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African-American Women's Perceived Influences on and Strategies to Reduce Sedentary Behavior

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Abstract

We conducted three focus groups to examine African-American women's perceptions of factors influencing and proposed strategies for reducing sedentary behavior (SB). QSR NVivo 9 facilitated coding and organization of themes. Although participants ($n=32$, 53.6 ± 6.0 years, 75% obese) were unfamiliar with the term SB prior to focus groups, they described spending large amounts of time in SB at work and home. Participants viewed leisure-time SB as necessary and important but were amenable to decreasing SB at work. Participants also identified personal, social, and environmental factors contributing to SB as well as novel strategies for reducing SB. Results suggest that messages aimed at reducing SB in African-American women should be positively framed, viewed within a socioecologic framework, and target non-leisure time SB. SB was viewed as a form of stress reduction; thus, future research might want to emphasize alternative stress management techniques that simultaneously reduce SB.

Keywords

African Americans; culture; determinants of health; environment; exercise; health behavior; minorities; qualitative research; women's health

The prevalence of obesity has increased over time in adults, especially in racial and ethnic minority populations (Flegal, Kruszon-Moran, Carroll, Fryar, & Ogden, 2016). Compared to other racial/gender subgroups, African-American women have the highest prevalence of obesity (57.2%) (Flegal et al., 2016), putting them at risk for a variety of health conditions. Furthermore, weight loss interventions have been less successful in African-American compared to White women (Fitzgibbon et al., 2012). In a national effort to stem the crisis of obesity in the United States, the state of African-American women stands out as a particular challenge. Effective preventive strategies to reduce the obesity burden in this population are needed.

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Many adults spend large segments of their day engaged in sedentary behavior (SB) (Matthews et al., 2008). In contrast to physical activity, which refers to any bodily movement that increases energy expenditure above resting levels, SB refers to activities such as sitting that do not increase energy expenditure substantially above resting levels (Pate, O'Neill, & Lobelo, 2008). People can be characterized as both highly active and highly sedentary (e.g., a person who runs in the morning and primarily sits at work for 8-10 hours). SB is also distinct from physical inactivity, a term typically used to describe a person who does less than 10 minutes per week of moderate-intensity physical activity. Although most of the evidence is epidemiologic, a growing body of research has linked SB with negative health outcomes, independent of time spent in physical activity (Biswas et al., 2015; Brocklebank, Falconer, Page, Perry, & Cooper, 2015). Specific types of SB, particularly sitting, television viewing, and commuting, have also been linked to obesity and weight gain (Chau, van der Ploeg, Merom, Chey, & Bauman, 2012; Inoue et al., 2012; Sugiyama, Ding, & Owen, 2013), and to poorer weight loss maintenance in African-American women (Taylor, Kimbro, Evans-Hudnall, Haughton McNeill, & Barnes, 2015), although other studies have not shown these associations (Thorp, Owen, Neuhaus, & Dunstan, 2011). Intervention studies to decrease SB in a variety of settings are becoming more frequent, although this research is in its infancy (Gardner, Smith, Lorencatto, Hamer, & Biddle, 2016) and might benefit from mixed-method evaluations (Cooley, Pedersen, & Mainsbridge, 2014). African-American women could be strong candidates for SB reduction interventions, yet little is known about how African-American women view SB.

Very few studies to date have explored the perceptions of and strategies to reduce SB in adults (Chastin, Fitzpatrick, Andrews, & DiCroce, 2014; Deliens, Deforche, De Bourdeaudhuij, & Clarys, 2015; Teychenne, Ball, & Salmon, 2011; Trinh et al., 2015; Van Dyck, Mertens, Cardon, De Cocker, & De Bourdeaudhuij, 2017), and studies focused on African-American women have not been conducted. The present study examined factors that might impact SB in African-American women. Specifically, this study used a social ecological framework (Bronfenbrenner, 1979) to: (a) describe how personal, social, and physical environment (work and home) factors influence time spent in SB among African-American women, and (b) explore novel strategies to reduce SB among African-American women in the home, work, and social environments.

