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## Physical Activity: A Comparison of Rural And Urban Older Adults' Needs and Preferences

Annette Contrady

*Mercy Hospital, annette.contrady@mercyic.org*

Sarah L. Francis

*Iowa State University, slfranci@iastate.edu*

Elgloria Harrison

*Lehman College, School of Health Sciences, Human Services and Nursing, elgloria.harrison@lehman.cuny.edu*

Doris Montgomery

*Iowa Department of Public Health (retired), dmontg@aol.com*

Catherine Rudolph

*Iowa State University, crudolph@iastate.edu*

*See next page for additional authors*



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### Cover Page Footnote

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### Authors

Annette Contrady; Sarah L. Francis; Elgloria Harrison; Doris Montgomery; Catherine Rudolph; Lillie Monroe-Lord, PhD, RDN, LD; Elmira Asongwed; Anne Marie Jean Baptiste; Tiffany Johnson-Largent PhD RDN LD; B. Michelle Harris; Tia D. Jeffery; and Pier Broadnax

## Physical Activity: A Comparison of Rural and Urban Older Adults' Needs and Preferences

ANNETTE CONTRADY<sup>1</sup>, SARAH L. FRANCIS<sup>2</sup>, ELGLORIA HARRISON<sup>3</sup>, DORIS MONTGOMERY<sup>4</sup>, CATHERINE RUDOLPH<sup>2</sup>, LILLIE MONROE-LORD<sup>5</sup>, ELMIRA ASONGWED<sup>5</sup>, ANNE MARIE JEAN BAPTISTE<sup>5</sup>, TIFFANY JOHNSON-LARGENT<sup>5</sup>, B. MICHELLE HARRIS<sup>5</sup>, TIA D. JEFFERY<sup>5</sup>, AND PIER BROADNAX<sup>5</sup>

AUTHORS: <sup>1</sup>Mercy Hospital. <sup>2</sup>Iowa State University. <sup>3</sup>Lehman College. <sup>4</sup>Iowa Department of Public Health. <sup>5</sup>University of the District of Columbia.

**Abstract.** Physical activity (PA) rates among older adults are low. We examined and compared the PA needs, preferences, and practices of 118 rural- and urban-residing older adults through focus groups and surveys. The sample was diverse (White = 42.4%, Black = 37.3%), mostly female, food-secure, and not meeting PA recommendations (38.1%). PA rates were lower for rural-residing older adults ( $p < 0.05$ ). PA motivators were health benefits and socialization, while barriers were cost, pain, low motivation, and health limitations. Preferred PA programs were described as age-appropriate, expert-led, and group-based. These findings provide insight regarding what to consider when planning PA programming for community-residing older adults.

### INTRODUCTION

Physical activity (PA) is one of the most important measures an older adult can take to support healthy aging. Regular PA and exercise provide substantial health benefits (Fielding et al., 2017; Vaz Fragoso et al., 2014; Verhoeven et al., 2016). It is recommended that older adults get a minimum of 150 minutes of moderate PA or 75 minutes of vigorous PA weekly, as well as 2 days weekly of muscle-strengthening activities (U.S. Department of Health and Human Services, 2018).

Despite the benefits of regular PA, only 17.6% of older adults meet the minimum PA guidelines (Centers for Disease Control and Prevention [CDC], 2017). Low PA and excessive sedentary time in older adults are strong predictors of physical limitations and disability (Vaz Fragoso et al., 2014), thus adversely affecting the ability to age in place, which is the ability to remain in one's own home and community independently regardless of age, ability, or socioeconomic status (CDC, 2009). It is vital to understand what Extension can do to help empower older adults to be more physically active, recognizing that this empowerment extends beyond the individual.

The social determinants of health (SDH) influence a person's ability to make healthy choices. The SDH constructs are the focus of the Cooperative Extension's National Framework for Health Equity and Well-Being, which emphasizes Extension's role in promoting health equity (Burton et al., 2021). The national framework incorporates the SDH constructs identified by the National Academies of Sciences, Engineering, and Medicine (2017) and healthy food

access, which is a key part of Extension's work (Burton et al., 2021). The 10 Cooperative Extension's National Framework for Health Equity and Well-Being constructs are:

- Access to healthy food
- Education
- Employment
- Health systems and services
- Housing
- Income and wealth
- Physical environment
- Public safety
- Social environment
- Supportive infrastructure

For Extension to promote health equity among older adults, we need to better understand motivators and barriers to meeting PA recommendations from the key informants' point of view. Many studies have examined the needs and preferences for PA programs among small, homogenous groups of older adults. However, to our knowledge, none of them examined the PA needs and preferences of rural- and urban-residing older adults and how they compare. Determining which needs and preferences transcend sociodemographic differences may enable the development

of Extension-delivered PA programming that is viewed as effective, culturally sensitive, and linguistically appropriate with older adults in urban and rural settings, thus promoting the development of interventions that would be suitable for national delivery.

