

## Physical Activity Promotion in North Carolina: a Reassessment of Public Park and Recreation

### Directors

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### Abstract

Regular physical activity is widely considered by public health and parks and recreation professionals as a key determinant of individual and community health and well-being. Prior research has shown that building sustainable health partnerships with community organizations can help parks and recreation departments meet many US health challenges. This descriptive study examined the perceptions of North Carolina public parks and recreation directors regarding physical activity and health partnership practices in their communities. The study was also a 15-year follow-up to a study and examined whether park and recreation director perceptions of health partnerships had changed given the many social, economic, and health events that have occurred since the original survey. Directors from two hundred seventy-five North Carolina city and county parks and recreation departments were surveyed in the Spring of 2022 to determine 1) directors' effort allocation in promoting physical activity toward vulnerable populations, 2) challenges associated with promoting community physical activity, and 3) differences in effort allocation, future priorities, and partnership among varying director and departmental demographics. Results were compared to findings from a 2007 study of NC perceptions of health partnerships, upon which the present study was based. One hundred twenty-three completed questionnaires were returned, resulting in a response rate of 45%. Directors in 2022 allocated similarly higher levels of effort toward older adults, families, and people with low income as did directors in 2007, while youth and adults with disabilities and people with chronic health conditions received lower allocations of effort from directors in 2022. Barriers such as lack of staff knowledge on how to promote physical activity, lack of citizen and political support, and lack of knowledge of under-represented groups' physical activity preferences were less pronounced in 2022 compared to 2007. Several distinct differences were revealed between female and male directors' rankings of effort and future priorities, as well as their perceptions of physical activity opportunities for women and people with disabilities. Partnerships with county health departments are being reported more in counties with the highest health disparities compared to more healthy counties, indicating that partnerships are being targeted and implemented in areas where resources are most needed. This study represents a meaningful extension of research conducted prior to the 2008 Great Recession and COVID-19 pandemic and provides recommendations for public parks and recreation departments to consider promoting physical activity and building community resilience in the face of future economic and health challenges.

**Keywords:** attitudes, barriers, community partnerships, health priorities, perceptions, recreation directors

Regular physical activity is associated with positive health outcomes such as facilitating the prevention of cardiovascular disease and diabetes, reduced risk of depression, anxiety, and some cancers, strengthened bones and muscles, brain health, and academic performance (Warburton & Bredin, 2017; WHO, 2022). The Centers for Disease Control and Prevention (CDC) recommends a daily minimum of one hour of physical activity for children and 150 minutes per week for adults (CDC, 2022). However, according to recent North Carolina public health data, around 23 percent of North Carolinians report doing no physical activity or exercise outside of their jobs within the previous 30 days (United Health Foundation, 2022). In 2021, the prevalence of multiple chronic health conditions (9.6%) and cost-related avoidance of care (11.5%) were higher for citizens in North Carolina than the national average (AmericasHealthRankings.org, 2022). Physical activity behavior is facilitated or limited by multiple levels of influence in society (i.e., intrapersonal, interpersonal, institutional, community, and policy) (Dollman, 2018). A social ecological framework is useful in studying the promotion of physical activity and partnerships as it emphasizes linkages between multiple levels of influence on physical activity behavior and encourages systems-thinking responses that utilize collaboration between various sectors to address community health challenges (McLeroy et al., 1988; Lee & Park, 2021). The framework has emerged as a response to complex issues such as economic fluctuations, obesity, heart disease, and diabetes (Bocarro et al., 2009).

Parks and recreation departments play a significant role in the promotion of physical activity in communities, as they are often perceived by the public and city and county managers to be the organization responsible for increasing community physical activity (Bruton et al., 2011; IOM and National Research Council, 2005; Powers et al., 2021). Health organizations also find parks and recreation departments to be a strategic partner in improving health outcomes, as the ubiquitous nature of parks and recreation departments in the U.S. and their commitment to serving vulnerable communities make them ideal for addressing public health concerns (Andrews et al., 2018). Thus, parks and recreation leadership and staff are “uniquely positioned” to influence physical activity through the provision of park and recreation facilities and programs (Marsh et al., 2012).