Methods

Participants

African-American women between the ages of 45-65 years who were willing to participate in a small group discussion were eligible for the study. Study participants were recruited using a convenience sampling approach through listserv announcements (i.e., university, social group, church), campus flyers, and word of mouth. Recruitment messages advertised the study as a focus group to understand how African-American women view lifestyle factors and health. Further, the recruitment messages indicated a particular interest in understanding how African-American women view SBs (with examples provided). Interested individuals were screened by telephone to confirm eligibility and scheduled for one of three sessions. All women who were scheduled for a focus group attended. Three

women outside the target age range were allowed to participate because they (a) met the age requirement at the time of recruitment but not during actual participation in the focus group (i.e., >65 years old) or (b) met eligibility age requirements within a year of participation in the focus group (i.e., <45 years old).

Instrument

The social ecological framework (Bronfenbrenner, 1979) guided the development of the semi-structured focus group guide. Questions were designed to better understand personal, social, and physical environmental influences on women's SB and possible intervention approaches for reducing SB (see Table 1). The guide was pilot tested with one group of ten African-American women (not included in the present analyses). Participants also completed a brief descriptive survey; specific items included age, education level, employment status, health status, and presence of health conditions. Trained staff obtained height and weight for the calculation of body mass index (BMI, kg/m²).

Procedures

The University of South Carolina Institutional Review Board approved this study prior to data collection. All participants provided written informed consent. Three focus group sessions were conducted in private rooms on campus. The lead author, Dr. Tatiana Y. Warren, an African-American doctoral student who had completed coursework and previously participated in leading focus groups at the time of the study, moderated the groups. The moderator told participants that the focus groups were done as part of her dissertation requirements and that she was interested in health promotion in the African-American community. Once each focus group session ended, participants completed closed-ended surveys and had height/weight measurements taken. We did not conduct repeat focus groups. A professional transcription agency transcribed the audio-recorded focus groups verbatim, and Dr. Tatiana Y. Warren verified the transcripts. Dr. Sara Wilcox took field notes for comparison with transcripts. We did not return transcripts to participants for comment and/or correction. Participants received \$20 on study completion.

Analysis

The constant comparison method (Corbin & Strauss, 2008) was the primary framework for coding transcripts. This method uses an inductive approach wherein categories and concepts emerge from the data. The data analysis process continues to link categories and concepts until theoretical saturation is achieved, that is, when the final focus group produces little or no change to the codebook (Guest, Bunce, & Johnson, 2006). A recent article empirically demonstrated that three focus groups appears adequate to identify the most prevalent themes (Guest, Namey, & McKenna, 2017). We classified participant responses into categories based on the social ecological model, and developed a codebook based on these categories.

We removed participant identifiers from transcripts prior to coding. Two raters independently coded the transcripts and met to discuss any agreements until consensus was reached. We analyzed data within each focus group, as well as across focus groups, to identify similarities and difference in the emerging themes. We used these themes to summarize the data. Ideas frequently cited within (by at least three participants) and between

(in at least two groups) focus groups were considered themes. The research team used qualitative data management software QSR NVIVO (version 9, QSR International PTY Ltd) to facilitate coding. The consolidated criteria for reporting of qualitative research (COREQ) checklist guided the reporting of this study's method and results (Tong, Sainsbury, & Craig, 2007).

Several techniques were used to establish the trustworthiness of the study, using the criteria of credibility, dependability, and confirmability (Lincoln & Guba, 1986). We did not address transferability. For credibility and confirmability, we used triangulation of sources (three focus groups, each with distinct participants) and analysts (two coders, one not part of the research team, and one person who reviewed codes and coded text). For dependability and confirmability, an informal external audit was conducted where a person outside the research team reviewed the process and the product of the study. Dr. Tatiana Y. Warren's mentor, Dr. Sara Wilcox, also used a strategy consistent with peer debriefing by providing support, critique, and written evaluation to the principal investigator. Also in support of confirmability, a detailed description and record of the research steps were kept (audit trail).

Results

Participant Characteristics

The 32 participants from the three focus groups self-identified as African-American women (100%) (See Table 2, Supplementary file). Participants were 53.6 ± 6.0 years old, and most were employed (75.0%) with at least some college education (87.5%). Although most participants (87.5%) rated their general health favorably, a majority (69.0%) also reported having at least one health condition.

