



Executive Summary

RESEARCH SERIES | 2010

The Benefits of Physical Activity: The Scientific Evidence

GEOFFREY GODBEY

ANDREW MOWEN



**National Recreation
and Park Association**

Executive Summary

Why Do Park and Recreation Services Provide So Much Physical Activity for So Little Money?

In an era in which health costs have become the biggest single expenditure in U.S. society, the central importance of physical activity in preventing and improving a wide variety of health problems is now well understood. As this has happened, public park and recreation services' central role in promoting and providing physical activity has been increasingly documented by scientific research. Public park and recreation services are becoming part of the healthcare system of the United States and are now recognized as such. This paper explains the scientific basis for this change.

To an amazing extent, the role of parks and recreation in providing physical activity health benefits was ignored by the health community until recently, but that has changed. The state of knowledge is now such that park and recreation services must be planned and funded based on the known physical activity health benefits they provide. Close-to-home park and recreation resources result in more physical activity and better health for citizens. The evidence is also clear that the public supports additional spending for park and recreation services and that such additional spending results in higher levels of physical activity health benefits.

Park and recreation services provide opportunities for physical activity during leisure, and recent research shows that leisure, not paid work or housework, is now the part of life where the most physical activity occurs. People move their bodies either because they have to or because they want to. The necessity of moving one's body in daily life has declined dramatically, helping produce an epidemic of obesity.

While many people experiment with forms of physical activity that are good for them but not pleasurable, they tend to stay with activities that they enjoy, often for decades. Such activities include walking, hiking, jogging, running, bicycling, individual and team sports, unstructured and playground play, dancing, water-based recreational activity, bird and other animal watching, wildlife photography, and hunting and fishing. All these activities are commonly provided by park and recreation services at little or no direct cost to users. While paid fitness clubs and prescription exercise are valuable, individuals are generally actively involved for only a short time, often only three to six months.

Government park and recreation services provide close-to-home, no or low-cost, readily available areas, facilities, programs, and instruction, which provide pleasurable physical activity opportunities. These services are used by the vast majority of the public and would be used to an even greater extent if additional investments were made in them. There is evidence that small additional investments would provide substantially more health benefits. A tiny bit of extra spending, even \$10 a year per capita, has been shown to provide significantly increased amounts of physical activity. When such an amount is compared to the average cost of a personal trainer for one hour, \$60 to \$70 (Arria, 2010), or the more than \$8,000 per year spent on healthcare per person in the United States, the health contribution of parks and recreation is a rather amazing bargain.

A variety of organizations interested in health, as diverse as the Centers for Disease Control and Prevention, public health departments, the Robert Wood Johnson Foundation, the RAND Corporation, and The Trust for Public Land now recognize parks and recreation as a health service and part of the healthcare system. This has led to the widespread use of health-related partnerships between parks and recreation and a variety of organizations concerned with various aspects of health.

In an era of economic downturn, surveys show that people are more dependent on public park and recreation services for physical activity. A study in 2009 suggests the economic downturn has spurred a sharp increase in public park and playground use among families with kids, especially those with children

younger than 6. Among minority groups, park and recreation services have been identified as the most important outlet for physical activity, in spite of inequities of supply and access.

In the fight to make communities more physically active, then, park and recreation services have a critical role to play. There are currently more than 9,000 local park and recreation departments and organizations that:

- manage more than 108,000 public park facilities and 65,000 indoor facilities
- have access to populations most at risk of being physically inactive
- have a wide range of programs led by skilled program leaders
- have a willingness to partner

The following evidence provides an answer to the question “Who ya gonna call?” to increase physical activity and reduce healthcare costs for the American public.

Physical Activity Benefits Provided by Park and Recreation Services

The vast majority of the public uses park and recreation services, and research suggests an even higher proportion would use them if they were more adequately funded. A growing body of research demonstrates that the cumulative amount of physical activity (exercise) obtained from park and recreation agencies is huge and provides a wide variety of health benefits. At the municipal level, an early national survey found that about four out of five Americans used local government park and recreation services. A recent five-city study of middle-age and older users of local parks found that 85% had visited a local park in the last 12 months. Almost four out of 10 used these services once a week or more, indicating that park and recreation use was part of their lifestyle.

