# Barriers and Motivators to Physical Activity among African American Women

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**Abstract**

The goals of the study were to identify the barriers and motivators for physical activity (PA) and to assess whether these factors vary by weight status. A self-administered survey was completed by 413 African American women. Each woman provided verbal informed consent and was weighed and measured by a research team member. The participants' mean BMI was 29.60±7.57. Women reported low levels of moderate vigorous PA in the past week— with zero days (46%), one to two days (28%), three to four days (18%), and five to seven days (8%). Women selected "all that apply" from nine potential barriers and five potential motivators to PA. Women with higher BMI were significantly more likely to report expensive gym membership ($P<.001$) and no one to exercise with ($P<.001$) as barriers. Women with lower BMI were significantly more likely to report that exercise was not a priority ($P<.001$). Women with higher BMI were significantly more likely to report a desire to lose weight as a motivator ($P<.001$). There were no other significant variables. The findings suggest that a public health challenge persists to engage African American women of all weight status in regular PA.

## Introduction

Approximately 78% of African American women in the United States are either overweight or obese, which represents the highest prevalence in the United States (US) for all age and racial/ethnic categories (Flegal, Carroll, Ogden, & Curtin, 2010; Centers for Disease Control and Prevention [CDC], 2009). This high prevalence of overweight and obesity places them at higher risk for coronary heart disease, hypertension, stroke, type 2 diabetes, lower life expectancy, and an overall poor quality of life (Department of Health and Human Services [DHHS], 2010a; DHHS, 2010b).

Globally, adults do not engage in enough physical activity to positively affect their health (Hallal et al., 2012). Regular moderate-intensity physical activity is beneficial for cardiovascular health, muscular strength, muscular endurance, mental health, weight management, and overall quality of life (DHHS, 2010b; Rosenberg, Kipping-Ruane, Boffs, & Palmer, 2013). It also is beneficial for stress management, increasing energy levels, socialization, and enjoyment of the outdoors (Fleury & Lee, 2006; Sherwood & Jeffery, 2000; Young, Gittelsohn, Felix-Aaron, & Appel, 2001). Despite the documented benefits of physical activity and warnings about the potentially negative health outcomes of a sedentary lifestyle, a large proportion of American adults are physically inactive (DHHS, 2010b). Women tend to participate in regular moderate physical activity less often than men, and African American women are more likely to be sedentary and have low levels of physical activity compared to any other racial/ethnic and gender group (Young et al., 2001).

In an effort to decrease the burden of obesity and obesity-related conditions, several American public health organizations recommend that adults should engage in at least 150 minutes of moderate-intensity physical activity per week (DHHS, 2008; DHHS, 2010b). However, significant barriers to healthy eating and physical activity exist, especially for women who must balance, work, childcare, and other responsibilities (James, Harville, Efunbumi, & Martin, 2015; James, Pobee, Oxidine, Brown, & Joshi, 2012; James, 2004a). It is important to understand the causes of physical inactivity in order to develop health promotion programs and intervention to improve the public's health (Fleury & Lee, 2006).

Low levels of physical activity are due to intrapersonal, interpersonal, and environmental factors. Intrapersonal factors include perceptions, knowledge, attitudes, and beliefs about the benefits of physical activity (Fleury & Lee, 2006). Interpersonal factors include demographic characteristics such as age, gender, and income, occupation, family characteristics, and social support. Environmental characteristics include neighborhood characteristics and access to recreation and leisure facilities (Wendel-Vos, Droomers, Kremers, Brug, & van Lenthe, 2007).

Specifically for African American women, the literature points to the need for better understanding of the social and contextual factors that influence engagement in physical activity behavior (Fleury & Lee, 2006). In view of the fact that most adult weight gain occurs before middle age (Beydoun & Wang, 2009) and that African American women have the highest rate of obesity in the US (Flegal et al., 2010; CDC, 2009), this group represents an ideal target for weight management programs that include physical activity. This study aims to fill an important gap in the literature by identifying the barriers

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and motivators for physical activity and assessing whether these factors vary by weight status.

## Methods

### Participants

Four hundred thirteen African American women volunteered to participate in the study. They were recruited primarily from churches, beauty shops, a low income housing community, and the four traditional Greek African American sororities. All recruiting was done on site.