Focus Group Themes

Focus group discussions lasted, on average, two hours. We used verbatim quotations from the transcripts of the digital audio recordings to illustrate themes. We organized themes into the following categories, consistent with the social ecologic framework and goals of the study: women's perceptions and beliefs, personal factors, social factors, physical environmental factors, and strategies to reduce SB. Theoretical saturation was reached; very few additional codes were added to the codebook when coding the third and final focus group.

Perceptions/beliefs toward SB.

Three subcategories emerged related to participants' perceptions and beliefs toward SB: (a) knowledge of the term SB, (b) definition of SB and common sedentary activities, and (c) SB-associated health outcomes.

Knowledge of term SB.

Most participants had limited or no prior knowledge of the term "sedentary behavior." Participants interpreted SB as the absence of PA rather than as a distinct behavior. This lack of knowledge was reflected across all three groups and is illustrated by the following statement: "I never heard that word before, but I know what it means because I looked it

up...I never knew it's for sitting." Participants reported becoming more aware of their time spent sedentary as a result of the focus group: "I've heard the word, and I mean I know what it is, but just from when you were speaking earlier, it really made me think about how much I do sit."

Definition of SB and common sedentary activities.

Participants were asked to describe what made a behavior sedentary versus active. Participants most frequently defined SB as "sitting and not moving." One participant said, "When you're just sitting there, you realize you're not active, you're not moving...your body is not in motion." Participants also described SBs common among women their age including TV viewing and leisure sitting (e.g., reading, socializing with family and friends) at home and occupational sitting and computer-use at work.

Associated health outcomes.

Participants were greatly concerned about health problems, and they believed SB caused a number of health problems. Obesity, hypertension, high cholesterol, diabetes, heart disease, and arthritis were the most frequently cited conditions. One participant commented: "I leave work, drive home, sitting, get home, sit some more to watch TV, which in turn I have put on some weight." Participants further attributed weight gain as the cause of other health problems:

Well sitting leads to weight gain, obesity leads to other things, like heart disease, diabetes. It all stems-well, a lot of it stems from that [*weight gain*]. Even arthritis. You know? So all of that is because of weight gain.

Personal Factors Related to SB.

Daily routines, health, age, and enjoyment were the most frequently described personal factors related to SB.

Daily routines.

SB was common in all participants' daily routine. However, the environment and participants' likes and dislikes influenced the amount of time spent sedentary. A representative comment was:

When I go home, it's me and my remote. You know? It's like I love TV, so I have to force myself to physically go out and do something. But usually...if I'm not at the track [*walking*], I'm home with the remote at night every night, and I don't like housework.

Participants also noted differences in SB at home versus work: "I find myself more physically motivated at work than I am at home, because at home, you tend to become a couch potato because it's certain stories you wanna watch on TV, and you just sit there." Weather also appeared to impact daily routines and SB: "I go home, I eat, and I do what I call the horizontal lay. Bed, TV, remote. That's me. That's my winter life. When it's cold, I can't move."

Health-related.

Participants described how health-related problems contributed to higher levels of SB. Participants indicated that both physical and mental health conditions contributed to large amounts of time spent watching television. Depression and stress were frequently discussed. For example: “I had been laying in the bed, dealing with depression for six months prior to that, and literally, I was in the bed, to the bathroom, maybe get something to eat, and go back to bed, watch TV.” Similarly, “I tend to believe that a lot of our problems and conditions are due to stress. We stress ourselves about a lot of things unnecessarily...then you don’t want to do anything but sit, relax and watch TV.” Despite the role of depression and stress in contributing to SB, there was recognition that SB also contributed to these emotions. For example, one woman stated:

Being sedentary doesn’t allow one to work off stress, and that’s a major benefit of activity and variety of activity... It can help to change how one is feeling physically and emotionally. But if you’re totally sedentary, those different endorphins don’t come into play.

Age-related.

Age was another frequently reported personal factor influencing SB. Participants described why they were more active and/or less sedentary in earlier times of their life (e.g., they had children in the home, physical work demands, and more community involvement). Regardless of their age, participants consistently described their current age as their most sedentary time. For example,

You know, I’m older now, and I’m trying to do some of the things that I used to do when I was younger, but my body is saying, “No you can’t do that.” ...Something has got to let up so for me, I do it, sedentary. I’ll sit, but I don’t really like it.

