

**THE EFFECT OF NATURAL SPACE FROM PARKS ON THE PERCEPTION OF  
WELL-BEING AMONG LATINOS OF MECKLENBURG COUNTY, NORTH  
CAROLINA**

by

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Geography**

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## **ABSTRACT**

GASTON ABEL AYON MUNGUIA. The Effect of Natural Space from Parks on the Perception of Well-being Among Latinos of Mecklenburg County, North Carolina.  
(Under the direction of DR. DEBORAH S. K. THOMAS)

This dissertation seeks to explore the intricate dynamics surrounding access to, and appreciation of, natural spaces within urban parks for the Latino population in Mecklenburg County, North Carolina. The central goal was to examine how Latino communities engage with urban natural spaces in parks and how this ultimately affects perceived well-being. The research employed a multi-pronged methodology to capture Latino Park experiences that can lead to more effective efforts to mitigate disparities in access to high quality parks that ultimately improves health outcomes. Two surveys were conducted, one of park users at a popular park and one of a broader sample of the Latino population. Both of these surveys included photo elicitation to invoke deeper insights and emotional responses from participants that captured nuanced interactions with natural space. Content analysis was systematically applied to examine the last two park master plans for the county, allowing for evaluation of structural forces at play that impose opportunities and barriers for benefiting from green spaces in parks. Key informant interviews added a dimension for understanding Latino Park access. Along with descriptive statistics and generalized linear models, qualitative coding was used to inductively capture emerging patterns.

Green spaces and parks are highly valued by the Latino community, particularly natural environments and park features that facilitate social and family connections. There was a strong connection between parks and a perceived sense of well-being for Latinos, illustrating why equitable park planning, development, and maintenance is an essential element of health equity

more broadly. Recognizing the uniqueness of the Latino population in Mecklenburg County involves appreciating the multifaceted dimensions of their cultural identity, preferences, and emotional connections to green spaces in parks, shaping a distinctive and enriching experience for individuals within the Latino community. This cultural richness influences daily routines and deeply informs how individuals interact with and perceive their environments, including urban green spaces. The landscape becomes a living panorama where the cultural uniqueness of the Latino population is vividly displayed, shaping the emotional and social dimensions of their experiences that affects well-being. Policy, planning and environmental management should aim to promote equitable access to urban green spaces in parks as an opportunity to improve health outcomes for marginalized communities.

## DEDICATION

Muy especialmente para:

Adrianita Ocejó

Eleazar Abel Ayón-Ocejó

Abelina Munguía Castillo (mi Ama)

Roberto Ayón Vázquez (mi Apa)

& Mi Familia

Son ustedes para mí los mejores ejemplos de amor incondicional, perseverancia y humildad.

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## **1 Introduction**

Most people worldwide reside in cities and increasing urbanization will result in a projected 10 billion people living in cities by 2050 (Twohig-Bennett & Jones, 2018). With increasing numbers of people inhabiting urban areas, maintaining urban green spaces, including urban parks and open space, is essential for environmental, cultural, social, and aesthetic vitality (Byrne & Wolch, 2009). Natural spaces in cities increase opportunities for numerous benefits from nature, including a multitude of essential benefits for improving quality of life, health, and well-being of all urban inhabitants (Aerts et al., 2018).

### **1.1 Importance of Parks for Health Equity**

Natural space is found in a variety of places in urban settings, including parks, urban forests, cemeteries, vacant lots, gardens, and yards, as well as water features, such as streams, lakes, ponds and stormwater retention ponds (Elmqvist et al., 2015). Roy et al., (2012) divides green spaces into public and private, and Wolch et al., (2014) describe public spaces as including parks and reserves, sporting fields, riparian areas (e.g., stream and riverbanks), greenways and trails, community gardens, street trees and nature conservation areas, and cemeteries. Private spaces include such areas as backyards, apartment complex collective grounds, or corporate campuses. Urban parks have substantial elements that allow for the conservation of natural spaces and species and preservation of associated cultural resources. Parks provide green infrastructure necessary for improved air quality, temperature control, ecological diversity, aesthetics, and educational and recreational opportunities that are essential in an era where the access to natural spaces is decreasing (Braubach et al., 2017; Jennings & Bamkole, 2019).

Urban green spaces are considered a vital amenity for improving quality of life, health, and well-being of all urban inhabitants through a variety of beneficial services, including physical exercise, social recreation, leisure activities and relaxation (Jennings et al., 2017; Maas et al., 2009). For instance, people connect to the natural environment through human values and perception of their surroundings (Bell et al., 2018; Berto et al., 2018; Fuller et al., 2007). Parks, as one type of urban natural space, can provide ecological and social benefits, as well as intangible elements for humans (Keniger et al., 2013). Moreover, parks also enhance social connectivity and result in higher perceptions of community well-being (Jennings, Larson, Yun, et al., 2016). Urban natural spaces provide ecological and social benefits, such as freedom of choice, safety, sense of place, identity, social cohesion, cultural, spiritual, psychological, and cognitive benefits, and recreational opportunities that come together to contribute to human health and general well-being (Alcamo et al., 2005; Fuller et al., 2007).

Urban green spaces provide direct health benefits (Braubach et al., 2017; Jackson, 2012; Jennings, Larson, Yun, et al., 2016). An increasing body of evidence expounds on the benefits of interactions with natural spaces for urban dwellers. For instance, urban green spaces and parks can reduce stress and improve physical and mental fatigue caused by city crowding (Kaplan, 2001; Ulrich, 1983). As examples, green spaces can enhance attention, reduce stress, mitigate allergies, or reduce cardiovascular and respiratory problems (Twohig-Bennett & Jones, 2018; Ulrich et al., 1991; World Health Organization, 2016; Ulrich et al., 1991; Aerts et al., 2018). Accessibility to urban green spaces is essential for improving the lives of urban dwellers (Wolch et al., 2014).

While evidence of the benefits of natural spaces, and urban parks specifically, in urban areas is growing, the connection to enhanced well-being has generally received less scientific

attention(Chiesura, 2004), particularly around translation to practice and with respect to groups usually marginalized in planning processes. Urban green space and parks are important for enhancing and reducing health inequalities through a variety of direct and indirect pathways (World Health Organization, 2016;Larson et al., 2016). Environmental inequities due to limited access by certain groups (both geographic and quality) decreases opportunities for enjoying natural spaces and associated health benefits particularly for minorities groups and intensified by income, races, age and gender (Sefcik et al., 2019; Wolch et al., 2014). Inequities in park access arise from traditional economically driven planning philosophies that produce distributed land use patterns, infrastructure, and amenities in ways that limit access for particular groups (Jackson, 2012;Wolch et al., 2014). As a result, access to natural green spaces is not equitably distributed. Consequently, these inequities in access can lead to health inequities, diminishing the chances of a healthy, and prosperous life (Jackson, 2012; Kabisch et al., 2017).

## **1.2 Inequities in Park Access**

It is anticipated that minority populations such as Asians and Hispanics will experience the most rapid growth among racial and ethnic groups in the upcoming decades (U.S. Census, 2020) and accessibility to parks in urban areas among these groups is not a guarantee (Sefcik et al., 2019). Jennings & Bamkole (2019), for instance, discovered that disparities in access to urban green spaces are correlated with race/ethnicity and socioeconomic status.

Further, inequities are documented when considering safety and access to green spaces (Flores et al., 2018; Tinsley et al., 2002; Wen et al., 2013). Opportunities for, and access to, natural spaces in cities is more limited for marginalized groups and so the potential for enjoyment in neighborhoods with lower socio-economic status is more minimal than in affluent



communities (Martin et al., 2004; Sefcik et al., 2019; Wolch et al., 2014). Spatial inequities of access to amenities in urban areas for minorities are well documented, though processes are not always well understood (Wen et al., 2013).

Many studies in the U.S. document and evaluate how and why minorities have more limited access to recreational areas. For example, Payne et al. (2002) examined differential responses of 688 participants in a telephone survey in Cleveland to understand the perceived need for additional parks and preferences for a certain recreational activity. The study discovered that Black individuals were more inclined than White individuals to express a need for additional parkland. Hispanics, foreign-born residents, and Blacks perceived barriers for park utilization, including not feeling welcome, cultural and language restrictions, costs and the lack of facilities maintenance. A different study examined 4000 advertisements from three magazines, which revealed that Black representation is rarely incorporated into recreational advertising campaigns, conveying that these resources are not for non-Whites (Martin, 2017).

Although Blacks and Hispanics may live close to parks in some cases, factors such as proximity to pollution sources and quality of facilities (Rigolon, 2016; Stewart et al., 2018) may discourage the use of the parks. A study of the utilization of a nature center in Minnesota by the Hispanic community identified several key barriers, including language issues with brochures, trail guides, and staff (Hong, 2010). Additionally, Hispanics lacked familiarity with the nature center and cost was a concern due to the larger family groups and lower average income. Similarly, Fernandez et al. (2019) found contradictory effects of improved park and green space access in two new park sites in Chicago. While the parks and greenway offered many benefits, the study also revealed unintended consequences, such as crime, rising taxes and gentrification.

### 1.3 Parks and Latino Populations

Latino<sup>1</sup> populations are the nation's largest-growing minority group comprising 62.1 million of the total U.S. population by 2020 (U.S. Census, 2020). North Carolina has one of the fastest growing Hispanic populations in the country, which increased from approximately 75,000 in 1990 to 800,000 in 2010 to over 1.1 million in 2020 (U.S Census, 2021). Mirroring the trend in North Carolina, Mecklenburg County, North Carolina (where the city of Charlotte is located) has experienced substantial growth as one of the fastest growing cities in the U.S (U.S. Census, 2020). The Latino population has also rapidly increased over the last three decades to almost 160,000 people (Figure 1), expanding from 1.34% in 1990 to 14% in 2020 (U.S. Census, 2020).

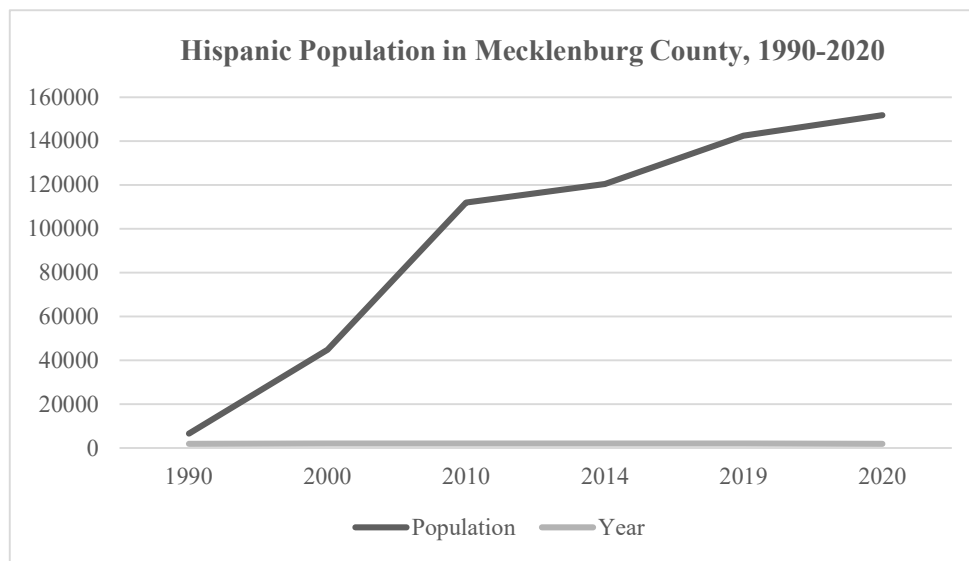


Figure 1. Hispanic population in Mecklenburg County, NC. 1990-2020.

Sources: U.S. Census. (2020); UNC Charlotte Urban Institute. (2006). Mecklenburg County Latino community needs assessment. Prepared by the UNC Charlotte Urban Institute, Latin American Coalition and James L. Knight Foundation.

<sup>1</sup> The word Latina(o/s) is the most common word utilized colloquially by people with this background as reference to Latino America. While in the U.S. Latinx has gained traction as a gender-neutral term, the usage is not universally accepted or adopted. The National Academy of Sciences in a report of 2023 utilize the word Latine (instead of Latinx or Latino(a) as a neutral gender concept to refer to people of Latin American descent. Latino will be utilized across this document for academic purposes (literature, theory, and results). Hispanic will be used when referencing the U.S. Census. At this moment, the usage of Latine is not universally accepted and may be debatable or controversial by some people that do not feel represented (as with any of the terms).

The significant growth of the Latino population in North Carolina and the Charlotte-Mecklenburg area represents opportunities and challenges. There is a need to understand and address this community's needs, including for health care, personal safety, services, and education (Jackson, 2012; Graves, 2012). Emerging research on Latinos in the South has examined Latino experiences with employment, health care, housing, education and transportation (Furusetth & Smith, 2006; Scarinci & Isabel, 2007; Smith & Jamie, 2008). Assessments of the Latino accessibility to parks has received relatively less attention (Johnson, 2011). Access in the southern U.S. region to natural spaces for immigrants and the non-White population is an important consideration for park managers and urban planners due to all the physical, mental and environmental benefits associated with park access (Hartig et al., 2003; Johnson, 2011; Kaplan & Talbot, 1988).

In the context of urban green spaces, understanding the multifaceted cultural diversity is essential for creating inclusive and accessible parks that resonate with the cultural identities and practices of Latino communities. By incorporating the significance of the parks and urban green spaces to these communities and through an understanding of diverse perceptions, usage, rights, and cultural relevance, urban green spaces can reflect and respect the diverse cultural backgrounds across the Latino community. Ultimately, this promotes inclusivity, enhances community well-being, and increases environmental health equity.

Despite growing Latino populations, the park system in Charlotte has not matched population growth. According to the Trust for Public Land (2019), Charlotte's parks system is ranked 96 of the nation's largest 100 cities based on size, spending, amenities, and proximity. Latino populations, as with other minorities across the US, are confronting environmental inequities of quality, accessibility, acreage and lack of amenities from urban green spaces like

parks at the state and local levels (Jennings et al., 2017; Jennings & Bamkole, 2019; Larson et al., 2016). Along with inequitable access, studies reveal different cultural behavior and perceptions of how people and different groups experience parks (Jennings & Bamkole, 2019; Lara-Valencia & Garcia-Perez, 2018; Rigolon, 2016; Wen et al., 2013; Wolch et al., 2014; Dony, 2016). For instance, Purifoy (2021) documented diminished environmental amenities and benefits for Blacks and Latinos because of a disproportionate distribution in the built environment. Similarly, Dony (2016) systematically assessed accessibility of parks using geographic information systems and found significant disparities for accessibility to parks for non-White populations. Neighborhoods with a higher concentration of minorities, such as Blacks, had lower number of parks per square mile across the city, revealing environmental injustice and disparities.

#### **1.4 Research Question**

Because of the rapidly increasing Latino population and the low park ranking, Charlotte-Mecklenburg, North Carolina is an ideal place to examine how parks can improve health and well-being of the Latino population. Further, with relatively few studies in the southeastern part of the U.S. on how natural space affects perceived well-being for an increasing Latino population, this study explores how Latino's access to, and value of, natural environments in urban parks influences perceptions of well-being and whether this relationship offers opportunities for mitigating environmental and health inequities. This study aims to contribute to a growing research area with the following central question: given documented environmental inequities for marginalized communities, how does Latino access, utilization, and interpretation

of natural spaces in urban parks in Mecklenburg County, North Carolina influence their perceived well-being.

### **1.5 Specific Research Questions:**

1. How do Latinos access and utilize natural spaces in urban parks in Charlotte, NC?
2. What experiences and opportunities do natural spaces in urban parks provide to Latino communities?
3. How do Latinos' interpretations of natural spaces in urban spaces in their communities contribute to enhanced perceptions of well-being?
4. How does the relationship between perceptions of park natural spaces and well-being vary between Latino Park users and other user groups?
5. What does an intensifying event like COVID-19 reveal about the importance of natural spaces in parks for perceived well-being?
6. How do institutional practices, such as administrative planning and management of resources, facilitate access to urban green spaces to reduce inequities for Latino populations?

### **1.6 Specific Aims:**

1. Evaluate urban park natural space utilization by Latinos.
2. Understand how Latino communities experience and interpret natural spaces in urban parks.
3. Assess if, and how, experiences and interpretations of natural urban spaces in parks influence perceptions of well-being for Latinos.

4. Establish the importance of park natural spaces for park users, focusing on the Latino experience.
5. Capture if, and how, perceptions of park natural spaces improve perceptions of well-being for park users during COVID-19.
6. Explore how planning documents and perspectives of governmental and non-profit organizations incorporate considerations for accessibility and quality of parks for Latino populations.

## **2 Literature Review**

As urbanization continues to reshape our physical and social environments, the relationship between health and urban nature takes on greater significance and urban green spaces become pivotal for promoting overall well-being. This chapter provides a review of the complex and multifaced human-environment connections between people and natural space in urban parks and the inequities in access that diminish the potential for health benefits. After documenting the importance of urban green spaces for health and well-being with an explicit connection to geography and on Latino populations, the chapter presents a theoretical grounding that informs the conceptual model guiding this research.

### **2.1 Urban Green Spaces Impact on Health and Well-being**

Natural spaces in urban areas can significantly impact social, environmental and economic policy and by extension human health (Sandifer et al., 2015). These spaces enhance human health and well-being of communities through interactions with nature that provide and promote opportunities for healthy lifestyles (Jackson, 2012; Sullivan et al., 2004). Natural urban green spaces promote biological, behavioral, social, environmental, and socioeconomic advantages (Sullivan et al., 2004). Urban green spaces contribute to a sustainable and healthy urban society, positioning parks as essential for health and well-being (James et al., 2009). In cities, green areas in parks, along with other natural spaces, offer essential human connections to nature (Sullivan et al., 2004; Elmqvist et al., 2015).

Green spaces are important amenities that enhance well-being and reduce health inequalities (World Health Organization, 2016). Conversely, if people do not have access to well-designed natural environments in urban spaces, human health will be negatively affected

(Jackson, 2012). Urban green spaces have gained attention in the last three decades because of the physical and mental benefits to city dwellers (Lee et al., 2015), including reduction of anxiety, stress, and depression (Barton & Rogerson, 2017). Similarly, Jackson (2012) notes that urban green spaces mitigate environmental problems caused by urbanization, such as traffic noise, pollution, and commercial development. Further, Twohig-Bennett & Jones (2018) described reductions in cancer mortality, mental fatigue, stress, and allergies, along with improved attention. The quality of the natural spaces also influences the benefits (Fuller et al., 2007).

## **2.2 The Importance of Natural Spaces and Parks in Urban Areas**

During the 1700s, the idea that natural spaces could deliver health advantages in urban areas began to take hold, providing reduction in diseases, increasing safe environments, and minimizing social unrest, as well as providing clean air for the city (Rhode and Kindle, 1997). Cranz (2004) divided models of parks into six periods (See Figure 2). From 1850-1890, parks were typically at the edge of the city and not often fully integrated into urban settings. Natural landscapes were associated with the countryside and used for more contemplative than recreational purposes, most commonly by the elite class. During 1900-1930, parks were influenced by the impressive quality of the design of Central Park in New York City in the mid-1800s. During this period, smaller parks were also created close to where immigrants and working classes lived because accelerated industry and inadequate sanitation infrastructure raised concerns about the limited access to clean air and nature (Pincetl & Gearin, 2013). This situation inspired social movements where people looked for a safe place for children to play. From 1930-1960, parks tended to focus on recreation more than enjoyment of natural spaces. Parks were constructed close



to suburbs with small fields frequently with a lack of social or artistic vision. This expansion of parks in suburbs followed racial and economic segregation of the city directly resulting in inequitable access to natural spaces for lower income and minority groups. The most recent park development phase focuses on sustainability and the use of parks for living in harmony with the Earth. Parks have multiple uses, including recreation, scientific education, recycling centers, arts, social integration, cultural/historic preservation and as natural areas. Ultimately, city parks provide green infrastructure necessary for the health and well-being of urban residents. They are indispensable in an era where access to natural spaces is decreasing.

Research remains rather limited regarding the tangible and intangible benefits of parks. For instance, Jennings, Larson, & Yun (2016) observed that few studies have examined the influence of parks on well-being at the city level. Similarly, Bell et al. (2014) discussed the significance of understanding and considering the diverse ways in which urban residents experience, perceive, and engage with nature, and the effects on their health and well-being. In this context, research has consistently documented that parks foster a variety of physical, psychological, and social benefits that improve well-being (Larson et al., 2016; Chiesura, 2004; Van Cauwenberg et al., 2015; Kaplan & Kaplan, 1989; Kaplan, 1995; Ulrich, 1983). Not only does natural space bring individual benefits, but these spaces also enhance social connectivity and fosters perception of community well-being (Larson et al., 2016). Furthermore, natural spaces provide ecological benefits (Keniger et al., 2013). Importantly, people connect to the natural environment bringing human values and perception of their surroundings (Bell et al., 2018; Berto et al., 2018; Fuller et al., 2007).

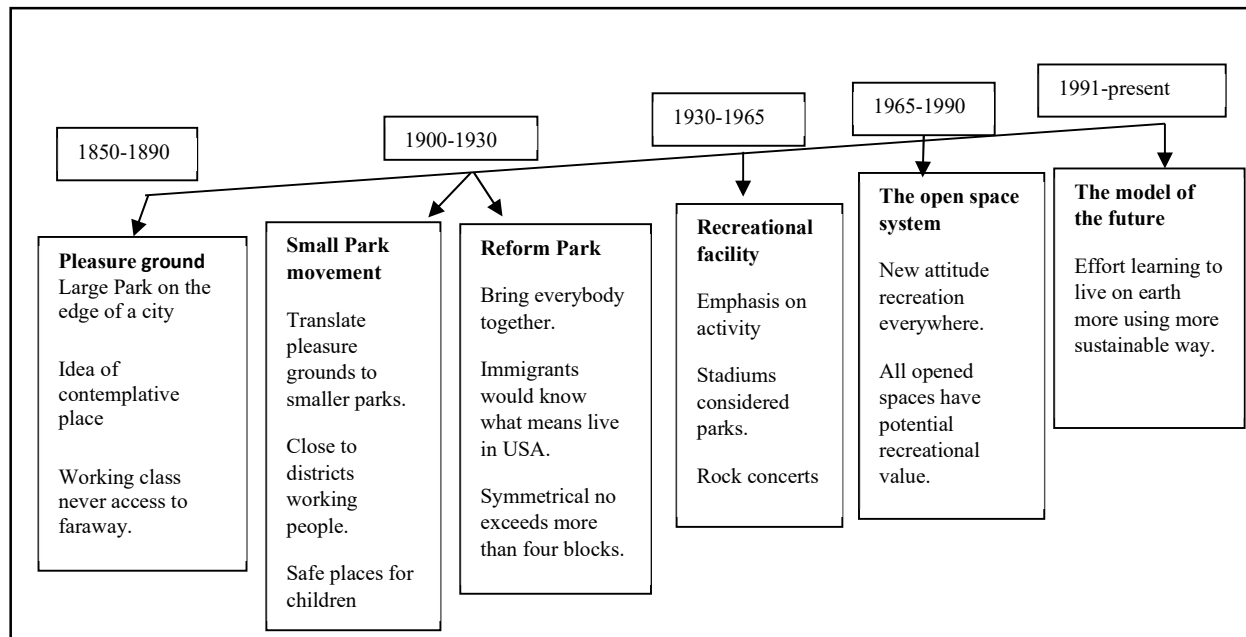


Figure 2. Development of Park Models in U.S.

Source: Adapted from Cranz, G., and Boland, M. (2004). Defining the Sustainable Park: A Fifth Model for Urban Parks. *Landscape Journal*, p-103.

Uneven access to urban green spaces has become recognized as a major environmental challenge with intensified inequities in who benefits and who does not, particularly over the last three decades (Wolch et al., 2014). Administration, planning, and management of urban green spaces results in ineffective park design embedded in histories of inequities, particularly around class and race (Jackson, 2012; Rigolon, 2016; Wolch et al., 2014c; García et al., 2016). Subsequently, people with access to parks and other green spaces have numerous advantages over those communities that do not. Communities with more limited access are typically minorities and socio-economically disadvantaged (Martin et al., 2004; Rigolon, 2016; Sefcik et al., 2019; Wen et al., 2013a; Lara-Valencia & Garcia-Perez, 2018). By extension, limited access to green spaces contributes to health inequalities that diminishes the chances of people's access to a healthy life (Jackson, 2012b; Kabisch & Haase, 2014; Jennings & Gaither, 2015).

## **2.3 The Concept of Well-being**

Before the 1950s, the dominant concept of health focused on the absence of disease and disability with little attention to overall well-being (Cooke et al., 2016). At the end of the 1940's, the World Health Organization (1948) re-conceptualized health and stipulated that should be a fundamental human right, specifying that health is a state of total physical, mental, and social well-being, rather than just the absence of illness or disability. This set the foundation for a broader concept of well-being, even though the more comprehensive term did not come into common practice for many decades. Through discussion and critique, well-being emerged and evolved as a powerful concept that captures a broader view of health (Fleuret & Atkinson, 2007).

Well-being embodies two traditions: the hedonic tradition of subjective well-being studies and the eudemonic tradition encompassing psychological function and self-realization of personal development (Diener, 2000; Diener et al., 1998). Bradburn's (1969) seminal research on well-being identified the distinction between the positive and negative effect on people's lives in their daily activities. He explored how people's everyday experiences in urban spaces positively or negatively affected people's lives from a psychological perspective (Diener et al., 1998; Ryan & Deci, 2001), making valuable contributions to mental health, social sciences and policy development. This work helped researchers begin to understand the underlying drivers of human well-being and how distinct aspects of life can influence a person's overall sense of happiness and satisfaction. Bradburn's insights laid the foundation for the measurement and study of both positive and negative aspects of well-being.

Both traditions of well-being studies establish a foundation for new ways of studying public health, architecture, ecology, psychology, geography among others to explore the

dynamics between well-being and human-environmental interactions (Diener et al., 1998).

During the 1980's, researchers in environmental psychology focused their attention on studies that documented how psychological well-being emerges from natural spaces, capturing how nature brings both physiologically and psychologically benefits (Kaplan & Kaplan, 1989; Ulrich et al., 1991).

Measuring human well-being is challenging because of the complexity of the concept (Cooke et al., 2016). Currently, there is no consensus for a singular definition of well-being (King et al., 2014) and so no one way to measure it. Historically, studies on well-being have been dominated by traditional economic arguments, such as economic progress and development (Gasper, 2007). Over time, the economic focus was critiqued as not fully capturing the essence of the inequalities and more comprehensive ways to capture, analyze and evaluate well-being have emerged (Schwanen & Atkinson, 2015).

The concept of well-being has been evolving and gaining currency among academics over the last three decades (Gasper, 2007; Summers et al., 2012; Schwanen & Atkinson, 2015). For instance, many disciplines now engage well-being for understanding the importance of natural spaces, including psychology, geography, ecology, urban planning, architecture, among others (Gasper, 2007). Some researchers now also incorporate subjective aspects of life (King et al., 2014). Consequently, the results of more recent studies on well-being have delivered new methodological approaches, which has allowed an even more comprehensive understanding of scale and contributions to well-being (Diener, 1984; Pacione, 2004; Ulrich et al., 1991).

As an example, White (2010) explored different aspects between objective and subjective elements of well-being divided into three dimensions: material, social and human. The material dimension includes practical welfare and standards of living, which are influenced objectively by

income, the type of job, and levels of consumption. The subjectivity aspect relies on satisfaction around income and the valuation of one's standard of living. The social dimension encompasses relationships and the amenities offered in environments where individuals interact, including identity, security, and social connections, and is comprised of the perception of safety, admiration for the environmental quality, and level of satisfaction due to access to services. Finally, the human dimension encompasses attitudes to life related to education and skills, physical and cognitive health, and household structure, which incorporates individual perception and satisfaction with physical and mental health, spirituality and personality. Through the lens of well-being, researchers have attempted to investigate and analyze the intangible benefits natural environments can provide, such as freedom of choice, safety, sense of place, identity, social cohesion, and cultural and spiritual values (Fuller et al., 2007; Alcamo et al, 2005). Interestingly, well-being studies often do not incorporate elements about the natural environment itself, despite the substantial role in the provision of health and well-being in the human population (Diener, 2000; Frumkin et al., 2017).

## **2.4 Well-being in Geography Studies**

Health geographers have an interest in well-being and the complex layers of history, social structure, symbolism, nature and built environment that converge at unique places that then positively or negatively affect human well-being (Kearns & Andrews, 2010; Bell et al., 2018). Gesler (1992) reviewed the concept of “therapeutic landscape” and its focus on how and why specific environments contribute to a healing sense of place. His work describes how physical and built environments, social conditions, and human perceptions converge to produce an atmosphere conducive to healing. Over the decades, health geography has continued to

interrogate the relationships between health and places, both quantitatively and qualitatively with some researchers focusing on how experiential aspects of place impact well-being (Kearns & Collins, 2010; Kearns & Moon, 2002).

Health geographers use various framings and approach well-being from different perspectives. Fleuret & Atkinson (2007) describes various approaches and lenses in health geography. Spatial and social justice emphasize inequalities in accessibility to services based on socio-demographics and standard of living. An environmental approach takes into account factors, such as air and water quality, pollution levels, exposure to disturbances, sensory experiences of locations, and the therapeutic benefits of the landscape. Social welfare interrogates the consequences of marginalization on health and quality of life. Geographers approach well-being as more than just absence of illness and disease, highlighting the implication of psychological, emotional, mental, and spiritual health on everyday life. Further, policy and structural forces are incorporated (Schwanen & Atkinson, 2014). An evaluation of well-being may be from the experience of individuals, population, social and/or institutional practices through which places and come together (Dinnie et al., 2013; Foo et al., 2015) and result in socio-spatial inequities in well-being (Schwanen & Atkinson, 2014). Well-being is a powerful, complex and highly debated concept and geography is foundational to understanding how place and space affect the experiences and production of well-being.

## **2.5 Health Inequity, Environmental Inequity, and Urban Green Spaces**

Environmental equity and justice have gained much attention over the last several decades with increasing recognition of its relevance (Jennings & Bamkole, 2019). Systematic discrimination of minorities and marginalization have resulted in inequitable access to urban

green spaces (Jennings & Bamkole, 2019; Lara-Valencia & Garcia-Perez, 2018; Rigolon, 2016; Wen et al., 2013). By extension, uneven accessibility of natural spaces (like urban parks), diminishes opportunities for all people to equally experience the associated mental, social, and physical health benefits. Further, accessibility to natural environments can influence social values, conservation, management of resources, perception and enhance human-environmental interactions (Jennings & Bamkole, 2019).

Attention to understanding and addressing inequities in urban spaces has increased over time (Jennings & Bamkole, 2019). Over the past twenty years, the inconsistent and unequal access to urban green spaces has been identified as a significant environmental issue (Wolch et al., 2014). In the U.S., major cities have attempted to address inequitable access to various resources (Jennings & Bamkole, 2019). Yet, the challenge of systematic environmental disparities persists. Likewise, in the U.S., there has been growing acknowledgment that urban green spaces are experiencing a resurgence in significance, primarily because of their crucial role social, economic, and ecological contributions (Pincetl & Gearin, 2005). Geography has contributed through leisure studies on natural spaces, physical accessibility, participation and distribution to understand the lifestyle and life choices including urban and rural (Crouch, 2006).

Byrne & Wolch (2009) wrote that “parks in cities are rarely innocuous elements of the landscape” (p:743). They described parks as crime heavens, treasured family refugees, and oases for urban residents and wildlife alike. Additionally, parks vary in size, age, design, facilities, maintenance, and patterns of use. Importantly, parks have elements such as trees, grass, pathways, water bodies, cultural and historical monuments that provide social interaction, recreational and educational facilities, reflecting diverse ideologies of nature-making or the idea of salubrious spaces (Byrne & Wolch, 2009; Pincetl & Gearin, 2013). Similarly, the presence of urban green

spaces improves local living standards because these areas offer a space for the social, aesthetical, leisure, recreational activities and a range of environmental services that enhance the life of dwellers (Costa et al., 2016).

Research on parks has used the lens of the history and ideology of parks, park access and utilization, potential of parks to foster sustainable urban livelihoods, and to assess ecosystem services of parks and how parks affect health and well-being of urban residents (Byrne & Wolch, 2009). Political ecology posits that historical and current political and economic structures directly create these inequities through influence of governance and power relations shaping the natural environment and people's relation to it (Svarstad et al., 2018). It critiques and interrogates the modes of production, development of local economies, and the accessibility to resources. Access and social disparities for groups, such as immigrants and poor minorities, lack political power and tend to suffer environmental injustices that diminish their quality of life (Byrne & Wolch, 2009; Das et al., 2017; Flores et al., 2018; Marquet et al., 2019; Rigolon, 2016; Tinsley et al., 2002; Wen et al., 2013).

## **2.6 Theoretical framework**

This section describes the theories that are guiding this dissertation: Landscape Theories and Power and Biopolitics. Landscape Theories guide the sections of the dissertation for understanding how people interact and feel about their environment and how this affects their perception, individual experiences, and beliefs. Power and Biopolitics invoke how power structures, mechanisms, and institutional practices give rise to the shape of physical and natural environment that in turn affects people's experiences.



### 2.6.1 Landscape

Landscape is a central concept for this study to guide understanding the feelings and interpretations of individuals with park settings. Landscape constitutes physical aspects along with cultural and biological elements that influence the perception of an individual's view of the natural surroundings.

The idea and ideal of landscape have long been part of geographical and philosophical debates and the nature of landscape has origins in a deep connotation of meaning. Around 1814, Humboldt first described the human and cultural aspects in the landscape and above all the aesthetical qualities, which he considered as elements to heal physically and mentally. Similarly, De la Blache (1926) described his ideas of landscape, but he differentiated and highlighted the organization of the landscape of local society, which results in regional differentiation for the description of natural and human patterns (Antrop, 2018). At the beginning of the twentieth century, the term landscape became the subject of study in geography emerging from the tradition of Humboldt and naturalists. Landscape had properties allowed for uniqueness or individuality on their physical and cultural features (Holzer, 1999). Sauer, (1925) published "Morphology of Landscape" that was a pivotal work highlighting a connection to place that embodied all of its meaning. Sauer described how the natural landscape was an intermediate for the development of cultural landscapes through fieldwork and observational techniques to understand the world. The cultural landscape was based on the settlement patterns of populations, political structure, and the housing material or food people obtained from the natural landscape, which can be based on geologic forms, rivers, climate, mountains, etc. Both phenomena explain how humans can impact and shape the landscape, and how these impacts will change over time, shaping the cultural landscape of a certain location.

By the 1980's, cultural geography focused on the relevance of singularity of individuals where every person perceives different meanings based on past and present social context (Felix, 2008). Meinig (1979) stated that landscapes are the relationship of human-environment, and their interpretation of the landscape is dictated by the individual orientations and social values. Therefore, thoughts and perception of the landscape are organized and interpreted depending on individual points of view, or social values that shape the perception and uses of the landscape (Tuan, 1979). Landscape geography sought to explore the intricate relationships between landforms, ecosystems, and the cultural elements that influence humans (Risso, 2017). It emphasized the significance of understanding landscapes' unique historical, ecological, and social dimensions. This comprehensive approach shed light on their complex and ever-changing nature. The visual representation of the landscape is redefined continually and individually, including mental and emotional constructs (Tuan, 1979). This introduced a more critical, constructive dimension which was notably absent in the earlier humanist geography (Cosgrove et al., 1989). It encouraged scholars to explore the deeper layers of meaning and perception that contribute to the multifaceted nature of landscapes, enriching our understanding of this complex and dynamic field.

Swanwick (2002) described landscape as the relationship between people and place with different landscapes having a special meaning, such as a mountain range or urban park. This results from the interplay of natural elements environment and our cultural context, which come together to shape our perception, visualization, hearing, smelling, feeling, and the associations with memories that the landscape evoke (See Figure 3). Hence, the perception of the closest environment of an individual not only is represented by the physical or material aspects present in the space, but also the social, cultural and biological factors are relevant for the individual

perception (Bourassa, 1990). Likewise, landscape preferences and perceptions are the result of the influence of shared individual experiences with respect to natural surroundings including their values and belief systems (Kaplan & Kaplan, 1989; Ulrich, 1983). The perception of landscape is learnt, selective, dynamic, interactive and individual (Lee, 1973). Landscapes expose a complex and flexible form of characterizing spatial human-environmental relationship that has permeated through political and social contexts (Cosgrove, 2006).

Currently, the concept of landscape in geography developed from the characteristics in its historical evolution, which means it inherits the modernist dualism of nature and culture (Cosgrove et al., 1989). Hence, landscape is a mark made by human progress, and also influences the perception, conception and action structures that convey space and human-environmental relationships (Risso, 2017). Therefore, landscape represents both the material and symbolism that are given to the environment by society. Hence, the landscape concept is active, changing and flexible and can readily be modified to a more relative conception of space and place (Cosgrove, 2004).

Places contribute to the meaning for people through identity and links with feelings, family life and employment and aesthetic experience (Gesler, 1992). Landscape is connected to, but distinct from, concepts like nature, scenery, environment, places, regions, and geography (Meinig, 1979). Landscape in geography focuses on the physical, human, and societal elements that influence the formation and transformation of landscapes, shaping therapeutic environments (Gesler, 1992). The healing process in a landscape is shaped by a combination of environmental, individual, and societal factors (Cosgrove et al., 1989). The concept of landscape demonstrates how the study of health and behavior in specific environments and locations can incorporate structure, agency, and time-geography (Gesler, 1992). As an extension, perceptions of health and

well-being are direct manifestations of places and spaces, which is one of the foundations that guides this dissertation.

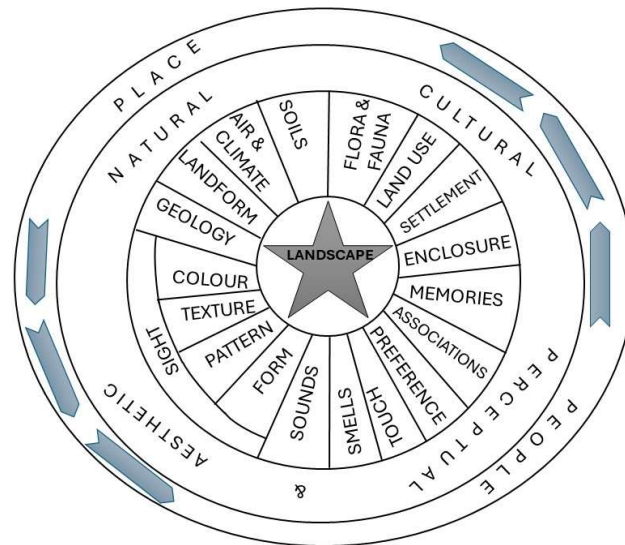


Figure 3. What is Landscape?

Source: Swanwick, (2002). Landscape Character Assessment. Guidance for England and Scotland. Edinburgh: The Countryside Agency, John Dower House, p-84

### 2.6.2 Power and Biopolitics

This dissertation utilizes power and biopolitics as part of the theoretical framework. Power can be understood in many forms as a dynamic that creates positive and negative outcomes. Foucault (1982) wrote that power produces realities and domains of subjects and power also determines practices, subjects, and knowledge. Consequently, power produces truth through discourses (Foucault, 1980). Foucault claimed that truth is not universal but is an ensemble of rules that allows the production, regulation, operation, and maintenance of systems of power. Power and knowledge are connected through various actors involved in producing discourses.

Foucault postulated that the dynamic of modern power is exercised in multiple directions through alliances that strengthen its structure. According to him, power occurs through alliances

and every relationship has power. Similarly, alliances and strategies guarantee a certain level of stability. Power both allows and limits certain social practices based on legal terms and legal control, which structures how people are regulated and controlled. Power relations are an action of a total structure in which one set of actions influences another set of actions. Hence, power is present in social relations in diverse ways with asymmetrical characteristics, which produces inequalities and unevenness (Azmanova, 2018).