In 2007, Bocarro and colleagues surveyed North Carolina parks and recreation directors to assess their perceptions on the role of parks and recreation agencies in promoting physical activity. The study examined how park and recreation directors perceived their citizen and political support surrounding physical activity, perceived barriers to being more effective in providing physical activity opportunities, and physical activity priorities for the future (Bocarro et al., 2009; Bruton et al., 2011). The findings indicated that an overwhelming majority of directors believed their citizens valued opportunities for physical activity, yet only 48% thought the public would be willing

to pay for more physical activity resources. Moreover, on average, older adults received targeted allocations of effort, whereas people with chronic health conditions and adults with disabilities received less targeted efforts. Commonly identified barriers to effective promotion of physical activity were lack of staff, lack of funding, and quality and number of facilities and equipment. Compared to their urban counterparts, rural directors more frequently identified staff knowledge about how to promote physical activity; no clear standards about what should be provided; a lack of support from government authority (i.e., commissions, board, or councils); and the number of low-income residents as perceived barriers. Both rural and urban directors, on average, ranked identifying potential partners and offering a wider array of programs as priorities for the future.

The demand for public recreation services and facilities across North Carolina is growing as many parts of the state experience significant population growth (Cline, 2022). This growth is coupled with an increasingly older population. For example, a recent North Carolina Division of Aging and Adult Services report found that by 2028 one in five NC residents will be age sixty-five or older; and by 2031 there will be more older adults than people under the age of 18 (NC Department of Health and Human Services, 2022). A growing population might contribute to the state’s tax base, but without strategic investments (i.e., tax allocations that cover the increased demand of parks, recreation, and senior services), the growth could exacerbate budget reductions already experienced by public recreation departments. Thus, the need for strategic park and recreation investments to support these demographic trends will be critical. As the importance of providing parks and recreation services and increasing physical activity in communities grows, so too does the need to reassess parks and recreation directors’ perceptions of their role and behaviors in promoting physical activity in North Carolina communities, as well as the nature of their participation in health partnerships that support physical activity programs and services.

Partnership participation focused on promoting physical activity is increasing, yet rural communities with smaller populations and operating budgets are more likely to be physically inactive (Edwards et al., 2014; Whitfield et al., 2019) and thus face more severe health outcomes than their urban counterparts. Although the literature highlights the perceived significance of partnerships between parks and recreation departments and community organizations for achieving their mutual goals, it is not clear how the global pandemic, economic pressures, and renewed interests in parks and greenspace for community wellbeing changed perceptions of partnerships promoting physical activity. Therefore, this study sought to address this gap by investigating these central questions:

1. What are the current effort allocations and future priorities of parks and recreation departments when it

- comes to promoting physical activity, and what has changed since 2007?
2. What are directors' perceived barriers to and attitudes about providing opportunities for physical activity, and what has changed since 2007?
  3. What similarities in attitudes exist between directors who partner with other organizations to promote physical activity?
  4. How do different directors and departments (e.g., female vs male, rural vs urban) report their attitudes, effort allocation, and health partnership behaviors?

Specifically, this research sought to provide a more current understanding of directors' perceptions and collaborations between parks and recreation departments and community organizations interested in improving community health conditions and suggest managerial recommendations to parks and recreation directors on how to effectively promote healthier communities.

## Methods

### Sample

The population of this study consisted of all 278 NC parks and recreation directors. The directors' departments were classified as rural or urban in accordance with classifications set by 2021 US Census Bureau estimates to allow for comparison with data from the Bocarro et al. (2009) study. Directors were contacted with assistance from North Carolina Recreation and Parks Association (NCRPA) and NC State University's Recreation Resources Service (RRS) office. RRS is a technical assistance program for North Carolina parks and recreation agencies. They provided the research team with current records of county and municipal directors.

### Instrumentation

The thirty-one-item survey, modified from the 2007 survey with one of the original authors, was updated with more contemporary language to reflect societal changes in regards to classifying gender and race and provided more modern and commonly utilized forms of communications of parks and recreation agencies (e.g., social media advertising). Additionally, a pilot test with multiple parks and recreation professionals resulted in a few additions to the original response options. The survey used a mixture of closed and open-ended questions to give participants an opportunity to provide more in-depth information, and the questionnaire was divided into seven parts: *Director's agency and/or Location; Opinions about citizen and political support; Programming (effort allocation) and partnership practices; Barriers to promoting physical activity; Future priorities; COVID-19 impacts (2022-only); and Director characteristics*. Unless noted otherwise, all questions and response options were used both in 2007 and 2022.

Partnership participation was measured by two question types: 1) formal and informal partnerships with public (i.e., county) health departments, and 2) formal and informal

partnerships with other community organizations. Community organizations include schools, churches, YMCAs, and other newly listed public or private agencies. If the director answered "Yes" to formal partnerships, they selected one or more options from a list of common partners or provided an unlisted partner in a free-response answer area. Other items include directors' perceived barriers to promoting physical activity (e.g., lack of funding, staff, or knowledge) and priorities for the future of the department (e.g., the level of priority for identifying potential partners to provide physical activity).