Enjoyment.

Most of the participants expressed positive attitudes toward SB. They believed SB was enjoyable and necessary for stress management, relaxation, personal time, and productivity. For example,

For me, when I sit down, I feel like I’ve earned this. I’ve been going out all my life. I’ve earned this, and as we get older, we need to think of it as something like something we deserve because we got some people don’t have sense enough to sit down. There’s a lot of people don’t have sense enough to sit down, to try to realize that you need to take care of yourself, and you don’t wanna look so worn out.

Despite the generally positive attitudes about SB, participants articulated differences between leisure-time SB and work-related SB. Overall, participants were dissatisfied with work-related SB and satisfied with home-based SB. As a result, participants were more amenable to decreasing SB at work. One participant noted: “Sitting all day, trying to make production. That was ...repetitious. So it’s hard. It was nerve wracking. If I could just get up and just have a job, where I can just go, go, go, it would help.” She further commented about home: “But at home and stuff, sitting is relaxing for me. It’s a time to exhale.”

Social Factors.

Participants cited social factors, including cultural influences, social role constraints, and family and friend influences, as important contributors to SB.

Cultural influences.

Participants discussed shifts in culture as reasons why women engage in higher amounts of SB. Participants described how society currently does less manual work and has more conveniences that lead to increases in SB. One participant commented:

I think that life itself has driven us that everything is so convenient that we sit and wait for this. We sit when we go to the doctor. We sit when we - we're forever sitting whatever we do. We just sit, and I think it's just a whole total lifestyle - the convenience of everything... you don't have to cook supper anymore; you sit in your car. You go through drive-thru. You're sitting there, waiting on your dinner. You come home. You sit down, and you sit some more and you sit until you take a bath and go to bed. You know everything is just so convenient for us now.

Several participants commented specifically on the effects of cultural shifts unique to African-Americans on SB. For example:

I think about it a lot of time, too, what makes us sedentary a lot is that when I was growing up... I worked in a tobacco field, and have been working ever since I was eight years old. So it was always work, work, work, move, move, move, move. Then once I got older and went to school, then college, and got an office job where you sit, and you aren't trying to do nothing else but that [*sit*]. You know, just sitting and relaxing because all your life, that's all you was used to running, moving, moving, moving, moving. And once you as an Afro-American finally got a job, one that you find your white society has, one sitting down, an office job, you don't want to do no more than that [*sit*].

Participants discussed how cultural differences related to geography influenced SB, highlighting differences between the Northeast and the Southeast:

I'm from New Jersey, and I find that people, women here in the south are more sedentary because they don't go anywhere. And being here in Columbia, you're definitely sedentary because nobody walks anywhere. If you're in New York, you're going to walk everywhere because the taxis are too expensive, the subways are [*cramped/crowded*] - you don't want to be bothered, so oh, it's ten blocks away. I'll walk there. I don't care if it's ten degrees outside. I'm still going to walk there. I tell myself, "If I was in New York, I'd be skinny," because I'd be walking everywhere. And I find that here I am in Columbia, in the winter, I am more sedentary.

Social role constraints.

Social roles define expectations for behaviors in a social group. Social role constraints are any restrictions by a social role which might impact behavior (Henderson, Bialeschki, Shaw, & Freysinger, 1996). Participants reported that the multiple roles (e.g. mother, wife/partner,

caregiver, grandparent, employee, church leader) women play in their families and communities contribute to these constraints. Caregiving and social role stressors were two sub-themes that emerged as important social role constraints influencing SB.

Caregiving activities were the most frequently reported contributor to time spent in SB. Many participants described caring for children, grandchildren, aging parents, and/or multiple generations. The caregiving activities appeared to be inherently sedentary. For example:

During the week is when I'm reading a book to our little one. So I would say we spend [2-3 hours sitting] with books - I read about two or three books to him, and then we have some little game things.

Participants generally described caregiving as exhausting and thought that being "busy" (although not necessarily physically active) in their caregiving role made them seek out SB as a reprieve. One participant noted:

I really look forward to my eight hours of sitting when I get to work because my home life is just busy, one thing after another, from homework, trying to get dinner done. For example, yesterday - and I know time management has a lot to do with this because my daughter is in elementary school. She's got dance on Tuesdays. I got class on Tuesdays. So it's a lot of shifting and shuffling that I have to do. So it's ongoing until I lay my head down on the pillow at 1:00 in the morning.

