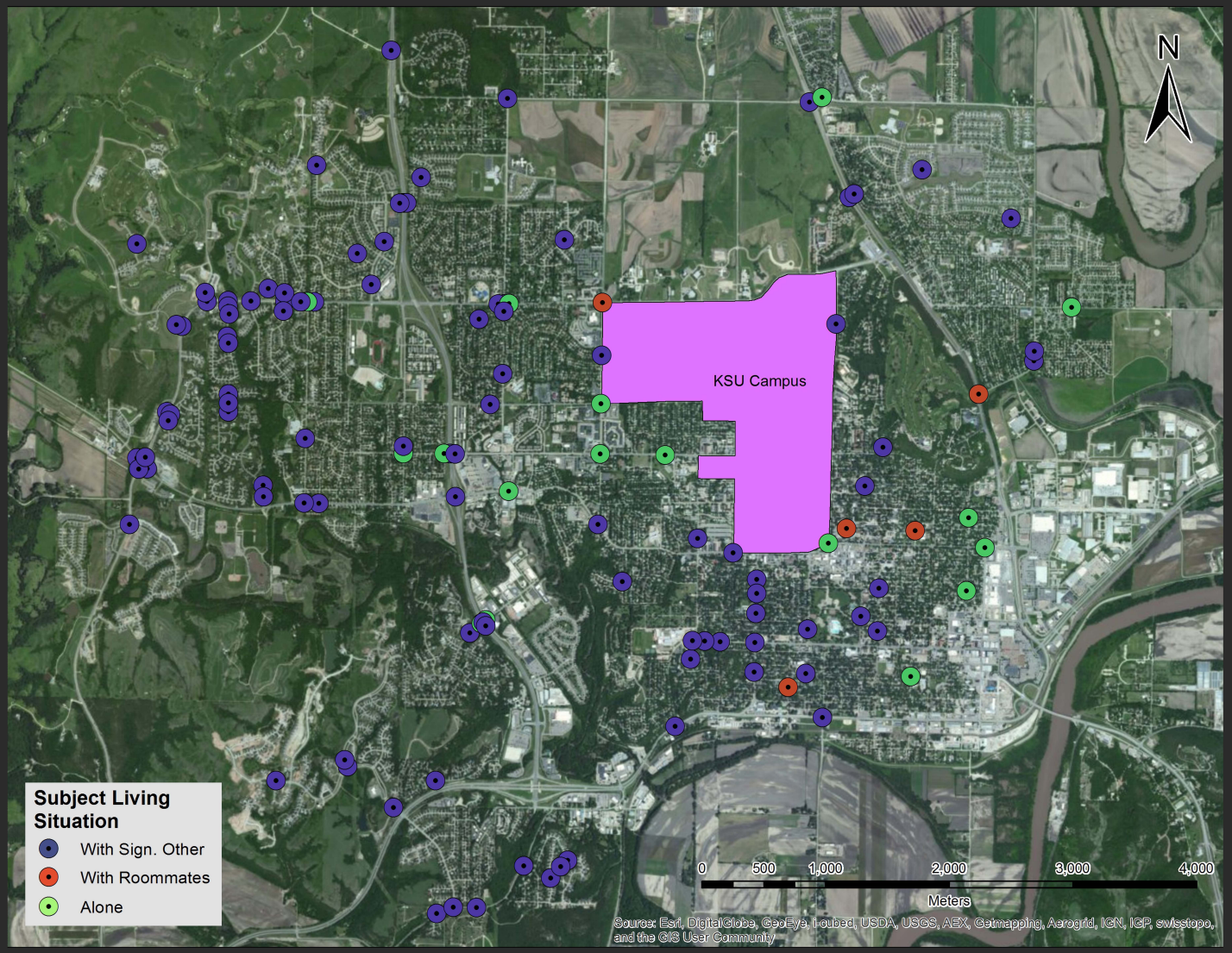


Figure 6.75: Living Situation by Location

Children

As seen in Figure 6.76, there is not a clear pattern to explain where those with children in their home live, though there can be some areas in the map identified where there are no subjects reporting to have children in their household- specifically the neighborhood immediately west of the KSU campus. When comparing these groups and their distance from campus, there is less than a 3% difference between the two, implying that subjects having children in their home is

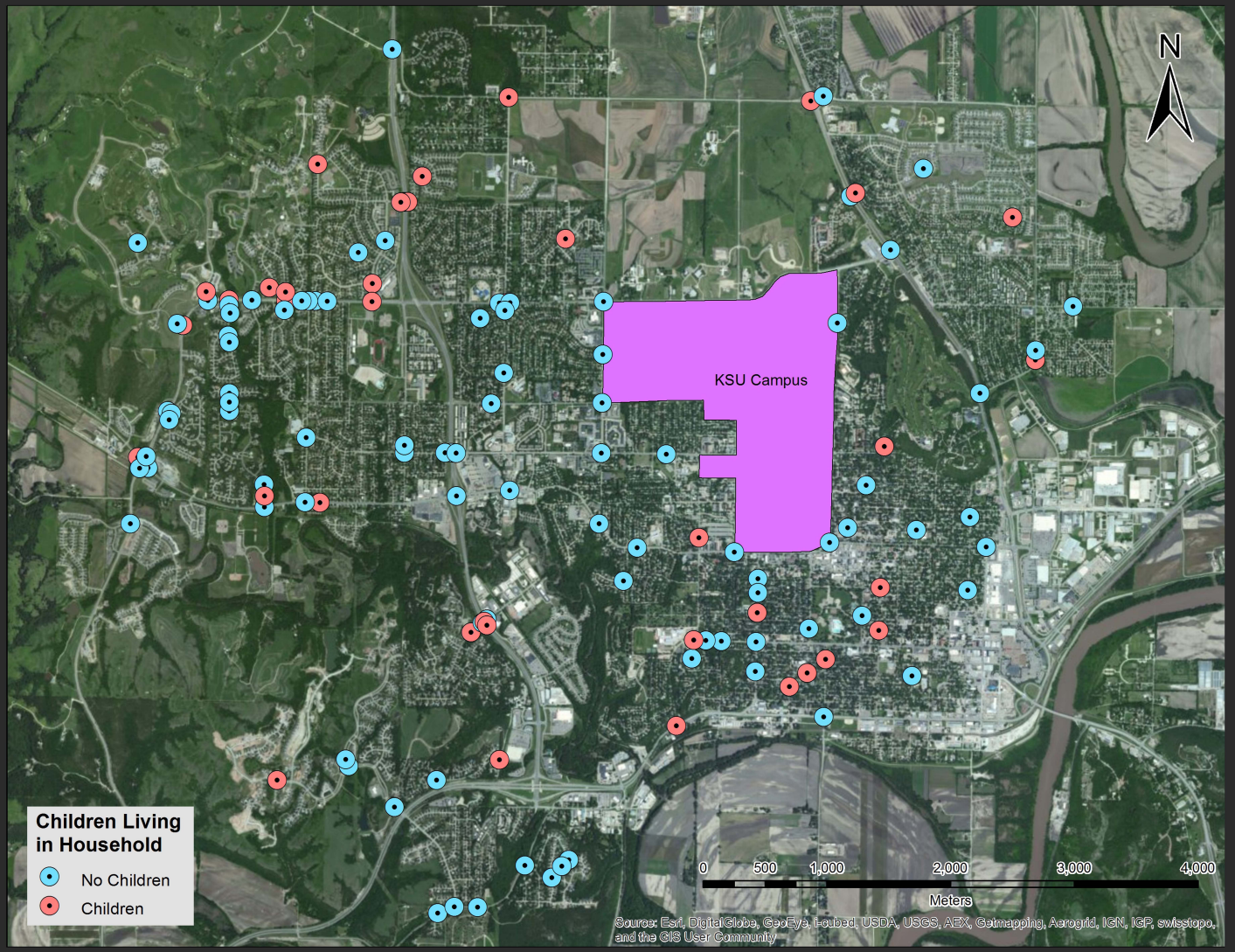


Figure 6.76: Location of Households with and without Children

not a significant factor determining subjects' distance from the campus.

Conclusions

There are several demographic factors that would appear to have an influence on where subjects of this study can be expected to live, some of which are logically very interdependent. When these demographic groups are analyzed in regards to their distance from the KSU campus, it is very clear that some groups live much closer than others. In general, the older subjects are, the further they live from the campus. The more educated subjects are, the further they live from campus. The longer subjects have lived in Manhattan, the further they live from campus. Those whom live with significant others live the furthest from campus. Homeowners by far live the furthest from campus. Retirees also live the furthest from campus than any other employment group. These are other factors that can easily be playing into campus interactions as well as quality of life, explaining observed trends and phenomenon throughout this study.

Quality of Life by Distance to Campus

Location information also allows this study to perform spatial analysis in relationship to the KSU Campus and experienced quality of life among subjects. This section will be discussing some of these trends seen in Manhattan in terms of correlations between distances of subjects from campus and their Quality of Life, Quality of Life Factors, and reported Life Satisfaction.

Life Satisfaction

There is a clear positive correlation (0.335) between Life Satisfaction scores and distance from campus, with a p-value of 0. That is to say, that the further from campus subjects live, the higher their reported Life Satisfaction tends to be. This relationship is illustrated by the blue line of best fit in Figure 6.77. As seen in Figure 6.78, this trend is apparent as well. In Figure 6.78,

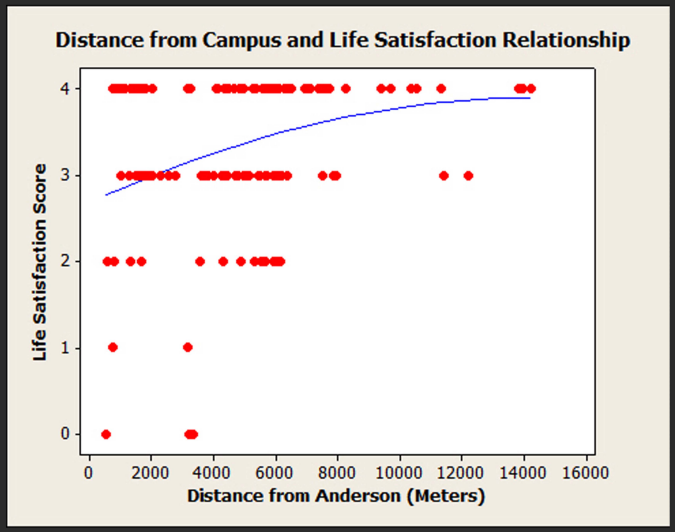


Figure 6.77: Life Satisfaction Rating and Distance from Campus Relationship with Line of Best Fit

there is a “heat map” overlay, derived from a “Closest Neighbor” analysis, which interpolates the information of subjects to make assumptions about other potential permanent residents around them. This analysis is used throughout this section. As seen in Figure 6.78, there are a few areas of the city where Life Satisfaction seems to be particularly low, though this is sometimes due to underrepresented areas with a few subjects that reported being very unsatisfied with life in