The purpose of this study was to examine the PA needs and preferences of older adults from urban and rural communities and to assess for any associations between PA practices and sociodemographic attributes (i.e., age, location, race, and self-reported health). This study was approved and classified as exempt by the Institutional Review Boards at Iowa State University and University of the District of Columbia.

## METHODOLOGY

Thirteen focus groups (FGs) were conducted in Iowa and Washington, D.C., for adults ages 60 years and older over a 2-year period (Iowa in Year 1, Washington, D.C., in Year 2). Iowa and Washington, D.C., were the chosen locations because they are part of the USDA NE-1939 Multistate Project.

All Iowa FGs ( $n = 5$ ; 52 participants) were completed in Area Agency on Aging regions where the statewide Fresh Conversations program was offered in the summer of 2018. Two Iowa FGs were conducted in counties with an Economic Research Service [ERS] code of 2, which includes counties in metro areas of 250,000 to 1 million people. The remaining three FGs were conducted in more rural areas (ERS codes 6 [urban population of 2,500 to 19,999, adjacent to a metro area] and 9 [completely rural or less than 2,500 residents and not adjacent to a metro area]; U.S. Department of Agriculture Economic Research Service [USDA ERS], 2013). In the summer of 2019, eight Washington, D.C., FGs ( $n = 66$  participants) were conducted. Washington, D.C., participants were recruited from two volunteer programs for older adults (i.e., Respite Aide or Senior Companion). All Washington, D.C., FGs were conducted in areas with an ERS code of 1, which includes counties in metro areas of 1 million people or higher (U.S. Department of Agriculture Economic Research Service, 2013).

## DATA COLLECTION

All participants ( $N = 118$ ) completed the same 16-question sociodemographic and general PA questionnaire prior to the discussion. Iowa FG sessions ran an average of 54.3 minutes (range: 26.3–65.4 minutes). Washington, D.C., FG sessions ran an average of 103 minutes (range: 68.4–137.9 minutes). The longer sessions were due to interpretation services and technical difficulties. FG discussions were centered on seven questions (see Table 1). Iowa FGs were led by Ms. Rudolph

and Dr. Francis, with a graduate research assistant present to take notes. In Washington, D.C., each FG was led by different individuals who were part of a team of seven trained facilitators. The FG questions were based on the Health Belief Model constructs, as shown in Table 1 (Champion & Skinner, 2008). The Health Belief Model was chosen as the basis of this needs assessment, as it aims to gather information on the participants' awareness and risk perceptions, barriers, benefits, and motivation to engage in PA programming.

For this study, PA was defined as “any bodily movement produced by the contraction of skeletal muscle that increases energy expenditure” (World Health Organization, 2019). *Exercise* was defined as PA that is planned, structured, and repetitive for the purpose of conditioning one or more parts of the body (World Health Organization, 2019).

FG questions were initially written to be interactive, per the request of the funding agency in Iowa. However, during the first Iowa FG, it was noted by the research team that participants were perplexed by the question format, which hindered a robust discussion on PA and exercise. Therefore, the research team rewrote the FG questions by using an interview format of open-ended questions. The remaining four Iowa FGs and all Washington, D.C., FGs used the rewritten open-ended questions. Washington, D.C., reworded FG questions to be more culturally appropriate for their audiences. Although reworded, these questions still inquired after the same concepts and topics (see Table 1). All Iowa FGs were conducted in English, while the Washington, D.C., FGs were held in English, Spanish, and Chinese through the help of trained translators. All FGs were recorded and transcribed verbatim. Iowa and Washington, D.C., participants received a small gift (\$5 value).

## DATA ANALYSIS

Sociodemographic data were analyzed by using the IBM Statistical Package for the Social Sciences (SPSS) version 25.0. Sociodemographics were analyzed by using descriptive statistics. Sociodemographic and PA differences between locations were conducted with the Kruskal–Wallis test. The associations between age and/or location on PA level, moderate and vigorous PA, PA routine preference, and self-reported health were measured by using the Pearson chi-square test.

Framework analysis was used to identify recurring themes within group discussions (Rabiee, 2004). Each member of the research team in their respective location completed a theme analysis on an individual basis. Following the individual review, the researchers met for group analysis in their respective locations (i.e., Iowa researchers reviewed only Iowa data; Washington, D.C., researchers reviewed only Washington, D.C., data). Only one question from the first

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Iowa FG was used for theme analysis because it was asked in each group. No other questions from this initial Iowa FG session were used in theme analyses.

Following independent reviews, the Iowa and Washington, D.C., teams met in their respective groups for further theme analysis (i.e., indexing, charting, and interpreting), using standard FG protocols to create a

codebook used for qualitative analysis (Krueger & Casey, 2000; Rabiee, 2004). After the coding discussion, the research teams came to a consensus regarding the identified themes. The Washington, D.C., theme report was sent to Ms. Contrady of Iowa State University for further analysis, including identifying similarities and differences between identified themes by location.