At the federal level, the following percentages of the public participated in outdoor recreation at the following settings for at least once per year: Bureau of Land Management, 9%; Army Corps of Engineers, 14%; U.S. Fish and Wildlife Service, 22%; USDA Forest Service, 28%; and National Park Service, 32%. In terms of state parks, the National Association of State Park Directors reports that state parks received 735 million visitors in 2001, and 67.5 million of these visitors stayed overnight.

People Are Very Often Physically Active When Using Park and Recreation Services

People commonly use park and recreation services in ways that involve physical activity and contribute to their mental and physical health. Several park surveys show that users are physically active during their park visits. Such findings hold true for people of different ages. A study of adult park users in Cleveland, Ohio, for example, found that more than 69% reported moderate or high levels of physical activity. An average visit lasted about two hours, and users spent about half their time walking.

In many of these studies, ethnic minorities constituted an important user group for physical activity. One study, for example, concluded that public parks are critical resources for physical activity in minority communities. However, availability and access to physical activity resources often differ by neighborhood according to the socioeconomic status (SES) of residents. Individuals from lower SES neighborhoods may have limited ability to control their physical activity in the face of inaccessible environments.

The Public Identifies Physical Activity Benefits From Park and Recreation Participation

Research shows the public does not have to be convinced of the physical activity and health benefits provided by park and recreation services, and their belief seems correct. In addition to park use, recreation programs, recreation center usage, and other nonpark opportunities provided by park and recreation departments also involve considerable physical activity. Recreation programs and recreation centers add to the physical activity benefits of parks. A large study of middle and high school students, for

instance, concluded that more people used specific recreation areas when they were provided with organized activities, suggesting that increasing the availability of structured, supervised activities will also likely increase park use.

Investing in Park and Recreation Services Increases Physical Activity Benefits

There is a strong relationship between how much money is spent to provide such services and the amount of physical activity health benefits people receive. You get what you pay for. This is true since, on average, more spending means more recreation areas and facilities (as well as proper maintenance for those places), more recreation programs that involve physical activity, more close-to-home opportunities, more provisions for people with disabilities, and higher quality.

The relationship between investment in parks and recreation and the amount of exercise by boys and girls was very clearly identified in a nationwide study using data on high school students from the Youth Risk Behavior Surveillance System. It showed that an extra \$10 spent per capita on parks and recreation was associated with one-third of a day more per week of vigorous exercise by girls. State spending on parks and recreation was also associated with more days of strength-building exercise for both sexes.

This study, like several others, directly implies that a small increase per person in spending for parks and recreation may have significant positive effects on amount of physical activity and in health costs savings and human happiness. While the public is still not highly aware of the direct savings in health costs resulting from park and recreation services, about one-third of the public thinks too little is spent on parks and recreation, while only about 6% think too much is being spent.

Since amount of physical activity has been shown to be an important variable in determining the health of individuals, and since the amount of physical activity Americans participate in is considerably less than recommended for good health, spending for parks and recreation may be an extremely cost-effective way to improve health and lower health expenditures by providing diverse opportunities for physical exercise. To put the \$10 figure cited above in perspective, healthcare costs per person in the United States topped \$8,000 in 2009, with almost none of the money going to prevention. The U.S. Department of Health and Human Services projects that those costs will reach \$13,000 in 2018.

In spite of the cost savings on health from increasing physical exercise through parks and recreation, the amount of parkland per resident in the United States has actually declined due to rapid increases in population. Compounding this problem is that the projected shortfall in funding for public parks and recreation is estimated to be a massive \$48.17 billion over the next five years. Park and recreation spending may be an easy target for budget hawks, but in reality state spending on parks represents an extremely small part of overall expenditures—0.231% on average across the nation. California's percentage was the highest in the country but was still less than 1% of the state's overall state budget (0.979%). Park and recreation investment needs to be greater at the national, state, and local level.

The Supply of Park and Recreation Resources Is Directly Related to Amount of Physical Activity by People of All Ages

The number of parks and playgrounds in a community and the physical area devoted to them are positively related to physical activity levels. Counties with more facilities and more acreage devoted to recreation have a lower proportion of the population reporting insufficient physical activity. Studies of the impact of parks and recreation on the physical activity of young children show that a 1% increase in park and recreation areas is associated with a 1.2% to 1.4% increase in physical activity. Nonwhite children, however, often do not have access to parks and schoolyards in their communities, and they have less access to cars or a decent transit system to reach neighborhoods where the parks are.