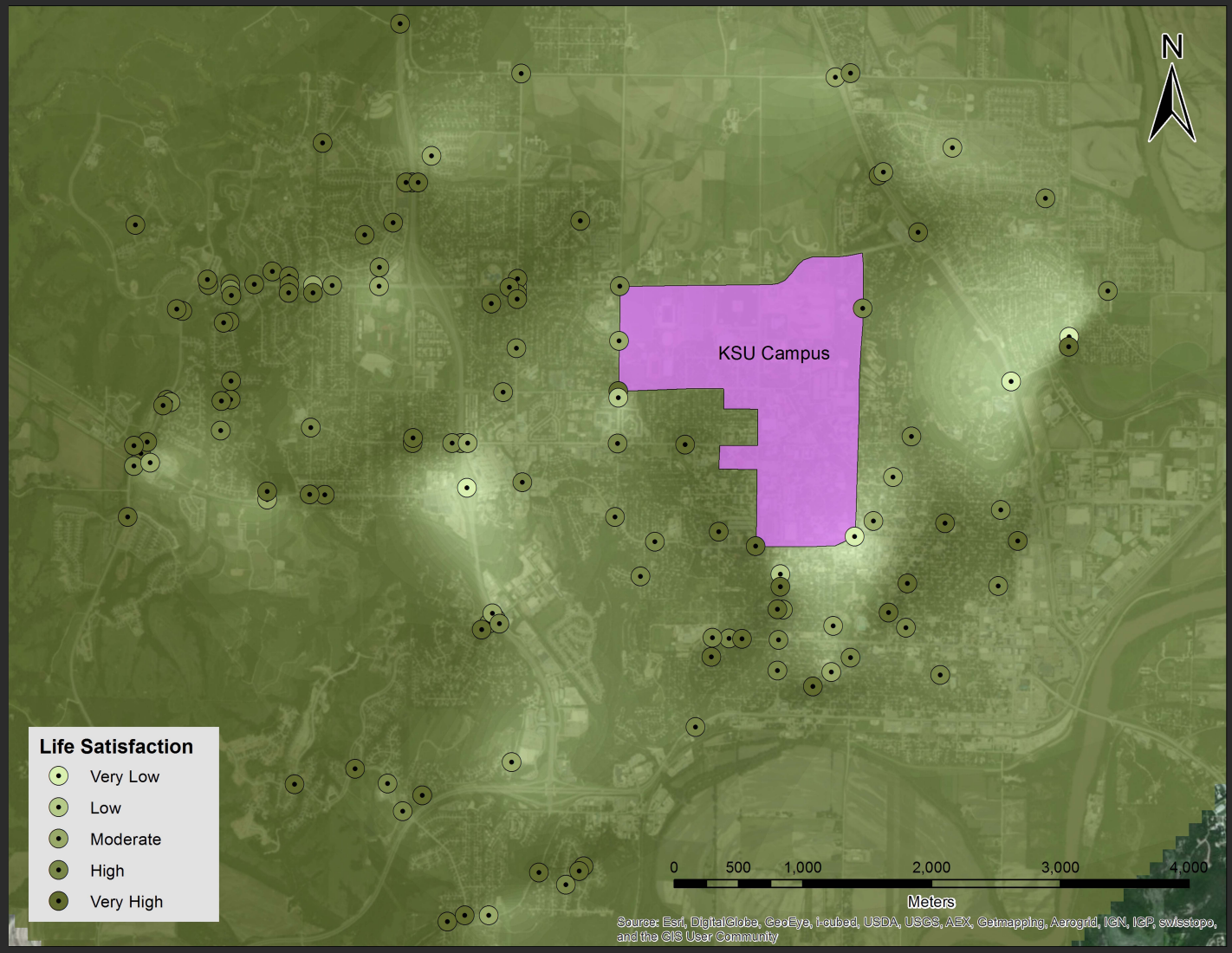


Figure 6.78: Life Satisfaction by Location

Manhattan, as is clear by the one subject west of town on the intersection of Seth Child and Anderson (circled in red). Nonetheless, it would seem that there is a particularly low Life Satisfaction area immediately south and east of the KSU campus. As well, it is very clear that subjects in the very northwest of Manhattan report to, as a whole, have a relatively high Life Satisfaction that is unrivaled by any other area. This spatial phenomenon undoubtedly contributes to the trend seen in Figure 6.77.

Composite Quality of Life

Concerning the distances from campus and Composite Quality of Life Scores, it would appear that there is a slight positive Spearman correlation of .236 between the two factors with a p-value of 0.013. This relationship, illustrated by the blue line of best fit in Figure 6.79, would suggest that as a whole, the further a subject is from the KSU campus, the higher his or her Quality of Life is, though after a certain distance (10,000 meters) Quality of Life begins to decline. When mapped in Figure 6.80, some of the trends seen in Life Satisfaction (Figure 6.78) are intensified and a bit less polarized, with Quality of Life suffering in the immediate south and east of campus and along the Seth Child Corridor on the west side of the city. As well, subjects at the extreme northwest of Manhattan also maintain a relatively high Quality of Life. This similarity to the Life Satisfaction scores is expected, since, as discovered earlier, there is a strong correlation between Life Satisfaction scores and Quality of Life scores. The spatial tendencies of Quality of Life will be looked at further as the individual Quality of Life factors composing Quality of Life are analyzed.

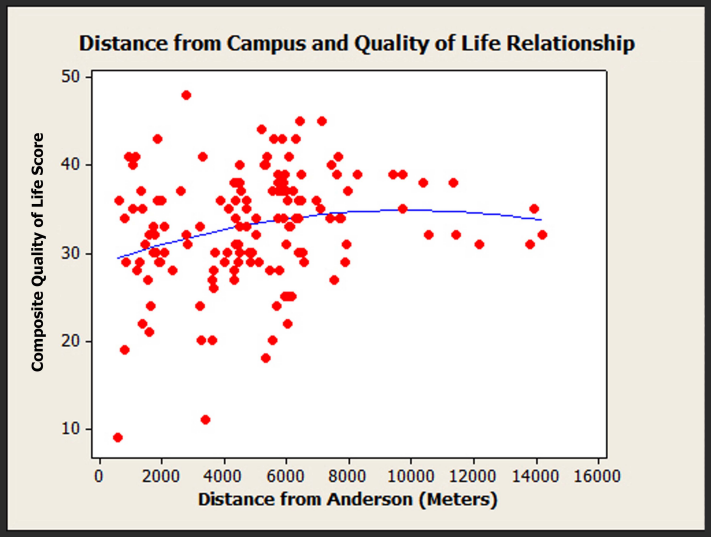


Figure 6.79: Quality of Life Score and Distance from Campus Relationship with Line of Best Fit

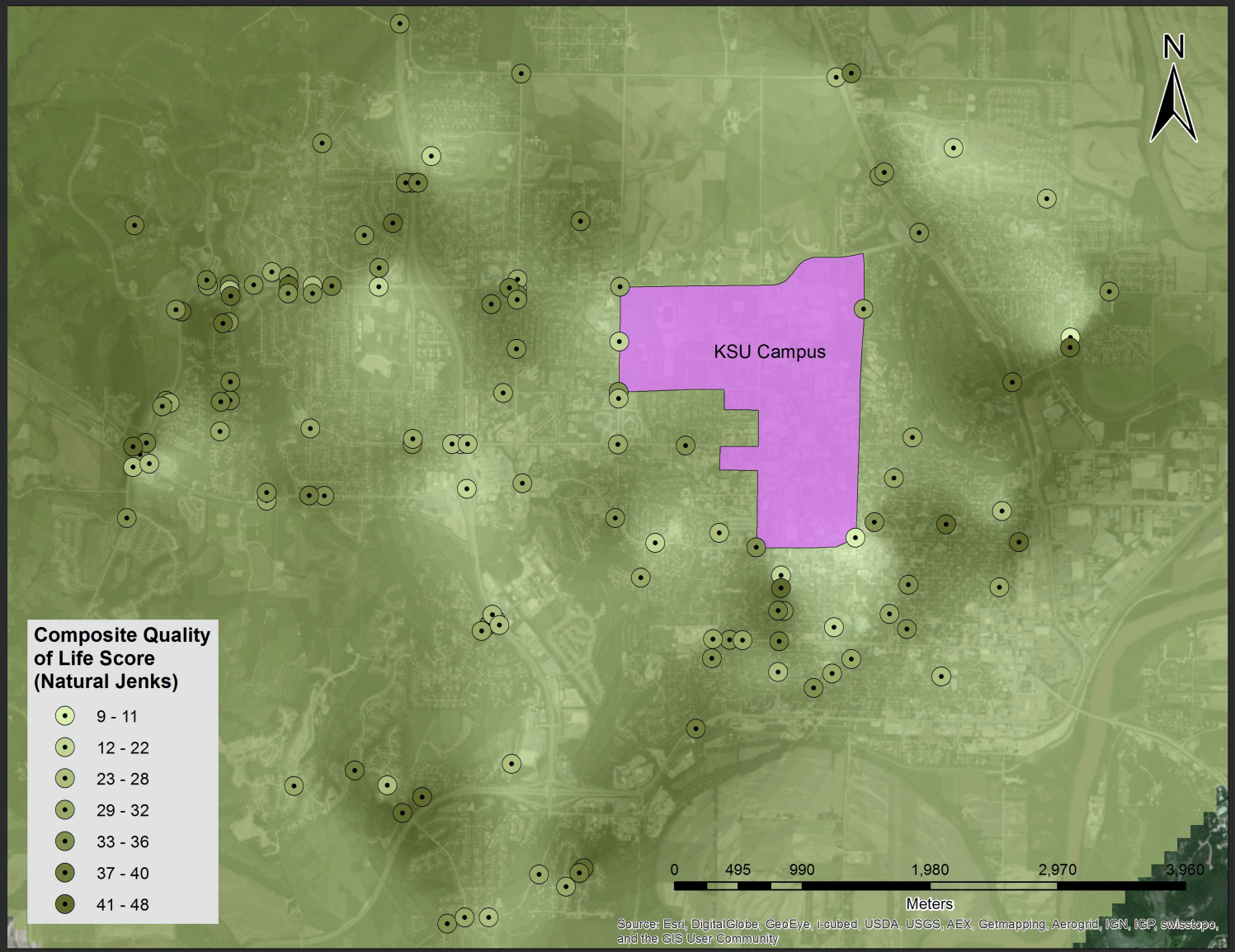


Figure 6.80: Quality of Life Score by Location

Quality of Life Factors

Figure 6.81 displays a hierarchy of Quality of Life Factors and their Correlation with subjects' distance from the KSU campus. Notably, not a single factor has an overall negative correlation with distance from campus. That is to say, that every factor of Quality of Life is improved the further subjects live from the KSU campus. However, as seen in Figure 6.81, it is clear that some factors are much more significant than others, housing, culture, and government being of the top three.

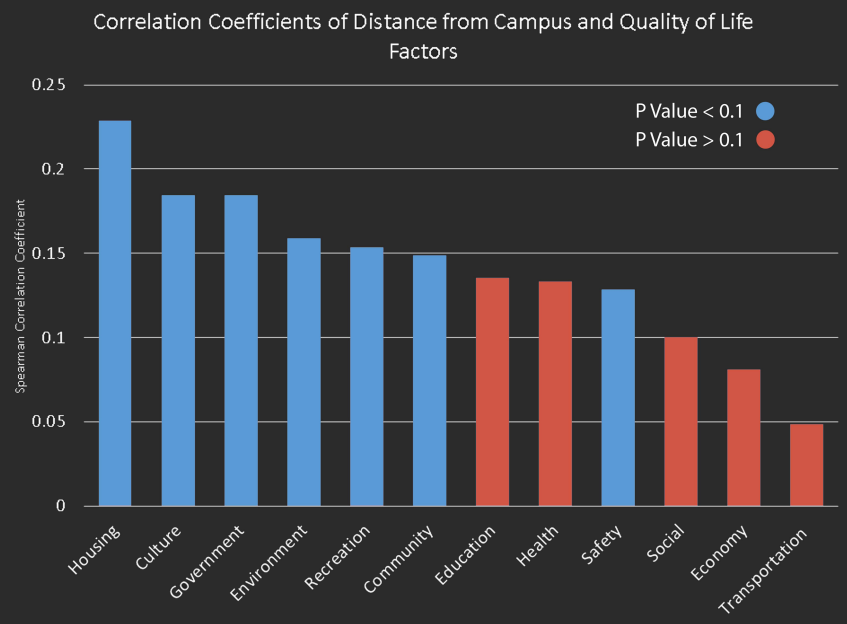


Figure 6.81: Quality of Life Factor Correlation Coefficients with Distance from Campus

Campus Interaction

This section will discuss the Campus Interaction and KSU Use score trends, as reported by subjects, and there relation to subjects' distances from campus as well as their spatial characteristics in general.

KSU Use

There is absolutely no correlation between the KSU Use scores and distance from the campus, with a Spearman correlation coefficient of (-0.0098) and a p-value of 0.649. This is further illustrated by the line of best fit plotted in Figure 6.83. However, when mapped, as in Figure 6.82, there are some distinct areas of the city in which KSU Use scores are particularly higher or lower when overlaid with a Closest Neighbor analysis. Here it can be observed that there is a sort of band stretching from the area west of the northwest of campus, to the area south of campus where KSU Use is particularly high. KSU Use around the periphery of the west side of town also seems to be higher, after jumping the pocket of lower KSU Use in the middle-west of the city, immediately west of the Seth Child divide. As well, KSU Use scores seem to be particularly low in the south as well as the northeast areas of the city.

