ann. behav. med. (2018) 52:743–751
DOI: 10.1093/abm/kax038

REGULAR ARTICLE

Correlates of Physical Activity in Urban African American Adults and Older Adults: Testing the Social Cognitive Theory

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Published online: 7 February 2018

Abstract

Background Older adults, especially ethnic minorities continue to be the least active segment of the U.S. population. Health disparities are evident in that African Americans participate in less physical activity (PA) and are less likely to meet PA guidelines compared with non-Hispanic Caucasians.

Purpose Using the social cognitive theory (SCT), this study examined the individual, social, and physical environmental correlates of PA behavior.

Methods Participants (N = 110, females = 96, mean age = 64.8 ± 5.7 years) were urban, community-dwelling African American adults and older adults who completed demographics and psychosocial questionnaires assessing (SCT) constructs of self-efficacy, outcome expectations, social support, and perceptions of the physical environment. A latent factor PA construct represented self-report (Godin Leisure-time Exercise Questionnaire, Physical Activity Scale for the Elderly) and objective (accelerometer worn for 7 days) PA.

Results The direct and indirect effects of SCT constructs on PA were tested using structural equation modeling, and the overall model fit was adequate (comparative fit index = 0.94, root mean square error of approximation = 0.04, standardized root mean square residual = 0.05, chi square = 67.03, p = .17). Results indicated that: (a) self-efficacy was the strongest direct predictor of PA (β = 0.79) and also influenced outcome expectations (β = 0.457, p < .001); and (b) outcome expectations directly (β = 0.36) predicted PA. Among demographic moderators, only age was inversely associated with outcome expectations (β = −0.28). Social support or physical environment did not influence PA.

Conclusions Our findings suggest that self-efficacy and outcome expectations are important correlates of PA for African American adults and older adults. Future studies should examine the direct and indirect impact of PA interventions targeting self-efficacy and outcomes expectations to promote behavior change.

Keywords Aging • Self-efficacy • Structural equation modeling • Minority populations • Social cognitive theory

Introduction

Research has repeatedly demonstrated that regular physical activity (PA) is associated with reduced risk of mortality and morbidity. Physical inactivity is now identified as the fourth leading risk factor for global mortality and a leading risk for noncommunicable diseases such as cardiovascular disease, diabetes, and cancer [1]. As a result, health organizations around the world have delineated age-specific guidelines and recommendations for PA as it relates to health [2, 3]. Specifically, the PA guidelines for older adults recommend the accumulation of at least 150 min of moderate intensity PA over the course of the week to obtain health-related benefits. In addition, older adults are encouraged to engage in muscle strengthening activities at least 2 days of the week.

In spite of the convincing health benefits, most adults and older adults do not engage in regular PA. Segments

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of the U.S. population that are least active include women, older adults, those of lower socioeconomic status, and ethnic minorities. Disparities are evident in that African Americans participate in less PA and are less likely to meet PA guidelines compared with non-Hispanic Caucasians [4, 5]. According to the National Health Interview Survey (NHIS), Caucasians were most likely to meet PA guidelines (51.2%) whereas African Americans were the least likely to meet PA guidelines (43.4%) [6]. Additionally, women (17.6%) were less likely to meet the PA guidelines than men (25.4%) based on age-adjusted estimates from the NHIS 2014.

Researchers have designed and implemented a variety of interventions targeting PA behavior change to boost participation in PA across different age groups and ethnic minorities. It appears that theory-driven interventions are more likely to be effective than atheoretical approaches to health promotion [7]. The social cognitive theory by Bandura [8] has been one of the widely applied frameworks to PA promotion. The SCT postulates a core set of determinants: self-efficacy, goals, outcome expectations, and sociocultural factors that interact with each other to influence behavior. A recent review of 44 studies concluded that social cognitive theory, specifically the sociocultural factors of self-efficacy, outcome expectations and goal setting accounted for 31% of the variance in PA [9]. Few studies in this review examined PA correlates for African American group, and the role of ethnicity as a moderator was not examined by the authors as the data were inconsistently reported in the literature. A review of studies examining correlates of PA among women from diverse racial and ethnic groups concluded that older age and lower educational levels were consistently associated with lower PA levels [10]. In addition, social support was identified as a positive determinant for all ethnic and racial groups. There is also some evidence for rural versus urban residence and its associated environmental characteristics to influence participation in PA. One study reported that African Americans living in segregated areas rated their neighborhoods as less pleasant for PA and having fewer PA facilities compared with African Americans living in more diverse, less segregated areas [11]. Other surveys have drawn similar conclusions, and it appears that the physical characteristics of the environment such as safety, crime, neighborhood aesthetics, and access to exercise and recreational facilities are correlated with intentions to be physically active and self-reported PA regardless of urban or rural residences [12, 13]. In spite of this environmental evidence, not much is known about other sociocognitive factors that may affect PA. Collectively, the reviews [9, 10] have highlighted a number of limitations including poor study quality, inconsistent measures to assess the theoretical constructs, and use of self-report measures to assess PA or often simply the intention to be active.