Foucault (1972) argued that power is inherently connected with the social structures through which people make, comprehend, and organize the world as they know it. Power supports institutions that determine the form, behavior, and experiences of people, for example through different governmental agencies in urban planning. Therefore, access to the amenities offered by green spaces is also determined by governmental agencies that produce and manage the land-use patterns of urban and rural communities (Wen et al., 2013). Marginalized groups are a result of the political structure, ecological and economic decisions (Svarstad et al., 2018), resulting in unequal distribution and access to resources environmental benefits. In this sense, power and structure create differential access to urban green spaces among minority groups. Planning structures and processes as power structures do not fully engage marginalized groups. The power structures directly result in lack of participation, lack of inclusion in the decision-making process, and a lack of voice of the most vulnerable in the decision-making process.

Foucault's perspective highlights how power exerts control over individuals by appropriating truths and enforcing rules that align with established knowledge, thereby shaping the identity and individuality of each subject's experience. These notions of identity and individuality are shaped by a collection of experiences that subsequently manifest as our subjective behaviors. According to Foucault subjective experience relies on three different

spheres (Öner, 2016): knowledge, power, and ethics. The first sphere of knowledge is related to how individuals experience thoughts, concepts and theories that produce certain truths. Power establishes norms and roles among society. Ethics which forms the relationship of an individual with self. Power structures administrate the process of subjectivity in the context of power relations and how individuals in the society are reproduced (Öner, 2016). In other words, the term "reproduced" often refers to the way power structures, and societal norms, contribute to the formation, shaping, and perpetuation of certain ideas, behaviors, and identities within individuals. It also refers to the ways in which societal structures and power dynamics contribute to the formation or reproduction of individuals' subjectivities.

### **2.6.3 Power Exhibited in Urban Spaces**

Power structures create inequities and result in spatial configurations and access in urban areas. By extension, this means power determines who benefits from urban amenities, including urban natural spaces. Controlling the environment is in part about projecting and enforcing an expectation about what is normal. Normalcy is determined by the value and benefits of powerful interests (Gramsci, 1979). Further, power structures affect how we experience places. Modern forms of urban development impact and challenge vulnerable communities through the imposition of new technologies or certain new forms of development implemented by those in power (Agrawal, 2005). The opportunities to appreciate and benefit from natural spaces in cities are not equal across communities and neighborhoods, particularly for minority groups (Martin et al., 2004; Sefcik et al., 2019; Wolch et al., 2014). Inequitable access to urban green spaces overlaps with race/ethnicity and socioeconomic status through power dynamics (Jennings & Bamkole, 2019). The recognition of the uneven access to urban green space as a significant

environmental issue has emerged from the dynamics of power relations within the framework of governmental policy (Svarstad et al., 2018). Systematic discrimination of minorities and vulnerable populations through power structures has resulted in inequitable access to urban green spaces (Jennings & Bamkole, 2019; Lara-Valencia & Garcia-Perez, 2018; Rigolon, 2016; Wen et al., 2013). In the U.S., major cities have attempted to address equity of access to different natural resources (Jennings & Bamkole, 2019; Larson et al., 2016). Still, systematic environmental disparities persist. For instance, Latino communities are segregated by structural power barriers that persistently minimize access to quality parks (Rigolon, 2016).

#### **2.6.4 Biopolitics**

The idea of biopolitics describes the social and theoretical mechanisms that are behind massive changes that affect human life under the regimes of political power (Foucault, 2008). Biopolitics is a complex social theory that emerged from the late 1970's in opposition to biological determinism. Foucault suggested that biopolitics refers to power over life, and he utilizes the concept to explain the processes related to life, death, power, and politics and to denote a new modern form of productive power. Hence, power exists over the collective body of a population or individually, where people's bodies are considered a resource that could be used for the state power through disciplinary techniques in order to obtain a productive economic benefit (Dreyfus & Rabinow, 1983). Consequently, the powerful state began to gather information on the state of the environment, population and its problems as a way to govern and control these (Dreyfus & Rabinow, 1983).

Dreyfus & Rabinow (1983) clarified that historical and social factors, along with a certain way of understanding knowledge, have given rise to a modern phenomenon where life is

influenced by political calculations and an economy driven by statistics and norms. Commonly referred to as neoliberalism, which extends beyond mere economic concerns. Specifically, it indicates that neoliberalism is not just an economic framework but also involves the ways in which social and political factors are shaped by the market economy (Foucault, 2008). Foucault looks at biopower in two ways: a) controlling how people behave and fit into society and b) ensuring people are healthy and productive. It is a complex mix of rules, knowledge, and social norms. The first part is related to the individual body, which connects to ideas about discipline and what is considered normal or abnormal. The second refers to the social body, such as community perspectives like the public health system and more recently, the administration of the biosphere (Dean, 2010).

Foucault saw biopolitics as an instrument to regulate and govern populations under rules and norms through a range of institutional practices and knowledge, including public health, housing campaigns, responses to disease and famine, environmental issues, sexual behavior, work patterns and treatment and organization of social and physical abnormalities (Padovan, 2003). The political context of these laws, including those related to health, was driven by the gathering and analysis of statistical and numerical data on populations, focusing on frequencies and probabilities. Consequently, the powerful state provides forms of discipline that control and regulate what is considered normal for the social body, through time and space (Padovan, 2003). Through this process, power affects all physical and moral aspects of individual life and imposes its own standard of what is considered normal and acceptable (Dreyfus & Rabinow, 1983). In the same way, biopolitics describes the political practices that concern social, environmental, cultural, economic, and geographical conditions under which humans interact (Dean, 2010).



The idea of biopolitics is something that the state actively creates, and this is not simply something that just happens. Power emanates from the state through structures that intend to contribute to the social cohesion of the social body (Foucault, 1980, 1982). Power from the perspective of Foucault is not only repressive or dominating but is also a productive and a positive force in the society (Foucault, 1980).

This research examined the strategies of how power affects the experiences and perception of Latino residents, focusing on more powerful governmental authorities and non-profit organizations of Mecklenburg County. The interventions of these organizations require a certain level of knowledge that is directed towards specific goals. Foucault (2008) calls this the power dynamics that occur within determined domains of knowledge, which produce determined practices and subjectivities. In this case, urban green spaces are administered by these agencies that work using power and biopolitics to enforce policies, norms, and laws that benefit themselves. This results in inequitable power relationships that lead into unfair practices among non-White population. The lens of power dynamics can provide insights into subjectivities and recommendations for decision makers to reduce the inequities in access.

### **2.6.5 Conceptual Framework**

To grasp the interconnections among the concepts guiding this dissertation, a conceptual model was developed to illustrate the relationships among the theoretical ideas guiding this dissertation (See Figure 4). This conceptual framework distinguishes between various levels of influence and interaction of community and individuals, adapted from the health ecology model (Bronfenbrenner, 1979; Stokols, 2000); the multiple levels of this model are the factors and

elements that create opportunity and obstacles for the health and well-being of individuals and their interactions with the environment.

The socio-ecological model of human interactions conceptualizes relationships between individuals and the environmental determinants of public health. It provides a guide for studying complex community problems and understanding how problems can be mitigated with different interventions (Reifsnider, 2005). One of the principles of socio-ecological model is that the healthfulness and well-being of individuals is assumed to be influenced by several elements of both the physical and social environment. Further, the status of health among individuals and groups is affected by a complex set of variables including unique personal aspects and external conditions (Stokols, 1992). The health ecology model is directly relevant to the intersection of urban planning and public health and provides a guide for understanding the social determinants of health beyond individual characteristics that produce health and well-being (Marmot, 2005).

The adapted conceptual model has multiple layers, representing power structures as well as various types of resources an individual has. In other words, an individual is embedded within a particular context that emerges from power structures with culturally situated opportunities and constraints. An individual has natural capital (parks and green spaces) and a relationship with those amenities and resources (perception and experience of landscape). Across these different levels, there is a thick arrow representing the components of power structure that affects the quantity and quality of access to green spaces and parks and in turn affects perception of well-being. Ultimately, inequities are revealed by variations in access. Inequities can be mediated by persistent commitment by planning and policies to understand the needs of Latino populations through participation and meaningful involvement. On the other hand, a lack of participation will translate to a persistent cycle of disenfranchisement. Altering the power structures is necessary to

ensure park planning and corresponding policies that produce healthy outcomes and increased well-being for all, including the Latino community.

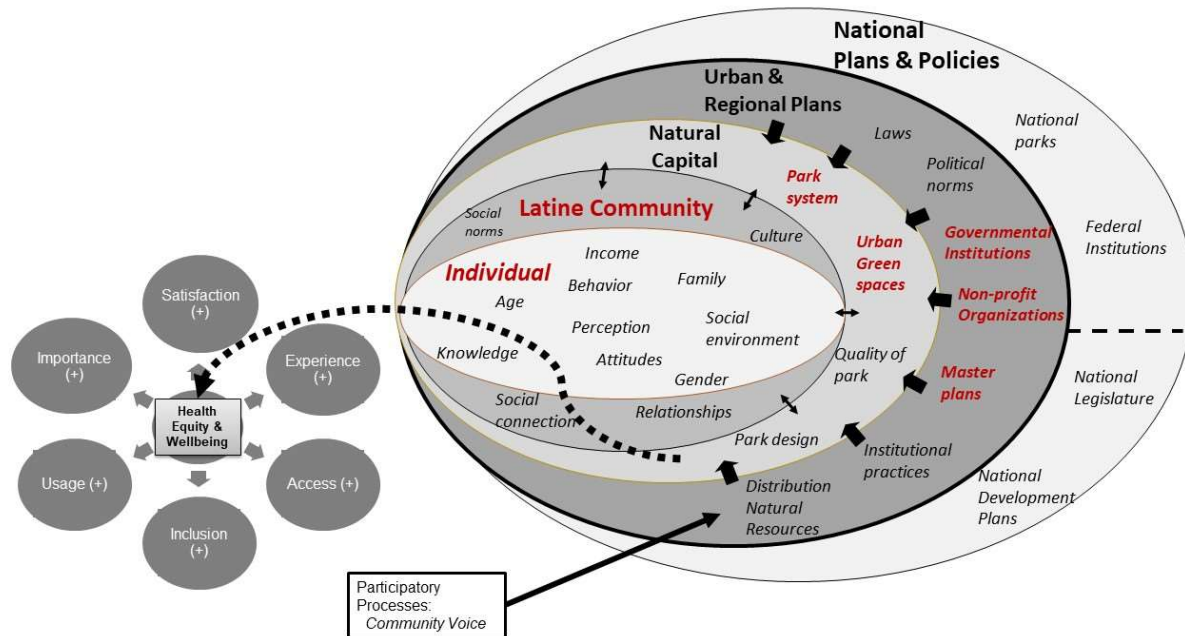


Figure 4. Conceptual Model

Source: Adapted from the learning ecology model of Bronfenbrenner (1979); Stokols, D. (1996). Translating social ecological theory into guidelines for community health promotion.

### 3 Methodology

#### 3.1 Research Design and Methodology

In order to understand the importance of natural spaces in parks for Latino well-being in Charlotte-Mecklenburg, North Carolina, this research utilized a mixed methods approach including surveys, interviews, and content analysis. Each of the methods complement one another to allow a robust evaluation and take advantage of the strength's different approaches (Ivankova et al., 2006) to more comprehensively capture interpretations of natural spaces that influence perceived well-being, and what factors contribute to inequities for Latino park usage. The research was conducted in three distinct phases that independently capture unique aspects of

Latino Park usage and access while also providing the opportunity to compare the findings.

Table 1 outlines each phase with the corresponding specific aim/research question, theoretical framing, data sources, and data analysis. Ultimately, understanding how Latino populations view natural spaces and parks, along with access opportunities and challenges, can guide park planning and policies around green spaces in urban areas and lead to creating a park infrastructure for all residents. The chapter is structure follows the sequence of research phases, followed by a description of how the three phases are triangulated.

- Phase I captured data from people visiting one of the most popular parks in Charlotte (Freedom Park) in order to compare the diverse visitors with Latino park users. Phase I was conducted in person at the site utilizing the health pandemic safety measures as determined by the North Carolina Government, Mecklenburg County Parks and Recreation, and UNC Charlotte during the Fall of 2020 (September-December).
- Phase II occurred September-December 2022, surveying a broader Latino population to capture perspectives of park users and non-users in Mecklenburg County through telephone calls, zoom calls or email surveys.
- Phase III occurred December 2022-January 2023, conducting a content analysis of master parks and recreation plans from 2015 and 2020 and conducting key informant semi-structured interviews.

Table 1. Overview of Research Components

<b>Phase 1: Survey of Freedom Park Users</b>	
Specific Research Question	<ul style="list-style-type: none"> <li>• How do Latinos access and utilize natural spaces in urban parks?</li> <li>• What experiences and opportunities do natural spaces in urban parks provide to Latino communities?</li> <li>• How do Latinos' interpretations of natural spaces in urban spaces in their communities contribute to enhanced perceptions of well-being?</li> <li>• How does the relationship between perceptions of park natural spaces and well-being vary between Latino Park users and other user groups?</li> <li>• What does an intensifying moment like COVID-19 reveal about the importance of natural spaces in parks for perceived well-being?</li> </ul>
Theoretical Foundation	Biopolitics, Landscape
Hypothesis/Proposition	<ul style="list-style-type: none"> <li>• Park access has a variety of challenges.</li> <li>• Latino populations deeply value parks and park access</li> <li>• Parks and natural space enhance Latino perceptions of well-being.</li> <li>• Latino and non-Latino Park users will both value natural spaces with enhanced well-being with some variability between groups</li> <li>• Natural space in parks increased a sense of well-being during the pandemic</li> </ul>
Data Source	In-person survey; photo elicitation
Analysis	Descriptive statistics, Generalized Linear Model (GLM), inductive qualitative analysis
<b>Phase II: Survey of the Latino Community (park users and non-users)</b>	
Specific Research Question	<ul style="list-style-type: none"> <li>• How do Latinos access and utilize natural spaces in urban parks in Charlotte, NC?</li> <li>• What experiences and opportunities do natural spaces in urban parks provide to Latino communities?</li> <li>• How do Latinos' interpretations of natural spaces in urban spaces in their communities contribute to enhanced perceptions of well-being?</li> </ul>
Theoretical Foundation	Biopolitics; landscape
Hypothesis/Proposition	<ul style="list-style-type: none"> <li>• Park access has a variety of challenges.</li> <li>• Latino populations deeply value parks and park access</li> <li>• Parks and natural space enhance Latino perceptions of well-being</li> </ul>
Data Source	Online and virtual survey; photo elicitation (adjusted Freedom Park Survey with photos)
Analysis	Descriptive statistics, Generalized Linear Model (GLM), inductive qualitative analysis
<b>Phase III: Plan Content Analysis &amp; Semi-structured Interviews</b>	
Specific Research Question	<ul style="list-style-type: none"> <li>• How do institutional practices such as administrative planning and management of resources impact the access to quality urban green spaces to reduce inequities that affect Latino population in Mecklenburg County?</li> </ul>
Theoretical foundation	Biopolitics
Hypothesis	<ul style="list-style-type: none"> <li>• Institutional practices such as planning decisions can affect the access and equity of Latino population of Mecklenburg County</li> </ul>
Data sources	Semi-structured interviews; Mecklenburg County Parks and Recreation Master Plans, 2015 and 2020
Analysis	Qualitative content analysis

### **3.2 Research Study Location**

The Mecklenburg County Department of Parks and Recreation manages 21,000 acres and associated facilities distributed across parks and nature preserves. Parks come in all shapes and sizes ranging from small neighborhood parks to large regional parks. Mecklenburg County Parks and Recreation classifies parks into categories based on their amenities and facilities, the number of citizens the park is intended to serve, driving time, and the uses assigned to the parks (Comprehensive Park and Recreation Master Plan, 2015). Each park is classified as either a regional park, community park, neighborhood park, or school park.

For Phase I, Freedom Park was selected. Freedom Park is in the central part of Charlotte-Mecklenburg and is one of the most visited parks in the region. According to the Department Mecklenburg County Parks and Recreation, this park has a high number of visitors, attracting approximately 50,000 visitors monthly. As a regional park, its 98 acres includes a wide range of amenities drawing people from across the county and beyond. It is popular among a cross-section of Charlotte residents from different nationalities and ethnicities. Located along the Little Sugar Creek Greenway, it boasts natural areas with trails and scenic natural landscapes with a variety of flora and fauna. It also has a lake with a fountain that acts as a focal point in the park. The Figure 5 shows the location of Freedom Park and the distribution of the area's Hispanic population, which is concentrated in the eastern and northern parts of the city. Of note, while this park is extremely popular for diverse populations in a city that is less than 50% White, it is situated in a higher income, predominately White neighborhood in the center of the city and county. Surveying at a park offers an opportunity to understand the importance of different aspects of the park for the Latino Park users and capture similarities and differences between Latino and non-Latino Park users.

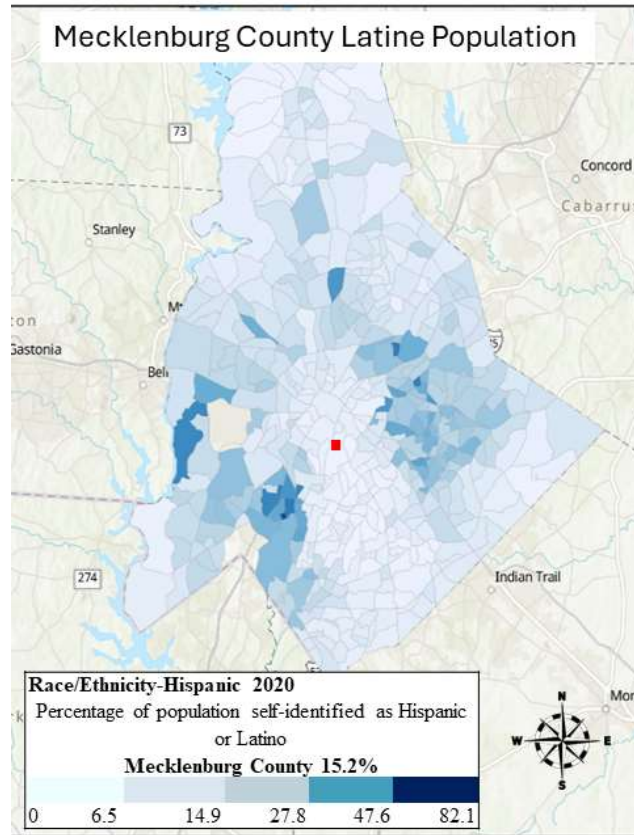


Figure 5. Distribution of Hispanic Population in Mecklenburg County.  
 Sources: Bradley, T. (2023). Charlotte-Mecklenburg Quality of Life Explorer Map. ArcGIS Online. Data sourced from the Quality-of-Life Explorer dataset.

### 3.3 Data Collection: Survey

Both Phase I and Phase II utilized nearly the same survey (aside from referencing Freedom Park) and photo series for the photo elicitation. The primary difference was that in Phase I at Freedom Park, the survey with the photos was administered in person and the broader Latino survey was administered online or virtually. The recruitment strategy and sampling for each was also different.

### **3.3.1 Survey and Photo Elicitation**

The survey instrument was integrated from several sources, including a validated instrument developed by the National Park Survey (NPS), the Millenium Ecosystem Assessment, data collection questions used to gather community input during the development of the Mecklenburg County Parks and Recreation Plan, and a standardized well-being index. The NSP survey instrument was designed to gather information about visitors, trip characteristics, visitor spending in gateway communities, visitor perceptions of park experiences, visitor attitudes toward park management, and visitor satisfaction with park services and facilities (Natural Resource Report NPS/NRSS/EQD/NRR, 2019). Park activities for the Freedom Park Survey were derived from the classification of cultural services based on Common International Classification of Ecosystem services (CICES) and Millenium Ecosystem Assessment (2005) founded by (Hirons et al., 2016) P:5.5.

The survey instrument (Appendix I) consists of ten sections: 1) usage, 2) overall interpretation and satisfaction of urban green spaces, 3) accessibility, 4) experiences in the park, 5) importance of park experience, 6) importance of natural spaces, 7) perception of well-being, 8) park use and significance during confinement order COVID-19, 9) socio-economic and demographic variables, and 10) photo elicitation. The first seven survey sections contain a series of questions related to the experience and interpretation of natural spaces and the importance of park natural spaces for users, including some open-ended questions. Sections 1-6 employed a Likert scale, with response options including "Strongly agree," "Agree," "Neutral," "Disagree," and "Strongly disagree." The Personal Well-being Index (PWI) is a self-report questionnaire used to measure subjective well-being or life satisfaction. PWI has been used in a variety of settings and populations, including clinical and non-clinical samples, and has been found to be a



reliable and valid measure of subjective well-being (Wills & Wills, 2009). Section seven of the document contains the Personal Well-being Index (PWI), a composite index comprising seven dimensions: standard of living, health, achievement in life, relationships, safety, community connectedness, and future security. Collectively, these elements aim to assess an individual's overall life satisfaction (International Wellbeing Group, 2013). Because of the timing, the in-person park survey included COVID-19 related questions to characterize the role and value of natural spaces in parks during stay-at-home orders. The broader survey did not include these questions. Demographic information was collected almost at the end of the survey, including age, sex, ethnicity, years of residence in Charlotte-Mecklenburg, educational level, and civil status.

The last section of the survey included photo elicitation. Photo elicitation is one of the most widely known and frequently used techniques to interpret the symbolic environment for the subject (Alexander, 2013). Photo elicitation can provide more relaxed participation in the study by exploring images. This method can utilize videos, paintings, photos, or other types of visual representation during an interview. The use of visual information is valuable for capturing how participants attribute meaning to natural environments and how they describe them, or not, in terms of health and well-being. The eight images depicting different types of park spaces provide valuable information on positive or negative interpretations of park spaces (Appendix II). A series of pictures of different amenities in parks were presented to the participant who was asked to order them by their preference. Then, the participant picked their favorite image and described why it was their favorite and how that picture makes them feel.

The survey was administered in English or Spanish based on the respondent's preference. Due to lack of resources to translate into languages other than English and Spanish, the

questionnaire was only administered in these two languages. Hard copies of the questionnaire were provided at Freedom Park and the broader survey was administered virtually. Each person filled it out individually.

### **3.3.2 Phase I- Recruitment and Sampling: Freedom Park Users**

Participants over the age of 18 years old were recruited September to December 2020 by the researcher at each of the sampling locations at Freedom Park, denoted with a yellow triangle in the site (See Figure 6). The recruitment locations in the park included: three at the entrances of the park and one parking lot in the center of the park. The researcher spent 1 hour at each site and then moved to the next sampling location in a counterclockwise manner starting by the north entrance (close East Blvd.).

During the recruitment at the sampling locations, the researcher intercepted one individual or a group every fifth individual/group. If the fifth individual or group declined, then the researcher interviewed the next individual or group who agrees. Once a survey was completed, the fifth individual or group was selected to administer the next survey. This process continued for one hour at each location. Since each survey took about 10 minutes to complete, the target was to have approximately four surveys completed per hour, per sampling location.

The researcher greeted them and invited them to participate in the study. The researcher briefly explained the purpose, stating that it is a UNC Charlotte Research Study. For groups of 2 to 10 people, each member of the group was asked if they wanted to participate. For people arriving by car, every fifth individual or group that arrived at the parking lot location was asked if they wanted to participate in the survey. Each participant was provided with a hard copy of the questionnaire in either English or Spanish, and with a sanitized pencil. This recruitment

procedure lasted from Monday to Friday from 9:00 am –12:00 pm and in the afternoon from 2:00 pm to 7:00 pm, as well as during weekends from 8:00 am- 7:00 pm.

This research utilized systematic convenience sampling as a low-cost option for recruiting park users. Based on 50,000 average monthly visitors to Freedom Park, using a margin of error +/-5% and confidence interval level of 95%, the sample size for this study was 382 participants.

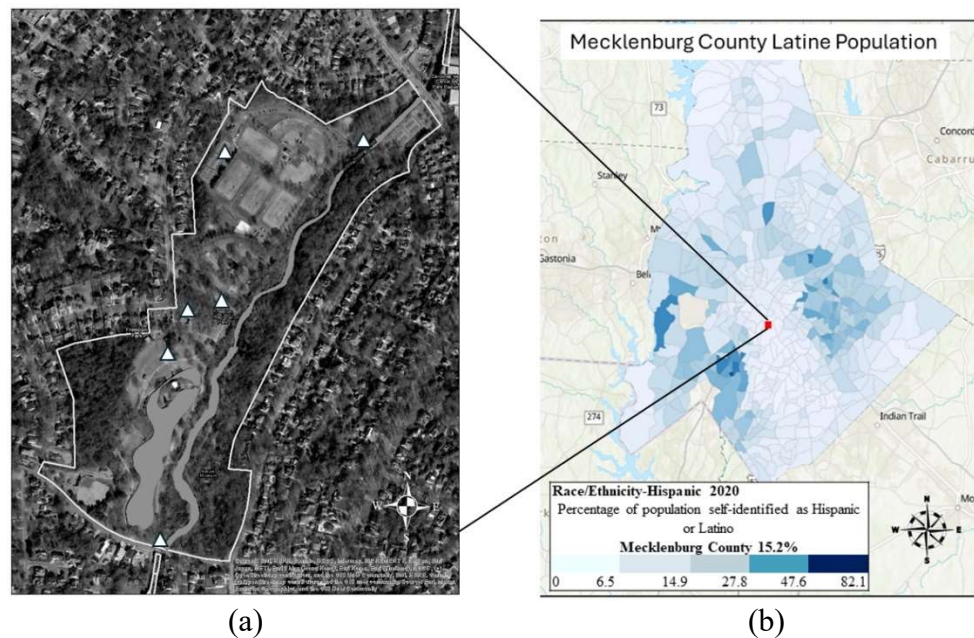


Figure 6. Research Site Locations and Freedom Park Map Location.  
Source: (a): Own authorship creating using ArcGIS Desk 10.8; (b): Bradley, T. (2023).  
Charlotte-Mecklenburg Quality of Life Explorer Map and dataset. Created using ArcGIS Online.

### 3.3.3 Phase II- Recruitment and Sampling: Latino Community Survey

This survey recruitment utilized a targeted, systematic sampling for recruiting to attempt to get a more representative Latino sample. Based on an estimated 10,000 people reached through community groups, social media groups and potential customers of grocery stores and a confidence interval level of 95% and margin of error +/-5%, the goal was 370 participants.

This survey was intended to capture experiences and perceptions of parks and green spaces beyond those utilizing a single park. Participants over the age of 18 years of age were recruited from community organizations serving the Latino population in Mecklenburg County, as well as Latino social media platforms, customers of Latino supermarkets and events. Using organizations and resources that serve the Latino community allows the best opportunity for reaching broader representation across Mecklenburg County and capturing different perspectives across a diversity of experiences (See Table 2). One of the requirements to participate in the survey was that individuals should reside in Mecklenburg County and identify themselves as being of Latino origin.

Community organizations were selected based on countywide membership, using a multi-pronged effort for recruitment targeting organizations and resources utilized by the Latino community. Firstly, leaders and directors of Latino-serving groups were contacted with an email to introduce the study (see Appendix II *email recruitment*). For those who agreed to participate, the researcher provided a link with the survey. When emails were obtained for sending the link, they were not connected to the survey response nor retained for any purpose. Another strategy for recruitment included distributing information through six Latino social media groups in Mecklenburg County. Currently, access to information about human interactions from social media networks enables the possibility of utilizing this data to gain insights into the diversity of social behaviors, preferences, and activities of individuals (Piña-García, 2016). These social media groups were selected for the connection they have with a broad Latino community of residents. The invitation for participants in the study consisted of posting the information of the study on the portal of the Latino social media groups. This post was running for 50 days during September-December 2022. Finally, the last strategy for the recruitment of participants was to

distribute recruitment flyers at five Latino grocery stores. These stores were selected based on their geographic location across Mecklenburg County (See Figure 7). Studies conducted on Latino customers in grocery stores reveal that within the United States, they tend to patronize independent food stores more often than large corporate supermarkets. Additionally, they make store visits approximately three times more frequently than the overall US population (Sanchez-Flack, 2016).

Participants were recruited at the entrance of the two stores. Each store has 2 main entrances, this will make a total of 4 sampling locations in total. The interception of individuals or groups was every fifth individual/group. Then the researcher presented himself and he explained the reason for the study and asked if they wanted to participate. If the individual or group declines, then the researcher asks the next individual or group who agrees to participate. If the individuals agree to participate, the researcher collected their email address to share the survey link. This method of recruitment continued for 40 minutes at each entrance of the store for a total of 4 hours per day. The recruitment occurred from Monday to Friday in the morning from 10:00 am –12:00 pm and afternoon 4:00 pm-6:00 pm, and weekends from 10:00 am- 4:00 pm, during September and December 2022.

In case the potential recruits did not have access to the Internet, they were offered an option to complete the survey by phone, though the photo elicitation was then eliminated. The researcher scheduled and set up a time and day to conduct the survey. Like with email addresses, the phone number was only used to contact the participant; it was not linked to the responses and was deleted after the survey was complete. This allowed for participation by a larger group of people who may not be as technologically savvy, have low literacy, cannot afford data plans on their phones, or may not have access to the Internet. In total 3,000 flyers were distributed

through various community hubs. Additionally, Camino, a local non-profit who serves the Latino community, agreed to distribute through their "Care Message System," reaching out to 6,227 individuals. These diverse methods were instrumental in ensuring a broad and representative sample for our research on urban green spaces and their impact on the Latino community's well-being in Mecklenburg County.

Table 2. Latino Groups in Mecklenburg County Used for Recruitment

<b>Community Groups</b>	<ul style="list-style-type: none"> <li>• Latin Americans working for Achievement.</li> <li>• Latin American coalition</li> <li>• Que Pasa media network Charlotte</li> <li>• ENLACE</li> <li>• Organization # 2 Community Center</li> <li>• Organization # 2 research center</li> <li>• Organization # 2 health center</li> <li>• Organization # 2 Church</li> <li>• Nuestra Señora de Guadalupe</li> <li>• Saint Mark Catholic Church</li> <li>• Health Latino Women breast Cancer prevention</li> <li>• Latinos Aventureros</li> </ul>	
<b>Social Media Groups</b>	<ul style="list-style-type: none"> <li>• Comunidad Hispana Charlotte</li> <li>• Charlotte Latino Community</li> <li>• Latinos in Charlotte</li> <li>• Profesionales Latinos en Charlotte</li> <li>• Latino faculty UNC Charlotte</li> <li>• LASO UNC Charlotte</li> </ul>	<ul style="list-style-type: none"> <li>• El mercadito de Charlotte</li> <li>• Bueno, bonito y barato Charlotte</li> <li>• Nuestra senora de Guadalupe</li> <li>• Arriba FB</li> <li>• CAMINO Vida</li> </ul>
<b>Grocery Stores</b>	<ul style="list-style-type: none"> <li>• Compare Foods</li> <li>• Pasteleria Odalys</li> <li>• El Mariachi Supermarket</li> </ul>	<ul style="list-style-type: none"> <li>• Las tres marias store</li> <li>• CAMINO store</li> </ul>

The map in Figure 7 displays the distribution of the Hispanic population in Mecklenburg County, merging through its neighborhoods and communities. The map reveals clusters and

dispersion patterns of the Hispanic population. Dotted across the county there are research spots strategically chosen to collect valuable data on this demographic. These research spots include Latino grocery stores, and adjacent to these are Latino community groups, which serve as bases of social cohesion and support, where the researcher engage in conducting surveys.

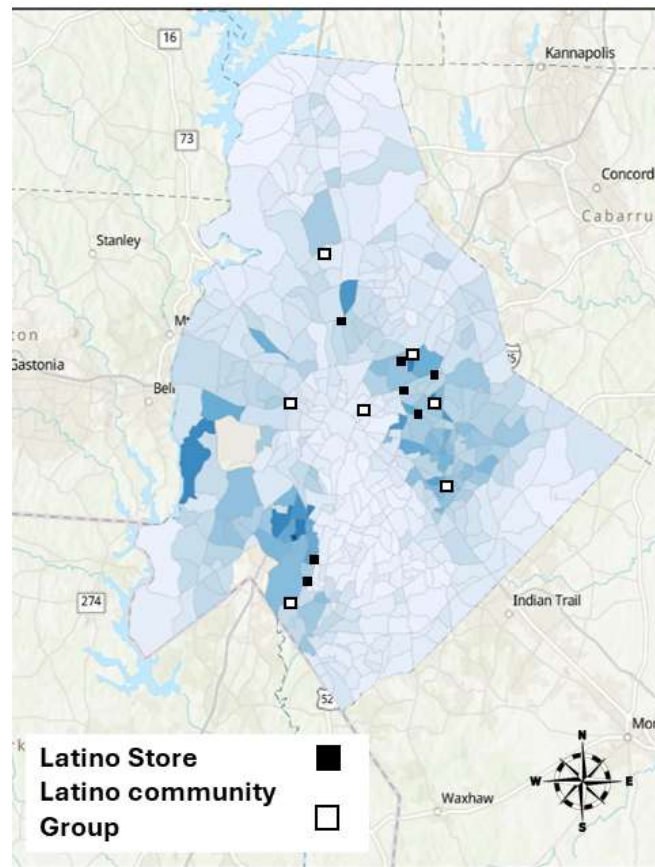


Figure 7. Location of Research Groups and Hispanic Percentage

Source: Own authorship research locations created using ArcGIS online; Bradley, T. (2023). Charlotte-Mecklenburg Quality of Life Explorer Map. Data sourced from the Quality-of-Life Explorer dataset.

### 3.4 Piloting, Challenges, and Adjustments to Survey Data Collection

Pilot testing is a small study to test protocols, data collection and other strategies in preparation for a larger study. This can help to identify problems and deficiencies in the research.

The survey was piloted with 10 participants in August 2022. This offered insights into both recruitment strategies and allowed adjustments to the survey instrument. The broad Latino Survey was piloted the first week of August 2022, capturing 10 surveys through Latino social media groups (5) and from a grocery store (5), which highlighted the need for unique recruitment strategies. This did not result in many changes to the survey.

The greatest adjustment surrounded the initial utilization of the term "Latinx". Respondents expressed their dissatisfaction with the term "Latinx" and instead opted to identify themselves as "Latino" or "Latina." When asked, participants felt that "Latinx" deviated from the linguistic norms of the Spanish language, which plays a central role in their cultural identities. Consequently, they viewed the term as an imposition that did not accurately reflect their lived experiences. Secondly, participants encountered difficulties in the pronunciation and understanding of "Latinx," further undermining its acceptance. There was a notable lack of familiarity with the term among the surveyed population, as it is perhaps more widely used in academic and activist circles rather than being embraced by everyday individuals. As a result, the decision to utilize "Latino" or "Latina" instead of "Latinx" in the survey. Other smaller adjustments included altering the flow/ordering of the questions and offering opportunities to ask for clarification for the in-person surveys.

In terms of administration, there were some adjustments and challenges. For example, the Freedom Park Survey was planned to start earlier in the fall, but the presidential election complicated data collection. Thus, the survey was delayed and fortunately the weather cooperated with many warm and sunny days into December, resulting in good participation. Also, many people expressed an interest in follow-up because of their interest in the parks; information about the Mecklenburg County Parks and Recreation Plan was distributed. For the



in-person survey, many people were running, doing yoga, bicycling, or engaging in activities on the court, among other activities, not wanting to be interrupted. The survey took up to ten minutes, so some people refused because of the time. And, people might have felt unsafe for a variety of reasons that an unknown person was approaching them, reducing participation.

Recruitment for the broad survey turned out to be incredibly challenging, likely due to the virtual and online nature of both recruitment and the survey. In the end, two Latino community groups extend their assistance to distribute the information of the project through they social media account, including an organization that did not want to be identified and Nuestra Señora de Guadalupe after mass. Through these two groups, 200 flyers were distributed. Additionally, flyers were distributed at Hispanic Heritage Month events during fall 2022 across Mecklenburg County (See Table 3). An additional 3000 recruitment flyers were distributed, with unfortunately few responses.

Table 3. Latino Events in Mecklenburg County 2022

Month	Event	Time and place
September 17	“32nd. Festival Latino-Americano”	Symphony Park, 12-9pm
September 24	“Organization # 2 fiesta y futbol”	American Legion memorial stadium, 3-6 pm
September 25	“Annual Kermes”	señora de Guadalupe 9am-5pm
September 26	“Bailes Latinos UNC Charlotte UNC Charlotte”	UNC Charlotte, Student union room 340, 7-9pm
September 27	“Zumba classes”	El buen samaritano de Lake forest, 10-11am
September 28	“Charlotte FC Block Party” Celebrating Hispanic Heritage”	8600 McAlpine Park Drive, Charlotte, NC, 6:30 to 9 p.m.
October 13	Affinity gathering: Hispanic and Latinx heritage month	UNC Charlotte Atkins 146 11:45 AM- 12:40 PM
October 14	Huntersville Latino night	Veterans Park (Huntersville) 5-9pm
October 15	Festival Hola Charlotte	Uptown Charlotte along Tryon Street, 12-6pm
October 19	ENLACE Meeting Monthly General membership. Charlotte-Mecklenburg Community Relations	Charlotte Center for Legal Advocacy 8 to 9:30 am
October, 20	Voto Latino UNC Charlotte UNC Charlotte	UNC Charlotte, CHHS 281, 7-8 pm
October, 22	BORICUA FEST	Cabarrus Brewing Company 2-10 pm
October, 22	Festival international Concord	Downtown Concord 12-6pm

### 3.5 Ethical considerations

Approval was obtained from the Institutional Review Board (IRB) from UNC Charlotte (IRBIS-21-0069). The Department of Mecklenburg Parks and Recreation approved the data collection in Freedom Park during the fall of 2020. No names or individually identifiable data were collected. Participants were advised that participation was voluntary and if reflecting on current or past experiences caused any emotional distress, completion of the survey could stop.

### **3.6 Confidentiality of data**

The research data was stored using *Microsoft Excel* and *Word* file formats on a UNC Charlotte *Google Share* for security and back-up. Additionally, while hard copy surveys each had a code based on date time, beyond basic demographics, no other identifiable information was captured.

### **3.7 Risks of Participation**

There was minimal risk to participate in this research. The researcher asked questions mainly about the perception of well-being obtained from nature and basic demographic questions and questions about participation in nature related activities in the area. This study did not have direct benefits to the individual interviewed. Nonetheless, it does have broader benefits to informing how urban green spaces can benefit its users and what dimensions are influencing its visitors.

### **3.8 COVID-19 Precautions**

The in-person survey followed the recommendations on the health policy orders of North Carolina and Mecklenburg County Parks and Recreations. Restriction orders that included social-distancing and avoidance of congregation at the parks due to COVID-19 were in place. Therefore, the recruitment of people during the survey occurred at least six feet apart, avoiding handshakes and other physical contact. The interviewer wore a face mask. The collection of data during this study utilized a hard copy of the survey for individual subjects. In case there are between 2-10 people groups hard copies were provided with a disinfected pen and at the time of

return this was cleaned with disinfectant wipes. Even if it is not required by the policies to use masks at the parks, the researcher always wore one for the safety of both. All other data collection was virtual.

### **3.9 Data Analysis Plan**

Both the Freedom Park User Survey (Phase I) and the Broad Latino Survey (Phase II) were analyzed in the same way with two distinctions. Phase II did not include questions about the pandemic. The comparison groups were also different between them. Phase I evaluated Latino and non-Latino Park users for similarities and differences in access, preferences, perceptions and connections to well-being. Phase II was intended to compare Latino Park users and non-users.

All survey data were meticulously reviewed, entered (for the paper survey in Phase I), transcribed and assessed for completeness and quality. Surveys with less than 70 percent of the required questionnaire responses were omitted from any analysis. Data were checked to identify errors, missing values, and inconsistencies through a systematic quality control process. This involved the selection of every tenth survey from the hard copies in Phase I to review quality of data entry. Statistical analysis was conducted using *IBM SPSS Statistics. Version 27, 2020.* Software.