**Table 1.** Focus Group Questions by Location

Health Belief Model category (constructs)	Question topic	Iowa FG questions	Washington, D.C., FG questions
Individual perceptions (perceived susceptibility, perceived severity)	Individual perceptions and experiences with PA	Questions were designed to garner responses related to their adult PA experiences. We would like you to think for a few minutes and select up to two images that best capture your feelings about exercise or PA either now or in the past (e.g., memories, emotions, thoughts, positive or negative experiences).	Tell us about your adult experiences with PA.
Likelihood of action (perceived barriers)	Barriers	What things get in the way or prevent you, your friends, or family members from being as active as you'd like to be?	What gets in the way or prevents you, your friends, or family members from being as active as you'd like to be?
Modifying factors (cues to action, self-efficacy)	Motivators	What motivates you and your peers to be active? What does not?	What are the things that motivate you to engage in physical activities? What type of PA do you enjoy the most?
Likelihood of action (perceived benefits)	Perceived benefits	Describe the benefits you experience from this activity (e.g., physical, emotional, health). How do you feel being physically active will impact your future?	Perceived benefits were noted in association to other questions asked.
Modifying factors (attributes that can and can't be changed)	Community support	In what ways do you feel supported by your community (i.e., your local county, city, and neighborhood) to be active every day? How could your community be more supportive?	In what way do you feel supported by your community?
Non-applicable (SMT-based question)	Ideal programming attributes	Some people like to have a leader or trainer when doing PA. What kind of leadership, if any, do you like to have for PA? If you were given the money and the power to create something that would help you and your friends be active, what would it be? What would it look like? Who would come and why?	Some people like to have a leader or trainer when doing PA. What kind of leader or trainer do you like to have for PA? What would be the ideal PA or exercise program?

**Note.** FG = focus group; PA = physical activity

## RESULTS

Table 2 presents the sociodemographic attributes of this sample. These data are presented overall (for both locations) and by location. Collectively, this racially diverse group (White = 42.4%, Black = 37.3%) was mostly female and between ages 70 and 79 years. The Washington, D.C., groups had a higher proportion of people who identified as Black than did the Iowa groups ( $p < 0.0001$ ). Most participants had a high school education or higher; however, Iowa reported higher levels of educational attainment ( $p < 0.0001$ ). Although most participants were classified as food-secure, more Washington, D.C., participants (12.1%) were classified as food-insecure than in the Iowa FG (1.9%;  $p = 0.048$ ).

The vast majority rated their health as “average or higher” (84.7%). However, there was a significant association between age and self-reported health for all participants overall ( $\chi^2(12) = 22.6, p = .031$ ) and for Washington, D.C., participants ( $\chi^2(12) = 22.6, p = .031$ ), with these groups having more participants ages 60 to 79 years reporting being in “somewhat good” to “very good” health compared to those ages 80 years and older (“somewhat poor/average”). Commonly reported health conditions included high blood pressure (16.9%), arthritis (13.4%), high cholesterol (12.5%), and knee issues (9.7%; data not shown).

The PA attributes of the participants are described in Table 3. Collectively, 63.6% reported being physically active in the past 3 months, whereas 36.4% reported a “somewhat high” PA level. However, many from both locations did not meet recommended moderate (38.1%) or vigorous (42.4%) PA levels, respectively. More Iowans were not meeting the moderate ( $p = 0.008$ ) or the vigorous ( $p = 0.003$ ) PA recommendations compared to Washington, D.C., participants. About one-third of all participants preferred having a regular PA routine. Home was the most-cited (37.6%) location of regular exercise. Despite home being the primary location of regular exercise, 39.8% preferred exercising in groups. No significant associations were detected between age and PA level, moderate and vigorous PA, or PA routine preference overall or by location.

Table 4 highlights the major themes identified. We detected many similarities in PA needs and preferences between locations, where most categories reflected three to four common themes. The area with limited similarities was preferred activities, which only had one overall common theme. The SDH constructs most strongly associated with the themes were income and wealth (i.e., finances, affordable cost); physical environment (i.e., transportation, weather, location); supportive infrastructure (i.e., age-appropriate classes), and social environment (i.e., socialization, exercise classes).

## INDIVIDUAL PERCEPTIONS AND EXPERIENCES RELATED TO PHYSICAL ACTIVITY

Iowa participants reported three major themes when asked about thoughts or feelings that arose when considering PA or exercise: happy, fearful/skeptical, and makes me feel better. Many noted that being physically active or exercising made them feel happy. Most noted post-activity happiness more than happiness while engaging in the activity. Some Iowans also stated that exercise made them feel better, while others added that they felt fearful and/or were skeptical of PA or exercise, mainly due to fear that activity would exacerbate any previous and/or current injuries/conditions. Others worried that they would be injured while performing the activity. Iowans reported walking, cycling, aquatic exercises, and home chores (e.g., cleaning, yard work) as their most common forms of PA.