In the light of the existing evidence for the SCT, the present study was conducted to identify correlates of PA in African American adults and older adults living in an urban environment. Both, self-reported PA using questionnaires and accelerometers were used to objectively assess PA. The correlates were conceptualized within the SCT framework and included individual (demographic, self-efficacy, and outcome expectations), social (support from family and friends), and physical environment factors (neighborhood walkability).

Methods

Procedure and Participants

One hundred and ten (96 females, mean age = 64.77 ± 5.73 years) African American and older adults were recruited through the Wayne State University's list serves and the Institute of Gerontology's Healthy Black Elders Center between December 2014 and December 2016. Tabachnick and Fidell [14] suggest that N should ideally be $50 + 8(k)$ for testing a full regression model, where k is the number of independent variables. Considering the number of model variables and calculations based on the formula and G*Power 3.1, we intended to recruit 98 participants. Flyers were advertised at community centers and urban residential facilities around the Detroit-Metro area to recruit participants. Inclusion criteria were: age range 55–75 years, African American, English speaking, ambulatory, and willing to visit the university campus to complete assessments. Participants who responded to our advertisements were screened on the phone to meet the eligibility criteria. Eligible participants were scheduled for a 2-hr study visit to the university to complete the study assessments. Participants were also offered to attend one of three focus groups to obtain qualitative data regarding barriers, motivations, and preferences for PA participation. A subset of the participants attended the focus groups (independent of the present study procedures) [15]. Parking was provided, and participants were given a $20 gift card for study participation. Before data collection, all participants read and signed the informed consent approved by the University's Institutional Review Board. Trained research assistants administered the consent and questionnaires.

Measures

Demographics

Participants were then asked to complete a demographic questionnaire documenting their age, income, education, employment, marital status, and self-reported health status. The Seca scale and digital stadiometer

(model: Seca 763) were used to record every participant's height and weight.

Physical activity

PA was assessed both, subjectively and objectively for all participants. Participants completed the Godin Leisure-Time Exercise Questionnaire [16], a brief four-item scale used to assess usual leisure time exercise habits of varying intensities. The total weekly leisure activity score was calculated using the recommended equation (9×Strenuous) + (5×Moderate) + (3×Light). We also used the PA Scale for the Elderly [17] to assess the frequency of participation in leisure activities (e.g., outdoor walking, light, moderate, and strenuous sport and recreation, and muscle strengthening) by indicating never, 1–2 days/week (seldom), 3–4 days/week (sometimes), or 5–7 days/week (often). Items were summed, and a total score was computed based on validation studies conducted with older adults [18]. Additionally, participants were given an ActiGraph accelerometer (Model: wGT3X-BT, ActiGraph, LLC, Pensacola, FL) and were instructed to wear the monitor during the day (waking hours), on the nondominant hip for a period of 7 consecutive days. Participants were provided with a log to record the times they wore and took off the device. In line with the existing norms, a minimum of three valid days and 10 hr of wear time/day was required for a day to be considered valid [19]. The National Health and Nutrition Examination Survey cut points for older adults were used to score the raw data, and they were categorized as sedentary (<100 counts/min), light (101–2,019 counts/min), and moderate to vigorous (>2,020 counts/min) PA [20].