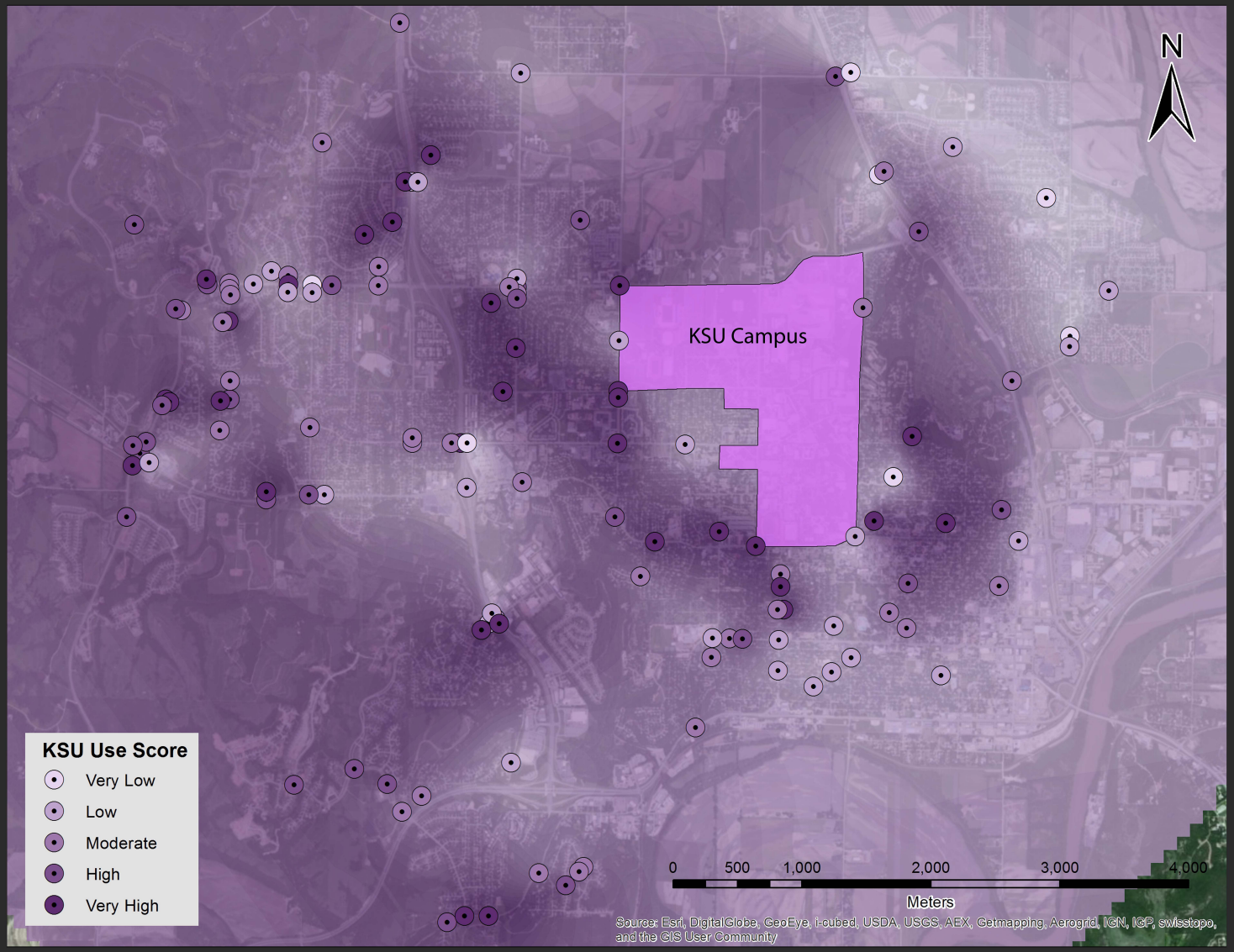


Figure 6.82: KSU Use by Location

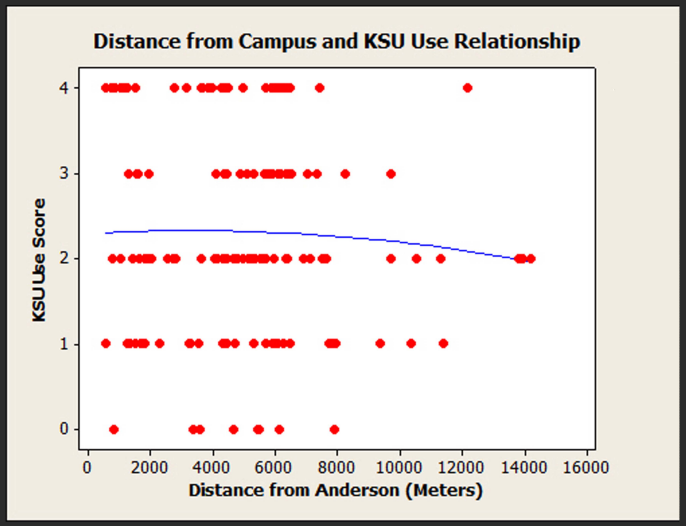


Figure 6.83: KSU Use and Distance from Campus Relationship with Line of Best Fit

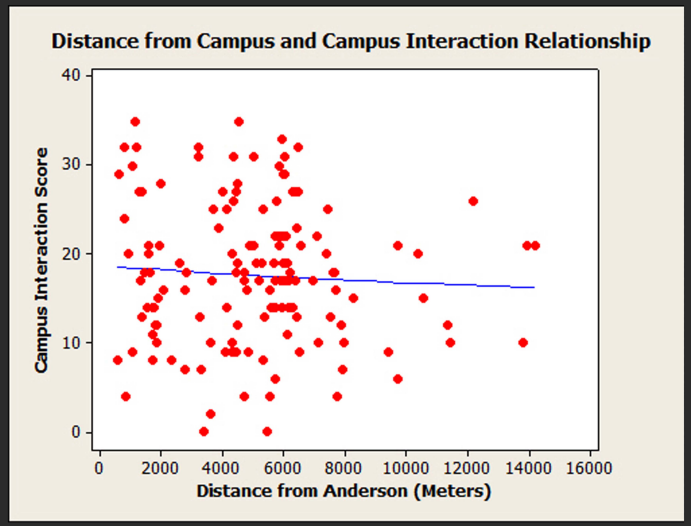


Figure 6.84: Campus Interaction and Distance from Campus Relationship with Line of Best Fit

Composite Campus Interaction

There is very little correlation (-0.027) between Composite Campus Interaction as a whole and distance from the campus, with a p-value of 0.436. This relationship is illustrated by the blue line of best fit plotted in Figure 6.84. When mapped (Figure 6.85), patterns of Campus Interaction are very similar to those in KSU Use in terms of areas that experience higher or lower levels of campus interaction, though they are perhaps less contrasted and fairly more homogeneous.

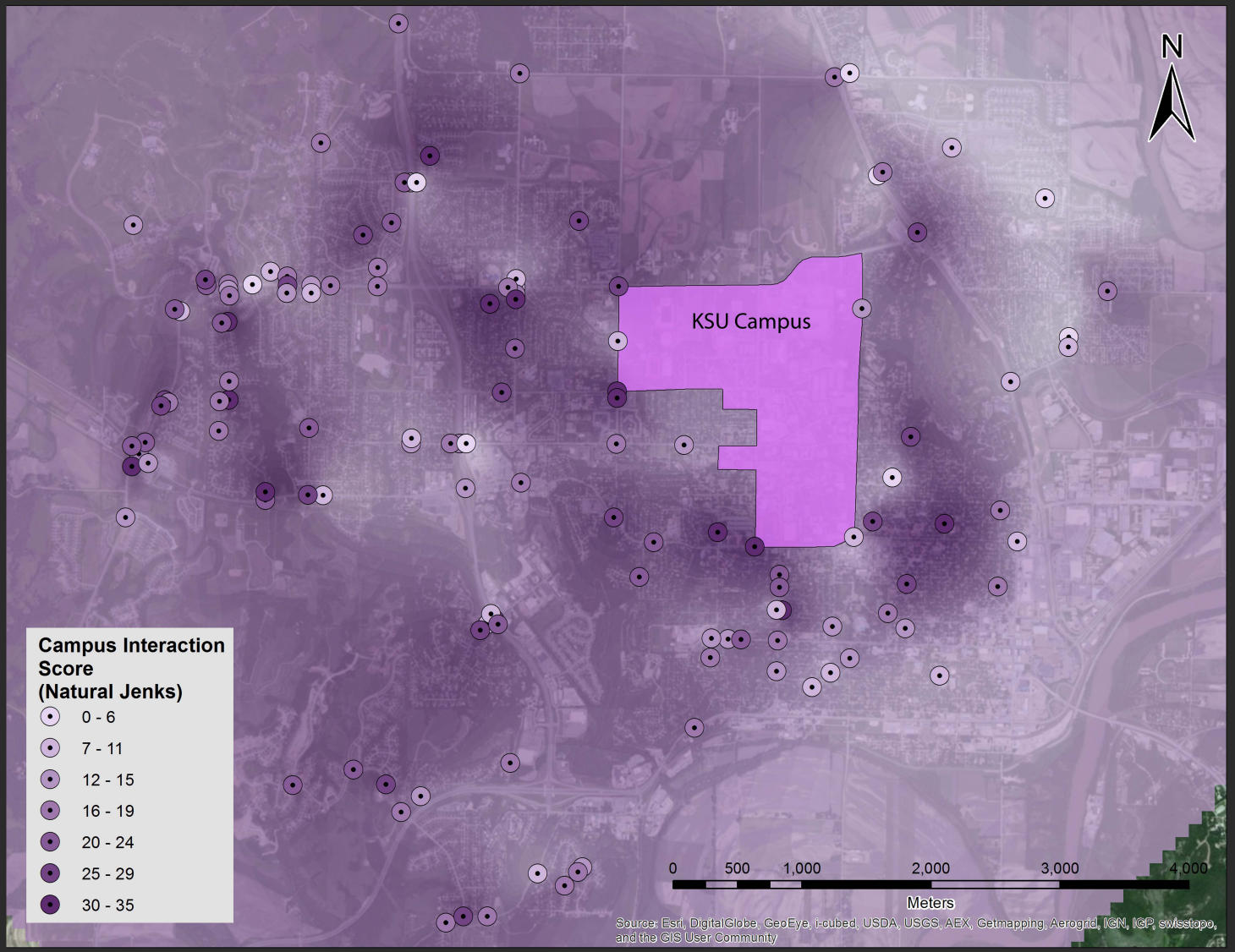


Figure 6.85: Campus Interaction by Location

Campus Interaction Factors

Although there is no correlation between Campus Interaction as a whole and distances from the KSU campus, there are Campus Interaction factors that individually relate better to the factor of distance from the campus. As seen in Figure 6.86, there are individual Campus Interaction factors that correlate positively with distance from the campus, factors that have little or no correlation, and some factors that correlate negatively with distance from campus. Though these factors show both negative and positive correlations, only the interaction factors of sport attendance, library visits, and biking through campus have a significant relationship effected by distance from campus with p-values of 0.005, 0.087, and 0.99 respectfully. It can therefore be stated that subjects whom report a higher level of sport attendance also live further from the KSU campus. On the other hand, subjects whom report lower levels of library visits and instances of biking through campus also live further away from the KSU campus.

