EXAMINING THE PREFERENCES AND PERCEIVED PYSCHOLOGICAL BENEFITS OF URBAN PARKS BY SOCIOECONOMIC STATUS: A CASE STUDY IN LANSING, MICHIGAN

By

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ABSTRACT

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Urban parks offer opportunities for physical activity, enjoyment of nature, and social interaction. Access to nearby parks has been shown in studies to improve perceived psychological health. However, research has indicated that not all styles of parks are perceived in the same way. Studies have investigated the relationship between preference for park landscapes and gender, age and race and have shown that different park characteristics appeal to different population groups. Few studies have investigated the relationship between socioeconomic status/social class and landscapes, both natural and developed, and how they are perceived. In this study, perceptions of resident visitors were surveyed in three socioeconomically (SES) stratified (high, medium, and low) neighborhoods in Lansing, Michigan in the summer of 2013. Interviews (n=90) were conducted in 6 parks across the city (i.e., one natural and one developed park-pair for each of the three neighborhoods). Park visitors from each neighborhood were asked about their perceived psychological benefits in the park they were visiting and then asked the same questions while viewing photos of the paired-park. Results showed that residents in the high-SES neighborhoods preferred natural parks; residents from the medium-SES neighborhood preferred natural and developed parks; and residents from low-SES neighborhoods preferred developed parks. Future data collection methods assessing public attitudes towards urban parks should include SES-stratified neighborhoods in the future.

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CHAPTER 1: INTRODUCTION

1.1 Background

Mankind's observation of scientific phenomena and the principles of nature have long been a fascination and curiosity. This awareness of humans and attention given to the natural is evident in everyday life. As humans, regardless of our location we are always in touch with the natural in some way or form. The world we live in is compromised of untouched spaces and human constructions constituting the natural realm. These spaces both natural and human form the landscapes in which we view and experience on a daily basis.

Our interaction with both worlds and their visual imprint brings about questions concerning our adaption to and comfort with these two forces. Our perceptions and preferences have been the basis for the fields of environmental psychology (Ulrich, 1983 and Kaplan and Kaplan, 1989), and landscape perception as evidenced by pioneering work by Zube et al. (1982) and extensive research by Roger Ulrich (1979-2002) and Steven and Rachel Kaplan (1972-1989). Research has shown that contact with natural settings increases psychological well-being, improves mood, (Ulrich, 1984), increases pleasure, (Hartig et al., 2003) and leads to better health (Laumann et al., 2003). In a groundbreaking study, Ulrich (1984) revealed that hospital patients with views of nature had remarkably higher recovery rates than patients without scenic views. However, additional research shows that in addition to the natural realm, exposure to social settings and places lead to greater psychological health and benefits (Ulrich 1979, Kaplan, 1994, and Gesler, 2003).

Historically, research on landscapes has separated ecological research from social science research. Today ecological and social science research on landscapes has become

integrated. Ecological studies on the "human dimension" of landscapes are also referred to as landscapes of "place" with its meanings and contributions to societal identity. This "human-dimension" research deals with the multi-faceted interrelationship between landscape and society or individuals (Hunziker et al., 2007). The major impetus for systematic analyses and studies of landscape beauty and amenity took place during the 1960s up until the early 1970s (Zube et al., 1982). After this time, important work from Tuan (1974), Sack (1980), Entrkin (1990) and others emerged into the 21st century exemplifying the human aspects of landscapes.

The social aspect of landscape research has become increasingly important during recent years and it will become even more important in the future (Hunziker et al., 2007). Hunziker et al. (2007) continues to point out that this human-dimension of research is needed for a comprehensive understanding of the socio-ecological systems that manifest themselves in landscapes. Knowledge of peoples' needs, including the reasons for these needs, is a prerequisite for designing nature conservation and landscape planning measures that can be accepted by the public and, thus, have an opportunity for succeeding long-term (Luz 1993; Stoll 1999; Schenk, 2000; and Hunziker et al. 2001).

Landscape perception and assessment research has engaged the interests of individuals from an array of disciplines and professions including: environmental studies, recreation, geography, forestry, landscape architecture, and psychology (Zube et al., 1982). Knowledge gained through research on landscape aesthetics when applied to public spaces such as urban parks present opportunities for more effective use of park lands to fit the needs of different people. Furthermore, people may be unaware of the factors that drive what they desire in a park landscape because of the social structure in which their daily lives and parks are embedded.

Various studies across numerous demographics have researched peoples' preferences for conservation vs. recreation in parks as well as their desires for more developed or nature-based parks (Payne et al., 2002; Ho et. al 2005; and Elmendorf et. al 2005). Additionally, studies have looked at residential location and its role in determining landscape preferences (Payne et al., 2002). More so, residential location and socioeconomic status intertwined with racial/ethnic identities has been the subject of many studies (Washburne, 1978; Klobus-Edwards; 1981; Floyd et al, 1994; and Shinew et al., 1994, 1995). International studies have also focused on how urban parks and green spaces affect peoples' values based on class and socioeconomic status (Breuste et al., 2008 and Jim and Chen 2006).

Questions of race, class, urbanization, and leisure behavior have been an important area of research (Mueller and Gurin, 1962; Washburne, 1978; Klobus-Edwards, 1981; Stamps and Stamps, 1985; and Dwyer et al., 1990). Theories such as the marginality hypothesis and the ethnicity or sub-culture hypothesis have been proposed to explain differing values towards recreation between races (Floyd et al. 1994). For example, Elmendorf et al. (2005) found that blacks preferred recreational parks while whites preferred more nature-based park settings. Furthermore, Schroeder (1983) described how individuals who had spent most of their lives in urban areas preferred more developed parks while people living in rural and suburban areas had an inclination towards natural forests. Nonetheless, despite suggestions from literature that race and place of origin have indicated divisions over park style preference; an investigation has yet to study the effects of social class on preference and the psychological benefits which complement these inclinations.

To understand these preferences and urban dynamics we must first look at the history of urban environments in the United States and how they have evolved from the 20th to 21st century. As the industrial revolution in the 19th century lead to the agglomeration of industry and resources centered on the city, people moved from the rural hinterlands into the emerging urban areas. However, as standards of living increased and transportation mobility improved, the wealthy began to leave the once sought after cosmopolitan city areas to the edge cities and suburbs. Meanwhile, middle class workers attempted to do the same, while lower class citizens, often immigrants, took up the old, cheaper areas formerly occupied by the wealthy in the city centers. Throughout the 20th century, urban areas continued to grow as technological advances engendered an era of industrialization in the nation.

Cities grew in America until the 1950s, when the post-World War II era marked the death and decay of certain cities, resulting in population migration to suburban communities. As labor prices were cheaper outside the United States, industry started to move internationally into developing regions such as Latin America and Asia. As jobs and people left the cities, more growth occurred in the suburbs. Old industrial cities in the Midwest and Northeast began to decline as Americans set out not just for the suburbs but for the warmer, more southern regions of the United States (Jacobs, 1992).

Around the 1960s, industrial cities like Detroit saw employment take a spatial shift, resulting in the movement of upper and middle-class households to the suburbs and edge cities. Those staying behind in cities took available low-paying employment. To this end, not all classes left cities, but the inter-mixing of social class and race in close quarters began to dissipate. As a

result of these drastic changes over the past 60 years, cities and in particular metropolitan regions have witnessed a socio-spatial dynamic where people who move up socially also move out spatially (Darden, 1986). Therefore, given the social dynamics which have unraveled in American cities it is important to identify the different urban park needs of people to discover what is pleasing in both the natural and human environment in cities and how these landscapes serve a number of social, recreational, and health benefits to their users.

1.2 Statement of Problem

1.2a Scholarly Research Problem

Research pertaining to the psychological benefits perceived from urban parks in general, particular differences between natural and developed urban parks, and the differences perceived by individuals based on socioeconomic status or social class remains to be conducted. Understanding these different park landscape values and their attached psychological benefits by place of residence and consequential socioeconomic status will be essential to direct the most efficient use of urban park lands. In doing so, this knowledge will have implications for best practices and design for urban parks as dictated by aesthetic preference.

1.2b Local Research Problem: Lansing, Michigan and the History of Its Parks

Currently in Lansing, park preferences between natural, uncontrolled parks and traditional, maintained, developed parks appear as a salient issue throughout the community (Balaskovitz, 2011). As city and town officials experience budget cuts nationwide, the traditional values of parks and green spaces are perceived as less of a priority in the maintenance of the city infrastructure (Tyrvainen and Vaananen, 1998). Due to this financial concern, many cities like Lansing have cut funding for parks maintenance.

In times of economic hardship, the city of Lansing decided to "naturalize" 14 of its 115 urban parks beginning in the year 2011 (adding to its existing natural parks) in an effort to save $900,000 annually (Balaskovitz, 2011). Moreover, by naturalizing these select urban parks, the parks essentially have gone natural, meaning maintenance has been cut off, leaving the parks to return to a less anthropogenic-induced look within the urban environment. City officials and select residents argue that naturalizing parks will lead to more natural areas where native birds and animals can live. There are residents of Lansing however, who disapprove of the naturalization of parks (Ibid). Several residents have cited these changes to the parks as being public safety issues; claiming that the parks are being abandoned and not naturalized (Ibid).

To assist in answering questions surrounding this debate, the historical trajectory of urban parks in this cases study must first be presented. By the year 1889, approximately 52 years after Lansing was settled, there were only two urban parks throughout the city. Fast forward to the year 1922 and only one additional park was added right as the first master plan for the city was created (Bartholomew, 1922). In this same year, Harland Bartholomew was contracted to prepare this first comprehensive plan for the city. As part of his plan, Harland made the preservation of forests and other unique plants in the area a priority. By 1938, the city had included 300 acres of new parks in addition to previous land from 1922. Finally in 1944, the Park Board, a citizen-based advisory board was established forming what is now the Parks and Recreation Department. Today, Lansing has 115 urban parks, which also include golf courses and cemeteries (City of Lansing, 2012).

The Parks and Recreation Department is responsible for writing the Parks Master Plan and setting 5 year goals (City of Lansing Parks and Recreation Master Plan 2010-2015, 2010).

The most current goal of this plan reads, "To enhance the quality of life through the preservation and maintenance of park lands, the provision of quality leisure time activities and the provision of specialty facilities which would otherwise not be available to Lansing residents." To formulate a Master Plan, the Parks and Recreation Department uses methods to gather, compile, and analyze data. These methods include mail and internet-based surveys, public meetings, public hearings, and interviews with city officials. In addition, the demographics, natural features, and, park and recreation trends within the Lansing community are also assessed (City of Lansing Parks and Recreation Master Plan 2010-2015, 2010). With respect to all these measures taken, it would be assumed that desired park functionality would be evident throughout Lansing neighborhoods.

Nonetheless, previous research on the Parks and Recreation Department and its practices has yielded mixed results. Local studies by Spotts and Stynes (1984), Stauffer (2001), and Bruch (2007), have discussed issues of park awareness, environmental equity, and park resource perception respectively within Lansing. Research by Spotts and Stynes (1984) revealed minor issues regarding the Department's ability to promote park awareness while Stauffer (2001) cited similar results with regard to resident awareness of park resources.

However, more important were findings from Bruch (2007). Critiques from Bruch (2007) indicated that newspaper surveys, committees, focus groups, and public hearings used to defend past Master Plans were ineffective methods for reaching underserved populations. The author goes on to explain how the literature supports this claim and that upper-class citizens make up a vast majority of those involved with public policy participation groups. Alford and Friedland (1975) describe how people who make up these upper-class groups have higher incomes and

social power. In addition, another study found that lower income groups were less-trustful of local community and political groups as compared to higher income groups (Doherty et al., 2001).

Specifically, Bruch (2007) identifies how minorities and groups living in poverty had not been consulted on their park preferences despite there being an objective to do so in both Master Plans that emphasized Lansing's changing demographics. Bruch (2007) also discusses how the failure of past Park Master Plans "to effectively reach these underserved populations, while acknowledging their growing existence" was a huge flaw in the Parks and Recreation Department decision-making process. The 2005-2010 Master Plan confirms these same guidelines, approaches, and intents as stated in preceding Master Plans. The Plan also describes the intent for park renovations and additions to be accomplished in the coming years. In order to conduct these changes, several projects and contractors are mentioned with whom the City will collaborate (City of Lansing Parks and Recreation Master Plan 2005-2010, 2005).

Given these findings from previous authors' research, a more in-depth analysis of the Parks and Recreation Department's Master Plans was needed. As stated previously, the foundations and rationales for park and recreation decision-making were found in the 2010-2015 Park Master Plan (City of Lansing, 2012). The Plan stated objectives for assuring the incorporation of demographic trends into park planning. The Plan does not directly highlight a methodology with exact guidelines and justifiable measurements for meeting these objectives.

Instead, the Plan makes several references to surveys, meetings, public hearings, commissions, and other documents. Attached to the Plan is a repository of documents meant to justify the "action plan." Included within these documents are: newspaper clippings, letters and

flyers advertising Master Plan input sessions, board meeting agendas, maps of undefined demographics by city ward, mail-in surveys, letters from community centers and organizations, letters from citizens, a website blog for comments, interviews with city officials, park board members, and an online survey.

The survey displayed in the 2010-2015 Park Master Plan appeared very complete and concise. In fact, the survey questions narrowed in on income ranges, race, park landscape preferences, and the creation of more nature elements. However, the dissemination strategy for issuing these surveys has appeared to be in question. The strategies and methods for examining these demographic changes, as well as the park preferences of these groups appears to be broadly stated while lacking substantiated methodologies, albeit being well-intentioned.

The problem is that for one, it is well-known that low income groups due to factors of time and access are less able to participate in surveys online because of the often "digital divide." It is also common knowledge that underprivileged groups may not have the time or convenience to answer paper or online surveys. Bruch (2007) echoes these conclusions; describing how Department techniques were unable to reach the park needs of disenfranchised and underserved populations.

In general, issues of park and recreation equity amongst numerous demographics have been studied for decades (West and Crompton, 2008, Crompton and Lue, 1992, Wicks and Crompton, 1986). Mladenka (1978), Jones (1980), Nivola (1979) and others have confirmed that clientele contact behavior often dictates service allocation. In other words, answering questions relating to park equity rest heavily on methods aimed at contacting park users and addressing their perceptions of use and access.

Nonetheless, as Wicks and Crompton (1990) observed: "Residents' assessments of service allocation patterns are not always accurate; often they do not know either who receives the most or least recreation and park services, or how a given service is funded" (p. 34). Thus, in two well-reported court cases, *Berner vs. Washington, D.C.* and *Midwest Community Council vs. Chicago Park District*, court action was initiated because minority residents of low income areas felt they were receiving less than their fair share of recreation and park services (Wicks, 1987). In each case, follow-up investigation showed that at least as many resources were expended in the minority neighborhoods as were expended in other income areas (West and Crompton, 2008, p. 428).

Given research from around the nation and past studies on Lansing and its parks, the researcher speculated that methods used by the Parks and Recreation Department might create biases that could comprise the results of park studies and fail to provide a representative sample of Lansing park users. In other words, online and mail-in surveys presented a number of flaws in reaching a wide range of socioeconomic classes. As a result of skepticism in the Department's survey methods and insight from past local research, more research is required to evaluate the data collection methods and Park Master Plans for Lansing and other cities. This thesis research intends to analyze the Department's Master Plan in conjunction with its data collection methods in order to investigate potentially flawed methods and suggest alternatives.

1.3 Research Goals

The first goal of this research is to determine Lansing resident's park preferences –i.e., preference for natural vs. developed parks and the psychological benefits derived from visiting those parks to improve our understanding of their needs for future planning. The second goal of

this research is to analyze the content within the 2010-2015 Parks Master Plan to scrutinize possible shortcomings with regard to how the park needs and preferences of socioeconomic classes in the city are both considered and determined, while providing recommendations for future methodological advancement to ensure plans are more equitable.

1.4 Research Objectives

The objectives of this research are (1) to examine how natural and developed parks are perceived based on socioeconomic status through high, medium, and low socioeconomic neighborhoods; (2) to investigate the perceived psychological benefits gained from experiencing these parks within similar socioeconomic neighborhoods ; and (3) to suggest new data collection methods for urban land managers.

1.5 Research Questions

1) Do park visitors from high, medium and low socioeconomic neighborhoods prefer similar or different types of parks –i.e., natural or developed urban parks?

2a) Do park visitors from high, medium, and low socioeconomic neighborhoods perceive psychological benefits from the parks that they prefer?

2b) What are the emotions and feelings that park residents have towards the park landscapes that they prefer?

2c) Which physical urban park landscape elements are viewed as aesthetically pleasing in natural and developed park types?

2d) Are certain natural and/or developed urban parks visited more or less frequently than others?

3) Should park modifications and specific data collection methods for assessing the park needs of the residents of Lansing be reconsidered by the Parks and Recreation Department?

1.6 Hypotheses

The hypotheses of this study are: (1) All residents visiting parks in different socioeconomic neighborhoods will have similar park preferences; (2) Perceived psychological benefits from visiting parks will differ for residents living in high, medium, and low socioeconomic neighborhoods; (3) Perceived psychological benefits will be similar regardless of respondents' connection with social or natural environments; (4) Both natural and developed physical urban park landscape elements will not be seen as aesthetically pleasing for reasons connecting to interviewees' familiarity with these landscapes; and (5) Natural and developed parks will be visited similarly based on the assumption that socioeconomic status does not inform park preferences

CHAPTER 2: LITERATURE REVIEW

2.1 Health and the Environment

The health of our human population depends fundamentally on the quality of the environment in which we reside and upon the capacity of the surrounding environment to provide goods and services. For these reasons, health and the environment cannot be separated from one another. In industrialized countries, including the United States, basic improvements in housing, sanitation, fuel use, and nutrition have been responsible for dramatic improvements in public health and life expectancy over the past 150 years. Protection of the environment is an essential public health strategy in order to promote the well-being of our human population (Kumar, 2007).

The genesis of environmental health debatably began in the 19th century with the "Sanitation Revolution" in response to the control of diseases related to poor sanitary conditions (Gochfeld and Goldstein, 1999). Towards the end of the 19th century and beginning of the 20th century around the "Progressive Era," the environmental health movement took on more issues specifically concerning cities and reforms for clean water supply, more efficient removal of raw sewage, and the reduction of crowded and unsanitary living conditions (American History, 2006).

2.2 Public Health and the Built Environment

Public health has been at the forefront of land-use planning and zoning as far back as 1926 when the U.S. Supreme Court, in *Village of Euclid vs. Ambler Realty Co.,* cited public health protection as one of the basic responsibilities of local governments (Village of Euclid, 1926). In the 1960s, pioneers such as Jane Jacobs called for the design of cities to have

convenient options for walking, biking, and impromptu social interaction. Additionally, the 1980s engendered the rise of the "Healthy Cities Movement" which began in Europe and the United States in the form of projects highlighting the roles of health in urban areas (Kochtitzky et al., 2006).

Over the last few decades, increasing evidence has shown that land-use decisions in the built environment influence the determinants of environmental health and that where we work and live affect our overall health (Nelson et al., 2007). Specifically, data reports that physical and mental health problems relate to the built environment, including human-modified places such as homes, schools, workplaces, parks, industrial areas, farms, roads, and highways (Srinivasan et al., 2003). Given that close to 80% of North Americans live in towns and cities and spend 90% of their time indoors, places such as homes, schools, workplaces, parks, etc are our most important habitats (Hancock, 2002). In general, these significant findings have led those in the field of urban planning to firmly believe that the formation of the built environment directly affects the physical activity of its inhabitants and their resulting physical and mental health (Handy et al., 2002).

2.3 The Rise of Urban Parks

One such characteristic or entity of the built environment as mentioned are urban parks; a part of the built environment which has promoted this well-being and access to physical activity for our public health as reiterated by Wells et al. (2010). Since the end of the 19th century's romantic park systems, open space designers have been concerned with guiding, containing or separating urban growth, distributing recreation, and/or producing scenic amenity, mostly within the framework of geometric abstractions (Wallace et al., 1970). Parks in America were first

designed to improve the urban environments of cities by addressing both community and individual needs (Woudstra et al., 2000). When discussing urban parks, green spaces, urban forests, riverfront trails, and many other spaces fall under this umbrella term.