Participants reported daily stress related to their social roles. SB served as a coping mechanism for the high perceived stress in both home and work contexts. For example:

I love old, classic movies, and that's what I do right before going to bed. I prepare myself to get rid of all this frustration from the work day, and then I go to bed and try to get a good night's sleep, wake up, and start the whole routine over the next day.

The multiple roles participants played also contributed to stress. One participant said:

It gets hectic. It gets hard. I am a student, and I'm four classes from graduating, so I, too, am in college. So that gets a little tough, too, because not only do I have my [elementary-aged] daughter's schoolwork to check when I get in, but I also have my work to do...I also have a 21-year-old [son] that's getting ready to graduate.

Family and friend influences.

Participants believed that family and friends influenced time spent in SB. Eating and entertainment were the most frequently reported SB done with family and friends. The majority of comments focused on family supper time within the home or eating out. For example: "Sometimes, we just do a potluck, and everybody just brings something, and we just sit around, and we might play spades [card game], or we just hang out together and talk about how the week went." In addition to listing specific SB with family and friends, many participants also discussed how these sedentary times were enjoyable and important (and sometimes rare) times for the family to come together. One participant commented: "We have like family discussions. You know, like if there's something that bothers someone,

we'll sit down and say, 'How was your day?' We have a family discussion, and that can be sedentary."

Physical Environment Factors.

Similar to personal and social factors, participants perceived that the physical environment influenced choices to be active or sedentary. The work and home environments were highlighted as two locations for high amounts of SB. Specifically, the presence of a television at home and a desk/computer at work and time spent commuting appeared to greatly influence time spent sedentary.

Television at home.

Many participants described watching television as part of their daily morning and/or evening routines and as a way to provide stress reduction. For example:

"When I go home, I usually watch the Gospel [*television program*]. I pray. Then I go to bed. That's it." Another participant highlighted the connection between a sedentary lifestyle and watching TV: "I decided I was leading a sedentary lifestyle because when I'm at home, I'm one with my remote. The removal of the television was also linked to decreased sedentary time: "I usually wake up, and I read. I moved the television out of my room. That forces me to get out of the bed, so I haven't been watching television."

Desk and/or computer at work.

Although approximately 75% of participants were employed, most participants, regardless of current employment status, reported that desk jobs and increases in computer use at work contributed to their SB. They described the work environment as the main contributor to SB: "Your employment is the main thing, too, because most of your job is sitting at a desk and computer for most jobs." Another participant added that in the work environment you must make a conscious effort to reduce sedentary time: "And most jobs, you know, you're sitting behind a desk. You're not moving unless you make yourself move." Conversely, a few participants reported jobs, or specific tasks in their jobs, that required activity or that did not involve sitting. One participant said, "When I am in the office I just sit at my desk, but when I am in the field I am moving around constantly." Another participant added:

For me I don't get to sit at work. I work in the kitchen so I am constantly on my feet. I am tired when I leave work so when I go home I just want to sit and lay down.

Commuting in a vehicle.

Commuting in a vehicle was a theme that bridged home and work environments. For some, a large amount of time spent sedentary was done in a vehicle.

I head out the door, and I take my granddaughter to school, drop her off, come back to the house, finish doing little touch ups that I didn't do before I left the house. And then it's off to work, with my husband and brother dropping me off to work... we get our coffees every morning at McDonald's and then go from there to work

where I sit at the desk every day. “Thank you for calling customer service. This is ...”...In the evenings we are driving everywhere to run errands.

Strategies to Reduce SB.

The moderator asked participants to describe strategies that might help them or other African-American women decrease SB. These questions presented a few challenges in the focus groups because participants were generally protective of their leisure-time SB and/or home environments. They made it clear that they were not interested in a program that would “take away” their sedentary leisure-time. One participant said,

I fundamentally disagree with a program to reduce SB. I fundamentally disagree with that. I wouldn’t go to a program to reduce SB. That’s not gonna attract me. It’s going to attract me based on something that I want to do...it’s like when they talk about Lent. There is the “you can give up something,” or “you can add something.” I’m trying to add something.