The Washington, D.C., respondents did not offer much insight in terms of PA perspectives. They elaborated on specific types of exercises that came to mind when asked about perceptions and experiences related to PA. Across the racially diverse groups in Washington, D.C. (i.e., African Americans, Hispanics, Asians), all three stated that dancing was a common form of exercise, along with stretching, housework/cleaning, group fitness classes (e.g., aerobic classes, yoga, spin, dancing), and grocery shopping. The African American and Hispanic groups noted that exercises in bed (e.g., arm lifts, leg lifts) were common forms of PA/exercise. The Hispanic group relayed that they “exercise their arms and on the bed; some do stretches with the rubber band.” The Asian group specified that forms of “brain exercises,” such as games of mah-jongg and chess, were important perceived forms of PA and exercise for the purpose of reducing risk of cognitive decline (i.e., Alzheimer’s disease).

## BARRIERS TO PHYSICAL ACTIVITY AND EXERCISE

We noted four major themes among both locations regarding barriers to PA and exercise:

- Pain/fear of pain
- Finances
- Physical limitations
- Low motivation

Many participants from both locations reported having one or more physical issues with their body (e.g., joints, shoulders, arthritis). Therefore, it is not surprising that many were fearful of pain, thus limiting and/or preventing PA. In addition, many reported cost and finances as major barriers.

Further, physical limitations related to age-related changes, injuries, or mobility issues also adversely influenced

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**Table 2.** Sociodemographics of Participants (N = 118)

Sociodemographic characteristic	Overall (N = 118)	Iowa (n = 52)	Washington, D.C. (n = 66)
Age (in years)			
60–69	32 (27.1)	6 (11.5)	26 (39.4)
70–79	55 (46.6)	25 (48.1)	30 (45.5)
80 and greater	27 (25.4)	20 (38.4)	10 (15.2)
Missing	1 (0.8)	1 (1.9)	—
Gender			
Female	98 (83.1)	44 (84.6)	54 (81.8)
Male	18 (15.1)	8 (15.4)	10 (15.2)
Missing	2 (1.7)	—	2 (3.0)
Race <sup>a</sup>			
Asian	8 (6.8)	—	8 (12.1)
Black	44 (37.3)	1 (1.9)	43 (65.2)
Hispanic	8 (6.8)	—	8 (12.1)
White	50 (42.4)	50 (96.2)	—
Other	3 (2.5)	1 (1.9)	2 (3.0)
Missing	5 (4.2)	—	5 (7.6)
Marital status			
Divorced	23 (19.5)	7 (13.5)	16 (24.2)
Married	33 (28.0)	21 (40.4)	12 (18.2)
Separated	3(2.5)	—	3 (4.5)
Single, never married	18 (15.3)	4 (7.7)	14 (21.2)
Widowed	36 (30.5)	20 (38.5)	16 (24.2)
Missing	5 (4.2)	—	5 (7.6)
Highest degree completed <sup>b</sup>			
Less than high school	22 (18.6)	2 (3.8)19 (36.5)	20 (30.3)
High school/GED	44 (37.3)21 (17.8)	11 (21.2)	25 (37.9)
Some college	26 (22.1)	20 (38.5)	10 (15.2)
Associate degree or higher	5 (4.2)	—	6(9.0)
Missing	—	—	5 (7.6)
Perceived level of food security <sup>c</sup>			
Low food security	9 (7.6)	1 (1.9)	8 (12.1)
High food security	97 (82.2)	51 (98.1)	46 (78.7)
Missing	12 (10.2)	—	12 (18.2)
Self-reported health status			
Very poor	3 (2.5)	2 (3.8)	1 (1.5)
Somewhat poor	13(11.0)	5 (9.6)	8 (12.1)
Average	38 (32.2)	19 (36.5)	19 (28.8)
Somewhat good	34 (28.8)	11(21.2)	23 (34.8)
Very good	28 (23.7)2 (1.7)	15 (28.8)	13 (19.7)
Missing	—	—	2 (3.0)