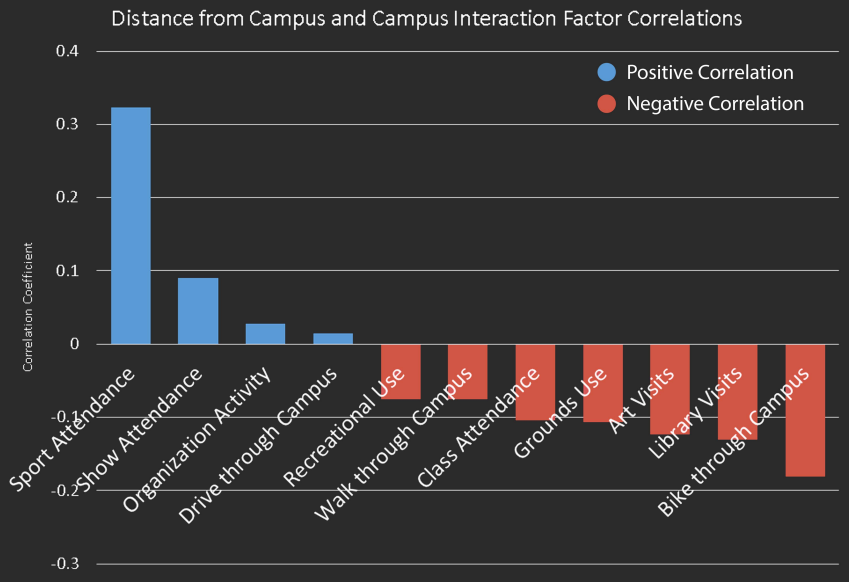


Figure 6.86: Campus Factor Correlation Coefficients with Distance from Campus

Conclusion

As would be expected, many of the campus interactions generally correlated negatively with distance from the university, since it should be less convenient to interact with it, in terms of sheer time and distance cost spent on behalf of the subject. Sport attendance is the only factor that defies this logic. This is believed to be a socio-economic phenomenon related to the fact that those whom live further from the campus and as discussed earlier, are more likely to have the means to afford season tickets for example. After all, just because someone lives next to the football stadium, doesn't mean they will ever attend a football game. Though the majority of interactions correlate negatively with distance from campus, library visits and biking through campus are the only factors that have significant enough p-values to

consider them as legitimate trends. As would be expected, these factors are more related to subject location relative to the campus, as it is considerably more difficult to bike to the campus the further away one is.

Spatial Analysis Conclusion

It is very clear that in general, the further that subjects live from campus, the higher their Quality of Life and even more so, the higher their Life Satisfaction tends to be. As well, there are areas of the city that experience higher and lower levels of quality of life. It is believed that these perhaps have more to do with other factors related to quality of life, as discussed in the Quality of Life factor analysis section, which are incidental of those whom happen to live further away from the campus rather than the campus itself having a negative effect on permanent residents of Manhattan, at least in terms of interaction. The university could certainly have an effect on the quality of life immediately around the campus. For example, the "student ghetto" immediately east of the campus certainly would not be called that, or possess the characteristics to be called that, if the campus did not exist. As well, it is clear that most interactions with the university are inhibited by the factor of distance from the university itself, except for sports attendance. This as well is believed to be an economically dependent factor, in that subjects whom live further from the campus are more able to afford tickets to sporting events and have the time to do so. These trends will prove vital in the conclusion of this report as policy and design solutions are suggested for improving quality of life in Manhattan with the relationships it has with Kansas State University.



Cobert Hill Golf Course Community West of the City, Photo by Matthew Gourlay, 2013

Chapter 6: Conclusion & Discussion

Conclusions

Once again it is important to recognize the purpose of this research in terms of its application in the field of urban planning. Without recognizing these implications, this report is no more than a simple sociological observational experiment. That is not to say that sociology does not lend itself to planning, as the field of planning is extremely diverse, applying knowledge from the fields of environmental science, political science, geology, geography, landscape architecture, psychology, engineering; the list goes on and on. What makes this an urban planning study is in the application of its information. That is to say, how can this information be used to improve our cities? Therefore this section will discuss the findings with the intentions of identifying problems within the city of Manhattan and finding solutions with the grander intent of improving the city through policy and/or design. So to begin, the main research questions for this study are:



Higinbotham Gate, Photo by KSU, 2009

"How does a university affect the livability of a city?"

"Are there specific relationships that better foster livability in Manhattan?"

"How can these relationships be improved for mutual city/university benefit?"

How does a University Affect the Livability of a City?

In this study, the effect a university has on its city was defined by permanent residents' interactions with the university and the effect that the interaction had on the permanent resident. This interaction was determined by the composite of 11 factors, as well as a self-appointed rating. Livability in this study was defined by quality of life, as determined by the composite of 12 researched factors, as well as a self-appointed rating. As is seen

time and time again throughout this report, there is a clear correlation between quality of life and campus interaction, no matter which methods of measurement were used.

As well, there are many spatial relationships that would seem to be heavily effected by their distance from campus. One of the most significant and generalizable of these relationships is the relationship between distance from campus and quality of life. In this study, it is clear that quality of life increases with increasing distance from campus. Another significant spatial relationship seen throughout the study is the relationship between distance from campus and campus interaction. In this study it is clear that campus interaction for the most part decreases with an increase in distance from campus.

While correlations like this clearly exist, it is the causation that this study is most interested in. That is to say, does campus interaction improve quality of life in Manhattan? To answer this, one must look at the individual subjects and their individual interactions.

Are there Specific Relationships that Better Foster Livability in Manhattan?

In this study, it is concluded that there are specific ways that citizens can interact with a university that embodies how the university affects the city of Manhattan. In any case, it would seem that some relationships with the university are extensions of quality of life while others may in fact 'create' quality of life. In other words, it is difficult to differentiate between interactions that create livability and those that simply facilitate an extension of existing quality of life.

A causation relationship could be argued by the analysis of education levels among subjects. In this case, it was clear that higher levels of education result in a higher life satisfaction and quality of life for subjects (Figures 6.20 and 6.21). At the same time, the higher a subject's education level, the more they attributed their satisfaction to their interactions with the KSU campus (Figure 6.37). On the other hand, it is seen throughout this study that sports attendance and quality of life/life satisfaction are correlating factors. While one could claim that this means attending sporting events will increase permanent residents' quality of life, other evidence suggests that this relationship is more related to the fact that people who can afford both the time and cost of sporting events have a higher quality of life. These subjects have the characteristics; the employment type, education, family situation, etc. that also correlate heavily with life satisfaction and quality of life for the subjects of this study. When examining in depth the subjects whom attends sport events "Very Often," certain patterns begin to appear. The average number of years they have lived in Manhattan are between 10 and 20 years; 95.4% of

them are home owners; 86.3% are KSU Alumni; 93.2% are either full time employees, retirees, homemakers, or in the military; their mean education level is at a master's degree; and 90% of them are married. As discussed in the demographic analysis, these types of subjects fall into practically every demographic that champions the highest Quality of Life and Life Satisfaction.

Hailing from both correlation and causation theories, it is believed that sport attendance specifically is a factor that both incidentally has a correlating relationship with quality of life, and at the same time has a causation relationship with quality of life. That is to say, that attending sporting events at KSU is both a creator and an extension of quality of life experienced by permanent residents. After all, KSU is a very large part of the culture of Manhattan, KS. Athletic teams are the branding of that culture and by becoming a part of the culture by supporting athletics allows citizens to feel connected to their community in many ways and share in the pride and joy of the teams' successes. Furthermore, this study supports the notion that there is an inherent good to having a university within a city, simply through the city's interaction with it. That is to say, that interactions with the university result in a better quality of life for individuals.



KSU/Community Pride at a Volleyball Game, Photo by K-State Sports, 2013

How can these Relationships be Improved for City/University Benefit?

To explore how the relationships discussed throughout this report can be utilized and applied into urban planning policy and design for city and university benefit, one first has to determine what is wrong with the city of Manhattan in terms of quality of life for permanent residents. As well, one has to identify the shortfalls of the KSU campus in terms of its ability to facilitate interaction with permanent residents of Manhattan.

Issues with Quality of Life in Manhattan

Throughout this study, it is clear that the city of Manhattan has some strengths and weaknesses in its quality of life characteristics that accommodate permanent residents. Primarily, as seen in Figure 6.12, the Manhattan economy,

government, recreation, transportation, health, and housing factors are the weakest relative quality of life factors in Manhattan. When comparing these factors' weights and rankings as seen in the square charts of Figures 6.43 and 6.45, some factors are labeled as less fulfilled and either important in determining quality of life or unimportant in determining quality of life. When looking at these factors'

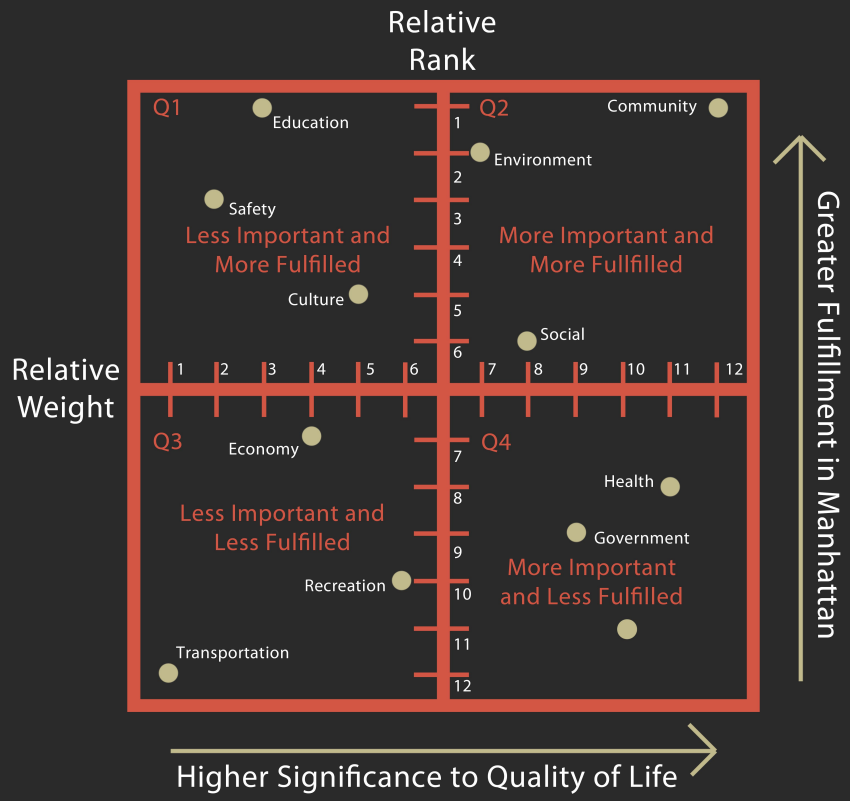


Figure 6.43: Relative Weight and Rank Matrix of Quality of Life Factors

weighting in terms of Life Satisfaction, health and housing factors are those that are important in determining Life Satisfaction and unfulfilled in Manhattan. When looking at these factors' weighting in terms of Quality of Life, health, housing, and government are the factors that are most important in determining Quality of Life and are relatively unfulfilled in Manhattan. Since housing and health are found as the important and relatively unfulfilled in both of these analyses, it is safe to say that these are the quality of life factors for permanent residents that need to be addressed. Interestingly, the housing factor is the highest positive correlating factor with distance from the KSU campus. That is to say, the closer to the campus subjects are, the less desirable housing becomes, in terms of appeal and affordability as seen previously in Figure 6.81.

Health Promotion

In Manhattan, the quality of life factor of health promotion is a complex one. As illustrated in Figure 7.2 and listed in Figure 7.1, it is dependent on several other quality of life factors measured in this study, including community, recreation, government, and environment to name the most influential. As should be noted, two of the four listed contributing factors to health, government and recreation, are also in relatively low position as far as fulfillment in Manhattan,

according to Figures 6.43 and 6.45. This would lead one to believe that Health is a deeply rooted quality of life problem for permanent residents in the city of Manhattan.