Having Park and Recreation Services Close to Home Increases Use and Physical Activity Benefits

How close a person lives to a park or recreation opportunity (proximity) has a dramatic impact on whether or not he participates and how frequently he participates. Closer is better and more is better. Whether it is a park, recreation center, recreation program, playground, or other recreation amenity, distance from one's home is an important factor in whether or not a person will use it and how often. Various studies show that people who live more than one mile away are less likely to participate than those living one mile away or less. Those a half-mile away are more likely to participate than those further away; and those who are within walking distance are more likely to participate than those who are not.

In summary, the scientific evidence points to the importance of park and recreation services in contributing to leisure-time physical activity behaviors and benefits across a number of contexts. However, the capacity and potential of park and recreation services in creating a more physically active America is not fully realized. A number of strategies should be considered and supported in order to maximize the physical activity benefits of these services. What follows is an overview of potential action steps and examples, which incorporate a variety of environmental, promotional, programmatic, people, partnership, policy, and evaluation strategies.

Increasing Physical Activity Benefits Through Park and Recreation Services

The level of physical activity health benefits provided by park and recreation services is currently both substantial and a huge bargain financially. These benefits, however, could be even greater for the majority of the population at comparatively low cost. Current evidence suggests a number of strategies for increasing their impact.

Get Park and Recreation Services Even Closer to the People and More Accessible

Of all the scientific evidence linking parks to physical activity, the strongest evidence is the relationship between close access (proximity) to parks and physical activity. Ensuring adequate park access and proximity for all Americans should be a top priority. First, there is a need to create new park and recreation facilities in close proximity to where Americans currently live, learn, work, and worship. In some cases, particularly in fast-growing regions of the nation, there is a need to build new park and recreation facilities or new connections to these places.

Next, there is a need to enhance travel connections to new and existing park and recreation facilities. Improving access to known park opportunities could focus on better transit connections in two ways: by creating connector routes (dedicated paths, sidewalks, trails) to parks from residential areas, schools, workplaces, and shopping areas, and by changing policies to allow existing parks and playgrounds to be used by a wider cross section of the population.

Design and Renovate Parks to Increase Physical Activity Across the Life Span

There is a need to ensure that park and recreation facilities can pull in visitors by providing an array of interesting and active recreation opportunities. Existing evidence has demonstrated that the presence of active park features and supports is linked with higher use levels and moderate-to-vigorous physical activity.

Promote Parks and Recreation Services as an Essential Component of the Healthcare System

How park and recreation services are positioned or perceived is ultimately determined by stakeholders in relation to other services. Particularly within municipal and urban contexts, park and recreation agencies

should consider health and active living as the central positioning platform for changing or reinforcing the perceptions of participants, legislative bodies, partners, and staff.

Lack of awareness of local park and recreation opportunities is a reason that people often report for not utilizing these services. To change this, support from prestigious and well-funded business and media partners is needed to convey a unified health and active-living message stating that local park and recreation services are ideal places to be physically active across the life span.

Create More Recreation Programs That Provide Physical Activity

Organized recreation programs are a recommended strategy to increase the nation's physical activity. Eight out of 10 NRPA member agencies offer fitness, sport, and family-youth programs for their constituents at low cost. To expand capacity, park and recreation programming should target a wider cross section of the public and offer a wider menu of programs.

Park and recreation agencies must partner with and promote recreation programs to entire organizations. Traditionally, however, they have promoted their services to individual households, with mixed results. A number of studies show that some segments of the population are unaware or have a minimal knowledge of such services. Lack of awareness is greater among lower-income households, which might benefit the most from increased physical activity.

Make Sure Park and Recreation Providers and Participants Focus on Physical Activity and Health Outcomes

Park and recreation professionals and volunteers could benefit from enhanced training concerning how to maximize physical activity benefits. In many cases, providing physical activity benefits has not been a priority of service providers. This means incorporating physical activity education and training within existing continuing education, park and recreation university curricula, and in school-based physical education programs. Providers from outside the park and recreation field must also be a target of training.

Finally, there is a need to design park and recreation programs and spaces to encourage or provide social support for active recreation behaviors. Social support groups can help others set individual goals, can provide positive encouragement and enforcement, and can help participants sustain their physically active behaviors within park and recreation services and settings.