Thus, most of the discussion focused on strategies for reducing SB in the work environment and increasing PA during leisure-time. Participants thought reducing sedentary time at work was both important and necessary for reducing health risks. Because of this unanticipated perceived difference between environments, message framing emerged as an important component to consider for marketing health promotion interventions for reducing SB in African-American women. For example:

The first thing that I would say is that for African-American women, and for me, I am more motivated by hearing the question, “what are the ways in which I can bring more movement into my life?” And at home - because when we talk about African-American women - we most need more sedentary that is purposeful and not sedentary that has no purpose.

Enlisting social support, changing social activities, building PA into daily routines, reducing stress, taking breaks at work, and using prompts were the most frequently mentioned approaches to decreasing SB among African-American women.

Enlist social support.

Participants frequently discussed enlisting social support as a strategy for reducing SB. However, most participants described a link between social support and increasing PA. One participant suggested,

Get with others to be more involved. Because we have a tendency to just go home and do nothing. But if you have somebody that has an interest or someone that says, “Oh, let’s go out walking,” you may not want to walk [*but*] this person may be highly energetic that will not leave you alone until you get up and you start walking.

Participants believed that social support for healthy behaviors was lacking but greatly needed among African-American women:

We as African-American women don’t support each other, so we need to learn how to support each other, even when we exercise and anything that we’re going

through, we need to support each other. So I would say support your sisters in making sure that they get outta the house. Make sure that you walk and you do things that you need to do.

Change social activities.

Participants suggested changing social activities from SB (e.g., dining out, movies, talking on the phone, computer-use) to more active behaviors (e.g., going for a walk, walking meetings) to decrease sedentary time. One participant summarized the need for this change, “Socializing with family and friends need not be limited to eating.” Another participant described the need for social changes in the work environment,

Bring down that server for a minute - that we all use to send each other inter office e-mails, and you be the e-mail today. I don't know if you would turn off the listserv or pretend the listserv doesn't exist, and instead of e-mailing, you can print up the e-mail and take it to the person's office. If somebody is upstairs, you take the stairs instead of the elevator, then you can kind of log in how many minutes it took you to do that, and then you would be able to have a measureable reduction in your sitting time. The human e-mail!

Build physical activity into daily routines.

Participants suggested building PA into daily routines as another strategy for reducing SB. Trying different physical activities and/or joining different exercise classes could achieve this change. The key to building PA into the lives of participants centered on trying new and enjoyable activities as described in the following statement:

Be open to try new things. For example, I've always wanted to belly dance. So we went belly dancing. We tried something new, and it was a way to get out of the house, something that was different, something that was new, and something that was fun.

Reduce stress.

As previously noted, participants frequently described using SB as a way to cope with and manage stress. Participants described stress management as a necessary component to include in a health promotion program to reduce SB.

Take breaks at work.

Many participants were displeased with the amount of time spent sitting at work. Taking breaks at work was a frequently suggested strategy for increasing movement and decreasing time spent at the desk or in front of a computer. Participants suggested standing up, moving around, or stretching during these breaks. One participant said, “Stand for a while and move around at your desk if possible.” Participants also discussed the importance of taking breaks in the midst of a busy work schedule, even if it's only for a few minutes: “One thing we could do is - most jobs, you get breaks, but we get so busy at work, we don't take those breaks...Just walk around in the area for a few minutes, even if it's 10 or 15 minutes.”

Use visual and auditory prompts for reducing SB.

Using visual and auditory prompts was the final suggestion for reducing SB at work. Participants believed that prompts should encourage women to get up to move or make them aware of time spent sedentary. For example, “If we have little constant reminders from time to time, a little flyer here, a little card there, or something like that, at work it would help.” Using technology at work could also prompt women to break up their SB,

I go to work, I have to sit at the desk. But if the computer comes up with something like “take a five-minute break” or something like that, you know scare me to death, it may do something to stimulate my mind.

Prompts on the computer could be used to not only encourage breaks but to also incorporate specific physical activities during the work break: “your computer...could give you exercises to remind you to get up every 15 minutes and stretch your legs and move and just move your body.” On participant adapted this strategy to the home environment: “We could stand up and move around during commercial breaks.”