<sup>a</sup>p < 0.0001; <sup>b</sup>p < 0.0001; <sup>c</sup>p = 0.048

**Note.** Total percentages may not equal 100 due to rounding.

**Table 3.** Participant-Reported Physical Activity and Exercise Levels and Preferences

Self-reported PA levels and preferences	Overall (N = 118)	Iowa (n = 52)	Washington, D.C. (n = 66)
Participated in regular exercise within last 3 months			
Yes	75 (63.6)	35 (67.3)	40 (60.6)
No	37 (31.4)	17 (32.7)	20 (30.3)
Missing	6 (5.1)	—	6 (9.1)
Self-reported PA level			
No activity	6 (5.1)	4 (7.7)	2 (3.0)
Low activity	17 (14.4)	8 (15.4)	9 (13.6)
Somewhat low activity	36 (30.5)	15 (28.8)	21 (31.8)
Somewhat high activity	43(36.4)	20 (38.5)	23 (34.8)
High activity	12 (10.2)	5 (9.6)	7 (10.6)
Missing	4 (3.4)	—	4 (6.1)
Self-reported time in moderate PA <sup>a</sup>			
< 150 minutes	45 (38.1)	26 (50.0)	19 (28.8)
> 150 minutes	33 (28.0)	17 (32.7)	16 (24.2)
Not sure	34 (28.8)	9 (17.3)	25 (37.9)
Missing	6 (5.1)	—	6 (9.1)
Self-reported time in vigorous PA <sup>b</sup>			
< 75 minutes	50 (42.4)	31 (59.6)	19 (28.8)
> 75 minutes	25 (21.2)	10 (19.2)	15 (22.7)
Not sure	36 (30.5)	11 (21.2)	25 (37.9)
Missing	7 (5.9)	—	7 (10.6)
Preference of PA routine			
I am not physically active.	15 (12.7)	6 (11.5)	9 (13.6)
I prefer a routine I repeat weekly.	38 (32.2)	18 (34.6)	20 (30.3)
I prefer variability.	35 (29.7)	17 (32.7)	18 (27.3)
No preference	27 (22.9)	11 (21.2)	16 (24.2)
Missing	3 (2.5)	—	3 (4.5)
Exercise location			
At home	50 (37.6)	29 (39.7)	21 (35.0)
Community/recreation center	21 (15.8)	7 (9.6)	14 (23.3)
Fitness center	9 (6.8)	6 (8.2)	3 (5.0)
Outdoors	19 (14.3)	15 (20.5)	4 (6.7)
Senior center	31 (23.3)	16 (21.9)	15 (25.0)
Sports club	2 (1.5)	—	2 (3.3)
Yoga/Pilates/barre studio	1(0.8)	—	1 (1.7)
Socialization during exercise			
I do not exercise.	12 (10.2)	3 (5.8)	9 (13.6)
Exercise alone	28 (23.7)	15 (28.8)	13 (19.7)
Exercise in groups	37 (39.8)	19 (36.5)	28 (42.4)
No preference	30 (25.4)	15 (28.8)	15 (22.7)
Missing	1 (0.8)	—	1 (1.5)

<sup>a</sup>p = 0.008; <sup>b</sup>p = 0.003

**Note.** PA = physical activity.



# Physical Activity Assessment

**Table 4.** Major Themes Identified

Health Belief Model category	SDH construct	Both locations	Iowa	Washington, D.C.
Individual perceptions	Non-applicable		Happy Fearful/skeptical Makes them feel better	None stated
<p>“[Exercise] makes me feel good, and I feel bad that I didn’t do it for 20 years.”</p> <p>“I exercise more when I hurt. . . . [I]t seems like I get better faster.”</p> <p>“I’m skeptical if I’m going to be worse off when I get through [exercise].”</p>				
Preferred activities	Non-applicable	Housework/cleaning	Walking Cycling Aquatic activities (e.g., swimming, water aerobics)	Dancing Stretching Group fitness Exercises in bed (e.g., lying down) Brain exercises
<p>“Some like to dance while cooking. Happy music from their countries changes their mood to joy.”</p> <p>“[E]xercise their arms and on the bed; some do stretches with the rubber band.”</p>				
Barriers	Income and wealth Physical environment Supportive infrastructure	<ul style="list-style-type: none"> <li>• Pain/fear of pain</li> <li>• Finances</li> <li>• Physical limitations</li> <li>• Low motivation</li> </ul>	Limited time/scheduling challenges	Lack of transportation Weather conditions Mood/emotional stress
<p>“[F]inancial is a problem for a lot of people.”</p> <p>“I think we sell ourselves pretty short sometimes, and we need to get that back in ourselves that we can do things. . . . People have a tendency, once you hit 50, to start saying, ‘You shouldn’t do that.’ Well, yeah, I should! I can!”</p> <p>“[Y]our time is so consumed over being with your loved ones that you don’t have time to do some of the things that you should have time to do [like exercise].”</p>				
Motivators	Social environment	Socialization <ul style="list-style-type: none"> <li>• Anticipated health benefits (e.g., weight maintenance, weight loss)</li> </ul>	Improved energy Pain relief	Cognitive benefits Longevity Benefits experienced by others (e.g., seeing peers lose weight or improve their metabolic markers)
<p>“[Socialization] is our primary reason for coming; otherwise, we are sitting at home alone.”</p> <p>“I want to keep my weight where I am . . . so that’s what motivates me to try and get as much exercise as I can.”</p> <p>“Exercising creates energy, so if you don’t exercise, then you don’t have the energy to exercise.”</p> <p>“[O]ne of the biggest motivators for me is, I got a bad neck . . . and if I don’t do it [exercise], I got a problem. . . . [A]s long as I exercise every day, I don’t have a problem.”</p>				
Perceived benefits	Non-applicable	Improved physical function (e.g., less stiffness), mood, and cognitive function General health benefits (e.g., lower cholesterol, pain relief) Increased life expectancy	Improved mental health	Balance/fall prevention Improved sex drive
<p>“I think it [PA/exercise] keeps your mind sharper.”</p>				