Public health problems occupied an important role in the thinking of Frederick Law Olmsted. Olmsted believed that low-density residential neighborhoods combined with parks and open space would help to solve many of the health problems faced by urban America in the 19th century (Szczygiel and Hewitt 2000). During the 19th century, Olmsted also observed that experiencing and simply viewing nature reduced the stress of daily urban life (Ulrich, 1979 and Jackson, 2001). It has since been argued that urban parks and open green spaces are of strategic importance for the quality of life of our increasingly urbanized society (Cheisura, 2004).

During the 1840s, the park movement began to sweep the nation. The basis for this wave of enthusiasm for parks was reflected in the romanticism occupied by nature in that urban parks through natural scenery had the power to uplift and restore the human spirit. The belief of Frederick Olmsted and other park planners was that these urban landscapes would provide reprieve from the daily grind involved in city life.

Throughout this era, several different urban park styles emerged, including: landscaped garden, garden cemetery, unplanned open space, and commercial pleasure ground. By the 1920s and 1930s, a new park function emerged; the recreation facility park. The origin of this style of park was rooted from the Progressive Movement. Park planners believed that the benefits of recreation needed to reach urban people and in particular children. Resulting from these concerns, the playground was created, a unit filled with specialized recreational spaces and equipment (Low et al., 2005). From here the dichotomy was born between nature-preserving parks and

developed, recreation-oriented parks. Within these built environments, natural areas nearby promote well-being while views of the natural environment have been shown to improve cognitive functioning and improve recovery from surgery and illness. People who live near parks and open space are more physically active (Wells et al., 2010). In general, research has shown that characteristics of the built environment in which we live can directly influence our mental health (Evans, 2003).

2.4 Park Benefits: Health

Research has shown that those who live closer to parks use them more often (Lopez and Hynes, 2006). Having this access allows citizens to be more physically active and have improved contact with the natural environment over those living further away. Backing these claims are studies which indicate that physically active people have lower risks of developing cardiovascular disease, cancer, pulmonary diseases, etc (Centers for Disease Control and Prevention, 2011). Frumkin (2001) showcases how both physical and mental health benefits may be derived from contact with natural elements such as plants, animals, landscapes, and wilderness.

Parks offer a unique setting within the urban landscape, providing opportunities for physical activity, enjoyment of nature, social interaction, and escape (Hayward and Weitzer, 1984). Additionally, access to nearby parks and natural settings is associated with improved mental health (Payne et al., 2005 and Sugiyama et al., 2008). In general, there is a growing recognition that public park opportunities are an important part of the health care infrastructure system (Crompton, 1999 and Payne, 2002). According to Chesiura (2004), stress reduction, mood improvement, relaxation, and ability to experience nature and escape from the city are

among the most important benefits of parks. A study by More and Payne (1978) established that park-based leisure experiences were related to an increase in positive moods and a decrease in levels of sadness and anxiety.

Increasing empirical evidence indicates that the presence of natural assets (i.e. urban parks and forests, green belts) and components (i.e. trees, water) in urban contexts contributes to our quality of life in many different ways (Cheisura, 2004). Contemporary research on the use of urban parks and forests for example, verifies beliefs about stress-reduction benefits and mental health (Hartig et al., 1991). In a survey among visitors in a studied park, a significant relationship was found between use of the parks and perceived state of health; those who used local parks frequently were more likely to report good mental and physical health than those who did not (Godbey et al., 1992).

Schroeder (1991) has shown that natural environments with vegetation and water induce relaxed and less stressful states in observers compared with urban scenes lacking these natural elements. This power exhibited by natural elements to function as "natural tranquillizers" may be particularly beneficial in urban areas where stress is a mundane aspect of daily living (Van den Berg et al., 1998). Studies have shown that urban nature fulfils many social functions and psychological needs of citizens (Chiesura, 2004). According to Ulrich (1981), a park experience may reduce stress, enhance contemplativeness, rejuvenate the urban city dweller, and provide a sense of peacefulness and tranquility.

Parks have been found to provide psychological services through a mix of built and natural assets which are of crucial significance for the livability of modern cities and the well-being of urban dwellers (Ulrich, 1981). Parks and gardens have long been noted for their

restorative effects on both mental and physical health (Kaplan, 1973; Frumkin, 2001; Johnson and Hill, 2002). Stress can also negatively affect peoples' perceptions of their well-being, including a poor perception of their own mental health (Orsega-Smith et al., 2004). The U.S. Department of Health and Human Services (1999) indicates that physical activity has been linked to improvements in mental health and reductions in stress (Paluska and Schwenk, 2000).

Many studies connect urban park use to decreased stress levels and improved moods. In one study, the longer participants stayed in a park, the less perceived stress they exhibited (Hull and Michael, 1995). More than 100 studies have shown that relaxation and stress reduction are significant benefits associated with spending time in green areas (Davis, 2004). Different mental illnesses, such as depression, can be coped with through improved social connections and exercise, both of which are promoted by having nearby green outdoor spaces. In one study, (Anon, 2007), 71% of people found a reduction in depression after going on an outdoor walk versus a 45% reduction by those who only went on an indoor walk.

Furthermore, Ulrich (1981) has shown that the pure presence of visible parks seen through windows resulted in faster recovery of hospital patients who were able to view them as opposed to those who could not. Ulrich (1981) provides a conceptual perspective of emotional and psychological response to these landscapes, illustrating the relationship between urban parks and the psychological health benefits achieved by its viewers. Aesthetic preference in visual landscapes is central to this framework as individuals' thoughts, experiences, and behavior are significantly affected by their preferences and exposure to different landscapes (Ulrich, 2002).

Building off of these ideas, therapeutic landscapes as defined by Gesler (2003) have been presented as places that have achieved lasting reputations for promoting physical, mental, and

spiritual well-being. More so, parks (among other rejuvenating places such as sanctuaries, gardens, etc.) are therapeutic landscapes as re-creations of traditional healing landscapes. These therapeutic landscapes and recreation spaces explore how different environments affect physical, mental, spiritual, social, and emotional healing. The contribution of therapeutic landscapes applies a renewed interest in humanistic cultural landscapes to health care, demonstrating how social and spatial are intertwined.

2.5 Park Benefits: Social

One of the initial values and benefits that urban parks were intended to provide were to serve as places where social tensions would subside and where individuals from different "class" could learn from one another (Woudstra et al., 2000). Of the most important social and communal benefits during the 20th century in our country, the parks stood for transforming the rapidly industrializing cities and their pollution into beautiful and uplifting areas (Harnik, 2003). Nonetheless, as Taylor (1999) indicates, urban parks throughout the 19th century although romanticized for their beauty and health benefits became a contentious issue between class on the basis of use and purpose.

In spite of social tensions, a study by the California Department of Parks (2005) indicated that park recreation resulted in lower crime rates, higher self-esteem, and increased community involvement. Substantiating those findings, a study in Chicago, Illinois discovered that when collective efficacy was high in a community and community involvement occurred in neighborhood urban parks, rates of crime and social turmoil became very low (Sherer, 2004). Other findings coming from the National Recreation and Parks Association (NRPA) in 2002 indicated how peoples' individual experiences in parks had a significant impact in increasing the

self-confidence of children as well as emphasizing the value of park and recreation departments (Piatt et al., 2002). Recognizing the gamut of social benefits, research from the "Trust for Land" has stated that recreation and sports programs through these parks have shown to be a common sense, cost-effective means of preventing crime and delinquency (Trust for Public Land, 1994).

2.6 General Landscape Preferences as Applied to Urban Parks

In a landmark study on the correlates between landscape preferences and demographics, Lyons (1983) found that preferences for vegetation biomes were profound across numerous groups. More specifically, Lyons (1983) described how preferences changed throughout life cycles; young children displayed the highest interest while elderly the lowest. Differences in aesthetic preference were also well-pronounced among adolescent males and females. The most important findings and suggestions from this study were that landscape preferences are not an inherent or evolutionary quality ingrained within people, but rather a "cumulative process sensitive to socially differentiating factors." Supporting these findings, other studies have concluded that the use and perception of urban park spaces is highly dependent on socio-cultural distinctions and that more research is needed concerning different social and cultural groups (Rapoport 1982 and Loukaitou-Sideris, 1995).

Moreover, Schroeder (1983) explains how in his study on urban forestry that when study subjects viewed pictures of urban forests and recreations sites and were asked to rate their perceived quality of a wide range of sites, two groups prevailed. Individuals who had spent most of their lives in urban areas were more likely to prefer developed parks, while individuals who had spent most of their lives in suburban or rural areas were more likely to prefer natural forests. Similar in nature, a study by Dearden (1984) indicated that albeit not from place of origin, a

person's familiarity, travels, and overall exposure show a strong linkage to landscape preference. A second study by Schroeder (1982) found that natural features such as trees, water, and grass were more frequently mentioned as features people liked while manmade objects, problems with vegetation, and poor maintenance were highly disliked features among his study subjects. Additionally, a study conducted in a Chicago neighborhood by Kuo et al. (1998) explained how tree density and well-maintained courtyard vegetation had a strong effect on citizen perception of safety and scenic preference.

Further, research has shown the specific role of vegetation in urban parks and other landscapes; individuals in high-rise housing complexes have given high ratings to those urban settings with significant areas of green space (lawn, shrubs, and trees) (Zoelling 1981; Ulrich and Addams, 1981). Kaplan (1983) however indicated that not all vegetation is preferred in residential areas; low ratings were given to grass-filled scenes that lacked trees and shrubs. Analyzing urban parks in particular, Bjerke et al. (2006) discovered that moderate densities, as opposed to high and low tree coverage were preferred overall and resulted in greater visual appeal. Palmer (1989) describes how respondents in a study on vegetation preference highly disliked overgrown shrubs in urban areas and had mixed views on non-mowed lawns.

2.7 Park and Leisure Participation: A Disentangling Between Class and Race

Since the 1960s, a number of studies on race, social class, and leisure behavior have been conducted (Mueller et al. 1962; Yancey & Snell, 1976; Washburne, 1978; Klobus-Edwards, 1981; Stamps and Stamps, 1985; and Dwyer et al. 1990). Washburne (1978) provides what is considered the model study on race, class, and leisure by demonstrating that the under-representation of blacks in outdoor/nature-based activities is related to "black sub-culture" rather

than class factors. In particular, the study showed that blacks had stronger preferences for fitness-related activities, while Whites preferred wildland activities.

Looking at older individuals while still surveying race, McGuire et al. (1987) discovered differences in leisure activity preferences for blacks and whites age 65 years and older. Models showed that blacks preferred sporting events, picnicking, and traveling and whites preferred walking and outdoor activities like hunting. In addition, Payne et al. (2002) found that older adults and blacks were more likely to prefer recreation-based urban parks as oppose to conservation based parks. Conversely, younger people and whites preferred conservation-oriented.

Again, like park participation research, landscape preferences and perceptions in parks have been studied mostly within a black and white context (Kaplan & Talbot, 1988). From their review, Kaplan and Talbot described how blacks and whites both have a penchant for trees and nature in urban areas. However, blacks generally prefer higher levels of maintenance, more formal designs, greater openness and visibility. Blacks were also less critical of development or built elements which whites might consider to be intrusions or nuisances. Studies on recreation preferences have indicated that minorities have a greater orientation towards developed facility amenities that promote social interaction (Dwyer et al. 1990; Baas, 1992; Blahana, 1992; and Dwyer and Gobster, 1992).

In a study looking at numerous racial groups and their preferences for park attributes, Gobster (2002) reported that blacks were less likely than whites to mention natural features as preferences while Latinos and Asians were more likely to state natural features as enhancing their park experience than blacks. On the flip side, other studies confirm that blacks are more

likely to state that recreation facilities, traditional park landscapes, and evidence of ethnic representation/sensitivity are important to them than whites (See Burch et al. 1972; Dwyer et al. 1990; Dwyer 1992; Virden and Walker 1999; Gobster 2002). Elmendorf et al. (2005) display similar results from their study showing that blacks were less likely to perceive benefits from urban forests; supporting older studies which indicate that blacks have less interest in natural park amenities (streams, lakes, animals, birds, etc.) than whites (see Zube and Pitt 1981 and Shinew et al. 2004).

Subsequent studies have investigated multiple racial groups, finding differences in leisure preference between Mexican-Americans and Whites (Bass et al., 1993), Caucasians and African-Americans (Dwyer, 1994), Chinese-American, Hispanic, African-American, and Korean (Ho et al. (2005). Portraying specific details on recreation behavior, Tinsley et al. (2002) showed how blacks were less likely to visit parks alone as oppose to whites, instead choosing to visit in social groups. For Asians and Hispanics, an even greater emphasis was placed on park participation as a social experience meant to be shared in groups.

In later decades, evidence has suggested that race has less of an effect on activity preference and participation (Hutchison, 1987; Woodward, 1988; Irwin et al., 1990; Floyd et al., 1993, 1994; Toth & Brown, 1997; and Philipp, 1997, 1999) and that economic level is a greater factor in determining these park preferences (Shinew et al., 1995 and Juniu, 2000). Woodward (1988), in his research involving black households in Chicago showed that social class was "an effective determinant" of participation in urban-oriented leisure. In a similar fashion, Juniu (2000) also found that not race, but social class and economic level were more important indicators of

behavioral changes in leisure behavior through research on the adjustment of immigrants to the United States.

Few studies from the United States have researched these intertwined issues of social class, park recreation, and aesthetic preference. In the past decade, Elmendorf et al. (2005) explained how in their study, when participant income increased among the races, values for more traditional park landscapes and recreational facilities decreased. Findings suggested that gender, age, education, and income were all found to influence aspects of urban park and forest participation and landscape preference. Looking specifically at urban parks, Stodoloska et al. (2011) showed that Mexican-Americans in Chicago did not exhibit uniform preferences in urban parks; instead differences were noticed along lines of socioeconomic status.

From the international community, a few studies have been published. In a study conducted in Ankara, Turkey, Oguz (2000) explained how low, middle, and high income individuals attended different parks that were distinct with regard to developed structures, water features, and plant cover. Providing a cross-national study from Spain, Chile, and Germany, Breuste et al. (2008) illustrate how socioeconomic status was shown to be a determining factor of preference and use of green spaces in all of these countries. However, a study in China by Chen and Jim (2006) which examined the attitudes of Chinese people towards green spaces claimed that no significant statistical correlation could be made between income levels and their respective attitudes. Given the ambiguity surrounding these suggestions, Swanwick, (2009) suggests in his review on landscape attitudes in society that there is relatively little academic evidence concerning the influence of socioeconomic groups on landscape preferences.

2.8 Landscape Preferences and Theory

In terms of identifying the psychological connection and link between landscape perception and preference, various hypotheses have been suggested as to answering these differences. Ulrich (1993) discusses the existence of the biophilia (an instinctive bond between human beings and other living systems) and biophobia hypotheses, (an aversion to nature and other living things) hypotheses which demonstrate a biological perspective on peoples' inclinations to different landscapes. Early research suggested that humans had an intrinsic proclivity for a more open landscape with few trees which resembled that of an African Savanna; where humans first evolved (Heerwagan and Orians, 1993).

However, this "savanna hypothesis" has been challenged; studies have indicated that the psychological benefits of green space are positively correlated with the diversity of its internal plant life (Williams and Cary, 2002). From a quantitative perspective, Fuller et al. (2007) found that people who spent time in a park with greater plant species richness scored higher on different measures of psychological well-being than those subjects in parks with less biodiversity. Studies in the United Kingdom have supported the idea that cities should move away from old-fashioned and biologically impoverished designs to mosaic environments, which contain a wealth of biodiversity while permitting full-recreational use (Thwaites et al., 2005).

Other hypotheses have surfaced such as the prospect-refugee theory by Appelton (1975) which stated that humans prefer a sheltered landscape which allows them the ability of "seeing without being seen." Empirical evidence in support of this theory has been published (Clamp and Powell, 1982; Woodcock, 1982), however authors such as Klopp and Mealey (1998) have concluded that their results did not offer enough evidence in favor of this theory. Furthermore,

both theories engaging this biological need for humans to prefer these types of landscapes have been challenged by Lyons (1983), who states that preferences for these landscape arrangements are more a matter of social norms and less of an environmentally-induced biological process.

Reviewing the literature on landscape perception, park leisure, participation and the role that certain demographics have played in suggesting preferences poses several questions that are still unanswered. As mentioned, a consensus on whether race or social class and/ or economic level has a greater factor in determining landscape perceptions and attitudes towards nature has not achieved fruition. More so, a study looking at socioeconomic class that goes beyond simple preferences has yet to be achieved. Incorporating the perceived psychological benefits and experiences of individuals separated by income and class level through their park visits has also not been conducted.

For these reasons, as well as recommendations by other authors, this thesis intends to add to the existing literature on this topic by further examining park preferences by area-level social class and individual socioeconomic status. Additionally, this research looks to link knowledge gained on landscapes as places of healing and restoration through social and natural realms. In doing so, this research will complement the existing literature in an effort to substantiate claims that socioeconomic status and social class play an integral role in explaining park preferences; and to increase our understating of the non-physical health benefits experienced through natural and developed-oriented landscapes.

CHAPTER 3: METHODS

3.1 Conceptual Framework

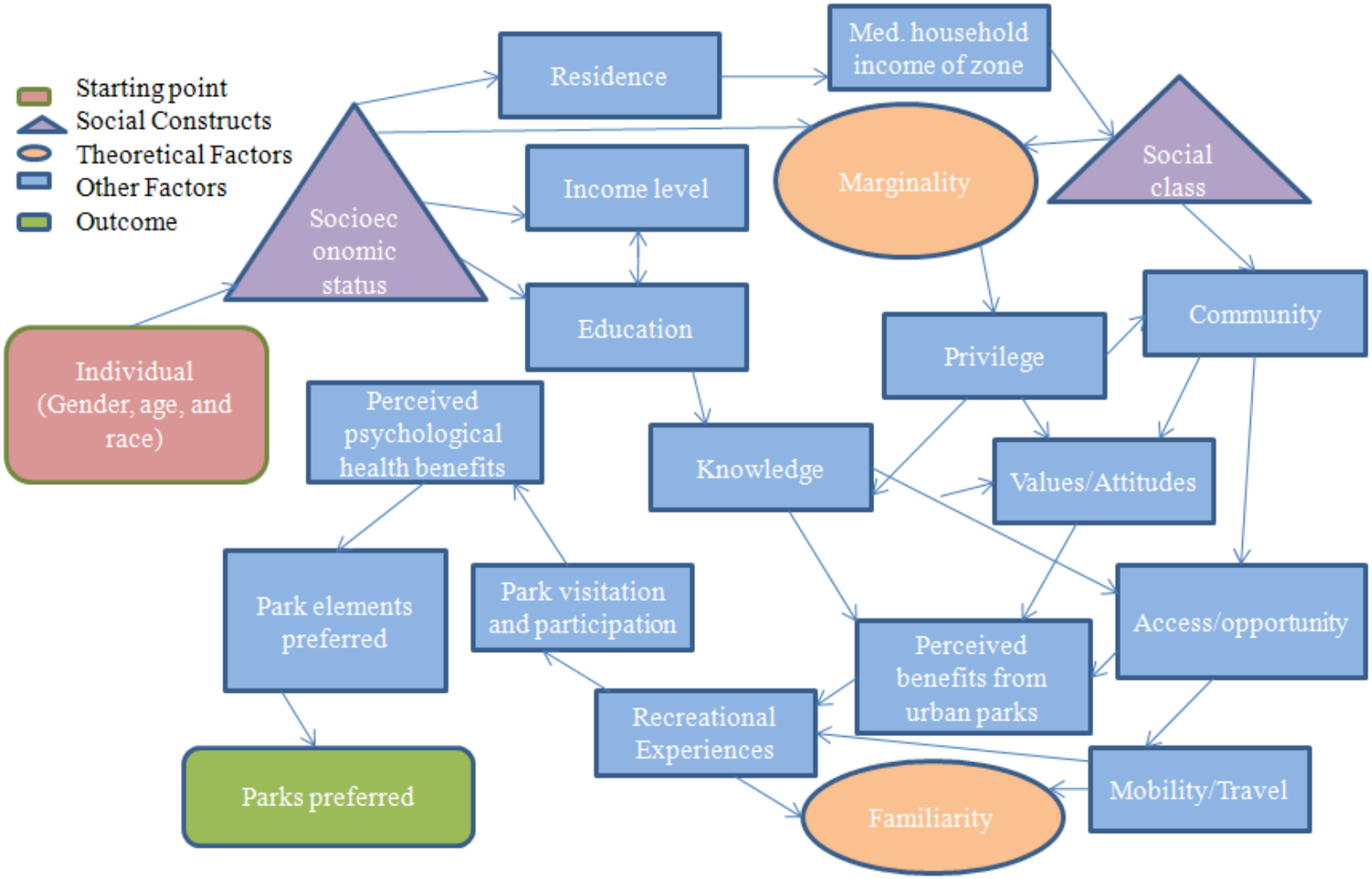
The framework used in this research builds on a model used by Lindsay and Ogle (1972) in which the socioeconomic status of a person affects recreation behavior both directly and indirectly through 'conditioned opportunity' for participation in leisure activities. This research proposes that just like leisure activities, an individual's inclination and preferences for a certain leisure setting and its aesthetic landscape qualities, in this case, urban parks are subject to their opportunities (marginality) and experiences (familiarity) based on their socioeconomic status.