Discussion

Until recently, SB has not been viewed as a public health problem. The fields of public health and kinesiology have emphasized PA and physical inactivity (i.e. not meeting public health recommendations for moderate intensity PA), despite a growing body of research linking SB with adverse health outcomes (Biswas et al., 2015; Brocklebank et al., 2015). Although the case for the importance of qualitative research in physical activity research has been made (Pearce, 2009), very few studies have examined how adults perceive SB, and those conducted to date have been done with very specific samples including older women (Chastin et al., 2014), older adults in early retirement (Van Dyck et al., 2017), Australian women with depressive symptoms (Teychenne et al., 2011), Belgian college students (Deliens et al., 2015), and prostate cancer survivors (Trinh et al., 2015). To our knowledge, no studies to date have been done with African-American women. Consistent with these previous qualitative studies, we found that participants cited multiple influences on SB, equated SB with “no PA,” and suggested strategies to increase PA when asked how to decrease SB. These findings underscore the importance of raising awareness about SB and helping African-American women understand the health risks associated with SB.

This article contributes to gaps in the literature by exploring the factors that promote or discourage SB. Consistent with social-ecological models, participants identified personal, social, and environmental factors contributing to their SB. While some influences such as the lack of knowledge about SB, the presence of a television in the home, and the use of SB as a coping mechanism were similar to those reported in a sample of depressed Australian women (Teychenne et al., 2011), other influences (i.e., social role constraints, cultural influences) appeared unique to African-American women living in the Southeast.

Culture is a frequently cited important contributor to health disparities in African-Americans (Kumanyika et al., 2012). Participants in our study discussed cultural influences unique to African-Americans. For example, they noted that greater employment opportunities for African-Americans have led to an increase in desk jobs (replacing physically demanding

jobs), thus resulting in greater SB. Participants also highlighted geographical differences (i.e., a culture of less walking in the South) and societal cultural shifts (i.e., modern conveniences that lead to sitting) as major influences on SB. These findings underscore the idea that cultural influences beyond just race and ethnicity must be considered when developing programs to reduce SB in African-American women.

One of the most salient findings from this study is that African-American women described engaging in high levels of SB to compensate for living complex and stressful lives. Social role constraints greatly influenced time spent in SB. Specifically, participants highlighted the role of caregiving as an important part of daily routines that, in many cases, is prioritized over self-care, a finding frequent among women (Henderson et al., 1996). Participants described how caring for children, young grandchildren, and aging parents contributed to higher amounts of time spent sedentary because caregiving activities were inherently sedentary or were exhausting therefore increasing stress and the desire for leisure-time SB. Previous work with African-American women living in South Carolina has highlighted social roles as barriers to PA participation (Richter, Wilcox, Greaney, Henderson, & Ainsworth, 2002), yet social roles can play an essential role in preventing illness and maintaining optimal health in African-Americans (Kumanyika et al., 2005). Similarly, Woods-Giscombe described both the benefits and the liabilities that the “Strong Black Woman/Superwoman” role had on African American women participating in her focus groups (Woods-Giscombe, 2010). The Superwoman role is the obligation many African-American women experience to show strength, suppress emotion, not be vulnerable or dependent, persevere to succeed, and help others (Woods-Giscombe, 2010).

Despite the high levels of social connectedness reported in the study, participants perceived that African-American women are not adequately supported for engaging in physical activity. They also reported that receiving social support would help them to become more active and less sedentary. At the same time, many of their current social interactions centered around sedentary pursuits. Although social support has not been studied relative to SB in populations in general, it has been studied in relation to physical activity in African American women and shown to be an important influence in both qualitative and quantitative studies (Fleury & Lee, 2006; Joseph, Ainsworth, Keller, & Dodgson, 2015). The role of social support merits additional study in the SB realm.