Community supports	Income and wealth Physical environment Supportive infrastructure Social environment	Senior center Community center facilities designated for PA (i.e., paths, trails) Access to PA facilities (i.e., transportation, affordable cost)	Centrally located facility Multipurpose use (i.e., swimming pool, track, trainers) Age-appropriate exercise classes Maintain residential sidewalks	Increase the number of facilities offering older adult-specific PA options
<p>“At the park, they built a new sidewalk all the way around . . . that makes it easier for someone to walk, especially if it’s on uneven ground.”                  “Sidewalks in the residential and downtown are terrible. . . [I]t’s not safe to walk on.”</p>				
Ideal program attributes	Income and wealth Health systems and services Supportive infrastructure	Personal trainers/geriatric-specialized health professionals Multipurpose function Affordable	Water-based activities	Bilingual instructors Incentives for activity (i.e., insurance, fruit, and vegetable vouchers)
<p>“I think leaders [trainers] that are willing to show you options of things you can do . . . if they are doing things that are physically impossible for you.”                  “There would be a centrally located facility with both a lap pool so people could swim laps and a warm pool for people to do warm water exercises . . . and a track around that would have the right surface, and the ability to have ongoing classes of various kinds for exercises, and hobbies, and socializing . . . [and] free transportation for those that cannot get there themselves.”</p>				

**Note.** PA = physical activity; SDH = social determinants of health.

PA levels of Iowa and Washington, D.C., participants. The Washington, D.C., groups cited medical problems and back problems as factors that prevented them from moving or being mobile. An Iowa participant commented that the perception of physical limitations can be a large barrier for many. Low motivation toward being active and exercising regularly was another barrier across locations.

Limited time and/or scheduling challenges were noted as major barriers for Iowa participants. One participant voiced that she acted as her mother’s primary caregiver, limiting her time available to be physically active. They noted such obstacles as facility operating hours, when equipment was available, and few age-appropriate activities.

PA barriers that emerged for the Washington, D.C., group but not for the Iowa groups were the lack of transportation and weather conditions. Although these topics were mentioned during the Iowa FGs, they did not emerge as a barrier theme. In addition, Washington, D.C., participants reported that their mood and/or emotional stress limited their interest in being physically active or in taking part in regular exercise. This was not identified as a major theme in the Iowa groups.

**MOTIVATORS TOWARD PHYSICAL ACTIVITY AND EXERCISE**

Two major PA and exercise motivators for both locations were socialization and anticipated health benefits. FGs noted that taking part in group classes or having another person participating in exercise with them was a strong motivator

for being active. Washington, D.C., participants noted that they would specifically enjoy dancing classes, which offered opportunities for socialization. The anticipated health benefits associated with exercise were highly motivating factors for both locations. In Iowa, those benefits were weight maintenance, energy, and pain relief.

In Washington, D.C., key motivators included perceived health benefits experienced by other participants, cognitive benefits, and the long-term benefit of longevity. Washington, D.C., participants were inspired to be active by hearing accounts of others’ health achievements due to being physically active, such as living longer. Motivation appeared to differ based on ethnicity and race. Motivating factors for Asian participants in Washington, D.C., were specific changes in health status associated with the activity (e.g., lower cholesterol, weight loss). Similarly, Hispanic participants in Washington, D.C., were motivated because exercise kept them active and healthy, allowing them to continue with normal activities, such as going to work and being able to support their families. Finally, African Americans in Washington, D.C., reported longevity and extended life as major motivators.

**PERCEIVED BENEFITS**

Collectively, participants perceived exercise and PA positively. Perceived benefits of PA and exercise for all participants included:

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- Improved physical function
- Cognitive function
- Increased life expectancy
- General health

Improved physical function encompassed improved and/or maintained leg strength; weight maintenance; extended life; maintenance of independence; ability to recover from injuries, surgery, or other health issues more quickly; and ability to continue caring for family and grandchildren. All participants reported that being active on a regular basis increased their life expectancy and longevity.

Respondents from both locations also reported cognitive benefits associated with PA. Moreover, both locations described numerous additional health benefits, such as improved mood and mental health, lower cholesterol, maintenance and/or improvement of blood glucose and blood pressure, and pain relief. Washington, D.C., explained additional benefits, such as the ability to complete activities of daily living (e.g., grocery shopping), balance and fall prevention, improved sexual drive, and less stiffness.