#### **3.9.1 Descriptive Statistics**

The analysis utilized basic descriptive statistics to summarize the data, including calculating means, medians, standard deviations, and percentile. For all questions with open-ended response options, comments were transcribed (and translated if necessary). The responses to open-ended questions were coded to identify categories, with emerging themes having similarities or

substantive relationships. Likert scale responses were aggregated into a composite index for each group, including "experience at the park," "usage and importance of the park," "overall satisfaction with the park," and "priorities of investment." These served as consolidated measures that facilitated a comprehensive assessment of participants' perceptions and preferences related to the park. The sections that utilized a Likert scale coded the responses as: strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, strongly agree = 5. Each statement for each of composite index was evaluated using the Likert scale scores for these individual items were then combined to produce a composite index. This single value captured the overall park experience for each participant, enabling a comprehensive analysis of how various aspects of park experiences influence overall satisfaction and engagement. To derive a comprehensive measure of "experiences in the Park," "usage and importance of the park," "overall satisfaction with the park," and "priorities of investment." Then the scores for each indicator are summed to produce an overall score for each group. This score can be used to compare the performance or well-being of different groups within a larger population. These responses to all the items were aggregated to form a composite index. This index served as a whole value reflecting participants' overall experiences and perceptions of the visitation to the park.

The Personal Well-being Index (PWI) is comprised of eight items of satisfaction, each one corresponding to a quality-of-life domain, including standard of living, health, achievements in life, relationships, safety, community-connectedness, future security, and spirituality (International Wellbeing Group, 2013). Each question uses an eleven-point response scale from "0" to "10", with "0" indicating "Completely dissatisfied" and "10" representing "Completely satisfied". The midpoint of the scale coded "5" means "Neutral" or "Not dissatisfied, not

satisfied”. The ratings for each item are then averaged to produce an overall score for the individual's subjective well-being.

### **3.9.2 Chi-square Test**

The Pearson’s chi-square test of independence was used to compare relationships between groups for categorical variables. In this instance, each variable was compared between Latino and non-Latino groups for the Freedom Park Survey and for Latino Park users and non-users for the broader survey. While typically employed for nominal categorical data, the versatility of the Chi-square Test extends to ordinal categorical data like collected in the surveys. The Chi-square Test does not rely on assumption of a normal distribution. This test is meaningful for understanding statistical differences between groups for each of the Likert responses. This test is utilized to determine if there is a statistically significant difference between the means of each group using 95% of confidence and alpha .05 will indicate the criterion for statistical significance of the results.

### **3.9.3 MANOVA**

The multivariate analysis of variance (MANOVA) was utilized to statistically assess group differences for the interval and ordinal variables. This test reveals whether the aspects of the interaction with natural spaces are the same between Latino Park users and non-Latino Park users. It also offers a way to see how interactions and perceptions of natural space and park use influences perceptions of well-being between groups.

The analysis consisted of a Multivariate Analysis of Variance (MANOVA) employed to assess the impact of multiple dependent variables on the independent variable, which in this case

related to the groups consulted defined by ethnicity (Latino or not-Latino). The dependent variables included in the analysis were 'Overall Satisfaction of Parks and Natural Spaces in Mecklenburg County', 'Experiences in the Park', 'Usage and Importance of Park', Well-being Index and 'Priorities for Investment in Mecklenburg County Parks & Recreation'.

The analysis began with the preparation of the dataset, ensuring that all variables were correctly formatted and scaled. Missing data were addressed, only rows with more than 70% no missing values across any of the variables included in the analysis are used. Those responses below were considered eliminated for the analysis and potential outliers were evaluated for their impact on the analysis.

The MANOVA was then conducted to investigate whether there were statistically significant differences in the multivariate means of the groups defined by ethnicity (Latino and non-Latino). This involved examining the interaction between the dependent variables and the ethnic categories as a combined dependent variable. Initially, descriptive statistics were generated to provide a comprehensive summary of the data, including means and standard deviations for each dependent variable, offering a foundational understanding of the dataset's characteristics. Following this, the lambda test, specifically *Wilks' Lambda*, was employed as a key multivariate test statistic to determine the likelihood that the observed group differences across the dependent variables were due to chance. A lower *Wilks' Lambda* value indicated that the model explained a significant portion of the variance in the data. The significance of Wilks' Lambda was then evaluated against a chosen alpha level, commonly set at 0.05, although other alpha values such as 0.01 or 0.10 were used to check significance of the test. Subsequently, analysis between subjects was conducted to examine the differences among the groups on each dependent variable individually. This step was critical for identifying specific variables

contributing to any significant overall multivariate effects observed, thereby providing deeper insights into the nature of the group differences. This test is instrumental in determining whether the variances of the dependent variable remain consistent across different groups.

### **3.9.4 Generalized Linear Model**

A Generalized Linear Model (GLM) analyzes the relationship between a response variable and one or more predictor variables. It is a generalization of the ordinary linear regression model, allowing for non-normal distributions of the response variable and non-linear relationships between the response and predictors. GLM was selected because it is a versatile statistical modeling approach that can handle a wide range of response variables which allows to model complex relationships effectively. The flexibility using the GLM helps to incorporate diverse types of data used in this study. GLM provides a way to understand how Latinos experience, prefer, and engage with these spaces. For instance, it helps to recognize if and which factors, like park facilities and natural spaces in parks, are essential for their experiences of well-being. GLM makes it easy to find out what influences how they feel in urban green areas. By choosing the appropriate distribution and link functions, it is possible to gain valuable insights into the complex dynamics of park engagement, experiences, and preferences in these environments.

The GLM consists of three components: the linear predictor, the link function, and the probability distribution. The probability distribution is then used to model the variability of the response variable around this expected value. Once the GLM is fit to the data, one can interpret the coefficients of the predictor variables as the effect of the predictor on the response variable, while controlling for other variables in the model. In short, the GLM results offer a versatile and potent structure for modeling intricate relationships among variables during data analysis,



particularly when it comes to understanding the perception of Latino well-being. The Personal Well-being Index (PWI) is the dependent variable and the composite variable for each of the dimensions along with socio-demographics were the independent variables.

### **3.9.5 Photo Elicitation Analysis**

Photo elicitation has been utilized due to its capacity to evoke memories and elicit emotions that other methods sometimes struggle to convey (Bates, 2017). In this study of Latino access, experiences, and well-being with parks, this method employed eight carefully chosen images to elicit specific emotions and feelings. The responses from participants were transcribed and compiled for analysis. The participants' responses were coded based on ranking and descriptions of the photos, sharing their feelings about each image. Qualitative coding allows researchers to categorize responses into themes or clusters within the data (Bates, 2017). To analyze the participant's descriptions, the researcher examined responses photo by photo and inductively coded themes that emerged from each participant for each image. Evaluating the coding using the qualitative analysis was conducted using *NVivo* (QSR International, 2021) enabled counting and comparing responses to assess which image was most important or favored compared to the least favorite among both groups. This allowed identification of patterns and themes related to perceptions of the natural environment in parks through the compilation of responses across participants.

### **3.10 Phase III: Plan Content Analysis and Key Informant Interviews**

Phase III focuses on structural processes through the evaluation of formal park plans in Mecklenburg County and engaging organizations that manage, oversee, or have an interest in

parks, open spaces and greenways in Mecklenburg County. This component of the research elucidates how the hidden power structure and its dynamic manifest. Understanding these structural level forces can provide insights into sources of inequities and opportunities for enhancing accessibility to urban green spaces.

Content analysis has been used to explore park and urban planning documents of governmental institutions during the last and current planning phases (Zaleckis et al., 2019). Krippendorff (2011) considers that institutions are capable of preserving themselves, as when speaking about the interest of government. Institutions remain covered behind common or habitual practices until deficiency emerges. For instance, Da Silva, (2015) explored documents of government in Portugal and European Union where they established strategies and policies for the administration 2014 and 2020. He found empirical inconsistencies between what has been researched and what has been incorporated in practice across the strategic planning at different levels. Fu & Zhang, (2017) analyzed master plans in a region in China to compare three different types of designs: eco, low-carbon and convention new towns. The eco-cities and low carbon promote more urban sustainability. The first type was focused on more equitable distribution of resources and planning.

### **3.10.1 Park Plan Content Analysis 2015 and 2020**

The content analysis will evaluate the two most recent master park plans in Mecklenburg County, including “Master Development Plan (Mecklenburg County Parks and Recreation, 2015)” and “Meckplaybook (Mecklenburg County Parks and Recreation Department, 2021)”. Each of these documented the process for capturing input from the community and articulated priority areas. The input and planning process for “Meck Playbook” was underway in 2020,

which is why some questions on the surveys were aligned with this. Each document was evaluated using content analysis. A qualitative content analysis offers an interpretation presented in words and themes (Bengston, 2016). The content analysis of the documents themselves along with the community input process described in each can provide another vantage point to the surveys. Content analysis allows iterative and valid inferences from text or other contexts to the contexts of their use (Hay, 2016). This can help understand power and biopolitics.

### **3.10.2 Park Plan Evaluation**

The content analysis utilized *a priori* codes. In the context of content analysis, *a priori* refers to an approach where the categories or themes for analysis are established before examining the actual content. These predetermined categories are based on existing theories, concepts, or the researcher's prior knowledge and expectations. Unlike inductive content analysis, which allows for the emergence of categories during the analysis process, *a priori* coding involves defining specific criteria or topics in advance. The *a priori* codes follow a structured and predefined set of categories established before engaging with the content. The following describes the selection, importance and characteristics of the *a-priori* themes that will be used to manually analyze the master plans.

### **Access**

The term “access” to urban green spaces and parks specially for the social, physical and mental benefits that people obtain from these spaces. Several authors have found inequities in access to these spaces as well as the distribution among non-White population across the U.S (Flores et al., 2018; Jennings & Bamkole, 2019; Tinsley et al., 2002; Wen et al., 2013). For

Latino populations, authors have expanded these limitations into quality of parks, safety, and acreages of parks (Marquet et al., 2019; Rigolon, 2016). Hence, the opportunities to appreciate natural spaces in cities does not have equal chances of enjoyment among neighborhoods with a concentration of minority groups (Martin et al., 2004; Sefcik et al., 2019; Wolch et al., 2014).

## **Inclusion**

Inclusion emerges from literature regarding the issues and gaps in the distribution or presence of urban green spaces among non-White populations, including Latino. The inclusion of proximity to urban green spaces, especially parks can improve health disparities, obesity, mental well-being, stress, depression, and safety (Martin, 2017; Wolch et al., 2014). People that have deprived of the inclusion to the benefits of urban green spaces are more susceptible and vulnerable to suffer deterioration in their quality of life (Xie, 2020). Therefore, the involvement of non-White groups into the planning process and planning documents is essential for their health and well-being.

## **Equity**

On a societal level, the term equity is concerned with the distribution of resources in society (Callaghan et al., 2020). There are various meanings of equity in the context of urban green spaces. There is need for a comprehensive approach to creating inclusive, accessible, and just environments that provide for the needs and preferences of all residents, irrespective of their socio-economic status, race, or background. Spatial equity means that parks should be located so that everyone has equal access. Both spatial and social equity ensure that parks welcome people

of all backgrounds, and thereby address historical disparities. Environmental equity ensures that communities facing environmental challenges have access to parks' benefits.

Park equity refers to the concept that all residents should have fairly equal access to high-quality parks, ensuring that everyone benefits from recreational and green spaces regardless of their location or socioeconomic status. This concept encompasses two main aspects: proximity and quality. Proximity means that parks are located close to where residents live, making them easily accessible. Quality refers to parks being well-maintained, safe, and equipped with appropriate amenities and programs that cater to the diverse needs of the community. By considering both proximity and quality, park equity aims to provide an inclusive and equitable distribution of park resources, fostering a healthier and more vibrant community environment (Burrows, 2022).

Participatory equity means everyone's voices matter in park planning. Well-being equity means parks should provide a positive resource that supports everyone's physical and mental health. Equity pertains to how fairness is identified, evaluated, and realized within the implementation of governmental policies and services. It encompasses the process of ensuring that resources and opportunities are distributed justly, addressing disparities and promoting inclusivity across diverse societal groups (Cepiku, 2021). Many studies highlight an uneven distribution to urban green spaces (Wolch et al., 2014; Rigolon, 2016; Ahn et al., 2020). Hence, delaying fair and equitable distribution and access to urban green spaces can prevent or delay their intrinsic benefits. Limitations in this area are a persistent barrier to fairness, equitable access, and justice in the formation of public policy. Improved conditions on all these fronts are a critical step toward environmental justice (Jennings, Larson, & Yun, 2016).

## **Latino (s)**

Latino populations, as with other minorities across the US, experience environmental inequities of quality, accessibility, acreage and lack of amenities from urban green spaces like parks (Jennings & Bamkole, 2019), at the state and local levels. Further, some posit a systematic discrimination of minorities including Latino with regard to the inequitable access to urban green spaces (Jennings & Bamkole, 2019; Lara-Valencia & Garcia-Perez, 2018; Rigolon, 2016; Wen et al., 2013). This necessitates a deeper understanding of how Latino populations utilize and interact with parks. Their experiences and needs can help to inform policies and planning that allow the reduction of inequities. On the contrary, if their needs are not included the same cycle will be repeated and the issues of this group will remain unsolved.

The a priori codes utilized help illuminate how parks are designed for the Latino community. Each of the two plans was evaluated and analyzed manually for the presence of these themes, interpretative elements or differences. The data analysis of the examination of master plans consisted of interrelated phases. The codes that were utilized to analyze the document are included in Table 4.

Table 4. A priori Code Categories for Master Plans Analysis

<b>Category a-priori codes</b>	<b>Indicator</b>	<b>Theoretical definition</b>
Latinos 1.1 Community 1.2 Low-income 1.3 Minorities 1.4 Latinx	<b>Green</b>	Authors have found limitations in the opportunities to obtain benefits and distribution from Urban green spaces among Latino population across U.S (Flores et al., 2018; Jennings & Bamkole, 2019; Tinsley et al., 2002; Wen et al., 2013). Specifically, Latino have expanded these limitations into quality of parks, safety, and acreages of parks (Marquet et al., 2019; Rigolon, 2016)
Access 2.1 Opportunities 2.2 Benefits 2.3 Space 2.4 Convenience	<b>Blue</b>	The term access in the literature has been growing interest in the area of urban green spaces specially for neglect access to the social, physical and mental benefits that people obtain from these urban green spaces such as parks (Jennings, 2019;(Marquet et al., 2019). It refers to the availability of a park, greenway trail, nature preserve, or recreation facility near the public, along with safe modes of transportation such as walking, biking, transit, or driving. Hence, the opportunities and access to appreciate natural spaces in cities does not have equal chances of enjoyment among neighborhoods with concentration of minority groups (Martin et al., 2004; Sefcik et al., 2019; Wolch et al., 2014). In this context, the document describes equitable access once everyone has no longer than ten minutes to walk or five minutes to drive to a park, facility and services regardless of skin color, sexual orientation, ability, ethnicity, income, or social class.
Inclusion 3.1 Diversity 3.2 Engagement 3.3 Involvement	<b>Yellow</b>	The inclusion of proximity to urban green spaces, especially parks, can palliate social problems such as health disparities, obesity, mental well-being, stress, depression, and safety (Martin, 2017; Wolch et al., 2014). People that have deprived of the inclusion to the benefits of urban green spaces are more susceptible and vulnerable to suffer deterioration in their quality of life.
Equity 1.1 Justice 1.2 Fairness 1.3 Rights	<b>Red</b>	Equity concerns the fair distribution of resources and opportunities through governmental policies, aiming to address disparities and promote inclusivity across diverse societal groups (Cepiku, 2021). The persistent limitations in this area continue to obstruct efforts to advance fairness, equitable access, and justice in public policy development, marking a crucial aspect of the environmental justice movement (Jennings, Larson, & Yun, 2016).

The master plans were analyzed first through manual coding, a methodical process where qualitative information was systematically categorized and labeled according to predefined codes. Once the codes were established, each of them was mutually exclusive, allowing for precise observation of content within the documents. This process enabled the identification of important elements such as frequency, direction (positive, negative, supportive), and intensity of the words. This method ensured that the data was organized in a structured manner conducive to in-depth analysis.

Following the coding process, *NVivo* QSR International (2021) was employed to explore patterns, phrases around codes, relationships, and emerging themes within the documents. The software facilitated the examination and interpretation of the data, allowing for nuanced insights and robust conclusions to be drawn from the qualitative research findings. This ensures that the researcher has organized, discerned information and interpreted the data collected from the documents with lack of subjectivity. The next phase included checking for validity and check consistency of the results double checking the phrases and words. Then, analysis of the results allowed drawing conclusions and generalizing for each of the categories. The outcomes were displayed using bar graphs that make it easier to understand the analysis with details. This step helped to collect the data and to control and assure the reliability of codes.

### **3.10.3 Key Stakeholder Semi-Structured Interviews**

One important characteristic of semi-structured interviews is that they allow participants time and expression to share their ideas and point of view (Hay, 2016). Key informants can describe emergent themes that are also important for the study through a natural conversation. These were conducted using anonymity because of the small number. Ultimately, interviews allow comparisons of the answers of key representatives of organizations based on their



opinions, statements and convictions based on their experiences, and motivations (Hay, 2016) and allow for alignment with the plans and the survey responses. Researchers can relate the answers from the informant from a certain category with others that flow during the interview and build new questions that link themes and answers.

Semi-structured interviews consisted of using open-ended questions. This approach allowed flexibility through the conversation of directors and researchers to obtain information about access, inequities, and inclusion of Latino into their plans. Interviews can help interrogate hidden power structures regarding the planning process of a master plan and administration of natural resources in Mecklenburg County.

Identification of organizations was based on level of involvement in land use, parks and greenways. An online search identified governmental institutions that either manage, administer, or resource urban green spaces for Mecklenburg County communities. Several institutions met the qualifications, but priority was given to those with demonstrated interest in social advocacy. Select organizations are working with Parks and Recreation to solve problems of equity, inclusion and access (see Table 5). Of the seven organizations selected, two were governmental institutions, and two were social advocacy organizations working for community access to urban green spaces such as parks and greenways. Limited staff conditions during COVID delayed responses to interview requests. This was a reminder that methodology is always subject to multiple, unanticipated variables.

This study employed a deductive approach, utilizing a priori codes derived from the predefined domains outlined in the research questions and used for the plan coding. Once all interviews were transcribed and organized by thematic groups. These categories were analyzed using utilizing *Nvivo* QSR International (2021) which allowed for emergent themes or sub-

themes and allowed analysis of the themes and frequencies of the same terms that have been mentioned for the participants. This analysis focused on the research questions of the dissertation and linked to the theoretical elements using a systematic process.

Table 5. Key Informants from Organizations Selected

<b>Non-profit organizations</b>	<b>Role of the organization</b>
Organization # 1	This is a non-profit organization that focuses on the sustainable growth of the region with an equitable and healthy community.
Organization # 2	Advocate for immigrant's counselor, health, and well-being in Mecklenburg County

### 3.11 Triangulation of Research Phases

Triangulation reveals how the results from each research component inform and relate to one another. Figure 8 illustrates how the two surveys, plan content analysis and the interviews all come together to provide an elevated understanding of Latino Park experiences. Combined these captured the views, needs, experiences, and voices of Latinos along with some sense of the ways power structures formally incorporate and address their interests.

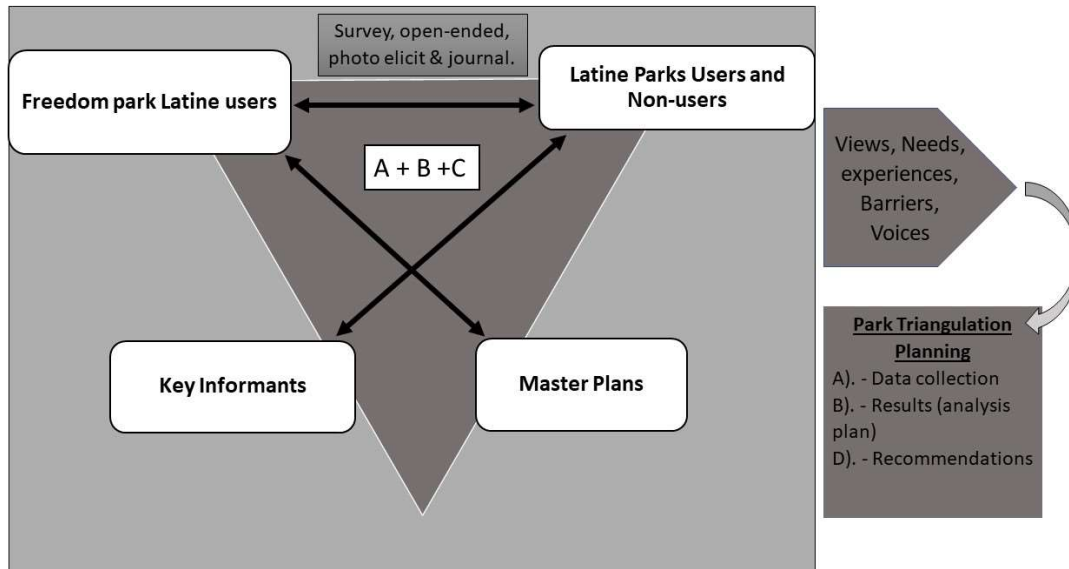


Figure 8. Triangulation of Research  
Source: Own authorship

Triangulation was used as a strategy for offering a more comprehensive and robust analysis across all components. This integrated approach supports a multifaceted exploration of the research questions, fostering a deeper understanding of the dynamics within each component and their interconnectedness. Triangulation can corroborate and validate results by cross-verifying information or can highlight misalignments. By combining the insights derived from the Freedom Park Survey, Latino Broad Survey, and the perspectives of decision-makers and key informants, triangulation offers a more comprehensive and refined understanding of the research questions. It helps mitigate the limitations of individual methods and data sources, providing a more robust foundation for drawing conclusions and making informed interpretations.

### 3.12 Limitations

All surveys and interviews have certain limitations. Because this study employed qualitative approaches, these are not generalizable, but do provide deeper and more

comprehensive data and information. There are many ways the responses can have bias, including challenges in recall or a lack of willingness to answer questions. Research through a zoom or telephone call might limit the quality of the answers of the interview than do this process in person. Participants might not have information or knowledge on the process or the question. Importantly, the researcher has not been involved in the planning processes, instead is just observing and exploring the documents and doing the interviews which may be difficult to cover all the gaps in the documents. This can offer objective advantages, but also particular perspectives. Having a Latino background might produce obstacles of culture and language when undertaking surveys or interviews but may also offer an advantage because of knowledge of language and possible trust.

## **4 Phase I Results: Freedom Park User Survey**

This chapter presents results from survey conducted at Freedom Park from September-December 2020 that aimed to assess the relationship between urban green spaces and perceptions of well-being for Latino<sup>2</sup> and non-Latino Park users. The final section of the chapter provides a discussion that synthesizes key findings and makes connections to the literature and conceptual model. The findings offer insights for enhancing resources and park access, which plays a significant role in promoting health and well-being. The park user survey at Freedom Park was designed with three primary goals:

1. Establish the importance of natural spaces for park users, focusing on the Latino experience.
2. Evaluate if, and how, experiences and interpretations of natural urban spaces influence perceptions of well-being.
3. Capture if, and how, perceptions of park natural spaces improve perceptions of well-being for Charlotte Park users during COVID-19.

### **4.1 Survey Responses**

#### **4.1.1 Demographics**

From the results of surveys 293 were completed, although not all respondents completed every section and so demographic information along with other data points was missing. However, a significant portion of surveys were completed in their entirety. Among the majority identified as white (68.7 %; N=108) with 46.4% (n=136) Latino. There were also 16 who identified as Black and 27 who identified as Asian; only 2 reported as Native-American and the

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<sup>2</sup> In this chapter, Latino/s is utilized since this is the term used in the survey. During the analysis of the pilot, people said they do not identify with “Latinx” or even had not heard it before

remaining did not respond. A majority of participants fell within the 18-30 age group, encompassing 45.05% of the total (see Table 6). Within this age segment, 28.68% are Latinos (N=39), while 22.29% are non-Latino Park users (N=35). In terms of gender, there were a total of 95 female participants and 43 male participants.

Table 6. Demographic Data of Latinos and Non-Latinos

<b>Demography of Latinos and Non-Latinos</b>					
<b>Age</b>	<b>Latinos (N=136)</b>	<b>n (%)</b>	<b>Non-Latinos (N=157)</b>	<b>n (%)</b>	<b>Total (N=293)</b>
18-30	50	36.7	82	52.2	132
31-40	39	28.6	35	22.2	74
41-50	13	9.6	14	8.9	27
51-60	7	5.1	12	7.6	19
61-70	2	1.4	3	1.9	5
70+ over	2	1.4	2	1.2	4
Missing	23	16.9	9	6.6	36
<b>Gender</b>	<b>N</b>	<b>n%</b>	<b>N</b>	<b>n%</b>	<b>Total</b>
Female	45	47.3	50	52.5	95
Male	20	46.5	23	53.4	43

Figure 9 provides insights into the annual income distribution among Latinos and non-Latinos, based on responses from a total of 293 participants (refer to Table 7). The data reveal that non-Latinos generally have a higher overall income level compared to Latinos. A significant portion of the Latino respondents reported an income of less than \$75,000 annually. Specifically, the largest segment of Latino participants (23.5%; n=32) indicated an annual income of less than \$25,000. In contrast, a slightly smaller percentage of non-Latino participants (14.6%; n=23) reported earnings below \$25,000 annually.

A Chi-square test was used on the data collected from park users to reveal statistically significant associations between income level and ethnicity ( $X^2 = 29.534$ ,  $df = 8$ ,  $p < 0.001$ ), see Table 7. The results indicate socio-economic disparities between the groups. Specifically, the

chi-square test identified significant differences between Latinos and non-Latinos in certain income categories, particularly in the highest ranges above \$100,000 annual income.

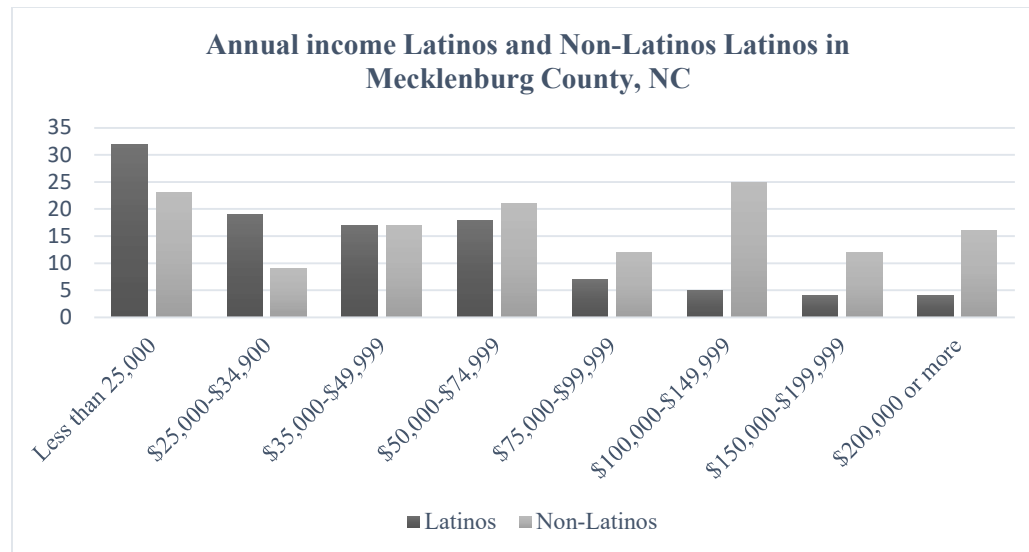


Figure 9. Annual Income of Latinos and non-Latinos in Mecklenburg County, NC  
Source: Own authorship based on Results from Survey Freedom Park 2020

Table 7. Annual Income Level of Latinos and non-Latinos

Annual Income and Ethnicity Crosstabulation				
Income	Latinos N=136 (n%)	Non-Latinos N=157 (n%)	Total (N=293)	Chi-Square Test X <sup>2</sup> (df, P)
Less than 25,000	32 (23.5)	23 (14.6)	55	29.534 (8, 0.001)  Differences between ethnic groups are statistically significant (Chi-square statistic p < 0.05)
\$25,000-\$34,999	19 (14.0)	9 (5.7)	28	
\$35,000-\$49,999	17 (12.5)	17 (10.8)	34	
\$50,000-\$74,999	18 (13.2)	21 (13.4)	39	
\$75,000-\$99,999	7 (5.1)	12 (7.6)	19	
\$100,000-\$149,999	5 (3.7)	25 (15.9)	30	
\$150,000-\$199,999	4 (2.9)	12 (7.6)	16	
\$200,000 or more	4 (2.9)	16 (10.2)	20	
Do not wish to answer	22 (16.2)	18 (11.5)	40	
Missing	8	4	12	

Table 8 shows the educational levels of Latinos and non-Latinos. Non-Latinos overall had higher educational levels than Latinos (see Figure 10). For less than high school, (9.8% of Latinos; n=13) and (0.6% of non-Latinos; n=1) fell into this category. The following category (28.0% of Latinos; n=37) and (5.2% of non-Latinos; n=8) had a high school degree or GED. For

those with some college, business, or trade school, there was a similar number of Latinos (20.5%; n=27) and non-Latinos (21.9%; n=34), which shifted significantly for those with a college, business, or trade school degree non-Latinos (44%; n=69); Latinos (44.5%; n=36).

The chi-square test was used to indicate if there is a significant association between educational level and ethnicity ( $X^2 = 59.367$ ,  $df = 6$ ,  $p < 0.001$ ), see table 8. Specifically, the results from the test indicate that the bigger differences were observed in categories of high school graduate or GED and master's, doctoral, or professional degree, with a higher triple percentage of Latinos falling into the primary category and a higher percentage of non-Latinos falling into the higher education.

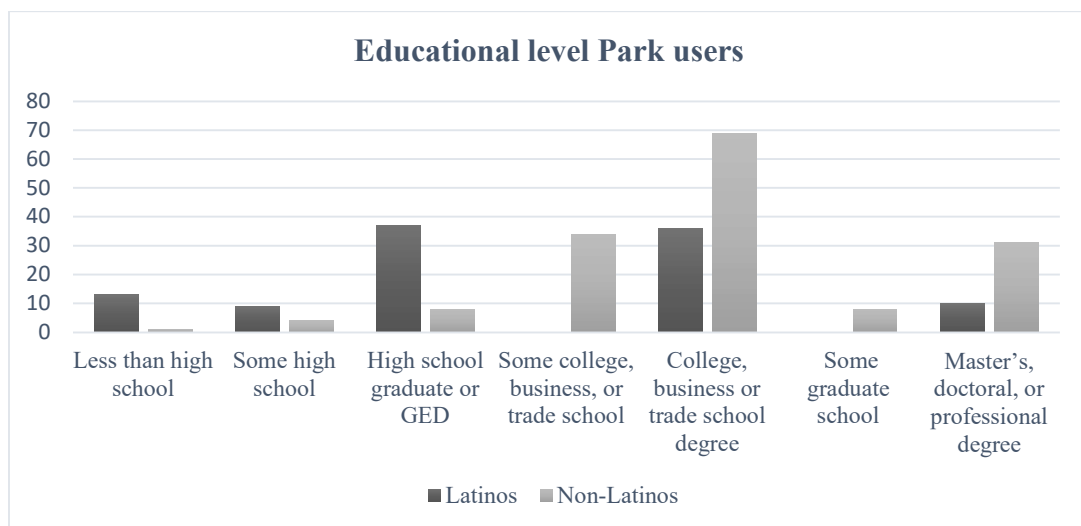


Figure 10. Educational Level of Participants Latinos and non-Latinos  
Source: Own authorship based on Results from Survey Freedom Park 2020



Table 8. Educational Level of Latinos and non-Latinos

<b>Educational Level of Latinos and non-Latinos Crosstabulation</b>				
<b>Education</b>	<b>Latinos N=136 (n%)</b>	<b>Non-Latinos N=157 (n%)</b>	<b>Total (N=293)</b>	<b>Chi-Square Test X<sup>2</sup> (df, P)</b>
Less than high school	13 (9.8)	1 (0.6)	14	59.367 (6, 0.001)  Differences between ethnic groups are statistically significant (Chi-square statistic p < 0.05)
Some high school	9 (6.8)	4 (2.6)	13	
High school graduate or GED	37 (28.0)	8 (5.2)	45	
Some college, business, or trade school	27 (20.5)	34 (21.9)	61	
College, business or trade school degree	36 (27.3)	69 (44.5)	105	
Some graduate school	0	8 (5.2)	8	
Master's, doctoral, or professional degree	10 (7.6)	31 (20.0)	41	
Master's, doctoral, or professional degree	10 (7.6)	31 (20.0)	41	
Missing	4	2	6	

#### 4.1.2 Usage and Access

Table 9 shows how often study participants visited a park in the Charlotte Region. The most common frequency of park visits for both Latinos (19.1%; n=26) and non-Latinos (15.3%; n=24) is 1-2 times per week. The second most common frequency of park visits is 1 time per week for Latinos (18.94%; n=25) and non-Latinos (15.3%; n=24).

In general, Latinos visit parks slightly similar in comparison with non-Latinos, they have little variation in the 1 time per week and 1 time every 2 weeks categories. However, non-Latinos (17.76%; n=27) visit parks slightly more often than Latinos (9.6%; n=13) in the 3-7 times per week category. These results suggest that both Latinos and non-Latinos in the Charlotte region visit parks regularly, with the majority visiting at least once per week.

A Chi-square test was used on the data collected from park users do not reveal statistically significant associations between Frequency of visit a park in Charlotte region and ethnicity ( $X^2 = 7.732$ ,  $df = 6$ ,  $p = 0.258$ ), see Table 9.

Table 9. Frequency of Visit to Parks in Charlotte Region

<b>Crosstabulation Frequency of Visit Parks in Charlotte and Ethnicity</b>				
Frequency of visit	Latinos N=136 (n%)	Non- Latinos N=157 (n%)	Total (N=293)	Chi-Square Test $X^2$ (df, <i>P</i> )
1 time per week	25 (18.4)	24 (15.3)	49	7.732 (6, 0.258)  Differences between ethnic groups are statistically significant (Chi-square statistic $p < 0.05$ )
1-2 times per week	26 (19.1)	24 (15.3)	50	
3-7 times per week	13 (9.6)	27 (17.2)	40	
1 time every 2 weeks	20 (14.7)	15 (9.6)	35	
1 time per month	22 (16.2)	21 (13.4)	43	
1 time every 2 months	8 (5.9)	13 (8.3)	21	
Less than every 2 months	18 (13.2)	28 (17.8)	46	
Missing	4	5	9	

Table 10 shows how often participants visited Freedom Park specifically, ranging from visiting once a week to less than every two months. They most commonly visited once a month, Latinos (22.1%;  $n=30$ ) and non-Latinos (15.3%;  $n=54$ ), followed by visiting 1-2 times per week, with Latinos (13.2%;  $n=18$ ) and non-Latinos (11.5%;  $n=18$ ). There is no significant difference in the frequency of visits to Freedom Park between Latinos and non-Latinos. A Chi-square test was used on the data collected from park users do not reveal statistically significant associations between Frequency of visit Freedom Park and ethnicity ( $X^2 = 5.635$ ,  $df = 6$ ,  $p < 0.465$ ).

Table 10. Frequency of Visits to Freedom Park

<b>Crosstabulation Frequency of Visit Freedom Park and Ethnicity</b>				
Frequency of visit	Latinos N=136 (n%)	Non-Latinos N=157 (n%)	Total (N=293)	Chi-Square Test $X^2$ (df, <i>P</i> )
1 time per week	14(10.3)	19(12.1)	19	5.635 (6, 0.465)  Differences between ethnic groups are statistically significant (Chi-square statistic $p < 0.05$ )
1-2 times per week	18(13.2)	18(11.5)	18	
3-7 times per week	9(6.6)	14(8.9)	14	
1 time every 2 weeks	15(11.0)	15(9.6)	15	
1 time per month	30(22.1)	24(15.3)	24	
1 time every 2 months	16(11.8)	19(12.1)	19	
Less than every 2 months	25(18.4)	44(28.0)	44	
Missing	9	4	4	

Latinos (46.03%;  $n=136$ ) and non-Latinos (53.58%;  $n=157$ ) (see Figure 11). The time it took to reach Freedom Park for Latinos ranges from 1 minute to over 35 minutes, with the

majority accessing the park within the 16–20-minute range (31.6%; n=43). Followed by the 26–30-minute range (18.4%; n=25). Conversely, non-Latinos predominantly accessed the park within the 6–10-minute (23.3%; n=32) or 16–20-minute (25.3%; n=38) ranges. Overall, Latinos go further to access the park than non-Latinos.

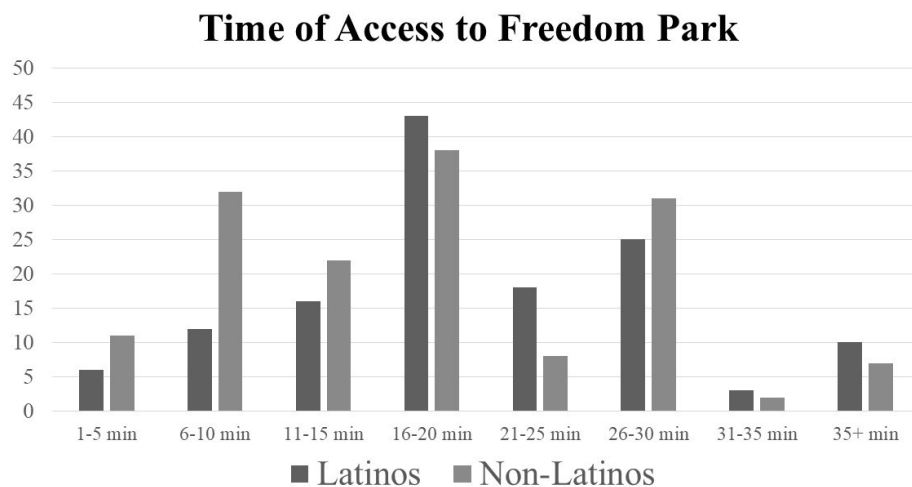


Figure 11. Average Time for Access Freedom Park  
Source: Own authorship based on Results from Survey Freedom Park 2020

A majority of both groups used a car to get to the park Latinos (93.3%; n=127) and non-Latino (89.8%; n=141) (Table 11). In comparison, a small percentage of both groups reported walking Latino (4.48%; n=6) and non-Latino (7.6% n=12) or using a bicycle Latino (0.75%; n=1) and non-Latino (1.91%; n=3) to get to the park.

Table 11. Type of Transportation Utilized to Arrive to the Park

<b>Crosstabulation between Type of Transportation and Ethnicity</b>			
<b>Transportation</b>	<b>Latino N=136 (n%)</b>	<b>Non-Latino N=157 (n%)</b>	<b>Total (N=293)</b>
Car	127 (93.3)	141 (89.8)	268
Walk	6 (4.4)	12 (7.6)	18
Bicycle	1 (0.7)	3 (1.9)	4
Motorcycle	0	1 (0.6)	1
Missing	2	0	2

Table 12 presents the data on who the participant visits the park with. Among the Latino respondents (58.1%; n=79), visit the park with their family and non-Latinos (29.9%; n=47) also go with family members. Latinos (2.2%; n=3) tended not to visit alone; whereas non-Latinos (14.6%; n=23) were more likely to visit the park by themselves. Non-Latinos most commonly visited the park with friends (29.9%; n=47). The results of a Chi-square test indicate statistically significant associations between the type of park companionship and ethnicity ( $\chi^2 = 40.659$ ,  $df = 5$ ,  $p < 0.000$ ), as shown in Table 12. Notably, significant differences were found between Latinos and non-Latinos in specific companionship categories, especially in the highest categories such as family and alone.