Using a Likert-style scale, the questionnaire also assessed where departments are placing their efforts and the level of prioritization toward target populations such as children at risk of obesity, adults and children with disabilities, older adults, families, people with chronic health conditions, low-income individuals, and racial and ethnic minority groups. Specifically, the question used was: Allocate how much effort your department puts into offering physical activity programs targeting the following population groups in the last five (5) years: 1=none/no effort, 2=very little effort, 3=some effort, 4=a great deal of effort. The questionnaire also included demographic questions about each agency director using variables such as gender, race or ethnicity, years of experience, and years in current position.

### Data Collection Procedures

Following approval from the university's Institutional Review Board, survey invitations were distributed in mid-spring 2022. On April 25, 2022, the study population received the questionnaires via email hyperlink with formal instructions for completing the survey. Confidentiality of response was guaranteed in the survey consent form before the survey items were displayed. Structured reminders were utilized to encourage survey response, the first of which was distributed to non-respondents one week after the initial invitation. The next reminders, in collaboration with the RRS and the NCRPA, were distributed on May 13th (including one informal reminder on a conference call with directors). The fourth reminder was distributed on June 7th prior to a two-month reminder hiatus, with a final reminder sent out by the researchers on August 29th, 2022.

Data on North Carolina's rural, suburban, and urban populations were collected from two sources: the NC Rural Center and the US Census Bureau's 2021 estimates. For comparisons with the original study, the same criteria were necessary. Municipalities located within a designated Metropolitan Statistical Area (MSA) were considered "urban," while communities located outside an MSA were coded as "rural." Municipalities that were considered "micropolitan" were also coded as "urban." Counties were coded as "urban" if their total population was at least 100,000 and had one or more urban areas with a combined population of 50,000 or more. Additionally, other measures such as County Distress Rankings (Tiers) and County Health Outcome Rankings were used to compare the economic and overall well-being of counties with partnership participation. County Distress Rankings in

North Carolina are calculated using average unemployment rates, median household income, percentage growth in population, and adjusted property tax base per capita (NC Department of Commerce, 2023). Measures for County Health Rankings were determined by the “Health Behaviors” ranking map for North Carolina (County Health Rankings, 2023). These designations were then compared to each parks and recreation department’s county location.

Descriptive statistics, including averages, standard deviations, mean differences, and alpha values were reported for key quantitative responses. Alpha values were adjusted to 0.01 to minimize Type I and Type II error rates for multiple analyses. Inferential statistical analysis was conducted—primarily t-tests, variances assumed and not assumed—for determining differences among directors within 2022 and between 2007 and 2022. For example, rural department directors’ responses in 2022 were compared statistically to urban directors’ responses in 2022. Finally, ANOVA testing was employed to examine the significance of differences among County Distress Rankings, partnership participation, and promotional tools. All statistical analyses were conducted using SPSS.

### Results

One hundred and twenty-three participant responses met criteria for data analysis, resulting in a response rate of 44.24%. Municipal parks and recreation departments constituted around 68.29% of respondents, and county departments accounted for approximately 29.27%. There were also two city-county (“mix”) departments and one joint-municipal department represented in the survey response. Of the 38 counties represented in the survey

response (including the two “mix” departments), 63.16% were designated as rural and 36.84% were designated urban according to the North Carolina’s Office of Rural Health (NC Department of Health and Human Services, 2019). Over half of respondents’ departments were in North Carolina’s central Piedmont region, and greater than a quarter were from the eastern Coastal Plains region (North Carolina State Parks, 2020). Female directors made up 31.15% of the respondent population while males accounted for 67.21% of respondents. Similarly, the original 2007 study was composed of approximately one-third (32%) female respondents and two-thirds (68%) male respondents. Respondents’ experience in their current position ranged from less than one year to 54 years ( $M=7.56$ ;  $SD=7.18$ ; Median=5), and their experience in the recreation profession ranged from less than one year to fifty-six years ( $M=20.40$ ;  $SD=10.48$ ; Median=22). The following sections describe the findings in connection with the primary research questions.

The average ranking for departmental effort toward physical activity (PA) programming across population groups (e.g., adults with disabilities, those with chronic health conditions, obese teen boys) was 2.70, falling between ‘2-very little effort’ and ‘3-some effort’, as described in Table 1. On average, parks and recreation departments targeted more effort toward seniors than other population groups ( $M=3.03$ ;  $SD=0.90$ ) which is consistent with results from 2007 ( $M=3.30$ ;  $SD=0.85$ ), while the least effort was targeted toward people with chronic health conditions. Urban parks and recreation departments reported more effort ( $t=2.525$ ;  $p=0.013$ ) toward families ( $M=3.11$ ;  $SD=0.78$ ) compared to rural departments ( $M=2.72$ ;  $SD=0.83$ ).