### Design and Procedures

This cross-sectional survey study was conducted in north-central Florida, USA. The study was approved by the Institutional Review Board at the researchers' institution. Each woman provided verbal informed consent and received a $5 gift card for participating. The survey took 10-15 minutes to complete. The survey was developed based on a review of the literature and a previously validated instrument (James, 2003; James, 2004b). It was pilot tested with 50 women from two churches. Minor revisions were made in the wording and ordering of the questions. The survey included questions on demographics (17 questions), health history (5 questions), eating habits (10 questions), dieting behaviors (15 questions), and physical activity levels (6 questions). Question types included: "yes/no," "choose all that apply," and "choose the response that best describes you". Cronbach's alpha (α) measured internal consistency of two questions that asked participants to "choose all that apply" from several items: barriers to physical activity (nine items, α = .79) and motivators for physical activity (five items, α = .83). Ninety-five percent of the women who were approached completed the survey. Participants were weighed barefoot with indoor clothing and height was measured with a stadiometer. BMI was calculated based on measured weight and height [BMI=weight $(kg)^2$/ height $(m)^2$] (World Health Organization [WHO], 2010).

### Data Analysis

The surveys were scanned with an intelligent character recognition (ICR) software into a database that allowed for mechanical editing to ensure that coded values were within the valid range. Frequency tables were produced from the error-free data file and checked for completeness, range, and consistency. Data were analyzed using JMP PRO (version 11, SAS Institute, Cary, NC). Descriptive analyses including conventional cross tabulations were used to summarize the data and means are reported with standard deviation. Independent samples *t* tests and one-way analysis (ANOVA) examined differences in BMI and several study variables. Post-hoc comparisons of ANOVA were done with Tukey HSD. Significance was established at the $P<.05$ level for all tests.

## Results

### Demographics

The women's mean age was 35.63±14.72. Most were single/never married (54%), worked full-time (60%), owned their own homes (54%), and spoke English as their first language (93%). There was a wide range of the highest educational level achieved—five percent had less than a high school education, 25% graduated high school, 48% had some college credits, and 22% had a bachelor's degree or higher.

### Weight Status

The participants' mean BMI was 29.60±7.57. Based on standard BMI classification (WHO, 2010), 43% were classified as obese (BMI ≥ 30), 25% as overweight (BMI 25-29.9), 32% as normal weight (BMI 18.5-24.9), and 2% as underweight (BMI <18.5). Women were asked what they were currently trying to do about their weight; 59% were trying to lose weight, 23% were not doing anything, 12% were trying to stay at a healthy weight, and 6% were trying to gain weight. ANOVA determined that there were significant differences in BMI and this variable, ($F=34.78$, df=3,397, $P<.0001$). Post-hoc comparisons showed that those who were trying to lose weight had significantly higher BMIs (BMI 32.28±6.84) than those who were not doing anything (27.98±7.43), those who were trying to stay at a healthy weight (24.59±3.95), and those who were trying to gain weight (21.56±3.96). Those who were not doing anything about their weight also had significantly higher BMIs than those who were trying to stay at a healthy weight and those who were trying to gain weight. There were no significant differences in BMI between those who were trying to stay at a healthy weight and those who were trying to gain weight.

### Physical Activity Levels

Women reported low levels of moderate vigorous physical activity (hard enough to break a sweat) in the past week; 46% reported zero days, 28% reported one to two days, 18% reported three to four days, and 8% reported five to seven days. There were no significant differences in activity levels and mean BMI ($P>.05$).

On the days they participated in moderate vigorous physical activity, the activity was done for less than 30 minutes (35%), 30-44 minutes (35%), 45-60 minutes (17%), and more than 60 minutes (13%). There was significant difference in BMI and exercise duration ($F=5.90$, df=3,359, $P<.001$). There was no significant difference in BMI between women who exercised for less than 30 minutes/day (30.37±7.37), and those who exercised for 30-44 minutes/day (31.27±7.92, ($P>.05$); however, women who exercised for 30-44 minutes/ day had significantly higher BMIs (31.27±7.92) than those who exercised for 45-60 minutes/day (27.98±6.51), and those who exercised for more than 60 minutes/day (26.81±5.99). There was no significant difference in BMI between women who exercised for 45-60 minutes/day and those who exercised for more than 60 minutes/day ($P>.05$). Most (81%) did not participate in any weight lifting activities and there were no significant difference in BMI between those who lifted weights and those who did not ($P>.05$).