This study employs a conceptual framework of socioeconomic status as being an agent that imposes a socially-constructed phenomenon for which resulting aesthetic preferences and perceived psychological benefits develop through a medium of urban parks (Figure 3.1). Conceptually, individuals are selected into neighborhoods with people of similar social standing or class. Through social class and spatially distinct neighborhoods, divisions occur between those who have privilege, access and opportunity (high), those who do not (low), and those who exhibit some of these factors (medium). An individual's mobility is determined by their socioeconomic status that can be linked to their experiences with the natural and built environments and their associated landscapes.

Therefore, through the lens of urban landscapes, and in particular, urban parks, it is theorized that the opportunity and access to all types of landscapes by those with privilege has resulted in different preferences compared to those surrounded by limited landscapes. An "opportunity approach" illustrates how those people with fewer limitations and spatial confines are afforded more exposure to a wider array of landscapes. In contrast, individuals with less

mobility and spatial restrain become accustomed to their familiar and proximate landscapes and their familiar aesthetic qualities, while limiting them from other landscapes on the peripheries of urban environments.

Figure 3.1: Conceptual Framework Model ("For interpretation of the references to color in this and all other figures the reader is referred to the electronic version of this thesis")



3.2 Research Variable Definitions

In this study, socioeconomic status refers to the socioeconomic level of individuals interviewed. Social class refers to the area-level characteristics in which parks are located while the phrase socioeconomic neighborhood is used to depict the area in which people of the same social class reside. In order to measure the socioeconomic status of individuals interviewed and the social classes in which they live, income level and subjective social class were used to confirm these group classifications. Income level was used as an indicator of socioeconomic status based on methods from previous articles studying urban parks (see Oguz, 2000, Chen and Jim, 2006, and Bruestre et al., 2008,). The subjective social class technique (Shinew et al., 1995) was used as a way to confirm interviewees' socioeconomic status in neighborhoods falling within different social classes or socioeconomic neighborhood zones (herein referred to as socioeconomic zones).

Two park styles are also described in this study (natural and developed). Other design definitions are found in the literature such as nature-based, natural-looking, and conservation-like for natural parks and recreational, traditional, and maintained for developed parks. For this study, natural and developed are based on the descriptions used by Gobster (2002); Payne et al., 2002; Elmendorf et al. (2005); and Ho et al. (2005). Natural parks are defined as those parks requiring minimal maintenance with trees, grass, vegetation, and water -i.e., natural features without minimum human impact must be present. Developed parks are defined as those containing recreational built features, pavement, numerous manmade landscapes, and having a high level of maintenance with regard to trees, grass, and vegetation. Effectively, natural and developed parks are easily discernible based on the contrast of heavily-built vs. undisturbed landscapes respectively.

The meaning of preference is defined as the degree of attraction and fondness by interviewees for certain visual landscape elements and characteristics found in one park over another. Perceived psychological benefits are defined as the emotional, mental, and psychological health benefits perceived by an individual within a certain landscape. Since landscapes possess these qualities, this term is employed to indicate how when the aesthetic preferences of a person are met in a given landscape, these psychological benefits are observed and expressed. This definition borrows concepts and observations from literature in the field of environmental psychology (Ulrich, 1979; Kaplan, 1992, and Gesler, 2003).

3.3 Study Area

The study area for this research was Lansing, Michigan. To validate the study of "urban parks," the city was selected because of its urban population of 114,297 people (US Census, 2010). Lansing's socioeconomic structure has diverse levels of income, which was necessary to stratify parks by low, medium and high socioeconomic zones. According to the U.S. Bureau of the Census, 2005-2009 American Community Survey, the median household income by census tracts in Lansing was $39,415 (range, $8,836 to $110,000).

3.4 Park Selection Methods

There are 115 parks in Lansing (City of Lansing, 2012). The City's 2010-2015 Parks Master Plan provides an inventory of Lansing's parks and their respective amenities (Appendix 1). Using the parks provided in this list, urban parks were separated into natural and developed. Characteristics were then matched for those parks listed in the inventory with the aforementioned definitions used for both natural and developed parks in this study; making the selection of parks easier to discern.

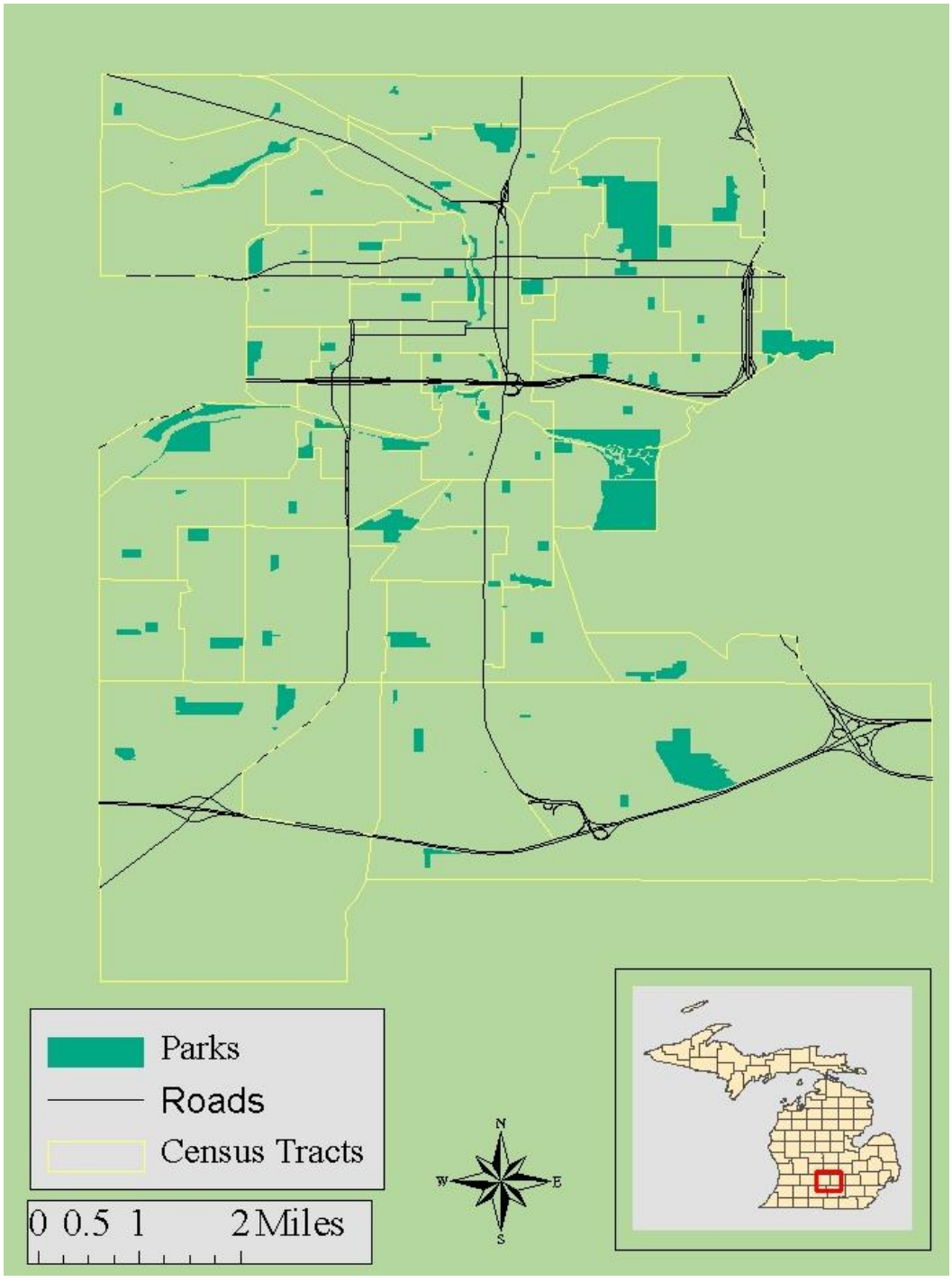
The data (shapefile) on Lansing park boundaries (Figure 3.2) was obtained from the City of Lansing's Planning Office and input into ArcGIS v.10.0 (Environmental Science Research Inc. (ESRI 2012). Data on the median household income by census tract was used to define the socioeconomic status of census tracts (n=43) in Lansing. This data was obtained from the U.S. Bureau of the Census American Community Survey (ACS) 2005-2009 (US Census 2012). Median household income was picked as the variable to represent social class based on what past authors had applied in studies on the equity of parks by social class and socioeconomic status (Wolch et al., 2005 and Moore et al. 2008).

To stratify the city by socioeconomic zones, the distribution of median household income of the 43 census tracts was created using the natural break classification scheme in ArcGIS v. 10.0. Using three classifications, zones of low, medium, and high median household income were derived. Specifically, the three classifications were: $8,836 to $34,093 (Low), $34,094 to $58,167, (Medium) and $58,168 to $110,000 (High) (Figure 3.3). A choropleth map was created using these three socioeconomic zones (Figure 3.4). The parks (natural and developed) were overlaid onto this socioeconomic status data base layer to explore all possible options for both park types in each zone.

The distance and access of each park compared to each other within each zone were also examined. Spotts and Stynes (1984) studied urban park awareness and knowledge in Lansing illustrating how awareness of parks generally decreased with distance. The assumption in this study was that residents in one park, whether natural or developed, would have knowledge of the other park type based on how far it was from the park in which they were recreating. A park pair was selected within each socioeconomic zone by choosing those qualifying parks closest to each

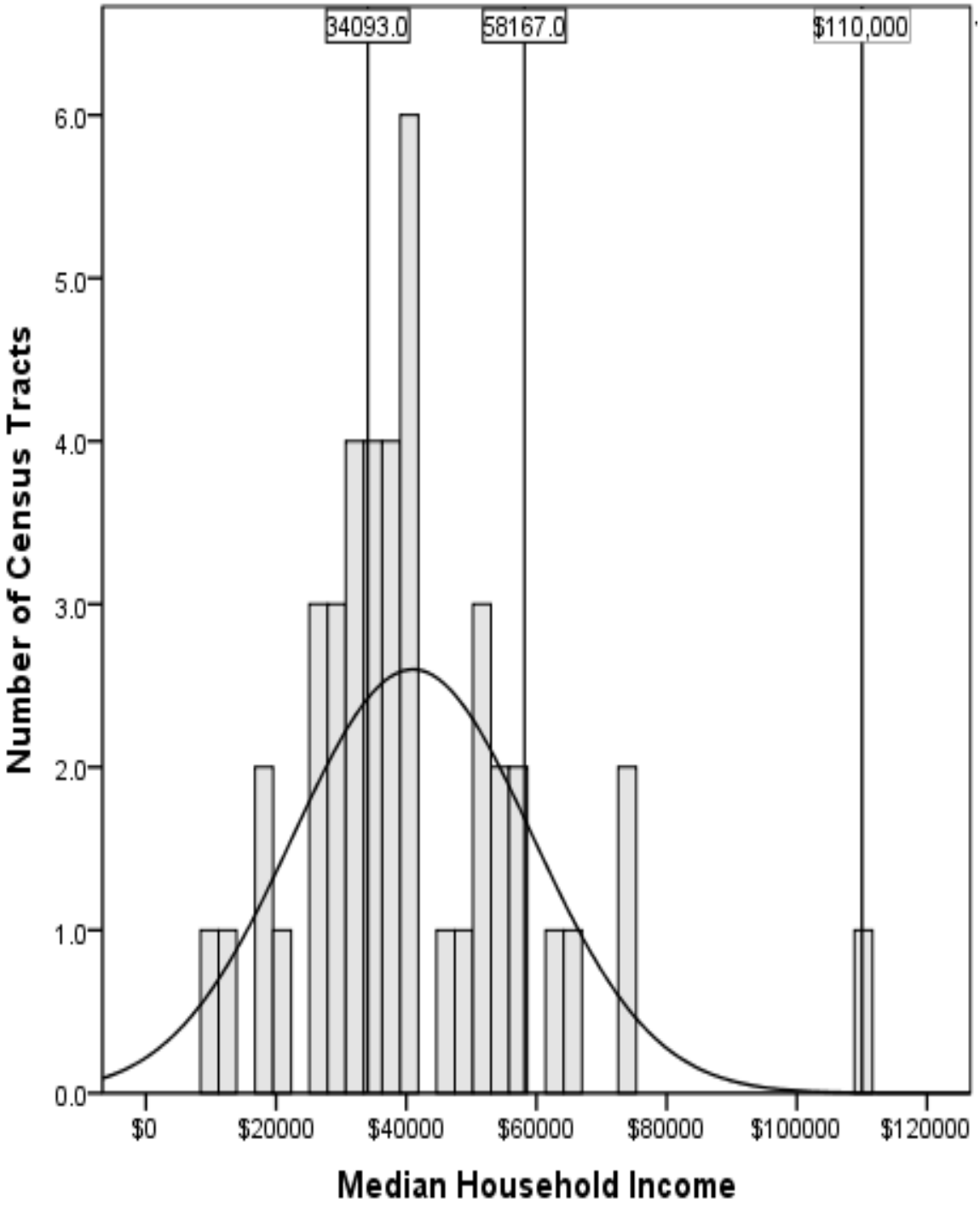
other. All other parks were eliminated from the study. After this process, six parks were selected; two parks, one natural and developed for each socioeconomic zone. These parks included: Fairview Park and Kimberley/Slater Park for the high socioeconomic zone, Moores Park and Riverside Park for the medium socioeconomic zone, and Scott Park and Hunter Park for the low socioeconomic zone (Figure 3.5).

Figure 3.2: Lansing Parks



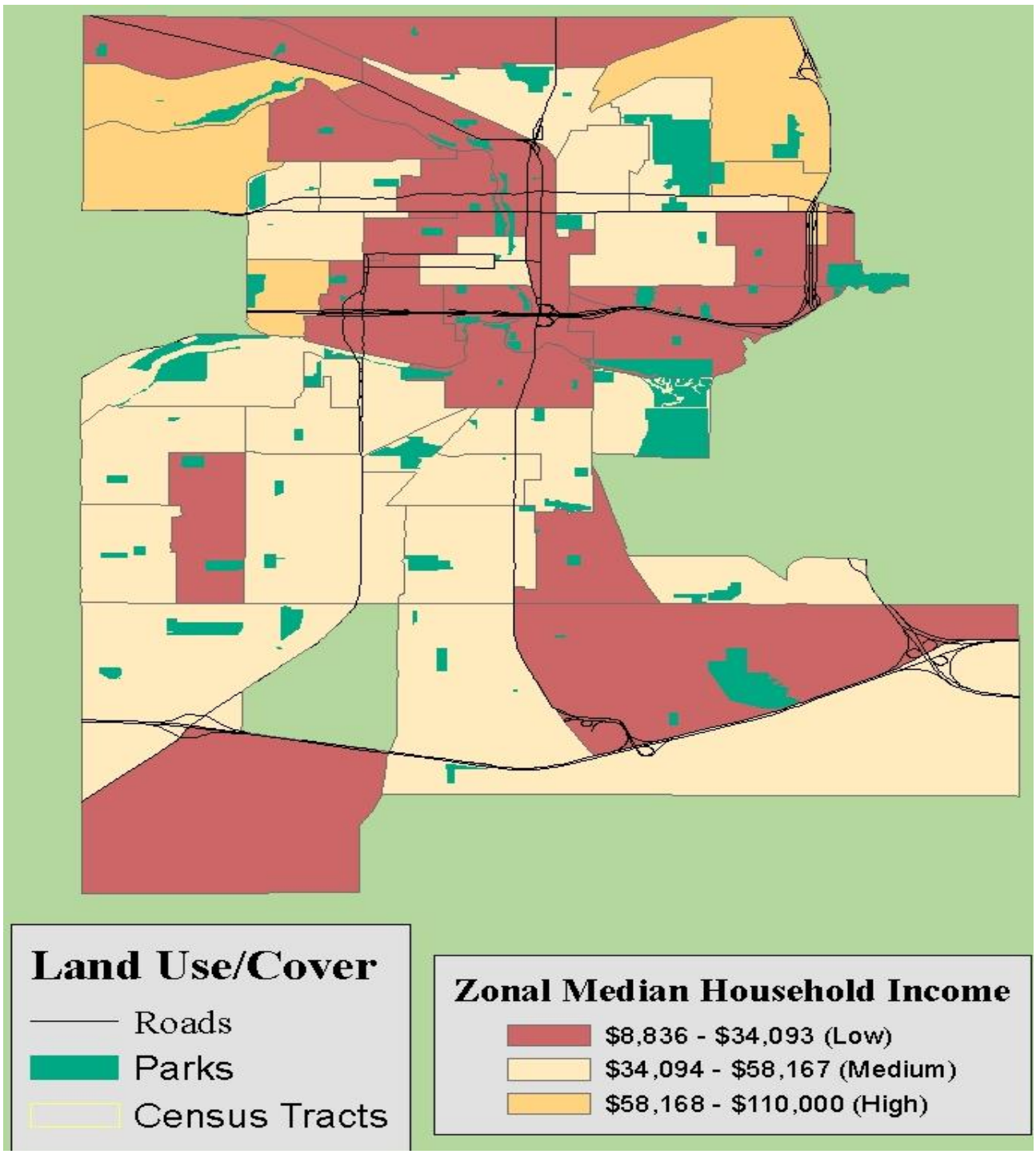
Sources: 2005-2009 American Community Survey and City of Lansing Planning Office