Table 1. Director Effort Allocations Toward Promoting Physical Activity for Special Populations (2022/2007)

Effort Allocation	Date	N	Mean	SD	Mean Dif	P-value																																																															
Boys <12 at risk of obesity	2022	122	2.85	.924	-0.28	.808																																																															
	2007	126	2.88	.917			Girls <12 at risk of obesity	2022	122	2.84	.939	-0.29	.806	2007	126	2.87	.915	Teen boys at risk of obesity	2022	122	2.52	.929	.037	.753	2007	123	2.49	.900	Teen girls at risk of obesity	2022	122	2.52	.929	.000	.998	2007	124	2.52	.888	Adults with disabilities	2022	123	2.41	.931	-.037	.766	2007	124	2.45	1.015	Youth with disabilities	2022	123	2.48	.917	-.125	.296	2007	124	2.60	.961	Older adults	2022	121	3.03	.903	-.265*	.018	2007
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Families	2022	123	2.98	.810	.008	.941
	2007	125	2.98	.847		
People with chronic health conditions	2022	120	2.26	.865	-.067	.556
	2007	123	2.33	.901		
People with low income	2022	121	2.93	.782	-.074	.473
	2007	124	3.01	.831		
Racial and ethnic minorities	2022	120	2.87	.840	-.011	.922
	2007	123	2.88	.955		

\* Mean difference is statistically significant at the .05 ( $\alpha$ ) level using a 4-point Likert scale where 1=none/no effort, 2=very little effort, 3=some effort, 4=a great deal of effort. Response to question: Allocate how much effort your department puts into offering physical activity programs targeting the following population groups in the last five (5) years.

Directors of different self-reported genders responded significantly differently to effort allocation, future priorities, and attitudes. Male directors rated their effort

toward all special population groups higher than female directors (Table 2).

Table 2. Mean Ratings and Allocation of Effort of Departments Toward Physical Activity Programs in the Last Five Years (Female/Male Directors, 2022)

Effort Allocation	Gender	N	Mean	SD	Mean Dif	P-value
Boys <12 at risk of obesity	F	38	2.39	.855	-.667*	<.001
	M	81	3.06	.899		
Girls <12 at risk of obesity	F	38	2.39	.855	-.642*	<.001
	M	81	3.04	.928		
Teen boys at risk of obesity	F	38	2.13	.875	-.572*	.002
	M	81	2.70	.914		
Teen girls at risk of obesity	F	38	2.11	.863	-.598*	<.001
	M	81	2.70	.914		
Adults with disabilities	F	38	2.00	.959	-.598*	<.001
	M	82	2.60	.873		
Youth with disabilities	F	38	2.13	.935	-.515*	.004
	M	82	2.65	.880		
Older adults	F	38	2.89	1.11	-.218	.283
	M	80	3.11	.795		
Families	F	38	2.76	.883	-.334	.036
	M	82	3.10	.764		
People with chronic health conditions	F	38	1.89	.798	-.536*	.002
	M	79	2.43	.858		
People with low income	F	38	2.63	.819	-.456*	.003
	M	80	3.09	.732		
Racial and ethnic minorities	F	38	2.61	.916	-.395	.026
	M	79	3.00	.784		

\*Mean difference is statistically significant at the .01 ( $\alpha$ ) level using a 4-point Likert scale where 1=none/no effort, 2=very little effort, 3=some effort, 4=a great deal of effort. Response to question: Allocate how much effort your department puts into offering physical activity programs targeting the following population groups in the last five (5) years.

Male directors also reported higher priority ( $M=2.66/2.83$ ) than female directors ( $M=2.21/2.37$ ) toward training staff on physical activity leadership ( $p=.004$ ) and attending PA workshops and conferences ( $p=.004$ ) in the next fiscal year, respectively. Toward specific programming and facility beliefs, male directors agreed more strongly ( $M=4.48/3.92$ ) than female directors ( $M=3.92/3.16$ ) that women ( $p=.008$ ) and people with disabilities ( $p<.001$ ) have adequate, or even the same access to, opportunities for PA in their community, respectively.

### 2022/2007 Attitude and Barrier Differences

### Barriers lower in 2022 compared to 2007

Consistent with director responses in 2007 (Bocarro et al., 2009), lack of staff and funding remain as the most significant barriers to promoting physical activity in North Carolina (Table 2). High crime rates, knowledge of minority preferences, and lack of citizen support for physical activity opportunities were the least prominent barriers to directors in 2022. These results were generally consistent with director responses fifteen years ago. However, directors identified several barriers as less of a challenge in 2022 than directors in 2007 including lack of commission, board, council support and lack of citizen/resident support.