Self-efficacy

Two measures of self-efficacy were used: the six-item Exercise Self-efficacy Scale (EXSE; [21]) and the Barrier Self-efficacy Scale (BARSE; [22]). The EXSE assesses participants' beliefs in their ability to exercise five times per week, at moderate intensities, for 30 or more minutes per session at 2-week increments over the next 12-week period. This measure has been used widely in the social cognitive literature in understanding PA [23, 24]. The BARSE assesses participants' perceived capabilities to exercise three times per week over the next 2 months in the face of commonly identified barriers to participation (e.g., bad weather, time constraints, etc.). For both measures, participants respond on a 100-point percentage Likert scale ranging from 0% (not at all confident) to 100% (highly confident). Scale scores are obtained by averaging the confidence ratings for the questionnaires yielding a possible range of 0 to 100. The internal consistency of the EXSE for this study sample was high, Cronbach's $\alpha = 0.993$ and Cronbach's $\alpha = 0.949$ for the BARSE.

Outcome expectations

Participants completed the 16-item Perceived Decisional Balance Scale [25] that assesses the perceived benefits or pros of PA (five items; e.g., increased energy and better ability to perform routine tasks) and the perceived barriers or cons to PA (five items; e.g., too tired and not enough time). Good internal consistency and validity have been reported for this measure [25]. Subjects responded to the items on a five-point Likert scale from "(1) not at all important" to "(5) extremely important". The subscale scores for pros and cons were calculated by averaging the respective items and the scale reliability was $\alpha = 0.811$ for the pros subscale and $\alpha = 0.577$ for the cons subscale. Given the low internal consistency for the cons subscale, it was excluded from the analyses and only the pros subscale was used as a measure of perceived benefits of PA.

Social support

Social support for PA from friends (15 items) and family (5 items) was assessed with the Social Support for Exercise Scale [26] in which participants rated how often family and friends engaged in acts that were supportive of PA in the past 3 months, from 1 (none) to 5 (very often). Other than good test–retest reliability and internal consistency, criterion-related validity for this measure has also been reported, in that social support for PA has been significantly associated with actual PA, $r = 0.23$ to 0.46 [26]. The scale reliability for this study sample was $\alpha = 0.953$ for the friends' subscale and $\alpha = 0.967$ for the family subscale.

Perceived physical environment

The Neighborhood Environment Walkability Scale–abbreviated (NEWS-A; [27]) was used to assess physical environmental characteristics of accessibility, walkability, aesthetics, and crime. These subscales were chosen as they have been identified in the literature as determinants of PA [12, 13]. Items were scaled from "1 (strongly disagree)" to "4 (strongly agree)," with higher scores indicating a more favorable value of the environmental characteristic. The test–retest reliability and validity for the subscales used in this study have been well established [27] and was $\alpha = 0.811$, 0.698, 0.851, and 0.836 for accessibility, walkability, aesthetics, and crime, respectively.

Power and Data Analyses

A preliminary power calculation was conducted before the start of the study. For a clinically meaningful effect size ($f = 0.15$) with an α of 0.05 and power of 0.80, the analysis yielded a sample size of 68 participants for a regression model. Tabachnick and Fidell [14] suggest that

N should ideally be 50 + 8(k) for testing a full regression model, where *k* is the number of independent variables. Considering the number of study outcomes, and calculations based on the formula and G*Power 3.1, we planned to recruit a total of 98 participants and successfully met and exceeded that number.

Mplus software (Mplus Version 6.0, Los Angeles, CA) was used to test the latent variables (Fig. 1) and the latent variable structural equation model to test the fit of the social cognitive model of PA (Fig. 2). Correlations between all study measures are also reported. Using full-information maximum likelihood estimation, goodness of fit for these models was determined using the chi-square statistic, Standardized Root Mean Square Residual (SRMR), Root Mean Square Error of Approximation (RMSEA), and Comparative Fit Index (CFI). The chi-square statistic assesses the absolute fit of the model to the data [28]. Values for the RMSEA approximating 0.06 or lower demonstrate good model fit [29, 30]. The CFI suggests that a minimally acceptable fit value is 0.90 [31], and that values approximating 0.95 or greater indicate good fit [30].

