



## THE ROLE OF PARKS ON PHYSICAL ACTIVITY AND PUBLIC HEALTH

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### ABSTRACT

Regular physical activity has been shown to reduce morbidity and mortality by decreasing heart disease, diabetes, high blood pressure, colon cancer, feelings of depression/anxiety, and weight, while building and maintaining healthy bones, muscles, and joints. Due to increasingly sedentary jobs and an increased reliance on motorized transport, leisure-time physical activity may be important in fulfilling recommended physical activity levels. This paper discussed the role of parks to physical activity and public health. Park-based physical activity is a promising means to satisfy current physical activity requirements. However, there is little research concerning what park environmental and policy characteristics might enhance physical activity levels. This paper discussed the relationships between park benefits, park use, and physical activity, and the antecedents of park use. In this classification scheme, the discussion focuses on park environmental characteristics that could be related to physical activity, including park features, condition, access, aesthetics, safety, and policies. The concluded that parks may facilitate social interactions that are critical in maintaining community cohesion, pride, and social capital. It is further recommended that adequate information should be made to ensure that individuals have knowledge on the use and need of parks.

**Keywords:** Activity, Parks, Physical, Public Health

### INTRODUCTION

Regular physical activity has been shown to reduce morbidity and mortality by decreasing heart disease, diabetes, high blood pressure, colon cancer, feelings of depression/anxiety, and weight, while building and maintaining healthy bones, muscles, and joints. Due to increasingly sedentary jobs and an increased reliance on motorized transport, leisure-time physical activity may be important in fulfilling recommended physical activity levels. Leisure-time physical activity can be conducted in a variety of community environments, such as local parks, which are often accessible to citizens at low or no cost (Crompton, 2009).

Traditionally, research on disease prevention has targeted individuals to effect behavioral change. Typical approaches to encourage physical activity include curriculum modification in physical education and health classes, one-on-one and group counseling sessions in a variety of settings, provision of promotional materials, screenings, and self-monitoring. These approaches all share a focus on changing behaviors over which individuals theoretically have control. Because such approaches alone have not made sufficient inroads in increasing physical activity, there have been recent calls for interventions that include environmental approaches as well (Dishman, 2004).

Parks are common community features that provide opportunities for physical activity, yet we know little about the specific park characteristics that are most related to physical activity.

This paper highlights how park and recreation settings might influence public health through a conceptual framework relating park environments to physical activity and, ultimately, the health of park users (Crompton, 2009).

### A Conceptual Model of the Role of Parks in Public Health

Twenty-five years of leisure research have provided a wealth of information regarding the benefits of parks and recreation services, including individual, social, economic, and environmental benefits. Less attention has been paid, however, to studying the links between parks and physiologic health outcomes. Recommended guidelines for physical activity encompass four components: frequency, time or duration, type, and intensity of physical activity. In providing opportunities for physical activity, parks can facilitate physical and psychological health benefits (Frumkin, 2003).

To provide a foundation for research, a conceptual model is proposed that couches park environments in terms of their benefits and, more specifically, proposes the linkage between physical activity and Specific Park features. These include

physical health benefits from physical activity such as a lower risk of obesity, heart disease, and diabetes; psychological health benefits such as stress reduction; social benefits such as increased social capital; as well as economic and environmental benefits that may accrue to society resulting simply from the existence of the park in a community (Frumkin, 2003).

### **Benefits of Parks and Park Use**

Parks facilities and services offer various opportunities to fulfill individual, social, economic, and environmental benefits. Some of these opportunities benefit an entire community, not just park users. For example, a rail-trail may attract restaurants and shops that in turn spend and invest money in the community and increase the community's tax base. Although the focus of this study is on the health benefits that are obtained via physical activity in parks, other important benefits of park use (such as psychological, social, economic, and environmental benefits) must also be acknowledged (Dishman, 2004).

#### **(a) Physical Health Benefits**

Previous leisure research has focused on the role of park-based leisure in improving moods, reducing perceived stress, and enhancing a sense of wellness. However, few studies have explicitly investigated the impact of park-based leisure activity levels on the physical health of park users. Exercise facilities, including parks, that are conveniently located (as measured by self-reports) have been found to be associated with vigorous physical activity in a number of studies, among adults. Other factors that have been positively associated with physical activity include the presence of enjoyable scenery, frequency of seeing others exercise, and access to and satisfaction with recreational facilities.

#### **(b) Psychological Health Benefits**

In addition to the physical health benefits of parks, there may be numerous psychological benefits for park users that arise from the proximity of "natural environments." Studies among workers, college students, hospital patients, government housing residents, and apartment residents have found a variety of psychological, emotional, and mental health benefits stemming from having a view of nature through their windows. Other studies have suggested that people place value on the existence of parks even when they do not use them. Ulrich (2005), for example, found that college students derive substantial psychological benefits, including "feelings of open space," "change of scenery," and "place to escape campus," from their experiences in or nearness to the park. These psychological benefits ranked higher in importance than the recreational and social aspects associated with parks. Other studies have shown that "having the park there" is the biggest source of pleasure for residents living near a small park.

In addition to park proximity, actual use of parks also relates to improved psychological health. In a study of older adult park users who participated in light to moderate aerobic activity,

Godbey (2008) found that half of the sample indicated that they were in a better mood after visiting the park. In addition, More and Payne (2005) also found that park users reported lower levels of anxiety and sadness after visiting parks. Hull (2005) investigation of park users found that the longer the participants stayed in park settings, the less stress they reported.

#### **(c) Social Benefits**

Parks may also facilitate social interactions that are critical in maintaining community cohesion, pride, and social capital. Parks play a role in increasing social capital by providing a meeting place where people can develop social ties and a setting where healthy behavior (such as physical activity) is modeled. Social capital, which is defined as the relationships among people that facilitate productive activity, may be associated with health and physical activity.