Figure 3.3: Median Household Income Distribution and Classifications



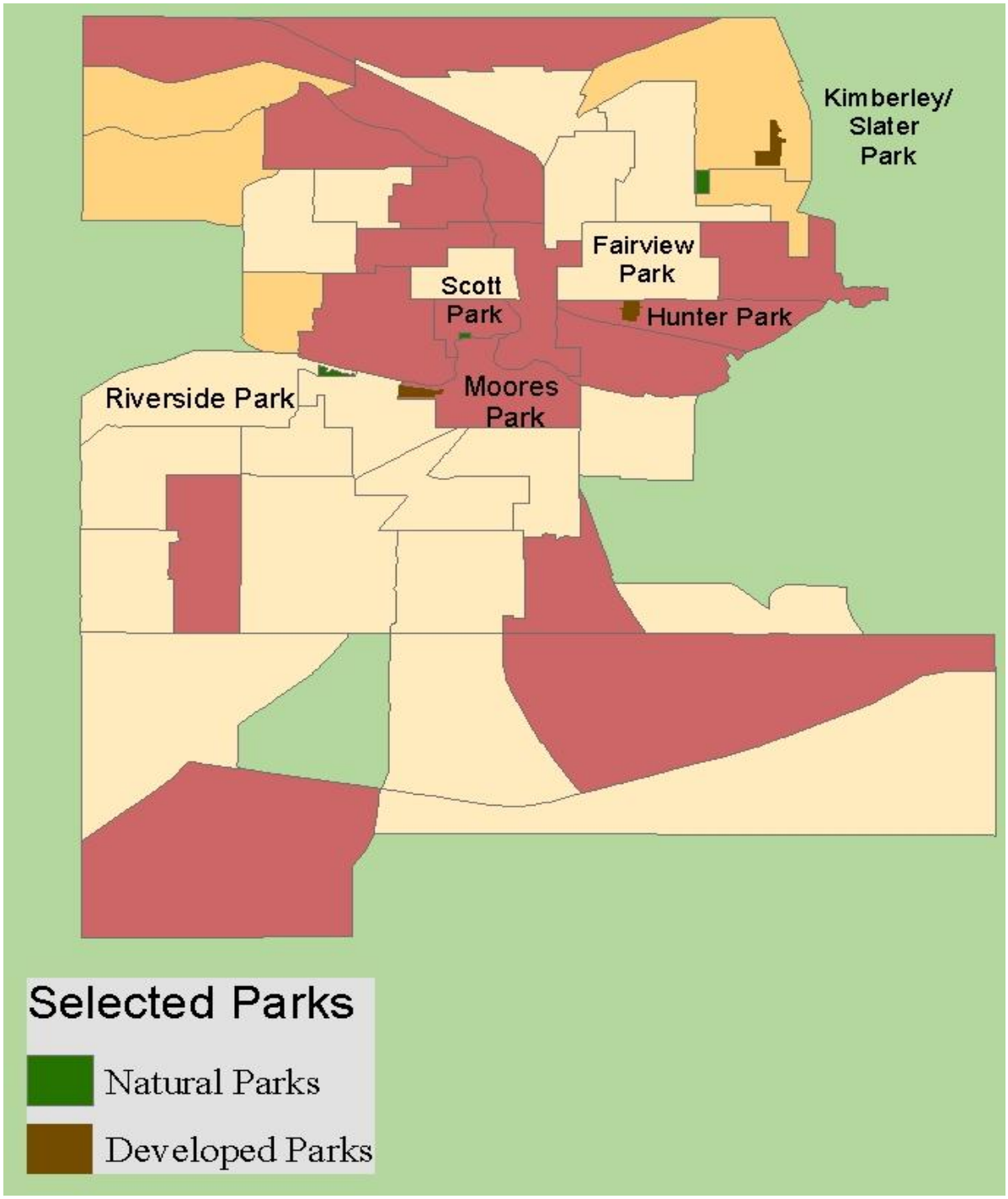
Source: 2005-2009 American Community Survey

Figure 3.4: Lansing Parks by Median Household Income



Sources: 2005-2009 American Community Survey and City of Lansing Planning Office

Figure 3.5: Selected Park Sites for Study Area



Sources: 2005-2009 American Community Survey and City of Lansing Planning Office

3.5 Survey Data Collection and Methods

Qualitative and quantitative methods were used in this study. Schroeder (1992) defends this mixed-methods approach, stating that "such a combination can provide a more complete understanding of human response to landscape than either approach used alone." Also stating that using just one of these methods is "not sufficient to answer questions regarding peoples' preferences and perceived meanings in landscapes" (Ibid, p. 27). Therefore, in this study, quantitative methods were used to rate a park visitor's degree of likeness and preference for a particular park's landscape using a *Likert* scale.

Qualitative methods were also employed to capture the meanings, experiences, and psychological benefits of visiting the parks using open-ended questions. To effectively capture the experiences and feelings observed by participants in Lansing's urban parks, an *in situ* interview method was implemented. In situ interviews were conducted in urban parks to gauge peoples' leisure preferences and perceptions in a number of studies (Fox, 2000; Orsega et al., 2005; and Malek and Mariapan, 2009). Originally interviews were going to be conducted in each of the park pairs within all socioeconomic zones.

After several visits, the interviewer visited all parks to observe the frequencies of visits prior to the study where it was then decided to conduct interviews only in the more frequently visited parks (Fairview, Moores and Hunter) in each zone and photos of the less-visited parks were shown to interviewees. This decision was made based on study time limitations. The more-frequently visited parks where interviews were conducted were: Fairview Park, Moores Park, and Hunter Park. The less-frequently visited parks of which interviewees were shown photos were: Kimberley/Slater Park, Riverside Park, and Scott Park.

Photo images were taken in all parks, but only photos of the less-visited parks were shown to interviewees. Photos allowed for a comparative analysis by acting as a surrogate for the other park; essentially allowing an interviewee to witness both parks concurrently. Such a method for replicating natural environments through photos has been validated by Kaplan et al. (1972) who also added that the method has several advantages over in situ evaluation "in that larger scenes can be captured and site conditions can be controlled." Comparing the in situ experience of one park combined with photos serving as a proxy for the corresponding park permitted this juxtaposition of parks.

In consideration of atmospheric conditions that could alter the color and aesthetic qualities of photos, all photos were taken during the summer, on sunny days, limited overcast, and when flora were in full bloom. Pinto-Correia et al. (2011) in their research on landscape bias noted the importance of having similar atmospheric conditions when comparing photos for landscape perception. To make certain that no particular angles of the park were favored, randomly selected viewpoints were photographed as done by Palmer and Hoffman (2001). In effect, two photos highlighting different features and aspects for each of the three less-visited parks were taken. Photos from random angles of the six parks studied can be found in Appendix 8.

Before finalizing the use of these methods, pretesting of the interview questions was performed by two faculty and two undergraduate students in the Department of Geography at Michigan State University. As indicated by the participants' willingness to describe their self-perceived social class, these four test subjects constituted people from low, medium, and high socioeconomic statuses. After pretesting, the park survey questionnaires were submitted to the

Institutional Review Board (IRB) at Michigan State University for review. Approval by the IRB was granted on April, 18, 2012 (IRB # i041015) with Dr. Sue Grady (Principal Investigator).

3.6 Survey Sampling Approach

Different approaches to sampling the park visitors were reviewed for selection bias and for selecting "average" park goers. Interviews were conducted by the interviewer from May to August 2012, on weekends and weekdays, and from as early as 9am to 7pm. In accordance to Tinsley et al. (2002), this approach avoided the potential bias of pre-determined times which may have not accounted for differences in peak and non-peak population participation within the parks. Also in accordance to methods employed by Orsega et al. (2004), the sampling methodology consisted of standing by the entrance of each park and waiting for a visitor to approach this general area.

If the number of visitors declined, the selection of visitors then took place inside the park to locate the first person observed. To ensure a successful approach and create a non-threatening environment the interviewer would make eye contact with each individual and greet them, explaining immediate intentions. In addition, the interviewer wore a city of Lansing Parks and Recreation shirt and presented their identification as a graduate student via lanyard to show each interviewee their credibility.

When a park visitor agreed to an interview, they were directed towards the nearest park bench where the interview was conducted. Before asking any questions, each participant was presented a brief overview of the research and their rights as an interviewee from a statement approved by the IRB (Appendix 2). All surveys were conducted in English with the exception of three interviews which were translated into Spanish due to these respondents' inability to fluently communicate in English and their interviewer's competency in both languages.

To verify a participant's eligibility for the study, a number of general questions not listed in the survey were asked for initial screening. If the respondent indicated that they were either not from one of the surrounding neighborhoods (neighborhoods constituting each zone were known by the interviewer), under 18 years of age, or did not consider themselves to be in the social class represented by the zone, they were tactfully told that they were ineligible for the study. To avoid turning people off via sensitive questions, participants were asked to describe what social class the neighborhood represented and indirectly use their residence there to qualify them into that zone. Important to note, only residents living in the socioeconomic zone where the parks were located were selected. The term resident is used to describe those visitors of the park whom were verified as living in the zone in which the park interview was being conducted.

If a participant passed these preliminary steps an interview was conducted. When all questions asked were finished, the participant would be thanked and told how useful their time and participation were. From here, the same procedure would be repeated and the interviewer would continue to approach those park visitors closest immediately following each interview attempt. Throughout the summer an average site visit would involve 1-3 hours spent in a park and the completion of 0-5 interviews. Interviews tended to last between 5-10 minutes on average while some lasted over an hour.

3.7 Survey Questionnaire

Two forms composing one questionnaire were used in this study. One form for the in situ park (more-visited park) and one for the photo park (less-visited) (Appendices 3 and 4). Both forms were used simultaneously to compare the two parks. The in situ form was used to assess a respondent's in place experiences in the more-visited park while at the same time the photo form

examined the same experiences from the less-visited park. The questions (same questions used to compare the two parks) were presented in such a way that the perceived psychological benefits of the visitor would become evident through their actual presence in the in situ park and observational viewing of the parks in the photos.

Recorded research questions used a Likert scale based on a 5-point system similar to a study conducted by Kuo et al. (1998) on tree preferences in the inner-city. Starting from 0 to 4, this scale gives the following options: 0 (not at all), 1 (a little), 2 (somewhat), 3 (quite), 4 (very much). Contrary to other scales using a 1-5 range, the 0-4 system was chosen to best represent the null value of "not at all", best represented as 0, instead of any positive integer. Appendix 3 highlights these questions as 10-19.

Most of the quantitative questions stem from an influential article by Schroeder (1982) which discussed preferred features of urban forests and parks. However, the content of questions concerning perceived health benefits, emotions, and feelings through both photos slides and in situ experiences can be traced from Kaplan (1972); Ulrich (1979); and Orsega et al. (2004. Several questions gauging emotions appear to be redundant; however, this was done in order to track the validity of related responses and awareness of each participant.

Complementing these quantitative questions were the final two open-ended questions which constituted the qualitative portion of the questionnaire (Appendix 4). These open- ended questions allowed respondents to express perceived landscape qualities in the parks they viewed. Six authors' (Kaplan 1972, Ulrich 1979, Schroeder, 1982, Kuo et al. 1998, Payne et al., 2002, and Orsega et al.) survey questionnaires influenced the wording of these questions.

3.8 Sample Size

The goal was to sample 30 residents in each socioeconomic zone –i.e., 15 resident visitors in each park. Thirty interviews for each zone were set as the goal based on the minimum 30 interview sample rule of thumb as established by Mass et al. (2005) in social science research. Thirty interviews in the three parks provided a total sample size (n=90).

3.9 Quantitative Analysis

Quantitative data from the two-part questionnaire survey included 10 close-ended Likert scale questions for both the natural and the developed park, comprising a total of 20 responses (10 from each of the two forms) for each interview. These data were transcribed in Microsoft Excel and then transferred into SPSS (Hansmann et al, 2007). The means for each of the 20 questions were computed for each socioeconomic zone. Using the 10 questions for the natural and 10 for the developed park, the mean responses were calculated with their question pairs as a way to juxtapose the same question asked concerning the natural and developed park in each socioeconomic zone.

Comparisons of natural and developed parks within each socioeconomic zone were studied in addition to the same park styles across each zone, i.e., natural (high) and natural (medium); natural (high) and natural (low) and natural (medium) and natural (low). The same grouping was studied for developed parks. To assess statistical differences in perceived psychological benefits the means between the park groups were analyzed using a paired sample t-test (Hansmann et al, 2007). The paired sample t- test was chosen to simultaneously compare the responses on paired parks provided by each interviewee.

3.10 Qualitative Analysis

Qualitative data were quantified and analyzed descriptively via response narratives for those open-ended questions. As part of this process, open-ended response quotes and their quantified categories were elicited to compare with the counterpart quantitative data. This triangulated methodology allowed for the qualitative evidence to elaborate on the reasoning behind the quantitative results (Walker, 1985 and Saremba and Gill, 1999).

Finally, qualitative content analyses preformed for both the 2010-2015 Parks Master Plan and the interview conducted with the Landscape Architect. The Parks Master Plan was thoroughly reviewed (http://www.scribd.com/doc/29016544/Lansing-City-Council-info-packet-for-March-29-2010-meeting) with respect to content from their objectives, goals, data collection methods, and data presented from surveys Bruch (2007). Nvivo 9 was used to query rhetoric from narration and data from surveys. The methods used in this Plan were compared with best data collection practices from Gobster (2002) and Walker (2004) for those researching in the parks and recreation field. Notes from my interview with the Landscape Architect were transcribed (Appendix 7) and summarized into bullet points for complementary analysis.

CHAPTER 4: RESULTS

4.1 Overview of Results

A majority of park visitors were males (61.10 %) and of White race (63.33%). The percentages of other racial and ethnic groups included Blacks (21.11%) and other races (3.33%) and Latino (12.22%). The races of the survey respondents were relatively similar to that of the 2010 census for the city of Lansing (Table 4.1). The demographic composition of park visitors within the visited parks however, was different. Table 4.2 shows that Fairview Park (high socioeconomic zone) consisted of females (53.33%) with mostly visitors of white race (96.67%) and a small presence of Latinos (3.33%). Moores Park (medium) consisted of males (83.33%) with a mixed racial composition; white (60.00%) black (20.00%) and Latino (13.33%). In Hunter Park (low) visitors were primarily male (60.00%) and Latino, (43.33%) however the park displayed a mix of races; white (33.33%) black, (20.00%) and other races (3.33%).

Table 4.3 denotes the neglect and popularity of certain parks. Fairview Park is a clear favorite in the high socioeconomic zone; 8/30 (26.67%) respondents claimed to visit the park everyday, 7/30 (23.33%) visited a few times a week and 30/30 (100.00%) had been to the park in the last month. Conversely, not a single person could say they went to Kimberley/Slater Park on a daily basis 0/30 (0.00 %), while half or 15/30 (50.00%) mentioned that they had never even been to the park. Nonetheless, 7/30 (23.33%) respondents did however mention visiting the park at least once a month.

In the medium socioeconomic zone, Moores Park recorded 9/30 (30.00%) respondents visiting everyday and indicated that 30/30 (100.00%) visited between everyday and once in the last month. Much like Kimberley/Slater Park in the high socioeconomic zone, Riverside Park

appeared to be severely neglected as evidenced by 0/30 (0.00%) people visiting everyday and 10/30 (33.33%) having never stepped foot in the park. Not being completely abandoned, 7/30 (23.33%) and 9/30 (30.00%) mentioned visiting the park once a month and a once a year respectively.

However, even more polarizing were the visitation frequencies observed between Hunter and Scott parks in the low socioeconomic zone. The overwhelmingly popular Hunter Park witnessed 7/30 (23.33%) respondents everyday and 30/30 (100.00 %) at least once a month. On the other hand, Scott Park was hardly recognized as even existing as 26/30 (86.67%) people had never visited its natural park grounds. Only 1/30 (3.33%) people visited monthly and in the last year, 3/30 (10.00%) visited the natural park.

Table 4.1 Demographic Comparison of Park Survey Sample and City of Lansing

Survey Participants (n=90)	Study sample (2012)	Census (2010)
	(%)	(%)
Gender		
Male	61.10	48.40
Female	38.90	51.60
Race and Ethnicity		
Whites	63.33	61.20
Blacks	21.11	23.70
Latinos	12.22	12.50
Others	3.33	2.60

Table 4.2 Demographic Results by Socioeconomic Zone

	Low Socioeconomic Zone		Medium Socioeconomic Zone		High Socioeconomic Zone	
	Developed Park	Natural Park	Developed Park	Natural Park	Developed Park	Natural Park
	Hunter and Scott		Moores and Riverside		Kimberley/Slater and Fairview	
	No.	(%)	No.	(%)	No.	(%)
Gender						
Male	18	60.00	25	83.33	14	46.67
Female	12	40.00	5	16.67	16	53.33
Race/Ethnicity						
White	10	33.33	18	60.00	29	96.67
Black	6	20.00	6	20.00	0	0.00
Latino	13	43.33	4	13.33	1	3.33
Other	1	3.33	2	6.67	0	0.00

Table 4.3 Park Visitation Frequency by Socioeconomic Zone

	Low Socioeconomic Zone				Medium Socioeconomic Zone				High Socioeconomic Zone			
	Developed Park		Natural Park		Developed Park		Natural Park		Developed Park		Natural Park	
	Hunter		Scott		Moores		Riverside		Kimberley/Slater		Fairview	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Response												
Everyday	7	23.33	0	0.00	9	30.00	0	0.00	0	0.00	8	26.67
Few times a week	15	50.00	0	0.00	16	53.33	2	6.67	1	3.33	13	43.33
Once a week	2	6.67	0	0.00	3	10.00	2	6.67	1	3.33	7	23.33
Once a month	6	20.00	1	3.33	2	6.67	7	23.33	7	23.33	2	6.67
Once a year	0	0.00	3	10.00	0	0.00	9	30.00	5	16.67	0	0.00
Once	0	0.00	0	0.00	0	0.00	0	0.00	1	3.33	0	0.00
Never	0	0.00	26	86.67	0	0.00	10	33.33	15	50.00	0	0.00

4.2 Quantitative Survey Data Results

The results from the quantitative analysis are provided in Tables 4.4-4.63. Overall, perceived psychological benefits were lower for natural parks compared to developed parks across all socioeconomic zones. The one exception was question 8 "Does this make you feel peaceful?" suggesting that natural parks were viewed as more peaceful. However, across all socioeconomic zones, residents felt less safe in natural compared to developed parks (mean difference -0.78, p-value = 0.00) (Table 4.4).

Furthermore, when the responses to questions regarding natural vs. developed parks were stratified by socioeconomic zone, (Tables 4.4-4.43) there were clear differences in perceived psychological benefits in natural and developed parks. In the high socioeconomic zone (Table 4.41), visitors of natural parks were significantly more likely to report that natural parks increased their psychological well-being (mean difference = 1.93, p-value 0.00), made them feel peaceful (mean difference = 1.90, p-value = 0.00), had an effect of being therapeutic or soothing (mean difference = 1.90, p-value = 0.00), had an effect of rejuvenating (mean difference = 1.86, p-value = 0.00), made them feel happy (mean difference = 1.76, p-value = 0.00), and made them feel free from stress and anxiety (mean difference = 1.76, p-value = 0.00).

In the medium socioeconomic zone, park visitors did not report significant differences in preferences for natural vs. developed parks, except in regards to safety. In the medium socioeconomic zone residents were significantly less likely to feel safe in natural parks compared to developed parks (mean difference = 0.70, p-value = 0.02) and less likely to feel improved psychological well-being (mean difference = -0.56, p-value = 0.05). In the low socioeconomic zone, residents preferred developed parks and were significantly less likely to feel that natural parks improved psychological well-being –i.e., natural parks did not improve their mood (mean

difference = -2.06, p-value = 0.00), make them feel safe (mean difference = -2.06, p-value = 0.00), allow them to get away from their troubles (mean difference = -2.03, p-value = 0.00), increase their psychological well-being (mean difference = -1.93, p-value = 0.00), have the effect of being rejuvenating (mean difference = -1.90, p-value = 0.00), or being therapeutic or soothing (mean difference = -1.83, p-value= 0.00).

When natural parks were studied independently across socioeconomic zones it was found that in natural parks, park visitors in high vs. medium socioeconomic zones (Table 4.52) were more likely to feel therapeutic and soothing (mean difference = 1.00, p-value = 0.00) more appealing (mean difference = 0.96, p-value = 0.00), feel peaceful (mean difference = 0.83, p-value = 0.04), feel safe (mean difference = .766, p-value = 0.02), improved their mood (mean difference = .73, p-value = 0.09), and increased their psychological well-being (mean difference = 0.60, p-value = 0.08). In comparison, park visitors in natural parks in the medium vs. the low socioeconomic zone were more likely to feel happy (mean difference = 1.13, p-value = 0.00), get away from their troubles (mean difference = 1.13, p-value = 0.00), feel improved their mood, (mean difference = 1.06, p-value = 0.01). Finally, park visitors in the natural park in the high socioeconomic zone vs. the low had a greater appeal for natural parks than did low socioeconomic zone (mean difference = 1.73, p-value = 0.00), felt the park made them much happier (mean difference = 1.73, p-value = 0.00), and felt their mood was greatly improved (mean difference = 1.80, p-value= 0.00).