Enhance Partnership Strategies to Connect With Health-Related Organizations

Stand-alone professionalism is dead. Park and recreation personnel are increasingly engaging in collaborative partnerships, seeking new partners that will assist in communicating, delivering, and evaluating park and recreation services to provide physical activity. Research shows that programming (special events, health fairs and screenings, active programs) is the predominant partnership strategy used to promote physical activity. Future health partnerships must also focus on creating more active park features, on creating activity-friendly policies, and on identifying funding sources for these efforts.

Develop New Policy and Funding Alternatives to Expand the Physical Activity Impact of Parks and Recreation

It is necessary to expand the role of park and recreation policy in shaping physical activity. Policies must be established for ensuring that there are park and recreation facilities within a certain distance of population centers and establishing hours of operation that ensure use across a broad spectrum of the population. Also needed are program policies that incorporate recommended levels or bouts of physical activity provided through park and recreation services. Additional policy areas should include pedestrian and bicycle networks, funding policies to support the capacity of park and recreation agencies in fulfilling

their physical activity goals, promotional and communication policies, health partnerships, evaluation, and training.

Evaluate Park and Recreation Services' Contributions to Physical Activity

While a growing number of studies are documenting the role of park and recreation services in promoting physical activity, there is a need to further substantiate and extend the evidence base at local, state, and national levels using more advanced monitoring tools and systems.

In summary, public park and recreation agencies have been shown, through an emerging body of scientific research, to play an important role in providing for physical activity for a broad cross section of the American public. The potential exists for parks and recreation to play an even larger role in increasing the physical activity of the American public, and at modest cost.

The Benefits of Physical Activity: The Scientific Evidence

BIOGRAPHICAL PROFILE

Geoffrey C. Godbey

President, Next Consulting

Professor Emeritus

Department of Recreation, Park
and Tourism Management

The Pennsylvania State
University

Dr. Geoffrey Godbey is the President of Next Consulting, a company concerned with re-positioning leisure and tourism services for the near future as well as Professor Emeritus in the Department of Recreation, Park and Tourism Management at Penn State University. The author of ten books and over 100 articles concerning leisure, work, time use, aging, recreation and parks, tourism, health and the future, he is the past President of the Academy of Leisure Sciences.

Previously a faculty member at the University of Waterloo in Ontario, Canada, Godbey has undertaken research for the American Association of Retired Persons, the US Forest Service, the National Recreation Foundation and the Robert Wood Johnson Foundation. He has been a consultant to the National Science Foundation, State Government of Sao Paulo, Brazil, U.S. Department of the Interior, as well as many advertising agencies and public and private recreation, park and tourism organizations. Godbey has testified before committees of the United States Senate and the President's Commission on Americans Outdoors. A frequent public speaker to diverse groups, he has given invited presentations in twenty-four countries.

He also advised and was the spokesperson for Hampton Inn's Year of 1,000 Weekends campaign as well as serving on Hilton Hotel's Leisure Time Advocacy Board. From 2002–2004, Godbey helped develop the LifeTrail, a series of stretching and strengthening stations for older adults, for Playworld Systems, Inc. Currently he is an advisor on the future of leisure for The Next Thousand Years Project, sponsored by the Foundation for the Future.

Recently, he has conducted research on the impact of ethnic change on outdoor recreation, relations between health and use of leisure, and the impact of changing demo-

graphics on the tourism function of the National Park Service.

A book he co-authored with Dr. John Robinson entitled *Time for Life—The Surprising Ways Americans Use Their Time* was published in June 1997 by Penn State Press with an updated edition published in 1999. Godbey is completed a five city study of the relationships between use of leisure and health among older adults. He is also currently at work on a book about the impact of time on consumer purchasing behavior with Paul Nunes and Jim Wilson. Several of his books have been translated into Chinese, Korean, and Spanish.

Godbey has written for or been extensively quoted by a wide variety of academic journals and popular periodicals including *American Demographics*, *Prevention*, *Modern Maturity*, *Issues in Science and Technology*, *Public Opinion*, *American Journal of Preventive Medicine*, *Social Research*, *The Futurist*, *Journal of Leisure Research*, *Leisure Sciences*, *Annals of Tourism Research*, *Journal of Travel Research*, *Leisure Studies*, *The World and I*, *American Enterprise*, *Hospitality Research Journal*, *Parks and Recreation*, *World Tennis*, and many others. His poetry has appeared in numerous outlets including *The Nation*.