Table 3. Directors' Perceived Barriers to Promoting Community Physical Activity (2022/2007)

Barriers	Date	N	Mean	SD	Mean Dif	P-value
Lack of funding	2022	123	2.24	.615	-.160	.031
	2007	134	2.40	.562		
Lack of staff	2022	123	2.48	.605	.002	.978
	2007	134	2.48	.584		
Lack of staff knowledge on how to promote PA	2022	123	1.59	.676	-.250*	.003
	2007	134	1.84	.670		
Quality and amount of facilities and equipment	2022	120	2.17	.617	-.153	.048
	2007	134	2.33	.610		
No clear standards on what should be provided	2022	123	1.63	.645	-.075	.347
	2007	134	1.70	.638		
Lack of citizen/resident support	2022	123	1.50	.578	-.407*	<.001
	2007	134	1.90	.692		
Lack of commission, board, council support	2022	123	1.62	.719	-.345*	<.001
	2007	134	1.96	.698		

Lack of awareness among public of existing programs/facilities	2022 2007	123 134	1.88 1.93	.567 .621	-.047	.525
High crime rate in some areas	2022 2007	123 134	1.28 1.54	.548 .656	-.261*	<.001
Resident low income	2022 2007	123 134	1.63 1.81	.658 .662	-.187	.024
Knowledge of minority preferences	2022 2007	123 134	1.50 1.76	.564 .615	-.257*	<.001

\*Mean difference is significant at the .01 ( $\alpha$ ) level using a 3-point Likert scale with 1=not at all significant, 2=somewhat significant, 3=very significant. In response to the question: How much of a barrier are the following in providing physical activity facilities and programs in your municipality/county/jurisdiction?

### Attitudes higher in 2022

Director attitudes on topics such as resident and political support for physical activity, the role of parks and recreation departments in providing PA, and the extent and condition of PA opportunities in their communities were generally positive, but a few statements received averages below 3.5 on a scale of 5. The statement “Adequate physical activity opportunities exist in our community for children and youth with disabilities” was the lowest rated statement ( $M=2.85$ ;  $SD=1.22$ ) in 2022. Similarly ranked ( $M=2.90$ ;  $SD=1.37$ ) was the statement “Our community has enough parks and open spaces to meet the physical activity needs of the residents.” Additionally, directors gave an average ranking of 3.01 to the statement “Our community has adequate sports fields.” Still, these lowest averages reflect general agreement with the statements overall.

Directors expressed overwhelmingly strong agreement toward the belief that both residents ( $M=4.91$ ;  $SD=0.29$ ) and elected officials ( $M=4.24$ ;  $SD=0.93$ ) value opportunities for PA. There was also a strong sense of agreement among directors that parks and recreation departments have a responsibility to promote health and wellness ( $M=4.70$ ;  $SD=0.51$ ) and that a strong relationship exists between the quality of parks and recreation opportunities and the quality of life for individuals in the community ( $M=4.36$ ;  $SD=0.83$ ). Directors agreed more in 2022, compared to 2007, that opportunities for physical activity are important to their residents ( $t=4.18$ ;  $p<0.001$ ).

### Partnerships and County Health Rankings

Although agreement toward the importance of partnerships in successfully promoting physical activity

was strong ( $M=4.41$ ;  $SD=0.75$ ), under half (42.28%) of participants indicated recent (within the last year) partnership engagement with their county health department to promote health and physical activity in their community. 21.14% of respondents who participated in collaborations initiated a formal partnership (focused on health and wellness) with their county health department in the last year. Nearly 61% of those respondents have engaged in formal partnerships with other community organizations to promote physical activity, which include school systems (42.28%), external athletic groups (28.46%), recreation associations (24.39%), public safety/police (23.58%), and public libraries (20.33%) among others. Directors reported working in formal partnerships with school systems more often in 2007 than in 2022 ( $M=0.83$ ;  $SD=0.38$ ;  $t=1.92$ ;  $p=0.057$ ).

There was no significant difference of partnership participation (i.e., formal or informal partnerships with county health and other community organizations) between rural and urban directors, nor were there partnership differences between departments in different county distress tiers. However, the participant parks and recreation departments located in the bottom quartile County Health Rankings indicated more collaboration with county health departments both informally and formally; especially compared to the top two quartiles (Table 4). Differences revealed by post hoc testing between the bottom (4) and top two (1 & 2) quartiles are distinguished in the table below. There was no significant relationship between County Health Rankings and department partnership with other community organizations. ANOVA testing did not reveal any significant relationship between partnership and County Distress Rankings (Tiers).