## COMMUNITY SUPPORT FOR OLDER ADULT PA AND EXERCISE

The most common community supports for PA and exercise among older adults, reported by both locations, were the local senior center, community center, or facilities specifically designated for PA (e.g., fitness centers, parks, trails). Across both locations, transportation and affordable cost were recommended to improve access to facilities that support PA. Iowa reached consensus that a centrally located facility that served a multiuse purpose (e.g., swimming pool, track, trainers) and provided age-appropriate exercise classes to increase socialization would be ideal. Among Iowans, access to such a facility included transportation to and from, affordable/cost-reduced memberships, age-appropriate activities, and flexible schedules.

Additionally, the Iowa FGs revealed that many communities appeared to be making more walkable parks but were neglecting residential sidewalks. Washington, D.C., participants reached consensus that an increase in access to facilities would be supportive. In addition, they reported that increasing the number of community facilities offering a variety of age-appropriate fitness classes would be supportive. Furthermore, Washington, D.C., participants agreed that affordable or cost-reduced access rate would further support their ability to engage in PA and exercise.

## IDEAL PROGRAMMING ATTRIBUTES

Both locations described an ideal PA and/or exercise program/facility as multipurpose and affordable, with

personal trainers and a swimming pool. When expounding on the term *personal trainer*, participants described someone who is knowledgeable of appropriate exercises/methods, helpful at demonstrating these exercises, and trained in administering PA to the geriatric population. Such trainers would be able to help seniors adjust exercises based on physical limitations, health conditions, PA level, and so forth.

Iowans reported that they enjoyed water activities, such as water aerobics and water walking, and viewed these exercises as appropriate for their physical limitations. Individuals in Washington, D.C., noted that they would also benefit from having bilingual instructors at community/senior centers, a physician on site for consults, and incentives (e.g., insurance incentives, vouchers for fruits and vegetables).

## DISCUSSION

Our findings reveal that the PA needs and preferences of community-residing older adults and the associated SDH constructs in rural and urban areas are similar, despite sociodemographic differences. The generalizability of these results is limited due to the small sample size of participants and the nature of qualitative research. However, given the diversity of the present study's population, these results provide valuable information regarding PA programming needs and preferences. As with any research based on self-reports of health-related data, there is the possibility for bias, as participants may feel inclined to report information to the research team that fabricates their health status. Another limitation to note is the possibility that the FG setting can bring about a situation known as "group-think" bias, wherein members of a group may choose to agree with other's opinions and possibly report information they wish the moderator to hear versus the truth. Furthermore, the participant population included older adults who were already engaging in their local programs for older adults; thus, the feedback received may not be representative of those who are not active in these programs.

Senior and community centers were seen and used as one of the primary ways in which communities supported PA and exercise for older adults in both locations. The National Council on Aging notes that senior centers provide older adults with an inclusive environment that offers a multitude of services, such as community resources, meals and nutrition assistance, health and wellness programs, fitness options, volunteer and civic engagement opportunities, and social and educational opportunities (National Council on Aging, 2015).

Additionally, senior center use is influenced by race and language, living alone, environment of residence (e.g., senior apartments, public housing), mobility status, activity of daily living impairments, and being over age 75 (Schneider

et al., 2014). This statement reflects the composition of the population in the present study, relating to why the senior center was perceived as a positive resource by the participants. The senior center likely fosters a feeling of inclusivity and social interaction for community-residing older adults as well as the provision of a multitude of services to attendees, instilling greater feelings of “self-perceived benefits” from attendance.

Therefore, an effective strategy in promoting low-cost or free research-based PA programming is for a collaboration between two valuable national resources: Extension and senior centers. This partnership would be in line with the Health Equity and Wellbeing framework recommendation to establish partnerships to advance health equity (Burton et al., 2021). Local Extension units should work with their local senior centers and community centers, as areas of support for PA would be beneficial for increasing levels of activity among this population. Extension-delivered PA programming offered through the senior center or community center models would be effective in helping older adults make lifestyle changes, such as improved PA self-efficacy, PA strength, and wellness (Chaudhary et al., 2015; Seguin et al., 2013; Sowle et al., 2015; Strand et al., 2012).

The barriers identified for both locations (e.g., pain, fear of injury, lack of motivation, being “too old”) align with previous studies (Baert et al., 2015; Bethancourt et al., 2014; Costello et al., 2011). The fear of injury and pain highlights the importance of facilities providing increased access to mobility and rehabilitation healthcare professionals on site, such as physical therapists and certified athletic trainers. Additionally, it demonstrates a need for PA education opportunities that address how to safely be active to reassure older adults that the benefits of PA outweigh the risks.

We also detected some potential cultural differences in the way FGs in both locations perceived the benefits of exercise, given the demographic variations between the mostly rural and predominately White sample of Iowa participants and the urban, ethnically diverse sample of Washington, D.C., participants. Thus, those who develop older adult PA programs may benefit from tailoring educational and or promotional messages toward specific motivators. To increase the likelihood that a participant will sustain PA behaviors post-educational program, addressing behavioral factors (i.e., self-efficacy), creating health contracts, offering regular performance feedback, and addressing safety concerns should be done regularly during the program (Cress et al., 2005). Other identified PA barriers were time and scheduling challenges, finances, and limited transportation. These barriers suggest that PA programs should be offered at a variety of times and locations as well as virtually to promote greater accessibility.