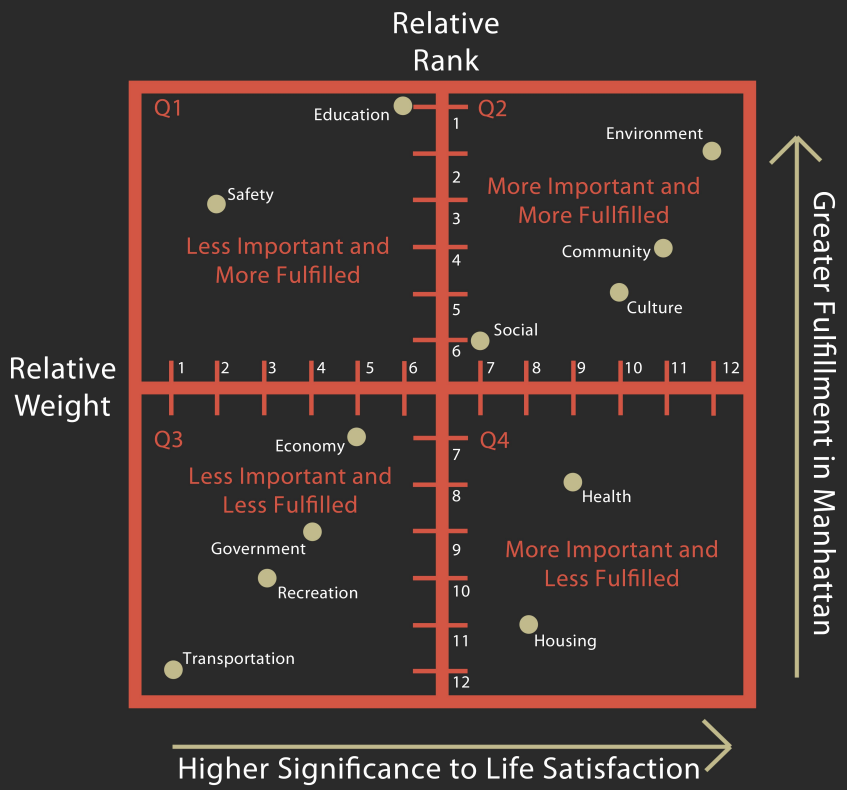


Figure 6.45: Relative Weight and Rank Matrix of Quality of Life Factors

Health Factor Correlations

Community: 0.519401
Recreation: 0.500896
Government: 0.492318
Social: 0.43774
Environment : 0.413648

Figure 7.1: Health Rating Correlation with other Quality of Life Factors

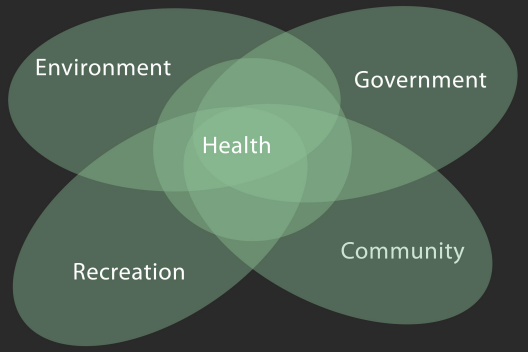


Figure 7.2: Health Factor Dependancy

Housing Affordability and Appeal

In Manhattan, the Quality of Life factor of housing affordability and appeal is also a Quality of Life factor that is dependent on others. As seen in Figure 7.3 and illustrated by Figure 7.4, social, community, economy, and transportation are the factors that correlate the highest with housing; two of which are on the lower rated end of Quality of Life factors in Manhattan. As well, this study provides some spatial information on housing affordability and appeal. There is a clear pattern showing that for permanent residents, housing affordability and appeal decreases the closer subjects live to campus. This phenomenon is very clearly experienced in the neighborhoods immediately surrounding the campus.

For Manhattan, housing is what the great urban thinker, Lewis Hopkins, might denote as a "wicked problem." There are many other factors outside of Quality of Life factors measured in this study playing into it as well; population increase, housing market trends, individual income, city infrastructure, etc.

Housing Factor Correlations

Social: 0.412861
Community: 0.399978
Economy: 0.391563
Transportation: 0.375999
Health: 0.364677

Figure 7.3: Housing Rating Correlation with other Quality of Life Factors

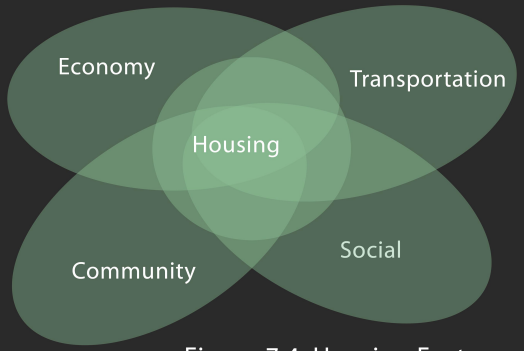


Figure 7.4: Housing Factor Dependance

Issues with Interactions with Campus

Throughout this study, it is also very clear that the KSU campus has some strengths and weaknesses in its ability to facilitate interaction with permanent residents. As seen in Figure 6.13, class attendance, library visits, organizational activity, recreational use, and biking through campus are the least frequented activities by the subjects of this study.

When comparing these factors' weights and rankings as seen in the matrix charts of Figures 6.48 and 6.50, some factors are labeled as less frequented and either important in determining campus interaction or unimportant in determining campus interaction. When looking at these factors in terms of KSU Use, library visits and organizational activity

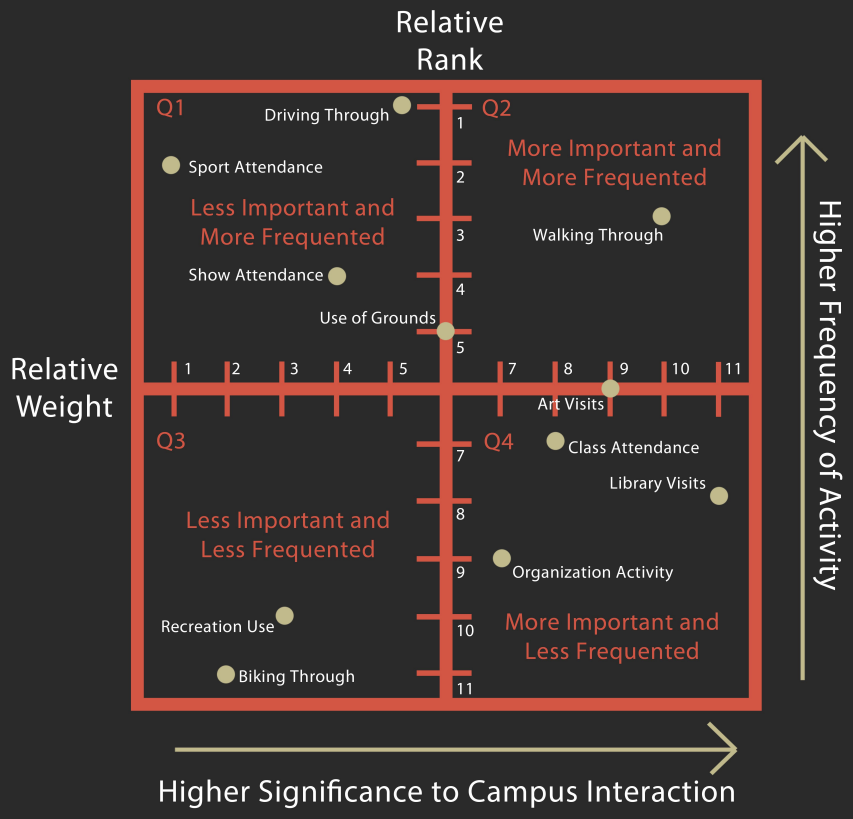


Figure 6.48: Campus Interaction Factor Relative Significance and Frequency Ranking

are the factors that are the most important in determining campus interaction and are relatively unfrequented by permanent residents. When looking at these factors in terms of Campus Interaction, library visits, organizational activity, and class attendance are the factors that are the most important in determining Campus Interaction and are relatively unfrequented by permanent residents. Since library visits and organizational activities are found as such in both analyses as under-frequented and important interactions, it is safe to say that these are interaction factors that should be addressed by the university, or explored for further importance for the sake of engaging the permanent residents of Manhattan for community benefit.

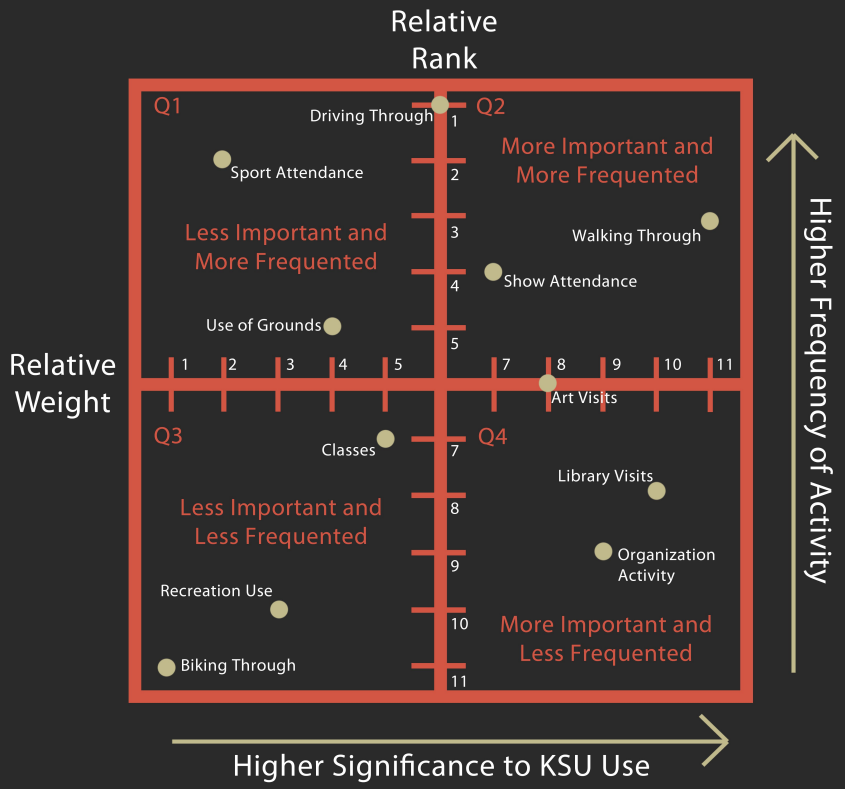


Figure 6.50: Campus Interaction Factor Significance and Frequency Relative to KSU Use Scores

Policy Implications

Though this research is largely exploratory, urban planning principles of design and policy can be speculatively applied to the problems identified on the KSU campus and the city at large to enhance the quality of life in Manhattan as a whole.

Opportunities for Manhattan to Address Quality of Life Issues

As mentioned earlier, healthy lifestyle promotion (Health) and housing affordability and appeal (Housing) presents the biggest opportunities to fulfill a relatively important quality of life factor for permanent residents of Manhattan. It is possible for the city alone to address these issues in a few ways:

Health Promotion

Along with the majority of its contributing quality of life factors (transportation, recreation, and environment), a solution to the lack of health promotion in Manhattan for permanent residents can be found in relatively simple and often trite, but critical concept. Bicycles.

As much research has suggested, there are exceedingly numerous benefits to creating cities that are embracing bicycle friendliness. They allow their citizens to have a fast, healthy, fun, and cost-effective form of transportation which allows them to engage more holistically in their community and city environment. Pedestrian friendliness and design throughout Manhattan also falls into this category- serving as a healthy means of transportation that is also recreational and environmentally engaging. The increase in investment in these two concepts would easily serve the shortfalls to quality of life in Manhattan as identified in this research.

Housing Appeal and Affordability

This is a pressing issue that needs to be addressed by the city. It is recommended that the city continue in the efforts to confront housing affordability by allowing and encouraging increasing densities immediately near campus and providing the infrastructure to do so. These areas should have stricter form-based zoning codes that results in better housing conditions and a more desirable neighborhood environment currently lacking- evidenced by the quality of life reported by subjects immediately around and near the campus (Figure 6.80). All these strategy implementations would alleviate the market pressures on would-be permanent resident housing nearer to the campus as well opening up vacancies around the periphery of the student housing market- thus lowering housing and rental prices in the area.

Opportunities for KSU to Address Quality of Life Issues

The premise of this research is to find solutions to quality of life problems in Manhattan that are facilitated through the relationships between its university and its campus at KSU. This study postulates that there are two ways that the university can affect quality of life issues in the city of Manhattan: through passive interaction and active intervention. Passive interaction is the ability of campus to accommodate quality of life by providing associative services and amenities on university grounds that are necessary for the university to

function, but exist without the intention of benefiting the city. However, in this, the city inherently benefits from the campus providing a service that it would normally have to provide for itself in the first place. The city in this case serves as a sort of parasite to the university, enjoying the benefits of its presence without necessarily having to "pay" for them. An example of passive interaction is seen in the benefit the city experiences from the transportation infrastructure that the campus provides. The campus, as discussed the literature review, effectively creates a bicycle and pedestrian haven with miles of bike routes and footpaths that connects the east, west, and south areas of the city, though the city does not have to pay for this service. Active intervention is the ability of campus to accommodate the cities needs by providing services and amenities with the intent of improving the livability of Manhattan or the quality of life of its citizens, whether immediately on the campus, or outside the campus, typically for sake of mutual benefit. An example of active intervention would be, as is being proposed by the city, a visitor's center south of the city at the intersection of Exit 313 that connects Manhattan with Interstate 70 (circled in red in Figure 7.5). While this is not a project on the KSU campus, it is a project that benefits the university by attracting visitors- something that the city also has an interest in. These interactions and interventions flow from the community into the campus as well as the campus into the community. The solutions proposed in these terms will be of the active intervention nature in which city and university intentionally collaborate.