Results

One hundred and ten African Americans (96 females) with a mean age of 64.8 ± 5.7 years participated in the study. The demographic characteristics and accelerometer-based PA outcomes are reported in Table 1. Most of the participants had an annual income between $25,000 and $50,000 (40%), had attended between 1 and 3 years of college or technical school (41.8%), and were retired (52.7%). More than half the participants reported being in good health (56.4%), despite the average body mass index of 30.87 which is categorized as obese. On average, participants wore the accelerometer for 6.56 days with time spent in moderate to vigorous activity being 12.25 min/day.

Latent Factors—The Measurement Model

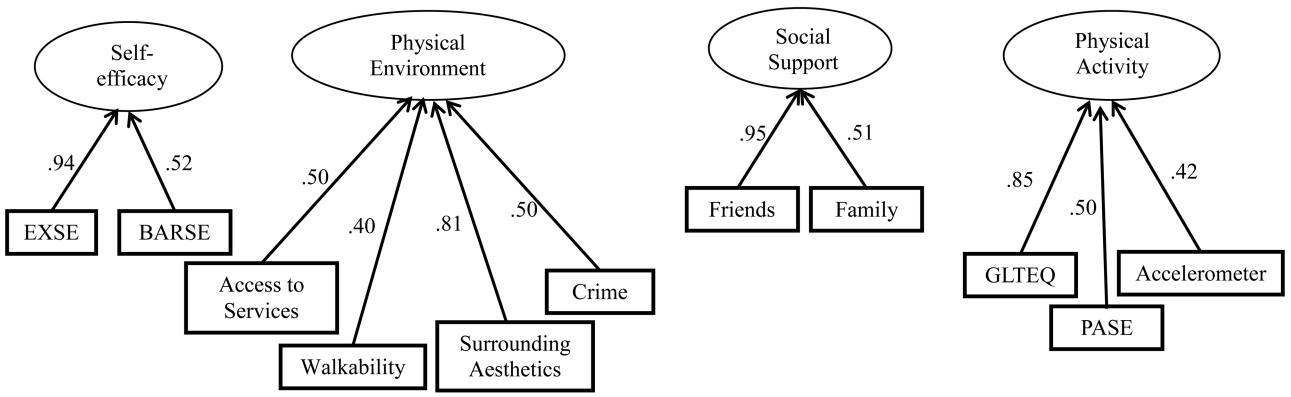
Before analyzing the structural model, we evaluated the measurement model to confirm the factor structure of the latent variables of self-efficacy, PA, social support, and environmental characteristics (Fig. 1). The measured variables showed significant correlations ranging from −0.248 to 0.498 as seen in Table 2. The latent variables were allowed to correlate, and the overall model fit was excellent: $\chi^2 = 39.29$, $p = .41$, CFI = 0.99, SRMR = 0.06, RMSEA = 0.02.

Social Cognitive Model—The Structural Model

Figure 2 demonstrates the social cognitive model of PA examining the direct and indirect relationships of the model constructs with PA. The hypothesized structural model was also a good fit to the data: $\chi^2 = 60.03$, $p = .30$, CFI = 0.97, SRMR = 0.06, RMSEA = 0.02. Significant ($p < .05$) and nonsignificant pathways and standardized factor loadings for the model paths are reported in Fig. 2. Self-efficacy (β=0.775, $p < .001$) was the strongest direct predictor of PA. It also influenced outcome expectations (β=0.457, $p < .001$) which directly (β=−0.305, $p = .045$) predicted PA. Both social support (β = −0.104, $p = .34$) and physical environment (β = 0.082, $p = .53$) failed to predict PA behavior.

Discussion

This study examined the individual, social, and environmental correlates of PA among African American and older adults. Self-efficacy was the strongest predictor of PA behavior, a finding consistent with studies among older adults [32] as well as other populations [9]. Additionally, outcome expectations played a significant role in both, directly and indirectly predicting



Notes: EXSE=exercise self-efficacy scale, BARSE-barriers self-efficacy scale, GLTEQ=Godin leisure time exercise questionnaire, PASE=Physical activity scale for the elderly

Fig. 1. Measurement models for the latent variables. *BARSE* barriers self-efficacy scale; *EXSE* exercise self-efficacy scale; *GLTEQ* Godin leisure time exercise questionnaire; *PASE* Physical activity scale for the elderly.