Table 12. COVID-19 Restriction Orders in Mecklenburg County

<b>COVID-19 Restrictions</b>	
<b>Date</b>	<b>Order description</b>
<b>March 10, 2020</b> (Executive Order No. 116)	<ul style="list-style-type: none"> <li>• NC declared a State of Emergency</li> <li>• World Health Organization declared COVID-19 a global pandemic</li> </ul>
<b>Mar-26-May-30</b> (Executive order No. 121) (Executive order No. 135) (Executive order No. 147)	<ul style="list-style-type: none"> <li>• Stay at home except to visit essential businesses, exercise outdoors or to help a family member.</li> <li>• Physically stay at least 6 feet apart.</li> <li>• Parking lots, parks closed and playgrounds.</li> <li>• No Restaurants-Bars open</li> <li>• Transportation limitation</li> <li>• Travel restrictions.</li> <li>• Face covering</li> </ul>

<b>Jun-04-Sept-30</b> (Executive order No. 146) (Executive order No. 161)	<ul style="list-style-type: none"> <li>• Safer at home</li> <li>• Extend transportation-related measures.</li> <li>• Remote School</li> <li>• Addresses disparities in communities of color</li> </ul>
<b>Oct-21-Nov-23</b> (Executive order No. 169)	<ul style="list-style-type: none"> <li>• Increases face covering requirements.</li> <li>• Implements the Modified Stay at Home order</li> </ul>
Sources: North Carolina Governor. (2020). Executive Order 121: Stay-at-Home Order. Retrieved from: <a href="https://governor.nc.gov/documents/files/eo121-stay-home-order-text/open">https://governor.nc.gov/documents/files/eo121-stay-home-order-text/open</a> North Carolina Governor. (2020). Executive Order 135: Extensions. Retrieved from: <a href="https://files.nc.gov/governor/documents/files/EO135-Extensions.pdf">https://files.nc.gov/governor/documents/files/EO135-Extensions.pdf</a> North Carolina Governor. (2020). Executive Order 147: Phase 2 Extension. Retrieved from <a href="https://files.nc.gov/governor/documents/files/EO147-Phase-2-Extension.pdf">https://files.nc.gov/governor/documents/files/EO147-Phase-2-Extension.pdf</a> North Carolina Governor. (2020). Executive Order 146: Extending Transportation Waivers. Retrieved from <a href="https://files.nc.gov/governor/documents/files/EO146-Extending-Transportation-Waivers-1.pdf">https://files.nc.gov/governor/documents/files/EO146-Extending-Transportation-Waivers-1.pdf</a> North Carolina Governor. (2020). Executive Order 161: Extension of Remote Shareholder Nonprofit Meetings. Retrieved from <a href="https://files.nc.gov/governor/documents/files/EO161-Extension-of-Remote-Shareholder-Nonprofit-Meetings.pdf">https://files.nc.gov/governor/documents/files/EO161-Extension-of-Remote-Shareholder-Nonprofit-Meetings.pdf</a> North Carolina Governor. (2020). Executive Order 169: Phase 3. Retrieved from <a href="https://files.nc.gov/governor/documents/files/EO169-Phase-3.pdf">https://files.nc.gov/governor/documents/files/EO169-Phase-3.pdf</a>	

Table 14 presents the frequency with which both Latinos and non-Latinos used parks during COVID-19 restrictions. A slightly higher percentage of Latinos used parks 1-2 times per week during COVID-19 restrictions (6.62%; n= 9) compared to non-Latinos (8.28%; n=). At the same time, non-Latinos (13.38%; n=21) used the park significantly more when 3-7 times per week than Latinos (3.7%; n=5). Both Latinos and non-Latinos engaged with parks during COVID-19 restrictions.

A Chi-square test was conducted on the data collected from park users to reveal statistically significant associations between park usage during COVID-19 restrictions and ethnicity ( $\chi^2 = 47.236$ ,  $df = 9$ ,  $p = 0.001$ ), see Table 14. The results indicate differences in park usage during covid-19 restriction patterns between ethnic groups. Specifically, significant differences were

identified between Latinos and non-Latinos in certain usage categories, particularly in higher frequency ranges from those who never visit a park and those that visit 3-7 times per week.

Table 13. Type of Companionship During Park Visitation

<b>Crosstabulation Type of Company to the Park and Ethnicity</b>				
<b>Companionship</b>	<b>Latinos N=136 (n%)</b>	<b>Non-Latinos N=157 (n%)</b>	<b>Total (N=293)</b>	<b>Chi-Square Test X<sup>2</sup> (df, P)</b>
Alone	3 (2.2)	23 (14.6)	26	Differences between ethnic groups are statistically significant (Chi-square statistic $p < 0.05$ )
Family	79 (58.1)	47 (29.9)	126	
Friends	14 (10.3)	47 (29.9)	61	
Children	8 (5.9)	9 (5.7)	17	
Family-Friends	11 (8.1)	17 (10.8)	28	
Family-Children	12 (8.8)	12 (7.6)	24	
Missing	9	2	11	

#### 4.1.3 Park Use During COVID-19 Restrictions

The COVID-19 pandemic has had a significant impact on access to public spaces, including parks. As such, this data collection provided an opportunity to ask about park usage in the months prior to the data collection. The COVID-19 pandemic brought a period of several restrictions that had a profound impact on daily life. The COVID-19 period of restrictions affected almost every aspect of daily life, from work to socializing. Table 13 describes restriction orders from March-November 2020 in North Carolina. Public places, such as outdoor shelters, parking lots, some parks, athletic courts, and park playgrounds were closed to prevent large gatherings. However, parks remained open to foot and bicycle access for individual exercise or for small groups with physical distancing.

Table 14. Usage of Park During COVID-19 Restrictions

<b>Crosstabulation of Usage of Park During Covid-19 Restrictions and Ethnicity</b>				
Usage of Park during COVID19	Latinos N=136 (n%)	Non-Latinos N=157 (n%)	Total (N=293)	Chi-Square Test X <sup>2</sup> (df, P)
1 time per week	7 (5.1)	3 (1.9)	10	47.236 (9, 0.001)  Differences between ethnic groups are statistically significant (Chi-square statistic p < 0.05)
1-2 times per week	9 (6.6)	13 (8.2)	22	
3-7 times per week	5 (3.6)	21 (13.3)	26	
Less than every 2 months	2 (1.4)	0	2	
1 time every 2 months	1(0.7)	1 (0.6)	2	
1 time per month	1 (0.7)	0	1	
1-2 time per month	8 (5.9)	9 (5.7)	17	
No	72 (52.9)	58 (36.9)	130	
Yes	9(6.6)	45 (28.6)	54	
Missing	22	7	29	

Table 15 provides data on the frequency of park visits during March-May 2020 by Latinos and non-Latinos during the Covid restrictions in Mecklenburg County. Interestingly, 101 people reported never visiting a park during the given period. Of those who did visit parks, more non-Latinos (26.8%; n=42) than Latinos (11.8%; n=16) reported visiting 1-2 times per week. The association between the groups and frequency of visiting a park during March-May was examined using a chi-square test. A Chi-square test was conducted on data collected from park users to examine the associations between park visitation regularity during COVID-19 restrictions (March-May) and ethnicity ( $\chi^2 = 11.974$ ,  $df = 4$ ,  $p = 0.018$ ), as shown in Table 15. The results indicate differences in visitation patterns between ethnic groups. Notably, significant

disparities were identified between Latinos and non-Latinos in various visitation frequency categories, especially in the daily and 1-2 times per week categories.

Table 15. Frequency of Visit a Park During Stay-at-home Order March-May

<b>Crosstabulation of Usage of Park During Covid-19 Restrictions During March-May and Ethnicity</b>				
<b>Regularity of Visitation</b>	<b>Latinos N=136 (n%)</b>	<b>Non-Latinos N=157 (n%)</b>	<b>Total (N=293)</b>	<b>Chi-Square Test X<sup>2</sup> (df, P)</b>
Never	52 (38.2)	49 (31.2)	101	11.974 (4, 0.018)  Differences between ethnic groups are statistically significant (Chi-square statistic p < 0.05)
1 time in the month	30 (22.1)	26 (16.6)	56	
2-3 times per month	23 (16.9)	24 (15.3)	47	
1-2 times per week	16 (11.8)	42 (26.8)	58	
Daily	5 (3.7)	11 (7.0)	16	
Missing	10	5	15	

Table 16 provides data on the frequency of park visits during June-September 2020. Of those who did visit parks, more non-Latinos (29.3%; n=46) than Latinos (11.8%; n=16) visited 1-2 times per week. A Chi-square test was conducted on data collected from park users to examine the associations between park visitation regularity during COVID-19 restrictions (June-September) and ethnicity ( $\chi^2 = 21.522$ , df = 4, p = 0.001), as shown in Table 16. The results indicate differences in visitation patterns between ethnic groups. Notably, significant disparities were identified between Latinos and non-Latinos in various visitation frequency categories, particularly in the "never" and "1-2 times per week" categories.

Table 16. Frequency of Visit a Park During Stay-at-home Order June-September

<b>Crosstabulation of Usage of Park During Covid-19 Restrictions During June-September and Ethnicity</b>
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Regularity of Visitation	Latinos N=136 (n%)	Non-Latinos N=157 (n%)	Total (N=293)	Chi-Square Test X <sup>2</sup> (df, P)
Never	41 (30.1)	22(14.0)	63	21.522 (4, 0.001)  Differences between ethnic groups are statistically significant (Chi-square statistic p < 0.05)
1 time in the month	32(23.5)	42(26.8)	74	
2-3 times per month	28(20.6)	30(19.1)	58	
1-2 times per week	16(11.8)	46(29.3)	62	
Daily	5(3.7)	12(7.6)	17	
Missing	14	5	19	

Table 17 shows the frequency of visits to a park during October-November. Latinos (14.0%; n=19) reported never visiting a park during this period in comparison with non-Latinos (4.5%; n=7). On the contrary, non-Latinos (29.9%; n=47) were more likely to visit the park 1-2 times per week as compared to Latinos (16.2%; n=22). A Chi-square test was performed on data collected from park users to investigate the associations between park visitation regularity during COVID-19 restrictions (October-November) and ethnicity ( $\chi^2 = 15.031$ ,  $df = 4$ ,  $p = 0.005$ ), as detailed in Table 17. The results reveal significant differences in visitation patterns between ethnic groups. Specifically, notable disparities were observed between Latinos and non-Latinos in various frequency categories, especially in the "never" and "1-2 times per week" categories.

Table 17. Frequency of Visit Park During Stay-at-home October-November

Crosstabulation of Usage of Park During Covid-19 Restrictions During October-November and Ethnicity				
Regularity of Visitation	Latinos N=136 (n%)	Non-Latinos N=157 (n%)	Total (N=293)	Chi-Square Test X <sup>2</sup> (df, P)
Never	19(14.0)	7(4.5)	26	15.031 (4, 0.005)  Differences between ethnic groups are statistically significant (Chi-square statistic p < 0.05)
1 time in the month	42(30.9)	40(25.5)	82	
2-3 times per month	35(25.7)	51(32.5)	86	
1-2 times per week	22(16.2)	47(29.9)	69	
Daily	8(5.9)	9(5.7)	17	
Missing	10	3	13	

#### 4.1.4 Overall Satisfaction of Parks and Natural Spaces in Mecklenburg County

Table 18 shows satisfaction levels of Latinos and non-Latinos with the parks in Mecklenburg County. Latinos strongly agreed (41.2%; n=56) that they were satisfied with the

parks. In comparison, non-Latinos (35.7%; n=56) strongly agreed that they were satisfied with parks. A smaller percentage of Latinos expressed neutrality (10.3%; n=14) compared to non-Latinos (17.8%; n=28), while the percentages of disagreement were relatively low for both groups. The Chi-square tests conducted on data regarding satisfaction levels with parks and natural spaces in Mecklenburg County did not reveal statistically significant differences between Latinos and non-Latinos (see Table 18). For both parks and natural spaces, the distributions of satisfaction categories were similar across ethnic groups. Specifically, both tests indicated p-values above the threshold for significance ( $p > 0.05$ ), suggesting that ethnicity does not significantly influence satisfaction levels with these public amenities in the county.

Table 18. Overall Satisfaction Parks in Mecklenburg County

Satisfaction of Parks in Mecklenburg County and Ethnicity Crosstabulation				
I am satisfied with the parks in Mecklenburg County				
Satisfaction Level	Latinos N=136 (n%)	Non-Latinos N=157 (n%)	Total	Chi-Square Test X <sup>2</sup> (df, P)
Strongly Agree	56(41.2)	56(35.7)	112	7.076 (5, 0.132)  Differences between ethnic groups are statistically significant (Chi-square statistic p < 0.05)
Agree	55(40.4)	68(43.3)	123	
Neutral	14(10.3)	28(17.8)	42	
Disagree	3(2.2)	3(1.9)	6	
Strongly Disagree	3(2.2)	0	3	
Missing	5	2	7	
There are enough natural spaces in Mecklenburg County				
Satisfaction Level	Latinos N=136 (n%)	Non-Latinos N=157 (n%)	Total	Chi-Square Test X <sup>2</sup> (df, P)
Strongly Agree	43(31.6)	38(24.2)	81	9.032(5, 0.06)  Differences between ethnic groups are statistically significant (Chi-square statistic p < 0.05)
Agree	46(33.8)	49(31.2)	95	
Neutral	21(15.4)	33(21.0)	54	
Disagree	13(9.6)	33(21.0)	46	
Strongly Disagree	4(2.9)	3(1.9)	7	
Missing	9	1	10	

Table 19 presents the factors contributing to a high-quality park. Notably, both groups value the preservation of nature, with 34.6% (n=47) for Latinos and 55.4% (n=87) of non-Latinos considering it a crucial factor, suggesting a shared appreciation for natural elements. New amenities and features are deemed important by both groups, with a higher preference

among Latinos (13.40%; n=13) compared to non-Latinos (8.78%; n=13). Factors such as a wide variety of

<b>Crosstabulation Factors Considered High-Quality for a Park or Trail and Ethnicity</b>				
Factors	Latinos N=136	Non-Latinos (N=157)	Total (N=293)	Chi-Square Test X <sup>2</sup> (df, P)
New amenities and features	13(9.6)	13(8.3)	26	3.874 (4, 0.423)  Differences between ethnic groups are statistically significant (Chi-square statistic p < 0.05)
Unique amenities not found elsewhere	15(11.0)	17(10.8)	32	
Emphasis on preserving nature	47(34.6)	87(55.4)	134	
Wide variety of amenities	16(11.8)	19(12.1)	35	
Attractive design	6(4.4)	12(7.6)	18	
Missing	39	9	48	

amenities and attractive design also have higher percentages and still exhibit some preference among Latinos (11.8%; n=16) and non-Latinos (12.1%; n=19). These results underscore a commonality in preferences between the two groups. The Chi-square test conducted to evaluate perceptions of factors considered high-quality for parks or trails among Latinos and non-Latinos in Mecklenburg County revealed no statistically significant associations between ethnicity and these factors. Across various criteria such as "New amenities and features"

and "Unique amenities not found elsewhere," the test did not indicate significant differences in perceptions between the two ethnic groups ( $x^2 = 3.874$ ,  $df = 4$ ,  $p = 0.423$ ). Moreover, categories including "Emphasis on preserving nature" and "Wide variety of amenities" showed similar perceptions among both Latinos and non-Latinos. This suggests that ethnicity does not influence how these factors are perceived as indicators of park quality, reflecting a consistent view across the study sample regarding what constitutes high-quality amenities in local parks.

Table 19. Factors Considered High-Quality for a Park or Trail

Table 20 shows the importance of various investment areas related to parks. The data show that the investment in creating new greenways to fill gaps and add access points is perceived as the most important area of investment for both Latino (45.5%; n=62) and non-Latino Park users (52.8%; n=83) rating it as “Extremely Important.” Similarly, investment in enhancing the natural beauty and ecology of existing spaces is also considered important by both groups. The ratings do differ slightly in some areas. For example, non-Latinos (51.59%; n=81) rate enhancing existing neighborhood parks with and modernizing existing facilities for new programs higher than Latinos (34.55%; n=47). Latinos (33.82 %; n=46) rate making existing places more accessible with more diverse cultural offerings and facilities as important. The results indicate that Latinos (38.97%; n=53) of respondents emphasized the importance of creating new parks, similarly (40.44%; n=55) this group highlighted the significance of establishing new natural spaces. The Chi-square test results from the data on priority areas of investment perceived by park users in Mecklenburg County, revealing statistically significant associations between these priorities and ethnicity (see Table 20). The results indicate notable differences between Latinos and non-Latinos in their prioritization of certain investment areas. Specifically, enhancements to existing neighborhood parks were deemed significantly more important by Latinos compared to non-Latinos ( $\chi^2 = 8.653$ ,  $p = 0.034$ ), highlighting a distinct preference within this demographic

group. However, other investment priorities did not show significant ethnic disparities, as indicated by non-significant Chi-square test results (all p-values > 0.05). This analysis underscores varying perspectives on park investment priorities between ethnic groups in Mecklenburg County.

Table 20. Priority Areas of Investment in Parks

<b>Crosstabulation Priority Areas of Investment and Ethnicity</b>								
<b>Latinos Park-users (N=136)</b>								
<b>Important Areas for Investment by Mecklenburg County</b>	<b>Extremely Important</b>	<b>Important</b>	<b>Neutral</b>	<b>Slightly Unimportant</b>	<b>Not Important</b>	<b>Missing</b>	<b>X<sup>2</sup></b>	<b>Sig.</b>
Enhancing existing neighborhood parks.	47	22	11	1	0	55	8.653	0.034
Modernizing existing facilities for new programs and uses.	38	25	11	5	0	57	3.522	0.318
Bringing in more history, arts and culture to all spaces.	42	27	11	1	0	55	4.524	0.341
Creating new greenways to fill gaps and add access points.	62	14	8	1	0	51	5.333	0.149
Make existing high use spaces more durable and resilient	46	21	12	2	0	55	5.28	0.152
Enhance the natural beauty and ecology of existing spaces	66	17	4	0	0	49	4.06	0.255
Make existing places more accessible	48	26	5	2	0	55	2.755	0.431
Establish partnerships to help with upkeep	37	30	9	1	1	58	2.64	0.62
Create new parks	53	12	9	6	0	56	8.842	0.065
Create new natural spaces	55	16	5	4	0	56	2.621	0.623
Create new conservation areas	52	20	6	3	0	55	2.912	0.405
<b>Non-Latinos Park Users (N=157)</b>								
<b>Important Areas for Investment by Mecklenburg County</b>	<b>Extremely Important</b>	<b>Important</b>	<b>Neutral</b>	<b>Slightly Unimportant</b>	<b>Not Important</b>	<b>Missing</b>	<b>X<sup>2</sup></b>	<b>Sig.</b>
Enhancing existing neighborhood parks.	81	44	4	2	0	26	8.653	0.034
Modernizing existing facilities for new programs and uses.	51	48	26	4	0	28	3.522	0.318
Bringing in more history, arts and culture to all spaces.	54	56	14	5	1	27	4.524	0.341
Creating new greenways to fill gaps and add access points.	83	38	7	2	0	27	5.333	0.149
Make existing high use spaces more durable and resilient	60	50	13	1	0	33	5.28	0.152
Enhance the natural beauty and ecology of existing spaces	102	21	4	5	0	25	4.06	0.255
Make existing places more accessible	70	41	15	1	0	30	2.755	0.431
Establish partnerships to help with upkeep	54	51	16	4	0	32	2.64	0.62

Create new parks	68	39	12	5	2	31	8.842	0.065
Create new natural spaces	76	34	9	4	1	33	2.621	0.623
Create new conservation areas	70	45	8	3	0	31	2.912	0.405
Differences between ethnic groups are statistically significant (Chi-square statistic $p < 0.05$ )								

Table 21 shows that parks serve different purposes for different groups of people with Latinos placing a higher value on parks when compared to non-Latinos. For example, Latinos are more likely to highly value spending time with family and friends (80.14%;  $n=109$ ), experiencing natural scenery (65.44%;  $n=89$ ), relaxing (75%;  $n=102$ ), and enjoying fresh air (84.96%;  $n=113$ ) in parks as extremely important. Non-Latinos value highest the enjoyment of fresh air (84.71%;  $n=133$ ), being outdoors (83.43%;  $n=131$ ), listening to sounds of nature (62.42%;  $n=98$ ), and experiencing natural scenery (64.97%;  $n=102$ ). The Chi-square test was conducted to examine the association between usage and importance of parks among Latinos and non-Latinos in Mecklenburg County, as presented in Table 21. Significant associations were found for several aspects of park usage. Specifically, Latinos and non-Latinos differed significantly in their priorities regarding exercising alone ( $\chi^2 = 19.65$ ,  $df = 4$ ,  $p < 0.001$ ), exercising with others ( $\chi^2 = 27.19$ ,  $df = 4$ ,  $p < 0.001$ ), playing with children ( $\chi^2 = 24.76$ ,  $df = 4$ ,  $p < 0.001$ ), experiencing quiet ( $\chi^2 = 20.93$ ,  $df = 4$ ,  $p < 0.001$ ), being alone ( $\chi^2 = 18.02$ ,  $df = 4$ ,  $p < 0.001$ ), and being in a group and chatting ( $\chi^2 = 22.88$ ,  $df = 4$ ,  $p < 0.001$ ). These results indicate significant ethnic differences in preferences for specific park activities, highlighting distinct usage patterns and priorities between Latinos and non-Latinos in the county.

Table 21. Latinos and Non-Latino Usage and Importance of Parks

<b>Latinos and Non-Latino Usage and Importance of Parks Crosstabulation</b>								
<b>Latinos Park Users (N=136)</b>								
<b>Use and Importance of Park</b>	<b>Extremely Important</b>	<b>Important</b>	<b>Neutral</b>	<b>Slightly Unimportant</b>	<b>Not Important</b>	<b>Missing</b>	<b>X<sup>2</sup></b>	<b>Sig.</b>
To spend time with family/friends	109	22	3	0	0	2	4.96	0.174
To view wildlife	66	42	20	3	1	4	7.67	0.104
To experience natural scenery	89	34	10	0	0	3	2.17	0.704
To exercise alone	67	25	30	3	6	5	19.65	<0.001
To exercise with others	69	29	23	7	4	4	27.19	<0.001
To relax	102	28	3	0	0	3	2.93	0.402
To play with your children	98	15	14	1	2	6	24.76	<0.001
To enjoy fresh air	113	19	1	0	0	3	0.23	0.891
To be outdoors	110	18	4	0	0	4	0.06	0.967
Listen to sounds of nature	94	26	9	3	0	4	3.22	0.359
Experience quiet	89	33	9	1	0	4	20.93	<0.001
To be alone	60	35	25	1	9	6	18.02	<0.001
To be in a group and chat	73	30	16	6	2	9	22.88	<0.001
<b>Non-Latinos Park Users (N=157)</b>								
<b>Use and Importance of Park</b>	<b>Extremely Important</b>	<b>Important</b>	<b>Neutral</b>	<b>Slightly Unimportant</b>	<b>Not Important</b>	<b>Missing</b>	<b>X<sup>2</sup></b>	<b>Sig.</b>
To spend time with family/friends	111	39	6	1	0	0	4.96	0.174
To view wildlife	64	53	23	10	7	0	7.67	0.104
To experience natural scenery	102	43	9	1	1	1	2.17	0.704
To exercise alone	42	51	40	8	14	2	19.65	<0.001
To exercise with others	37	48	45	12	15	0	27.19	<0.001
To relax	111	37	8	0	1	0	2.93	0.402
To play with your children	74	24	36	2	16	5	24.76	<0.001
To enjoy fresh air	133	21	2	0	0	1	0.23	0.891
To be outdoors	131	22	4	0	0	0	0.06	0.967
Listen to sounds of nature	98	43	13	2	0	1	3.22	0.359
Experience quiet	70	47	26	5	7	2	20.93	<0.001
To be alone	45	43	34	14	21	0	18.02	<0.001
To be in a group and chat	50	57	27	6	15	2	22.88	<0.001

Table 22 shows the most important activity for Latinos in a park is walking (77.5%; n=105) (see Table 22). Birdwatching and photography are also significant activities for Latinos (45.6%; n=62) and 58.1%; n=79) considering these extremely important. Fishing and cultural events/festivals/music are less important activities for Latinos. For non-Latinos, walking is also the most important activity in a park (75.8%; n=119). Picnicking is the second most important activity for this group (53.5%; n=84). Cultural events (43.3%; n=68) are also considered an important activity factor for parks, along with biking and running/jogging. fishing is the least important activity for non-Latinos. The Chi-square test was conducted to examine the association between important park activities and ethnicity among park users in Mecklenburg County, as presented in Table 22. Statistically significant associations were found for several activities. Specifically, Latinos and non-Latinos differed significantly in their perspectives on the importance of organized/programmed sports ( $\chi^2 = 11.31$ ,  $df = 4$ ,  $p = 0.022$ ), unprogrammed sports ( $\chi^2 = 17.21$ ,  $df = 4$ ,  $p = 0.002$ ), birdwatching ( $\chi^2 = 17.62$ ,  $df = 4$ ,  $p = 0.001$ ), photography ( $\chi^2 = 29.16$ ,  $df = 4$ ,  $p < 0.001$ ), and fishing ( $\chi^2 = 10.78$ ,  $df = 4$ ,  $p = 0.029$ ). These findings underscore significant ethnic disparities in the perceived importance of specific park activities, highlighting distinct preferences and usage behaviors between Latinos and non-Latinos in the region.

Table 22. Important Recreational Activities in the Park

<b>Crosstabulation Important Activities Practiced at the Park and Ethnicity</b>								
<b>Latinos (N=136)</b>								
<b>What activities are important for you in a park</b>	<b>Extremely Important</b>	<b>Moderately Important</b>	<b>Neutral</b>	<b>Slightly Important</b>	<b>Not at all Important</b>	<b>Missing</b>	<b>X<sup>2</sup></b>	<b>sig.&lt;.05</b>
Walking	105	22	3	0	2	4	4.77	0.315
Biking	70	26	15	3	10	12	6.31	0.177
Organized/programmed sports (baseball, soccer, tennis, etc.)	48	26	29	6	13	14	11.31	0.022



Unprogrammed sports (for example pick-up basketball)	46	23	28	11	12	16	17.21	0.002
Running/jogging	73	28	12	2	10	11	9.34	0.053
Birdwatching	62	21	25	7	13	8	17.62	0.001
Photography	79	23	15	4	6	9	29.16	0.001
Picnicking	80	26	12	2	5	11	6.96	0.138
Yoga	35	22	28	10	19	22	3.06	0.547
Fishing	31	12	30	11	30	22	10.78	0.029
Cultural Events/festivals/music	50	34	18	7	6	21	4.58	0.333
<b>Non-Latinos (N=157)</b>								
<b>What activities are important for you in a park</b>	<b>Extremely Important</b>	<b>Moderately Important</b>	<b>Neutral</b>	<b>Slightly Important</b>	<b>Not at all Important</b>	<b>Missing</b>	<b>X<sup>2</sup></b>	<b>sig.&lt;.05</b>
Walking	119	32	4	2	0	0	4.77	0.315
Biking	64	41	20	9	16	7	6.31	0.177
Organized/programmed sports (baseball, soccer, tennis, etc.)	32	31	43	9	29	13	11.31	0.022
Unprogrammed sports (for example pick-up basketball)	27	35	42	8	31	14	17.21	0.002
Running/jogging	65	37	22	11	12	10	9.34	0.053
Birdwatching	36	36	33	14	26	12	17.62	0.001
Photography	47	39	31	16	18	6	29.16	<0.001
Picnicking	84	46	18	0	3	6	6.96	0.138
Yoga	34	39	39	12	22	11	3.06	0.547
Fishing	18	17	41	13	57	11	10.78	0.029
Cultural Events/festivals/music	68	48	23	2	9	7	4.58	0.333

Table 23 describes responses to an open-ended question about the importance of Freedom Park to park users. For Latinos, the value of the park as a space for spending time with the family (22.8%; n=31) was most mentioned followed by Relaxation-Stress free (18.4%; n=25). Other prominent themes included using the park as a place for playing time with kids (16.9%; n=23) and enjoying nature and aesthetics (14.7%; n=20).

Table 23. Importance of Park Activities for Latinos

<b>Latinos</b>		
<b>Why is going to this park important to you and what does it mean to you?</b>		
<b>Importance Themes</b>	<b>N</b>	<b>n%</b>

Family time	31	22.8
Play time kids	23	16.9
Tranquility-peace-calm	7	5.1
Relaxation-Stress free	25	18.4
Enjoy Nature-Aesthetics	20	14.7
Park Design	4	2.9
Freedom	1	0.7
Happiness	1	0.7
Awe-God creation	2	1.5
Walk	2	1.5
Fresh air	2	1.5
Recreation	2	1.5
Close Park home	2	1.5
Missing	14	

For non-Latinos, the highest number of participants described relaxation and stress relief (17.2%; n=27) and enjoying nature and feeling connected to it (9.6%; n=15) (Table 24). Others appreciate the park for its abundance of being outdoors (10.2%; n=16). Social bonds 9.6% (n=15) prioritize spending time with friends, while only 5.1% (n=8) value family gatherings. While there were other responses, they were not nearly as common.

Table 24. Importance of Parks for Non-Latinos

<b>Non-Latinos</b>		
<b>Why is going to this park important to you and what does it mean to you?</b>		
<b>Importance themes</b>	<b>Count</b>	<b>Percentage</b>
Family time	8	5.1
Play time kids	9	5.7
Relaxation-stress free	27	17.2
Enjoy nature-connection	15	9.6
Recreation	7	4.5
Fresh air	10	6.4
Scape	1	0.6
Walk	3	1.9
Memories	5	3.2
Home close park	2	1.3
Exercise	5	3.2
Landscape scene	7	4.5
Friends	15	9.6
Outdoors	16	10.2
Park amenities-Design	8	5.1
Peacefulness	5	3.2
Safe	2	1.3
not important	1	0.6
Health- mind	5	3.2
Missing	6	

#### 4.1.5 Awareness of Formal Park Planning Processes

Most people were unaware of the Mecklenburg County master park planning process that was underway. Latinos (75.7%; n=103) and non-Latinos (86.0%; n=135) indicated that they were not aware of planning (See Table 25). Further, few were aware that community views were being solicited. Most Latinos (64.0%; n=87) and non-Latinos (61.8%; n=97) were unaware that community views and input were solicited in an open process. Only 7.5% (n=7) Latinos reported providing feedback, while among the non-Latino participants only one person indicated the same. Only four Latinos and one non-Latino reported being aware of *MeckPlaybook* (Mecklenburg County Parks and Recreation Department, 2021), the online website for the plan.

The Chi-square test revealed significant associations between ethnicity and awareness of formal park planning processes, as well as community view input among park users, but not for awareness of the *MeckPlaybook*, as detailed in Table 25. Specifically, Latinos showed a significantly higher awareness of formal park planning processes compared to non-Latinos ( $\chi^2 = 4.58$ ,  $df = 1$ ,  $p = 0.032$ ). Similarly, there was a significant difference in awareness of community view input between Latinos and non-Latinos ( $\chi^2 = 5.939$ ,  $df = 1$ ,  $p = 0.015$ ). However, no significant association was found for awareness of the *MeckPlaybook* ( $\chi^2 = 3.697$ ,  $df = 1$ ,  $p = 0.055$ ), indicating similar levels of awareness between Latino and non-Latino Park users in this regard. These findings highlight notable differences in awareness levels of formal park planning processes and community input among ethnic groups within the study, underscoring potential disparities in engagement with park-related initiatives.

Table 25. Community Awareness of Park Planning Processes

Awareness of Formal Park Planning Processes				
	Latinos N=136 (n%)	non-Latinos N=157 (n%)	Total	Chi-Square Test X <sup>2</sup> (df, P)
Yes	31 (22.8)	21(13.4)	52	4.58 (1, 0.032)
No	103(75.7)	135(86.0)	238	
Missing	2	1	3	
Community View Input				
	Latinos N=136 (n%)	non-Latinos (n=157)	Total	Chi-Square Test X <sup>2</sup> (df, P)
Yes	12(8.8)	3(1.9)	15	5.939 (1, .015)
No	87(64.0)	97(61.8)	184	
Missing	37	57	94	
Aware about MeckPlaybook				
	Latinos (n=136)	non-Latinos (n=157)	Total	Chi-Square Test X <sup>2</sup> (df, P)
Yes	4(3.7)	1(0.6)	5	3.697 (1, 0.055)
No	122(89.7)	156(99.4)	278	
Missing	10	0	10	
Differences between ethnic groups are statistically significant (Chi-square statistic p < 0.05)				

#### 4.1.6 Well-being Index

Table 26 presents the well-being index for Latinos and non-Latinos, including the eight dimensions, including standard of living, personal health, achieving in life, personal relationships, personal safety, community-connectedness, future security, and spirituality/religion. Latinos considered personal safety (score 8.0) as one of the main factors that affect well-being followed by standard of living (score 7.8). For non-Latinos personal safety (score of 8.3), spirituality (7.61), personal relationships (score 7.73) and personal health are all most important. There is a statistically significant difference between the well-being scores of Latinos and non-Latinos in the domain area of spirituality/religion.

The Chi-square test identified a statistically significant association between ethnicity and the perceived importance of spirituality or religion in the well-being score index for Latinos ( $\chi^2 = 21.30$ ,  $df = 7$ ,  $p = 0.03$ ). This indicates that Latinos attributed a higher mean score to spirituality or religion compared to non-Latinos. However, no significant associations were found between ethnicity and other dimensions such as standard of living ( $\chi^2 = 10.13$ ,  $df = 7$ ,  $p = 0.25$ ), personal health ( $\chi^2 = 14.21$ ,  $df = 7$ ,  $p = 0.16$ ), achieving in life ( $\chi^2 = 13.95$ ,  $df = 7$ ,  $p = 0.17$ ), personal relationships ( $\chi^2 = 15.80$ ,  $df = 7$ ,  $p = 0.15$ ), feeling safe ( $\chi^2 = 15.91$ ,  $df = 7$ ,  $p = 0.12$ ), community involvement ( $\chi^2 = 13.01$ ,  $df = 7$ ,  $p = 0.29$ ), and future security ( $\chi^2 = 16.31$ ,  $df = 7$ ,  $p = 0.13$ ).

Table 26. Well-being Index Scores for Latinos and non-Latinos

<b>Well-being Score Index of Latinos and non-Latinos</b>						
<b>Latinos (N=136)</b>	<b>score</b>	<b>mean</b>	<b>SD</b>	<b>Var</b>	<b>Missing</b>	<b>Chi-Squared test X<sup>2</sup> (df, P)</b>
1. your standard of living?	7.8	8.6	1.77	3.16	2	10.13 (8, 0.25)
2. your personal health?	7.3	8.3	1.99	3.99	6	14.21 (8, 0.16)
3. what you are achieving in life?	7.0	8.1	2.04	4.18	8	13.95 (8, 0.17)
4. your personal relationships?	7.6	8.1	2.03	4.15	7	15.80 (8, 0.15)
5. how safe do you feel?	8	8.5	1.86	3.48	9	15.91 (8, 0.12)
6. feeling part of your community?	7.2	7.5	2.23	4.98	7	13.01 (8, 0.29)
7. your future security?	7.2	7.9	2.16	4.70	11	16.31 (8, 0.13)
8. your spirituality or religion?	7.4	8.2	2.43	5.93	8	21.30 (8, 0.03)
<b>Non-Latinos (N=157)</b>	<b>score</b>	<b>mean</b>	<b>SD</b>	<b>Var</b>	<b>Missing</b>	<b>Chi-Squared test X<sup>2</sup> (df, P)</b>
1. your standard of living?	7.3	8.6	1.77	3.16	1	10.13 (8, 0.25)
2. your personal health?	7.7	8.3	1.99	3.99	4	14.21 (8, 0.16)
3. what are you achieving in life?	7.0	8.1	2.04	4.18	4	13.95 (8, 0.17)
4. your personal relationships?	7.6	8.1	2.03	4.15	4	15.80 (8, 0.15)
5. how safe do you feel?	8.3	8.5	1.86	3.48	4	15.91 (8, 0.12)
6. feeling part of your community?	6.7	7.5	2.23	4.98	4	13.01 (8, 0.29)
7. your future security?	6.9	7.9	2.16	4.70	4	16.31 (8, 0.13)
8. your spirituality or religion?	7.6	8.2	2.43	5.93	4	21.30 (8, 0.03)

#### 4.1.7 Photo Elicitation

Participants were shown eight images (see Figure 12) of urban green spaces, and they were asked to describe their thoughts, feelings, and experiences associated with each image. They were also asked to identify their favorite and least favorite images from the images. This exercise aimed to capture a broad spectrum of emotional and cognitive responses to different urban green spaces, providing insight into individual preferences and perceptions. Participants were encouraged to elaborate on their descriptions, highlighting specific elements that contributed to their positive or negative reactions. For instance, they might comment on the presence of greenery, water features, pathways, or the overall ambiance depicted in the images.

Additionally, participants were prompted to explain the reasons behind their choices for favorite and least favorite images, delving into aspects such as perceived safety, aesthetic appeal, accessibility, and potential for recreational activities. This qualitative data collection method allowed for a nuanced understanding of the factors that influence people's experiences and preferences regarding urban green spaces.

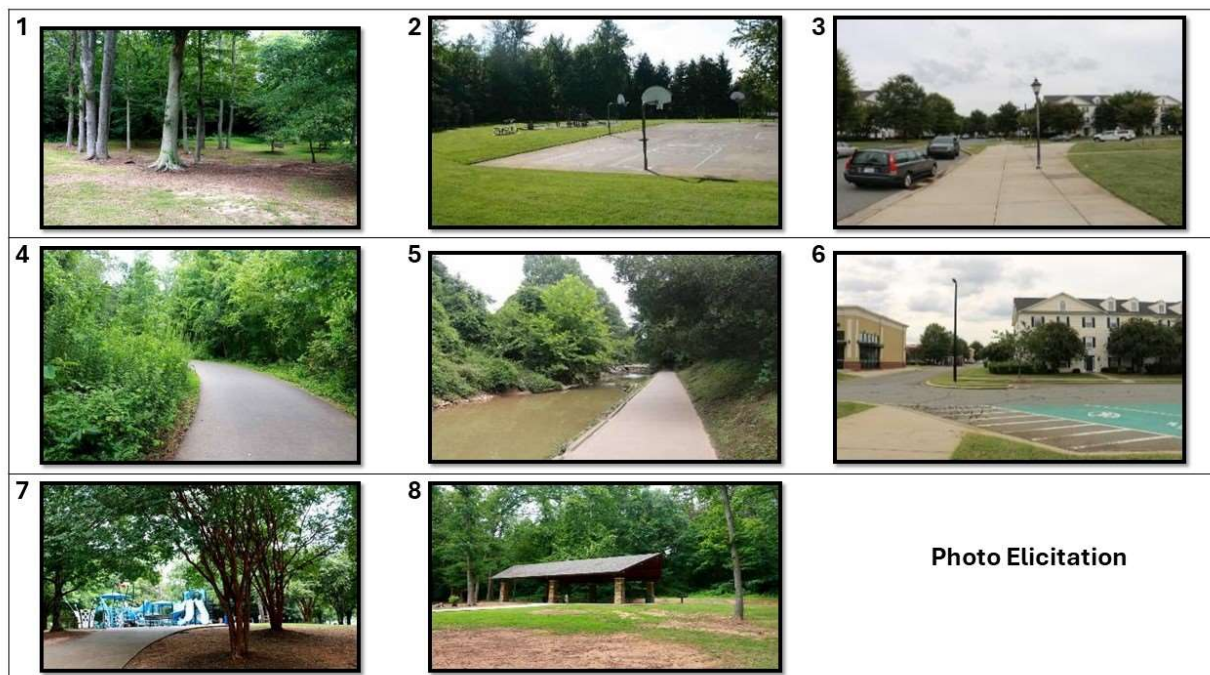


Figure 12. Photo Elicitation Images Selected  
Source: Own authorship Photography

Table 27 presents the distribution of favorite images among Latinos and non-Latinos. Image categories are numbered from 1 to 8, with each row displaying the count and percentage of respondents who favored a particular image. For instance, in Image 1, 40 Latinos (29.41% of the Latino respondents) and 45 non-Latinos (28.66% of the non-Latino respondents) selected it as their favorite. The total number of respondents for Image 1 is 85 (29.01% of the overall sample).