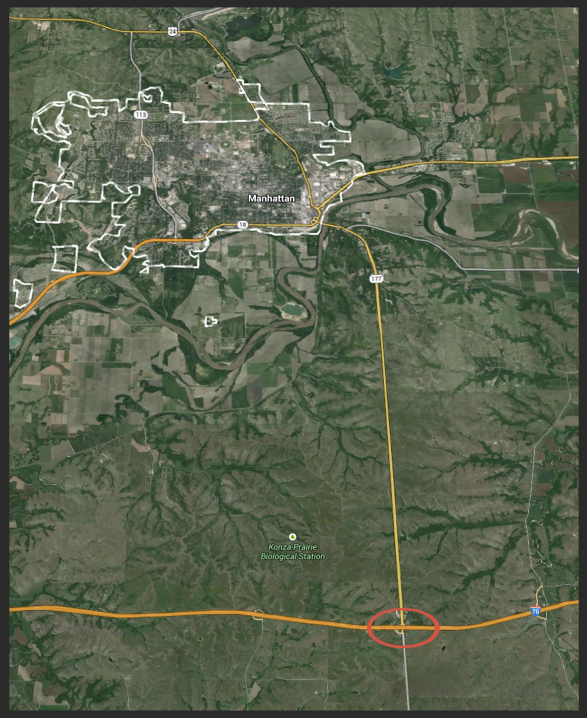


Figure 7.5: Proposed Manhattan/KSU Visitor's Center Location

It is recognized that the campus interactions measured in this study are limited in their ability to contribute to quality of life in Manhattan. There are some Quality of Life factors that cannot be addressed simply by increasing certain interactions or combination of interactions with the university. For instance, housing and government are Quality of Life factors that are reasonably unchangeable simply by improving and increasing any given campus interaction directly. At the same time, there are some interactions that can affect several Quality of Life factors. For instance, the interaction

of walking through the campus can be integrated as a principle of environmental desirability, recreation, transportation and health, as seen in Figure 7.6. That being said with some campus interaction, it can be very clear how they address the wider Quality of Life factors in Manhattan, and can be used to address quality of life shortfalls for permanent residents in Manhattan. So how can KSU help the city to address the two issues of housing and health promotion? It is clear that the university campus holds several opportunities for the city of Manhattan while addressing their own shortfalls of serving the city as a whole.

	Sport Attendance	Show Attendance	Library Visits	Ground Visits	Recreation Use	Class Attendance	Walking	Biking	Driving	Art Visits	Organization Activity
Culture	0.345	0.348	0.100	-0.003	0.047	0.049	-0.020	-0.081	0.026	0.211	0.016
Economy	0.226	0.206	0.122	0.050	0.121	0.054	0.139	-0.095	0.093	0.170	0.106
Education	0.280	0.172	-0.042	0.003	-0.010	-0.087	-0.023	-0.093	0.043	0.045	-0.061
Environment	0.302	0.221	0.029	0.055	0.046	-0.120	0.033	0.042	0.121	0.079	-0.023
Government	0.268	0.098	-0.092	0.015	0.017	-0.163	-0.020	0.079	0.081	-0.057	0.009
Health	0.265	0.166	0.077	0.101	0.029	-0.163	-0.008	-0.031	0.066	0.067	0.044
Community	0.292	0.113	0.058	0.082	0.115	-0.127	0.004	0.003	0.096	0.018	0.069
Safety	0.210	0.039	-0.011	-0.019	0.016	-0.107	0.012	0.030	0.097	-0.039	-0.036
Social	0.316	0.262	0.078	0.076	0.054	-0.034	0.029	0.027	0.125	0.074	0.018
Transportation	0.148	0.0213	-0.051	-0.140	-0.109	-0.221	-0.142	-0.190	-0.061	-0.158	-0.149
Housing	0.330	0.144	0.074	-0.059	0.035	-0.044	-0.067	-0.030	0.075	0.019	0.057
Recreation	0.174	0.0406	0.010	0.348	0.096	-0.120	-0.131	-0.125	-0.060	-0.003	0.030

Figure 7.6: Campus Interaction Factor Correlation Coefficients with Quality of Life Factors

Health Promotion

As discussed earlier, bicycle and pedestrian infrastructure investment is the key to addressing many shortfalls to permanent resident quality of life in Manhattan. This factor addresses transportation, health promotion, and environmental desirability. Investment in bicycle and pedestrian infrastructure is also a way for the campus to address its shortfalls in accommodating permanent resident's ability to bike through the campus and use recreational facilities. As seen in Figure 6.13, biking through campus and recreational use is among the least frequented activities among permanent residents of Manhattan. Because the campus is a major potential hub for bicycle and pedestrian transportation in Manhattan, by further investing in bicycle and pedestrian infrastructure, KSU can address a major quality of life factor and its contributors for permanent residents of Manhattan.

As well, the KSU campus can encourage health in the greater community through other programs. To suggest a few; opening up recreational facilities to allow permanent resident membership, despite KSU affiliation; creating and facilitating urban agriculture opportunities in the community; or opening up limited medical care facilities to permanent residents. Though these may not be so much planning efforts as social programs, they are still relevant nonetheless.



KSU Student Farm Promoting Health in Community, KSU, 2010

Housing Appeal and Affordability

Housing is a Quality of Life factor, which as seen in Figure 7.8, is not addressable simply by means of increasing or decreasing interaction with the university campus. As mentioned, for permanent residents, it is clear that housing affordability and appeal are relatively suffering for those permanent residents around the immediate periphery of the campus. It is understood by this study that the largest demand for housing in these areas is from students, and may need not be addressed by KSU for lack of mutual interest

and futility in suppressing an inevitable market force. That's not to say that the university does not have an interest in serving students through housing accommodation that is of high quality and close to campus. Though this interest may not immediately address the housing concerns of permanent residents, it does in a roundabout way address the concern. As discussed earlier, if densities in and around the campus were allowed to increase for sake of satisfying the demand of housing for students, the housing market in Manhattan would be alleviating the pressure of periphery properties to increase density or spread further and further from campus, thus reducing housing costs at least.



KSU Student Housing (Kramer Complex), Photo by KSU School of Communications, 2010

The city isn't necessarily completely helpless in providing student housing, it is however reasonably limited in its ability to provide it where it needs to be. So how can KSU address this quality of life issue for Manhattan? It's simple really- by building or sponsoring their own housing for students. This is in some degree being done on behalf of KSU, with the recent plan of expanding the Kramer complex. This housing issue should be a critical concern for KSU and it should remain acutely aware of the problem into the future as Manhattan population continues to increase and student housing becomes less available and more expensive. At any rate, it would seem that the strain on the housing market in Manhattan would benefit from an increase in student housing on campus.

Opportunities for Manhattan to Address Campus Interaction Issues that Foster Quality of Life

So what can the city of Manhattan do to promote quality of life through the opportunities of having a university campus at the center of itself? As discussed, it is clear that there are opportunities for the university to address its own shortfalls in permanent resident interaction while promoting the relatively important, but low rated Quality of Life factors in Manhattan.

Health

As discussed, there are opportunities for the city to address the majority of its health, transportation, and recreation shortfalls in the quality of life of Manhattan through bicycle and pedestrian infrastructure investment. This would largely be a monetary and planning investment that could help with improving routes through campus as well as establishing connecting routes that stretch from campus to the west side of the city, to connect residents there with the campus (Figure 7.7). As seen in Figure 6.86, biking is one campus interaction that is negatively affected with an increase in distance from KSU. As well, the west side of the city has a clear lack of bike frequency through campus, arguably proving that there is poor bicycle infrastructure to effectively link the west half of town with the east through the potential corridor of the KSU Campus. Pedestrian infrastructure shares many of the same challenges as bicycle infrastructure, in that it is too often inhibited by auto-oriented development that is fairly dominant in the construct of west side of Manhattan. As seen in Figure 6.13, the campus interaction of walking through the campus is a relatively frequented factor when considering campus interaction as a whole. As well it is an important factor for subjects when they consider their total interaction (Figure 6.47 and 6.49). That is to say, the KSU campus is very good at accommodating pedestrians and

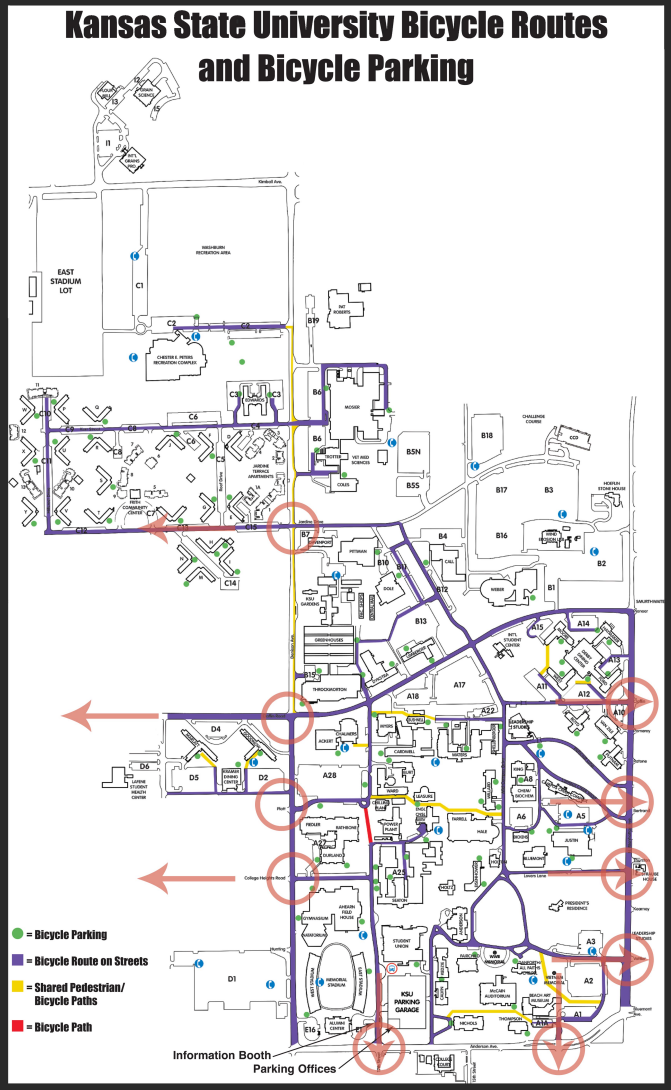


Figure 7.7: Universtiy/City Bicycle Nodes and Routes

should be considered a large asset for the city, and should be regarded as a huge opportunity to connect to through complimentary infrastructure and amenities outside of the KSU campus. As well, efforts to create a more walkable, bike-friendly, multimodal, less auto-oriented west side of Manhattan should be explored by the city of Manhattan.

KSU and City Collaboration

At this point, it would be advantageous to note that there is in fact a city-university committee to identify and fund projects of city-university interest, as discussed throughout this section of the report. Formed in 1994, as a result of the annexation of KSU to the city, this committee, effectively named the City/University Special Projects Fund Committee, sets an annual budget to fund and oversee projects of interest to the KSU campus and the City of Manhattan. The approved budget of this committee's funding for 2014 is $634,850 (City of Manhattan, 2013). This funding pool is comprised of transfers from a portion of City sales tax and franchise fees generated and received in the General Fund of the city (City of Manhattan, 2013). Over the 19 years of this group's existence, $3,550,700 (45%) has been spent on projects physically located on the city side of Manhattan, while $4,413,682 (55%) has been spent on the campus side of the city. Interest in these projects have become more prominent in recent years, reflected in the fact that the budget for this committee has been increasing every year since 1996 (City of Manhattan, 2014). The approved projects from 2009 to 2013 (5 years) can be seen in Figure 7.8. When these projects are broken down into specific categories, as they relate to their addressing of quality of life factors in Manhattan, it is easy to understand what this committee values in terms of quality of life and what kinds of projects have taken priority for the City/University Special Projects Fund Committee.