Table 4. County Health Department Partnership Level in Each Quartile of North Carolina’s County Health Rankings, 2022

County Health Ranking Quartile*		Sample	Percent of P&R Depts informally working with County Health	Percent of P&R Depts in formal partnership with County Health
ANOVA	Top 25%	1	54.0%	36.0%
		2	34.0%	35.0%
		3	26.0%	46.0%
	Bottom 25%	4	11.0%	82.0%

\*Data from North Carolina’s County Health Rankings (2023)

### Rural/Urban Differences

In 2022, urban directors ranked “increasing culturally diverse programs in PA” higher than directors in rural departments. Directors in rural departments indicated both

a lack of funding and political support were more major barriers to promoting physical activity than urban directors, and that a strong relationship exists between the quality of parks and recreation opportunities and the quality of life for individuals in their community.

Table 5. Rural (R) and Urban (U) Perception Differences (Priorities<sup>1</sup>, Barriers<sup>2</sup>, Attitudes<sup>3</sup>)

Topic	R/U	N	Mean	SD	Mean Dif	P-value
Increase culturally diverse programs <sup>1</sup>	R U	39 84	2.56 3.05	.912 .863	-.484*	.005
Lack of board, commission, & council support <sup>2</sup>	R U	39 84	1.82 1.52	.756 .685	.297**	.031
Lack of funding <sup>2</sup>	R U	39 84	2.41 2.15	.595 .611	.255**	.033
A strong relationship exists between the quality of the P&R opportunities and the quality of life for individuals in our community. <sup>3</sup>	R U	38 84	4.05 4.50	1.09 .649	-.447*	.006

\*Mean difference is significant at the .01 ( $\alpha$ ) level

\*\*Mean difference is significant at the .05 ( $\alpha$ ) level using a 3-point Likert scale with 1=not at all significant, 2=somewhat significant, 3=very significant

### Discussion

This study of parks and recreation director perceptions and practices establishes a new baseline for understanding physical activity promotion in North Carolina and highlights the necessity of taking further steps toward promoting physical activity as funding, marketing, and demographics continue to change at local and national levels. Amidst increasing demands for physical activity

opportunities from a growing state population, municipal and county parks and recreation departments in 2022 faced similar challenges to those in 2007, but those challenges have only been exacerbated by the Great Recession, COVID-19, and social disruption. There was a positive consensus about the role of parks and recreation in promoting community physical activity among NC public parks and recreation directors in 2022, though such a consensus was somewhat expected due to social-



desirability bias (Grimm, 2010). This bias may have been observed, for instance, in male directors' higher effort allocation toward almost all special population groups. The significant differences among female and male directors' reported effort allocation point toward opportunities for growth that public parks and recreation departments and North Carolina Recreation and Park Association (NCRPA) can address. How or why these differences exist is unclear; though one could conceive that the additional pressures female parks and recreation professionals face (e.g., being a woman in the workplace, family obligations, working non-traditional business hours (Smith et al., 2012)) might make female directors believe that room exists for more effort toward special populations and their departments could do better. Other research suggests women tend to underrate their job competencies, despite out-scoring men in emotional intelligence in the workplace (Korn Ferry, 2017); thus, they may have underestimated their effort allocation or males have overestimated their effort allocation.

Effort allocation scores were largely consistent with data from 2007, though effort for older adults was lower in 2022. Despite the reduction, prevalently high effort allocations for older adults could be attributed to the growing senior population in North Carolina. Studies predict a 32.7% increase in the state's 65+ population by 2050 (North Carolina Office of State Budget and Management, 2022). Compounding this growth is the fact that seniors are a heavily targeted population for promoting health and physical activity resources (NRPA, 2017), as they generally have more free time to spend at their local parks and recreation facilities, and, in some cases, state-funded senior centers (Genoe et al., 2019). Physical activity generally increases after the transition to retirement for older adults (Barnett et al., 2012); however, seniors are considered as a vulnerable population, in need of access to resources to support their 1) higher incidence of diseases like Alzheimer's, diabetes, and heart disease; 2) increased social isolation (especially in rural communities); and 3) individual and systemic mobility issues (CDC, 2022). Funding and resources allocated toward seniors can be a great investment (Bloom et al., 2011): older adults make important contributions to the volunteer workforce (Irving, 2018) and are valuable to communities and corporations in the state (North Carolina Department of Commerce, 2019). Thus, increasing park and recreation facility accessibility and safety and providing specialized transportation (e.g., shuttles) to senior centers could make North Carolina a more appealing retirement destination for older adults; it may also ensure they have opportunities to remain healthy, active, and less dependent on caregivers and state healthcare resources (Sato et al., 2019; World Health Organization, 2022).