Table 27. Latinos and non-Latino Favorite Image Selected

Favorite Images Latinos & non-Latinos						
Image	Latinos (N=136)	n%	Non-Latinos (N=157)	n%	Total (N=293)	n%
1	40	29.4	45	28.6	85	29.0
2	6	4.4	13	8.2	19	6.4
3	1	0.7	2	1.2	3	1.0
4	41	30.1	56	35.6	97	33.1
5	16	11.7	27	17.1	43	14.6
6	4	2.9	1	0.6	5	1.7
7	18	13.2	11	7.0	29	9.8
8	10	7.3	2	1.2	12	4.0

The least favorite image overall was Image 5, with 20.76% of all respondents selecting it as their least favorite (See Table 28). It was slightly more disliked by Latinos (21.9%; n=29) than non-Latinos (19.6%; n=31). The second least favorite image was Image 1 (19.38%) overall, with Latinos (19.7%; n=26) and non-Latinos (19.1%; n=30). There were some differences in image preferences between Latinos and non-Latinos. For example, Image 6 was more disliked by Latinos (4.55%; n=6) than by non-Latinos (0.64%; n=1), while Image 3 was more disliked by non-Latinos (8.92%; n=14) than by Latinos (7.58%; n=10).

Table 28. Latinos Least Favorite Image

Latinos & non-Latinos least favorite image						
Image	Latinos (N=136)	n%	Non-Latinos (N=157)	n%	Total (N=289)	n%
1	26	19.1	30	19.1	56	19.3
2	13	9.5	11	7.0	24	8.3
3	10	7.3	14	8.9	24	8.3
4	14	10.3	16	10.2	30	10.3
5	29	21.3	31	19.7	60	20.7
6	6	4.4	1	0.6	7	2.4
7	18	13.2	27	17.2	45	15.5
8	16	11.7	27	17.2	43	14.8
Note: 4 missing Latinos						



Table 29 shows the favorite feelings and emotions that participants described based on what the images evoked. This table presents positive emotions and feelings associated with nature and recreational activities, grouped into three main themes: "Nature," "Positive-Comfort Feelings," and "Recreation-Social Cohesion." The theme "Nature" comprises descriptors that evoke positive perceptions of the natural environment. Words such as "Clean," "Colorful," and "Pretty" emphasize visual appeal, while terms like "Space," "Quality," and "Amplitude" suggest openness and expansiveness. References to elements like "Trees," "Water," and "Greenery" highlight the diversity of nature, while words like "Around," "Open," and "Birds" imply engagement and connection with the surroundings.

Under "Positive-Comfort Feelings," descriptors like "cleanliness," "tranquility," and "happiness" evoke emotions such as peace, joy, and relaxation. In contrast, "Recreation-Social Cohesion" captures activities like walking, jogging, and picnicking that foster togetherness and enjoyment among individuals and families. This succinct overview emphasizes the diverse range of positive experiences facilitated by engagement with nature and recreational pursuits, promoting both well-being and social cohesion.

Table 29. Positive Emotions and Feelings Evoked

Nature		Positive-Comfort Feelings				Recreation-Social Cohesion	
Naturaleza	Clean	Peaceful	Excited	Impresiona	Relajas	Caminar	Caminamos
Nature	Colorful	Alive	Adventurous	Belonging	Relaje	Walk	Domingo
Aire	Space	Paz	Agradable	Blessed	Relaxing	Familia	Jogging
Arboles	Quality	Calm	Alegria	Calma	Vibrant	Niños	Familiar
Paisaje	Wide	Happy	Armonia	Calming	Recuerda	Kids	Familiares
Natural	Amplitud	Relaxed	Bien	Comfort	Recuerdos	Childhood	Hijo
Agua	Arbol	Tranquila	Bonita	Comodo	Revivido	Children	Hike
Bonito	Arroyo	Enjoy	Estar	Conecto	Tranquilo	Convivir	Jugamos
Trees	Around	Peace	Excelente	Connmigo	Orden	Day	Picnic
Verde	Bella	Love	Interaccion	Connected	Recordar	Diversion	Picnic
Ver	Belleza	Relaja	Libre	Descanso	Seguridad	Juegos	Actividades
Espacio	Open	Relajada	Memories	Disfrutan	Serenidad	Family	Amigos
Greenery	Pajaros	Relajado	Good	Disfruto	Lindo	Hijos	Niñas
Tierra	Pretty	Disfrutar	Relajante	Distraen	Relajacion	Pasar	Niñez
		Green	Relax	Distraer	Nice	Walking	Play
		Jugar	Reminds	Distraes	Loved	Playgroun	
		Casa	Respira	Emocion	Infancia	Recorrido	
		Libertad	Rodeada	Encanta	Inspirador	Social	
		Puro	Tranquilo	Encantan	Liberan	Vacacion	
		Respirar	Want	Energizer	Limpio	Running	
		Safe	Abrazarlos	Energized	Hermoso		
		Stress	Absence	Enjoying	Hogar		
		Abundance	Admirado	Free	Growing		
		Alone	Amo	Freedom	Harmony		
		Curious	Aseado	Fun			
			Feliz	Ganas			

Table 30 shows the least favorite feelings and emotions that participants described. This table provides an overview of emotions and feelings associated with least favorite urban images, emphasizing discomfort related to urbanization and the physical environment. Negative descriptors such as "commercialized," "industrial," "ugly," and "polluted" depict a grim urban landscape characterized by noise, pollution, and decay. Emotional responses like feeling "trapped," "stressed," "unsafe," and "bored" highlight the adverse impact of urban settings on individuals' well-being. This table underscores the need to address urban challenges to create more livable and emotionally supportive park and amenities for Mecklenburg County.

Table 30. Least Favorite Images Emotions and Feelings

Urbanization		Physical Environment		Discomfort Feelings	
Commercialized	Solido	Trapped	Peligro	Enfermar	Stress
Noise	Space	Estructuras	Lastimar	Inseguridad	Nada
Edificios	Loud	Ocupada	Lejos	Frio	Just
Industrial	Street	Uncomfortable	Enchanted	No sentimiento	Bitter
Parking	Sucio	Despejado	Upset	Aburrimiento	Inseguro(a)
Ugly	Sorroundings	Despoblado	Noisy	Enfermar	Stress
Polluted	Traffic	Aislamiento	Concrete	Inseguridad	Nada
Turbia	Dirty	Empty	Taken	Desolado	Bored
Calle	Artificial	Dangerous	Annoyed	Stress	Boring
Destroyed	Cluttered	Reducido	Sola	Deprimido	Aburrido
Turn	Corporations	Solamente	Disappointed	Solo	Weird
Urbanismo	Block	Sad	Pavimento	Miedo	Peligroso
Dry	Lot	Anxious	Cement		
Unwalkable	Trafico	Building			
Caos	Urbano				

#### 4.2 MANOVA Analysis: Freedom Park Survey

The purpose of running MANOVA is to find if there are differences of variances between participants Latinos and non-Latinos. For This case, these are the dependent variables: “Overall Satisfaction of Parks in Mecklenburg County”, “Experiences in the park”, “Usage and importance of Park” and, “Priorities for Investment Mecklenburg County Parks & Recreation” The Independent variables are those related with ethnicity if the participants were Latinos or Non-Latinos.

The dependent variables were created based on a composite index. Average scores were computed for each Likert scale item and the composite index was calculated for each respondent by averaging numbers to create a normalized score. For each variable, mean values are provided separately for Latinos and non-Latinos.

Table 31 shows the descriptive statistics Indexes for each of the dependent variables intercepting with the independent variable ethnicity. For instance, “Overall Satisfaction of Parks in Mecklenburg County,” the mean score for Latino individuals is 1.9501, while for non-Latino individuals it is 2.1509, indicating that non-Latino individuals have a slightly higher overall

satisfaction with parks and natural spaces in Mecklenburg County as compared to Latino individuals. In a similar way, “Experiences in the Park,” non-Latino participants mean is 1.827, showing slightly better experiences in the park than Latinos (1.756). The results indicate slight variation in from the results of means between the groups.

Table 31. Descriptive Statistics of Composite Indexes

<b>Ethnicity/ Hispanic (n=293)</b>		<b>Mean</b>	<b>Std. Deviation</b>
Overall Satisfaction of Parks and Natural Spaces in Mecklenburg County	Latino	1.9501	0.7973
	Non-Latino	2.1509	0.8251
Experiences in the park	Latino	1.7569	0.4836
	Non-Latino	1.8270	0.4136
Usage and importance of Park	Latino	1.5207	0.5133
	Non-Latino	1.8127	0.5029
Wellbeing Index	Latino	7.775	0.186
	Non-Latino	7.835	0.166
Priorities for Investment Mecklenburg County Parks & Recreation	Latino	1.1030	0.8051
	Non-Latino	1.4267	0.6711

Note: 11 missing values from the group Latino

Table 32 presents the results of the Lambda Test, which was conducted to investigate whether the covariance of the dependent variables differs across two groups (Latinos and Non-Latinos). The dependent variables considered include "Overall Satisfaction of Parks and Natural Spaces in Mecklenburg County," "Experiences in the park, Usage and importance of Park," "Well-being Index," and "Priorities for Investment Mecklenburg County Parks & Recreation." The design involves an intercept term and an interaction term between Ethnicity/Hispanic. The results indicate varying levels of significance across different factors. Notably, the Wilks' Lambda value of 0.024 and the high F-value of 2278.56 suggest a highly significant effect on the dependent variables.

Table 32. MANOVA-Wilks Lambda Test: Latinos and Non-Latinos Freedom Park

**Multivariate Test**

Effect		Value	F	Hypothesis df	Sig.	Partial Eta Squared
Intercept	Wilks' Lambda	0.024	2278.56 <sup>b</sup>	5.0	0.000	0.977
Ethnicity/Latino	Wilks' Lambda	0.897	6.347 <sup>b</sup>	5.0	0.000	0.104
a. Design: Intercept + ethnicity/Hispanic						
b. Exact statistic						

Table 33 displays the outcomes of the variable effects observed between Latino and non-Latino groups. Significantly, "Usage and importance of Park" ( $F = 23.034$ ,  $p < 0.001$ ) and "Priorities for Investment Mecklenburg County Parks & Recreation" ( $F = 13.559$ ,  $p < 0.001$ ) demonstrated significant differences, implying substantial differences in variance between the two groups. In contrast, "Experiences in the park" ( $F = 1.722$ ,  $p = 0.191$ ) and "Well-being Index" ( $F = 0.058$ ,  $p = 0.810$ ) did not yield statistically significant effects.

Table 33. Analysis Between Subjects Effects

Tests of Between-Subjects Effects					
Variables	Type III Sum of Squares	df	Mean Square	F	Sig.
Overall Satisfaction of Parks and Natural Spaces in Mecklenburg County	2.806	1	2.806	4.246	0.040
Experiences in the park	.342	1	0.342	1.722	0.191
Usage and importance of Park	5.934	1	5.934	23.034	0.000
Priorities for Investment Mecklenburg County Parks & Recreation	7.294	1	7.294	13.559	0.000
Well-being Index	.251	1	0.251	0.058	0.810
a. Design: Intercept + ethnicity/Hispanic					
b. Exact statistic					

### 4.3 Generalized Linear Model

In the Generalized Linear Model (GLM) analysis, describe the factors that were identified as significant contributors to the dependent variable of perception of well-being (see Table 34). Predictor variables included were demographic variables such as: age, gender, ethnicity

(Latino/non-Latino), race, educational level, civil status, annual income, and composite index such as: “Overall Satisfaction of Parks,” “Experiences in the Park,” “Usage and Importance of Park,” “Priorities for Investment” and “Usage & Importance of Park during COVID-19”.

Particularly, the age groups 18-30 and 31-40 exhibited positive and significant associations with well-being. Specifically, individuals aged 18-30 had a parameter estimate (B) of 2.937 (Std. Error = 0.9148,  $p = 0.001$ ), indicating a substantial positive impact on well-being compared to the reference group (age 51-60). Similarly, the age group 31-40 demonstrated a significant positive effect with a parameter estimate (B) of 1.897 (Std. Error = 0.9154,  $p = 0.038$ ). These findings suggest that younger adults perceive higher levels of well-being.

Further, the variable 'Experiences in the park' was found to significantly influence well-being, with a negative parameter estimate (B) of -1.066 (Std. Error = 0.4876,  $p = 0.029$ ). A negative coefficient observed for this variable, indicating that as individuals assign less importance to their experiences in the park, both usage and the importance of the park, the perception of well-being tends to diminish. These results suggest that as individuals prioritize and find importance in using the park to have quality experiences, their perception of well-being tends to improve. This implies that active engagement with the park positively contributes to the overall sense of well-being. These significant predictors highlight the ways in which demographic factors and environmental experiences interact to shape perceptions of well-being.

Table 34. Generalized Linear Model (GLM) Freedom Park

Parameter Estimates					
Parameters	B	Std. Error	95% Wald Confidence Interval		Sig.
			Lower	Upper	
Age (18-30)	2.937	0.9148	1.144	4.730	0.001
Age (31-40)	1.897	0.9154	0.103	3.691	0.038
Age (41-50)	1.638	1.1816	-0.678	3.953	0.166
Age (51-60)	0 <sup>a</sup>				
Ethnicity (Latino)	0.695	0.4842	-0.254	1.644	0.151
Ethnicity (No-Latino)	0 <sup>a</sup>				
Gender (Male)	0.136	0.3463	-0.543	0.815	0.694
Gender (Female)	0 <sup>a</sup>				
Race (Black)	0.640	0.5382	-0.415	1.695	0.234
Race (Asian)	-0.113	0.6154	-1.319	1.093	0.854
Race (American Indian)	2.960	1.7777	-0.524	6.444	0.096
Race (White)	0 <sup>a</sup>				
Income (Less than \$25,000)	-0.713	0.6180	-1.924	0.498	0.249
Income (25,000-\$34,999)	0.494	0.7913	-1.057	2.045	0.532
Income (\$35,000-\$49,999)	0.015	0.6879	-1.334	1.363	0.983
Income (\$50,000-\$74,999)	0.492	0.6051	-0.694	1.678	0.416
Income (\$75,000-\$99,999)	1.350	0.9704	-0.552	3.252	0.164
Income (\$100,000-\$149,999)	0.967	0.7030	-0.411	2.345	0.169
Income (\$150,000-\$199,999)	0.613	0.8524	-1.057	2.284	0.472
Income (\$200,000 or more)	1.562	0.8113	-0.028	3.152	0.054
Income (Preferred not to disclose)	0 <sup>a</sup>				
Civil Status (Single)	0.154	0.9491	-1.707	2.014	0.872
Civil Status (Married)	-0.333	0.8906	-2.079	1.412	0.708
Civil Status (Common Law Marriage)	1.625	1.1516	-0.632	3.882	0.158
Civil Status (Widow/Widower)	0 <sup>a</sup>				
Overall Satisfaction of Parks	-0.179	0.2343	-0.639	0.280	0.444
Experiences in the park	-1.066	0.4876	-2.021	-0.110	0.029
Usage and importance of Park	0.208	0.4241	-0.623	1.040	0.623
Priorities for Investment	-0.085	0.2533	-0.582	0.411	0.736
Usage & Importance of Park during COVID-19	0.041	0.3136	-0.573	0.656	0.895

Dependent Variable: AVG-IndexWB

a. Set to zero because this parameter is redundant.

#### **4.4 Discussion of Freedom Park Results**

The central goal of this study is to understand how Latinos access, utilize and value Freedom Park in Mecklenburg County, NC and how urban natural green spaces influence their perceived well-being. In this context, the data collected at Freedom Park suggests that there are differences in the way Latinos and non-Latinos benefit from urban green spaces in parks. The results suggest that the perception of natural landscape and its relationship to well-being is complex and multifaceted.

This study suggests that the presence of, and interaction with, urban green spaces is positively associated with the perception of well-being for both Latinos and non-Latinos, with distinct importance to Latinos. The significance of the findings lies in the potential to improve access to and utilization of public parks for Latinos, a population that is rapidly growing in Mecklenburg County. Insights from the survey provide preferences and facilitators that affect Latino Park usage, which can inform the development of culturally relevant park programs and policies that promote health equity and community well-being for all.

##### **4.4.1 Access**

The results of this study highlight a concerning disparity in park access between Latinos and non-Latinos in Mecklenburg County. The data shows that Latinos in the area have less access to Freedom Park per week compared to non-Latinos who have greater access to the park. Similarly, more than 60% of Latinos have an average driving time of 16-30 minutes to arrive at the park, which exceeds the limits of 5 minutes for driving and 10 minutes' walk established by the Mecklenburg County Parks as part of the master plans goals. This finding is particularly significant given the numerous health benefits associated with outdoor recreation access, which



are particularly important in low-income communities where access to other forms of health care may be limited (Jackson, 2012; Kabisch & Haase, 2014; Rigolon, 2016). Limited access can result in detrimental health inequalities, diminishing the chances of people's access to a healthy and flourishing life (Martin et al., 2004; Sefcik et al., 2019).

#### **4.4.2 Access during COVID-19 Restrictions**

During the pandemic COVID-19 because they remained open, parks in Mecklenburg County played a crucial role in providing people with access to outdoor spaces and opportunities to engage in physical activity and recreation while adhering to social distancing. Parks provided a place for people to connect with nature, spend time with family, enjoy fresh air, and reduce stress. This is particularly important given the mental health challenges that arose during the lockdown restrictions. However, not all county residents have the same access to parks with structural inequities and so could not receive the same benefits during this critical period. Health inequities were intensified at a moment when the resources were needed the most. For instance, during the stay-at-home order natural spaces such as parks remained open to the public. Nature outdoors are great places for practicing social distancing. However, the distribution, quality, and access to urban green spaces is not equitably distributed, especially among segregated minority groups such as Latinos (Jennings et al., 2017).

Freedom Park was an important resource for Latinos throughout the lockdown period of the pandemic. However, Latinos are highly dependable on cars to access parks, but during the restriction orders the parking lots were closed for several months. Latinos visited the park to enjoy the outdoor and natural space with a preference for spending time with children. People wanted to be outside to escape from the stress of confinement, especially families with kids and

no access to natural space. This group could have benefited more if they had parks that were within walking distance to their homes. Power structures across the U.S have resulted in Latino communities having more limited quality, proximity and acreages of parks (Rigolon, 2016). This in turn minimizes access to those benefits that urban green spaces can provide among everybody. Dony (2016) described neighborhoods in Mecklenburg County with higher concentrations of minorities had lower number of parks per square mile across the city revealing environmental injustice and health disparities. During the pandemic, this then intensified the inequities by limiting benefits of being in these spaces.

Benefits from the interaction with urban green spaces can provide stress relaxation and enhanced attention (Ulrich et al., 1991). Other authors described the important role of parks in American urban life, and they found that the interaction with these spaces specifically parks deliver benefits such as mitigate allergies, and reduce cardiovascular, respiratory problems (Aerts et al., 2018) and ecological benefits (Twohig-Bennett & Jones, 2018). Unfortunately, with more limited access, Latinos may not have had the same opportunity for fully experiencing health benefits during stay home orders, even though they value the park as an important source to interact with family and nature.

#### **4.4.3 Usage and Importance of Urban Green Space for Latinos**

The parks in Mecklenburg County provide a welcoming and inclusive environment that allows Latinos to engage in activities that strengthen family bonds, enhance social connections, and promote overall well-being. The usage of parks among Latinos in Mecklenburg County is an important aspect of their recreational and leisure activities.

The presence of Latinos as park users in this county is notable, particularly considering that many of them do not reside in the closest neighborhoods where the park is located. This suggests that parks in the region are considered as special places for the diverse Latino community. Latinos spend time with their families at parks, utilizing them as spaces for enjoyment, practice unprogrammed and programed games, relaxation, and connection with nature and the surrounding landscape. This aligns with the cultural values placed on family and communal experiences within the Latino community. Non-Latinos recall the importance of enjoying the natural aspects of parks but more with friends than with family. These preferences align with several studies revealing cultural preferences, behavior and perceptions of parks (Jennings, Larson, & Yun, 2016; Jennings & Bamkole, 2019; Lara-Valencia & Garcia-Perez, 2018).

Mecklenburg County parks may not meet the needs and preferences of Latino Park users depending on how the park is designed or the amenities. Prior studies have recognized the importance and significance that certain places hold for people in various ways, including through connections with identity, emotions, culture, family life, and as well as aesthetic experiences (Gesler, 1992). Decision makers might need to consider a diverse range of cultural values, emotions and experiences when designing and managing parks for Latino communities. Non-Latinos demonstrates a concentration of participants with higher education levels (college degrees, master's, doctoral, or professional degrees) and correspondingly higher income levels than Latino Park users. The difference in preferred company during park visits is intriguing: Latinos tend to visit with family, emphasizing a communal and familial aspect, while non-Latinos lean towards visits with friends, indicating a social preference. Some studies considered

these cultural aspects as elements that reflect the values and practices that engage in where people interact (De Groot et al., 2002; Elmqvist et al., 2015; Fish et al., 2016).

Freedom Park is a destination park and a favorite among the residents of Mecklenburg and the region. Urban green spaces in parks with aesthetics qualities and design can attract more people (Cohen et al., 2016; Giles-Corti et al., 2005; Van Hecke et al., 2016). Similarly, amenities, such as playgrounds, trails, sports fields, fishing ponds, nature centers, and picnic areas, tree-covered areas, and sidewalks with vegetation, can promote park visitation (Cohen et al., 2016; Evenson et al., 2016; Giles-Corti et al., 2005; Tu et al., 2020).

Freedom Park has all these characteristics that can make it appealing to a diverse population. Both groups in the survey felt very welcome and happy to the place and most did not feel discriminated against. Overall, the natural features and recreational opportunities of the park positively influence their well-being.

Research literature has reported a significant connection between urban green spaces and the various benefits of interaction, encompassing physical, psychological, and social aspects (Larson et al., 2016).

In addition, they provide opportunities for recreation, health improvement, and cultural experiences (Chiesura, 2004; Van Hecke et al., 2016). Furthermore, spending time in parks can have attentional benefits (Kaplan & Kaplan, 1989; Kaplan, 1995) and help people recover from stress (Ulrich, 1983).

A deeper understanding of how Latinos utilize and interact with parks captures their experiences to inform policies and planning that ultimately reduces inequities and creates opportunities for improved well-being. Similarly, creating parks that address the needs and interests of Latinos is essential for achieving equitable access. If urban decision makers include

these attributes in responsive and sophisticated ways aiming to create walkable park resources for everyone, more people can interact with nature, enhance social cohesion, and improve their health and well-being.

#### **4.4.4 Positive and Negative Emotions Evoked from Urban Green Spaces**

The photo elicitation described the emotions that came from the favorite and least favorite image. Urban green spaces can provide elements to connect with nature obtaining certain benefits for well-being (Jennings & Bamkole, 2019; Rigolon, 2016; Rigolon et al., 2022).

In contrast, there are urban green spaces that can evoke negative feelings, particularly resulting from urbanization, lack of quality and maintenance, becoming less accessible or unsafe. Latinos felt more negatively towards the urbanization of urban green spaces and mentioned terms like deforestation, noise, pollution, stress, danger, and lack of green space.

All participants' favorite images were those that provided a sense of connection with nature. For Latinos they also provided a strong positive feeling with social connection and families, along with feelings of comfort created by natural spaces. Parks were frequently described as places where they could gather with friends and family. In contrast, the participants' least favorite urban green spaces were often those that were perceived as unsafe or unwelcoming normally caused by spaces that appeared more urbanized with concrete and lack of natural areas. These spaces were frequently described as places where they felt uncomfortable or threatened, or where they did not feel a sense of belonging or connection.

The open-ended questions in the survey and photo elicitation yielded several themes that illustrate the importance of natural spaces for Latinos. Table 35 highlights observations of natural spaces that included beauty, serenity connectedness with nature, and joy.

Table 35. Description of Natural Spaces

Participant quote	Translation	Interpretation
Relajado y admirado por la belleza del paisaje	Relaxed and admired by the beauty of the Landscape	The choice of words like "relaxed" and "admired" suggests a positive emotional response, indicating that the participant feels calm and appreciation when contemplating the beauty of the landscape. This highlights the emotional connection between nature and the participant's emotional well-being, indicating aesthetic appreciation and a relaxing experience.
“Libertad, relajación, tranquilidad, serenidad, interacción con la tierra”	Freedom, relaxation, tranquility, serenity, and interaction with nature land	The list of positive terms such as "freedom," "relaxation," "tranquility," and "serenity" underscores the richness of emotional experiences associated with interacting with nature. The mention of "interaction with the earth" suggests a direct connection with the natural environment, emphasizing the importance of physical and emotional connection with the earth to achieve a state of relaxation and serenity.
La naturaleza todo se ve muy bonito el ambiente el aire me gusta mucho	Nature looks pretty, the natural environment, the air I really like it	This comment reflects appreciation of nature, highlighting the overall aesthetics of the surroundings and the pleasant atmosphere. The statement that "everything looks very beautiful" suggests a positive and visually attractive perception of nature. The mention of the air reinforces the sensory connection, indicating an appreciation not only visually but also physically for the natural environment.
Me hace sentir en paz, armonía y tranquilidad. El paisaje es agradable, el color de la naturaleza.”	It makes me feel in peace, harmony and tranquility. The Landscape is pleasant, and the color of nature	The participant expresses an emotional connection to nature, associating feelings of peace, harmony, and tranquility with the pleasant landscape and the colors of nature presented in the image.
Happy, a feeling of belonging, security, and peace	Felicidad, sentimiento de pertenencia, seguridad y paz	This statement encapsulates a range of positive emotions associated with the experience in the park. The mention of "happy" might indicate a general sense of joy derived from the context, the interaction with a park environment. "Security" implies a perception of safety, linked to the environment's features or the overall atmosphere. Further, "peace" can include a sense of calm and serene emotional state, emphasizing the role and impact of the natural space in well-being.
Joyful, represents kids having fun	Representa los niños se divierten, alegría	This quote highlights the association of nature with joy, particularly the joy of children having fun. It adds a dynamic element to emotional experiences, suggesting that the presence of playful activities in nature contributes to a joyful and positive atmosphere. This interpretation highlights the diverse emotional responses linked to park nature interactions.
Playing brings joy in life	Jugar trae alegría a la vida	The statement emphasizes the revitalized effect of playing in nature, suggesting that engaging in playful activities contributes significantly to experiencing joy in life. This interpretation connects with the theme of nature as a facilitator of positive emotions and highlights the role of park activities in enhancing the overall well-being.

Table 36 presents voices that illustrate the importance of community when utilizing parks. The images evoked descriptions related to social cohesion of tight family-friends' bonds. This relates to some of the recreational aspects of parks that facilitate socialization. The following table highlights participant perspectives on how parks foster social cohesion. Through their quotes, participants reveal the importance of parks as venues for family gatherings, social interactions, and community engagement. The recurring themes include enjoying quality time with loved ones, participating in diverse activities, and experiencing a positive family atmosphere. These findings underscore the role of urban green spaces in enhancing social bonds and creating positive community experiences.

Table 36. Parks Facilitating Social Cohesion

Participant quote	Translation	Interpretation
“Por lo regular es un excelente sitio para pasar un domingo con la familia y convivir socialmente.”	“It is usually an excellent place to spend a Sunday with the family and live socially.”	The participant views the place as favorable to spending quality family time, especially on weekends. The use of "excellent" indicates a positive evaluation, suggesting that the natural environment of the park enhances the family's overall experience. The phrase "live socially" emphasizes the social aspect of the location, suggesting a sense of community and shared experiences, supporting the broader theme of the place fostering positive social interactions.
“Porque es un lugar donde todos nos podemos distraer observando las diferentes actividades donde se puede disfrutar de un buen ambiente en familia.”	“Because it is a place where we can all distract ourselves by observing the different activities where you can enjoy a good family atmosphere.”	The participant values parks as a source of distraction and engagement through observation and might participate in various activities. The mention of a "good family atmosphere" reinforces the positive social dynamics present in the park. This interpretation highlights the role of diverse activities in creating an appealing and family-friendly atmosphere, contributing to a positive experience for park visitors.
Diversion y tiempo de calidad con mi familia y amigos”	“Fun and quality time with my family and friends”	The participant briefly captures the essence of the park as a source of enjoyment and quality time spent with both family and friends. The use of "fun" emphasizes the recreational aspect, while "quality time" underscores the meaningful and positive experiences shared with loved ones. This quote aligns with the broader theme of the place serving as a social center for enjoyable interactions and shared moments.

Those pictures that had an absence of green space replaced by built features garnered more negative responses, reinforcing the value of green spaces for Latinos. They spoke about deforestation, commercialization, industrialization, and urbanism. Deforestation was associated with feelings of enfermar and the loss of natural beauty. Commercialization was associated with feelings of stress and being occupied. Industrialization was associated with noisy and polluted environments. Urbanism was associated with feelings of confusion and anxiety. Table 37 presents examples of quotes that convey these feelings.

Table 37. Negative Views of a Lack of Green Space

Participant quote	Translation	Interpretation
"Isolation and loneliness make me feel fear"	"El aislamiento y la soledad me dan miedo"	The participant associates the image with negative emotions, specifically fear, linked to the themes of isolation and loneliness depicted. This interpretation suggests that the visual elements evoke a sense of vulnerability and discomfort captured in the image.
"This picture feels less calm and more hectic and stressful because so man-made"	"Esta imagen provoca menos tranquilidad y más agitada y estresante porque está hecha por el hombre"	The participant perceives the image as less tranquil and more chaotic due to the pronounced human-made elements. The use of "hectic" and "stressful" suggests an emotional response associated with the constructed features in the photo. This interpretation emphasizes the role of human intervention in altering the perceived atmosphere of the depicted on the landscape.
"It makes me feel disappointed due to all the deforestation for the building process"	"Me decepciona toda la deforestación para el proceso de construcción"	The participant expresses disappointment, linking it to the visible impact of deforestation for construction. This interpretation underscores the environmental concerns raised by the photograph, indicating that the participant associates the image with a negative consequence of human development, affecting the natural landscape.

#### 4.4.5 Perception of Well-being: Experiences and Interpretations of Parks

Urban parks and green areas are important because they make life better and healthier for everyone by offering activities like exercise and relaxation (Jennings, Larson, & Yun, 2016; Maas et al., 2009). Park usage and the experiences have a positive effect on their well-being. So,



easy access to natural spaces in parks is extremely important because social and environmental benefits bring well-being, and health to urban living (Wolch et al., 2014).

The usage of parks and the experiences that people have in them play a vital role in the perception of well-being. Biopolitics and landscape theory can help to understand the factors that shape park availability, accessibility, and quality, as well as the cultural and emotional dimensions of parks. On one side, biopolitics comprises the political practices that shape social, environmental, cultural, economic, and geographical conditions under which humans interact (Dean, 2010). Agencies and governance structures stipulate policies, norms and master plans that lead to the level of Latino access. Taking into consideration elements from the landscape theory, including cultural and emotional aspects of the Latino population's needs, can offer valuable information on their perspectives and suggest actions and strategies for policymakers to mitigate environmental disparities. This can help to create equitable responsive for park plans and policies that help to enhance the health and well-being not only Latino groups but all residents of Mecklenburg County.

## **5 Phase II: Broad Survey of Latinos**

This chapter provides the results from a broad survey of Latinos in Mecklenburg County administered June-November 2022 that sought to capture the experiences and perspectives regarding urban green spaces in parks. The survey instrument was adjusted from the Freedom Park Survey and administered virtually rather than in-person to those more broadly recruited to represent Latinos beyond Freedom Park users. Recruitment was challenging, with several lessons learned that are described in the discussion. While the original goal for recruitment was 370, after exhaustive recruitment strategies, the goal was to capture at least 100 completed surveys through the multiple adjusted recruitment strategies. As such, this is not a randomly generated sample and is not generalizable. In total, there were 106 completed surveys out of 176 that had more than 70% of the answers completed. The broad survey had two primary goals:

1. establish the importance of natural spaces for the Latino population; and
2. evaluate if, and how, experiences and interpretations of natural urban spaces influence perceptions of well-being.

### **5.1 Survey Results**

Table 38 presents demographic reference data. In the end, only five people indicated they are non-park users and so results were presented to all who answered the survey. Most of the participants were park users between the ages of 18-40 years old (22.6%; n=24). Most park users were female (65.1%; n=69). Most park users were married (41.5%; n=44) followed by single (26.4%; n=28). Most participants had an annual income in the range of \$50,000-\$74,999 (15.1%; n=16) followed by those in the category \$35,000-\$49,999 (12.3%; n=13) and only 4.7% (n=5) of Latinos earned over \$150,000.

Table 38. Socio-Demographic of Surveyed Latino Population

<b>Demographic Data Latino Community</b>		
<b>Age</b>	<b>Latino (N=106)</b>	<b>n%</b>
18-30	24	22.6
31-40	31	29.2
41-50	19	17.9
51-60	6	5.7
61-70	0	0.0
70+ over	0	0.0
Missing	26	
<b>Sex</b>	<b>Latino (N=106)</b>	<b>n%</b>
Female	69	65.1
Male	19	17.9
Prefer not to disclose	2	1.9
Missing	16	
<b>Civil Status</b>	<b>Latino (N=106)</b>	<b>n%</b>
Single	28	26.4
Married	44	41.5
Common Law	4	3.8
Widow	1	0.9
Divorced	8	7.5
Missing	21	
<b>Income</b>	<b>Latino (N=106)</b>	<b>n%</b>
Less than 25,000	9	8.5
\$25,000-\$34,900	11	10.4
\$35,000-\$49,999	13	12.3
\$50,000-\$74,999	16	15.1
\$75,000-\$99,999	9	8.5
\$100,000-\$149,999	8	7.5
\$150,000-\$199,999	5	4.7
Do not wish to answer	13	12.3
Missing	22	20.8

Table 39 shows the educational levels of 106 Latinos. Most participants had a college or trade school degree (20.8%; n=22), a bias perhaps caused by the recruitment method and online nature of the survey.

Table 39. Survey Respondent Educational Level

	<b>Less than high school</b>	<b>Some high school</b>	<b>High school graduate or GED</b>	<b>Some college, business, or trade school</b>	<b>College, business or trade school degree</b>	<b>Some graduate school</b>	<b>Master's, doctoral, or professional degree</b>	<b>Total</b>
N	13	8	7	12	22	4	19	106
n%	12.3%	7.5%	6.6%	11.3%	20.8%	3.8%	17.9%	
Note: 21 Participants missing								

Table 40 shows the frequency of park visits among participants to any park (local, state, or national) and to parks in Mecklenburg County. Respondents visit parks quite often, typically more than once per month. Visitation rates increase slightly when asked about Mecklenburg County specifically. The results from the table indicate that 35.8% (n=38) of Latino users visiting parks 2-5 times per month reflect consistent engagement with recreational spaces. Similarly, multiple visits per week are common among Latino users, with 24.5% (n=36) reporting such frequency for any park and 19.8% for Mecklenburg County parks. Furthermore, examination of the frequency of usage of the most visited park reveals that 28.3% of Latino users visit it 2-11 times per year, indicating sustained interest in their preferred park.

Visits to a favorite park appear to be the most common. Freedom Park was the most popular and favored park (24.5%; n=26) followed by Reedy Creek Park (8.49%; n=9) and the rest distributed in small percentages across more than ten different parks.

Table 40. Frequency of Park Visits

<b>How often do you visit any park (Local, State or National)?</b>								
	1 time per week	Multiple times per week	1 time per month	2-5 times per month	2-11 times per year	1 time per year	No, never	Total
Latino User	20 (18.9%)	26 (24.5%)	9 (8.5%)	38 (35.8%)	9 (8.5%)	1 (0.9%)	2 (1.8%)	106
<b>How often do you visit a Mecklenburg County Park?</b>								
Latino User	20 (18.9%)	21 (19.8%)	12 (11.3%)	30 (28.3%)	14 (13.2%)	3 (2.8%)	5 (4.7%)	106
<b>Frequency of Usage of the Most Visited Park</b>								
Latino User	17 (16.0%)	20 (18.9%)	8 (7.5%)	30 (28.3%)	15 (14.2%)	3 (2.8%)	0	93
Note: 13 participants missing on frequency of Most visited park								

Table 41 shows the results of the participants' experiences and perceptions related to the park they most visited. Most participants strongly agreed or agreed that they felt happy 79.3%; n=84) when visiting this park and that their mind and thoughts were positively influenced

(71.7%; n=76). People felt safe in the park (74.4%; n=69) and perceived the park as clean and well-maintained (66.9%; n=71). Regarding accessibility and inclusivity, participants generally agreed that the signs and pamphlets were understandable to everybody (49.0%; n= 52) and that the park was welcoming to all people (67.9%; n=72). Some participants reported experiencing discrimination in the park (15.1%; n=16). Most participants agreed that the park provided enough recreational opportunities (58.5%; n=62) and that natural areas in the park provided beauty (71.7%; n=76). They acknowledged the park's contribution to their well-being (75.5%; n=80). Participants reported feeling relaxed and stress-free when in the park (76.4%; n=81) and expressed a sense of belonging (64.1%; n=68). Overall, findings revealed that park experiences were predominantly positive for the participants, with high levels of happiness, safety, cleanliness, and appreciation for the natural elements.

Table 41. Latino Experiences in the Most Visited Park in Mecklenburg County

<b>Latino Experiences in the Most Visted Park</b>										
<b>Experience</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neutral</b>	<b>Disagree</b>	<b>Strongly Disagree</b>	<b>Missing</b>	<b>Total</b>	<b>Var.</b>	<b>STD</b>	<b>Mean</b>
I feel happy when I visit this place.	45 (42.5%)	39 (36.8%)	5 (4.7%)	1 (0.9%)	0	16	106	0.426	0.65	1.58
I feel safe in this park.	29 (27.4%)	40 (37.7%)	16 (15.1%)	5 (4.7%)	0	16	106	0.729	0.85	1.97
The park is clean and well maintained.	29 (27.4%)	42 (39.6%)	16 (15.1%)	2 (1.9%)	1 (0.9%)	16	106	0.692	0.83	1.93
I have felt discriminated against in this park.	9 (8.5%)	7 (6.6%)	18 (17.0%)	29 (27.4%)	27 (25.5%)	16	106	1.602	1.26	3.64
The signs and pamphlets are understandable to everybody.	17 (16.0%)	35 (33.0%)	25 (23.6%)	10 (9.4%)	3 (2.8%)	16	106	1.054	1.02	2.41
The park is welcoming to all people.	33 (31.1%)	39 (36.8%)	12 (11.3%)	6 (5.7%)	0	16	106	0.765	0.87	1.9
The park provides enough recreational opportunities.	21 (19.8%)	41 (38.7%)	21 (19.8%)	7 (6.6%)	0	16	106	0.762	0.87	2.16
This park positively influences my mind and thoughts.	34 (32.1%)	42 (39.6%)	12 (11.3%)	2 (1.9%)	0	16	106	0.566	0.75	1.8
The park has beautiful natural areas.	34 (32.1%)	42 (39.6%)	13 (11.3%)	1 (0.9%)	0	16	106	0.528	0.72	1.79
Visiting the park helps me recover from mental fatigue.	42 (39.6%)	39 (36.8%)	8 (7.5%)	1 (0.9%)	0	16	106	0.479	0.69	1.64
The quality of the park is excellent.	24 (22.6%)	44 (41.5%)	17 (16.0%)	5 (4.7%)	0	16	106	0.684	0.82	2.03
There are enough natural areas in the park.	27 (25.5%)	43 (40.6%)	19 (17.9%)	1 (0.9%)	0	16	106	0.557	0.74	1.93
The natural areas in the park contribute to my well-being.	37 (34.9%)	43 (40.6%)	9 (8.5%)	1 (0.9%)	0	16	106	0.477	0.69	1.71
I feel relaxed and stress-free when I am at this park.	32 (30.2%)	49 (46.2%)	7 (6.6%)	2 (2.9%)	0	16	106	0.473	0.68	1.77
I feel a sense of belonging in this park.	28 (26.4%)	40 (37.7%)	17 (37.7%)	5 (4.7%)	0	16	106	0.73	0.85	1.99

A series of questions asked about investment priorities in parks by Mecklenburg County for park development (See Table 42). Enhancing existing neighborhood parks was deemed extremely important (52.4%; n=56) and important (41.5%; n=44). Modernizing existing facilities for new programs and uses was also highly valued with a vast majority considering this

extremely important (45.3%; n=48) and important (44.3%; n=47). Creating new parks garnered significant support, with a majority considering this important (51.9%; n=55). Similarly, the development of new greenways to fill gaps), add access points (61.3%; n=65), and the creation of new natural spaces (60.4%; n=64) were all highly favored. The integration of history, arts, and culture, enhancing natural beauty and ecology of existing spaces, and making places more accessible were all highly favored.