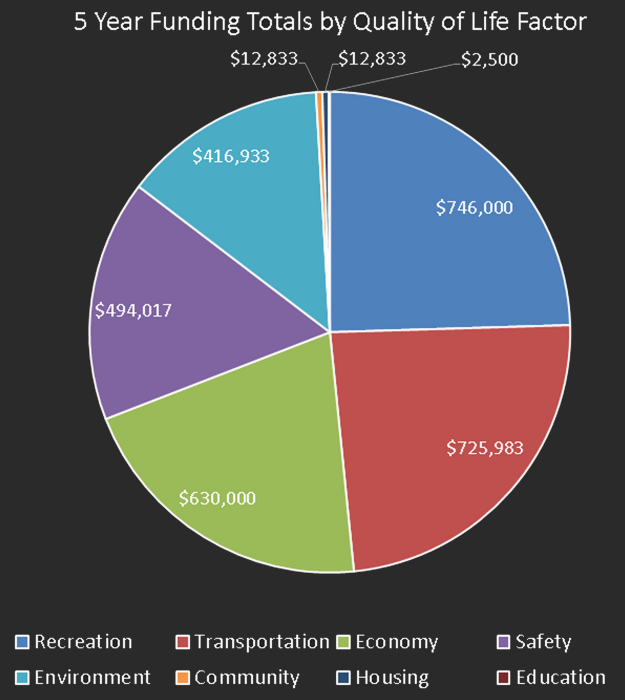


Figure 7.8: City/University Special Projects Fund Committee Five Year Budget

Revising a Budget

As seen in Figure 7.8, it would seem that in the past five years, recreation facility improvement, transportation infrastructure upgrades, and economic development have been the dominant funding investments of this committee. It should however be noted that the majority of these economic investments were in the form of debt financing. As seen in Figure 7.8, there is a very substantial portion of this total funding dedicated to transportation and recreation. Almost all of the specific projects in this category specifically address pedestrian and bicycle amenities, be it safety measures, bike rack installments, or path improvements, many of which connect the city to the university. That is to say, for sake of the conclusions in this research, the City/University Special Projects Fund Committee fulfills much of the needed role of advocacy for bicycle and pedestrian sponsorship in the form of infrastructure investment, and should certainly continue to do so.



Leadership Studies Building, Photo by OPUS Group, 2010

On the other hand, as seen in Figure 7.8, there is very little funding devoted to the Quality of Life factor of housing in Manhattan- identified as a major shortfall in quality of life in this study. This is likely due to the fact that housing issues are not easily solved by means of infrastructure investment, at least under the mission of this committee. After all, housing issues are more connected with policy and law that is controlled by the city, as discussed earlier. As well, housing, at least housing for permanent residents, may not be of particular interest to the university. However as discussed, housing on the campus side of Manhattan can certainly have an effect on housing availability and affordability on the city side.

In fact, maintaining the quality housing stock of the traditional neighborhoods around university campuses is something that college towns have shown interest in in the past

few decades, as they are often prone to low quality and unbecoming student housing conditions. The city of Manhattan has shown particular interest in preserving the traditional neighborhoods of Manhattan in the past few years as well. In particular, the city has shown an interest in the North Bluemont Neighborhood, east of campus (Figure 7.9). This neighborhood has seen great redevelopment in recent history as the density of the area was allowed to increase by the city. Endearingly named the "student ghetto," many single-family houses in this area have been converted into rental housing while many properties closest to the campus have been demolished and rebuilt as multifamily apartment complexes. All of this threatens the traditional characteristics of the neighborhood that it once possessed, as permanent residents are encroached upon and are pressured by development. Many universities find that this strain on the city is being felt especially by the faculty and staff of the university, whom are forced further and further from the university to find housing, whether due to affordability or desirability.

It could be thus be in the interest of the university and the city to help maintain its faculty and staff's ability to find affordable and desirable housing near campus. Some universities like Yale, Syracuse, and the University of Southern California have introduced housing programs for their faculty and staff. These programs include guaranteed, forgivable,

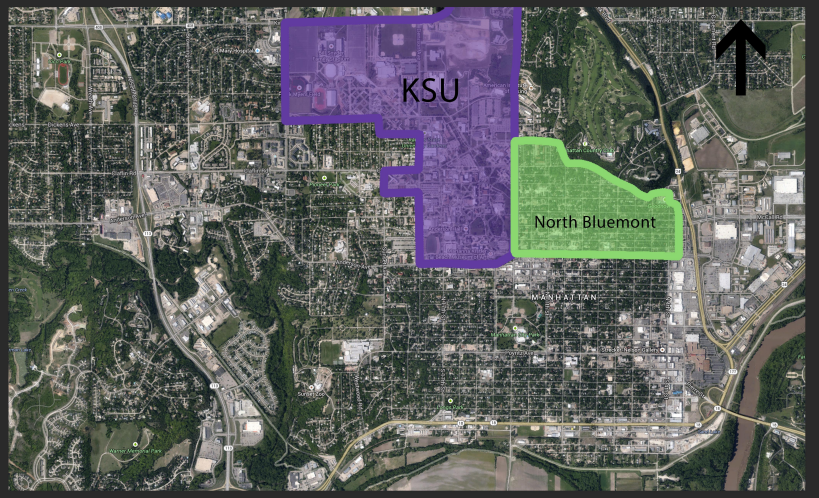


Figure 7.9: North Bluemont Neighborhood

subsidized, and/or zero-down mortgage loan programs for properties in designated areas of the city. While perhaps the problem for KSU faculty and staff is not as apparent now, Manhattan population increase projected into the future could put more pressure on the traditional neighborhoods close to campus and push the permanent residents that are faculty and staff of the university out to the periphery of the city. It is suggested that a portion of this university/city budget be allocated to the development of such a program, in which KSU can allocate special subsidized, zero down, or forgivable mortgage loans to their faculty and staff if they desire to live in single family, owner-occupied housing immediately east, west, or south of the university campus. This, in combination with other housing desirability and

affordability solutions proposed throughout this section, would not only help to address housing issues for permanent residents, but would also serve as an attractive benefit for prospective employees applying for full time positions at KSU.

Further Potential Beneficial City/University Relationships

In this study it has been recognized time after time that in general, people whom associate and interact more with the university have a higher quality of life. While it is believed this is partly of happenstance correlation, it is also believed that this relationship holds some meaningful causation, as discussed previously. That being said, this study recommends that it would be in the best interest of the city of Manhattan, as well as KSU, to encourage further interaction between permanent residents and the campus, even if they aren't necessarily connected to interactions labeled as being highly significant as measured or defined in this study. So how can these other interactions be further encouraged?

Free Credit Hours

As the study shows, there is a connection between education level and quality of life experienced in Manhattan, which is also deeply connected to other factors that contribute to a higher quality of life. A program set up by the city and the university, which subsidizes the acquisition of education for permanent residents, would allow a deeper, more meaningful relationship experience between permanent residents and the university while also encouraging higher education. Obviously, this would have to be a highly regulated program, allowing only those whom are fully qualified to take advantage of the program. Perhaps citizens would have to prove their residency in Manhattan, for a certain number of years as well as pass the admission requirements for the university. At that point, permanent residents could be eligible to receive one free credit hour per full semester. For Manhattan, this



Non-Traditional Students at KSU, Photo by Joann Kouba, 2012

could create a more educated population over a long period of time. As well, this program could prove to be an effective marketing tool, attracting population growth and other businesses to the region. For KSU, this would effectively serve as a "free sample" of education, which could encourage citizens to commit to being full time students, spurring higher enrollment numbers of non-traditional students. While this is more of a social program than a development project concerned with urban planning, it is nonetheless related, and the city of Manhattan could certainly benefit from the investment, in the terms of increasing quality of life.

Student Planning Committee

Another way that Manhattan could take advantage of university relationships is by sponsoring a group of planning students in the College of Architecture, Planning and Design to assist with community-based research and planning efforts. This could be a standing student committee or a studio type of class in which KSU planning students get involved in a specific project that the city and college designate as needed. For Manhattan, this would create a group of involved students capable of bringing new ideas from the world of academia into the city planning process, all while benefiting from an essentially free service. For the university, students would benefit from gaining real world experience through this sort of pseudo-internship which could work on a rolling community project, all while benefiting the community and increasing quality relations between city and university.



Student Planning Assocation, Photo by Author, 2012

Limitations and Validity

There are unfortunately some limitations to this research, its methods and its conclusions. This section will be discussing the threats to the validity and will later discuss some opportunities to address those threats through further research or further analysis that is either not possible with this study or not included in this study.

Methodology

One limitation of this study is in the relatively subjective nature of the survey used in this study. Though much of the research in the literature review supported more subjective than objective measurements, this study relies heavily on subjects' self-assessment of their own quality of life factors and frequency of campus interaction. For instance, instead of asking questions like "how many times per month do you visit the campus grounds at KSU?", this survey simply asks subjects how often they visit grounds on a Likert scale of "never" to "very often," without any explicit frame of time. This method was chosen above others due to the time and resources available to the researcher. In the literature review, the measurement of quality of life often took the form of the composite of hundreds of smaller measurements, determined by even more questions in other studies' sample surveys, taking their subject hours to complete. Though it would have given a much more in-depth look at quality of life, it simply would have been unfeasible for the purpose of this study. To get the most out of subjects, it was determined that quality of life be simplified down to the 12 factors measured on Likert scale ratings. Though these Likert scale reports were converted into numeric ratings, there is still a considerably subjective nature to the study, as there is no concrete way of quantitatively measuring how much more often "very often" when compared to "sometimes" is. These issues do not lend themselves to the internal validity of the study.

On the same hand, the construct, design, and wording used to develop the survey instrument of this study could be limiting the validity of the conclusions and analysis of this survey. As alluded to in the methodology section, some questions may not have had clear questions, may have used terms unfamiliar to the subjects, or may have held different meanings to different subjects. For instance, what the research determines as "environmental desirability" might mean something very different from subject to subject.

The broadness of the methodology also takes away from the dynamism of the conclusions reached in this study. While more detailed knowledge of quality of life in Manhattan could have been gained by simply analyzing one quality of life factor for instance, this research desired a big picture look of how quality of life relates to the permanent resident relationships with the KSU campus in Manhattan.

Another limitation to this study is the amount of subjects available for surveying. As calculated in the methodology

section of this report, there were about 380 subjects required for a confidence level of 95%. While it very difficult to achieve these numbers under any other circumstances, given the time and resources available for this research, this was unlikely to happen in the first place. Granted, there is still a considerable amount of pertinent knowledge that came from this study. However, the conclusions reached do not benefit from the lack of fuller data available to it. This is especially true in regards to the spatial analysis of this study. As seen in several maps throughout this report, there are some considerable gaps (literally) in the data in which fewer subjects have to represent greater spans of area of potential permanent residents. It is more difficult in this sense to draw conclusions of the spatial data with less than an adequate number of subjects. This fact does not contribute to the statistical conclusion validity of this study.

Analysis

Limitations in the analysis mostly stem from the lack of ability on part of the researcher to perform certain analysis for lack of time and other resources. Many more analyses in this study could have been run i.e. multivariate analysis or other spatial analyses like spatial autocorrelation. Though there are infinite ways to run analysis on the data of this research, there is obviously a time limit in which the research question must be answered- thus hightened discretion on what analyses should and shouldn't be performed.

That being said, there are other specific data analysis that would have proved beneficial to the validity of this research, but could not be completed. For example, the weighting of quality of life and campus interaction factors, as alluded to in some of the analyses throughout this report, would have created a more dynamic set of data. By weighting quality of life and campus interactions, this study would have had a more realistic or more fitted picture of quality of life in Manhattan and campus interaction at KSU.

Another limitation to the analysis of this study is the ability of the data and the ability of the researcher to differentiate between causation and correlation, also known as statistical conclusion validity. This is largely because there is very little opportunity to isolate variables in the data of this study. While it is difficult to objectively see the difference between these two relationships, best judgment is given in this study, but it cannot be perfect.