When developed parks were studied independently across socioeconomic zones, it was found that the greatest difference in perceived psychological benefits was between high and low socioeconomic visitors (Table 4.61). All questions were statistically significant and mean

differences were the greatest between any two compared data sets. High socioeconomic zone residents gained little happiness from the developed park, while their low socioeconomic zone counterparts benefited greatly (mean difference = -2.03, p-value = 0.00). In addition, High socioeconomic zone residents experienced little reduction from stress and anxiety (mean difference = -2.26, p-value= 0.00), little effect of rejuvenation (mean difference = -2.40, p-value= 0.00), did not feel increases in psychological well-being (mean difference= -2.36, p-value= 0.00), and found little assistance in the park's ability to quell their troubles (mean difference = -2.23, p-value =0.00).

When developed parks were compared between high and medium socioeconomic visitors, it was found that medium socioeconomic visitors indicated all perceived psychological benefits while high socioeconomic visitors did not (Table 4.62). Medium and high visitors only showed the same perceived benefits for question 5, "Does this park make you feel safe"? Otherwise, high visitors lacked strong mood increases (mean difference = -1.50, p-value= 0.00), the park was not rejuvenating (mean difference =-1.73, p-value= 0.00), did little to increase their psychological well-being (mean difference = -1.90, p-value= 0.00) and was unable to free them from their troubles (mean difference= -1.83, and p-value= 0.00). Visitors in developed parks, medium vs. low socioeconomic zone (Table 4.63) felt less happy (mean difference = -0.63, p-value = 0.00), less therapy and soothing benefits (mean difference = -0.66, p-value= 0.04), and less free from stress and anxiety (mean difference = -0.73, p-value = 0.00).

Table 4.4 Mean Difference in Survey Responses (Questions 1-10) Between Natural and Developed Parks Across All Socioeconomic Zones, Lansing, Michigan, 2012.

Question	Mean Difference	Standard Dev.	t	df	p-value[1]
1	-0.21	1.89	-1.05	89	0.29
2	-0.16	1.97	-0.75	89	0.46
3	-0.30	2.00	-1.42	89	0.16
4	-0.33	1.99	-0.16	89	0.88
5	**-0.79**	1.63	-4.58	89	0.00
6	-0.14	2.03	-0.67	89	0.50
7	-0.14	2.18	-0.63	89	0.53
8	0.16	1.77	0.83	89	0.41
9	-0.19	2.12	-0.84	89	0.40
10	-0.30	2.05	-1.38	89	0.17

[1] Statistically significant p-value < 0.05

[2] Fairview Park, Kimberly/Slater Park, Riverside Park, Moores Park, Scott Park, and Hunter Park

[3] Questions 1-10 refer to the 5-point Likert-scale questions present in Appendix 3

Table 4.41 Mean Difference in Survey Responses (Questions 1-10) for Residents of Natural and Developed Parks in High Socioeconomic Zone, Lansing, Michigan, 2012.

Question	Mean Difference	Standard Dev.	t	df	p-value[1]
1	1.60	1.32	6.59	29	0.00
2	**1.76**	1.16	8.30	29	0.00
3	1.70	1.14	8.10	29	0.00
4	**1.76**	1.35	7.13	29	0.00
5	0.40	1.19	1.83	29	0.76
6	**1.90**	1.26	8.20	29	0.00
7	**1.86**	1.22	8.35	29	0.00
8	**1.90**	1.12	9.25	29	0.00
9	**1.93**	1.50	7.02	29	0.00
10	1.63	1.67	5.35	29	0.00

[1] Statistically significant p-value < 0.05

[2] Fairview Park and Kimberley/Slater Park

[3] Questions 1-10 refer to the 5-point Likert-scale questions present in Appendix 3

Table 4.42 Mean Difference in Survey Responses (Questions 1-10) for Residents of Natural and Developed Parks in Medium Socioeconomic Zone, Lansing, Michigan, 2012.

Question	Mean Difference	Standard Dev.	t	df	p-value[1]
1	-0.43	1.50	-1.58	29	0.13
2	-0.23	1.56	-0.82	29	0.42
3	-0.53	1.54	-1.88	29	0.07
4	-0.13	1.71	-0.43	29	0.67
5	**-0.70**	1.51	-2.53	29	0.02
6	-0.50	1.59	-1.72	29	0.10
7	-0.40	2.01	-1.09	29	0.29
8	-0.53	1.54	-1.88	29	0.07
9	-0**.57**	1.56	-1.97	29	0.06
10	-0.50	1.50	-1.82	29	0.08

[1] Statistically significant p-value < 0.05

[2] Riverside Park and Moores Park

[3] Questions 1-10 refer to the 5-point Likert-scale questions present in Appendix 3

Table 4.43 Mean Difference in Survey Responses (Questions 1-10) for Residents of Natural and Developed Parks in Low Socioeconomic Zone, Lansing, Michigan, 2012.

Question	Mean Difference	Standard Dev.	t	df	p-value[1]
1	-1.80	0.96	-10.25	29	0.00
2	-2.00	0.91	-12.04	29	0.00
3	**-2.06**	1.08	-10.47	29	0.00
4	-1.73	1.04	-9.05	29	0.00
5	**-2.06**	1.14	-9.90	29	0.00
6	**-1.83**	1.08	-9.25	29	0.00
7	**-1.90**	1.26	-8.20	29	0.00
8	-0.90	1.09	-4.50	29	0.00
9	**-1.93**	1.08	-9.79	29	0.00
10	**-2.03**	0.96	-11.54	29	0.00

[1] Statistically significant p-value < 0.05

[2] Scott Park and Hunter Park

[3] Questions 1-10 refer to the 5-point Likert-scale questions present in Appendix 3

Table 4.51 Mean Difference in Survey Responses (Questions 1-10) Between High and Medium Socioeconomic Zone Natural Parks, Lansing, Michigan, 2012.

Question	Mean Difference	Standard Dev.	t	df	p-value[1]
1	**0.97**	1.21	4.35	29	0.00
2	0.60	1.32	2.47	29	0.02
3	**0.73**	1.43	2.79	29	0.01
4	0.37	1.24	1.61	29	0.12
5	**0.77**	1.25	3.35	29	0.00
6	**1.00**	1.31	4.17	29	0.00
7	0.53	1.56	1.86	29	0.07
8	**0.84**	1.44	3.16	29	0.00
9	**0.60**	1.16	2.82	29	0.10
10	0.30	1.36	1.20	29	0.24

[1] Statistically significant p-value < 0.05

[2] Scott Park and Riverside Park

[3] Questions 1-10 refer to the 5-point Likert-scale questions present in Appendix 3

Table 4.52 Mean Difference in Survey Responses (Questions 1-10) Between Medium and Low Socioeconomic Zone Natural Parks, Lansing, Michigan, 2012.

Question	Mean Difference	Standard Dev.	t	df	p-value[1]
1	0.77	1.250	3.35	29	0.00
2	**1.13**	1.33	4.66	29	0.00
3	**1.06**	1.55	3.76	29	0.00
4	0.87	1.67	2.83	29	0.01
5	0.83	1.80	2.53	29	0.02
6	0.77	1.40	2.98	29	0.01
7	0.84	1.59	2.85	29	0.01
8	0.07	1.79	0.20	29	0.84
9	0.90	1.51	3.25	29	0.03
10	**1.13**	1.71	3.61	29	0.00

[1] Statistically significant p-value < 0.05

[2] Riverside Park and Scott Park

[3] Questions 1-10 refer to the 5-point Likert-scale questions present in Appendix 3

Table 4.53 Mean Difference in Survey Responses (Questions 1-10) Between High and Low Socioeconomic Zone Natural Parks, Lansing, Michigan, 2012.

Question	Mean Difference	Standard Dev.	t	df	p-value[1]
1	0.77	1.25	3.35	29	0.02
2	**1.13**	1.33	4.66	29	0.00
3	**1.06**	1.55	3.76	29	0.01
4	0.87	1.67	2.83	29	0.08
5	0.83	1.80	2.53	29	0.02
6	0.77	1.40	2.98	29	0.06
7	0.83	1.59	2.85	29	0.08
8	0.07	1.79	.203	29	0.84
9	0.90	1.51	3.25	29	0.00
10	**1.13**	1.71	3.61	29	0.00

[1] Statistically significant p-value < 0.05

[2] Fairview Park and Scott Park

[3] Questions 1-10 refer to the 5-point Likert-scale questions present in Appendix 3

Table 4.61 Mean Difference in Survey Responses (Questions 1-10) Between High and Low Socioeconomic Zone Developed Parks, Lansing, Michigan, 2012.

Question	Mean Difference	Standard Dev.	t	df	p-value[1]
1	-1.66	1.26	-7.19	29	0.00
2	**-2.03**	1.18	-9.37	29	0.00
3	-1.96	1.06	-10.10	29	0.00
4	**-2.26**	1.20	-10.33	29	0.00
5	-0.87	1.19	-3.97	29	0.00
6	-1.96	1.21	-8.85	29	0.00
7	**-2.40**	1.30	-10.10	29	0.00
8	-1.90	1.12	-9.25	29	0.00
9	**-2.36**	1.37	-9.41	29	0.00
10	**-2.23**	1.27	-9.57	29	0.00

[1] Statistically significant p-value < 0.05

[2] Kimberley/Slater Park and Hunter Park

[3] Questions 1-10 refer to the 5-point Likert-scale questions present in Appendix 3

Table 4.62 Mean Difference in Survey Responses (Questions 1-10) Between High and Medium Socioeconomic Zone Developed Parks, Lansing, Michigan, 2012.

Question	Mean Difference	Standard Dev.	t	df	p-value[1]
1	-1.06	1.25	-4.64	29	0.00
2	-1.40	1.52	-5.03	29	0.00
3	**-1.50**	1.13	-7.22	29	0.00
4	-1.53	1.40	-5.96	29	0.00
5	**-.333**	1.60	-1.13	29	0.00
6	-1.40	1.58	-4.82	29	0.00
7	**-1.73**	1.65	-5.72	29	0.00
8	-1.60	1.19	-7.35	29	0.00
9	**-1.90**	1.62	-6.39	29	0.00
10	**-1.83**	1.44	-6.97	29	0.00

[1] Statistically significant p-value < 0.05

[2] Kimberley/Slater Park and Moores Park

[3] Questions 1-10 refer to the 5-point Likert-scale questions present in Appendix 3

Table 4.63 Mean Difference in Survey Responses (Questions 1-10) Between Medium and Low Socioeconomic Zone Developed Parks, Lansing, Michigan, 2012.

Question	Mean Difference	Standard Dev.	t	df	p-value[1]
1	-0.60	0.72	-4.53	29	0.00
2	**-0.63**	0.76	-4.53	29	0.00
3	-0.47	0.63	-4.06	29	0.00
4	**-0.73**	0.87	-4.62	29	0.00
5	-0.53	0.94	-3.11	29	0.04
6	-0.57	1.04	-2.98	29	0.06
7	**-0.67**	1.18	-3.08	29	0.04
8	-0.30	0.65	-2.52	29	0.17
9	-0.47	0.90	-2.84	29	0.08
10	-0.40	0.72	-3.02	29	0.05

[1] Statistically significant p-value < 0.05

[2] Moores Park and Hunter Park

[3] Questions 1-10 refer to the 5-point Likert-scale questions present in Appendix 3

4.3 Qualitative Survey Data Results

Two qualitative, open-ended questions were used to record characteristics preferred or disliked by park visitors (Question 1) and gauge emotions felt from park experiences (Question 2). Comparisons between natural and developed parks when stratified by socioeconomic zone revealed polarizing results. Question 1 of the qualitative survey shows that high socioeconomic visitors preferred more natural looking features in urban parks; 30/30 (100.00%) respondents listed some sort of natural or wildlife feature as being aesthetically pleasing, while 12/30 (40.00%) people stated that any kind of human impact reduced the visual aesthetic appeal. For the developed park, only 14/30 (46.67%) individuals believed the developed elements were aesthetically pleasing while 20/30 (66.67%) people claimed that natural features present were best or that more were needed (Appendix 6a).

Question 2 indicates that 30/30 (100.00%) visitors in the high socioeconomic zone attributed the natural park with positive emotions such as feeling "relaxed, happy, and peaceful." While no negative emotions were associated with the natural park, 3/30 (10.00%) individuals reported feeling negative emotions from the developed park, such as feeling "stressed and overwhelmed." Being unable to decide whether the developed park was beneficial or detrimental, 5/30 (16.66%) respondents said that the park had a neutral effect on their mood and well-being. 24/30 (80.00%) individuals did attribute the developed park with positive emotions, but when compared to the natural park, it was clear that benefits were far more desired from the latter park (Appendix 6b).

For medium socioeconomic visitors, question 1 shows that 20/30 (66.66%) linked natural elements to creating an enhanced aesthetic experience in the natural park while 25/30 (83.33%)

listed developed elements as enhancing the aesthetics in the developed park. 16/30 (53.33%) people stated that more developed elements were needed in the natural park while 6/30 (20.00%) mentioned the need for more nature in the developed park. In addition, 23/30 (76.67%) believed the developed park had a good mix of both natural and developed elements (Appendix 6c).

Question 2 shows that the natural park was received differently. 15/30 (50.00%) claimed the natural park gave them positive feelings and emotions while 12/30 (40.00%) cited negative emotions from their experience. While positive emotions ranged from "peaceful, happy, and relaxed" negative emotions included feeling "tired, gloomy, and isolated." The developed park shows a much more positive experience as 26/30 (86.67%) referred to the park as being "peaceful, soothing, and calming," whereas only 1/30 (3.33%) stated the park had brought them negative emotions (Appendix 6d).

Low socioeconomic visitors showed in question 1 that although 24/30 (80.00%) visitors did feel that the natural park provided them with positive emotions, 24/30 (80.00%) also felt that developed aspects were needed to further enhance the aesthetics. In the developed park, 30/30 (100.00%) people attributed developed elements as being aesthetically pleasing while not one respondent indicated a need for more natural elements to enhance the visual experience (Appendix 6e). Data from question 2 show that only 18/30 (60.00%) visitors described the natural park as bringing them positive emotions while 27/30 (90.00%) believed the developed park had a positive effect on their moods. 14/30 (46.67%) people associated the park with negative emotions, making them feel, "alone, bored, unsafe." (Appendix 6f) However, not one respondent described the developed park as creating any negative emotions or discomfort.

Moreover, when comparing responses from visitors for natural and developed parks irrespective of socioeconomic strata, results indicated prevailing trends. In question 1, for natural parks, "trees, water, and nature" were the most prevailing features seen across all socioeconomic zones (Appendices 6a, 6c, and 6e). For developed parks, "recreational facilities and maintenance" were the most commonly cited responses (Appendices 6a, 6b, 6e, and 6f).

For question 2, results across all socioeconomic zones show that in general, positive emotions regarding natural parks tended to make people feel the following emotions, "relaxed, peaceful, and calm." Neutral emotions included "neutral, pensive, and curious" while "secluded" appeared as the most common negative emotional stigma. Similar to positive emotions stemming from natural parks, developed parks when seen as positive were "relaxing" and made people feel "happy." Neutral emotions included "neutral and pensive," while negative emotions most commonly were referred to as being "stressful" (Appendices 6a-6f).

4.4 2010-2015 Park Master Plan and Landscape Architect Interview Results

A review of the City of Lansing 2010-2015 Parks Master Plan revealed that public-input meetings were held in wards monthly throughout the city. Meeting times were advertised on the department's website, posted on flyers at community centers, and emailed to community organization leaders. The attendance at those meetings was generally 15-20 people including community leaders representing the community were present. The Plan also explains that local-officials involved in the planning process were contacted and interviewed regarding changes to the parks. To assess the residents of Lansing's preferences in parks an online survey was administered over the Internet. This survey showed that most residents preferred nature-oriented recreation. Another survey was taken at Everett High School where 9^{th} to 12^{th} graders were given

the same survey and responded that they would like more recreational facilities like pools, athletic fields, and trails.

In terms of justifying procedures and plans, demographic analyses and their consideration were unable to clearly indicate how these objectives were carried out. Demographic data from the American Community Survey are displayed with neighborhood maps, but no clear procedure with respect to measuring and interpreting is discussed in the Plan. Moreover, the limitations of online surveys were also not discussed –i.e., whether or not only those with access to the Internet and dispensable time could have taken the survey is not addressed. The Plan claims that the survey was representative of all wards within the city, but there is no sampling plan of residents across Lansing to substantiate this statement.

To find answers to these questions surrounding the Plan, an interview with Richard Schaefer, the Parks and Recreation Department's Landscape Architect, was conducted on October 12, 2012 at the Foster Community Center. In this interview, Mr. Schaefer was very open about how politics and power drive the function of parks in the city. In particular, Mr. Schaefer explained that socioeconomic status and other demographics were not priorities considered by the Department when planning for parks. Mr. Schaefer also spelled out how "the squeaky wheel gets the oil," meaning that those with power and influence decide what is to be built or modified within the parks (Schaefer, Interview, October 12 2012).

Although Mr. Schaefer did not state that the Department had neglected differences in park preference on the basis of socioeconomic status he did say that this research may be correct in its assumption that this may be occurring. When asked about different data collection methods, such as in-situ surveys, he commented that they could be more effective but could not be

completed given the budget and resource limitations. Essentially, he explained that new methods could improve park land use and better serve the needs of the people across different socioeconomic status neighborhoods. Nonetheless, he explained that power and politics ultimately control the system; park creation and design in the city are orchestrated by influential people not necessarily stakeholders.

CHAPTER 5 DISCUSSION

5.1 Field Notes/Observations

During the past summer, a number of observations were documented while researching in these six urban parks. It was first found that the vast majority of people were more than happy to conduct an interview and contribute to this research. The overall success rate was n=90 (88.23%) of 102 people approached agreed to participate. This high success rate may have been due to the interviewer's professional dress; wearing a City of Lansing Parks and Recreation T-Shirt. In addition, the interviewer did not feel that race was an inhibiting factor and his status of being white did not affect whether or not people were willing to participate; both whites and racial minorities made up the 12 people refusing to take the survey.

When asking people the survey questions, most interviewees did not know how to interpret "psychological benefits" of parks and thus needed explanation. Interviewees were asked to think about their mental health benefits gained from their park experience. Interviewees also struggled with the Likert scale and needed to be instructed or reminded that their answers had to be quantified on a scale of one to five as oppose to responding with a yes or no.

The greatest obstacle faced while interviewing park visitors was having them to think about the parks themselves and their own personal observations. Most interviewees reported good and bad qualities of a park, but when trying to think specifically in terms of the physical park elements and aesthetics that they preferred in parks was often difficult. Getting respondents to talk about how the parks served their psychological health and not the psychological health of their children was also challenging.

5.2 Findings: Research Question 1: Do park visitors from high, medium and low socioeconomic zones prefer similar or different types of parks –i.e., natural or developed urban parks?

The data from this study do not indicate that a single urban park landscape type is preferred or provides more perceived psychological benefits by the total sample population in the city of Lansing (Table 4.4). In fact, data shown in Tables 4.53 and 4.61 make it clear that perceived psychological benefits are very polarizing between high and low socioeconomic residents. Likert scores from natural and developed parks demonstrate noticeable mean differences for all questions.

High socioeconomic residents perceived far greater benefits from natural parks as evidenced by all questions but stood out significantly for those questions gauging appeal, happiness, and mood (Table 4.53). Scores from developed parks provided the opposite result (Table 4.61). High socioeconomic residents recorded significantly lower scores while low socioeconomic residents portrayed noticeable benefits; particularly in happiness, freedom from stress and anxiety, rejuvenation, increases in psychological well-being, and elimination of troubles.

However, data compiled from individuals living in the medium socioeconomic zone indicate that both park types are conducive to the perceived psychological benefits of residents in this zone. Table 4.51 shows that medium socioeconomic residents were closer in mean difference scores with high socioeconomic residents when observing natural parks as compared to results in Table 4.63 indicating distinct perceptions of developed parks. Data from the low socioeconomic zone again suggests the opposite. Mean differences from perceptions of natural

parks in Table 4.52 are much greater between medium and low residents while Table 4.63 shows closer means from developed park ratings. For these reasons, it is suggested that results from the medium socioeconomic zone represent what an average individual may desire in a park; a balance between both natural and developed elements.