Women were asked to "choose all that apply" from a variety of locations where they exercised. They exercised at home (50%), a gym (32%), around the neighborhood (13%), a park (13%), community center (4%), and YMCA (2%). Those who exercised at a gym had significantly lower BMIs compared to those who did not have a membership (28.23±7.42

Table 1.

*Mean BMI Score by Barriers to Physical Activity (n=408)*

| | n | % | BMI | *t* | *P* |
|---|---|---|---|---|---|
| **Exercise not a priority** | | | | | |
| Yes | 88 | 22 | 27.21± 6.78 | 13.56 | <.001* |
| No | 320 | 78 | 30.46±7.42 | | |
| **Very busy life** | | | | | |
| Yes | 183 | 45 | 29.45±7.54 | .6087 | .4357 |
| No | 225 | 55 | 30.02±7.30 | | |
| **Too much hair care** | | | | | |
| Yes | 44 | 11 | 28.64±6.34 | 1.147 | .2849 |
| No | 364 | 89 | 29.90±7.52 | | |
| **No one to exercise with** | | | | | |
| Yes | 79 | 19 | 32.76±7.02 | 16.46 | <.001* |
| No | 329 | 81 | 29.05±7.32 | | |
| **Unsafe neighborhood** | | | | | |
| Yes | 18 | 4 | 31.94± 7.24 | 1.622 | 0.2036 |
| No | 390 | 96 | 29.66±7.41 | | |
| **Gym membership expensive** | | | | | |
| Yes | 60 | 15 | 32.67±6.46 | 11.13 | <.001* |
| No | 348 | 85 | 29.26±7.45 | | |
| **Get home too late** | | | | | |
| Yes | 106 | 26 | 30.21±6.34 | .5282 | .4678 |
| No | 302 | 74 | 29.60±7.75 | | |
| **Do not have time** | | | | | |
| Yes | 123 | 30 | 29.97±7.84 | .1735 | .6772 |
| No | 284 | 70 | 29.64±7.21 | | |
| **No babysitter** | | | | | |
| Yes | 25 | 6 | 30.96±7.89 | .6935 | .4055 |
| No | 383 | 94 | 29.69±7.38 | | |

*significant at $P<.05$

vs. 30.49±7.28, t=8.03, *P*<.05).

When asked about daily viewing of television, 49% reported one to three hours, 30% reported three or more hours, 14% reported less than one hour, and 7% reported they did not watch television daily. There were no significant differences in hours of television viewing and mean BMI (*P*>.05).

**Barriers to Physical Activity**

Women were asked to choose "all that apply" from nine potential barriers to physical activity (see Table 1). The barriers were busy lifestyle (45%), not enough time (30%), getting home too late (26%), exercise not a priority (22%), no one to exercise with (19%), expensive gym membership (15%), too much hair care (11%), no babysitter (6%), and living in an unsafe neighborhood (4%). Women with higher BMIs were significantly more likely to report expensive gym membership (BMI=32.67±6.46 vs.29.26±7.45, t=11.13, *P*<.001) and no one to exercise with (BMI=32.76±7.02 vs. 29.05±7.32, t=16.46, P<.001). Women with lower BMI were significantly more likely to report that exercise was not a priority (BMI=27.21±6.78 vs. 30.46±7.42, t=13.56, *P*<.001). There were no other significant differences between BMI and any other variable (*P*>.05).

**Motivators to Physical Activity**

Women were asked to choose "all that apply" from five potential motivators to physical activity (see Table 2). The motivators were to lose weight (57%), someone to exercise with (37%), diagnosed with a disease/illness (26%), having a gym membership (18%), and being a role model for children (16%). Women with higher BMIs were significantly more likely to report a desire to lose weight as a motivator (BMI=31.85±7.27 vs. 26.94±6.61, t=48.87, *P*<.001). There were no other significant differences between BMI and any other variable (*P*>.05).

Table 2.