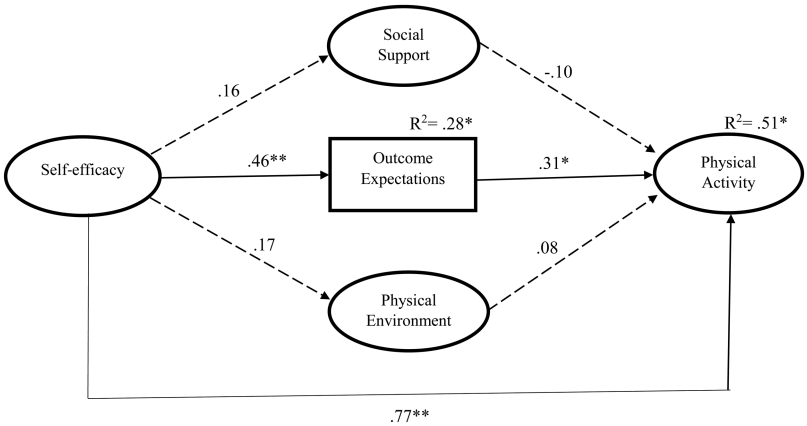


Fig. 2. Testing the study variables within a social cognitive theory framework.

PA via self-efficacy. These findings demonstrate that the African Americans who exhibited higher levels of self-efficacy had positive outcome expectations, resulting in higher levels of PA engagement. Social support and environmental characteristics were not associated with PA participation in this sample. These data corroborate with the recent systematic review and meta-analysis [9] examining the utility and effectiveness of social cognitive variables in predicting PA behavior. Social cognitive theory accounted for 31% of the variance in PA across all populations, and sample age moderated the effect size, with older ages associated with greater variance. Similar to our study findings, sociostructural factors including social support and perceived environment were not associated with PA. Our study findings also partially replicate those by Becofsky et al. [33] who found increases in self-efficacy to mediate increases in PA in two large community samples of midlife and older adults. They also found social support to be a mediator in one of the two study samples, only in the absence of self-efficacy.

Self-efficacy is a core construct of the social cognitive theory. Self-efficacy is defined as an individual's beliefs in one's capabilities to successfully execute a task and has been consistently identified as a determinant of PA adoption and maintenance among older adult populations [32, 34]. Outcome expectations on the other hand, reflect beliefs that a given behavior will produce a specific outcome, and have been positively associated with PA [35]. Outcome expectations are comprised of individual subdomains, and future research should examine the independent role and effect of physical, social, and self-evaluative outcome expectations [36] within this sample to acutely identify targets for PA interventions. Across all populations [9] and specifically within ethnically diverse groups [10, 37] higher self-efficacy, fewer barriers and greater perceived benefits or pros of PA are perhaps the most consistent correlates of PA. The significant pathways observed in our model mirror the findings in the literature pertaining to higher self-efficacy and greater perceived benefits.

Although the SCT postulates the influence of social support and physical environment on PA, both these factors did not emerge as significant predictors of PA behavior. Reviews examining the role of environmental factors on PA have found mixed evidence. A study of determinants on PA in rural and urban women aged 40 years or older [13] used the same environmental measure—NEWS-A and did not find significant results for any safety items in relation to PA. In some studies, accessibility, opportunities, and aesthetic attributes had significant associations with PA, whereas weather and safety showed less-strong relationships [12]. There is no consensus and the results largely vary based on population characteristics such as age, ethnicity as well as rural or urban environmental settings. The data from our study seem to suggest that neighborhood crime did correlate with accelerometer-measured PA ($r = -0.248$) which is consistent with the findings by Wilcox et al. [13] who reported urban women were more likely to report higher crime than rural women. In response to an open-ended question at focus groups conducted on a subset of these participants ($N = 20$), some environmental factors including crime ($n = 4/20$) and accessibility to exercise facilities ($n = 2/20$) emerged as barriers to PA [15]. However, when examining the social cognitive model in this study, self-efficacy and outcome expectations superseded this environmental factor of crime in predicting PA participation. It is also important to note that urban versus rural residence has been classified in the literature, and this study based on the participants' reported zip code. Such classifications based purely on geographical boundaries may not accurately reflect the quality of neighborhoods and the built environments. Comparisons between residential communities based on objective or public data about crime reports, socioeconomic makeup, proximity to parks and recreation areas, municipal zoning codes, and financial health may be stronger correlates of PA behavior and should be examined in conjunction with participant perceptions of their neighborhood.