Interviews and summaries of Godbey's writings have appeared in a number of mass media outlets including *US News* and *World Report*, *Newsweek*, *Time*, *Reader's Digest*, *The Economist*, *The Today Show*, *Good Morning America*, *CBS Morning Show*, *New York Times*, *Glamour*, *Psychology Today*, *Wall Street Journal*, *USA Today*, *Washington Post*, *Modern Maturity*, *The Chronicle of Higher Education*, *Cosmopolitan*, *Redbook*, *The Utne Reader*, *NBC Evening News* with Tom Brokaw, *CNN News*, *The ABC Evening News* with Peter Jennings and many others.

The Benefits of Physical Activity: The Scientific Evidence

BIOGRAPHICAL PROFILE

Andrew J. Mowen, Ph.D.

Associate Professor

Department of Recreation,
Park and Tourism
Management

The Pennsylvania State
University

Dr. Andrew Mowen is an Associate Professor in the Department of Recreation, Park and Tourism Management at The Pennsylvania State University. He has evaluated recreation, park and tourism policies and practices for over fifteen years. Dr. Mowen received his Ph.D. in Leisure Studies from Penn State. His doctoral dissertation examined citizen response to corporate partnerships at municipal park and recreation agencies. An article based on this research earned him the *2004 Journal of Park and Recreation Administration Best Paper Award* as judged by the American Academy of Park and Recreation Administrators.

Upon completion of his terminal degree, Dr. Mowen worked as the Research Manager for Cleveland Metroparks, a three-time National Gold Medal Award® winning agency. There, he conducted over twenty studies which evaluated the impact of park programs and policies on the leisure preferences and behaviors of Cleveland area residents. In 2001, he received a grant from the Cleveland Foundation to assess community changes as they related to park use, barriers to use, and citizen attitudes concerning park design. Dr. Mowen also helped to develop a trail and visitor monitoring system for Cleveland Metroparks, which provided recreation and trail counts covering the Park District's entire 20,000 acres and 100+ entrances. This system earned him the *1999 Vision Award of Excellence for Management Processes* and was highlighted at national and international recreation use monitoring conferences.

Since his appointment at Penn State in 2002, Dr. Mowen has focused on understanding the linkages between park settings, physical activity, and health. For example, He conducted a pilot recreation and health campaign evaluation for the Pennsylvania Advocates for Nutrition and Activity. This assessment examined the role of park use and neighborhood walkability upon physical activity and health of key citizen

groups. Dr. Mowen also conducted a National Recreation and Park Association (NRPA) study that examined nationwide health partnership practices within the park and recreation profession and served as a Co-Principal Investigator to the 2009-2013 Pennsylvania Outdoor Recreation Plan. Dr. Mowen currently conducts research that links park capacity (e.g., miles of trails, park acreage, park expenditures) with key population health indicators such as physical activity and obesity and is spearheading a research project to evaluate the impact of major park renovations on physical activity and health in Allentown, Pennsylvania. In addition to these health policy studies, Dr. Mowen co-authored a park, recreation, fitness, and sport white paper for the *United States National Physical Activity Plan*, a research synthesis on *Parks, Playgrounds and Active Living* for Active Living Research, and a monograph for NRPA on *The Benefits of Physical Activity Provided by Park and Recreation Services*.

Dr. Mowen has advised a wide variety of public and non-profit agencies including the Pennsylvania Department of Conservation and Natural Resources, Fairfax County Park Authority, the National Park Service, LSU School of Public Health, USDA Forest Service, Rails-To-Trails Conservancy, the Trust for Public Land, Active Living Research, Playworld Systems, Inc., and the Roanoke Rivers Partnership. His research and viewpoints are published in the *Journal of Park and Recreation Administration*, *Leisure Sciences*, *Journal of Leisure Research*, *Parks & Recreation*, *Journal of Physical Activity and Health*, *American Journal of Preventive Medicine*, the *President's Council on Physical Fitness and Sports Research Digest*, *Preventive Medicine* and the *Journal of Non-profit and Public Sector Marketing*. Andrew currently serves as an Associate Editor for the *Journal of Park and Recreation Administration*, and is a member of the *NRPA Research Advisory Committee* and the *Pennsylvania Parks and Forests Foundation*.



**National Recreation
and Park Association**

22377 Belmont Ridge Road
Ashburn, VA 20148-4501

800.626.NRPA (6772) • www.NRPA.org



Printed on recycled paper.