As far as external validity, the lack of subjects as discussed earlier does not lend itself to help. As well, the subjective nature of the survey makes it difficult to judge the study's applicability outside the parameters of this research. While

most of the quality of life factors in this analysis are relative to life largely experienced within the United States, it is possible that the campus interactions measured may not fit the characteristics of other college towns. Obviously there are going to be quality of life differences and different relationships between the city and the university among different college towns in the United States.

While it could be theorized that all college towns share the same strand of general quality of life struggles, perhaps housing affordability for example, this study cannot necessarily confirm that- though its methodology could certainly be applied to other college towns to find out. On that note, this research does believe that this model for measuring campus interaction and quality of life can be used to effectively understand the relationships between permanent residents and universities within a college town in a very broad sense- granted some adjustments to the methodology are made to pertain to the necessary conditions.

Further Research

If further research is to be undergone on the subject of how livability is affected by universities, using Manhattan as a case study, this report would highly recommend that housing issues be more specifically investigated, given the significance of the issue identified throughout this study. This is not a particularity new problem for the city of Manhattan, though there is perhaps much less understood about how the university relates to these problems and how the university can play a part in administering to these problems. Given the specificity of this quality of life issue a more objective study could be launched, perhaps looking at historic property values, housing conditions, and the extent of densification as the university and city grows. This would help future researchers to understand the relationships between a university and the private housing market in college towns, something that could be explored to great extent. This is true of many of the quality of life and campus interaction characteristics that were discussed throughout this report. For instance, the relatively strong correlation identified between quality of life and sport event attendance. While there was a correlation, further research would do well to explore any possibility of causation between quality of life and sport attendance in a more in-depth, objective analysis. As well, taking all of this information in this study and comparing it to non-college towns of similar sizes to Manhattan as control variables may be another strategy to gaining insight to a university's effect on livability.

Final Statement

This research only scratches the surface of a greater notion within the planning profession. The relationships between cities and their universities grows deep and are more complicated than this study can begin to do justice. What I have experienced in Manhattan, Kansas as a student and citizen will forever leave a piece of my heart there. I truly believe that there are great new and exciting opportunities for future city-university partnerships, which exemplify the spirit of college towns like Manhattan, to exist there and in other college towns where the university is willing to embrace its community. This will give rise to the future of town-gown planning as we know it, as universities continue to positively affect the lives those that surround it- as an engine for livability.



The Beach Art Museum Pedestrian Gateway, Photo by Adrianne Russell, 2010

Appendix

Glossary of Terms

Active Intervention: A university and/or city acting with conscience intention to improve quality of life in each others realm to benefit the greater community

Absolute Quality of Life: A universal, and attainable quality of life that humans can be content with when attained.

Absolute Quality of Life Score: The percentage attributed to a subject or subjects to describe their quality of life score in terms of its percentage out of the highest possible composite quality of life score.

College Town: A town or city with a prominent college/university presence and a student to non-student population ratio typically at or higher than 1 to 4 respectfully.

Comparison Theory: The theory that there are two types of quality of life: absolute quality of life and relative quality of life, which are both active and analogous among individuals.

Composite Campus Interaction: A score ranging from 0 to 44. Created by summing all of the campus interaction frequency ratings as reported by a given subject or subjects. Sometimes refered to as simply "Camps Interaction score."

Composite Quality of Life: A score ranging from 0 to 48. Created by summing all of the quality of life factor ratings as reported by a given subject or subjects. Sometimes refered to as simply "Quality of Life score."

Confidence Interval: A type of interval estimate of a population parameter which is used to indicate the reliability of a confidence level estimate. Intervals range from 0 to 100 depending on the confidence level; the closer the number to 0, the higher the reliability of the estimate.

Confidence Level: Expressed as a percentage between 0 and 100% which designates the assuredness that if an event were repeated, one could be X% sure that the same outcome would result with a Confidence Interval of + or – (X).

KSU Use: A score ranging from 0 to 4 describing the use of the KSU campus, a secondary measurement of campus interaction, for any given subject or subjects.

KSU Use Contribution to Life Satisfaction: A score ranging from 0 to 4 describing a given subject or subjects' use of the KSU campus and its contribtion to thier life satisfaction.

Life Satisfaction: A score raging from 0 to 4 describing the life satisfaction, a secondary measurement of quality of life, for any give subject or subjects.

Livability: Suitability for human living in a specific place. Normalization: Adjusting values measured on different scales to a notionally common and relative scale .

Objective Quality of Life: Quality of life related to the existence of physical or material aspects of quality of life, typically measured quantitatively.

Outlier: A data point in a data set that is significantly different from others.

Passive Interaction: The subsequent benefit experienced by a city or university due to one supplying a service for the other unintentionally through providing the service for itself.

Quality of Life: The overall well-being of an individual or society based on social, economic, and environmental factors.

Relative Quality of Life: A quality of life dependent on relative standards determined by past experiences or the past experiences of others.

Reliability: The characteristics of a survey that make it consistent, so that each time the survey is used, the same information and conclusions can be drawn.

Sample Size: The number of measurable subjects posed in an experiment.

Spearman Correlation: Assesses how well the relationship between two variables can be described using a monotonic function. A perfect Spearman correlation of +1 or −1 occurs when each of the variables is a perfect monotone function of the other.

SPSS (Statistical Package for the Social Sciences): A software package used for statistical analysis.

Subjective Quality of Life: Quality of life related to the perceptions or satisfaction with life, typically measured qualitatively.

Town-Gown: Used to describe the type of relationships between a university and its city/town and their respective populations, functions, and interests.

Validity: The characteristics of a survey that make it accurate.

Quality of Life Definition and Indicators Master Table

Study	Quality of Life Definition	Quality of Life Indicator											
		Cultural/ Recreation	Employment	Income Consumption	Poverty	Education	Environment	Health	Housing	Social Participation	Population/ Family	Safety/Crime	Transportation
UN: Compendium of Social Statistics 1998	Higher standards of living, full employment, and conditions of economic and social progress and development	X	X	X		X		X	X	X	X	X	
UN: World Social Situation in the 2010	The level of coherent, sustainable living that puts people at the center of feasible development strategies	X	X	X	X	X		X	X		X		
World Bank: World development Indicators, 2012	The status of the world view, people, the environment, the economy, states and markets, and global links that contribute to the improvement of people's lives		X	X	X	X	X	X			X		X
Human Development Report, 2006	The overall well-being of a society based on social, economic, and environmental factors	X	X		X	X	X	X		X	X	X	
OECD Compendium of OECD Well-Being Indicators, 2011	The set of non-monetary attributes of individuals that shapes their opportunities and life chances, and has intrinsic value under different cultures and contexts.	X	X	X		X		X	X		X	X	
Eurostat, Facts Through Figures			X	X		X		X	X		X		X
European System of Social Indicators (EUSI)	The Enhancement of subjective well-being and improvement of objective living conditions												
Calvert-Henderson Quality of Life Indicators	Social, economic and environmental state of well-being	X	X	X		X	X	X	X			X	X
The Netherlands Social and Cultural Report, 1974		X	X			X		X	X	X		X	
Recent Social Trends in France, 1960–1990 (CCSC-series)		X	X	X	X	X				X	X	X	
UK Social Trends, 1970		X	X	X		X	X	X	X		X	X	X
Quality of Life in Big Cities Of New Zealand, 2012	Social, economic, and environmental well being of people in an area		X	X	X	X	X	X	X	X	X	X	
Hong Kong System of Quality of Life Measures, 2001		X	X	X	X	X	X	X	X	X	X	X	
German System of Quality of Life Measures	Long term developments of well being in terms of objective living conditions as well as subjective characteristics of life and social change	X	X	X		X	X	X	X	X	X	X	X
Singapore's First Public Housing Community Portal		X				X		X	X		X		
Quality of Life Comparisons Between Cities		X	X			X		X	X				

Quality of Life Definition and Indicators Master Table Continued

Study	Quality of Life Definition	Quality of Life Indicator											
		Cultural/ Recreation	Employment	Income Consumption	Poverty	Education	Environment	Health	Housing	Social Participation	Population/ Family	Safety/Crime	Transportation
The Living Condition Index of the Netherlands		X						X	X	X			X
A Quality of Life Index for Ontario, 1998	The product of the interplay among social, health, economic and environmenta lconditions which affect human and social development.		X		X	X							
Quality of Life in Jacksonville, Indicators for Progress, 2001	A feeling of well-being, fulfillment, or satisfaction resulting from factors in the external environment	X	X	X	X	X		X		X		X	X
Detroit Area Study, 2001		X	X	X		X	X	X	X		X	X	X
Social indicators and social reporting in New Zealand		X	X	X		X		X	X	X	X	X	X
QOL Benchmark Project - Pierce County, Washington	The general well-being of people and the quality of the environment in which they live.	X	X	X	X	X	X		X			X	X
Trends in Austin's Quality of Life, Texas 1970 to 1983		X	X	X		X	X	X	X			X	X
Building Up Knowledge on Manukau City Dwellers' Quality of Life, 1992			X			X	X		X		X	X	X
Canterbury's Quality of Life Indicators Program			X					X				X	
Pikes Peak Region Local Indicators of Quality of Life			X	X	X	X							X
Report on The Quality of Life in Prince George		X		X	X	X	X	X	X	X	X	X	X

Study Survey in Full

Please indicate your level of agreement to the following statements:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Manhattan is a city with culture	O	O	O	O	O
Manhattan has economic/employment opportunity	O	O	O	O	O
Manhattan provides access to good education	O	O	O	O	O
Manhattan has a desirable environment	O	O	O	O	O
Manhattan has an effective government	O	O	O	O	O
Manhattan promotes a healthy lifestyle	O	O	O	O	O
Manhattan has a sense of community	O	O	O	O	O
Manhattan is a safe place to live	O	O	O	O	O
Manhattan is a place with quality social interaction	O	O	O	O	O
Manhattan has diverse and functional transportation	O	O	O	O	O
Manhattan has appealing and affordable housing	O	O	O	O	O
Manhattan has sufficient recreational activities	O	O	O	O	O

Please indicate how often you do the following:

	Never	Rarely	Sometimes	Usually	Very Often
Attend sporting events at KSU	O	O	O	O	O
Attend live performances or movies at KSU	O	O	O	O	O
Visit libraries at KSU	O	O	O	O	O
Use recreational facilities at KSU	O	O	O	O	O
Visit or use lawns, grounds, or plazas at KSU	O	O	O	O	O
Attend public lectures or community classes at KSU	O	O	O	O	O
Visit art exhibitions at KSU	O	O	O	O	O
Walk through the KSU campus	O	O	O	O	O
Bike through the KSU campus	O	O	O	O	O
Drive through the KSU campus	O	O	O	O	O
Participate in club or organization activites on the KSU campus	O	O	O	O	O

Study Survey in Full Cont.

Please indicate how highly you would rate yourself on the following:

	Very Low	Low	Moderate	High	Very High
Overall, how high would you rate your level of interaction with or use of the KSU campus?	O	O	O	O	O
Overall, how high would you rate your satisfaction with life in Manhattan?	O	O	O	O	O
Overall, how high would you rate KSU's contribution to your satisfaction with life in Manhattan?	O	O	O	O	O

Demographic Questionnaire

The following is an excerpt from the demographic questionnaire of the survey of this study:

How many years have you lived in Manhattan?

0 to 5 years O
6 to 10 years O
11 to 20 years O
21 to 40 years O
41 or more years O

Do you own or rent your home?

Own O
Rent O

Are you employed by Kansas State University?

Yes O
No O

Are you Male or Female?

Male O
Female O

Which decribes you? Mark all that apply.

KSU Student O
KSU Alumni O
Other Student O
Full Time Employee O
Military O
Retired O
Home-Maker O
Unemployed O
Part Time Employee O

Which best decribes you?

Living Alone O
Living with Significant Other O
Living with Roommates O
Other O

What is your highest level of education?

High School O
Some College O
Associate's O
Bachelor's O
Master's O
Ph.D. O

What is your age?

18 to 25 O
26 to 35 O
36 to 45 O
46 to 55 O
56 to 65 O
65 or more O

How many children (17 or younger) live in your home?

0 O
1 O
2 O
3 O
4 O
5 or more O

What is a street intersection near your home?

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