Table 42. Latinos' Important Areas of Investment

<b>Latinos Important Areas of Investment (N=106)</b>							
<b>The Important Areas for Investment by Mecklenburg County</b>	<b>Extremely Important</b>	<b>Important</b>	<b>Neutral</b>	<b>Slightly Unimportant</b>	<b>Not Important</b>	<b>Missing</b>	<b>Total</b>
Enhancing existing neighborhood parks.	56 (52.8%)	44 (41.5%)	4 (3.8%)	1 (0.9%)	0	1	106
Modernizing existing facilities for new programs and uses.	48 (45.3%)	47 (44.3%)	6 (5.7%)	2 (1.9%)	2 (1.9%)	1	106
Create new parks	55 (51.9%)	37 (34.9%)	9 (8.5%)	3 (2.8%)	1 (0.9%)	1	106
Creating new greenways to fill gaps and add access points.	65 (61.3%)	36 (34.0%)	3 (2.8%)	0	1 (0.9%)	1	106
Bringing in more history, arts and culture to all spaces.	58 (54.7%)	36 (34.0%)	10 (9.4%)	1 (0.9%)	0	1	106
Enhance the natural beauty and ecology of existing spaces	68 (64.2%)	34 (32.1%)	3 (2.8%)	0	0	1	106
Make existing high use spaces more durable and resilient	60 (56.6%)	39 (36.8%)	5 (4.7%)	0	1 (0.9%)	1	106
Establish partnerships to help with upkeep	53 (50.0%)	43 (40.6%)	8 (7.5%)	1 (0.9%)	0	1	106
Create new natural spaces	64 (60.4%)	36 (34.0%)	4 (3.8%)	1 (0.9%)	0	1	106
Create new conservation areas	67 (63.2%)	31 (29.2)	6 (5.7%)	1 (0.9%)	0	1	106

Table 43 shows a significant majority of park users strongly agreed that visiting a park (58.4%; n=58) is important to them and another good proportion of participants agree with this statement (34.4%; n=37). Similarly, participants mentioned that parks are valuable to have in cities (75.5%; n=80); parks are important for their health (77.4%, n=82;), and greenspace is important in cities (N=86; 81.1%).

Table 43. Value of Parks for Latinos

<b>Significance of Parks Among the Latino Community (N=106)</b>							
	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neutral</b>	<b>Disagree</b>	<b>Strongly Disagree</b>	<b>Missing</b>	<b>Total</b>
<b>Visiting a park is important to me</b>	58 (54.7%)	37 (34.9%)	7 (6.6%)	2 (1.9%)	1 (0.9%)	1	106
<b>Parks are valuable to have in cities</b>	80 (75.5%)	25 (23.6%)	0	0	0	1	106
<b>Parks are important for my health</b>	82 (77.4%)	17 (16.0%)	5 (4.7%)	1 (0.9%)	0	1	106
<b>Greenspace is important in cities</b>	86 (81.1%)	19 (17.9%)	0	0	0	1	106
<b>Greenspace is important for my health</b>	84 (79.2%)	19 (17.9%)	2 (1.9%)	0	0	1	106

Table 44 presents the importance of activities in parks. A majority of responses indicate that spending time with family and friends is considered extremely important (73.6%; n=78). Similarly, viewing wildlife is highly valued (57.5; n=58). Experiencing natural scenery (69.8; n=74) is deemed important. Relaxation (65.1%; n=69), playing with children (68.9%; n=73), enjoying fresh air (77.4%; n=82), and being outdoors are all important (72.6%; n=77).



Table 44. Importance of Activities in Parks

<b>Importance of Activities in Parks (N=106)</b>						
	<b>Extremely Important</b>	<b>Important</b>	<b>Neutral</b>	<b>Slightly Unimportant</b>	<b>Not Important</b>	<b>Missing</b>
To spend time with family/friends	78 (73.6%)	26 (24.5%)	0	1 (0.9%)	0	1
To view wildlife	61 (57.5%)	41 (38.7%)	0	3 (2.8%)	0	1
To experience natural scenery	74 (69.8%)	30 (28.3%)	1 (0.9%)	0	0	1
To exercise alone	66 (62.3%)	33 (31.1%)	1 (0.9%)	2 (1.9%)	3 (2.8%)	1
To exercise with others	58 (54.7%)	43 (40.6%)	0	2 (1.9%)	2 (1.9%)	1
To relax	69 (65.1%)	35 (33.0%)	0	1 (0.9%)	0	1
To play with your children	73 (68.9%)	27 (25.5%)	0	2 (1.9%)	3 (2.8%)	1
To enjoy fresh air	82 (77.4%)	23 (21.7%)	0	0	0	1
To be outdoors	77 (72.6%)	26 (24.5%)	0	1 (0.9%)	1 (0.9%)	1
Listen to sounds of nature	74 (69.8%)	29 (27.4%)	0	1 (0.9%)	1 (0.9%)	1
Experience quiet	76 (71.7%)	27 (25.5%)	0	2 (1.9%)	0	1
To be alone	63 (59.4%)	38 (35.8%)	0	2 (1.9%)	2 (1.9%)	1
To be in a group and chat	50 (47.2%)	44 (41.5%)	0	9 (8.5%)	2 (1.9%)	1

Table 45 describes the key factors that contribute to park or facility quality. Over half (50.9%; n=54) valued preserving nature, highlighting the importance of integrating green spaces and ecological considerations into park design and management. The importance of a wide variety of amenities is important (18.8%; n=20).

Table 45. Considerations of Park Facility Quality

<b>What Makes a Park or Facility Good Quality? (N=106)</b>		
	<b>Latino</b>	<b>n%</b>
Attractive design	8	7.5
Emphasis on preserving nature	54	50.9
New amenities and features	11	10.4
Wide variety of amenities	20	18.8
Unique amenities not found elsewhere	7	6.6
Other	4	3.8
Missing	1	

The Well-being Index consisted of eight domains: Standard of Living, Personal Health, Achieving in Life, Personal Relationships, Personal Safety, Community-Connectedness, Future Security, and Spirituality-Religion (Table 46). The highest scores were observed in the domains of Personal Safety (8.02), Personal Relationships (7.87), and Standard of Living (7.83). The lowest scores were in the domains of Community-Connectedness (6.55) and Future Security (7.19). Overall, the park users' Well-being Index score was 7.48.

Table 46. The Well-being Score Index of Latinos in Mecklenburg

<b>Well-being Score Index Latinos (N=106)</b>					
<b>Well-being domain</b>	<b>Score</b>	<b>SD</b>	<b>Var</b>	<b>N</b>	<b>Missing</b>
1. Standard of Living	7.8	1.82	3.337	89	17
2. Personal Health	7.1	2.1	4.426	89	17
3. Achieving in Life	7.6	1.89	3.562	89	17
4. Personal Relationships	7.8	1.68	2.82	89	17
5. Personal Safety	8.0	1.7	2.902	89	17
6. Community-Connectedness	6.5	2.19	4.787	89	17
7. Future Security	7.2	1.87	3.499	89	17
8. Spirituality – Religion	7.6	1.99	3.945	89	17

## 5.2 Generalized Linear Model (GLM) of Broad Latino Survey

Table 47 provides estimates of parameters from a generalized linear model to understand what are the variables that affect perception of well-being among Latino in Mecklenburg County. The personal well-being index is the dependent variable. The independent variables in this model include demographic and composite index variables. The demographic variables are: gender, age, education levels, marital status, and income. The composite indexes variables are the “experience in the park”, “overall satisfaction of parks”, “importance of parks for well-being”, and “importance of activities in the park”.

Based on the results from GLM analyses, it becomes evident that the composite indexes “experience in the park” and “importance of parks for well-being” significantly contribute to overall well-being of Latinos. The coefficient for Experiences in the park is -1.189 (SE = 0.3195,  $p < 0.001$ ), indicating a significant association between the composite index of experiences in the park and perceived well-being. This negative coefficient suggests an inverse relationship between park experiences and perceived well-being, because as responses move towards the more negative end of the park experience scale (i.e., from "Strongly Agree" to "Strongly Disagree"), perceived well-being decreases. In other words, the greater the disagreement with statements related to park experiences, the lower the perceived well-being. Another factor that appeared significant in the GLM is the coefficient for the variable "Importance of Park for well-being" is 0.826 (SE = 0.3457,  $p = 0.017$ ), indicating that the perception of the importance of parks has a significant and positive impact on " perception of well-being".

The summary of experiences in the park reveals a multifaceted picture of individuals' interactions with their natural surroundings. Participants report a range of positive emotions, from happiness and relaxation to a sense of belonging and stress relief. Central to these

experiences is the perception of safety and cleanliness within the park, contributing to an overall sense of well-being and enjoyment. Additionally, the availability of recreational opportunities, coupled with the presence of beautiful natural areas, enhances visitors' satisfaction and connection to the environment. Importantly, the park's inclusivity and accessibility play a critical role in fostering a welcoming atmosphere for all individuals, ensuring that everyone feels valued and respected during their time spent there. Despite some reported instances of discrimination, most visitors find the park to be a positive influence on their mental state, providing them with moments of tranquility and mental rejuvenation. These findings highlight the critical role of environmental factors in influencing visitors' experiences and accentuate the importance of park management practices in creating and maintaining positive park environments.

Table 47. Generalized Linear Model (GLM)

<b>Parameter Estimates</b>					
<b>Parameters</b>	<b>B</b>	<b>Std. Error</b>	<b>95% Wald Confidence Interval</b>		<b>Sig.</b>
Gender (Female)	-0.675	0.9023	-2.444	1.093	0.454
Gender (Male)	-0.667	0.9271	-2.484	1.150	0.472
Age (18-30)	0.077	0.6177	-1.134	1.287	0.901
Age (31-40)	0.649	0.5490	-0.427	1.726	0.237
Age (41-50)	0.830	0.5825	-0.312	1.972	0.154
Age (51-60)	0 <sup>a</sup>				
Education (College or business degree]	-0.414	0.4762	-1.348	0.519	0.384
Education (High school graduate or GED)	0.357	0.6631	-0.942	1.657	0.590
Education (Less than high school)	-0.171	0.5744	-1.297	0.954	0.766
Education (Master's, doctoral, or professional degree)	-0.888	0.5689	-2.003	0.227	0.118
Education (Some college, business, or trade school)	0.141	0.5338	-0.905	1.188	0.791
Education (Some graduate school)	-0.826	0.7027	-2.203	0.552	0.240
Education (Some high school)	0 <sup>a</sup>				
Civil Status (Common Law Marriage)	-0.484	1.2808	-2.994	2.026	0.706
Civil Status (Divorce)	-0.069	1.2298	-2.480	2.341	0.955
Civil Status (Married)	-0.135	1.1968	-2.480	2.211	0.910
Civil Status (Single)	-0.756	1.2046	-3.117	1.605	0.530
Civil Status (Widow/Widower)	0 <sup>a</sup>				
Income (25,000-\$34,999)	0.896	0.6079	-0.296	2.087	0.141
Income (\$35,000-\$49,999)	0.045	0.5618	-1.057	1.146	0.937

Income (\$50,000-\$74,999)	1.029	0.5644	-0.077	2.135	0.068
Income (\$75,000-\$99,999)	1.196	0.6689	-0.116	2.507	0.074
Income (\$100,000-\$149,999)	0.269	0.6750	-1.054	1.592	0.690
Income (\$150,000-\$199,999)	1.269	0.7394	-0.180	2.718	0.086
Income (Less than \$25,000)	0 <sup>a</sup>				
Experiences in the park	-1.189	0.3195	-1.815	-0.562	0.000
Overall Satisfaction of Parks	0.020	0.1721	-0.317	0.357	0.908
Importance of Park for WB	0.826	0.3457	0.148	1.503	0.017
Importance Activities in the Park	0.085	0.4272	-0.922	0.753	0.843
Dependent Variable: avg well-being Model: (Intercept), Gender, Age, Education, civil status, Income, Experience in park, Overall Satisfaction parks, Import of Park for , Activities in the Park					
a. Reference. Set to zero because this parameter is redundant.					

### 5.3 Photo Elicitation Latino Broad Survey Results

Figure 13 were those images used for the study. Participants favorite images were those that provided a sense of connection with nature and provided strong positive feelings with aesthetics and comfort, and social connection. These spaces were frequently described as places where they could relax and rejuvenate. In contrast, the participants' least favorite urban green spaces were most commonly those that were perceived as unsafe or unwelcoming with concrete and lack of natural areas. These spaces were frequently described as places where they felt uncomfortable or threatened, or where they did not feel a sense of belonging or connection.

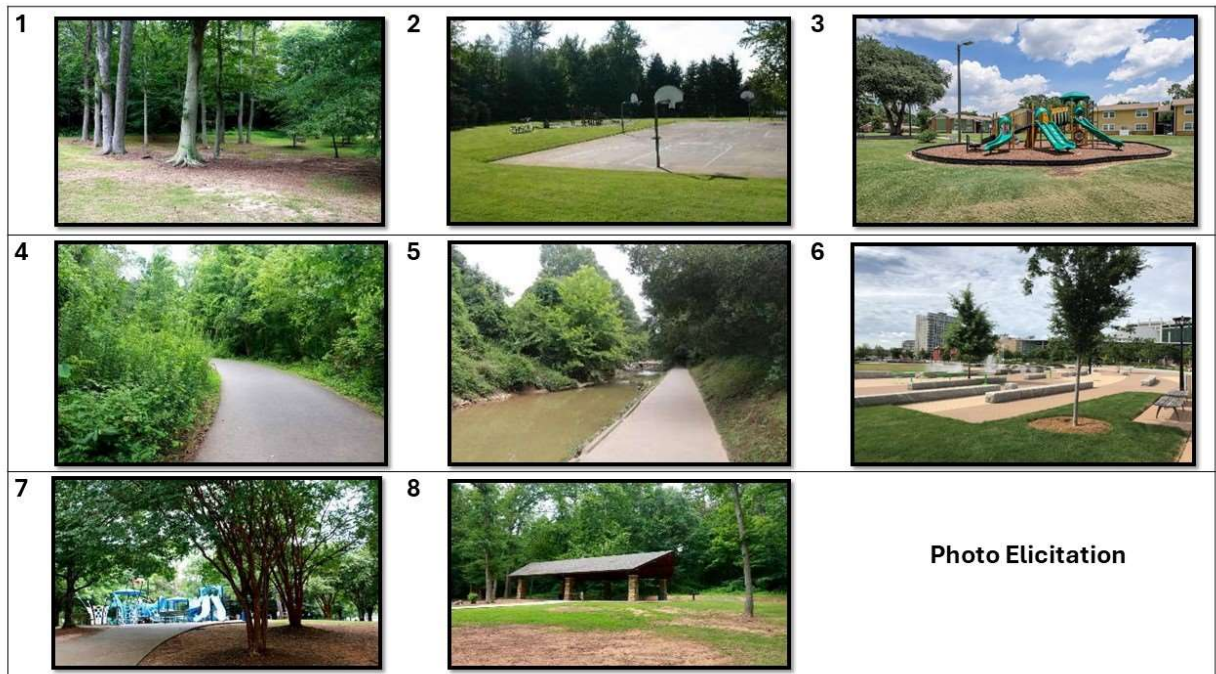


Figure 13. Images Selected for Latinos Broad Survey  
Source: Own authorship Photography

The most frequently selected image was Image #5 (22.6%; n=24), followed by Image #4 (17.9%; n=19) and Image #6 (17.9%; n=19). Table 48 shows the terms that emerged when participants provided descriptions of their feelings, emotions, social connections, and impressions of natural areas in the photos. Participants described feelings of tranquility, peace, calm, and a sense of being connected to the natural environment. Latino participants reported having a strong connection with nature, responding to the appreciation of natural green spaces. Further, they mentioned that these spaces induced a sense of social connection and social interaction with family sharing experiences and memories within nature. Finally, the physical characteristics of urban green spaces, such as the presence of trees, body water, and vegetation, were factors that promote the feeling of wellness among participants.

Table 48. Summary of Emotions and Feelings Evoked by Images

Nature-connectedness		Feelings-Emotions	Social connection	Natural Elements	
Tranquilidad	Pleasing	Feliz	Divertir	Opened	Nature
Peaceful	Free	Inspirado	Familia	Pleasing	Agua
Calm	Freedom	Relajado	Reminds	Pretty	Clean
Tranquila	Peaceful	Relaxed	Family	Profunda	Contact
Peace	Excited	Happy	Compartir	Pure	Enjoy
Connected	Pleasing	Libre	Familiar	Quiet	Safe
Relaxing	Disfruto	Relajada	Friendly	Wilderness	Abierto
Tranquilo	Simplicity	Adecuado	Friends	Greenery	Hermoso
Tranquila	Quiet	Nostalgic	Memories	Innocent	
Diversion	Mind		Rejuvenated	Love	

Figure 14 shows a *Word Cloud* of the terms. The word cloud reveals a rich array of terms that participants used to describe their experiences in urban green spaces, reflecting a diverse set of emotions, activities, and perceptions. Terms such as "Agusto" and "Freedom" indicate a sense of comfort and liberation that participants feel in these environments. These feelings of ease and liberty are crucial for mental well-being, suggesting that urban green spaces serve as a respite from the constraints of daily life.

Social aspects are prominently highlighted with words like "Compartir" (share), "Families," "Gathering," and "Niños" (children), underscoring the importance of parks as communal spaces where social bonds are strengthened. These terms reflect the role of green spaces in facilitating family activities, social gatherings, and interactions among children, fostering a sense of community and togetherness.

The terms "Contact," "Tranquility," "Nature," "Peace," "Calm," and "Feliz" (happy) illustrate the serene and joyful experiences participants associate with nature. These words emphasize the mental and emotional benefits of spending time in green spaces, highlighting their



Descriptors such as "Verde" (green), "Clean," "Trees," "Agua" (water), and "Aire" (air) emphasize the visual and sensory appeal of urban green spaces. These terms point to the cleanliness and natural beauty of these environments, which contribute to their attractiveness and restorative qualities. The presence of greenery, water features, and fresh air are particularly valued for their aesthetic and health benefits.

freedom compartir adecuado families  
 combines reminds contact path casa familiar  
 divertirse activities gathering  
 around relaxing natural connected mas relax free  
 abierto para relajada area que make  
 nostalgic agua tranquilidad lugar calma  
 always del con areas feel like caminar activo  
 gusto safe trees nature image gusta por going friends  
 aspect clean makes paz porque los arboles esta  
 ganas play walk calm aire family fish  
 gatherings also mucha calm hace disfruto  
 bem kids peace peaceful happy niños  
 diversion urban tranquilo sentir naturaleza una cozy  
 greenery bien enough tranquila familia feliz verde  
 green cuidada bosque arbores excited  
 grass friendly

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The most frequently selected as the least favorite image was Image #1 (22.6%; n=24), followed by Image #6 (18.9%; n=20). Images #2 (16.0%; n=17), #7 (10.4%; n=11), and #8 (10.4%; n=11) were in the next tier. Table 49 shows the words that these images evoked. The participants' least favorite images of urban green spaces evoke strong negative emotions and discomfort. Common themes include dissatisfaction with urbanization, fear of nature, and feelings of insecurity. Terms like "Miedo" (fear), "Sad," and "Uncomfortable" highlight a range of negative emotions. Urbanization-related terms such as "Crowded," "Cemento" (cement), and "Buildings" reflect a preference against overly developed environments. Fear-related terms like "Secluded," "Abandoned," and "Dark" indicate concerns about isolation and potential dangers. These findings suggest the need for thoughtful urban planning and maintenance to create safer and more appealing green spaces for Latino communities.

Table 49. Negative Feeling and Emotions Evoked from Least Favorite Images

Qualitative findings of Least favorite image Latinos broad survey				
Dissatisfied-Discomfort		Urbanization		Fear nature
Miedo	Crowded	Apartado	Build	Vegetacion
Sad	Caos	Cemento	Seca	Abandoned
Nada	Danger	Concreto	Unsettled	Seco
Inseguridad	Dangerous	Buildings	Urban	Contaminada
Menos	Less	Builders	Worn	Calor
Solitario	Desconfianza	Complexes	Bare	Dark
Uncomfortable	Civilizada	Desolado	Plain	Densa
Afraid	Disconnected	Destroyed		Hot
Alone	Encerrado	Destruction		Maleza
Anxious	Isolated	Dry		Secluded
Bored	Kidnapping	Flat		Sucia
Creeped	Noise	Apartment		Vibora
Triste	Peligroso	Incomplete		
Solo	Ruido	Mantenimiento		
Stressed	Scary	Hard		
Tristeza	Soledad	Pavement		
Upset	Worried			

#### 5.4 Discussion Latinos Broad Survey

Previous studies have noted the importance of how urban green spaces become a necessary component of determinants of health and well-being (Jackson, 2012; Kruizse et al., 2019; c. It is essential to have high quality natural spaces to facilitate social interaction, physical activity, personal satisfaction, and personal growth for the Latino community (James et al., 2009). While there is increasingly literature that documents the importance of green spaces in parks for well-being, there remains insufficient attention to Latinos (Jennings et al., 2017; Jennings & Bamkole, 2019). An important relationship exists between Latinos and nature in parks in Mecklenburg

County, exhibiting consistency between the two surveys in this current study. These spaces enhance social cohesion, family bonds, nature connection, relaxation, positive thoughts, happiness, and ultimately improved well-being. Prior studies have noted the importance of how urban green spaces become a necessary component of determinants of health and well-being (Jackson, 2012; Kruijse et al., 2019; Sullivan et al., 2004).

#### **5.4.1 Natural Spaces and Park Value**

Most Latinos have a positive perception of the parks in the county. However, it is worth noting that a small percentage expressed neutral or negative sentiments, indicating the existence of room for improvement. Yet, the awareness of the *Mecklenburg County Park Master Plan* and *MeckPlaybook* was limited. Almost nobody reported being aware of these plans or planning process. Strengthening communication channels and strategies to increase awareness and understanding of park plans and planning processes among the public is crucial for engaging the community in parks and recreational opportunities.

Latinos strongly agreed that visiting a park is important to them, indicating a high level of recognition and appreciation for the role of parks in their lives. The significance of greenspace in cities was acknowledged by Latinos, reaffirming the positive role that green areas play in urban environments. Importantly, Latinos visit parks frequently, so it is not just about indicating they value these spaces. They use them. Further, park experiences were predominantly positive, with high levels of happiness, safety, cleanliness, and appreciation for the natural elements. However, the issue of discrimination within the park highlights the need for continuous efforts to promote inclusivity and equal treatment for all park visitors, ensuring that parks are welcoming and accessible spaces for everyone. By addressing these concerns and building upon the positive

aspects of the park experience, park managers and policymakers can further enhance the overall park visitation experience and contribute to the well-being of the community. There is a need for continued investment in and promotion of parks to ensure their accessibility, benefits, and positive impact on the Latino community's physical and mental health.

#### **5.4.2 Perspective on Priorities of Park Investment in Mecklenburg County**

Latinos deemed the modernization of existing facilities for new programs and uses important. Additionally, the creation of new parks and greenways received attention as valuable investment areas. The enhancement of natural beauty and ecology in existing spaces was highly valued by park users. These findings provide insights into the priorities and perspectives for park and green space investment in Mecklenburg County. These investment areas align with the desire for diverse recreational opportunities, improved amenities, and the preservation and promotion of nature and cultural heritage within Mecklenburg County.

Latinos place significant importance on enhancing the natural beauty of ecology and existing park areas, creating new natural spaces and conservation areas, and modernizing these spaces with new programs and facilities. This underscores essential insights into their vision for urban green spaces. The emphasis on improving the natural beauty of ecology and existing park areas indicates a deep appreciation for the aesthetic qualities of these spaces, reflecting a desire for environments that serve as functional purposes and are visually enriching.

#### **5.4.3 Well-being and Parks**

Park uses have a positive impact on several aspects of well-being, particularly in areas related to personal relationships, safety, and spirituality/religion. A possible explanation for this

might be that natural spaces in cities increase opportunities for numerous benefits from nature (Aerts et al., 2018). Further, parks have been associated with various positive effects on health and well-being, as well as ecological and social benefits (Keniger et al., 2013; Larson et al., 2016). In addition to these tangible benefits, parks can also provide intangible elements that contribute to human experiences. As evidenced by research, individuals who spend time in parks can establish a connection with the natural world and promote a deeper appreciation for their environment, thereby forging a meaningful connection between nature and human values (Bell et al., 2014, 2018).

Some participant descriptions, such as of feeling calm, peace, rejuvenated, tranquility, freedom, relaxed, and happiness, refers to the sense of connection with nature. Spending time in urban green spaces can lead to positive effect on mental health, physical health and overall well-being (Aerts et al., 2018; Callaghan et al., 2020; Larson et al., 2016). However, the positive relationship will vary based on individual viewpoints and the specific features of the urban green space. Social connection in urban green spaces was other theme that emerged through social interactions with family and friends. Social cohesion can lead to several benefits, such as well-being, both health physical and psychological (Jennings & Bamkole, 2019) and create a stronger sense of belonging (Byrne & Wolch, 2009). Interaction with natural spaces can deliver a range of benefits tangible and intangible. For instance, these spaces provide enjoyment of aesthetic beauty, stress reduction, recreation, enjoyed the landscape actively or passively which are linked to improved health and well-being (Larson et al., 2016; Twohig-Bennett & Jones, 2018; Ulrich et al., 1991, Grima et al., 2020). Parks are valuable assets in cities, supporting health and providing opportunities for personal growth and achievement, further underscores their positive influence on the well-being of the Latino community.

The open-ended questions in the survey and photo elicitation yielded several themes that illustrate the importance of parks for Latino well-being. Tranquility, relaxation, and happiness repeatedly emphasized the diverse and multifaceted emotional experiences associated with engaging with nature. Table 50 captures some of the quotes and interpretations around the theme of happiness and well-being.

Table 50. Calm, Happiness and Well-being

Participant quote	Translation	Interpretation
"Que se sienta tranquilo"	I feel in calm	Participants consistently associate nature with tranquility, highlighting a prevalent theme of calmness. This aligns with other expressions of emotions, such as relaxation and peacefulness.
"Me hace sentir con mucha tranquilidad, porque lo verde del bosque me da paz y tranquilidad"	This place makes me feel with a lot of tranquility, because green color from the forest gives me peace and tranquility	The specific mention of the greenery in the forest contributing to peace and tranquility underscores the importance of natural elements in eliciting positive emotions. This resonates with the broader theme of participants connecting with nature for emotional well-being.
"Make me feel relaxing"	Este lugar me hace sentir relajamiento	The statement reflects a straightforward association between nature and relaxation. This echoes the broader sentiment expressed by participants, emphasizing a consistent thread of nature inducing a sense of calmness and ease.
"Relaxing, quiet, and peaceful"	Relajante, calmante, y pacifico	The statement reflects a shared sentiment among participants regarding the restorative qualities of nature. This aligns with the diverse expressions of positive emotions, including tranquility and happiness, suggesting a holistic impact of nature on well-being.
"Happy, calm, grounded, connected to a higher self"	Feliz, calma, conectado con un yo superior	Beyond tranquility, participants convey a more nuanced emotional experience, linking nature to feelings of happiness, physical and spiritual connection. This richer emotional mosaic underscores the multifaceted impact of nature on individuals, extending beyond basic relaxation.

The theme of "social connection" highlighted the importance of nature in fostering connections with family, friends, and the larger community. Descriptions such as familia (family), compartir (sharing), and amigos (friends) indicated the significance of nature in facilitating social interactions. Table 51 provides illustrations of this experience in parks.

Table 51. Emotional and Social Interactions to Nature

Participant quote	Translation	Interpretation
"I feel nostalgic for family gatherings, free, and calm."	Me hace sentir nostálgico por las reuniones familiares, libre y en calma	The mention of nostalgia and positive emotions tied to family gatherings indicates a deep emotional connection to nature, suggesting that natural environments may serve as triggers for valued memories and emotional well-being. This resonates with the broader theme of nature eliciting positive sentiments.
"Reminds me of good memories with friends."	Me recuerda buenas memorias con amigos	Similar to the previous quote, this statement reinforces the idea that nature is intertwined with positive memories and emotions. The mention of good memories with friends expands the scope beyond familial ties, highlighting the social and communal aspects of nature experiences. This aligns with the broader theme of nature fostering positive social connections and memories.

Feelings and emotions encompassed a range of positive experiences, including feeling inspired, rejuvenated, and happy when surrounded by nature. Participants also mentioned the emotions of pleasure, enjoyment, and love associated with natural areas. Table 52 illustrates the positive experiences Latinos have in parks. The theme of "Natural Area" focused on the specific attributes of the environment, such as tranquility, cleanliness, safety, and beauty. Words like hermoso (beautiful), and verde (greenery) reflected participants' appreciation for the natural elements within the surroundings.

Table 52. Positive Experiences in Parks and with Nature.

Participant quote	Translation	Interpretation
"It seems like a pretty place to have lunch with someone at."	Este lugar parece un lugar bonito para almorzar con alguien	The choice of words like "pretty" suggests an aesthetic appreciation of the natural environment. This observation aligns with the broader theme of participants finding nature visually appealing. The social context of having lunch with someone also implies that natural spaces are perceived as suitable settings for positive social interactions, connecting the aesthetic and social dimensions of nature experiences.
"Peaceful and rejuvenated"	Pacífico y rejuvenecido	The use of the term "peaceful" reflects a common sentiment expressed by participants, emphasizing the tranquil nature of natural environments. The addition of "rejuvenated" suggests that participants perceive nature



		as a source of renewal and revitalization, linking emotional well-being with the natural setting. This connection reinforces the broader theme of nature positively impacting participants' emotional states and overall sense of well-being.
"Makes me feel like I can take my son there to play and enjoy the greenery of the trees."	Me hace sentir como que puedo traer a mi hijo aqui para jugar y disfrutar lo verde de los arboles	This quote underscores the social and familial aspects of nature experiences, emphasizing the desire to share the positive attributes of nature with family members, particularly children. It connects with the broader theme of nature being perceived as a conducive environment for family activities and bonding.
"Me gusta porque tiene agua y arboles. Mucha naturaleza."	I like because it has water and trees and abundance of nature surrounding	The mention of liking the environment for its water and trees suggests an appreciation for specific natural elements. This resonates with the broader theme of participants expressing preferences for certain features in natural settings, indicating that diverse natural elements contribute to positive experiences. The use of "mucha naturaleza" emphasizes the overall abundance of nature, reflecting a complete appreciation of the natural space.
"This image makes me feel innocent, happy, and excited."	Esta imagen me hace sentir inocente, feliz y emocionado	The mention of "happy" and "excited" underscores the positive emotional impact of the image, indicating that the natural scene depicted brings about a joyful and enthusiastic reaction. Overall, this quote suggests that the image is not only aesthetically pleasing but has a transformative effect on the participant's emotional state, tapping into feelings of innocence and genuine happiness.

Along with positive experiences with nature, several themes emerged that reflected more negative views of the natural environment in urban areas, including dissatisfaction, discomfort, and negative emotions. For example, several people talked about sadness, dissatisfaction, and unease, particularly when describing discomfort with aspects of urbanization, such as crowded and chaotic environments, concrete structures, and abandoned or worn-out spaces. Table 53 illustrates these sentiments.

Table 53. Uncomfortable Expressions about Park Features and Urbanized Areas.

Participant Quote	Translation	Interpretation
"It is too dry, I feel disconnected"	Está demasiado seca, me siento desconectada	This interpretation suggests a link between the environmental condition and a sense of emotional isolation or detachment.
"Makes me feel that I'm going to be uncomfortable because of the lack of shade from the sun and not much to look at, so I think I'll feel bored"	Me hace sentir que me voy a sentir incómodo por la falta de sombra del sol y por no haber mucho que ver, así que creo que me aburriré"	The participant anticipates discomfort due to the lack of shade and visual interest in the environment. This interpretation highlights the role of environmental elements in shaping the participant's expectations and emotions, emphasizing the importance of shade and visual stimuli for a comfortable and engaging experience.
"Fear, it looks lonely and apart"	Miedo, se ve muy solo y apartado."	The participant expresses fear, perceiving the scene as very solitary and isolated. This interpretation links the emotional response of fear to the perceived loneliness and remoteness depicted in the photo.
Me gusta la ciudad pero no encuentro interés en densa población. Además veo poca vegetación y recreación."	"I like the city, but I don't find interest in the dense population. I also see a little greenery and recreation.	The participant expresses a liking for the city but notes a lack of interest in dense population. Additionally, the participants observe insufficient vegetation and recreational opportunities. This interpretation suggests that the participant values urban settings but finds issues with overcrowding and a lack of green spaces and recreational options, emphasizing the importance of nature in balancing urban environments.
The water does not look clean at all, looks very secluded.	El agua no se ve limpia, se ve muy aislado	This interpretation indicates concerns about water quality and the sense of isolation portrayed in the photo. The Participants' observation of the water's cleanliness contributes to their overall impression of the environment, highlighting the impact of environmental factors on perceptions of cleanliness and accessibility.
Makes me feel like unsettled, like it would be hot, nowhere to sit, no shade."	Me hace sentir como inquieto, como si hiciera calor, sin ningún lugar donde sentarse, sin sombra.	The participant expresses feelings of discomfort and anticipates a hot environment with inadequate seating and shade. This highlights the participant's concerns about the physical discomfort associated with the depicted setting, emphasizing the importance of elements like shade and seating for a positive experience.
Too much concrete	Demasiado concreto"	This suggests a dissatisfaction with the excessive presence of concrete in the environment, emphasizing a desire for a more balanced and natural setting. The participant's response underscores the impact of urban infrastructure on their perception of the environment.
Water contaminated	"Contamida el agua	The statement reflects an awareness of environmental issues and emphasizes the importance of clean and unpolluted water for a positive experience.

## **5.5 Recruiting Latinos: Observations**

Collecting data from the Latino community in the Mecklenburg County is challenging for several reasons. There is a need to conduct build trust and relationships with the Latino community. Using appropriate methods of data collection can encourage participation. Language barriers for those who primarily speak Spanish. Surveys, focus groups and interviews should have Spanish options, which was the case in this current research. If conducting a written survey, limited literacy skills for understanding and filling out the survey may decrease participation. Further, technology gaps, including lack of access to technology or the ability to use it can also be a barrier. For example, part of the survey recruitment used a QR code, which may not have been easily understood for many. People may not have a QR code reader application in their devices making this a technological barrier to participation.

Another important aspect is the lack of trust between members of the Latino community and researchers collecting data, particularly if the community has a history of negative experiences with government or other institutions. Further, Latinos may have work schedules and other responsibilities that make it challenging for them to participate if flexibility is not incorporated into data collection. A lack of trust may emerge from undocumented status, making them hesitant to participate in survey data collection efforts for fear of attracting attention from immigration authorities.

Cultural acceptability of digital platforms for surveys will also play a role, as many people prefer personal contact, as would general acceptability of surveys. Cultural values and beliefs may impact the willingness of members of the Latino community to participate in data collection, particularly if they view these efforts as intrusive or not relevant to their lives. There are also cultural differences when conducting to a diverse cultural group such as the Latino

community which can pose challenges as different cultural attitudes towards sharing personal information.

## **5.6 Alignment of the Freedom Park Survey with the Broad Latino Survey**

The alignment in results between the survey conducted at Freedom Park and the broader survey among Latinos reveals intriguing insights. There is a shared tendency among participants from both studies to visit a park at least once a month, which emphasizes the persistent influence of park spaces for regular recreation and leisure. Motivation for both groups centered around feeling safe and comfortable. Both groups appreciated the tranquility offered by nature. This consistency highlights a universal desire for secure and serene environments within park settings. Park management plans should emphasize safety and natural serenity. Both surveys support the notion that parks can provide benefits, including improved overall health and well-being. The convergence of perspectives suggests a direction for public health interventions and initiatives. Although there was overall alignment, Latino interests and values vary and so thoughtful and deep engagement with this diverse community is essential for creating, designing, and investing in parks that will ultimately improve their health and well-being.

## **6 Content Analysis of Park Master Plans and Key Informant Interviews**

The purpose of this chapter is to investigate how institutional level processes address access to quality urban green spaces through a comprehensive content analysis conducted on the two most recent Mecklenburg County Parks and Recreation Master Park Plans in 2015 and 2020. Additionally, key informant interviews were incorporated to provide deeper insights into the strategic developments within the park system. This information provides an opportunity to capture the evolution of the county's park planning and management over the past decade and to evaluate engagement with the rapidly growing Latino community in the region.

Mecklenburg County Parks and Recreation Master Park Plans are essential documents that outline the vision, goals, and priorities for park development, thereby guiding decision-making processes with the possibility of creating inclusive and equitable public spaces for all residents. Content analysis serves as a rigorous methodological approach for systematically analyzing texts to uncover recurring themes, emerging patterns, and changes in park planning strategies over time. Complementing the content analysis, key informant interviews were conducted with stakeholders involved in advocating and community engagement processes for urban green spaces. These interviews offer valuable insights into the underlying structural forces that shape park development and shed light on strategies employed to enhance collaboration with the Latino community. Research findings can guide Mecklenburg County's practices, as administrative planning and resource management significantly influence access to quality urban green spaces for the Latino population. The creation of both the 2015 and 2020 park plans included information on public involvement and engagement, which was also evaluated.

## **6.1 Content Analysis: 2015 Park Master Plan**

Progress between 2007-2016 was mentioned, primarily related to the acquisition of land, with an added 787 acres for parks, 379 acres for nature preserve and 377 acres for greenways. However, the acquisition of this land does not specify the location of where development occurred.

### **6.1.1 Engagement & Involvement**

Community engagement involved conducting surveys through various channels, including mail, online, and telephone calls. A random sample of households in Mecklenburg County was selected to participate in the surveys. Each mailed package included a cover letter, the survey itself, and a postage-paid return envelope. Participants could return the survey either by mail or online; the online option required a home address. A total of 629 households participated with a margin of error of +/-3.9% at a 95% confidence level. Gender distribution showed 47.2% males and 52.8% females. The Caucasian group was the most represented, comprising 61.2% of participants, followed by Black at 30%, Asian/Indian at 3.6%, Asian Pacific Islanders at 3%, and Native Americans at 1.6%. The category labeled "Other" constituted 9% of total participants, with subgroups including African/European, African, Belize, Middle Eastern, Brazilian. Notably, when asked about Hispanic ancestry, 90% of participants responded with "No," indicating a gap in representation compared to the overall county. In terms of household income, 17% did not provide a response, 11% income under \$25,000, 16% for \$25,000-\$49,999, 14% each for \$50,000-\$74,999 and \$75,000-\$99,999 and, 28% had annual incomes up to \$100,000, skewing towards higher incomes. Regarding age distribution, the largest group was in the 18-34 age range at 23.5%, followed by 35-44 at 22.9%, 45-54 and 55-64 at 20.2%, and 65+ at 12.9%. There was no specific distinction for ages, income, or educational level by subgroup.

"Engagement" (referenced 12 times) encompassed community engagement, cultural engagement, engagement with historical roots, engagement with organizations, and engagement with nature knowledge. The plan highlighted cultural engagement's importance, signifying the relevance of integrating cultural diversity into recreational activities. Additionally, the plan's consideration of engagement with historical roots indicated an endeavor to preserve and promote the historical significance of recreational spaces within the community. The planning process is dedicated to collaborating with organizations, acknowledging their essential contribution to the creation and execution of recreational activities. Engagement played a pivotal role in the master plan's development, although with a somewhat limited view of equity, access and diversity.