Despite a larger allocation of effort toward seniors than other population groups, directors overwhelmingly agreed that opportunities for physical activity are important to residents and elected officials in their communities—more than in 2007. Additionally, 2022 directors' increased agreement that residents would pay additional taxes, coinciding with a decrease in the identification of lack of citizen and political support as a barrier (compared to

2007), was promising. However, directors in rural departments perceived a greater lack of support from board, commission, and council members than urban directors. This perception could highlight political or educational divides among rural departments in which rural directors may have limited experience in effectively communicating the importance of their services to their governing officials; or these officials may be against increasing support for social services through tax increases. Regardless of differences, director beliefs of public support for parks and recreation seems to be higher now than in 2007. These shifting attitudes and barriers may derive from COVID-19 and the anecdotal belief that people started using outdoor spaces and valuing opportunities for physical activity at an increasing level, even though that increase only came from those who were more active (e.g., white and affluent populations) to begin with (Larson et al., 2021). Nevertheless, coming out of the pandemic could have driven the feeling that physical activity opportunities are valuable to the whole community, as directors in 2022 also agreed more than 2007 directors that a relationship exists between the quality of parks and recreation opportunities and the health of individuals in their community. Other signals of increased support in the state were the numerous park bonds that voters passed in NC's Triangle region and beyond in 2022 (e.g., Buncombe County, Greensboro, Matthews, Raleigh). With the success of numerous open space and park bonds in recent election cycles and directors' post-COVID-19 perspectives on the importance of community physical activity, now is a time that partnerships between parks and recreation and health organizations may best thrive.

Partnerships between public parks and recreation departments and public or private community organizations are one method directors employ to assist in promoting physical activity that may also reduce their expenditures. Somewhat disconcertingly, though, there were no significant differences in partnership participation between 2007 and 2022. The impact of COVID-19 could be one explanation for why departments did not engage in more formal or informal partnerships, i.e., public health departments were putting all resources toward COVID-19. Furthermore, to make a reliable comparison between 2007 and 2022, directors were questioned on their partnership engagement "within the last 12 months", requiring some directors to reach as far back as April 2021—when COVID-19 protocols like masking, social distancing, and limited collaboration were still largely in place.

There was a decrease in formal partnership with schools. The recent "Great Resignation" of public servants and teachers in public schools poses a critical issue for the education system and public parks and recreation departments in the U.S. (Roth, 2022), and could also impact the ability of public parks and recreation departments to develop and maintain sustainable partnerships with their local school systems. Partnerships require significant time and labor commitments, not only for co-sponsored programs and services, but for building trust and effective communication of objectives and goals (Dennis et al., 2015; Frisby, 2004). Thus, staffing shortages

and employee burnout in K-12 public education decrease the availability of employees who are willing to commit more time and are enthusiastic about promoting health. A comforting prospect, however, is that participant directors seemed to recognize the importance of partnership, as identifying partners to provide PA was a higher priority to directors than it was in 2007.

Formal partnerships between parks and recreation and both county health departments and other community organizations were more prevalent in departments whose directors strongly agreed that their mission statement directly addressed health and physical activity. Informal partnerships with other community organizations were also higher in the same analysis. These are promising results which suggest that departments whose missions are aligned with county health departments and other community organizations would find success, at least, in forming partnerships to promote health and wellness. Having a shared vision, such as one that may be accomplished through the goals and actions set forth by an organization's mission statement, is one of the essential 12 pillars of a successful health partnership (Schriger et al., 2021). Thus, planning and ensuring organizational goals are aligned may facilitate NC parks and recreation departments' promotion of physical activity (Mowen et al., 2009).

Directors in 2022 identified increasing culturally diverse programs as a higher priority than in 2007. Moreover, there was no significant difference between rural and urban directors in this regard. This shift in priority ranking does suggest an increase in directors' understanding of the importance of making physical activity opportunities more equitable for people who are underserved by their communities and points to greater awareness of diversity across all communities in the state. Between 2007 and 2022, the United States elected its first Black president and American newborns of color surpassed the number of white newborns. Unfortunately, racism and violence against people of color and other nationalities persists in America. The Black Lives Matter movement in 2020 brought renewed attention to the historical institutional discrimination against the Black community. Social unrest and the Black Lives Matter movement may have led directors to prioritize culturally diverse programs as they looked to the next fiscal year.