*Mean BMI Score by Motivators to Physical Activity (n=408)*

| | n | % | BMI | *t* | *P* |
|---|---|---|---|---|---|
| **To lose weight** | | | | | |
| Yes | 235 | 57 | 31.85±7.27 | 48.87 | <.001* |
| No | 174 | 43 | 26.94±6.61 | | |
| **Diagnosed with a disease** | | | | | |
| Yes | 106 | 26 | 28.76±6.91 | 2.688 | .1019 |
| No | 303 | 74 | 30.13±7.54 | | |
| **To be children's role model** | | | | | |
| Yes | 67 | 16 | 30.83±7.99 | 1.656 | .1989 |
| No | 342 | 84 | 29.56±7.27 | | |
| **Have an exercise buddy** | | | | | |
| Yes | 151 | 37 | 30.23±7.38 | .9357 | .3340 |
| No | 258 | 63 | 29.50±7.41 | | |
| **Have a gym membership** | | | | | |
| Yes | 73 | 18 | 31.12±6.71 | 2.982 | .0850 |
| No | 336 | 82 | 29.47±7.51 | | |

* significant at *P*<.05

## Discussion

This study examined the barriers and motivators to physical activity among African American women and assessed whether these factors varied by weight status. A high prevalence of overweight and obesity (68%) was found among the study sample, which compared to the national prevalence of 66% (Flegal et al., 2010). Most women were concerned about their weight and reported that they were currently trying to lose weight.

Increasing physical activity is a core requirement for weight management (DHHS, 2008; DHHS, 2010a; DHHS, 2010b), but the vast majority of participants did not meet the national recommendation for physical activity (DHHS, 2010b). In fact, almost half of the participants reported zero days of moderate intense physical activity the previous week. Reported levels of physical activity did not vary by BMI, which indicates that normal weight women were just as likely as overweight and obese women to not participate in regular physical activity.

### Barriers to Physical Activity

Studies show that African American women are aware of the importance of regular physical activity and are able to articulate the benefits, even when they are not currently engaging in regular planned activity (James et al., 2015). The top three barriers reported by the women were having a busy lifestyle, not having enough time, and getting home too late from work. These three related barriers have been documented by other studies (Fox, Mann, Ramos, Kleinman, & Horowitz, 2012; James, et al., 2012). Women working outside of the homes, especially those who are mothers, may feel conflicted between taking time for themselves and spending times with their families (Fallon, Wilcox, & Ainsworth, 2005). There were no significant differences in BMI and these factors, which suggest that these issues are likely to affect women of all body sizes. Health educators can address the issues of busy lifestyles and time constraints by emphasizing short workouts that can be done at home, recommending specific fitness apps for smartphones, and encouraging family-based activities.

The cost of a gym membership was a barrier for some women, especially for those who were obese. While having a gym membership offers some benefits for some individuals others may mistakenly believe that they would exercise more if they had a membership. This may in fact be an excuse for not exercising as well as a type of procrastination (Sirois & Pychyl, 2013). Health educators can provide women with a list of small inexpensive exercise equipment (e.g. jump rope, light weights, resistance bands) that can be used at home and demonstrate how to use them.

This study also supports other research that suggests that not having someone to exercise with to be a commonly cited barrier for physical activity (Fox et al., 2012; James et al., 2012). Health educators should encourage women to identify one or two other women with whom they can exercise. They can also form walking groups with other women at work, church, or in their neighborhoods. Social support and the encouragement of an exercise partner may especially be needed by obese women who may easily get tired or feel self-conscious about their bodies during exercise.

A small percentage of women (11%) reported hair care as a barrier. This study did not ask about specific types of physical activity, but other studies report that hair care prevented approximately 36% of African American women from engaging in swimming and water-related activities and 29% from engaging in aerobic and gym activities (Hall et al., 2013). This is a significant sociocultural issue that is related to the type of hair that African American women have and the subsequent time and expense related to haircare cost and upkeep (Airhihenbuwa, Kumanyika, Agurs, & Lowe, 1995; Versey, 2014). Thus, health professionals need to be aware of the "hair issues" of African American women and address these issues in a culturally relevant and sensitive manner.