Appendix 6c illustrates this claim, showing that 23/30 people mentioned that the developed park had a good mix of both natural and developed features. Complementing these data is Table 4.42 which shows that aside from perceptions of safety, there was no statistical significance between benefits observed from natural and developed parks within medium socioeconomic zones. Given these findings, it is believed that as oppose to situating natural or developed elements as being more important than the other, it is a mix of these elements which is desired by an average person, such as someone from a medium socioeconomic zone or middle-class setting.

Supporting this claim of an environment with a combination of elements are those endorsing the idea of mosaic environments. Thwaites et al. (2005) explains how cities in England have been urged to design parks with multi-use; allowing for full recreation with the co-existence of high levels in biodiversity. Burgess et al. (1988) advocates a similar position, stating that parks should embrace an integrative approach in that leisure activities should be incorporated into the natural world. Adding to their suggestions, it is proposed that based on these findings, an urban park promoting both natural and developed elements might offer the best perceived psychological benefits to an average user.

5.3 Research Question 2a: Do park visitors from high, medium, and low socioeconomic neighborhoods perceive psychological benefits from the parks that they prefer?

Differences in perceived psychological benefits from natural and developed parks within socioeconomic zones or strata are very noticeable throughout the data sets. Tables 4.3-4.63 allow us to see quantitative data expressing the polarities present between high socioeconomic and low socioeconomic zones while situating medium socioeconomic zones as the middle ground. Table 4.41 clearly states that natural parks are perceived as providing greater psychological benefits for high socioeconomic zone residents while Table 4.43 demonstrates the same conclusion for low socioeconomic zone residents with respect to developed parks.

Referring to qualitative data presented in Appendices 6a-6f; the same conclusions can be made with regard to distinct perceived psychological benefits observed between high and low socioeconomic zone persons. The data overwhelmingly states that high socioeconomic zone residents experience positive emotions from natural parks while citing less positive, more negative, and occasionally neutral emotions from developed parks. For low socioeconomic zones, the opposite was true as positive emotions are linked to experiences in developed parks while natural parks surface more negative and neutral emotions. Adding to the perceived psychological benefits, developed parks for high socioeconomic zones and natural for low address the perceived psychological disservices also noted by select respondents.

Again, medium socioeconomic zone responses were emblematic of urban park responses across the whole citywide sample. Perceived psychological benefits from medium socioeconomic zone respondents appear as a blend of both high and low socioeconomic zone preferences where the heterogeneous quality of both natural and developed elements is desired. Ostensibly, medium socioeconomic status provides a middle ground in this study as it is

observed that when socioeconomic level increases in a zone, more natural landscapes are desired and as the socioeconomic level decreases, developed features are preferred.

5.4 Research Question 2b: What are the emotions and feelings that park residents have toward the park landscapes that they prefer?

Across all socioeconomic zones, positive emotions associated with natural parks were generally feelings of: relaxation, peace, and calmness (Appendices 6a-6f). Neutral emotions most often cited included: neutral, pensive, and curious. For negative emotions, seclusion was the most frequently mentioned feeling. Results from developed parks again coming from the whole sample showed that these parks made people happy and relaxed. The most common neutral emotions were neutral and pensive while negative perceptions and experiences were conveyed as being stressful.

Residents from all socioeconomic zones can find positive attributes and consequentially experience positive emotions from certain aspects in both park types. Despite obvious differences in park landscape preference and perceived psychological benefits by socioeconomic level, it does not appear that the positive emotions experienced from those preferring natural parks differ from those preferring the developed. What is noticeable; however, are the negative psychological perceptions and experiences described by those disliking either natural or developed parks.

5.5 Research Question 2c: Which physical urban park landscape elements are viewed as aesthetically pleasing in natural and developed park types?

Qualitative evidence provides evidence that once again, perceived psychological benefits and consequential preferences for parks vary by socioeconomic zone in this study (Appendices

6a-6f). Overall, the data explains that throughout the whole sample, trees, water, and nature were the most aesthetically pleasing features in natural parks. While in developed parks, recreational facilities and maintenance were identified. However, the results make it known that certain elements are preferred over others. Natural features such as wildlife were highly desired by high socioeconomic zone residents stating their value in natural parks and suggesting their addition to those developed parks lacking these features. Confronting human elements in the developed parks, these residents often expressed their disapproval for any human impacts which were perceived as detracting from the natural appeal.

Again, for the low socioeconomic population, the results were fairly distinct. Residents did acknowledge that nature and wildlife were aesthetically pleasing; however, their preferences for developed communal elements including: pools, benches, gazebos, and recreational facilities greatly overshadowed these qualities. In addition, many residents suggest that in order to enhance the visual aesthetics of the natural park in their neighborhood, a number of developed elements should be added.

As expected, medium socioeconomic zone residents tended to view both the aforementioned natural and developed physical elements as aesthetically pleasing. What can be concluded from these continuities is that despite overall differences in perceived psychological benefits, there appears to be some appreciation for both physical elements in each socioeconomic zone. In other words, the results suggest that an absolutely natural or developed park without the slightest mix of contrasting elements is not desired by any social class group. Instead, it is argued that both park styles are aesthetically pleasing and contain landscape features invoking positive perceived psychological benefits. Albeit, these physical landscape features are pleasing at

different magnitudes and mixtures depending on the social class of the observer.

5.6 Research Question 2d: Are certain natural and/or developed urban parks visited more or less frequently than others?

Given how the data has linked high socioeconomic status with natural parks, low with developed and medium with both, it is not surprising that certain parks in these socioeconomic zones are both popular and neglected. The survey results in Table 4.3 demonstrate that in the high socioeconomic zone, Fairview Park experiences heavy visitation while its developed counterpart, Kimberley/Slater does not. In the low socioeconomic zone, Hunter Park represents a community park well-known to local residents, whereas Scott Park demonstrates a lesser-known and utilized park.

Despite containing a number of landscape aesthetics preferred by medium socioeconomic zone residents, Riverside Park appears to be isolated by locals, perhaps to the point of abandonment while Moores Park appears to be a neighborhood, and possibly zone favorite. Based on these findings, this survey sample provides evidence that park use and visitation in Lansing is dictated by the relationship between socioeconomic zone and landscape aesthetics. Therefore, this study contends that it may be evident elsewhere in the city that parks are either popular or neglected in zones or neighborhoods as a result of a marriage or lack therefore between these two variables.

5.7 Research Question 3: Should park modifications and specific data collection methods for assessing the park needs of these populations in Lansing be reconsidered by the Parks and Recreation Department?

This research proposes new ways of looking at urban parks by exploring how socioeconomic status and social class via income level affect communities and their values projected into the natural and built environment. The knowledge obtained from this sample case study equips park planners and policy-makers with the tools to assess the park needs of communities through an economic and social lens. What is meant by this statement is that the social class of residents surrounding newly proposed or renovated park sites should be considered as a variable for determining park characteristics. For parks already created whose function does not match the local user clientele's preferences, greater communication is stressed and recommended between city planners and neighborhoods to determine what elements are needed.

The objective of this study did not aim to harshly criticize policies or procedures conducted by the Parks and Recreation Department. However, due to information from Bruch (2007) on past Parks Master Plans, a review of the 2010-2015 Master Plan, and an interview with the Landscape Architect in the Department, suggestions are provided which can be used to improve park data collection techniques. Starting with work conducted by Bruch (2007), the author found that Master Plans from within the past 10-15 years had flaws concerning the consultation of underprivileged groups in the city. Specifically, her work concluded that despite being a goal of the Department to reach these communities, their outreach methods were ineffective in reaching these demographics. Consequently, the needs of these populations were not attained and resulted in the perpetuation of inequitable park and environmental service access.

Wondering if the same could be true for social class, particularly looking at low socioeconomic status populations with less power, this research assumed that the most recent

Parks Master Plan for 2010-2015 might also have these flaws. Looking at the Master Plan, it can be noticed that just as Bruch (2007) had discussed, the Plan made the evaluation of demographics and parks and recreation trends an objective. In order to make these evaluations, an action plan was created to assess needed changes through interviews, surveys, public input-meetings, city-wide planning efforts, and demographic and land use change analysis. On paper these data collection techniques appeared to be sufficient, however after viewing the methods, potential shortcomings were spotted.

A review of the 2010-2015 Parks Master Plan, conclusions from Bruch (2007), and an interview with the Landscape Architect surfaced a number of concerns with park data collection strategies. The inability to match park preferences and amenities based on survey results from socioeconomically distinct groups, data collection methods unable to reach all social classes, and testimony on City priorities all provide evidence to support this assertion. Consequently, this study offers potential suggestions which may remedy a system that might not always consider the park preferences of socioeconomically distinct people. This research advocates that the best way to assess peoples' park needs and preferences is by addressing these questions in the actual parks themselves. Results from this study suggest that if a park is desired and has the elements preferred by that zone, then there is a high likelihood that people will be present.

If people care about their parks they will recreate in them and be willing to voice their opinions when changes are needed. The use of in situ interviews and photo depictions of parks have proven to be highly effective in my study. In this study for example, an interview success rate of 90/102 or 88.23% was recorded. By asking important questions about landscape features

preferred and the perceived psychological health benefits observed in the parks, respondents were able to supply important data.

Based on claims from this research that the Department has used ineffective methods of data collection for reaching all socioeconomic classes, this study supplies a new approach which outlines a more intimate method. In the study's overall assessment, it is felt that the Department's methods are sufficient for gathering general trends but fail to account for differences in socioeconomic class. As a result, it is possible that a spatial mismatch is present between users and parks on the basis of park preference.

The main argument of this thesis is that urban parks provide perceived psychological benefits to different people through distinct landscape features and aesthetic function. Socioeconomic status and class perception may have morphed these preferences through peoples' experiences and access to both developed and natural landscapes. It is strongly believed that socioeconomic status and social class have a tremendous bearing on determining an individual's and collective social group's aesthetic preference for landscapes. Therefore, it is recommended that the Department consider these demographics as well as alternative data collection methods presented in order to determine the best use and management of park lands for distinct groups within the city.

5.8 Contribution

This research contributes to the fields of urban geography, environmental psychology, landscape architecture, and parks and recreation. Establishing a niche on socioeconomic status/social class and the role it plays in determining preferences for natural and/or developed landscapes is a major addition because of its ramifications for determining the best use of park

lands based on socioeconomic characteristics. Other studies (Elmendorf et al., 2005; Breuste et al. (2008) have looked at socioeconomic status and landscape perception, albeit not with the intention of discerning between natural and developed urban parks.

Moreover, this study has further advanced the fields of environmental psychology and landscape perception; challenging the psychological analysis of natural landscapes, (Ulrich and Addams 1981 and Kaplan, 1995) in that natural scenery landscapes by themselves are not beneficial universally. Taking suggestions from these authors, this research shows that perceived psychological benefits and disservices can be experienced from both natural and developed urban park landscapes. This research provides a new way of looking at these urban landscapes and the psychological services they deliver to their dissimilar visitors.

In addition to looking at urban landscapes and their benefits in a new light, this research demonstrates a new and highly effective (88.2% interview rate of success) means of data collection on park preferences and use. Techniques from this study provide a way of assessing park preferences through the simultaneous comparison of in situ observation and photo comparison. Methods for determining social class through subjective social class measures coupled with census tract delineation offer a useful and tactful measure for identifying social class in communities. Such techniques can be applied to other social science research efforts.

Another contribution is the theoretical framing of the research and how landscapes may be viewed. As discussed before in the literature, debates over a marginality hypothesis and sub-cultural hypothesis explaining variations in leisure participation between race and class have been contested (Floyd et al., 1995). The marginality hypothesis states that variations in leisure behavior can be attributed to economic resources. Washburne (1978) discuses this paradigm

through the under-representation of African Americans in certain leisure activities as compared to whites. Alternatively, the sub-cultural or ethnicity hypothesis has been promoted by authors such as Alison (1998) whom argue that regardless of socioeconomic standing, cultural processes are more important in explaining variation between blacks and whites in leisure participation patterns.

Even though this study did not focus per se on park preferences between blacks and whites, this research did provide new insights into leisure preferences on the basis of socioeconomic status. While these past studies have focused on leisure participation it is believed that leisure aesthetics and the evaluation of leisure landscapes like urban parks can be extrapolated. It is also suggested that socioeconomic status may be a stronger factor in determining these attractions towards landscapes. Although a direct comparison with race on the basis of landscape preferences was not performed, the study argues that economic opportunities shaping an individual's contact with landscapes may be more influential.

Moreover, an individual's income and consequential socioeconomic status appear to give them the opportunity to visit and experience more natural and developed landscapes. Using a study conducted by Dearden (1984), the principles of familiarity appear to justify these results. In this study, Dearden (1984) asked respondents to list reasons for choosing certain landscapes; the top four choices were landscape experience, travel, present residential environment, and recreational activities. The concept of familiarity in this situation can be applied to people preferring landscape types which align with their comforts and awareness. Individuals may prefer and perceive greater psychological benefit from an urban park landscape related to environments to which they are most accustomed.

Within an urban context, higher socioeconomic residents will have greater mobility and experience with natural landscapes outside of the city. Their experience and travel to natural areas outside of the city have likely shaped their preferences. For low socioeconomic residents, the opposite can be stressed. Low socioeconomic residents have less mobility and economic resources to experience different landscapes. If a lower class citizen spends most of their time living in an urban built environment with more developed than natural elements it would come as no surprise that they would become accustom to enjoying these features. In the case of low socioeconomic residents, it is theorized that a sense of community and place is intertwined within these developed landscapes and therefore results in a greater appreciation.

In this respect, it is imagined that these developed park landscapes serve as a means of social capital. In actuality, it may not be the developed elements themselves that attract the people, but it is these elements and their embedded meaning which bring about a sense of place and attachment to their communities. These built and developed parks may stand for reminders of social gathering and the social relations attached to these places and landscapes. Taking this idea into consideration, a limited exposure to natural scenery by those that have spent most of their life in the city surrounded by development may not see any benefit from natural places. If an individual is familiar with their developed surroundings, expecting them to embrace a different type of landscape or scenery would have no basis and imply some sort of proclivity or inherent attraction.

Such hypotheses as the biophilia hypothesis have claimed just that proclivity in that humans had an intrinsic desire for open savanna like landscapes (Heerwagan and Orians 1993). Another hypothesis, the prospect-refugee theory claimed that humans desired a landscape suited

for protection and shelter (Appleton, 1975). However, authors including Williams et al. (2002) and Fuller et al. (2007) have dispelled these hypotheses showing in their studies that greater psychological well-being and preference has been attributed to greater plant diversity in parks. Also debunking theories of inclinations towards landscapes is a study by Schroeder (1983) which indicates that people spending most of their lives in urban areas preferred more developed parks while rural and suburban people had an inclination towards natural forests. What can be taken away from these studies and this research is that landscape preferences are not something that is intrinsic. Instead this research suggests, along with Schroeder (1983), that our experiences and place of residence mold our preferences for given landscapes. Adding to his study, this research makes the claim that social class induces place of residence within an urban setting and creates a similar dynamic for preferences as observed in his study through rural, suburban, and urban trends.

High socioeconomic residents in the city of Lansing likely had greater mobile access and experience with the natural environment much like rural and suburbanites do. Low socioeconomic residents living in the city have most likely been constrained to their known developed environments because of financial constraints and limited mobility. Schroeder (1983) states that urban residents generally preferred developed landscapes; however to apply these findings to this research, it must be known whether the socioeconomic status of all urban residents was analyzed. Results from this study would lead one to believe that if this metric were teased out from residents, divisions would emerge concerning preferences over natural and developed landscapes.

Looking at the medium socioeconomic residents from this study, we see that preferences for both natural and developed features are observed. Again, this research would conclude that someone living in a medium socioeconomic zone or neighborhood has likely been exposed to either more developed or natural settings based on their contact with both environment types. Seeing that people of high socioeconomic status have likely been exposed to more natural elements and low socioeconomic individuals more developed it can be assumed that medium socioeconomic people have likely been influenced by a combination of both. Deviations towards natural or developed preferences in the medium income neighborhood can likely be attributed to an even closer analysis of income disparity within that income group.

The theoretical framing presented here is that income and class (socioeconomics) in the city of Lansing have dictated peoples' introduction to natural and developed landscapes through experience and accessibility. If high socioeconomic status residents have had greater economic opportunities to see national park reserves and pristine environments outside of the urban area we would assume their places of residence would want to reflect these experiences. The same can be said of low socioeconomic persons whose economic constraints have limited their experiences and leisure to the predominantly developed landscapes of city life. This model assumes that a person will prefer a landscape that is familiar to them. Therefore, on the grounds of these findings and work from other authors, this research offers this proposed theoretical framework for interpreting the results of the study.

5.9 Limitations of the Research

There are also limitations to this research. First, median household income by census tract ranges used to discern low, medium, and high socioeconomic zones were calculated using

data on the city of Lansing and therefore, these ranges may not be applicable to other cities in Michigan or the United States. Second, the sampling method was not in the original study design but was accommodated because of the short time frame of interviewing over the summer and the circumstances surrounding the limited number of people located in the non-visited parks.

Third, while the interviewer was exceptionally aware of potential biases during the recruitment of interviewees and interview process, other personal and unconscious biases may have been exhibited by the researcher. For example, it is possible that the manner in which the survey was delivered to respondents on a case by case basis may have persuaded individuals to select certain answers based on how choices were presented by the interviewer. Based on the study's hypothesis and assumptions regarding what landscapes people were believed to prefer, the interviewer may have in some cases directed people to certain answers to reinforce these predictions.

Fourth, while in situ experiences were recorded from visitors within the more-visited parks, photos were used as a surrogate to simultaneously capture the same experiences in the less-visited parks. The inability to compare visitors' in situ experiences in both landscapes creates an observational bias. It can be assumed that people would give higher ratings to the park that they were currently visiting; hence choosing to be there instead of the less-visited park. However, this observation of a park hierarchy strengthens the evidence put forward that certain park styles provide greater perceived psychological benefits depending on the socioeconomic status of the user. Fifth, in order to be civil and comply with my survey, it can be assumed that the results may be limited by instances where respondents selected the highest or same score repeatedly to insure a fast completion.

Sixth, taking in to consideration whether visitors had heard of a park period vs. whether they had not visited a park was not accounted through the survey. It is possible that in some instances, respondents had not visited a park, not because of preference but because they were not aware of its existence. Seventh, to address local park concerns for neighborhoods and zones, this method was conducted but can be seen as a limitation because ratings were not compared by different socioeconomic zones looking at the same parks. An assessment of parks in one socioeconomic zone by residents from outside socioeconomic zones may have teased out differences in perceived psychological benefits and rationalized why such parks were not located in specific areas of the city. Finally, in general, the sample of park visitors interviewed may not represent the majority views of all residents living in similar socioeconomic zones in Lansing.

CHAPTER 6: CONCLUSION

6.1 Conclusions

This study has shown that urban parks foster opportunities for improved mental and physical health. Nonetheless, this research shows that variations in urban park landscape function offer benefits to distinct demographics. The argument here, as outlined through a community context, is that park design when incorporated into a zone, area, neighborhood, or community, should match the preferences of that locale's clientele. When focusing in on residential areas in urban cities, parks should reflect the values of the people in those districts. Addressing urban parks in more public areas that are likely to be visited by all demographics is another issue. Both Thwaites et al. (2005) and Burgess et al. (1988) have argued for a mosaic approach to park design in which nature and leisure are integrated.

Ulrich (1981) has shown in his research that parks provide psychological services through a mix of built and natural assets which are of crucial significance to the well-being of urban dwellers. Hunziker et al. (2003) claims that we humans see landscapes as a biological need (space) and also as a need for self-reflection and social integration (place). Given what the literature has shown on park benefits, it appears that to some degree the mix of both natural and developed elements are necessary. The question then persists, what combination of elements is desired by a given population and to what proportion of both features is required?