"Involvement" (referenced 18 times) was integral to engaging community members and sponsors and underscores the significance of collaborating with local businesses and organizations to support park and recreation initiatives. There was also an emphasis on resident involvement for safeguarding natural resources and green spaces, including increased education and outreach programs to promote sustainable practices among residents. The plan underscores the importance of partnering with local organizations and advocates aligning park and recreation programs with broader sustainability goals. Along with organizational contributions, there was a commitment to engaging community members and sponsors in both the creation and execution of park and recreation programs and services. Through community engagement and strategic partnerships, the plan aims to ensure that parks and recreation programs cater to the needs of local residents and promote environmental sustainability and economic development.

### **6.1.2 Access**

“Access” was cited 23 times in the document, underscoring the significance revealing an interest that residents can get to a park easily, including by access points in neighborhoods that are walkable and by various modes of transportation. The plan aspires to improve access to amenities and facilities to within a quarter mile of each resident and to offer residents access to facilities within a 10-minute walk. This vision aligns with the principle that people should have easy access to recreational opportunities, promoting physical and mental well-being, recreational options, social interactions, memorable experiences, and mental health. However, a majority of households expressed that there were not sufficient parks and green spaces within walking distance of their homes, which underscores the need to travel significant distances.

### **6.1.3 Opportunities**

With 28 references, the plan outlines a strategy to augment greenway connectivity, projecting an addition of 33.4 miles of greenways within the subsequent five years (2015-2020) and a substantial increase of 268 miles in the greenway trail network over the ensuing 30 years. Furthermore, the document underscores the need to integrate the greenway system with the Charlotte Area Transit Systems and schools. The plan also highlights the necessity for enhancing existing parks and establishing special events uptown.

### **6.1.4 Space(s)**

Referenced 25 times, “spaces” pertain to areas that are accessible for recreation, including allocation for program delivery and designation for recreation and neighborhood connection. The plan generally emphasized prioritizing the use and programming of spaces for adult fitness,



wellness programs, paved walking and biking trails. This strategic approach maintains that infrastructure would yield the most substantial benefits for the majority of residents. However, it is crucial to acknowledge that vulnerable communities might have distinct preferences and needs that differ from the current focus. Overlooking these specific preferences could result in the exclusion of crucial elements from the master plan.

In summary, the outcomes underscore that the "Space" code encompasses an array of recreational and community-oriented spaces. Nevertheless, opportunities exist to augment the accessibility and diversity of these spaces in specific regions. Moreover, the results raise pertinent questions concerning the inclusivity and welcome extended to all community members, particularly those who might lack the means or inclination to partake in recreational activities. These findings hold significant ramifications for policymakers and urban planners, spotlighting the necessity for more deliberate, inclusive, and equitable approaches to community development and design.

#### **6.1.5 Needs**

"Needs" (mentioned 17 times) encompassed current and future open spaces for residents, the importance of protecting natural areas, the need for community feedback, the acquisition of parkland, the accessibility of urban green spaces, and the evaluation of community standards. There was a general recognition of their importance to the community. However, the plan fell short in establishing specific targets to meet these needs. Similarly, the plan acknowledged the necessity to protect natural spaces, albeit without articulating clear conservation guidelines. Land acquisition was an essential element to expanding the park system in Mecklenburg County. The plan recognized the importance of augmenting parks and greenway connectivity, and the analysis

unveiled strategies to achieve this objective over the ensuing decade. Lastly, the plan highlighted the need for facilities and services, along with the necessity for assessing community standards, such as National Recreation and Park Association (NRPA) standards, participation rates reported by the Sports & Fitness Industry Association (SFIA), community and stakeholder input, and prioritized needs assessment reports.

#### **6.1.6 Equity**

The emphasis on equity was not explicitly outlined as an objective goal but rather permeated throughout some sections, reflecting intentions of commitment to fairness and inclusivity. Equity encapsulates distinct aspects: the distribution of experiences for residents, the parity of service standards for the community, the fair allocation of programs across different age groups, and the just dispensation of recreation programs and services for residents. The concept of equity of experiences for residents illuminated significant discrepancies among residents from various socio-economic backgrounds when accessing parks and recreation services. The more affluent neighborhoods enjoyed superior access to higher-quality facilities and programs, while those in lower-income areas confronted limited choices and inferior services. The persistent disparity underscores the continued need for targeted interventions aimed at redressing these disparities and enhancing access to quality parks and recreation services for all residents. Concerning the equitable distribution of programs by age groups, the document reveals substantial disparities in program availability.

### **6.1.7 Justice**

Justice was mentioned a mere four times in the document, revealing a need to further incorporate this concept into future plans with access to parks and green spaces as a basic need for urban dwellers. When mentioned, the focus was primarily around guaranteeing equal access and opportunities for all residents, irrespective of their background or socioeconomic status. The plan revealed a commitment to impartiality in the maintenance of parks and recreation facilities, prioritizing maintenance regardless of location or the demographics of the surrounding community. The plan also mentioned justice in the context of park access through equitable access to urban green spaces and facilities for all residents.

### **6.1.8 Inclusion**

“Inclusion” (referenced 14 times) was usually articulated in combination with equity, fairness and justice, focusing on changes in community needs driven by values, race, age, gender, and residents' recreational needs. Additionally, inclusion was used when outlining recreational needs and needed changes to existing programs. The incorporation of community values to identify priorities implies that the master plan's development was a collaborative process, aimed at reflecting the community's values and aspirations. However, there was limited description of Latino population preferences.

### **6.1.9 Diversity**

Diversity was a consideration in its development with areas of the plan focusing on diversity of the future populations, racial diversity, and diversity in facility preferences. Adult fitness and wellness programs, special events and festivals, and outdoor adventure programs

were all among the top three most needed programs identified and were also in the top three for unmet needs. Given the diversity of Mecklenburg County, any park plan should incorporate an understanding of the cultural and social aspects of recreational activities, aiming to make them accessible and engaging for a diverse range of people. With limited input from Latino populations, it is likely their views are not well represented.

#### **6.1.10 Latino Populations**

The plan contained limited representation and inclusion of the Latino community with a scarcity of mentioning "Latinos," "Hispanic," or "Latinx." Given this, it would be nearly impossible for the plan to address specific needs and interests of this community. Instead, this was only presented as part of the demographics of the engagement overall and does not touch upon considerations Latino populations, highlighting an imperative for enhanced attention to the growing Latino community. This deficiency is concerning, especially considering that Latinos represent one of the fastest-growing demographic groups in Mecklenburg County. Inclusion of this community is pivotal to ensuring that park and recreation services and facilities are equitably accessible to all members of the community. Furthermore, their lack of representation would likely hinder the development of culturally appropriate park and recreation programming catering to the unique needs and preferences of the Latino community.

### **6.2 Content Analysis: 2020 Park Master Plan**

The *Mecklenburg County 2020 Park Master Plan* or *Meck Playbook* offers a comprehensive trajectory for the development of the county's parks and recreation facilities over

the subsequent 10 years. This plan outlines a pathway for establishing a dynamic and adaptable park system aligned with investments.

### **6.2.1 Community Engagement and Involvement**

The development of *Meck Playbook* spanned 18 months, commencing in the fall of 2019 and concluding in the summer of 2021, during which the challenges posed by the COVID-19 pandemic were also navigated. The plan was shaped through participation and input from Mecklenburg County residents and employed diverse methods to encourage engagement, including public workshops, focus groups, community surveys, newsletters, interactive pop-up activities, and social media campaigns. In total, 800 households participated in a statistically valid survey. Additionally, there were 312 participants in four workshops, 88 individuals contributing to four public focus groups, and 412 participants across four online surveys. According to the document, respondents to the survey were 47% White, 30.8% Black, 13% Hispanic, 5.5% Asian/Pacific Islander, and 1.2% identifying with two or more races. The reporting of household income was optional with 19% of respondents not providing income information. Gender, age, income, or educational levels for Hispanics was not reported, highlighting a potential gap in understanding their needs and interests. Given that some of this input was captured in virtual sessions due to the pandemic, this likely produced a bias in representation skewed towards those with technology.

Engagement (referenced 22 times) aimed to incorporate perspectives through efforts to involve the community in plan development, mentioning the various strategies like creating an engagement framework, hiring new staff, building, maintaining a database of community members, and measuring and tracking engagement progress. Additionally, the plan describes

strategies to restructure administrative processes for hosting events and programs in neighborhood parks to facilitate ease of use and attract diverse users.

The lack of awareness was identified as the greatest barrier to program participation and the second greatest barrier to park and facility participation. The plan outlines outreach campaigns that include digital and printed content and the installation of signage in buildings, greenway trails, nature preserves, and parks. Importantly, the development of additional partnerships with external community-based organizations or stakeholders was identified, especially regarding equity, health, and cultural diversity, to foster collaboration. The planning process offered a comprehensive way to engage the community with a goal of inclusivity.

"Engagement" primarily involved improving marketing, branding, and community involvement efforts to boost participation in parks, facilities, and programs. In a broad sense, community involvement initiatives encompass diverse methodologies and processes, monitoring and evaluation of progress, collaboration with external parties, and an extension of services to ensure favorable and inclusive outcomes.

### **6.2.2 Access**

"Access" (appearing 23 times) offers valuable insights into the multifaceted aspects of urban green space access and the challenges associated with ensuring equitable access for all Mecklenburg residents. These findings underscore the significance of access to facilities, land, and human capital in enhancing urban green spaces within the county. Access underscored the intricate challenges of ensuring access to park amenities and the necessity for targeted strategies to address unique challenges encountered by various communities. The plan outlines endeavors to enhance pathways to parks by prioritizing pedestrian-friendly connections between

neighborhoods, promoting alternative transportation methods, and integrating public transportation with open space systems. The plan explicitly acknowledged the need to bridge identified access gaps, with persistent limitations encountered by certain communities, including transportation barriers and geographical distance from urban green spaces. Additionally, the need for integrating connections between urban green areas was identified. The analysis recommended the expansion of the greenways network to improve access. In a similar vein, the study underscored the necessity for enhancing directional signage for parks and greenways, as well as securing funding to facilitate future access improvements.

### **6.2.3 Opportunities**

"Opportunities" (referenced 37 times) emphasizes the combination of access, expansion, and development and underscores the imperative of augmenting Mecklenburg County's Park system. The plan explicitly articulated that the county's available urban green spaces can serve as an opportunity to directly engage historically vulnerable communities and encourage community participation in utilizing the park and green space resources. In a similar way, the plan acknowledged opportunities for expanding parks in the future and developing novel facilities aligned with emerging trends. Furthermore, the plan identified avenues for nationally recognizing resources to elevate the park system. The plan also posits that parks and greenways can serve as recreational outlets, offering social advantages and ecological services, recreational prospects, and financial benefits. Ultimately, the plan underscores "Opportunity" as an element to acquire land, safeguard the environment, and confer benefits like aesthetics and socio-ecological advantages for all residents.

#### **6.2.4 Space**

"Space(s)" (mentioned on 20 times) encompassed a diverse array of topics, ranging from land acquisition and its associated challenges to routine maintenance, universal design, reinvestment, regional destinations, new communities, inventory, the significance of parks and open spaces during the pandemic, and the challenges faced by open spaces in areas experiencing growth and demand. The County achieved significant improvements over the last decade in generating novel resources, encompassing neighborhood parks, community and regional parks, greenways, and nature preserves. Land acquisition was identified as an integral strategy for augmenting public open spaces in areas characterized by necessity, growth, and environmental value. Furthermore, the importance of spaces featuring universal design, in which facilities, playgrounds, and open spaces are conceived to be accessible to individuals of all ages, abilities, and backgrounds, was a key feature. Finally, the challenges for land acquisition for conservation or parks have become more challenging due to an escalation in land value, rendering land acquisition for open spaces increasingly difficult.

#### **6.2.5 Need**

"Need(s)" (31 references) emphasized investment in underutilized or obsolete amenities, parks, and facilities, especially in historically underserved areas where resources have been lacking, highlighting a clear need for improvement and maintenance. The plan acknowledges the importance of vigilantly tracking the state of parks, facilities, and greenways to ensure equitable quality, including well-defined roles and responsibilities to facilitate ongoing updates. Strategies that encourage strategic growth while simultaneously addressing community needs were articulated. A commitment to understanding specific needs and how communities are structured



to facilitate information sharing was also outlined. Need was related to access and underscored the importance of ensuring that every county resident has access to amenities that promote health, activity, and well-being.

#### **6.2.6 Equity**

"Equity" (mentioned 19 times) was a theme in this plan in a more significant way than in 2015, focusing on inclusive recreation programs, park facilities, and maintenance, achieved through collaboration with the County Office of Equity and Inclusion. However, there is no specific mention of Latino (Hispanic) residents or community involvement in the decision-making process to ensure that green spaces cater to their preferences and needs. Even so, the plan suggests that the County is dedicated to equity and articulated the existence of a plan to address biases in access and quality. The plan acknowledged the need to enhance program, park, and recreation accessibility for all community members, irrespective of their abilities or cultural backgrounds. Likewise, the need to redress historical disparities and foster greater impartiality in resource distribution was articulated through directing investments to the areas that require them the most, renovating parks in vulnerable communities, and establishing new public amenities in expanding regions with subpar facilities. This term also referred to financial transparency and citizen involvement throughout the project's planning and design stages.

#### **6.2.7 Justice**

"Justice" (mentioned 8 times) emphasized the crucial role of empowering decision-making and considering community characteristics to ensure an equitable distribution of investments in parks and recreational services across Mecklenburg County. Furthermore, it highlights the importance of addressing environmental justice concerns to enhance the well-being of all

communities. The mention of justice included an imperative to establish data systems that calculate and communicate metrics for assessing the equity performance, along with fairly steering investments, particularly to neighborhoods and areas that have not recently received funding. "Justice" underscored the connection between environmental maintenance, restoration, and environmental justice issues, acknowledging that environmental injustices often disproportionately affect lower-income communities or communities of color, leading to greater negative health outcomes for these populations.

#### **6.2.8 Inclusion**

"Inclusion" (appearing 14 times) highlights the significance of creating a plan that aligns with the current needs and addresses inclusivity and justice concerns voiced by the community. Relating to equity and justice, the plan emphasized this as a key element of the plan, detailing specific measures to ensure equal access to facilities, programs, and services for all residents, elevating the user experience across parks, greenways, facilities, and programs. Similarly, the plan underscored the importance of active and continuous efforts towards fostering complete participation and a sense of belonging among employees, customers, and strategic partners. The plan also focused on the necessity for an evaluation system centered around equity and inclusion, which employs both quantitative and qualitative metrics to identify potential gaps. Ultimately, "inclusion" focused on equity needs, employing both tangible and intangible elements such as facility and recreation access mapping and community values, to identify potential gaps and needs across the County.

### **6.2.9 Diversity**

“Diversity” (referenced 15 times) articulated actions that ensure greater diversity and equity within the operations, in particular. Similarly, the representation of the Parks and Recreation Commission, Advisory Councils, and the communities should be diverse, representing the make-up of the County so that a variety of perspectives are included in decision-making processes. In a parallel fashion, diversity underscored the significance of reflecting the diverse community for programming and incorporating storytelling from narratives drawn from partners, residents, visitors, and staff. Diversity served to heighten the need for diversity at higher echelons of the organization. Through the creation of a workforce that mirrors the community, Mecklenburg Parks & Recreation can offer a more multifaceted and comprehensive perspective on its operations. These actions exemplify Mecklenburg Park & Rec's unwavering commitment to diversity.

### **6.2.10 Latino Populations**

Latinos and Hispanics were solely mentioned for demographic purposes. Although the plan extensively covered community involvement, programming, and funding for programs and land acquisition, there were no specific strategies or initiatives outlined that directly addressed the needs or concerns of the Latino community. Their inclusion in the plan seemed to be primarily to acknowledge their presence as a demographic group, rather than for the purpose of developing targeted efforts to enhance their participation and enjoyment of parks and recreation opportunities. The plan did have a focus on priority communities, such as under-resourced neighborhoods lacking park facilities, services, and amenities due to historical deprivation.

Another facet of this subcomponent involves the establishment of an inclusive system for individuals with special needs and multicultural/ethnic communities.

### **6.3 Difference Between the Orientation of the Two Master Plans**

The evolution of the Mecklenburg County master park plans 2015 to 2020 demonstrates a shift in priorities. For example, the 2015 plan focused on acquiring land and developing parks because of population growth and the 2020 plan took a more comprehensive approach that emphasized maintenance. Further, in 2020 equity, community engagement, and connectivity underpinned the entire plan and planning process, as significant shift from 2015. It is worth noting that while the 2020 planning process emphasized the importance of community engagement, there were many challenges due to the pandemic and engagement with the Latino community. Though improved, engagement did not reach a level that would reflect the needs of this diverse group. In addition, in 2020 recruitment for input occurred utilizing digital methods because of the stay-at-home orders; this made it more challenging to connect with all groups in an equitable way. Digital platforms may increase engagement because of ease for those who can access and understand the technology; however, this simply reinforces a digital divide that exists, further marginalizing populations. This provides a lesson as society moves towards a more digitally connected world. Using techniques, such as QR codes, for recruitment might prove ineffective, especially concerning involving Latino community engagement. To overcome these barriers, it will be important to work with trusted community leaders and organizations to build relationships and foster trust. This could include specialized outreach and communication efforts designed to address the unique needs and preferences of the Latino community, along with investments in cultural understanding and language accessibility.

### **6.3.1 Attention to Equity Lens in the 2020 Master Plan**

The Master Park Plan 2020 sets out a number of ambitious goals to promote equity and inclusion in urban green spaces, recognizing the critical importance of ensuring that all residents have access to high-quality parks and programming. One key goal is to enhance relationships with diverse audiences and communities, recognizing the value of incorporating diverse perspectives and needs into each project or plan. This includes targeted outreach and engagement with historically underserved communities to ensure that their voices are heard and that their needs are addressed. Another important goal is to focus reinvestment in areas that have not historically received resources, as well as places that are well-loved by the community. This recognizes the importance of addressing historic inequities and ensuring that all communities have access to high-quality parks and programming. Additionally, the Master Park Plan 2020 seeks to create the highest quality places and programs in all areas of the County, recognizing that every community deserves access to the same high standards of excellence.

The Master Park Plan 2020 theoretically emphasizes the importance of creating access to opportunities and resources for all residents, regardless of their background or circumstances. This includes investments in transportation and connectivity to ensure that all communities can easily access urban green spaces, as well as efforts to improve access to programming and services that are responsive to the needs and interests of all residents.

## **6.4 Key Informants Semi-Structure Interviews**

This section describes highlights from the semi-structured interviews with two organizations and are presented focusing on access, equity, and Latino populations since the

questions in the interview guide focused on these. Even though there were only two interviews, these offer some additional insights that complement the surveys.

Access to parks, green space, and recreation was considered very important. Connecting with nature was mentioned as an essential aspect that contributes to health for Latino populations. They emphasize that the main barriers are political and financial in nature, suggesting that these two factors are interconnected and mutually influential. They also underscore the importance of increased funding in addressing these barriers, implying that a lack of resources is a significant obstacle. There is a valuable opportunity to advocate for land acquisition, expand social and recreational uses and generally improve access, particularly at the neighborhood level.

*Quote: “At a higher level, just to put it simply, the main barriers are our political and financial ones and they're intertwined, essentially. More money would increase access, right? The lack of limited funding for Parks and Recreation is the barrier, even though it's a large percentage of the budget.”*

While inclusion was not explicitly mentioned, discussion stressed the importance of access and equity and were rearticulated as extremely important for the Latino population. The issue of unequal investment in parks and greenways in Charlotte, citing a lack of equity in the allocation of resources. They note that wealthier areas receive more attention and funding, while poorer neighborhoods are neglected. Serving the needs of the Latino populations includes access to parks and green space, ensuring different populations have equitable opportunities for the benefits of green space and physical activity. Hence, prioritizing equity in park development is crucial for addressing these historical injustices and promoting a more inclusive and equitable city.

*Quote: "Going from the center of the city to South Charlotte, which is our wealthiest area, also known as the 'wedge' of Charlotte, they're planning a 12.15-mile continuous Greenway. The segments north of Uptown, which are generally poorer neighborhoods (Latinos & Blacks), have not seen as much investment. There are many more segments of the Greenway that would need to be completed. I think this is just one example. Meck playbook has a map that shows where parks and greenways exist, so I believe that's another barrier. There hasn't been an equitable approach historically to making investments in parks and recreation, which is all the reason why it's so important that the current master plan prioritizes it. I think it's a recognition that didn't happen in the past"*

As they spoke about the Latino population, they did not limit the conversation to parks, linking to social aspects of community. The respondents stress the importance of preserving the watershed areas and suggest alternative uses, highlighting its significance as a key component in a broader initiative. They are concerned about equity in park development, suggesting that these communities are disproportionately affected. Hence, inequities in the context of park access, extended beyond the Latino population to communities of color, who have experienced underinvestment, including immigrant populations.

*Quote: "If I could get the city of Charlotte to think about how they could develop that area, because we can't build anything on a watershed, but they could certainly develop it for green space and use it for walking trails, picnic tables, shelters, and playground equipment all of that. That's the talking point for this little project, which is part of the greater scope. It's*

*crucial that there are equitable solutions for parks in certain areas of the community. Right now, the University City area doesn't have those solutions for the Latino community or the Black community”*

The interviews highlighted the need for increased community engagement to better serve the needs and preferences with the Latino community for plan development. Community involvement is crucial for the welfare of communities and individuals alike. Further, genuine community engagement is an important aspect of public health, healthcare, communication, and international community development (Schiavo, 2021). It aims to give communities the power to achieve positive changes in behavior and social well-being to improve health or development outcomes. Hence, by incorporating the perspectives and feedback of Latino community, the park system can better understand the unique needs and preferences of this population and palliate environmental and health equities presented currently within the park system.

## **6.5 Discussion**

The content analysis and interviews revealed significant insights into the representation of Latino perspectives into park planning processes. The 2015 plan differed substantially in its emphasis of explicit considerations of equity as compared to the 2020 plan and regarding investment needs for upgrading the park system. The 2015 plan predominantly concentrated on expanding the park system to account for population growth through the addition of new parks and facilities, while allocating relatively less attention to the necessity of augmenting open spaces. Conversely, the 2020 plan places enhanced focus on addressing the needs of enhancing and maintaining existing parks and acknowledged the significant investment and maintenance requirements to ensure their continued alignment with residents' needs.



The evolution of equity between the plans was notable. Even the term “equity” gained distinction between 2015 and 2020. In 2015, the term was barely mentioned, whereas in the most recent master plan, equity is considered one of the central goals of the park planning document. The central role assigned to equity in the 2020 plan, with a dedicated objective of building relationships with local park users and understanding their diverse needs, marks a departure from the earlier approach. The heightened emphasis on engagement, investment, and inclusion signifies a more proactive stance toward addressing equity, inclusion, and community engagement. However, there continued to be limited emphasis on the Latino community. The implications of this approach became more evident during COVID-19 stay-at-home orders, which heavily relied on digital connectivity for engagement, perhaps reaching more of some groups but leaving others who experience the digital divide or have limited literacy skills. The pandemic intensified the digital divide, making it harder to engage with some parts of the community and likely exacerbating disparities in participation.

The 2020 plan illustrates how these documents mirror the shifting priorities within the broader societal context. Foucault highlighted the complex dynamics of power, illustrating how it influences various aspects of society and individuals over time into the intricate ways power operates across societies. Local conditions perpetuate inequality, poverty, community development, and discrimination without the power structures shifting (Furuseth & Smith, 2006). The park plans suggest a continuation of those historical power imbalances, where the preferences and needs of vulnerable communities, such as Latino, may not be adequately considered. This scenario reflects the broader power dynamics Foucault describes, as certain groups face systemic challenges in having their voices heard and preferences integrated into the planning processes. This highlights the need to address not just the quantitative representation of

Latino communities but also the qualitative aspect of their participation, ensuring that institutions shift toward more inclusive and equitable practices in the planning and development of public spaces.

Involvement of social non-profit institutions can yield numerous benefits for the Latino community in Mecklenburg County, including understanding cultural backgrounds and needs. For instance, the interviews unveiled significant hurdles and challenges encountered by the Latino community when attempting to access and utilize the park system. These barriers include language obstacles, limited information about park resources, lack of engagement, facilities, and services, as well as perceptions of the park environments. It is evident that power inherently influences the management and accessibility of urban green spaces. In this case, power dynamics can shape the control of parks as public resources. Unfortunately, this power structure often results in barriers and inequities rooted in historical processes, leading to disparities in access to vital public resources like green spaces. Many authors have documented instances of systematic discrimination against minority and vulnerable groups, resulting in unequal access to urban green spaces (Jennings & Bamkole, 2019; Lara-Valencia & Garcia-Perez, 2018). Despite concerted efforts by major US cities to address this matter by implementing measures to ensure equitable and quality access to resources (Jennings & Bamkole, 2019; Larson et al., 2016), the issue of persistent environmental disparities persists, signifying that endeavors to alleviate these inequalities have not yielded comprehensive success.

Latino community engagement is a crucial factor in increasing park access, utilization, and interpretation among Latino residents. The semi-structured interviews highlighted challenges for engagement with Latino communities because of a lack of trust between the Latino community and government agencies or community organizations. This, in turn, can make it difficult to

meaningfully involve Latino residents in park planning and programming. A lack of knowledge of the governing process and limited English skills may also limit building trust and, lack of inclusion creates systematic discrimination against minorities and vulnerable low-income populations who face unequal access to green spaces in urban areas (Lara-Valencia & Garcia-Perez, 2018; Rigolon, 2016; Wen et al., 2013). Minorities and vulnerable populations are systematically discriminated against, resulting in their unequal access to green spaces in urban environments. The power structures that shape urban planning and development are instrumental in perpetuating or alleviating these disparities.

Formulating effective communication strategies is imperative to provide information to the Latino community regarding the availability and advantages of urban green spaces. This could encompass translating park materials into Spanish and disseminating such information through community outreach initiatives and partnerships non-profit organizations that serve the Latino community. By elevating awareness and dismantling access barriers, a greater number of Latino community members can relish the health and social benefits offered by urban green spaces in Mecklenburg County.

### **6.5.1 Institutional Power Structure**

Institutional procedures, notably planning decisions, exert a substantial influence on the access and fairness experienced by the Latino population in Mecklenburg County. When these decisions are made without accounting for equity, inclusion, and accessibility, they can engender barriers that disproportionately affect the Latino community. This can lead to disparities in access to healthy outdoor spaces, ultimately affecting the physical and mental well-being of Latino residents.

Power structures and biopolitics play interconnected roles in shaping the access to park usage, experiences, well-being, and community engagement of the Latino community in Mecklenburg County, drawing from Foucault (Foucault, 1980). The mechanisms and strategies employed by institutions and governing bodies regulate and control populations' lives and bodies. Hence, in the context of the Latino community's access to park usage, experiences, well-being, and community engagement in Mecklenburg County, biopolitics plays a significant role in shaping and influencing their access, experiences, and involvement in park planning. Further, the application of power and biopolitics can be observed through the management and governance of urban green spaces when considering limited historic investments in parks and park maintenance near marginalized communities. Biopolitics affects access to park facilities through decisions regarding park locations, funding allocation, and transportation infrastructure. If parks are situated in areas that are geographically distant from Latino neighborhoods or are inadequately connected via public transportation, access for the Latino community becomes limited. Biopolitical decisions related to funding and resource allocation can also lead to disparities in the quality of parks and facilities available to different communities. Power structures also influence the quality of experiences within parks. The allocation of resources for maintenance, amenities, and safety measures impacts the overall park environment. If certain parks are neglected due to institutional processes and decisions, the well-being of the Latino community could be compromised by lower quality recreational spaces, reduced opportunities for physical activity, and an increased risk of safety concerns.

In a similar way, power structures shape community engagement by determining the extent to which the Latino community is involved in the planning, design, and decision-making processes related to parks. If there is limited representation or consideration of their perspectives,

the community's needs may go unrecognized, resulting in a lack of cultural relevance in park offerings. This, in turn, affects the level of engagement and active participation of the Latino community in park-related activities and initiatives. Similarly, overlooking the needs and perspectives of the Latino population in planning decisions can result in their exclusion and marginalization. For instance, if park programs and services are not adapted to align with the cultural backgrounds and requirements of Latino residents, inclusivity may be compromised, and the community's needs might go unmet.

Power structures and biopolitics play interconnected roles influences the physical, social and psychological aspects of the Latino community relationship with urban green spaces in Mecklenburg County, which affects the access to park usage, experiences, well-being, and community engagement of this group. Hence, understanding these dynamics is essential for addressing environmental inequities, promoting inclusivity, and fostering a sense of well-being and community engagement among Latino residents. To counteract the detrimental impacts of power and biopolitics, it is crucial for these leaders to actively advocate for equitable resource allocation, engage the Latino community in decision-making processes, and design parks that reflect the cultural and recreational preferences of this demographic. To ensure that institutional practices uphold the rights and needs of all residents, it is imperative to prioritize these aspects within all decision-making processes. This encompasses active engagement with community members and organizations, targeted investment in underserved areas, and the development of culturally relevant and easily accessible programs and services.

### **6.5.2 Connections of Latino in Urban Green Spaces with Landscape**

The notion of landscape in geography studies is conceived as a multifaceted and varied portion of space where interplay of natural and cultural processes take place, including a family-

oriented emphasis. Similarly, preferences and perceptions of landscapes emerge from the impact of collective and individual experiences related to natural environments, incorporating values and belief systems (Kaplan & Kaplan, 1989; Ulrich, 1983). As mentioned by Lee, (1973) the understanding of landscapes is acquired, selective, dynamic, interactive, and personalized. Interestingly, neither plan mentions enhancing ecological features or environmental stewardship; rather, priorities were more oriented towards infrastructure and programming, paved biking and walking trails, open nature centers, and recreation centers, which do not necessarily align with the preferences of Latino communities based on the surveys. The broader power dynamic and decision-making process suggests a form of institutional control over the configuration and development of urban green spaces. This discrepancy resonates with Foucault's concept of power, where institutions influence and shape the accessibility and design of public spaces. By integrating landscape theory and with Foucault's theory of power, the research illuminates the quantitative patterns of park usage among Latino and qualitative dimensions that are constructed into the composition of their experiences. Further, the dual theoretical approach enriches the analysis, providing a comprehensive understanding of how landscape theory and Foucauldian ideas of power acknowledge that landscapes are not stationary but continually changing, dynamic, interactive, and molded by intricate interactions between the environment and human activities (Cosgrove, 2006; Lee, 1973). Several authors have shown that Latino communities struggle with quality parks and amenities, accessible green spaces, acreage, and culturally relevant in the neighborhoods where they live (Jennings & Bamkole, 2019; Rigolon, 2016; Rigolon et al., 2022; Roy et al., 2012). The mention of a "lack of trust and awareness during interviews with community groups" underscores issues with community engagement and

participation in urban planning, emphasizing the need for policy reforms to address these inequities.

### **6.5.3 Inclusion and Representation of the Latino Community on the Park Planning**

The analysis illuminated a notable gap in the master plan's consideration of the Latino community. Although terms like "Latinos," "Hispanic," and "Latinx" were sparingly mentioned, they primarily appeared within the context of socio-demographic classifications. This raises concerns about the depth of attention devoted to addressing the specific needs and aspirations of the Latino community in the parks and recreation plan. The lack of explicit strategies aimed at providing to low-income Latino or Latino minorities further accentuates this issue. While the plan does discuss the needs of low-income and minority populations, it fails to specifically target the unique concerns of the Latino population within these groups. This shortcoming implies a need for more deliberate and thorough incorporation of the Latino community's input to ensure that the master plan effectively serves the diverse needs of all residents.

Also, the findings extend beyond the Latino community to emphasize the broader significance of universal representation within the master plan. Acknowledging the needs of marginalized groups is a crucial step, yet it must evolve into the development of tailored strategies that resonate with each distinct community. Achieving genuine inclusivity requires an understanding of not only practical needs but also the cultural, historical, and socio-economic distinctions that define each community.

Taken together, the park plans for 2015 and 2020, along with the interviews, indicate substantial limitations of current institutional practices governing administrative planning and resource management. These constraints significantly affect access to high-quality urban green spaces for the Latino population residing in Mecklenburg County. An increasing focus of

researchers into parks and urban green spaces consistently documents access disparities and social inequities, particularly immigrant communities like Latino and marginalized minorities, which intensifies environmental injustices that detrimentally affect their quality of life (Byrne & Wolch, 2009; Das et al., 2017; Flores et al., 2018; Marquet et al., 2019; Rigolon, 2016; Tinsley et al., 2002; Wen et al., 2013). Moreover, according to (Rigolon et al., 2022), Latino communities in the United States face issues of segregation due to restricted access to quality parks, limited park proximity, and inadequate park acreage. A national-level exemplification of this challenge is the prevalence of crime and violence in low-income neighborhoods concentrated with minorities, adversely impacting park accessibility, usage, and overall public health outcomes (Marquet et al., 2019).



## 7 Discussion and Conclusion

This chapter presents a composite of the study components that capture Latino perspectives and experiences of parks and green space and interrogates the power structures that limit access and ultimately create health inequities, including a) the park user survey conducted at Freedom Park, b) the broad Latino survey, c) the content analysis of the *Mecklenburg County Park Master Plans 2015 and 2020*, and d) semi-structured interviews with key stakeholders. The chapter returns to the conceptual model and theoretical underpinnings as a framing for triangulating the results from the four research phases that guide the discussion of overarching themes. The chapter finishes with a discussion of limitations, recommendations, and conclusions.

The conceptual model (see Figure 15) offers a guide for exploring the relationships between power, landscape, structural, and individual experiences and access, importance, and ultimately effects on well-being. Not all aspects of this model were interrogated for this research study. Instead, the focus was on the heavy and lighter arrows at the interface between the park plans and individual experiences. Capturing the experiences of the Latino Park users offers an opportunity to value the importance of parks and green spaces for their well-being and to offer a deeper understanding of the impacts of power structures on their experiences. This, in turn, highlights opportunities for shifts in power and engagement. This framework offers a holistic approach for addressing park planning and management, community engagement to improve the well-being of Latino groups and their communities.

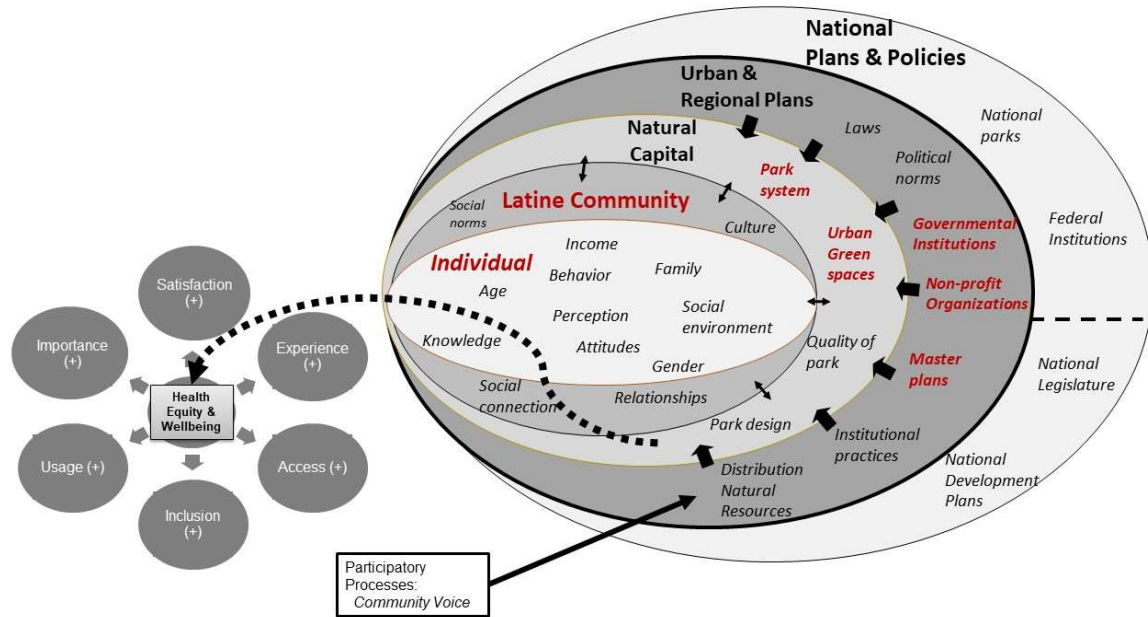


Figure 15. Socio-Ecological System Conceptual Model

Source: Adapted from the learning ecology model of Brofenbrenner (1979); Stokols, D. (1996). Translating social ecological theory into guidelines for community health promotion.

This model emphasizes the interconnectedness between people and their surroundings, and the ways in which these relationships shape health outcomes and human well-being. Similarly, the model recognizes that human behavior and health outcomes are shaped by a variety of factors that operate at different levels, from individual behaviors and beliefs to community norms and social practices.

## 7.1 Connecting Health Geography and Well-being

Urban green spaces have a profound impact on the Latino population's overall well-being by offering physical, mental, and social benefits (James et al., 2009). Similarly, urban green spaces provide opportunities for physical activity, stress relief, recovery from mental fatigue, and social interaction—all of which contribute to the enhancement of individual overall health and well-being. Many of these benefits and opportunities obtained from parks were mentioned by Latino participants within the surveys. For instance, visiting parks brings opportunities for

support and social cohesion through family gatherings within these spaces and was an important preference for this group. Further, parks promote overall well-being and opportunities for physical activity for Latino groups, as they mentioned a preference for walking around the park and participating in programmed and unprogrammed sports.

Despite these benefits, the unequal distribution, access to parks became evident from the Latino experience and usage of parks in Mecklenburg County. For example, the COVID-19 restrictions generally hindered the community's overall ability to benefit from the therapeutic and communal aspects of urban green spaces. Though, by keeping parks open (albeit early without car access due to parking, communal, playground and court closure closures), there were some opportunities. The limited access was intensified for Latino populations who had to predominately drive (and drive further) than whites. The lack of walkable distances or short driving distances to parks amplified the impact of restrictions for those not living close to a park, as is disproportionately true for the Latino community.

Similarly, health geography focuses on examining the connections between health, locations, and spaces and how place can influence well-being (Kearns & Collins, 2010; Kearns & Moon, 2002). Latino population have a profound connection with nature as mentioned in their preferences for its benefits on health and well-being, including how visiting a park positively influenced mind and thoughts. Latino people also mentioned the importance of going to parks for stress relief and reducing mental fatigue. Within the context of urban parks, this emphasis shows how important it is to capture the experiences of Latino individuals around urban green spaces. Furthermore, the Latino community engages with different activities that shape the design, utilization, involvement, and perception of urban green spaces. For example, on weekends, families and friends from the Latino community often gather for picnics sharing experiences,

memories, and communal celebrations. These actions serve as opportunities for socializing and contribute to the forging of a shared cultural identity within the community. The park becomes more than just a recreational area; it becomes a cultural nexus and a vital component of community life of Latinos.

Health geography also provides a valuable way to review disparities of access and sensorial experiences of urban parks for the Latino population. While cultural diversity exists within the Latino community, Latinos in general emphasized a shared priority of quality and accessibility to local parks. In Mecklenburg County, local governmental policies determine the accessibility, amenities, and overall quality of parks available to the Latino community. Park management practices, including maintenance standards and programming, influence the safety and attractiveness of urban green spaces. Moreover, lack of community engagement initiatives implemented by institutions limit a sense of inclusion and belonging, impacting the Latino community's involvement in design, and consequently their utilization and enjoyment of urban green areas. Unfortunately, almost no Latino participants provided input regarding needs and preferences for the park system and did not even know the planning process was underway (even regular park users) reflecting an underrepresentation of Latino voices in the decision-making processes or feedback mechanisms related to the park system. If Latino participants input is not captured in engagement processes, their views will have limited influence on shaping plans, policies and amenities that directly affect their community.