Table 1 Demographic Characteristics for the 110 African American Participants

Characteristic	Mean ± SD
Age	64.77 ± 5.73
Height (inches)	64.87 ± 3.32
Weight (lbs)	184.64 ± 37.07
Body mass index	30.87 ± 5.81
PA (accelerometer, min/day)	
Sedentary time	568.58 ± 96.29
Light PA	252.24 ± 76.47
Moderate to vigorous PA	12.26 ± 14.14
	N (%)
Gender	
Female	96 (87.27)
Male	14 (12.72)
Marital status	
Married	25 (22.72)
Partnered/significant other	1 (0.90)
Single	33 (30.00)
Divorced/separated	31 (28.18)
Widowed	20 (18.18)
Income[a]	
Less than or equal to $25,000	27 (24.77)
$25,001–50,000	44 (40.36)
$50,001–70,000	24 (22.01)
$70,001–100,000	7 (6.42)
$100,001 or greater	7 (6.42)
Education	
Partial high school	1 (0.90)
High school graduate	12 (10.90)
1–3 years of college or technical school	46 (41.81)
College/university graduate	25 (22.72)
Master's degree	22 (20.00)
PhD or equivalent	4 (3.63)
Employment status	
Full time 35+ hr	24 (21.81)
Part time, less than 35 hr	5 (4.54)
Retired, working part time	9 (8.18)
Retried, not working at all	58 (52.72)
Unemployed	2 (1.81)
Full-time homemaker	2 (1.81)
Other (volunteering)	10 (9.09)
Self-reported health	
Excellent	6 (5.45)
Very good	37 (33.63)
Good	62 (56.36)
Poor	5 (4.54)

[a]One participant chose not to disclose this information.

PA physical activity.

Social support in the PA literature has been conceptualized as support from family and friends as assessed in the present study, as well as support from exercise partners or exercise leaders [36]. Although it has been extensively studied, there is mixed evidence for its influence on PA behavior. The social aspect of exercising with others has been identified as an incentive to be physically active by black women [38, 39]; however, King et al. [40] reported in their study that women preferred to exercise on their own rather than in a group setting. Social support was reported as both a motivator (emotional encouragement) and a barrier (peer pressure from family, friends, coexercisers, or leaders) to PA in the focus groups conducted on a subset of this sample [15]. It has been suggested that the type of social support depends on the needs of the exerciser at any given point in time [41]. For example, companionship support from a friend of spouse can serve to motivate a person to be active, whereas a ride to the gym or a gym membership may serve as tangible instrumental support to actually engage in or maintain PA behavior. More studies are needed to understand the forms of social support (emotional, informational, and instrumental) desired by minority groups for successful adoption and maintenance of PA. Social influence, i.e., real or imagined social pressure as well as social obligations such as caregiving or babysitting that may be common among older adults need to be studied in an effort to comprehensively understand the dynamics of these social factors in influencing PA behavior.

This is the first study among African American adults and older adults to have examined the social cognitive theory using both, subjective self-report PA questionnaires and objective accelerometer-based measurements. This has been highlighted in recent reviews [9] as a larger sample of objective measurement models can increase the precision of the PA variance estimate. Our major limitation remains the majority of female participants. In spite of recruitment and advertising targeted toward males and females, the final sample consisted of only 14 males. Previous studies in this minority population have focused on female populations [40, 42, 43], and understanding the levels and patterns of PA among African American males as well as other ethnic groups including male Caucasians remains an understudied area of research. Future research also needs to examine the correlates of PA among older African American populations beyond this study's age range of 55–75 years and a larger sample size to allow subgroup comparisons based on age, PA levels as well as other demographic characteristics. Baert et al. [44] conducted a systematic review which highlighted the need to examine motivations and barriers to PA for the oldest old, not only for minority groups but also other race and ethnicities. The use of the Perceived Decisional