Washington, D.C., respondents identified emotional distress as a barrier to being active. A review by Stults-Kolehmainen and Sinha (2014) reported multiple instances in which varying types of stress, such as psychological stress, objective stress, and life events, were related to reduced levels of PA. It is also important to note some social factors related to stress among racial/ethnic minority groups, which was the predominant demographic in the Washington, D.C., participant pool. These include racism/discrimination (Carter, 2007; Williams, 2018), community violence (Dubé et al., 2018), gentrification (Tran et al., 2020), and health disparities/inequities (American Psychological Association, 2018), which increase the odds of emotional stress. Furthermore, there are some links between urbanization and environmental stressors, such as heavy traffic, pollution, and crime rates, placing individuals residing in fast-paced urban areas at increased risk for emotional distress (Gruebner et al., 2017), although urban areas with more green space in their infrastructure were associated with better outcomes on well-being (Krefis et al., 2018). Identifying emotional distress as a PA barrier highlights the importance of integrating trauma-informed care practices within Extension programming to create a space where participants feel safe, respected, and valued (Small & Huser, 2019).

Socialization and anticipated health benefits were major motivators toward being physically active among this study’s participants. Socialization, related health benefits, maintenance of physical strength, improved energy, and ability to perform activities of daily living and other activities they enjoy are common PA motivators for older adults (Baert et al., 2015; Bethancourt et al., 2014; Costello et al., 2011). Socialization is an important aspect of aging. It aids in the prevention of cognitive decline and encourages maintenance of mobility within the community. Both influence the overall perception of life satisfaction among community-residing older adults (Hwang et al., 2018; Lee & Choi, 2019). Research suggests that older adults find exercising in group settings, with people of like ages, more appealing than exercising alone and are more likely to adhere to a regular exercise regimen if partaking in group-based exercise programs (Beauchamp et al., 2007, 2018). Extension is skilled in being able to provide this opportunity. Extension-delivered PA programs could promote socialization via group exercises and/or group classes to further encourage older adults to be active while gathering with peers.

Communities may better support older adult PA and community walkability by providing microscale improvements (e.g., streetlights, sidewalks/protected walkways) and larger-scale permanent infrastructure, such as municipal parks and recreational facilities (Klann et al., 2019). In many communities, parks have been shown to increase walkability of the community and, ultimately, the overall PA level (Salvo

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et al., 2017; Todd et al., 2016). Thus, walkability studies and studies measuring perceived level of environmental safety are useful in exploring the PA level of community-residing older adults, as the body of literature extrapolates on ways the immediate environment affects one's level of PA. Communities may also benefit from examining the built environment and community-residing older adults' perceptions of the community's ability to support an adequate amount of PA. Extension could aid in this effort through partnering with government agencies and departments of public health as well as by providing trainings and tools (Jensen et al., 2019; Seeger et al., 2014). This would better enable the community to address the concerns of older residents to increase their PA, health, and ability to remain independent.

Furthermore, those living in more diverse areas where multiple languages are spoken would benefit from having bilingual instructors and/or educational materials available in different languages at community/senior centers to provide additional instruction and appropriate education while remaining culturally sensitive. Multilingual instruction and education would further address pain-related barriers to exercise as well as increase feelings of self-efficacy regarding specific movements and activity regimens.

Creativity in the content of educational topics about PA will be critical because audiences vary based on sociodemographics, physical abilities, cultural interests, and so on. This present study addresses such details by noting that older adults who reside in more diverse areas preferred dancing as a form of exercise in addition to walking or other common forms of exercise. Attention toward activity preferences of diverse populations, racially and environmentally, should be considered to promote inclusiveness in public health programming.

## CONCLUSION

Our study sought to explore the PA and exercise needs and preferences of older adults and to determine whether these differed between rural and urban areas. We were able to gather valuable information to guide the creation of effective community-based, Extension-delivered PA programs for older adults that would focus on their needs and preferences. In doing so, these programs may lead to increased PA and exercise levels, helping older adults maintain and/or improve physical function and overall health, thereby enabling older adults to delay physiological aging regardless of chronological age and remain independent.

## KEY TAKE-AWAY POINTS

Extension programs should explore older adult access to existing exercise facilities in their communities (i.e., transportation, cost, age-appropriate programming/

equipment, access to fitness instructors) to determine how they can best serve their older adult audiences.

PA programs should promote the benefits or “rewards” to the participants because incentives are a key motivating factor in choosing to be active.

Racial/ethnic variations in social factors and emotional well-being must be considered while developing strategies to meet activity-related preferences and reduce perceived barriers to PA and exercise.

Future research should examine older adults' perceptions of their built environment to determine the level of influence the community has on PA levels.

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