Health geography helps to examine the experiences of places and the therapeutic attributes of the landscape (Schwanen & Atkinson, 2015). This approach goes beyond simple exposure, considering how the Latino community interacts with and responds to their environment. The complexity involved in understanding Latino experiences in urban green spaces goes beyond

mere physical aspects of interaction; it examines the complex area of subjectivity, perception, and social dynamics within parks. Recognizing that Latino individuals bring diverse perspectives and subjective experiences to these spaces is crucial. The multifaceted nature of this complexity encompasses the tangible activities and the ways in which Latino individuals perceive and respond to their surroundings within the parks.

## **7.2 Theories of Landscape**

Theories of landscape facilitate an understanding of how the physical environment, especially natural landscapes such as parks, affects health and overall well-being of Latino communities in Mecklenburg County. Tuan (1979) emphasized the experiential and emotional dimensions of the human-environment relationship and Meinig (1979) looked at landscapes as carriers of cultural significance and historical narratives. Together, they provide a rich, multifaceted framing to capture the ways people perceive and engage with their surroundings.

In the surveys, perceptions of nature and the cultural significance of activities within these spaces varied widely among Latinos. For example, a park might be seen as a place to engage in traditional dances, celebrate cultural festivals, or participate in communal activities that hold deep cultural meaning. For some, nature might provide relief from daily stressors and promote mental well-being. Others may associate specific cultural practices with natural environments, such as dances, birthday celebrations, or linking spiritual and emotional health to their experiences in these landscapes. Hence, incorporating subjective and cultural dimensions of human-environment interactions as described in landscape theories, shed light on how Latino individuals perceive and engage with landscapes, underscoring the intricate interplay between the environment and well-being. This subjectivity extends to how Latino in Mecklenburg County

utilize and interact with urban green spaces as natural landscapes, personal experiences and cultural values influence the varied ways they choose to engage with and make meaning out of their surroundings. Recognizing the singularity of individual perceptions of landscapes recognizes that each person attributes distinct meanings to their surroundings, shaped by their unique past and present social contexts (Felix, 2008). These subjective interpretations of landscapes can then influence health and well-being outcomes. The way Latino individuals perceive and engage with their surroundings is a personal matter and heavily shaped by the broader societal contexts in which they exist.

### **7.3 Foucault Power Theory Linked to Landscape**

Foucault conceptualizes power as a persistent and dynamic force operating through social practices, institutions, and knowledge systems (1980). Urban planning and the design of public spaces become mechanisms through which power is exercised and manifested. Those dynamics influence societal norms, spatial configurations, and the distribution of resources. The connection between power and governance extends also to decisions about land use, especially in determining the distribution and accessibility of urban green spaces. Wen et al., (2013) emphasize that governmental agencies often play a pivotal role in deciding who has access to the amenities provided by urban green spaces, thereby influencing the land-use patterns in both urban and rural communities. Similarly, political structures and economic policies result in an unequal distribution of resources, social marginalization, and environmental issues (Svarstad et al., 2018). Foucault's notion of governmentality finds application in understanding how environmental policies and landscape management contribute to the regulation and governance of urban spaces. The landscape packed with symbols and cultural meanings becomes a mosaic on which power dynamics are inscribed. Foucault (2008) also purported that in situations where

power imbalances exist, the outcomes include decreased involvement, exclusion from decision-making processes, a diminished representation in these procedures, and the rise of inequalities originating from power structures. In Mecklenburg County, this power inequality reveals itself in the unequal access to parks, variable investment in new and existing parks, and rather limited engagement with diverse Latino populations during park planning processes.

#### **7.4 Inadequate Latino Community Engagement**

Both the Freedom Park survey and the broader Latino survey revealed that a significant portion of the population was not aware of the 2020 park planning process or even the plan, indicating a need for increased community engagement, particularly for Latino communities. While needs and preferences of communities must be considered (Grabowski et al., 2023), the surveys and interviews clearly suggested a need for increased outreach and communication to ensure the Latino community has an opportunity to provide input. In combination, this points to challenges of representation and power dynamics. Foucault's underscores how certain voices and perspectives are marginalized or excluded from official planning and decision-making processes. This might happen intentionally, by oversight, neglect or implicit bias in oversight. It is impossible to know the reasons for exclusions, but there is a clear need for increased high-quality engagement for park planning with Mecklenburg County residents, especially the Latino populations, which are more inclusive processes and consider the diverse needs and preferences of the Latino community. The power dynamic is about explicit control and about the subtle ways in which administrative decisions can create disparities and inequalities in access, impacting the lives and well-being of the Latino community.

An imbalance regarding involvement and representation can have profound implications for the well-being of Latino communities, particularly during critical times like the pandemic.

During stay-at-home orders and social distancing measures, urban parks and green spaces became essential for physical activity, relaxation, and a safe escape from the confines of home. For Latino and other marginalized communities, unequal access to such spaces can exacerbate feelings of isolation, stress, and limited opportunities for physical exercise which reduce well-being. Inequities arise because of the spatial distribution, quality, amenities and design (Jennings & Bamkole, 2019; Lara-Valencia & Garcia-Perez, 2018) that existed prior to the pandemic. Further, power imbalances reduce participation, excluding perspectives from decision-making processes. The surveys and interviews bring to light limited robust community engagement that likely fails to develop strategies aimed at enhancing park access and utilization for Latino residents. These findings corroborate the broader body of research conducted that consistently highlights the inequities and challenges faced by non-White populations in accessing parks and recreational areas. These inequities manifest in various ways, including limited physical access, unequal distribution of parks and recreational facilities, and disparities in the quality of these spaces (Flores et al., 2018; Jennings & Bamkole, 2019; Marquet et al., 2019; Martin et al., 2004; Tinsley et al., 2002; Wen et al., 2013). When planning processes do not fully engage to understand these crucial perspectives, obstacles disproportionately affecting the Latino community may result. By extension, this then negatively impacts the physical and mental well-being of Latino residents. Engagement is critical for enhancing park access and utilization among Latino residents, with far-reaching benefits for all Mecklenburg County residents. Conversely, if planning decisions continue to overlook the needs, perspectives, and requirements of the Latino population, it perpetuates exclusion and marginalization, as seen in prior studies.

A key observation from the field work was the challenge of reaching Latino populations. Digital platforms, like social media, may not be the best mechanism to gain input. The



organizations interviewed observed similar challenges for recruitment and outreach using digital means. Thus, while many engagement processes generally are moving to digital platforms for increasing participation, this approach will likely not work equally well for all groups. Many Latino individuals may not have access to technology (e.g. Internet, data plans, tablets, computers, smart phones), which can limit their ability to participate in online surveys or data collection efforts. Or, they have limited technological knowledge. Specifically, this survey utilized QR codes, which may not be intuitive.

In addition to the digital divide and literacy, numerous other reasons minimize participation and engagement. The Latino community may not appreciate the purpose and importance of data collection efforts for park planning. Thus, outreach encompasses building awareness around park planning processes. Portions of the Latino community have limited financial resources and so working takes precedence over taking a survey when time is scarce. Literacy and language skills are necessary for filling out written surveys, but Latino populations may have less schooling (lower literacy) and/or experience language barriers if they only speak Spanish. Even if a survey or recruitment materials are in Spanish, this still may not be accessible. Trust is another consideration.

There may be a lack of trust in the survey process or the organization conducting the survey, which can lead to non-response bias and lower response rates that may be intensified when online or digital without a personal touch. If the community has negative experiences with government or other institutions, they will not be inclined to answer a survey. A lack of trust with formal institutions is intensified for undocumented subsets of the population because of a fear of attracting attention from immigration authorities. Different cultural values and beliefs may also affect a willingness to participate in data collection, particularly if they view these

efforts as intrusive or not relevant to their lives. Importantly, the Latino community is diverse, with many different cultures along multiple dimensions.

Taken together, if addressed by the structures and organizations involved in park planning, richer and more robust engagement with the Latino community can occur. Ultimately, it is the responsibility of policymakers and park planners to work closely with community leaders and organizations to build trust and rapport with Latino communities. This can include efforts to establish ongoing dialogue and collaboration, as well as providing culturally and linguistically appropriate materials and support throughout the survey process. By taking a culturally sensitive approach and addressing the specific needs and concerns of Latino communities, it is possible to overcome recruitment and engagement challenges and gather valuable data on parks to enhance well-being. Policymakers and park planners can ensure that Latino communities feel valued and heard in the park planning process, leading to more accurate and representative survey results and more equitable and inclusive park systems. A significant portion of the population remains unaware of the complexities of the park planning processes. This underscores the necessity for better communication, increased community involvement, and enhanced awareness efforts to ensure that every resident, including the Latino community has a role in influencing the future of these valued urban green spaces.

## **7.5 Importance and Benefits of Park Natural Spaces for the Latino Community**

The presence of parks in cities was highly valued by the Latino community through opportunities for physical exercise, socialization, and relaxation and findings clearly connect parks to a sense of well-being. Their perceptions of tranquility, relaxation and recreation and are consistent with other research (Jennings, Larson, & Yun, 2016; Maas et al., 2009). Importantly,

Latino participants felt safe in park settings. While their overall satisfaction was relatively high, access was more limited as exhibited by the long distances Latino populations travel to go to a park. Park design features most appealing to Latino include playgrounds, picnic areas, water bodies, and facilities that allow for connection to nature. They had less interest in recreational programs.

There was a strong preference for open spaces characterized by abundant natural elements rather than heavily developed concrete environments. This shared affinity for green, natural spaces underscores the universal human connection to nature and its restorative qualities (Kaplan & Kaplan, 1989; Ulrich et al., 1991) and suggests that such spaces serve as places for recreation and evoke a profound sense of nostalgia and cultural attachment. Green spaces are of utmost importance for Latino communities. Natural environments are places for recreation and reservoirs of personal and collective memories. They become sites where individuals forge a profound sense of connection with their surroundings, reflecting the unique cultural attachments and historical narratives of their communities. This emotional connection reinforces the importance of urban green spaces as integral elements for this community, reflecting their heritage, identity, and the intricate interplay human-environmental interactions.

For the Latino community, urban parks hold a special significance as spaces that promote close-strong family connections and create memories. Their usage of these parks often revolves around quality time spent with family members, particularly children. Latino families frequently choose parks as ideal locations for picnics, gatherings, and outdoor activities, described to the serene natural surroundings that offer rest from the rush of daily life. These findings align with those of Pease (2015), underscoring the importance of high-quality natural spaces enable social engagement, physical activity, and individual development within the Latino community.

Whiting et al., (2017) described that Latinos showed a stronger desire for social activities during their park visits compared to all other groups. Green spaces provide a background for family-oriented leisure and relaxation, encouraging the strengthening of familial relationships and the passing down of cultural traditions. In contrast to other groups who may prioritize socializing with friends, the Latino community's preference for family-centered park experiences highlights the cultural importance of family connections. Parks serve as more than just recreational spaces; they are integral to the preservation of cultural values and the fostering of a sense of belonging within the community. Parks provide specific social needs for the Latino community.

Urban green spaces serve as places for social connection and community engagement, which are critical for perception of well-being of Latino community. They can provide opportunities for people to come together and interact, fostering social cohesion and reducing social isolation. Urban green spaces can also provide a sense of community, which can promote a shared sense of responsibility for maintaining and protecting these resources. Further, these spaces can serve as community gathering places, providing opportunities for social interaction, and building social connections. For the case of Latino communities, these spaces can serve as places to celebrate cultural traditions, hold family and community events, or participate in traditional outdoor activities, supporting mental health and well-being by providing opportunities for stress relief, relaxation, happiness, and socialization (Byrne & Wolch, 2009; Jennings, Larson, & Yun, 2016; Pincetl & Gearin, 2013). The social-environmental importance of parks offers health benefits and stress reducing opportunities (Martin, 2017; Wolch et al., 2014), along with increasing physical activity (Cohen et al., 2016; Larson et al., 2016).

The presence of green spaces contributes to air and water purification and promotes a more resilient and ecologically balanced cityscape. For Latinos, the incorporation of natural spaces in

cities is seen as contributing to their health and as a vital component in fostering healthier and more sustainable urban environments. Thus, the call for new natural spaces not only reflects a commitment to personal health but also signifies a broader aspiration for cities that thrive ecologically, creating a scenario where the well-being of individuals and the vitality of urban environments are intricately interconnected. This dual perspective underscores the holistic nature of the Latino community's vision for urban green spaces, emphasizing immediate recreational benefits and far-reaching implications for the health and sustainability of Mecklenburg County's cities.

The significance attached by the Latino community with enhancing the natural beauty of ecology and existing park areas, creating new natural spaces and conservation areas, as well as modernizing these spaces with new programs and facilities, reveals crucial insights into their aspirations for urban green spaces. The emphasis on enhancing the natural beauty of ecology and existing park areas suggests a profound appreciation for the aesthetic qualities of these spaces, reflecting a desire for environments that serve functional purposes and provide a visually enriching experience. Moreover, the emphasis on the creation of new natural spaces and conservation areas by the Latino community extends beyond a mere commitment to environmental preservation. It also underscores a profound understanding of the positive impact of such spaces on both individual and communal well-being.

The Latino population recognized the inherent connection between access to natural environments in urban settings and improved health outcomes. This perspective aligns with a growing body of research indicating that exposure to green spaces contributes to physical and mental well-being. This represents a slight misalignment in the preferences and priorities identified in the most recent park master plan (2020), which emphasized investment in increased

recreational programming, albeit with a focus on equity. There is a notable emphasis on enhancing and maintaining existing spaces that hold historical significance to the community and some investment in new facilities. Equity plays a central role in these preferences, with a recognition that routine maintenance, reinvestment, and upgrades should be prioritized in areas that have historically received fewer resources. This strategic approach aims to rectify historical disparities and ensure that all residents have equal access to well-maintained and upgraded facilities. Furthermore, the emphasis on modernizing these spaces through the introduction of new programs and facilities reflects a forward-looking perspective on park development. However, with limited engagement with a broad segment of the Latino community, it is unclear if this programming would match their interests.

## **7.6 Limitations**

While successful at more deeply engaging with the Latino community, this study did not encompass the generalizable results to the entire population of Latino residents of Charlotte, partially because of the study design with an emphasis on park users in a single park and the challenges with recruitment in the broader survey. Bias arose from the recruitment approach, the cross-sectional study design, and participants' willingness to engage. Certainly, undertaking the survey during the pandemic created unique challenges. However, recruitment in the Freedom Park Survey was strong, but this was a particular segment of those who were able to use the park.

Conducting in-person surveys at Freedom Park during a global pandemic posed significant challenges related to health and safety, logistics, and data quality. The primary concern was the risk of virus transmission, which necessitated strict adherence to health guidelines such as wearing masks, maintaining social distance, and using hand sanitizers. These measures, while

essential, were difficult to enforce consistently and led to participant hesitation, resulting in lower response rates and potential bias. Logistically, setting up safe survey stations required additional resources and planning, including procuring personal protective equipment for researchers and ensuring adequate spacing. Furthermore, obtaining permissions to conduct surveys in public spaces was more complicated, and recruiting assistants under these conditions added another layer of complexity.

The pandemic also impacted data quality and participant engagement. The stress and anxiety associated with the pandemic might have influenced participants' responses, affecting the authenticity and reliability of the data. Physical distancing and mask-wearing could hinder clear communication, leading to incomplete or misunderstood responses. Reduced foot traffic in public spaces due to lockdowns and restrictions further limited the pool of potential participants. Researchers also enhanced safety measures, followed flexible scheduling to reduce crowding, and provided clear communication about the safety protocols in place. Despite these efforts, the pandemic's impact on participant behavior and engagement remained a significant obstacle, highlighting the need for flexible and innovative research approaches in this situation.

The numbers of institutional interviews were limited, although providing some insights into organizations involved with serving the Latino community. The park plan content analysis was retrospective. Consequently, it likely did not fully capture engagement processes and could not adequately evaluate the true representation of the Latino community. Still, the content analysis does represent the formal document that will guide park maintenance and development.

## **7.7 Recommendations**

Given the growth of the Latino community in the U.S. and in Mecklenburg County specifically, proactive engage with the Latino community for park planning, development is essential for extending health benefits to them and creating more equitable park and green spaces. This could involve targeted surveys, focus groups, and community meetings that allow members of the Latino community to voice their needs and preferences, not overly emphasizing digital platforms that do not seem to work as well for engaging this community. Any plan and subsequent implementation should incorporate dedicated strategies aimed at addressing the distinct concerns of the diverse Latino community, including low-income, acknowledging their specific challenges and opportunities. This can be combined with an awareness campaign about the health benefits of parks and green spaces targeted specifically to the Latino community. All of this should unfold through fostering partnerships between institutions managing urban green spaces and community-based organizations catering to the Latino community in Mecklenburg County.

Mecklenburg County Parks and Recreation can prioritize the development of programs that are genuinely inclusive of the Latino community. This involves offering programming that is culturally pertinent and adjusted to their needs. These programs should be collaboratively fashioned alongside Latino community members and organizations to ensure they resonate with the community's needs. Likewise, there should be a heightened emphasis on bolstering representation in the staff, with a focus on hiring Latino staff and contractors, including those who speak Spanish. Maintenance, development and programming should prioritize parks and recreational amenities in locations densely populated by Latino residents. This multifaceted approach increases the incorporation of the Latino community's needs and concerns. Adopting a



comprehensive and all-encompassing approach to comprehend and augment access to urban green spaces for the Latino community in Mecklenburg County ensures their voices are heard and their experiences are at the heart of all initiatives that ultimately improve health and well-being.

## **7.8 Conclusion**

This dissertation sought to bridge critical research gaps by deeply examining the intricate dynamics that surround access to, and appreciation of, green spaces in urban parks for Latino populations in Mecklenburg County, North Carolina. This study is a step towards a more comprehensive understanding of the complex interplay between urban green spaces, cultural perspectives, and overall well-being within the Latino community, contributing valuable insights to the broader discourse on environmental equity and health disparities. Green spaces and parks are highly valued by the Latino community, particularly natural environments and park features that facilitate social and family connections. There was a strong connection between parks and a perceived sense of well-being for Latinos, illustrating why equitable park planning, development, and maintenance is an essential element of health equity more broadly.

The cultural diversity within the Latino community is comprised of various ethnic backgrounds, traditions, and languages, contributes to a mosaic of unique identities. Thus, this cultural richness influences daily routines and deeply informs how individuals interact with and perceive their environments, including urban green spaces. Hence, the landscape becomes a living panorama where the cultural uniqueness of the Latino population is vividly displayed, shaping the emotional and social dimensions of their experiences that affects well-being. In essence, recognizing the uniqueness of the Latino population in Mecklenburg County involves

appreciating the multifaceted dimensions of their cultural identity, preferences, and emotional connections to green spaces in parks, shaping a distinctive and enriching experience for individuals within the Latino community.

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## Appendix I: Fall 2020 Freedom Park Survey

### Photo elicitation

Based on your preference, please order the top 3 photographs of park areas. Use 1 for the most appealing, followed by 2 and 3. For your top photo, describe how it makes you feel. From the images can you please tell me what is the least favorite and why?

Photo	1	2	3	4	5	6	7	8
Top 3 Preference								

From your favorite image can you describe how it makes you feel?

Can you please tell me what your least favorite image is?	Number
Explain why?	



## Fall 2020 Park Survey at Freedom Park

Section 1: Usage and importance of park	Values
1. How often do you visit a park in the Charlotte Region?	<div>1 day weekly</div> <div>2-3 days a week</div> <div>4-5 days a week</div> <div>6-7 days a week</div> <div>1 month</div> <div>2 months</div> <div>Never</div>
2. How often do you visit Freedom Park?	<div>1 day weekly</div> <div>2-3 days a week</div> <div>4-5 days a week</div> <div>6-7 days a week</div> <div>1 month</div> <div>2 months</div> <div>Never</div>
3. When was the last time you visited Freedom Park?	
4. Is this one of your favorite parks?	Yes   No   Other

Section 2: overall interpretation and satisfaction of parks and urban green spaces in the city	Strongly agree	Agree	Disagree	Strongly disagree
1. I am satisfied with the parks in the Charlotte Region.				
2. There is enough natural space in the Charlotte Region.				
3. Are you aware that Mecklenburg County Parks and Recreation is undertaking a new 2020 Park Master Plan?	Yes   No			
3a. If yes, did you know community views and input were solicited in an open process?	Yes   No If yes, please describe.			
3b. If yes, did you provide any feedback during the planning process? Yes/No	Yes   No If yes, please describe.			
4. Do you know about Meck Playbook?	Yes   No If yes, please describe.			

<b>Section 3: Accessibility</b>						
What type of transportation did you use to get to this park?	Car	Walk	Bicycle	Bus	Motorcycle	Other
How easy is it to access?	Yes <input type="checkbox"/> Other <input type="checkbox"/>					
	Easy	Moderately Easy	Difficult	Extremely difficult		
How long does it take to get here?	Minutes					

Section 4: Experiences in the park	Please indicate if you agree or not with the following statements:				
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
I have felt unsafe in this park					
The park is clean and well maintained					
I have felt discriminated against in this park					
The signs and pamphlets are understandable to everybody					
The park is welcoming to all people					
The park provides enough recreational opportunities					
The park has beautiful natural areas					
The quality of the park is excellent					
There are enough green areas in the park					
The natural areas in the park contribute to my well-being					
I feel a sense of belonging in Freedom Park.					

Section 5: Value of Park	Please rate how important each of the park experiences is to you.			
	Extremely important	Moderately important	Slightly important	Not at all important
1. To spend time with family/friends				
2. To view wildlife				
3. To view natural scenery				
4. To exercise alone				
5. To exercise with others				
6. To relax				
7. To picnic				
8. To play with your children				
9. Listen to the birds				
10. To enjoy fresh air				
11. To be outdoors				
12. Listen to sounds of nature				
13. Experience quiet				
14. To walk slowly alone				
15. To walk slowly in groups and chat				
<b>From the following section please select from the option the most important for choice</b>				
16. What makes a park, trail, or facility "high quality" to you?	New amenities and features	Unique amenities not found elsewhere	Emphasis on preserving nature	Wide variety of amenities
	Attractive design	Other		
<b>Section 6: Importance</b>				
1. Can you please pick up your highest priority?	Enhancing neighborhood parks	Modernizing facilities for new programs and uses.	Bringing in more history, arts and culture to all spaces.	Creating new greenways to fill gaps and add access points
	Making high-use spaces more durable and resilient.	Other		
2. What should the priorities for investment?	Establish partnerships to help upkeep	Upgrade places with durable materials	Enhance the natural beauty and ecology	Make places more accessible

	Other
3. Why is going to this park important to you and what does it mean to you?	
4. Can you please mention your favorite part of Freedom Park and why it is important to you?	

### **Personal well-being Index (PWI)**

The next questions asked about your perceptions of their own life and its subdomains. The response scale for each question is an eleven-point scale ranging from: “0” to “10”, whereby “0” stands for “Completely dissatisfied” and “10” for “Completely satisfied”. The midpoint of the scale coded “5” means “Neutral” or “Not dissatisfied, not satisfied”.

How satisfied are you with...

1. your standard of living? [Standard of Living]	
2. your health? [Personal Health]	
3. what are you achieving in life? [Achieving in Life]	
4. your personal relationships? [Personal Relationships]	
5. how safe do you feel? [Personal Safety]	
6. feeling part of your community? [Community-Connectedness]	
7. your future security? [Future Security]	
8. your spirituality or religion? [Spirituality – Religion]	

COVID-19: This section relates to the park's use and importance of COVID-19.

On March 27, 2020, Governor Cooper issued the COVID-19 stay-at-home order that was in place until May 7. Phase I reopening was enacted until May 22. Phase 2 stayed in effect until Sept 4 moving to Phase 2.5 until Oct 2, then moving to Phase 3 reopening.






<b>Section 8: park use and significance during COVID19</b>					
1. How often did you visit a park in the following months?	<b>April-May</b>				
	Never	1 time in the month	2-3 times per month	1-2 times per week	almost daily
	<b>May-September</b>				
	Never	1 time in the month	2-3 times per month	1-2 times per week	almost daily
	<b>October-November</b>				
	Never	1 time in the month	2-3 times per month	1-2 times per week	almost daily
2. Did you use the park more than normal during the COVID-19 restrictions? How much?					
3. Which parks did you visit during this time?					
4. During COVID-19, why was visiting a park important to you, if at all?					

Section 9: importance of Park experience during COVID-19 restrictions	Please rate how important each of the park experiences is to you.			
	Extremely important	Moderately important	Slightly important	Not at all important
1. To spend time with family/friends				
2. To view wildlife				
3. To view natural scenery				
4. To exercise alone				
5. To exercise with others				
6. To relax				
7. To picnic				
8. To play with your children				
9. Listen to the birds				
10. To enjoy fresh air				
11. To be outdoors				
12. Listen to sounds of nature				
13. Experience quiet				
14. To walk slowly alone				
15. To walk slowly in groups and chat				




**Demographics: Please respond to the following questions.**

<b>Age</b>	<b>18-30</b>	<b>31-40</b>	<b>41-50</b>	<b>51-60</b>	<b>61-70</b>	<b>70+ over)</b>																													
<b>Genre</b>																																			
<b>Please mark your group member</b>	White	Black	Native American or Alaska Native	Native Hawaiian or another Pacific Islander	Hispanic or Latino	Not Hispanic or Latino	Other																												
<b>Educational level</b>	Less than high school	Some high school	High-school graduate or GED	Some College, business, or trade school	College, business, or trade school graduate	Some graduate school	Master's doctoral, or professional degree																												
<b>Civil status</b>	Single <input type="checkbox"/>	Married <input type="checkbox"/>	Common law-marriage <input type="checkbox"/>	Divorced <input type="checkbox"/>	Widow <input type="checkbox"/>																														
<b>Number of children</b>		<b>Number of people household</b>																																	
<b>Income level</b>	<table border="1"> <tr> <td>Less than 14,999</td><td></td><td>50,000-74,999</td><td></td></tr> <tr> <td>15,000-19,999</td><td></td><td>75,000-99,999</td><td></td></tr> <tr> <td>20,000-24,999</td><td></td><td>100,000-149,999</td><td></td></tr> <tr> <td>25,000-34,999</td><td></td><td>150,000-199,999</td><td></td></tr> <tr> <td>35,000-49,999</td><td></td><td></td><td></td></tr> <tr> <td colspan="2"><b>Do you own a car?</b></td><td colspan="2"></td></tr> <tr> <td><b>Yes</b></td><td><b>No</b></td><td colspan="2"></td></tr> </table>							Less than 14,999		50,000-74,999		15,000-19,999		75,000-99,999		20,000-24,999		100,000-149,999		25,000-34,999		150,000-199,999		35,000-49,999				<b>Do you own a car?</b>				<b>Yes</b>	<b>No</b>		
Less than 14,999		50,000-74,999																																	
15,000-19,999		75,000-99,999																																	
20,000-24,999		100,000-149,999																																	
25,000-34,999		150,000-199,999																																	
35,000-49,999																																			
<b>Do you own a car?</b>																																			
<b>Yes</b>	<b>No</b>																																		
<b>How many years have you been living in the USA?</b>		<b>In Charlotte?</b>																																	
<b>Zip code</b>		<b>Neighborhood name</b>																																	

## Appendix II: Photo Elicitation

Appendix II: Photo Elicitation		
#	Image	Description
1		The first image shows a natural area with trees and woods in the background. This image was selected in order to represent a natural space without any built environment. As mentioned previously in the literature review, natural spaces can offer important elements for relaxation, conservation of biological diversity, observation of plants and animals, and recreation that enhance well-being. This photograph also can illustrate a natural landscape with good signs of a healthy ecosystem.
2		The second photograph is a greenway surrounded by vegetation and a pavement road. This image was chosen based on the surrounding vegetation but also for the utilization of the site can provoke such as exercising, walking, and cycling.
3		The third photograph is of a playground surrounded by trees. The image was selected because one of the common visits to a park by families is the playground. This place tends to be a favorite spot for enjoying time with kids. So, the place might evoke emotions, social interaction such as family/friends meeting or fun times for the kids surrounded by nature.
4		The fourth image is a shelter surrounded by trees and it was selected because the place can evoke emotions or past experiences such as family reunion or special celebration linked with natural space.
5		The fifth photograph is a basketball court surrounded by natural landscape trees, grass and vegetation. This image is selected because it might elicit the practice of any sport or different use of the park besides nature.



6		The sixth photograph represents a walkway with a creek surrounded by nature. Based on the previous literature consulted, water bodies or blue spots in parks tend to be favorite places for relaxation.
7		The seventh photograph shows a sidewalk with a small green area in a small neighborhood. This image represents areas with less natural interaction in a built environment surrounded by cars.
8		The last image(eight) is an area that is fully constructed built pavement than natural landscape. These types of areas normally are highly planned.

### **Appendix III: Spring 2022 Latino Community Survey**

#### ***Email recruitment (for managers and directors)***

Dear (Director's name)

I am a graduate student in the Geography Department at UNC Charlotte and am working on my research project. The study is about how Latinos access parks, how they value natural spaces, and how these contribute to well-being. This is an opportunity to capture how Latinos value parks. Therefore, I was wondering if you can help to distribute my information among your contacts to participate in the study. This study consists of a very short survey of 10 minutes approximately. The tentative participants should be a member of Latino community organizations or Latino social media groups of Mecklenburg County. The results obtained will help to understand the Latino experience and importance of urban natural spaces such as parks in Mecklenburg County.

Your support in this regard will be highly appreciated.

My contact is.

email:

Tel.

## Flyer recruitment

UNIVERSITY OF NORTH CAROLINA  
**CHARLOTTE**  
Department of Geography  
and Earth Sciences

**Ayude a un estudiante Latino de UNC  
Charlotte en su investigacion de  
percepcion de Latinos en parques !!**



**Esta es la oportunidad de dar su opinion  
sobre los parques de Mecklenburg County**

Aprecio sus 8-12 minutos de su tiempo. Encuesta disponible en  
Español e Ingles.

Visite Link: <https://bit.ly/ParquesLatinos>  
or use QR CODE 

**GRACIAS!!**

PREGUNTAS? E-mail: [gayonmun@uncc.edu](mailto:gayonmun@uncc.edu)



UNIVERSITY OF NORTH CAROLINA  
**CHARLOTTE**  
Department of Geography  
and Earth Sciences

**Please help a Latino student from UNC  
Charlotte on his research of Latinos views  
of parks !!**



**An opportunity to give your opinion about  
Latinos parks de Mecklenburg County!**

I value 8-12 minutes of your time. Survey available in Spanish or English.

Visite Link: <https://bit.ly/ParquesLatinos>  
or use QR CODE 

**GRACIAS!!**

QUESTIONS? E-mail: [gayonmun@uncc.edu](mailto:gayonmun@uncc.edu)



## Spring 2022 Latino Community Survey

### Photo Elicitation

Based on your preference, please order the top 3 photographs of park areas. Use 1 for the most appealing, followed by 2 and 3.

Photo	1	2	3	4	5	6	7	8
Top 3 Preference								

Which is your favorite image and please describe how it makes you feel.	Number

Which is your least favorite image and please describe how it makes you feel.	Number



Department of Geography  
and Earth Sciences

### Spring 2022 Latino community survey

<b>Section 1: Use of Park</b>									
1. Which Park do you use the most often?	Park name: _____  Is this park your favorite? Yes No								
2. How often do you visit your most often visited park?	<table border="0"> <tr> <td>_____ 1 time per week</td> <td>_____ 1 time per month</td> </tr> <tr> <td>_____ 1-2 times per week</td> <td>_____ 1 time every 2 months</td> </tr> <tr> <td>_____ 3-7 times per week</td> <td>_____ less than every 2 months</td> </tr> <tr> <td>_____ 1 time every 2 weeks</td> <td>_____ No, I never visit a park</td> </tr> </table>	_____ 1 time per week	_____ 1 time per month	_____ 1-2 times per week	_____ 1 time every 2 months	_____ 3-7 times per week	_____ less than every 2 months	_____ 1 time every 2 weeks	_____ No, I never visit a park
_____ 1 time per week	_____ 1 time per month								
_____ 1-2 times per week	_____ 1 time every 2 months								
_____ 3-7 times per week	_____ less than every 2 months								
_____ 1 time every 2 weeks	_____ No, I never visit a park								
2a.- If your answer is NO, I never visit a park. Please describe why not. Once finished description go to section 2.									
3. Is this your favorite park? Yes No Other Park Name:	2a.- If yes, can you describe WHY it is your favorite park?								
4. What time do you generally go to this park?	Morning Afternoon Evening All								
5. What day of the week do you prefer to go?	Mon Tue Wed Thur Fri Sat Sun								
6. How important is it for you to visit a park? Please describe why.									
7. How long do you typically spend at the park?	< 30 minutes 30 minutes-1hour 1-2 hours 2-4 hours > 4 hours								
8. Who do you typically visit the park with?	Alone Family Friends Children								

<b>Section 2: Barriers (only for those responded never visited a park)</b>						
1.- Would you like to visit a park?		Yes		No		Why?
2.- What would attract you to visit a park?		Describe				
3.- What barriers have you found to visit a park?		Describe your barriers				
<b>Section 3: Accessibility</b>						
What type of transportation did you use to visit your most visited park?	Car	Walk	Bike	Bus	Motorcycle	Other
How easy is it to access?	Extremely Easy	Moderately Easy	Difficult		Extremely Difficult	
How long does it take it to get there?	Minutes	Please describe the quality of your most visited park				

<b>Section 4: Overall Satisfaction of Parks and Natural Spaces in Mecklenburg County</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neutral</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
1. I am satisfied with the parks in Mecklenburg County.					
2. There is enough natural space in Mecklenburg County.					
3. Are you aware that Mecklenburg County Parks and Recreation is undertaking a new 2020 Park Master Plan?	Yes	No			
3a. If Yes, did you know community views and input were solicited in an open process?	<b>Yes No</b> If yes, please describe				
3b. If yes, did you provide any feedback during the planning process? Yes/No	<b>Yes No</b> If yes, please describe				
4. Do you know about MeckPlaybook?	<b>Yes No</b> If yes, please describe				

Section 5: Experiences in your most visited park	Please your level of agreement with the following statements:				
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. I feel happy when I visit this place.					
2. I feel safe in this park.					
3. The park is clean and well maintained.					
4. I have felt discriminated against in this park.					
5. The signs and pamphlets are understandable to everybody.					
6. The park is welcoming to all people.					
7. The park provides enough recreational opportunities.					
8. This park positively influences my mind and thoughts.					
9. The park has beautiful natural areas.					
10. Visiting the park helps me recover from mental fatigue.					
11. The quality of the park is excellent.					
12. There are enough natural areas in the park.					
13. The natural areas in the park contribute to my well-being.					
14. I feel relaxed and stress-free when I am at this park.					



15. I feel a sense of belonging in this park.					
---	--	--	--	--	--

Section 6: Use & Importance of Park	Please rate how important each of these items are to you.				
	Extremely Important	Moderately Important	Neutral	Slightly Important	Not Important
1. To spend time with family/friends					
2. To view wildlife					
3. To experience natural scenery					
4. To exercise alone					
5. To exercise with others					
6. To relax					
7. To play with your children					
8. To enjoy fresh air					
9. To be outdoors					
10. Listen to sounds of nature					
11. Experience quiet					
12. To be alone					
13. To be in a group and chat					
14. Name top 5 activities that are important for you to do in a park:	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>From the following section please select from the option the most important for choice</b>					
15. What makes a park, trail, or facility "high quality" to you?	New amenities and features	Unique amenities not found elsewhere	Emphasises on preserving nature	Wide variety of amenities	Attractive design
	Other (list):				
16. Why is going to this park important to you					

and what does it mean to you?	
17. Can you describe your favorite part of your park and why is important to you?	

Section 7: Priorities for Investment Mecklenburg County Parks & Recreation	Please rate the importance of each investment.				
	Extremely Important	Moderately Important	Neutral	Slightly Important	Not Important
<b>Ranking: Please number those you believe should be the top 3 priorities numbering 1-3 with 1 being the highest to the left.</b>					
_____ Enhancing existing neighborhood parks.					
_____ Modernizing existing facilities for new programs and uses.					
_____ Bringing in more history, arts and culture to all spaces.					
_____ Creating new greenways to fill gaps and add access points.					
_____ Making existing high-use spaces more durable and resilient.					
_____ Enhance the natural beauty and ecology of existing spaces					
_____ Make existing places more accessible					
_____ Establish partnerships to help with upkeep					
_____ Create new parks.					
_____ Create new natural spaces.					
_____ Create new conservation areas.					
_____ Other, List:					

### Personal Well-being Index (PWI)

**This study is trying to understand the relationship between park usage and well-being. These questions are standardized questions from other studies to help with this understanding. We are not collecting your name and your answers are completely anonymous.**

The response scale for each question is an eleven-point scale ranging from: “0” to “10”, whereby “0” stands for “Completely dissatisfied” and “10” for “Completely satisfied”. The midpoint of the scale coded “5” means “Neutral” or “Not dissatisfied, not satisfied”.

How satisfied are you with...?

1. your standard of living? [Standard of Living]	
2. your health? [Personal Health]	
3. what are you achieving in life? [Achieving in Life]	
4. your personal relationships? [Personal Relationships]	
5. how safe do you feel? [Personal Safety]	
6. feeling part of your community? [Community-Connectedness]	
7. your future security? [Future Security]	
8. your spirituality or religion? [Spirituality – Religion]	

**Demographics: Please respond to the following questions.**

<b>Age:</b>	18-30	31-40	41-50	51-60	61-70	70+ over
<b>Gender (please fill in):</b>						
<b>Race</b>	<input type="radio"/> Black or African American <input type="radio"/> Asian <input type="radio"/> American Indian or Alaska Native <input type="radio"/> Native Hawaiian or Pacific Islander <input type="radio"/> White					
<b>Ethnicity/Hispanic</b>	<input type="radio"/> Yes <input type="radio"/> No					
<b>Educational Level</b>				<input type="radio"/> Some college, business, or trade school <input type="radio"/> College, business or trade school degree <input type="radio"/> Some graduate school <input type="radio"/> Master's, doctoral, or professional degree		
<input type="radio"/> Less than high school <input type="radio"/> Some high school <input type="radio"/> High school graduate or GED						
<b>Civil Status</b>				<input type="radio"/> Common Law Marriage <input type="radio"/> Divorced <input type="radio"/> Widow		
<input type="radio"/> Single <input type="radio"/> Married						
<b>Number of Children in Household</b>			<b>Number of people in Household</b>			
<b>Do you own a car?</b>	<input type="radio"/> Yes <input type="radio"/> No					
<b>Annual Household Income Level</b>				<input type="radio"/> \$75,000-\$99,999 <input type="radio"/> \$100,000-\$149,999 <input type="radio"/> \$150,000-\$199,999 <input type="radio"/> \$200,000 or more <input type="radio"/> Do not wish to answer		
<input type="radio"/> Less than \$25,000 <input type="radio"/> \$25,000-\$34,999 <input type="radio"/> \$35,000-\$49,999 <input type="radio"/> \$50,000-\$74,999						
<b>What is your primary/first language?</b>						
<b>Zip code:</b>						
<b>How long have you lived in the area/region of that zip code?</b>						
<b>Where were you born?</b>						

## **Appendix IV: Guide Key informants**

Interview Guide for Urban decision makers:

1. What were the main goals in creating the plan?
2. How would you describe equity for parks?
3. Can you please give me some specific examples of how you address equity in the planning process?
4. Describe the community engagement process for generating the plan?
  - a. What were the strengths?
  - b. Limitations
- a) How was this designed to solve needs of Latino community of Mecklenburg?
5. How do you say access to green space in parks can enhance the well-being of Mecklenburg Residents?
6. How do you say access to green space in parks can enhance the health of Mecklenburg residents?
- a) Is there any specific consideration for Latino populations?
  7. What factors and barriers do you think influence the accessibility to urban natural spaces among Latino population in Mecklenburg County?
  8. What was the representation from people from your department in terms of backgrounds and diversity that were leading the community engagement?
  9. Did you collect races and ethnicities of people who were participating in the planning process? Do you think that there were any gaps in voices?
10. For non-profit organizations.
  - a). - What was their role in participating in the planning process?)

Probes:

1. Could you tell me more about that please?
2. What did you mean when you said \_\_\_\_\_?
3. You mentioned \_\_\_\_\_, can you tell me a bit more about that?