Studies in poor urban areas suggest that park-like natural elements promote increased opportunities for social interactions. Godbey & Mowen, (2003) found that in two Lagos public housing developments natural landscaping and spaces with trees attracted larger groups of people than did spaces devoid of nature.

Studies among government housing residents suggest that the greener a building's surroundings, the fewer crimes, intra family aggression, and violence reported. Settings in which there are more trees and vegetation appear to inhibit crime, aggression, and violence, while promoting social interaction among individuals. These results point to the importance of examining similar relationships both in neighborhood park settings and in other populations (Hull, 2005).

#### **(d) Economic Benefits**

Outdoor recreation facilities may also provide a number of direct and indirect economic benefits for their communities. For example, several studies have found that proximity to a particular reservoir state park, or local park was positively related to property value. A study done by Payne (2005) in Rivers state, Nigeria showed that the greater the distance of a residential property from the greenbelt, the lower the price of the property. However, others showed mixed or insignificant relationships between property values and distance from a park. For example, one study examined the exact location of houses relative to parks and found that there was a positive influence on property value only for those houses adjacent to and facing a park, and a negative influence for those houses located on a lot which backed on to the park or that were located adjacent to a heavy use area of the park.

The majority of these studies looked simply at distance of property to a park and did not take into consideration the quality of a park. Parks that have fallen into disuse and disrepair may attenuate the potential positive influences on land values. Future research should continue to investigate the park attributes that may impact property prices and the local economy in general.

### **(e) Environmental Benefits**

Parks may also play a role in preserving and purifying the environment. Air pollution is a significant human health concern as it can cause coughing, headaches, lung, throat, and eye irritation, respiratory and heart disease, and cancer. Trees in urban areas play a role in reducing air pollution by absorbing gaseous pollutants and storing them, thereby removing them from the atmosphere. Urban trees also moderate temperatures by providing shading and cooling to an area, thus helping to reduce the risk of heat-related illnesses in city dwellers, and in turn altering building energy use, which affects pollution emissions from power plants. Since parks are areas that generally contain significant numbers of trees, their potential environmental contribution should be considered (Kaplan, 2008).

### **Park Use and Park Physical Activity**

Consistent with other localized studies of recreation use, walking was the most frequently cited activity (reported by 67% of respondents) followed by other, more sedentary, forms of activity (e.g., viewing scenery, family picnics/gatherings). A study of exercise facilities showed that use of parks and playgrounds by adolescent boys was a significant positive correlate of physical activity. Certain populations, however, are less likely to use public parks. Park activity participation rates depend upon a variety of demographic, socioeconomic, and regional characteristics (Kaplan, 2009).

### **Correlates of Park Use and Park Physical Activity Levels**

There are many studies that have examined leisure constraints and barriers to leisure activities and park utilization. Common reasons for not engaging in park-related activities include lack of time, money, personal health, information, transportation and access, safety concerns, maintenance and/or inadequacy of park facilities, and the lack of leisure companions.

In a study of barriers to urban park use, Scott and Jackson (2009) provided park nonusers and infrequent users a list of “strategies” and asked them which ones might result in their using public parks more often. They found that the most preferred barrier-reduction strategies were “making parks safer,” “providing more information about parks,” “providing more park activities,” and “building parks closer to home” (More, 2007). In this model, the correlates of park use are separated into those concerning the individual characteristics of users and potential users (at both the intra- and interpersonal levels) and those concerning park physical and policy environments (at the structural level). The constraints mentioned above can fall into either of these two categories.

### **(a) Individual Characteristics of Park Users**

A number of individual-level characteristics can influence park use. For example, there are significant differences in park and outdoor recreation behaviors based on a number of demographic or social characteristics, such as age, gender, race/ethnicity, socioeconomic status, and residential location. Studies of park

settings have also found that older adults, ethnic minorities, females, and lower-income families are more likely to be infrequent or nonusers of parks. Since these characteristics are relatively immutable, focusing on environmental and policy correlates of physical activity within parks is needed (Jackson, 2009).

### **(b) Park Environment Characteristics**

While there is a significant understanding of why people do not engage in leisure activity and visit parks, there is less understanding concerning which park characteristics relate to physical activity levels once at a park. Knowledge of such relationships may assist in the development of park environmental and policy changes to promote more physically active forms of park use. A park environmental classification scheme is proposed as a basis for future field experiments to test such linkages.

### **CONCLUSION**

Parks may also facilitate social interactions that are critical in maintaining community cohesion, pride, and social capital. Parks play a role in increasing social capital by providing a meeting place where people can develop social ties and a setting where healthy behavior (such as physical activity) is modeled. Social capital, which is defined as the relationships among people that facilitate productive activity, may be associated with health and physical activity. Parks may also play a role in preserving and purifying the environment. Air pollution is a significant human health concern as it can cause coughing, headaches, lung, throat, and eye irritation, respiratory and heart disease, and cancer. Trees in urban areas play a role in reducing air pollution by absorbing gaseous pollutants and storing them, thereby removing them from the atmosphere.

### **RECOMMENDATIONS**

Based on the conclusion, the following recommendations are given:

1. There should be planting of trees by individuals to ensure moderate temperatures by providing shading and cooling to an area, thus helping to reduce the risk of heat-related illnesses in cities.
2. Individuals or group should find time to visit parks as a way of reducing stress and other stress related health problems.
3. Adequate information should be made to ensure that individuals have knowledge on the use and need of parks.
4. Parks should be made accessible for easy passage of human and material resources.
5. Provision should be made for the safety of individuals or group such as the provision of security and other related agents.
6. Adequate provision should equally be made for the maintenance of such parks.

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