The SB literature has focused almost exclusively on its deleterious effects, and very few studies to date have highlighted possible protective effects of SB. In earlier research, a common view of African-Americans was that hard physical labor, both job- and family-related, necessitated time for rest, and that rest was generally considered a “deserved” and needed break (Airhihenbuwa, Kumanyika, Agurs, & Lowe, 1995). Older women expressed a similar sentiment, stating they felt entitled to sit more given their age (Chastin et al., 2014). In the present study, almost all participants preferred to engage in leisure-time SB because it was a time for much-needed solitary pursuits, relaxation, enjoyment, and productivity (i.e., reading, writing, journaling). Participants made a strong case for the importance of engaging in SB during leisure-time to cope with daily life stressors. SB such as television viewing has been identified as a coping strategy for stress and depression among women (Anderson, Collins, Schmitt, & Jacobvitz, 1996; Teychenne et al., 2011). However, this coping response

might not be optimal, and in fact, might worsen depressive symptoms over time (Teychenne, Ball, & Salmon, 2010).

A major aim of this study was to explore strategies to reduce SB. Strategies included enlisting social support, changing social activities, building PA into daily routines, taking breaks at work, using prompts and reducing stress. Although some of these strategies have been studied to date (Gardner et al., 2016), a challenge in reducing SB might be women's perceptions. Participants were reluctant to give up leisure-time SB at home but were amenable to reducing SB in the workplace. Our study findings suggest that framing messages around SB must be carefully considered. Intervention messages must be crafted to describe *adding* rather than taking away activity. Richter et al. (Richter et al., 2002) suggested that interventions should not discourage women from engaging in SB such as television viewing but might instead include ways to be active while viewing television in the home environment. Women's comments suggested positively framed messages (e.g., "It is important to regularly get up during commercial breaks while watching television.") might be more persuasive than negatively framed messages (e.g., "It is important to stop watching television to reduce the amount of time you spend sitting in your day.") to elicit behavioral intentions to reduce leisure-time SB. Given that participants described SB as a stress outlet, another direction for future work might be to find alternative stress management techniques that provide similar relief but simultaneously reduce SB during leisure-time.

The use of qualitative methods was a major strength of our study and provided contextual insights about the perceived influences and strategies to reduce SB among African-American women. African-American women are an important target group, given the high rates of obesity, low participation rates in PA, and high amounts of SB. Limitations of this study include a relatively small sample and low variability related to educational attainment. In addition, while care was taken to ensure the trustworthiness of the research, the study might have benefited from member checking, whereby themes and quotations are reported back to participants for their input and integration into final interpretations (Birt, Scott, Cavers, Campbell, & Walter, 2016). Despite these limitations, the present findings provide useful information regarding the perceptions of and suggestions for reducing SB among African-American women. This study provided novel qualitative findings that could inform the development of health promotion programs to reduce SB both in the home and work environments, while simultaneously increasing PA among this target population. Consistent with the social ecological framework, the study findings underscore the need to consider and address complex and interacting personal, social, and environmental factors that might influence the SB of African-American women.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1.

Focus Group Questions and Probes

Category/ Theme	Questions
Perceptions/Beliefs	<ul style="list-style-type: none"> • Are most of your activities in a typical or usual day active or sedentary? What makes the activity active versus sedentary? • How might sedentary behavior relate to your health, if at all?
Personal Factors	<ul style="list-style-type: none"> • What are your daily routines like during the week? [Describe your activities in a typical week. Describe your daily activities. What are your activities on the weekday? Weekend? Home? Work? What activities do you do the most during the week? What types of sedentary behavior do woman engage in at home? At work?] • What do you like most about sedentary behavior? What is the one outcome or one thing that sedentary behavior do for you that make them worth doing? That is, what do you enjoy the most about sedentary behavior? • What are your daily routines like during the week? [Describe your activities in a typical week. Describe your daily activities. What are your activities on the weekday? Weekend? Home? Work? What activities do you do the most during the week? What types of sedentary behavior do woman engage in at home? At work?]
Social Factors	<ul style="list-style-type: none"> • What are some of the sedentary behavior that you do with your friends and family? What makes you choose these sedentary behaviors?
Environmental Factors	<ul style="list-style-type: none"> • For those of you who work outside the home, what are some of the sedentary behaviors you do on your job? • What are some things that you or African American women you know could try to become less sedentary at home and at work?
Program Development	<p>What would a program designed to decrease sedentary behavior look like?</p> <ul style="list-style-type: none"> • If you were going to attend a program one time <i>each week</i>, about how many hours would you be willing to spend? • What might help you to stay involved in a program targeting sedentary behavior? • What things do you think would be helpful to include in a program for African American women?