In the public space realm, Low et al. (2005) has suggested that urban parks have become more concealed and less open to the general public. Their research contends that urban parks made available to the public espouse a system of "social sustainability" where diverse people are able to interact with one another. According to the authors, public urban parks likes these have

started to privatize at greater rates, consequentially leading to higher social isolation amongst diverse populations. As a result of this increased segregation between parks and their visitors, this study contends that a more informed focus on parks in differing socioeconomic areas will be necessary.

This study states that a mixed-use approach in public urban parks has the potential to bring distinct groups together by providing a blend of elements. But the reality is, as parks become more in touch with neighborhoods and their respective demographics, forming distinct social zones, a mix-use of elements may not always meet the preferences of locals. The idea of parks serving all demographics and fostering a sense of social sustainability is a nice thought, but it can be argued that because of differences existing due to factors like social class, such an urban park utopia is unlikely.

Like all studies focusing on social constructs like socioeconomic status and class, there is a need to acknowledge the role of individual factors in shaping peoples' behaviors. Nonetheless, results from this thesis further substantiate arguments made in the literature concerning demographic differences in park use and preference. In particular, this research provides evidence in support of socioeconomic status and social class as factors that explain differences in preference and perceived psychological benefits from distinctly designed urban parks.

6.2 Policy and Management Implications

Determining the best use of land and providing the necessary physical elements within a park to suit the needs of a given community should be the most critical objective of park planners. Other research on urban parks has provided useful advice on challenging park use and preferences (Gobster, 2002), better management for multi-racial use (Elmendorf et al., 2005),

and adapting to the changing needs of communities (Payne et al., 2002). With the same intent, this thesis research serves to provide potential policy implications to the city of Lansing's Park and Recreation Department as well as other cities with similar urban conditions.

In the interest of design practices, this study showed that despite overall differences in perceived psychological benefit by socioeconomic zone, developed parks were perceived as the safer parks across all zones. Evidence from this study would recommend that urban designers consider the addition of developed elements or maintained characteristics in even natural landscapes in an effort to provide more "defensible spaces". This research confirms past research showing that developed or manicured urban landscaped areas are perceived as being safer (Newman, 1972, Kuo and Sullivan, 2001).

On a local level, this research indicates that several parks within the city have been isolated to the point of near abandonment and therefore are not being used to the best of their ability and function. Such a park as Riverside Park clearly is being underutilized as this research would argue based on a mismatch between the social class in the zone and the park landscape function. The study's methods call for new data collection methods similar to those argued by Gobster (2002) and Walker (2004), where in place interviews can reach elusive and disadvantaged populations while gathering a more socioeconomically-stratified sample.

Aside from a disconnection between park style and resident preference, Riverside Park provides an example of how a city's financial investment may be wasted. The misuse of land without proper attention to neighborhood preferences has dire financial consequences. For cities like Lansing, who are facing painful budget cuts, investing resources and money into a park with

the assumption that a neighborhood or zone's demographics will prefer it without proper assessment can be financially disastrous.

Several data collection methods and strategies have been laid out for better assessing the park preferences for the city as a whole. The particular use of social class and socioeconomic status as a new approach in gauging park preferences and perceived psychological benefits is also mentioned. Research from this study strongly defends that this specific tactic has the potential to inform park planners and policy officials in a more effective manner.

The study does not claim to say that assessing overall city trends is not a valuable method for determining the best use of parks in a city. It does however suggest that socioeconomic status and perceptions of social class may possibly be more useful than data on race when deciding the best park designs or improvements for a community. With consideration of the low socioeconomic zone, results showed that perceptions of urban parks could not be separated between races. Perceived psychological benefits expressed by all races in this zone were not shown to be distinctly different.

Nonetheless, small sample sizes in general, and the inability to make this same conclusion in the medium and high socioeconomic zone were inhibited by racial residential segregation. Therefore, it is encouraged that at least for areas of low socioeconomic status, park planners consider this demographic as this study has shown that it is highly indicative in determining peoples' perceived psychological benefits towards parks and ultimately, where they chose to recreate.

6.3 Future Research

In hindsight there are a lot of additions and differences that could have made this research even more informing. Since the literature appears to be contradictory on race and social class explanations for leisure preferences, future studies might focus at a comparison between these two demographics. Identifying differences and similarities between races in high, medium, and low socioeconomic areas may provide further evidence to support the marginality or sub-culture hypothesis with regard to urban park preferences. This research has brought forward evidence from low socioeconomic zones showing no differences between races; however data in medium and high socioeconomic zones with significant racial minority populations are required for further evaluation. Additionally, sampling from rural, suburban, and urban areas may reveal interesting conclusions relating to parks in general as oppose to just urban.

Following the same study design and format, further studies might consider more expansive interview questions. Asking respondents to describe their experiences with natural and developed landscapes and general access to different environments through travel may provide further evidence in supporting new conclusions. Studies aimed at explicitly asking respondents if they feel their individual socioeconomic status or residentially-induced social class have affected their preferences for various urban parks may provide a final conclusion to this subject matter and question.

Moving forward, if suggestions made from this research are accurate with regard to socioeconomics and urban parks and their associated preferences, then what should be changed? If low socioeconomic zones prefer more developed parks, should greener, more natural parks be provided? This study argues that their lack of appreciation for natural parks is grounded in their

lack of exposure and familiarity with these landscapes, but could this be changed by integrating these experiences into their zones? Kinzig et al. (2005) has shown that low income areas have far less biodiversity than medium and high income neighborhoods and therefore planners should consider providing them with more access given their often limited travel and awareness.

These suggestions surface a number of questions; Hunziker et al. (2004) have posed the question of how landscape changes over time in a community might affect preferences. Their study questions whether subtle changes may result in a community adapting to landscape changes as oppose to blatant and significant changes. These options make us consider what degree of exposure to new environments may change a community's preferences in urban parks. Future studies might look at experimental landscape changes in communities by implementing radical designs contrary to assumed preferences of those community members; paving the way for new research on landscape adaptation.

Finally, in the interest of identifying the best use of urban parks, and urban land in general, future research should identify other factors affecting not just perceived psychological benefits, but perception in general. Perceived psychological benefit is only one factor in answering why people prefer one urban park over another. Issues of urban park utility (Low et al., 2005) familiarity with landscape types (Dearden, 1984), neighborhood safety (Schoreder, 1982, 1984), and the role of fear in developed and natural urban areas (Brownlow, 2005) must be considered in a compressive manner. The ability to address these factors and how they relate to individual level behavior and greater group level behavior will equip park planners and policy makers with the tools to maintain and develop the best urban parks for all communities across the nation.

APPENDICES

Appendix 1: Lansing Parks and Recreation Department Park Facilities Inventory

Table 4.7 Lansing Parks and Recreation Department Park Facilities Inventory

Park Name	Developed	Natural
1) Fairview Park		x
2) Hunter Park	x	
3) Kimberley/Slater Park	x	
4) Moores Park	x	
5) Riverside Park		x
6) Scott Park		x
.		
.		
.		
.		
.		
115) Woodcreek Park		x

Source: 2010-2015 Parks Masters Plan, City of Lansing Parks and Recreation Department

Appendix 2: Research Participation Statement

MICHIGAN STATE
UNIVERSITY

Department of Geography

East Lansing, Michigan 48823

Dear Participant:

You are being asked to participate in a research study on urban parks in the city of Lansing. You will be asked a series of questions concerning your feelings and experiences within certain parks. You will find that the interview takes no more than 10 minutes. In order to qualify for this study you must be at least 18 years of age. By responding to this survey you are giving verbal consent to be included as a respondent in this study.

Participation in this research is completely voluntary. You have the right to say "no". If you do agree to participate you may also change your mind at any time and withdraw. You may choose not to answer specific questions and you can stop participating at any time.

For the purpose of this short interview, no payment or compensation will be given to you the participant. However, your participation will be of benefit to the city of Lansing's Parks and Recreation Department. The information that you provide will not be used in any way to identify you. All of the information that you provide will be aggregated with all other participant responses.

If you have any questions, concerns, or comments about this study, please contact myself, Jeremy McWhorter at: Mcwhor11@msu.edu, (517) 410-2148 or my supervisor, Dr. Sue Grady at: gradys@msu.edu (517-432-9998). If you have any questions about your role and rights as a research participant, would like to obtain information or offer input, or would like to register a complaint about this study, you may contact, anonymously if you wish, the Michigan State University's Human Research Protection Program at 517-335-2180, Fax 517-432-4503, or e-mail irb@msu.edu or regular mail at 207 Olds Hall, MSU, East Lansing, MI 48824.

Appendix 3: In Situ Park Survey

In Situ Park (circle one): Fairview, Kimberley/Slater, Riverside, Moores, Hunter, Scott

1. Gender (circle one): M F
2. Age (in years): _____
3. Race/ethnicity (circle one): White Black Asian Latino Other
4. Do you live in one of the local neighborhoods surrounding this park?
5. What socioeconomic class for Lansing would you say surrounds this park and area?
6. Do you live in an apartment or a house? Response:
   _____
7. How did you arrive at this park? Response:
   _____
8. Did you come to the park by yourself or with others? Response:
   _____
9. How often do you use this park? Response:
   _____
10. Looking around the park is it appealing to you?
    0 (not at all), 1 (a little), 2 (somewhat), 3 (quite), 4 (very much)
11. Does this park make you feel happy?
    0 (not at all), 1 (a little), 2 (somewhat), 3 (quite), 4 (very much)
12. Does this park improve your mood?
    (0 (not at all), 1 (a little), 2 (somewhat), 3 (quite), 4 (very much)
13. Does this park make you feel free from stress and anxiety?
    0 (not at all), 1 (a little), 2 (somewhat), 3 (quite), 4 (very much)
14. Does this park make you feel safe?
    0 (not at all), 1 (a little), 2 (somewhat), 3 (quite), 4 (very much)
15. Does this park have the effect of being therapeutic or soothing?
    0 (not at all), 1 (a little), 2 (somewhat), 3 (quite), 4 (very much)
16. Does this park have the effect of being rejuvenating?
    0 (not at all), 1 (a little), 2 (somewhat), 3 (quite), 4 (very much)
17. Does this park make you feel peaceful?
    0 (not at all), 1 (a little), 2 (somewhat), 3 (quite), 4 (very much)
18. Does this park increase your psychological well-being?
    0 (not at all), 1 (a little), 2 (somewhat), 3 (quite), 4 (very much)
19. Does viewing this park allow you to get away from your troubles?
    0 (not at all), 1 (a little), 2 (somewhat), 3 (quite), 4 (very much)
20. What characteristics of this park are aesthetically or not aesthetically pleasing to you?
21. Viewing this park what types of emotions do you feel?
22. Do you have any other comments about this park?

Appendix 4: Photo Park Survey

Photo Park: (circle one): Fairview, Kimberley/Slater, Riverside, Moores, Hunter, Scott

1. Have you been to this park in the photo? (Circle one): Yes No
2. If yes, how often have you used it? Response:
   _____
3. Looking at these photos of the park, is it appealing to you?
   0 (not at all), 1 (a little), 2 (somewhat), 3 (quite), 4 (very much)
4. Do these photos of the park make you feel happy?
   0 (not at all), 1 (a little), 2 (somewhat), 3 (quite), 4 (very much)
5. Do these photos of the park improve your mood?
   0 (not at all), 1 (a little), 2 (somewhat), 3 (quite), 4 (very much)
6. Do these photos of the park make you feel free from stress and anxiety?
   0(not at all), 1 (a little), 2 (somewhat), 3 (quite), 4 (very much)
7. Do these photos of the park make you feel safe?
   0 (not at all), 1 (a little), 2 (somewhat), 3 (quite), 4 (very much)
8. Does viewing these photos of the park have the effect of being therapeutic or soothing?
   0 (not at all), 1 (a little), 2 (somewhat), 3 (quite), 4 (very much)
9. Does viewing these photos of the park have the effect of being rejuvenating?
   0 (not at all), 1 (a little), 2 (somewhat), 3 (quite), 4 (very much)
10. Do these photos of the park make you feel peaceful?
    0 (not at all), 1 (a little), 2 (somewhat), 3 (quite), 4 (very much)
11. Do you feel that seeing the photos in this park increase your psychological well-being?
    0 (not at all), 1 (a little), 2 (somewhat), 3 (quite), 4 (very much)
12. Does viewing these photos of the park allow you to get away from your troubles?
    0 (not at all), 1 (a little), 2 (somewhat), 3 (quite), 4 (very much)
13. What characteristics of this park in these photos are aesthetically or not aesthetically pleasing to you?
14. Viewing these park photos what types of emotions do you feel?
15. Do you have any other comments about the photos of this park?

Appendix 5: Survey Results

<u>Low Socioeconomic Zone: Scott Park (Quantitative)</u>

Q1. Looking around the park is it appealing to you?

Not at all (n=0) (0.00%); A little (n=6) (20.0%); Somewhat (n=16) (53.3%); Quite (n=6) (20.0%); Very Much (n=2) (6.67%); Mean: 2.1.

Q2. Does this park make you feel happy?

Not at all (n=0) (3.33%); A little (n=11) (36.7%); Somewhat (n=9) (30.0%); Quite (n=9) (30.0%); Very Much (n=1) (3.33%); Mean: 2.0.

Q3. Does this park improve your mood?

Not at all (n=1) (3.33%); A little (n=12) (40.0%); Somewhat (n=8) (26.7%); Quite (n=6) (20.0%); Very Much (n=3) (10.0%); Mean: 1.9.

Q4. Does this park make you feel free from stress and anxiety?

Not at all (n=1) (3.33%); A little (n=6) (20.0%); Somewhat (n=12) (40.0%); Quite (n=7) (23.3%); Very Much (n=4) (13.3%); Mean: 2.2.

Q5. Does this park make you feel safe?

Not at all (n=7) (23.3%); A little (n=7) (23.3%); Somewhat (n=9) (30.0%); Quite (n=5) (16.7%); Very Much (n=2) (6.67%); Mean: 1.6.

Q6. Does this park have the effect of being therapeutic or soothing?

Not at all (n=1) (3.33%); A little (n=9) (30.0%); Somewhat (n=9) (30.0%); Quite (n=9) (30.0%); Very Much (n=2) (6.67%); Mean: 2.1.

Q7. Does this park have the effect of being rejuvenating?

Not at all (n=3) (10.0%); A little (n=9) (30.0%); Somewhat (n=7) (23.3%); Quite (n=6) (20.0%); Very Much (n=5) (16.7%); Mean: 2.0.

Q8. Does this park make you feel peaceful?

Not at all (n=1) (3.33%); A little (n=2) (6.67%); Somewhat (n=6) (20.0%); Quite (n=8) (26.7%); Very Much (n=13) (43.3%); Mean: 3.0.

Q9. Does this park increase your psychological well-being?

Not at all (n=2) (6.67%); A little (n=8) (26.7%); Somewhat (n=10) (33.3%); Quite (n=7) (23.3%); Very Much (n=3) (10.0%); Mean: 2.0.

Q10. Does viewing this park allow you to get away from your troubles?

Not at all (n=1) (3.33%); A little (n=10) (33.3%); Somewhat (n=9) (30.0%); Quite (n=9) (30.0%); Very Much (n=1) (3.33%); Mean: 2.0.

Low Socioeconomic Zone: Scott Park (Qualitative)

Q1. What characteristics of this park are aesthetically or not aesthetically pleasing to you?

Participants responded[1] that natural elements (i.e., nature, trees, water, and green) are aesthetically pleasing (n=24), that the park is too overgrown or has too much nature and reduces the aesthetics (n=7); that more developed elements (i.e., maintenance, pathways,

[1] Some respondents reported multiple responses

benches, community elements, human landscapes, and recreational facilities, and people) are needed to increase aesthetics (n=24); and that this is not what they think of as being a park (n=4).

Q2. Viewing this park, what types of emotions do you feel?

Participants responded[1] with positive emotions (i.e., calm, peaceful, relaxed, tranquil, and in touch with nature) (n=18); negative emotions (i.e., alone, unsafe, not social, solitary, secluded, bored, unsafe, vulnerable, isolated, alert, closed off, and fearful) (n=14); and neutral emotions (i.e., neutral and pensive) (n=4).

Low Socioeconomic Zone: Hunter Park (Quantitative)

Q1. Looking around the park is it appealing to you?

Not at all (n=0) (0.00%); A little (n=0) (0.00%); Somewhat (n=0) (0.00%); Quite (n=2) (6.67%); Very Much (n=28) (93.3%); Mean: 3.9.

Q2. Does this park make you feel happy?

Not at all (n=0) (0.00%); A little (n=0) (0.00%); Somewhat (n=0) (0.00%); Quite (n=0) (0.00%); Very Much (n=30) (100%); Mean: 4.0.

Q3. Does this park improve your mood?

Not at all (n=0) (0.00%); A little (n=0) (0.00%); Somewhat (n=0) (0.00%); Quite (n=0) (0.00%); Very Much (n=30) (100%); Mean: 4.0.

Q4. Does this park make you feel free from stress and anxiety?

Not at all (n=0) (0.00%); A little (n=0) (0.00%); Somewhat (n=0) (0.00%); Quite (n=1) (3.33%); Very Much (n=29) (96.7%); Mean: 4.0.

Q5. Does this park make you feel safe?

Not at all (n=0) (0.00%); A little (n=0) (0.00%); Somewhat (n=2) (6.67%); Quite (n=6) (20.0%); Very Much (n=22) (73.3%); Mean: 3.7.

Q6. Does this park have the effect of being therapeutic or soothing?

Not at all (n=0) (0.00%); A little (n=0) (0.00%) Somewhat (n=0) (0.00%); Quite (n=3) (10.0%); Very Much (n=27) (90.0%); Mean: 3.9.

Q7. Does this park have the effect of being rejuvenating?

Not at all (n=0) (0.00%); A little (n=0) (0.00%); Somewhat (n=0) (0.00%); Quite (n=2) (6.67%); Very Much (n=28) (93.3%); Mean: 3.9.

Q8. Does this park make you feel peaceful?

Not at all (n=0) (0.00%); A little (n=0) (0.00%); Somewhat (n=0) (0.00%); Quite (n=3) (10.0%); Very Much (n=27) (90.0%); Mean: 3.9.

Q9. Does this park increase your psychological well-being?

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[1] Some respondents reported multiple responses

Not at all (n=0) (0.00%); A little (n=0) (0.00%); Somewhat (n=0) (0.00%); Quite (n=1) (3.33%); Very Much (n=29) (96.7%); Mean: 4.0.

Q10. Does viewing this park allow you to get away from your troubles?

Not at all (n=0) (0.00%); A little (n=0) (0.00%); Somewhat (n=0) (0.00%); Quite (n=0) (0.00%); Very Much (n=30) (100%); Mean: 4.0.

Low Socioeconomic Zone: Hunter Park (Qualitative)

Q1. What characteristics of this park are aesthetically or not aesthetically pleasing to you?

Participants responded[1] that developed elements/aspects (i.e., recreational facilities, gazebo elements, infrastructure, well-maintained, open spaces, and man-made landscapes) are aesthetically pleasing (n=30); that the park needs more natural features or less developed features (n=0); and that the park has a good mix of both natural and developed elements (n=7).

Q2. Viewing this park, what types of emotions do you feel?

Participants responded[1] with positive emotions (i.e., peaceful, happy, good, soothed, energetic, family-oriented, social, connected, rejuvenated, calm, relaxed, invited, and tranquil) (n=27); negative emotions (n=0); and neutral emotions (i.e., neutral and pensive) (n=3).

[1] Some respondents reported multiple responses

Medium Socioeconomic Zone: Riverside Park (Quantitative)

Q1. Looking around the park is it appealing to you?

Not at all (n=1) (3.33%); A little (n=3) (10.0%); Somewhat (n=7) (23.3%); Quite (n=6) (20.0%); Very Much (n=13) (43.3%); Mean: 2.9.

Q2. Does this park make you feel happy?

Not at all (n=1) (3.33%); A little (n=4) (13.3%); Somewhat (n=3) (10.0%); Quite (n=4) (13.3%); Very Much (n=18) (60.0%); Mean: 3.1.