### Motivators to Physical Activity

Most women in the study reported that the most common motivator for engaging in physical activity was to lose weight. This is consistent with other studies that report that weight loss/management is the primary reason why adults engage in physical activity (Sherwood & Jeffrey, 2000). Considering the fact that 68% of the women were overweight or obese and that 56% reported they currently trying to lose weight, only 8% engaged in moderate physical activity most days of the week. To lose a substantial amount of weight (i.e. more than five percent body weight), the national recommendations is for adults to engage in at least 60 minutes of moderate-intensity physical activity most days of the week (DHHS, 2008). Studies have shown that African American women are more likely to engage in walking more than any other physical activity (James et al., 2015; Rosenberg et al., 2013). While there are significant benefits to walking, health professionals must emphasize that the incidence of obesity decreases with increasing levels of vigorous physical activity, and must emphasize the importance of brisk walking (Rosenberg et al., 2013). However, obese women and those who are just starting an exercise program should be assisted in making realistic, short-term goals (James et al., 2012).

Having someone to exercise with is a commonly cited motivator for engaging in regular physical activity. Studies have shown that individuals who exercise with others were more likely to be physically active (Mobily, 2014; Sherwood & Jeffery, 2000), and in some cases achieve the recommended levels of physical activity (Giles-Corti & Donovan, 2002). Exercise partners can hold each other accountable to keep active and strive to reach their weight loss and exercise goals. Health professionals should encourage African American women who primarily exercise at home or around their neighborhoods to participate in walking groups or to exercise with a partner (James et al., 2012).

Almost one-third of the women reported having a gym membership and these women had significantly lower BMIs compared to those who did not. Having a gym membership may help women who are motivated to be physically active maintain their routines. They are able to schedule specific time to go to the gym and they have a variety of activities from which to choose. In addition, the social nature of the gym and the presence of other individuals may provide added motivation. However, the cost of a gym membership may be prohibitive to many low-income African American women (James et al., 2015).

About 26% of the women reported they would be motivated to become more physically active if they were diagnosed with a disease/illness. Previous studies report that African American women are aware of the risks associated with being overweight or obese (James et al., 2012; James et al., 2015). However, some overweight and obese African American women may wait until they are "officially diagnosed" with an illness to take preventative action. Health professionals need to emphasize to their obese clients that obesity is in fact a clinical condition that needs to be treated. One study indicated that only 10% of obese African American women reported being told by a physician that they needed to lose (James et al., 2012). This reluctance of many primary care physicians to diagnose their patients as "obese" and treat them for obesity may be due to lack of training and confidence in successfully treating obesity (DHHS, 2004). Physicians who officially diagnose their patients as "obese" are significantly more likely to document a weight management plan (DHHS, 2001; Tsai & Wadden, 2009). However, many of the efficacious obesity treatment programs cannot be easily carried out by primary care physicians (Tsai & Wadden, 2009). Thus, most obese clients may be best served by a referral to a bariatric physician, registered dietitian nutritionist, fitness professionals, and/or a community support group such as Overeaters Anonymous (DHHS, 2010b).

Sixteen percent of the women in this study indicated that being a role model for their children would be a motivator to being more physically active. Children whose parents are obese are also likely to be obese and be at risk for obesity-related diseases such as type 2 diabetes (Sands et al., 2013). Parents can positively influence their children's level of physical activity by being physically active themselves, encouraging participation in sports, limiting screen time, and making physical activity a part of the family's leisure time plans (Brunet et al., 2014). Engaging in family-centered physical activities ensures that children are forming positive health habits and attitudes toward physical activity (Beets, Cardinal, & Alderman, 2010).

## Limitations

This study has several limitations. First, it is limited by its cross-sectional design and the use of a convenience sample, which limits its generalizability. Second, women self-reported their level of physical activity and no reliable and valid measure of physical activity and leisure time was used. The participants were not asked about the duration of exercise for each reported instance. However, the focus of the paper was on barriers and motivators to physical activity, and not the measurement of physical activity levels. Despite these limitations, the results may have some practical applications for health promotion programs and interventions aimed at increasing physical activity among African American women.

## Conclusions

The health benefits from exercise are well known, but there is still a huge public health challenge of increasing physical activity among African American women of all weight status. Programs that aim to increase physical activity among African American women should address women's belief systems and personal values related to exercise and health to be effective. The importance and value of regular physical activity to the overall quality of life and the prevention of chronic diseases needs to be emphasized. Furthermore, there can be no one-size-fits-all exercise program, especially for women at different weight status. Women should be encouraged to engage in physical activities that meet their interests, needs, schedule, family life, and neighborhood environment.

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