The participant parks and recreation departments located in bottom quartile County Health Rankings were more likely to work with county health departments, both informally and formally, especially compared to the top two quartiles. There was not a significant relationship between County Health Ranking and other community organizations. Although interesting that these counties were more likely to work with their county health department than others, this increased partnership could be evidence that county health programs and other resources are being targeted to counties most in need of addressing critical health issues and may stem from a greater awareness that parks and recreation services are linked to community health.

## Limitations & Opportunities for Future Research

While this study is delimited to North Carolina, the methods employed and significance of the results could be used as a baseline for more nationally and regionally comprehensive future research, particularly in the southeastern United States. Additionally, these results open up further questions on the success rates of partnerships within NC and other states. One study of partnerships reported a majority of resources and time is spent only in initiating partnerships, where more resources are essential in sustaining those partnerships (Frisby, 2004). Thus, evaluating the external benefits of these partnerships is also important. There were significant differences in the reporting of effort allocation among female and male directors in North Carolina. Future studies should focus on differences in the ways directors of different genders experience and report their departments' effort allocation and other key behaviors, perhaps by providing additional supports and mentorship as well as a clearer definition of the term "effort" (e.g., number of staff, finances, or time allotted toward programs or facilities). This study focuses on the perceptions of one position in the parks and recreation department. Future research could identify and survey departmental physical activity and partnership managers (program or admin staff, liaison, marketing, etc.). Because of limitations to the sample and method utilized, certain racial and ethnic groups were both over- and under-represented in the present study, as North Carolina public parks and recreation directors are largely white and male. Given the fact that some statistical differences between comparison groups (e.g., 2007 vs 2022, male vs. female) are small and, therefore, difficult to apply in practice, this study could also be strengthened by conducting focus groups or individual interviews that discuss some of the findings with a selection of directors and key parks and recreation staff from across the state.

The implications of this study's findings are relevant to both practitioners and researchers in parks, recreation, public health, and other related fields. Directors' perceptions of support and actual public and political support for physical activity opportunities and parks and recreation resources in general seemed to be consistent with one another in 2022. Directors can capitalize on this support by continuing outreach efforts and increasing community engagement; formulating a master plan that includes specific provisions for physical activity and health promotion; leveraging partnerships as a way to increase service and program capabilities; and refining their departments' marketing and communication of physical activity opportunities. According to a 2022 World Health Organization (WHO) report on physical activity, experts suggest equitable prioritization in the promotion of physical activity toward those who need it most: older adults and people with disabilities (WHO, 2022). Similarly, the US Guide to Community Preventive Services recently offered strong guidance on combining interventions with the provision of parks and recreation. Interventions included community engagement, public awareness activities, improved access, and programming (<https://www.thecommunityguide.org/findings/physical->

activity-park-trail-greenway-infrastructure-interventions-combined-additional-interventions.html). Thus, public parks and recreation departments in North Carolina should keep devoting effort toward programs and services for older adults but work more toward increasing effort for people with disabilities. This strategy includes eliminating the barriers that people with disabilities face, such as poor accessibility and a lack of inclusion and adaptive services.



Opportunities for research in North Carolina and out-of-state are abundant with this updated understanding of how directors are promoting physical activity and partnering with other organizations to increase community health. Departments that express commitment to serving the health needs of their communities (such as those of older adults and people of varying cultural identities) indicate higher levels of health partnerships with community organizations and their county health departments. The impacts of both the Great Recession and COVID-19 continue to affect publicly-funded parks and recreation departments in North Carolina. While public parks and recreation departments are recognized as a leader in promoting community health and physical activity, parks and recreation professionals should find comfort in the fact that they are not the only sector responsible for the provision of these programs and services (WHO, 2022). However, they are encouraged to take the lead in developing collaborative partnerships strategies that address problems like physical inactivity (Penbrooke et al., 2022).

Finally, it is critical for public parks and recreation departments to do more than just communicate the importance of physical activity; parks and recreation directors and physical activity leaders should implement policies that prioritize community health by providing and advocating for environments and opportunities conducive to physical activity. Engaging in health partnerships with county health departments, schools, and other local

organizations to help minimize financial and staffing constraints will allow each partner to more effectively serve groups who are most at-risk of chronic health conditions due to physical inactivity. Thus, all people who are equitably served by their community can become physically, mentally, and socially healthier.

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We have no conflicts of interest to disclose.

#### Author Contributions

Conceptualization, J.N.B., J.A.H., J.A.J., Methodology, J.N.B., J.A.H., J.A.J., Investigation, J.N.B., J.A.H., J.A.J., Writing—Original Draft, J.A.J., Writing—Review & Editing, J.A.J., J.N.B., K.J.L., J.A.H.

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