Q3. Does this park improve your mood?

Not at all (n=3) (10.0%); A little (n=4) (13.3%); Somewhat (n=1) (3.33%); Quite (n=4) (13.3%); Very Much (n=18) (60.0%); Mean: 3.0.

Q4. Does this park make you feel free from stress and anxiety?

Not at all (n=3) (10.0%); A little (n=2) (6.67%); Somewhat (n=2) (6.67%); Quite (n=5) (16.7%); Very Much (n=18) (60.0%); Mean: 3.1.

Q5. Does this park make you feel safe?

Not at all (n=3) (10.0%); A little (n=3) (10.0%); Somewhat (n=11) (36.7%); Quite (n=4) (13.3%); Very Much (n=9) (30.0%); Mean: 2.4.

Q6. Does this park have the effect of being therapeutic or soothing?

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[1] Some respondents reported multiple responses

Not at all (n=3) (10.0%); A little (n=2) (6.67%); Somewhat (n=4) (13.3%); Quite (n=9) (30.0%); Very Much (n=12) (40.0%); Mean: 2.8.

Q7. Does this park have the effect of being rejuvenating?

Not at all (n=3) (10.0%); A little (n=4) (13.3%); Somewhat (n=3) (10.0%); Quite (n=4) (13.3%); Very Much (n=16) (53.3%); Mean: 2.9.

Q8. Does this park make you feel peaceful?

Not at all (n=3) (10.0%); A little (n=2) (6.67%); Somewhat (n=3) (10.0%); Quite (n=4) (13.3%); Very Much (n=18) (60.0%); Mean: 3.1.

Q9. Does this park increase your psychological well-being?

Not at all (n=3) (10.0%); A little (n=2) (6.67%); Somewhat (n=4) (13.3%); Quite (n=6) (20.0%); Very Much (n=15) (50.0%); Mean: 2.9.

Q10. Does viewing this park allow you to get away from your troubles?

Not at all (n=3) (10.0%); A little (n=3) (10.0%); Somewhat (n=0) (0.00%); Quite (n=6) (20.0%); Very Much (n=18) (60.0%); Mean: 3.1.

Medium Socioeconomic Zone: Riverside Park (Qualitative)

Q1. What characteristics of this park are aesthetically or not aesthetically pleasing to you?

Participants responded[1] that natural elements (i.e., nature, trees, water, and green) are aesthetically pleasing (n=20); that the park is too overgrown or has too much nature and reduces the aesthetics (n=10); that more developed elements (i.e., maintenance, pathways, community elements, human landscapes, and recreational facilities) are needed to increase aesthetics (n=16).

Q2. Viewing this park, what types of emotions do you feel?

Participants responded[2] with positive emotions (i.e., peaceful, relaxed, calm, happy, tranquil, in touch with nature, nostalgic, and young) (n=15); negative emotions (i.e., tired, gloomy, secluded, isolated, lonely, fearful, in danger, and un-welcomed) (n=12); participants mentioning neutral emotions (i.e., neutral) (n=4).

Medium Socioeconomic Zone: Moores Park (Quantitative)

Q1. Looking around the park is it appealing to you?

Not at all (n=0) (0.00%); A little (n=0) (0.00%); Somewhat (n=3) (10.0%); Quite (n=14) (46.7%); Very Much (n=13) (43.3%); Mean: 3.3.

Q2. Does this park make you feel happy?

Not at all (n=0) (0.00%); A little (n=1) (3.33%); Somewhat (n=2) (6.67%); Quite (n=12) (40.0%); Very Much (n=15) (50.0%); Mean: 3.4.

[1] Some respondents reported multiple responses

[2] Some respondents reported multiple responses

Q3. Does this park improve your mood?

Not at all (n=0) (0.00%); A little (n=0) (0.00%); Somewhat (n=2) (6.67%); Quite (n=10) (33.3%); Very Much (n=18) (60.0%); Mean: 3.5.

Q4. Does this park make you feel free from stress and anxiety?

Not at all (n=0) (0.00%); A little (n=0) (0.00%); Somewhat (n=7) (23.3%); Quite (n=9) (30.0%); Very Much (n=14) (46.7%); Mean: 3.2.

Q5. Does this park make you feel safe?

Not at all (n=0) (0.00%); A little (n=0) (0.00%); Somewhat (n=9) (30.0%); Quite (n=8) (26.7%); Very Much (n=13) (43.3%); Mean: 3.1.

Q6. Does this park have the effect of being therapeutic or soothing?

Not at all (n=0) (0.00%); A little (n=2) (6.67%); Somewhat (n=3) (10.0%); Quite (n=8) (26.7%); Very Much (n=17) (56.7%); Mean: 3.3.

Q7. Does this park have the effect of being rejuvenating?

Not at all (n=2) (6.67%); A little (n=0) (0.00%); Somewhat (n=4) (13.3%); Quite (n=6) (20.0%); Very Much (n=18) (60.0%); Mean: 3.3.

Q8. Does this park make you feel peaceful?

Not at all (n=0) (0.00%); A little (n=0) (0.00%); Somewhat (n=3) (10.0%); Quite (n=6) (20.0%); Very Much (n=21) (70.0%); Mean: 3.6.

Q9. Does this park increase your psychological well-being?

Not at all (n=0) (0.00%); A little (n=1) (3.33%); Somewhat (n=4) (13.3%); Quite (n=4) (13.3%); Very Much (n=21) (70.0%); Mean: 3.5.

Q10. Does viewing this park allow you to get away from your troubles?

Not at all (n=0) (0.00%); A little (n=1) (3.33%); Somewhat (n=1) (3.33%); Quite (n=7) (23.3%); Very Much (n=21) (70.0%); Mean: 3.6.

Medium Socioeconomic Zone: Moores Park (Qualitative)

Q1. What characteristics of this park are aesthetically or not aesthetically pleasing to you?

Participants responded[1] that developed elements/aspects (i.e., recreational facilities, gazebo elements, infrastructure, well-maintained, and man-made landscapes) are aesthetically pleasing (n=25); that the park needs more natural features or less developed features (n=6); and that the park has a good mix of both natural and developed elements (n=23).

Q2. Viewing this park, what types of emotions do you feel?

[1] Some respondents reported multiple responses

Participants responded[1] with positive emotions (i.e., peaceful, relaxed, soothed, calm, happy, social, nostalgic, free from worries, decompressed, and at ease) (n=26); negative emotions (n=1); and neutral emotions (i.e., neutral) (n=3).

High Socioeconomic Zone: Fairview Park (Quantitative)

Q1. Looking around the park is it appealing to you?

Not at all (n=0) (0.00%); A little (n=0) (0.00%); Somewhat (n=1) (3.33%); Quite (n=2) (6.67%); Very Much (n=27) (90.0%); Mean: 3.9.

Q2. Does this park make you feel happy?

Not at all (n=0) (0.00%); A little (n=0) (0.00%); Somewhat (n=1) (3.33%); Quite (n=6) (20.0%); Very Much (n=23) (76.7%); Mean: 3.7.

Q3. Does this park improve your mood?

Not at all (n=0) (0.00%); A little (n=0) (0.00%); Somewhat (n=0) (0.00%); Quite (n=8) (26.7%); Very Much (n=22) (73.3%); Mean: 3.7.

Q4. Does this park make you feel free from stress and anxiety?

Not at all (n=0) (0.00%); A little (n=0) (0.00%); Somewhat (n=3) (10.0%); Quite (n=10) (33.3%); Very Much (n=17) (56.7%); Mean: 3.5.

Q5. Does this park make you feel safe?

[1] Some respondents reported multiple responses

Not at all (n=0) (0.00%); A little (n=1) (3.33%); Somewhat (n=7) (23.3%); Quite (n=7) (23.3%); Very Much (n=15) (50.0%); Mean: 3.2.

Q6. Does this park have the effect of being therapeutic or soothing?

Not at all (n=0) (0.00%); A little (n=0) (0.00%); Somewhat (n=2) (6.67%); Quite (n=1) (3.33%); Very Much (n=27) (90.0%); Mean: 3.8.

Q7. Does this park have the effect of being rejuvenating?

Not at all (n=0) (0.00%); A little (n=1) (3.33%); Somewhat (n=6) (20.0%); Quite (n=3) (10.0%); Very Much (n=20) (66.7%); Mean: 3.4.

Q8. Does this park make you feel peaceful?

Not at all (n=0) (0.00%); A little (n=0) (0.00%); Somewhat (n=1) (3.33%); Quite (n=1) (3.33%); Very Much (n=28) (93.3%); Mean: 3.9.

Q9. Does this park increase your psychological well-being?

Not at all (n=0) (0.00%); A little (n=0) (0.00%); Somewhat (n=5) (16.7%); Quite (n=4) (13.3%); Very Much (n=21) (70.0%); Mean: 3.5.

Q10. Does viewing this park allow you to get away from your troubles?

Not at all (n=0) (0.00%); A little (n=1) (3.33%); Somewhat (n=5) (16.7%); Quite (n=5) (16.7%); Very Much (n=19) (63.3%); Mean: 3.4.

High Socioeconomic Zone: Fairview Park (Qualitative)

Q1. What characteristics of this park are aesthetically or not aesthetically pleasing to you?

Participants responded[1] that nature and wildlife elements are aesthetically pleasing (n=30); human influence in the park reduces the aesthetics (n=12); the park is too overgrown and reduces the aesthetics (n=1); and that more developed elements are needed to increase aesthetics (n=1).

Q2. Viewing this park, what types of emotions do you feel?

Participants responded[2] with positive emotions (i.e., relaxed, renewed, happy, peaceful, soothing, calm, joyful, free, safe, connected with nature, spiritual, and uplifted) (n=30); negative emotions (n=0); and neutral emotions (i.e., curious and pensive) (n=2).

High Socioeconomic Zone: Kimberley/Slater Park (Quantitative)

Q1. Looking around the park is it appealing to you?

Not at all (n=3) (10.0%); A little (n=5) (16.7%); Somewhat (n=10.0) (33.3%); Quite (n=5) (16.7%); Very Much (n=7) (23.3%); Mean: 2.3.

Q2. Does this park make you feel happy?

Not at all (n=5) (16.7%); A little (n=3) (10.0%); Somewhat (n=13) (43.3%); Quite (n=6) (20.0%); Very Much (n=3) (10.0%); Mean: 2.0.

[1] Some respondents reported multiple responses

[2] Some respondents reported multiple responses

Q3. Does this park improve your mood?

Not at all (n=2) (6.67%); A little (n=8) (26.7%); Somewhat (n=9) (30.0%); Quite (n=9) (30.0%); Very Much (n=2) (6.67%); Mean: 2.0.

Q4. Does this park make you feel free from stress and anxiety?

Not at all (n=6) (20.0%); A little (n=6) (20.0%); Somewhat (n=10) (33.3%); Quite (n=7) (23.3%); Very Much (n=1) (3.33%); Mean: 1.7.

Q5. Does this park make you feel safe?

Not at all (n=1) (3.33%); A little (n=2) (6.67%); Somewhat (n=11) (36.7%); Quite (n=4) (13.3%); Very Much (n=12) (40.0%); Mean: 2.8.

Q6. Does this park have the effect of being therapeutic or soothing?

Not at all (n=3) (10.0%); A little (n=8) (26.7%); Somewhat (n=11) (36.7%); Quite (n=4) (13.3%); Very Much (n=4) (13.3%); Mean: 1.9.

Q7. Does this park have the effect of being rejuvenating?

Not at all (n=8) (26.7%); A little (n=6) (20.0%); Somewhat (n=10) (33.3%); Quite (n=4) (13.3%); Very Much (n=2) (6.67%); Mean: 1.5.

Q8. Does this park make you feel peaceful?

Not at all (n=2) (6.67%); A little (n=8) (26.7%); Somewhat (n=12) (40.0%); Quite (n=4) (13.3%); Very Much (n=4) (13.3%); Mean: 2.0.

Q9. Does this park increase your psychological well-being?

Not at all (n=10) (33.3%); A little (n=3) (10.0%); Somewhat (n=10) (33.3%); Quite (n=3) (10.0%); Very Much (n=4) (13.3%); Mean: 1.6.

Q10. Does viewing this park allow you to get away from your troubles?

Not at all (n=6) (20.0%); A little (n=6) (20.0%); Somewhat (n=11) (36.7%); Quite (n=3) (10.0%); Very Much (n=4) (13.3%); Mean: 1.8.

High Socioeconomic Zone: Kimberley/Slater Park (Qualitative)

Q1. What characteristics of this park are aesthetically or not aesthetically pleasing to you?

Participants responded[1] that developed elements/aspects (i.e., recreational facilities, well-maintained, and human landscapes) are aesthetically pleasing (n=14); developed elements/aspects (i.e., pavement, too open, people-oriented, and maintained) in the park reduce the aesthetics (n=13); and that more natural elements (i.e., trees, vegetation, and more green) are needed to increase aesthetics or that natural features in the park are the best quality (n=20).

Q2. Viewing this park, what types of emotions do you feel?

[1] Some respondents reported multiple responses

Participants responded[1] with positive emotions (i.e., friendly, social, energetic, fun, safe, liberated, lively, peaceful, happy, nostalgic, and relaxed) (n=24); negative emotions (i.e., stressed, overwhelmed, and crowded) (n=3); and neutral emotions (neutral) (n=5).

[1] Some respondents reported multiple responses

Appendix 6a High Socioeconomic Zone Responses[1] to Open-ended Question 1

Coded category (n=30)	Examples given	No.	%
Natural Park			
Nature/Wildlife elements aesthetically pleasing	"Nature, wildlife, water, trees, animals"	30	100.00
Human influence/elements reducing aesthetics	"Trash, homes, development, human impacts"	12	40.00
Park too overgrown	"Too overgrown"	1	3.33
Developed Park			
Developed elements needed for better aesthetics	"Needs to harmonize with human elements""	1	3.33
Developed elements aesthetically pleasing	"Recreational facilities, well-maintained"	14	46.67
Human influence/elements reducing aesthetics	"Pavement, too open, maintained, people-oriented"	13	43.37
Natural features the best or more are needed	"Trees, vegetation, more green"	20	66.67

[1] May include multiple responses per person

Appendix 6b High Socioeconomic Zone Responses[1] to Open-ended Question 2

Coded category (n=30)	Examples given	No.	%
Natural Park			
Positive emotions	"Relaxed, happy, peaceful, soothing, calm, joyful"	30	100.00
Neutral emotions	"Pensive, curious"	2	6.67
Developed Park			
Positive emotions	"Friendly, social, energetic, peaceful, happy"	24	80.00
Negative emotions	"Stressed, overwhelmed, crowded"	3	10.09
Neutral emotions	" Neutral"	5	16.67

[1] May include multiple responses per person

Appendix 6c Medium Socioeconomic Zone Responses[1] to Open-ended Question 1

Coded category (n=30)	Examples given	No.	%
Natural Park			
Nature elements aesthetically pleasing	"Nature, trees, water, green"	20	66.67
Park too overgrown	"Too overgrown"	10	33.33
Developed elements needed for better aesthetics	"Maintenance, pathways, recreational facilities"	16	53.33
Developed Park			
Developed elements aesthetically pleasing	"Recreational facilities, well-maintained"	25	83.33
Good mix of both natural and developed features	"Good mix of both features"	23	76.67
Needs more natural features or less-development	"Needs more trees"	6	20.00

[1] May include multiple responses per person

Appendix 6d Medium Socioeconomic Zone Responses[1] to Open-ended Question 1

Coded category (n=30)	Examples given	No.	%
Natural Park			
Positive emotions	"Relaxed, happy, peaceful, tranquil, calm"	15	50.00
Negative emotions	"Tired, gloomy, secluded, isolated"	12	40.00
Neutral emotions	"Neutral"	4	13.33
Developed Park			
Positive emotions	"Peaceful, relaxed, soothed, calm, happy"	26	86.67
Negative emotions	"Stressed"	1	3.33
Neutral emotions	"Neutral"	3	10.00

[1] May include multiple responses per person

Appendix 6e Low Socioeconomic Zone Responses[1] to Open-ended Question 2

Coded category (n=30)	Examples given	No.	%
Natural Park			
Nature elements aesthetically pleasing	"Nature, trees, water, green"	24	80.00
Park too overgrown	"Too overgrown"	7	33.33
Not what they think of as a park	"Not a park"	4	13.33
Developed elements needed for better aesthetics	" Maintenance, pathways, recreational facilities"	24	80.00
Developed Park			
Developed elements aesthetically pleasing	"Recreational facilities, well-maintained"	30	100.00
Good mix of both natural and developed features	"Good mix of both features"	7	23.33

[1] May include multiple responses per person

Appendix 6f Low Socioeconomic Zone Responses[1] to Open-ended Question 2

Coded category (n=30)	Examples given	No.	%
Natural Park			
Positive emotions	"Calm, peaceful, relaxed, tranquil"	18	60.00
Negative emotions	"Alone, unsafe, secluded, bored"	14	40.00
Neutral emotions	"Neutral and pensive"	4	13.33
Developed Park			
Positive emotions	"Peaceful, relaxed, soothed, calm, happy, energetic"	27	90.00
Neutral emotions	"Neutral, pensive"	3	10.00

[1] May include multiple responses per person

Appendix 7: Interview Written Transcript with Landscape Architect

Communication between Richard Schaefer and Jeremy McWhorter, October 12, 2012, 10:00 AM, City of Lansing Parks and Recreation Building, Lansing, Michigan

-States that the needs of the community drive what is present and where it is located.

- Department has looked at trends in communities.

- Mayor and politics play a role in the function of land use, example golf courses, he does not want them.

- Trails were highest priority from the review in the Master Plan 2010-2015.

- Results from the Plan and the surveys, forums, and other data collection methods indicated that green space and natural areas were desired. A website was used to collect data for the 2010-2015 Master Plan.

- Held meetings by ward, 4 different 4 wards in Lansing, for the 2005-2010 Plan, did the same but had people in each ward list the top 5 things that they would like to see in their park communities.

- 2005-2010 looked at census data for each park, did summaries, but did not lead to any substantial changes, looked more at ages, decided facilities and their function based on children and old people.

- Said that low-class and race are not really factored into the park landscape functions and needs.

- "The squeaky wheel gets the oil", as to say the one that complains or has the power gets what is needed and done.

- Lansing is mixed as he says; no studies have been conducted on race or SES in terms of assessing the facilities, park preferences, or aesthetics desired by these groups.

- Dick admits that I could be right, they have not done my study, especially have not looked at mental/psychological health benefits.

- Time, people, and money are reasons why these studies have not been implemented.

- My interest in underutilized land in these communities has been ignored, look at national criteria. There are bigger priorities in the city.

- Have been studies on playgrounds, what they wanted by neighborhood, also 2 studies looking at river trail use, inventoried park user data and preferences, closest thing to my study.

- Agrees with me, people could be pooled or interviewed but there is just no money or resources to do such a thing. Says other methods like these could collect better data. Says the ultimately money talks, and that these other considerations are not principle.

Appendix 8: Photos

Figure 3.6: Fairview Park, Northeast view, May 25, 2012, source: J McWhorter

Figure 3.7: Fairview Park, Western View, May 25, 2012, source: J McWhorter

Figure 3.8: Kimberley/Slater Park, Western View, May 29, 2012, source: J McWhorter

Figure 3.9: Kimberley/Slater Park, Southern View, May 9, 2012, source: J McWhorter

Figure 3.10: Moores Park, Northern View, June 16, 2012, source: J McWhorter

Figure 3.11: Moores Park, Western View, June 16, 2012, source: J McWhorter

Figure 3.12: Riverside Park, Northwest View, June 23, 2012, source: J McWhorter

Figure 3.13: Riverside Park, Northeast View, June 23, 2012, source: J McWhorter

Figure 3.14: Scott Park, Western View, July 29, 2012, source: J McWhorter

Figure 3.15: Scott Park, Southern View, July 29, 2012, source: J McWhorter

Figure 3.16: Hunter Park, Eastern View, August 5, 2012, source: J McWhorter

Figure 3.17: Hunter Park, Southeastern View, August 5, 2012, source: J McWhorter

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