Table 2 Correlations Between the Study Variables

	Age	NHANES: daily MVPA	GLTEQ	PASE	EXSE	BARSE	Social support: family	Social support: friends	PADBS pros	NEWS–access	NEWS–walkability	NEWS–surrounding aesthetics	NEWS–crime
Age	1												
NHANES: daily MVPA	−0.26**	1											
GLTEQ	−0.04	0.35**	1										
PASE	−0.13	0.17	0.44**	1									
EXSE	−0.07	0.26**	0.44**	0.27**	1								
BARSE	0.03	0.22*	0.25**	0.12	0.50**	1							
Social support: family	0.04	−0.09	0.06	0.08	0.12	−0.04	1						
Social support: friends	−0.02	−0.05	0.02	−0.03	0.16	0.07	0.50**	1					
PADBS pros	−0.27**	0.10	−0.01	−0.01	0.33**	0.27**	0.01	0.09	1				
NEWS–access to services	−0.04	0.02	0.24*	0.17	0.19	0.19	0.15	0.06	0.02	1			
NEWS–walkability	−0.09	−0.06	0.01	0.05	−0.03	−0.05	−0.08	−0.19*	−0.10	0.30**	1		
NEWS–surrounding aesthetics	−0.02	0.07	0.13	−0.01	0.14	0.11	0.01	0.01	0.00	0.39**	0.33**	1	
NEWS–crime	−0.06	−0.25**	0.19	0.07	0.03	0.02	0.03	−0.06	−0.14	0.21*	0.10	0.44**	1

**Correlation is significant at the 0.01 level;

*Correlation is significant at the 0.05 level.

BARSE barriers self-efficacy scale; *EXSE* exercise self-efficacy scale; *GLTEQ* Godin leisure time exercise questionnaire; *MVPA* Moderate to Vigorous Physical Activity; *NEWS* Neighborhood Environment Walkability Scale; *NHANES* National Health and Nutrition Examination Survey; *PADBS* Physical Activity Decisional Balance Scale; *PASE* Physical activity scale for the elderly.

Balance Scale is another limitation as it does not effectively capture the construct of outcome expectations. Future studies should use comprehensive tools such as the Multidimensional Outcome Expectations for Exercise Scale [45] that assesses physical, social as well as self-evaluative outcome expectations of PA as well as measures of self-regulation and goal setting. Finally, although our latent variables for social support and physical environment included multiple measures, they were obtained from the same questionnaire. Future studies can incorporate technological advances such as the use of objective neighborhood environmental indicators such as crime statistics, proximity of the participant residence to parks and recreational facilities, and socioeconomic makeup of the community that can supplement measures such as the NEWS. Longitudinal studies with multiple time points will allow us to establish robust causal relationships between the model variables.

In conclusion, the social cognitive theory remains a promising and effective framework to understand the determinants of PA behavior even among African American adults and older adults living in urban environments. Self-efficacy and outcome expectations were the strongest predictors of PA in this sample. These findings suggest that behavioral interventions targeted toward changing the individual's attitudes, thoughts, confidence to exercise, and expectations could be more effective than social support or physical environment change approaches. Although social support and physical environment did not show any associations in this study, future studies should continue to examine those

influences on PA behavior. Multiple measures of social support may help us better understand this complex construct and its dynamics with social influence and social obligations. More empirical evidence is needed about the built and perceived environmental factors that may affect PA. Moving beyond the traditional classifications of urban versus rural based on zip codes, may allow us to examine other built environment attributes that may impact PA. Future research should continue to examine and improve our understanding of the correlates of PA for African American populations with the goal of developing successful behavior change interventions to promote PA.

Acknowledgments Thank you to Dr. Peter Lichtenberg and Dr. James Jackson for their mentorship as part of the Michigan Center for Urban African American Aging Research. Thank you to all research participants who volunteered for this study and the research staff who contributed to the data collection process. This study was supported by a grant from the National Institutes of Health, P30 AG015281, and Michigan Center for Urban African American Aging Research.

Compliance with Ethical Standards

Authors' Statement of Conflict of Interest and Adherence to Ethical Standards There are no conflicts of interest.

Ethical Approval Research reported in this manuscript was approved by the Wayne State University—Institutional Review Board. All data collection took place at Wayne State University.

Informed Consent All participants provided written informed consent prior to participation.

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